Australian Social Policy 2002–03

**Major articles**


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Long-term durations on income support: An analysis of FaCS unemployed customers
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*Australian Social Policy*

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1. Introduction

Several years prior to the introduction of the Personal Support Programme (PSP), the More Intensive and Flexible Services (MIFS) Pilot delivered pre-vocational services and assistance to people with multiple and severe barriers to employment. The pilot’s aims were to assist participants to achieve improvements in their quality of life, to increase their social participation and to encourage participants, when or if able, to undertake vocationally focused assistance with the long-term aim of achieving economic outcomes.

The Department of Family and Community Services (FaCS) completed an evaluation of the MIFS Pilot and this paper summarises the main findings. This paper describes the pilot and how it delivered pre-vocational assistance to people with severe disabilities. The paper also reports on the outcomes achieved by participants through the program. While there were significant weaknesses in the MIFS Pilot, the experiences are relevant in the current welfare reform environment, in which policy is concerned with flexible and individualised assistance and when there is a broader focus on the achievement of social outcomes as a first step towards economic goals.

The PSP has been rightly recognised as an innovative program. The PSP, and its predecessor the Community Support Program (CSP), target services to those people unable to benefit from employment assistance due to the presence of multiple or severe barriers. The PSP recognises and rewards the achievement of social outcomes and improvements in personal wellbeing that represent a substantial achievement for participants. While innovative, these were also the aims and objectives of the MIFS Pilot; and knowledge gained from managing the MIFS Pilot was instrumental in the development of the PSP. The PSP reflects many of the positive features of the MIFS Pilot while avoiding the weaknesses that did not promote positive outcomes for participants. The MIFS Pilot may provide insight into the types of outcomes likely to be achieved by participants in the PSP.
The MIFS Pilot is also a unique and valuable source of data to inform the current debate about the role of social participation. The reference group on welfare reform (2000) recommended recognising social participation as a valid outcome for some individuals, particularly those with multiple and severe employment barriers. Social participation has been variously described as a way of maintaining engagement with the community, as a pathway into employment, as a vehicle for the development of skills and attitudes that are transferable to the workplace, or as a mechanism to actually assist people to overcome their personal barriers. The MIFS Pilot sought to address participants’ pre-vocational barriers and promote engagement and participation in community activities. Evaluation of the pilot can show whether the types of interventions and programs delivered helped participants to address their barriers and increase their level of social participation. The evaluation also permits assessment of the hypothesis that overcoming barriers and facilitating social participation leads to economic outcomes in the longer term.

Background
The MIFS Pilot was established in 1996 to test the feasibility of providing customised, intensive and flexible pre-vocational services to Disability Support Pension (DSP) recipients with high support needs, multiple disabilities and/or a chronic or unstable condition. Evidence from the evaluation of the Disability Reform Package in 1995 (DSS 1995) and subsequent research (for example, Coopers & Lybrand Consultants 1997; Hupalo 1997; Kruger & Urquhart 1997) had suggested that these customers were receiving inadequate access to services and assistance to improve their participation in work, training or other activities.

The objective of the MIFS Pilot was to provide appropriate services, with a view to maximising these people’s:

- participation in, and contribution to, the life and work of the community by providing the skills and/or services necessary to improve the quality of life of the individual
- participation in, and successful completion of, a program of vocational assistance by providing the life skills, counselling and rehabilitation necessary to enable them to access existing programs
- achievement of vocational outcomes by providing the skills and/or support required to obtain and retain work.

The pilot was not primarily about producing employment outcomes. The aim of the pilot was to provide appropriate intervention to enable and improve the participation of this group of people in existing employment services. Because of the specific needs and barriers of these customers, the interventions provided through MIFS to ultimately enable them to achieve vocational goals involved improving non-vocational aspects of their lives, such as their social skills, their
self-esteem and confidence, their independence and daily living skills, their level of participation and involvement in the community, their health and their ability to manage their disability and their general quality of life. The achievement of these non-vocational outcomes and life gains was itself a significant benefit that participants derived from their involvement in the pilot. However, assistance was provided on the basis that addressing pre-vocational needs would then facilitate access to vocational assistance and the achievement of employment in the longer term.

As discussed, this focus of the MIFS Pilot, on the achievement of non-vocational and social outcomes as a step towards improving economic participation, is repeated in the PSP and the current policy discussion around the recognition of social outcomes. Although the target groups differ, the MIFS Pilot provides data with which to assess these hypotheses.

**Target population**
Participation in the MIFS Pilot was voluntary and was restricted to people in receipt of DSP who were considered not able to access or benefit from existing employment services without suitable intervention. These included people with high support needs, multiple disabilities and/or a chronic or unstable condition. Participants also had to be assessed as being able to undertake and benefit from Disability Employment Assistance following completion of their MIFS program.

**Services provided**
The MIFS Pilot was not designed to provide vocational training or duplicate services offered through other agencies. The services available through the MIFS Pilot included:

- case management services such as:
  - assessment of needs
  - development of an action plan (including costing)
  - counselling
  - facilitation of access to required services.

- secondary rehabilitation services such as:
  - occupational therapy
  - physiotherapy
  - psychiatric and psychological services.

- pre-vocational training such as:
  - English as a second language
  - literacy and numeracy skills
– independent living training
– transport assistance and/or training
– life skills training, such as personal presentation, motivation skills and budgeting.

촉용 서비스 such as:
– alcohol and drug support services providing alcohol and drug free recreational activities, counselling and support
– mental health support services.

The pilot also facilitated access to state and community services when appropriate.

The pilot was originally planned to run for two years (from July 1996 to June 1998). It was extended for a further 18 months (and then a further six months to June 2000), to enable it to be evaluated in the context of reform of government sponsored employment assistance.

The MIFS Pilot operated in two sites:

▷ Centrelink Area Brisbane, which covered the greater Brisbane area and the area north of the Brisbane river to Bundaberg
▷ Centrelink Area East Victoria, covering Shepparton, Wangaratta, Echuca and the eastern and north-eastern suburbs of Melbourne.

FaCS, and prior to its formation the Department of Social Security (DSS), was responsible for the overall management and monitoring of the MIFS Pilot. During the final two years of the pilot, Centrelink was responsible for day-to-day management of the pilot, including managing program funds and running costs and providing, through the Centrelink network, program assistance to MIFS Pilot participants.

Two MIFS Pilot Coordinators were based within each pilot site. Their role was to promote the program to potential participants, to approve the services delivered to each participant, and to administer and monitor the pilot.

Centrelink contracted case management organisations to deliver individualised assistance to pilot participants. These case managers were required to conduct an initial assessment of each participant and develop an action plan which detailed the program of assistance each participant needed, the providers able to deliver these services, the type of interventions required, and the cost of each intervention. These organisations were also responsible for the provision of case management services and the coordination of customer access to appropriate services offered by other government and community agencies.
2. About the evaluation

An interim report on the MIFS Pilot was published in May 1998. This report was based on very early data. The interim findings have been previously reported in this journal (Purdy 1998).

The final evaluation, conducted after the completion of the pilot in June 2000, examined the appropriateness, effectiveness and cost effectiveness of the pilot. It also investigated whether, given reform of employment services, there was a need within the community for services and assistance such as those provided through the MIFS Pilot.

Methodology/evaluation process

The evaluation was largely based on existing data sources and data collected during the administration of the pilot. This included administrative data and statistical reports held by Centrelink and MIFS case managers, demographic and qualitative information collected during assessment and general administration of the MIFS Pilot, customer feedback reports, and analysis of existing administrative data held by FaCS.

Other data were specifically collected for the evaluation. A consultant undertook qualitative research with major stakeholders including focus groups and interviews with MIFS participants, non-MIFS DSP recipients, case managers, and Centrelink and FaCS staff (Elliot and Shanahan Research 2000). FaCS received written submissions from case managers and others involved in the pilot on their experiences and views of MIFS. A quantitative survey of MIFS participants was conducted to assess customer satisfaction with services; self-reported readiness for employment, employment assistance or participation in voluntary/community activities; and the effects of the pilot on quality of life. The evaluation also examined the circumstances and experiences of a sample of matched DSP recipients from Tasmania, a site where MIFS did not operate. Additional data were also obtained through a file review of a sample of MIFS participants. Further details of the data collected and methodology are in Appendix A.

This paper synthesises the findings from all of these data sources to provide an overview of the pilot and the outcomes achieved by participants. It is not possible to present the comprehensive analysis of all of the evaluation data. Rather, this report attempts to provide a sense of all components of the evaluation and details of the most critical findings. There were methodological and procedural difficulties with aspects of the evaluation, which are outlined in the text. Most telling, it was difficult to collect extensive quantitative data from the MIFS participants due to the extreme nature of their disabilities and their social alienation and isolation. The inclusion of qualitative data collection processes was, therefore, critical. It also seems that the identification of DSP recipients in Tasmania as a control group was somewhat flawed as there appeared to be differences between the Tasmanian and MIFS groups on some characteristics. It is necessary, therefore, to consider other ways to monitor changes in MIFS participants.
3. Characteristics of MIFS participants

There were 1706 customers who participated in the pilot over the four years. These participants were assessed as having pre-vocational needs that would prevent them from finding and keeping work or entering vocational assistance. Nonetheless, these barriers were considered able to be addressed through the pilot. Table 1 outlines characteristics of MIFS participants (overall and in each site) and presents similar information for the Tasmanian sample and the overall DSP population.

### Table 1  Demographic characteristics of MIFS Pilot participants and other relevant groups

<table>
<thead>
<tr>
<th></th>
<th>Queensland</th>
<th>Victoria</th>
<th>MIFS</th>
<th>Control site overall</th>
<th>General DSP population¹</th>
</tr>
</thead>
<tbody>
<tr>
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<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
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<tr>
<td><strong>Gender</strong></td>
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<td>22</td>
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<td>17</td>
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<tr>
<td>45 to 54</td>
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<td>19</td>
<td>17</td>
<td>29</td>
<td>27</td>
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<td>55 and older</td>
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<td>3</td>
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<tr>
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<td>48</td>
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<tr>
<td>Intellectual or learning</td>
<td>19</td>
<td>12</td>
<td>15</td>
<td>8</td>
<td>11</td>
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<tr>
<td>Acquired Brain Injury</td>
<td>15</td>
<td>5</td>
<td>10</td>
<td>5</td>
<td>3</td>
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<td>Musculo-skeletal</td>
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<td>7</td>
<td>30</td>
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<tr>
<td><strong>Special group</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Aboriginal or Torres Strait Islander</td>
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<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Born in non-English speaking country</td>
<td>5</td>
<td>13</td>
<td>9</td>
<td>8</td>
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<td><strong>Duration on DSP</strong></td>
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<td>27</td>
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<td>more than 20 years</td>
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<td>5</td>
<td>5</td>
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<td>7</td>
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<td><strong>Total number of participants</strong></td>
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<td>835</td>
<td>1706</td>
<td>187</td>
<td></td>
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<tr>
<td>Percentage of all participants</td>
<td>51</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources:
¹ Data on medical condition is drawn from MIFS database for pilot participants while data for other groups is from FaCS administrative data system
² From Superstar Pensions Database Quarter 2, 2000
The four main conditions reported by MIFS participants were psychological/psychiatric conditions, intellectual or learning disabilities, Acquired Brain Injury, and musculo-skeletal conditions. A typical MIFS participant was male, single, aged 34, with a psychological/psychiatric condition and had been in receipt of DSP for just over seven years.

There were 367 customers who undertook an initial assessment but who subsequently did not participate in the pilot. The main reasons that these people did not participate were that they changed their minds about participating, were considered ready for vocational assistance or did not have significant pre-vocational barriers.

4. Characteristics of case managers

There were 10 case management organisations contracted to deliver services in Queensland and 12 in Victoria. CRS Australia was the main case management organisation in both sites, with the largest number of cases overall. The other case managers had a variety of different backgrounds. Some were FaCS funded Disability Employment Assistance providers. Others were providers in the Job Network or the CSP, while others delivered state programs. Several private rehabilitation providers were also contracted.

5. The MIFS model

The MIFS Pilot separated the purchaser and provider roles. Case managers were contracted to deliver appropriate services and assistance to pilot participants. Unlike many current social service funding models, no element of funding to MIFS case managers was dependent on the achievement of outcomes. One reason for this was that it was considered difficult to specify generic and objective pre-vocational outcomes that were relevant in a program such as MIFS. Further, prior to the MIFS Pilot, FaCS had little knowledge of the types of interventions required by potential participants or the costs of these interventions, which limited the ability to calculate appropriate funding levels for the pilot. Finally, it was also thought that an outcome based funding model could introduce disincentives in servicing the most severely disadvantaged customers.

The targeted output funding model adopted for MIFS, in which funding was based on the specific cost of services identified, approved and delivered to each participant, overcame many of these potential difficulties whilst still promoting individualised service and maximising accountability and efficiency.

MIFS operated as brokerage model. Funding was provided to case managers to purchase appropriate services to meet the needs of participants. Case managers could only use ‘in-house’ services when these best suited the needs of participants and were superior value for money. In addition, the agencies were
funded to provide case management services to participants and to coordinate access to appropriate existing assistance from Commonwealth, state, or community organisations.

A comprehensive assessment process was the key feature of the MIFS model. On commencement, participants received an assessment of their condition, needs and barriers to employment. Case managers used the information from this assessment to develop a detailed action plan, listing the types of assistance and interventions each participant required, the service providers able to deliver each service, and the cost of each intervention.

The Centrelink Pilot Coordinators approved each participant’s action plan and monitored the delivery of services. As such, the MIFS model had a much more intensive and interventionist role for the purchaser (or their representative) in the design, approval and monitoring of the programs and services delivered to participants than many other service models. This approach does enhance the accountability of the model in terms of design and delivery of services and the management of funds.

One of the unique features of the MIFS funding model was that the level of funding was individually based—case managers received funding relative to the needs and the severity of the disabilities/barriers of each participant. However, unlike other models, funding was only provided for the services identified as being relevant and actually delivered to participants.

The case management approach enabled participants to develop a relationship with one person who understood their circumstances and monitored and facilitated access to appropriate forms of assistance. Given the intensity of their needs, this was particularly appropriate for MIFS participants. MIFS adopted a holistic approach in identifying and addressing the needs of each participant, not just providing ‘vocationally’ specific services. The MIFS Pilot was flexible in terms of services provided and the lack of time constraints and limits. The plan of services delivered to participants could be modified to reflect changed circumstances during the program. This flexibility was particularly important for participants with episodic conditions.

6. Administration and management of the pilot

Case managers generally rated the involvement of Centrelink in the MIFS Pilot favourably. Pilot Coordinators were considered approachable and professional; they fostered open communication with case managers and displayed an understanding of the target group. They also ensured objectivity in the design and delivery of interventions. The Pilot Coordinators were also said to have continually challenged case managers to adopt innovative, creative and cost effective strategies to meet the needs of the MIFS participants.
One of the key duties of the Pilot Coordinators was the promotion of the pilot within their local communities and to potential pilot participants. Case managers were not satisfied with the level of promotion and publicity of the pilot. While there was an acknowledgment of the difficulty in extensive promotion of a pilot program (due to the geographic and temporal limitations), case managers noted that promotional materials were not available when the pilot commenced and criticised the quality of the promotional materials.

The formal referral pathways established for the pilot were labour intensive and led to confusion for some potential participants. External agencies, Centrelink Disability Officers (CDOs) and Pilot Coordinators were all involved in the identification, assessment and referral of potential participants to the pilot. In practice, referrals from case managers and other community agencies were often sent directly to Pilot Coordinators, bypassing the local CDOs. The referral process was thought to have caused delays in commencing some participants on the program. Concerns were also expressed about the apparent lack of commitment of some CDOs to the pilot.

The eligibility criteria for the pilot were broad, and required Pilot Coordinators to exercise their own judgement. As such, the MIFS Pilot could take on a different focus and appearance, depending on the coordinator. The subjective eligibility processes influenced the nature of participants accepted onto the pilot, the types of interventions provided, and the overall program objectives and outcomes.

The monitoring and reporting processes associated with the pilot ensured that the delivery of services and the expenditure of funding were highly accountable. However, case managers and others including FaCS and Centrelink staff considered the general administrative processes to be a key weakness of the pilot. The administrative procedures were described as being unnecessarily bureaucratic, and were thought to have halted the progress of participants at times.

Case managers criticised the rigidity of the guidelines used to determine acceptable services, for example the exclusion of any vocationally oriented services, such as training (for example, introductory computer courses) or job search assistance. Some case managers, particularly those with specialised professional backgrounds, questioned the expertise and skills of the Pilot Coordinators to approve or reject elements of the action plans they had developed for participants. These case managers pointed out the difficulty of having generalists determine the suitability of all types of services for all types of participants.

Many case managers, particularly those with a background delivering Disability Employment Assistance, considered the progress reporting requirements inefficient. However, Pilot Coordinators and FaCS staff argued that this level of reporting was necessary to maintain accountability, quality control and permit Centrelink and FaCS to monitor participant progress and outcomes. The level of reporting was not considered onerous by case managers with a private rehabilitation background who adhered to similar requirements and justification of expenditure in their other business activities.
The monitoring and forecasting of program expenditure was another problematic administrative process, particularly towards the end of the pilot. Funds were allocated in respect of each individual to meet the costs of interventions listed in their action plan. However, the actual services delivered to customers often differed from the plan of services identified at the initial assessment. The nature of the customer group meant that they were unpredictable. On average, only 78 per cent of funds committed for participants in their action plans were actually spent.

Due to this, the estimate of pilot expenditure was consistently greater than actual expenditure. The MIFS Pilot consistently underspent each year in comparison to budget forecasts and FaCS repeatedly carried forward unspent funds to subsequent years. With the finalisation of the pilot a significant amount of program funds was returned to consolidated revenue.

7. The need to target specific services to people with high support needs

The evidence reviewed during the evaluation seemed to indicate that access to appropriate services remained an unresolved issue for the group of DSP recipients with high support needs, multiple disabilities or a chronic and unstable condition. Those with psychiatric conditions seemed particularly vulnerable to missing out on appropriate assistance.

The states provide many of the types of services and interventions that MIFS participants required. However, these services were considered to be difficult to access, only available to customers with an acute condition and lacking the necessary intensity or employment focus. Participant awareness of services (whether provided by the Commonwealth, the states or the community) and ability to navigate through complex systems were also major barriers preventing access to and participation in appropriate forms of assistance.

8. Program outputs

Assessment and type of interventions

All 1706 participants were referred to a case management organisation for an initial assessment. A significant proportion of participants (44.3 per cent) were subsequently referred for a specialist assessment conducted by professionals with the relevant experience and expertise to evaluate each participant’s specific disabilities and barriers and determine the utility and appropriateness of different interventions. The most common specialist assessments were psychological/psychiatric assessments; assessments of physical barriers; and physiotherapy, literacy, speech and language assessments; as well as specific medical and vocational assessments.
The qualitative research identified the major barriers faced by MIFS participants as low self-esteem, poor communication skills, physical disabilities, immobility, mental health issues, physical ill health, poor hygiene, suicidal ideation, social isolation, fear, lack of community/social support, drug and alcohol addiction, personality disorders, poor education, abuse and gambling problems. The most common interventions provided through the MIFS Pilot were case management, counselling, fitness or gym services, assistance to improve independent living skills, and physiotherapy.

**Duration on MIFS**

The average duration on the pilot for all participants was just under one year (11.7 months). Figure 1 presents the distribution of participant duration in months, differentiating the participants who did and did not complete their programs. Clearly, the average duration on program is greater for those participants who completed their programs (12.7 months) compared to those participants who did not (8.8 months). The majority of participants with a program duration of less than six months left the pilot unfinished.

MIFS was not a time-limited program. There was not a fixed maximum time period after which participants had to leave the pilot, as is common in many other programs. Although the average duration on program for all participants was around a year, there were a number of participants who took considerably longer to complete their program, as indicated by the long tail of the distribution in Figure 1.

**Figure 1  Duration of participants on the MIFS Pilot (in months)**

Source: Data from MIFS database

Note: Total number of MIFS participants = 1706
Satisfaction and service quality
Data from the post-program feedback forms showed that 86 per cent of respondents were satisfied or very satisfied with the services provided to them through MIFS. In discussing their satisfaction with the pilot, participants reflected on the types of services and assistance they had received, their case managers, and their achievement of personal goals. Participants considered the services were helpful and assisted them to better deal with their physical and/or mental health issues. Case managers were generally considered to be readily available, considerate, understanding, supportive and helpful. These positive results were replicated in the quantitative survey of MIFS participants. The qualitative research also found most participants considered their case managers were supportive and approachable as well as encouraging and committed to their future.

9. How to assess pilot outcomes?
The focus of the remainder of this report is on the outcomes achieved by participants through the MIFS Pilot. Many different measures are examined, using a variety of data sources and a range of methodological techniques. As such, it is the convergence or consistency in the pattern of results across these many different outcome measures that is important. An advantage of this multi-method approach is that it overcomes limitations that may be associated with any single measure.

Differentiating short-term and long-term goals and outcomes
As discussed, the objective of the MIFS Pilot was to provide pre-vocational assistance to participants that would address their barriers to participation, promote social outcomes and enable them to move into vocational assistance. In the longer term, following vocational assistance, participants should achieve employment goals. As such, it is important to consider the different types of program outcomes achieved at different points in time.

- The outcomes achieved by participants at the conclusion of their program provides information on the specific achievements of MIFS. Analysis at this point should particularly consider ‘softer’ outcomes such as the extent to which barriers were addressed or better managed, improvements in life skills, increased social participation and transition into vocational programs.

- To properly evaluate the MIFS Pilot, and to assess the claims that the achievement of social outcomes leads to improved economic outcomes, it is critical to consider the longer term outcomes of MIFS participants. This analysis should focus on economic participation, earnings and movement off DSP. It should also consider the durability of the social and personal gains made through the pilot.
In evaluating the outcomes that participants achieved, this paper separately considers the immediate and longer term outcomes. It is not possible to know the most appropriate time interval for this later assessment. To provide a reasonable timeframe, the analysis excluded participants still involved in the pilot during 2000, and examined various data sources from mid-2000 (see Appendix A for specific details).

**A framework for understanding participant achievements**

The qualitative research identified a range of outcomes that participants achieved through their involvement in the MIFS Pilot. Participants moved through a continuum of progression, with each improvement building upon and consolidating previous outcomes.

MIFS led to improvements in most participants' quality of life. The types of outcomes achieved included improved self-esteem and confidence, a better understanding and acceptance of their disabilities, and improved social and communication skills leading to increased social participation. MIFS also enabled participants to develop recreation and leisure skills and increase their independence, physical mobility and fitness.

Many MIFS participants progressed beyond quality of life improvements and addressed their barriers to employment. MIFS was reported to have helped participants to develop daily routines, and to establish work-like patterns and behaviours. The assistance helped participants to stabilise and improve their medication routines, and to develop the interpersonal skills necessary to enable them to work with others. MIFS participants also improved their independent living skills in areas such as travel training, budgeting, driving and personal presentation.

The qualitative research also identified that MIFS participants achieved vocational outcomes at the conclusion of their program. The range of outcomes achieved included commencing vocational assistance, participation in voluntary work, education or training, or actual employment, including supported employment.

**10. Outcomes at conclusion of the program**

**Vocational-type outcomes**

MIFS Pilot Coordinators maintained data on the achievements of participants at the conclusion of their program, based on the final report from case managers. The data in Table 2 report the highest category of outcome achieved by all participants.

Around 28 per cent of MIFS participants left the pilot without receiving all of the assistance that their case manager considered would be helpful. The majority of unfinished participants did so because of a worsening medical condition or simply because they chose not to participate further.
Table 2  Hierarchy of outcomes achieved by MIFS participants at conclusion of assistance

<table>
<thead>
<tr>
<th>Outcome at conclusion of program</th>
<th>Per cent of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case finalised</td>
<td>71.3</td>
</tr>
<tr>
<td>Working (full-time, part-time or casual)</td>
<td>6.3</td>
</tr>
<tr>
<td>Referred for vocational assistance</td>
<td>41.5</td>
</tr>
<tr>
<td>Undertaking voluntary work</td>
<td>6.3</td>
</tr>
<tr>
<td>Study</td>
<td>0.4</td>
</tr>
<tr>
<td>Referred for community support, and so on</td>
<td>6.2</td>
</tr>
<tr>
<td>No further progress due to medical condition</td>
<td>3.8</td>
</tr>
<tr>
<td>Not want further assistance</td>
<td>2.7</td>
</tr>
<tr>
<td>Other</td>
<td>4.2</td>
</tr>
<tr>
<td>Did not finish</td>
<td>28.2</td>
</tr>
<tr>
<td>Medical reasons</td>
<td>10.8</td>
</tr>
<tr>
<td>Not want to participate</td>
<td>11.1</td>
</tr>
<tr>
<td>Other</td>
<td>6.2</td>
</tr>
<tr>
<td>Deceased</td>
<td>0.5</td>
</tr>
<tr>
<td>Total number of participants</td>
<td>1706</td>
</tr>
</tbody>
</table>

Notes: The elements may not sum to totals due to rounding. The outcome categories are mutually exclusive. The order presented represents the coding hierarchy.

Around 54.5 per cent of participants achieved a vocational type outcome at the conclusion of their MIFS program. This was defined as either work, referral to vocational assistance, voluntary work or study. This is a significant outcome given that, to qualify for MIFS, participants were considered to have been unsuitable for assistance within existing vocational programs. A further 6.2 per cent of participants were referred for non-vocational support or assistance, such as from community organisations or medical/disability support agencies.

Relationship between outcomes and duration on MIFS

As part of the file review, an estimate of severity of disability was made, based on the initial assessment reports. There was a moderate relationship between severity of disability, duration on program and number of different services received. Participants with more severe barriers required more interventions and, therefore, spent longer on MIFS. Nonetheless, the outcomes achieved by participants with different program durations are broadly similar.

The relationship between time on the program and outcomes achieved is difficult to interpret as the majority of participants who did not finish their program were on MIFS for less than six months. To overcome this, Figure 2 presents data on the achievement of the three main vocational outcomes by participants who did complete, classified into three groups based on program duration. This overcomes the effect of having a disproportionate number of unfinished cases in the ‘less than six months’ group.
Figure 2  Main outcomes achieved by finished participants from each duration group

![Graph showing main outcomes achieved by finished participants from each duration group.](image)

Source: Data from MIFS database

The figure shows the broad similarity across the three groups, although there was a significant association between duration and type of outcome ($\chi^2 = 35.67$, df = 4, $p < .001$). The participants who completed their program in less than six months were somewhat more likely to achieve a work outcome directly from MIFS than participants with longer program durations. The shorter term participants were likely to be people with less severe barriers and those who required only limited specific interventions to become ‘work ready’. In all of the duration groups, more than half of the participants commenced a program of vocational assistance, although those completing their program in six to 18 months were more likely to achieve this type of outcome. There was also a trend for those with longer program duration to be more likely to achieve voluntary work as their highest order outcome. This may reflect the use of voluntary work as part of a strategy to facilitate social participation prior to seeking work. Or it may have been an indication that a paid work outcome was not a realistic goal for some participants.

More detail of outcomes

A random sample of 310 participant files was reviewed. The file review collected more detailed data than were captured in the MIFS database. The review showed most MIFS participants employed at the conclusion of their program were working in manual, unskilled positions such as cleaning, lawn mowing or supermarket shelf packing. About two-thirds were working part-time. Of those who were working full-time, most were in ‘sheltered’ employment (business services).
The file review data also provided a more accurate indication of the proportion of former MIFS participants engaged in voluntary work or study than the outcome hierarchy because the focus on primary outcome would often underestimate the prevalence of these ‘lower order’ outcomes. Overall, the file review found that 12.3 per cent of MIFS participants were studying. Most were studying computer or IT related courses, were involved in literacy/numeracy training, or were completing school studies. Similarly, 11.3 per cent of MIFS participants were undertaking voluntary work at the conclusion of their program, with almost half working in community based organisations.

**Earnings and income**

The FaCS Longitudinal Data Set (LDS) contains information on the income support and earnings of payment recipients and their partners for each fortnight over several years. For the MIFS evaluation, the LDS was used to examine the circumstances of a sample of participants at three points in time (see Appendix A). The first occasion was the fortnight prior to first commencing on the pilot (or prior to identification by CDOs for the Tasmanian group). The second occasion was the period immediately following completion or exit from the pilot (or early July 1999 for those in the matched group). The final measurement occasion is the end of June 2000 (the limit of the LDS at the time of the analysis).

**Table 3  Earnings of MIFS participants and customers in matched Tasmanian control group from FaCS Longitudinal Data Set**

<table>
<thead>
<tr>
<th></th>
<th>MIFS participants</th>
<th>Tasmanian control customers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 1149</td>
<td>N = 187</td>
</tr>
<tr>
<td><strong>Pre-intervention</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per cent of participants with earnings</td>
<td>5.9</td>
<td>8.0</td>
</tr>
<tr>
<td>Average earnings of those working</td>
<td>$128.00</td>
<td>$243.00</td>
</tr>
<tr>
<td>Per cent of partners with earnings</td>
<td>26.6</td>
<td>31.2</td>
</tr>
<tr>
<td><strong>Post-intervention</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per cent of participants with earnings</td>
<td>6.9</td>
<td>1.0</td>
</tr>
<tr>
<td>Average earnings of those working</td>
<td>$183.00</td>
<td>n/a^1</td>
</tr>
<tr>
<td><strong>Longer term outcomes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per cent of participants with earnings</td>
<td>13.3</td>
<td>8.2</td>
</tr>
<tr>
<td>Average earnings of those working</td>
<td>$259.00</td>
<td>$238.00</td>
</tr>
<tr>
<td>Per cent of partners with earnings</td>
<td>31.3</td>
<td>22.4</td>
</tr>
</tbody>
</table>

Note: ^1 Cell size is too small to report
The data (Table 3) show that, at the commencement of the program, those identified in the Tasmanian control group were slightly, though not significantly, more likely to have earnings than MIFS participants ($\chi^2 = 1.04, df = 1, p > .3$). Further, the average earnings of those MIFS participants in work (that is, excluding those without earnings) was $128 per fortnight prior to commencing MIFS. In contrast, the average earnings of those in the Tasmanian group with earnings was $243 per fortnight, and was substantially greater than that of the MIFS participants, $F(1,78) = 4.52, p < .05$.

At the conclusion of the program (or the end of the collection period for the Tasmanian group) there was an increase in the percentage of MIFS participants reporting earnings but a substantial decrease in the percentage of customers in the Tasmanian group reporting earnings. As such, there was a significant difference in the proportion of earners in the two groups at this point in time ($\chi^2 = 9.96, df = 1, p < .01$). This decrease in earners in the Tasmanian group could be a consequence of the fact that many of those identified were new DSP claimants. With time there may have been a worsening of their condition or a lessening of their income following grant of DSP. Regardless of the reason for this effect, the matched DSP customers demonstrate a different pattern of earnings than the MIFS participants following completion of the program. The average earnings of those MIFS participants in work at the conclusion of their program had increased to $183 per fortnight. Due to the small cell size, a corresponding figure cannot be calculated for the Tasmanian group and no comparative analysis is possible.

**Non-vocational outcomes**

Another aim of the file review was to gather information on the personal circumstances of participants at the conclusion of their programs. The outcome report produced by case managers included information on changes in quality of life and other non-vocational domains. Case managers considered that participants achieved increased self-understanding, demonstrated improvements in self-esteem and confidence, and were coping better with their disability. Case managers thought that MIFS had enabled participants to relate better with others, had increased socialisation and communication skills, and helped them to be less isolated. The case managers also reported that participants had achieved improved levels of fitness and independent living skills.

**11. Longer term outcomes**

This section reports on the longer term outcomes. It is much more concerned with vocational and employment outcomes to assess the validity of the ‘pathway’ hypothesis. However, it is also important to consider the durability of the non-vocational achievements of the pilot.
Vocational type outcomes
A mail survey of a sample of MIFS participants (and those in the Tasmanian sample) was conducted in September 2000. Of the 360 MIFS participants who were sent the survey, 111 (31 per cent) responded. Surveys were also sent to 160 Tasmanian DSP recipients and 36 replies were received (23 per cent; see Appendix A for more detail). Almost a third of survey respondents who received assistance reported that they were currently working (19 per cent of these full-time, 30 per cent part-time and 52 per cent casually). In total, 61 per cent of former MIFS participants reported that they were engaged in vocational activities, including job search.

Earnings and income
Centrelink administrative data for the entire MIFS population at the end of August 2000 (three months after the conclusion of the pilot) show that 3.4 per cent of former MIFS participants had been suspended on DSP, compared to 1.9 per cent of all DSP recipients during 1998–99. (Interpretation must be cautious as the overall DSP population figure reflects suspensions in a single calendar year). Most suspensions (79 per cent of MIFS participants and 74.5 per cent of the DSP population) were for reasons of income or earnings.

The Centrelink data also show that 4.1 per cent of former MIFS participants had been cancelled off DSP. Of those participants, 14.9 per cent had been cancelled for reasons of income or returning to work. Of the 66,000 people cancelled off DSP in 1998–99, only 2.3 per cent were cancelled for reasons of earnings or return to work. As well, 9.1 per cent of the MIFS participants still currently on DSP reported earnings. The comparable national DSP figure at 2 June 2000 was 7.5 per cent of DSP recipients with earnings.

Given the nature of the group, these results are quite remarkable. Compared to the overall DSP population, they indicate the MIFS group had similar or superior employment outcomes or earnings. This is an extremely positive finding given the severity of the barriers of the MIFS participants.

Analysis of Longitudinal Data Set
Analyses of the LDS (Table 3) contrasted the circumstances of MIFS participants and the Tasmanian control group at the end of June 2000 (this was on average 16.3 months since the MIFS participants had completed their programs). At this point, more of the MIFS participants reported earnings than those in the control group ($\chi^2 = 3.74, df = 1, p = .05$). In addition, the average earnings of those with earnings was now similar for MIFS participants and the Tasmanian control group ($F(1,163) < 1$). While the percentage of earners and the level of income in the Tasmanian group at this time was similar to the first measurement occasion, more MIFS participants were reporting earnings and their level of earnings had increased. Thus, despite the suggestion that the Tasmanian group were less disadvantaged than the MIFS population, following participation in the MIFS Pilot these differences were not evident in earnings data.
To further understand the earnings of MIFS participants, Figure 3 presents the percentage of MIFS participants with earnings identified in the LDS (both immediately post-program and the longer term occasion) for different types of outcomes.

Figure 3 confirms that many of those classified as working reported earnings immediately at the conclusion of their MIFS program and that around the same proportion had earnings 16 months later. The figure also shows that, although only a few participants who transitioned into vocational assistance were earning immediately post-MIFS, there was a substantial increase in earners at the later measurement occasion. This supports the hypothesis that many MIFS participants achieved an employment outcome after receiving vocationally focused interventions. It is also interesting that there was a substantial increase in earners amongst those engaged in voluntary work at the conclusion of MIFS (from 3.4 per cent to 6.9 per cent). This too provides some support for the ‘pathways’ hypothesis—that engaging in non-economic activities can be a way of consolidating improvements in personal circumstances and/or can lead to employment outcomes.

Figure 3  Percentage of MIFS participants with earnings immediately post-MIFS and longer term, by different type of outcomes

Source: Data from FaCS Longitudinal Data Set
At the same time, it is important to recognise that the participants who voluntarily left the pilot also demonstrated an increase in earnings over time. These may have been people who considered themselves ready for vocational assistance or employment and were frustrated that these types of assistance or activities were not supported through MIFS. It does suggest that, to some extent, the success achieved by participants can be attributed to the individuals themselves rather than being entirely attributable to the pilot.

**Non-vocational outcomes**

Through the mail survey, MIFS participants were asked to indicate whether they were feeling better, or felt they had improved, on a number of vocational and non-vocational dimensions since receiving assistance from their case manager. The data were analysed by a series of chi squared analyses and the results are presented in Table 4. These results do not indicate causality or objectively measured improvement, but do reflect participants’ perceptions of the benefits that they derived through their involvement in the pilot.

The data show participants considered that their involvement in MIFS had improved their ability to cope and to manage their condition. A majority reported improved confidence and independence. These were also the non-vocational outcomes most commonly reported by case managers. A significant number of participants reported feeling better about life and having improved levels of fitness. MIFS participants also reported increased independence and being better able to manage everyday tasks by themselves.

<table>
<thead>
<tr>
<th>Non-vocational Outcomes</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coping better with disability/condition¹</td>
<td>73</td>
<td>27</td>
</tr>
<tr>
<td>More independent¹</td>
<td>70</td>
<td>30</td>
</tr>
<tr>
<td>Better able to manage everyday tasks by self ¹</td>
<td>68</td>
<td>32</td>
</tr>
<tr>
<td>More confident¹</td>
<td>66</td>
<td>34</td>
</tr>
<tr>
<td>Feeling better about life¹</td>
<td>65</td>
<td>35</td>
</tr>
<tr>
<td>Feeling fitter¹</td>
<td>64</td>
<td>36</td>
</tr>
<tr>
<td>More positive about the future</td>
<td>64</td>
<td>37</td>
</tr>
<tr>
<td>Easier to talk to people</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td>Better able to work</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>More active in spare time</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>More easily making friends</td>
<td>43</td>
<td>57</td>
</tr>
</tbody>
</table>

Source: Data from survey of MIFS participants
Notes: N = 111. ¹ Difference is significant: χ² at α = .01 level
The participants did not, however, report any increase in their social participation. They did not report improvements in their ability to socialise and interact with others or report any improvement in their work readiness. This differs from case managers who claimed increased socialisation was an outcome commonly achieved by MIFS participants.

**Comparing MIFS participants and the Tasmanian group**

MIFS participants and respondents in the Tasmanian group were compared on self-rated quality of life, health and wellbeing. Items in the survey required respondents to assess how they currently felt on a five-point scale. The mean responses of the MIFS and Tasmanian groups were compared in a series of one-way Analyses of Variance (ANOVAs) and the results are presented in Table 5. Involvement in MIFS is hypothesised to improve the circumstance of pilot participants. Assuming that MIFS participants and those identified in the Tasmanian sample were similar prior to any intervention, higher mean scores for the MIFS participants on relevant dimensions would confirm the hypothesis. The researchers who conducted the qualitative aspects of the evaluation reported that the Tasmanian group appeared less disadvantaged than pilot participants. For the current analysis, such a difference would contribute to the opposite pattern of results to those predicted. That is, the Tasmanian group would report superior quality of life, health and wellbeing in comparison to MIFS participants.

### Table 5  Comparison of MIFS participants and control group on mean ratings of quality of life, health and wellbeing

<table>
<thead>
<tr>
<th></th>
<th>MIFS group</th>
<th>Tasmanian control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 111</td>
<td>N = 36</td>
</tr>
<tr>
<td>General quality of life$^1$</td>
<td>3.39</td>
<td>2.8</td>
</tr>
<tr>
<td>Health$^1$</td>
<td>3.49</td>
<td>2.78</td>
</tr>
<tr>
<td>Ability to perform daily tasks$^1$</td>
<td>3.63</td>
<td>2.83</td>
</tr>
<tr>
<td>Ability to work$^1$</td>
<td>3.07</td>
<td>2.14</td>
</tr>
<tr>
<td>Readiness for work$^1$</td>
<td>3.16</td>
<td>2.37</td>
</tr>
<tr>
<td>Social and community involvement$^1$</td>
<td>3.08</td>
<td>2.34</td>
</tr>
<tr>
<td>Support from family and friends</td>
<td>3.66</td>
<td>3.81</td>
</tr>
<tr>
<td>Communicate (and get on) with others</td>
<td>3.53</td>
<td>3.39</td>
</tr>
<tr>
<td>Use of spare time</td>
<td>3.37</td>
<td>2.86</td>
</tr>
</tbody>
</table>

Source: Data from survey of MIFS participants

Note: $^1$ MIFS group mean is significantly greater than Tasmanian mean (a = .01 level)
The data in Table 5 show that the MIFS participants’ self-ratings were superior to those of the Tasmanian group on all items related to quality of life, health, independence, work ability and work readiness. This is consistent with expectations that involvement in MIFS produced life gains that positively impacted on quality of life. Although MIFS participants rated themselves higher than the matched group on measures of social and community involvement, there was no difference in ratings of communication or use of spare time. This suggests that, following MIFS, former participants may have increased levels of involvement in community and social activity, but that the barriers and underlying issues that prevented or made such participation difficult had not necessarily been addressed. This may explain the only major difference between the case manager and participant rated outcomes. Case managers may have facilitated participant involvement in activities and considered underlying issues addressed, whereas the participants themselves did not consider the barriers had been removed.

The pattern across all of the items is critical and enhances the confidence that can be placed in the results. There was no significant difference between MIFS participants and the matched Tasmanian group in reported support from family and friends. This is not a dimension that MIFS would have been able to change. The fact that the survey did not identify a difference between the groups on this item (and others) shows that the results demonstrating superior quality of life, health and work readiness are not simply a consequence of a general positive response bias. This supports the utility of the survey data. Further, the superior ratings of the MIFS participants are even more remarkable if, as proposed, those in the Tasmanian group had less severe barriers.

12. Other pilot outcomes

The qualitative research concluded that the MIFS Pilot also had positive outcomes for the families and carers of participants. As participants became more independent, their reliance on families, partners, parents or carers often decreased. This meant carers or family members could take up more opportunities to pursue their own goals, including employment.

Although not significant, the analysis of the LDS data showed that the proportion of participants’ partners with earnings increased from the pre-intervention measurement occasion to the longer post-intervention occasion. It must be noted, however, that the number of MIFS participants with partners was small (only 11 per cent), and that the identification of carers and measurement of improvement in carer participation was imprecise (for example, not all partners would be carers and not all would be seeking to participate economically).
Costs
The average program cost incurred by participants on the MIFS Pilot was $2730, including an average $510 for assessments. The program costs are, therefore, comparable to the funding levels of other government programs (for example, Job Network, Disability Employment Assistance, Community Support Program). Given the positive outcomes achieved, the MIFS Pilot seems to be relatively cost effective and efficient. The implication is that it may be financially responsible to implement a program providing pre-vocational support and assistance.

However, the administrative expenditure on MIFS was excessive. Overall administrative expenditure (not including the administrative costs for FaCS or the level of program funds utilised by case managers on administrative activities) was 26 per cent of the total expenditure over the four years. In comparison, the reported level of administrative expenditure across all Australian governments (Commonwealth, state and territory) under the Commonwealth-State Disability Agreement was 8.4 per cent (Table 7.9, AIHW 1999). The monitoring and accountability processes may have contributed to the effectiveness of the pilot, ensuring that only appropriate and necessary services were delivered and funded. It is also likely that there would be administrative efficiencies of scale in a national program compared to a regional/localised and time-limited pilot program. However, the administrative costs of the MIFS model are excessive and the service delivery/funding model as it operated during the pilot does not seem appropriate for a larger program.

13. Conclusions and recommendations
Given the consistency of the results it does seem that MIFS had a significant positive impact on the lives of many people. It can be confidently concluded: that the majority of participants achieved personal improvements in their quality of life, their ability to cope with their disability and their self-esteem and confidence; that many achieved a vocational outcome at the conclusion of their program; and that as time passes, an increasing number of former MIFS participants are moving into employment and are reporting earnings. MIFS seems to have played an important part in these achievements. Another more important conclusion is that, given the right support and assistance, even people considered to be amongst the most severely disabled and disadvantaged can achieve personal and vocational outcomes.

The methodological limitations, particularly around experimental design, and the confounding of personal (for example, motivation, level of disadvantage) and locational differences (Tasmania vs MIFS sites), beset this type of social policy piloting and were not particularly well managed. However, the methodological weaknesses that limit interpretation of any one individual aspect of the evaluation were overcome by the inclusion of other data sources that used alternative methods. For example, while the validity of the earnings and employment data
from the survey may be compromised by response biases, the LDS and Centrelink mainframe data are not, and these results corroborate the survey findings.

Similarly, although the selection of the control group may have been flawed, the improvement in MIFS participants is also evident in case manager reports, self assessment, within-subject comparisons (pre- vs post-) and administrative data. The approach of converging methods cannot, however, address questions of the generalizability of the findings. While it seems MIFS was effective for the pilot participants who volunteered, the outcomes for potential participants with other characteristics is less certain.

Conducting and evaluating the MIFS Pilot was not only about assessing the success of the pilot. MIFS resulted in important learnings for FaCS and Centrelink (organationally and individually), and for service providers.

- MIFS was a key source of evidence used by FaCS in the design and development of the PSP. The PSP has avoided the administrative and procedural weakness of the MIFS Pilot, while still maintaining the positive features (for example, level of funding, targeted at DSP recipients, individual focus, holistic approach, community integration, and so on).

- Many of the problems of service delivery impacting on pilot participants (for example, complexity and system navigation, interaction between non-vocational, pre-vocational and vocational services, funding levels) are being addressed through other FaCS reforms. These include the implementation of the PSP, the Assessment and Contestability Trial, the move to a Case Based Funding approach in disability services, the introduction of Personal Advisers, and the re-negotiation of the Commonwealth-State Disability Agreement.

- One critical and exciting challenge for FaCS is in the identification, specification and measurement of appropriate social outcomes for program participants. The evaluation findings suggest that assisting people to overcome their barriers and increase social engagement can be a step towards improved economic participation. The MIFS database contains a large and important source of information on the effectiveness and cost efficiency of a diverse range services for people with a wide range of severe barriers.

Although the MIFS Pilot only operated for a short time, it made a significant contribution to the lives of many people and the data and findings will continue to provide a basis for improvements in services and policy for people with severe barriers, into the future.
Appendix A: Brief overview of the main elements of the evaluation

Tasmanian control group

Objective:
To identify a matched sample of DSP recipients with similar characteristics and circumstances to the MIFS Pilot participants.

Methodology:
◗ CDOs in Tasmania identified customers who would have been suitable for a MIFS referral, had the program been operating in that area.
◗ The control group was identified between October 1998 and June 1999.
◗ Data were collected on demographic characteristics, disability type, types of interventions that would have been appropriate, and assistance offered and referrals provided.

Qualitative research

Objective:
To assess attitudes and perceptions of MIFS participants and service providers, CDOs, non-MIFS service providers and DSP recipients from the Tasmanian control group.

Methodology:
◗ Initial opt-out letters were sent to 750 MIFS participants. This was a random sample of those who commenced their program after 1 January 1998 and finished before March 2000. FaCS also wrote to the 187 customers identified in the Tasmanian control group.
◗ There were five group discussions and 64 interviews with MIFS participants, Tasmanian control group customers, CDOs, MIFS service providers and non-MIFS service providers.
◗ The fieldwork was conducted between May and August 2000.

Quantitative survey

Objective:
To examine longer term outcomes and circumstances of MIFS participants and those in control group.

Methodology:
◗ The sample was drawn from the same source as the qualitative research, but excluded those contacted by the consultant. Conducted in September 2000, the survey was mailed to a random sample of 360 MIFS participants and 160 customers from the control sample. Responses were accepted until late September 2000.
There were 111 completed surveys from MIFS customers (a response rate of 31 per cent) and 36 from the Tasmanian group (a response rate of 23 per cent).

The survey of MIFS participants examined MIFS experiences and circumstances since participating in MIFS, as well current quality of life, health and other areas of life.

The survey sent to the ‘matched’ Tasmanian sample included only the questions about current circumstances.

Feedback forms

Objective:
To assess participants’ circumstances immediately post-MIFS, and their satisfaction with and experiences of their program.

Methodology:
- On completion of their MIFS program, participants were given a post-MIFS feedback form/questionnaire by their Pilot Coordinators together with a reply paid envelope. Completion and return of the feedback sheets was voluntary.
- 160 completed sheets were returned in Queensland and 60 in Victoria. No data were collected on the number of forms given to participants.
- Forms were distributed between July 1998 and 30 June 2000.

Written submissions

Objective:
To assess service providers/case managers experiences with and perceptions of MIFS.

Methodology:
FaCS wrote to all MIFS case managers in July 2000 inviting written submissions. A pro forma with specific topics to be addressed was provided. Responses were received from nine case management organisations.

Longitudinal Data Set

Objective:
To examine changes in MIFS participants’ earnings over time (and that of their partners).

Methodology:
- Data from the FaCS LDS was analysed for the 187 customers from the Tasmanian group and 1149 MIFS customers. The sample of MIFS customers was selected so that their time on the pilot matched the time period that the Tasmanian control group was identified and monitored. It was restricted to those who commenced
their MIFS program after 1 January 1998 and finished before the end of 1999 (to enable time to follow up long-term outcomes). The Tasmanian control group was identified between October 1998 and June 1999.

LDS data were examined at three points in time. The first measurement occasion analysed pre-intervention earnings of MIFS participants in the fortnight prior to commencement in the pilot. For the control group, this meant prior to the identification process. The second measurement occasion was the fortnight after completing the program for MIFS customers and the end of the data collection process in Tasmania for the control group. The third measurement occasion was the end of June 2000. On average, this was 16 months after program completion for MIFS participants and 12 months after the second measurement occasion for the control group.

**Review of MIFS files**

*Objective:*
To obtain more detailed information on the aims of individuals’ programs, the types of interventions delivered to participants, and the outcomes that resulted.

*Methodology:*
- FaCS undertook a manual review of MIFS participants’ files in September 2000. Files of 310 participants who had finished their MIFS program before March 2000 were randomly sampled.
- Information was systematically collected on disability type, severity of barrier and support prior to MIFS; length, aim and variations to program; interventions delivered; outcomes reached; and current supports for the participant.
- A former MIFS Pilot Coordinator reviewed all files and made an assessment of the relative severity of conditions and barriers.
Endnotes

1 I wish to thank Genni Nolan, Natasha Canny and Rosemary Seberry for their involvement and valuable contribution to the MIFS Pilot evaluation and Nicky Hurt and Patrick Shanahan from Elliot and Shanahan Research who conducted the qualitative research. I would like to acknowledge the MIFS Pilot coordinators and other Centrelink and FaCS staff who were involved in the pilot and thank all who participated in the pilot and the evaluation.

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Jay Martin
Child Care Benefits Branch, Department of Family and Community Services

‘Children are the ultimate vote of confidence in the future’
—Tony Abbott, Minister for Employment and Workplace Relations.

1. Background

Some of the earliest analysis on the nature of the relationship between economic growth and fertility was carried out by Thomas Malthus (1766–1834), whose ideas were heavily influential throughout the 19th century. According to the model he proposed, it was essentially through control of sexual contact (or ‘human nature’ (Becker 1960, p.213)) that the fertility of a society was determined. However, in Malthus’ analysis, it was the real wages of labour that acted to either check or encourage early marriages, and through this, control fertility. When times were good and per capita incomes high, earlier marriages were encouraged and total fertility rose. Conversely, when real wages fell, times were perceived to be harder and marriages were delayed, leading to reduced total fertility (Malthus 1798; Malthus in Becker et al. 1990). His theory largely held against his observation of the agricultural and pre-industrial societies of his time.

Empirical evidence gathered over the past 150 years cast some doubt on the applicability of his findings to modern, developed societies. In fact, it increasingly appeared that the opposite case had become true: That is, in industrial societies, the relationship between income and fertility was more generally negative. Becker (1960) was among the first to discuss and develop this theory, suggesting that in richer countries, increased family incomes tended to lead to increased investment in the ‘quality’ of children, rather than their quantity. The spread of knowledge about contraceptive practices was the key factor in his analysis.

The inverse shape of the relationship between economic growth and fertility in developed countries has been extensively documented, and has come to be accepted as a given in the economic literature (for example, Tamura 1988 & Barro 1991 in Micveska 2001). Furthermore, fertility transition theories suggest that societies in fact move from a Malthusian stage, when the relationship between economic growth and fertility rates is positive, towards a more modern stage, when the inverse relationship holds (outlined in McDonald 1993). Much of the work of modern day theorists in this area has been on modelling the transition...
from one mode to the other, and understanding some of the policies and factors which may cause this shift (examples cited in Micevska 2001 are Becker et al. 1990; Kremer 1993; Galor & Weil 1996; Dahan & Tsiddon 1998).

2. Why this relationship?

There are a variety of factors that are thought to contribute to the ‘modern’ inverse relationship between fertility and income. Many of these have largely resulted from radical increases in the number and variety of opportunities available to women, particularly since the 1960s. Overall the factor that has probably been most commonly associated with declining fertility worldwide is female education. Female education assists women to choose the number and timing of the children they have through the use of family planning techniques, as well as increasing their opportunities to pursue status and economic security through means other than having children (World Bank et al. 2000). Educated women who are able to secure well paid positions also face higher opportunity costs if their labour force participation is curtailed by child rearing. McDonald (2000) has argued that, because of these costs, if women and men have equal access to labour market opportunities, but women have their opportunities curtailed by having children, lower fertility will result.

Attention has also been paid to the importance of marriage and partnering for fertility decisions (for example, McDonald 1998; Barnes 2001; Qu et al. 2000). Such research suggests that most births in Australia still tend to occur within the realm of marriage, and that educated, well paid women are most likely to delay partnering. Because of this, it is possible that education and securing highly paid employment may act as a ‘double negative’ for fertility for these women.

These trends, in combination with a variety of other influences and relevant factors, have in total contributed to the low levels of fertility witnessed in countries such as Australia. As women’s economic participation and educational achievement continue to grow, we should expect to see the drop in fertility continue.

3. Baby busts, baby booms

Major social and economic disruption does appear to have often disturbed the general nature of the relationship between economic conditions and fertility. Specifically, severely depressed fertility rates tended to accompany times of war, economic crisis and social upheaval throughout Europe during the first half of the twentieth century. The World Wars, the Great Depression and forced collectivisation in the former Soviet Union are some examples of the kinds of major forces that have brought about such a change (see, for example, Calot & Sardon in Saint-German-en-Laye (1997) cited in UNECE 2000). It appears that physical
destruction, economic decline and/or social dislocation associated with these kinds of events has tended to cause people to, at least temporarily, abstain from having children (UNECE 2000).

In more recent times, some scholars have concerned themselves with the emergence of similarly dramatic twin downward shifts in fertility and aggregate output within the countries of central and eastern Europe as they grapple with the economic, social and institutional turmoil of post-communist reform. Between 1989 and 1999, the Total Fertility Rate\(^5\) (TFR) for all post-communist reform transition countries dropped by 35 per cent, as against 6 per cent for all European Union (EU) countries and about 4 per cent for Australia.\(^6\) This development has been described by one commentator as the re-emergence of the traditional Malthusian relationship between fertility and output (Micevska 2001).

Micevska (2001) uses this evidence to conclude that radical changes in income produce different effects on fertility than gradual changes. Specifically, ‘unfavourable shocks seemingly jar an economy into the “Malthusian” state when fertility and income both decline’ (p.7). This would appear to explain why, generally, the relationship between fertility and income would be inverse, but how at times both can fall.

It does appear, though, that less severe economic shifts can also affect fertility. Becker (1960) did identify this at an early stage, arguing that a change in family income would induce a change in fertility in the same direction, and supporting his arguments with analysis of business cycles. This aspect of his thesis was, however, disputed in two commentaries published with the original article, one of which describes the empirical evidence for the hypothesis as ‘rather ambiguous’ (Duesenberry & Okun, both in Becker 1960, p.232).

Empirical observation in more recent times suggests that his theory does have validity, though, at least in some contexts. Hoem and Hoem (1996) have partly attributed Sweden’s substantial fertility increase in the 1980s to favourable economic trends and increasing private incomes. Conversely, they attribute the plunge in the TFR between 1990 and 1996 to souring economic trends and less generous family policies. Sweden’s depressed economic climate in the 1990s has been used as a major reason for its significantly lower fertility rate, compared to Norway which experienced neither a similar economic downturn nor fertility drop (see for example, Hoem 2000 & Andersson 2000 in Andersson 2001). Easterlin & Crimmins (1991) also argued that the responses to falling real wages in the United States since 1973 have required increased female labour force participation in order to maintain a given household’s standard of living, and that this has resulted in lower fertility.
4. Why this effect?

Generally speaking, in present-day industrialised societies, children cost money but do not contribute to family income. Moreover, adding a child to a family reduces the economic wellbeing of the family not just in the short term, but for a sustained period (UNECE 2000). For this reason, the question of the financial resources that a family judges to be available to them is likely to figure in their child bearing decisions.

Research appears to suggest that this is so. Becker and Barro (1988) argue that, theoretically, individuals should decrease their fertility when the cost of raising additional children would be more of a burden, either because of increased costs of children or decreased income out of which the costs of children could be met. Micevska's paper (2001) lays the blame for the dramatic fall in fertility following the collapse of communism on worsening economic conditions, growing poverty and income inequality, together with an inadequate policy response to these developments. A 1999 survey in Russia, which sought women's reasons for not having another child, found that 97 per cent of women cited lack of income (Micevska 2001). Haub (1994 in Micevska 2001) provides examples of additional surveys with similar findings. McDonald, whose analysis has generally focused on the cultural and social aspects of fertility decisions, has also acknowledged the impact of financial factors. In one instance, he noted that 'if the economic costs of children rise, some individual psychological thresholds will be crossed and decisions will be made not to have the next child' (2000 in HREOC 2002, p.61).

An additional layer to the analysis, which can be termed the 'future outlook', is added by a number of researchers. Ronsen (2001, [emphasis added]) notes that 'the observed negative effect [on fertility] of rising unemployment is probably both a result of poorer income prospects for the present and, possibly even more important, a greater feeling of insecurity about the future'. She goes on to quote the Norwegian Prime Minister who suggested that people’s ‘outlook on the future’ is an important fertility determinant (in Ronsen 2001). Micevska states that ‘ceteris paribus, a turn around in the fertility trend can take place if the economic climate improves steadily and significantly, thus influencing the expectations about the future economic outcomes that appear to exert sizeable influence on the decision to have a child’ (2001, [emphasis added]). Hoem and Hoem note that the ‘strong belief in the general population that things could only continue to improve, for everybody in general and for families with children in particular’ is likely to have substantially contributed to strong fertility in Sweden in the 1980s (1996, p.15).

If stability and security in employment are factors which can be linked to a positive outlook on the future, then we should expect job security and employment levels to influence fertility. Indeed, there is some support for this theory. Certainly, some researchers have argued that high levels of unemployment would promote pessimism about the future, thus generally discouraging couples from having
children (Gauthier & Hatzius 1997). The EU’s Observatory on Family Matters in Vienna has identified not just employment, but job security as having as big an impact on fertility in Europe as ‘nanny-state social policies’ (Bita 2002, p.27).

One Finnish researcher notes, ‘If I had the priority in setting policy, I would decrease unemployment, because if families feel insecure they don’t want to have more children’ (cited in Bita 2002, p.27). McDonald also identifies ‘a decent job’ as the most important precondition for higher fertility (cited in Bita 2002, p.27, [emphasis added]).

This suggests that not only do financial resources matter to families when making fertility decisions, but that their assessment of their financial stability and future prospects more generally may also be significant.8

Clearly, a solely economic analysis of fertility decisions is insufficient. As Caldwell (1982) notes, couples will have children ‘in the full knowledge that having children is not economic, but that one’s own children provide a unique form of pleasure which is not substitutable’ (in Van Peer 2000).9 However, psychological satisfaction alone may be similarly deficient in explaining fertility behaviour, with such things as the cost of children to a family, and how well a family judges that it can accommodate these costs in the short and long term, seemingly affecting fertility decisions.

5. Final fertility outcomes

Becker and Barro (1988) argue that subsequent generations will increase their fertility to make up for births lost during periods of protracted fertility decline. The post-war ‘baby boom’ provides ample empirical proof of such a response. The question remains though, as to whether an economic downturn primarily changes the spacing of a given number of children, or whether it leads some couples to either have less children than they would have liked overall, or even none at all.

Okun (1960) argued that business cycle effects would mainly influence the timing of the arrival of children but have no or negligible effect on total family size, because families would still have the number of children they initially intended. He called this the ‘making-up theory’, and argued that this could readily explain the positive association between changes in income and the birth rate that Becker discussed. Others have been less sanguine, leaving open the option that births may not only be postponed, but foregone altogether (for example, UNECE 2000; Hoem & Hoem 1996).

The existing body of knowledge seems to imply that the state of ‘childlessness’ is often essentially the end result of a series of delays in the decision to have children, rather than a single decision not to have children (for example, Poston & Trent 1982; Morgan 1991; Qu et al. 2000). Moreover, the longer the delay in deciding to have children, the greater the risk that involuntary childlessness will result, in
large extent due to biological factors. As Toulemon explains, ‘in the absence of therapy, 20 per cent of women who start trying for a baby when they are aged 35 do not succeed, compared to 12 per cent at age 30, 8 per cent at 25 and 4 per cent at 20’ (1996 in Rowland 1998, p.20).

As such, while the values concerning how many children people want may be relatively stable, some research suggests (for example, Drago & Varner 2001) that if economic downswings do lead to some delays in the fertility decisions which couples would otherwise have made, then in the absence of concrete evidence to the contrary, it is not so clear that Okun’s optimism is necessarily well founded.


This paper will now integrate Australian empirical data into this theoretical framework, comparing observed trends in macroeconomic indicators and the TFR between 1976 and 2000.

The factors of primary interest here are measures of unemployment rates and Gross Domestic Product (GDP). It is not suggested, however, that it is changes in these indicators per se which influence the decisions that couples make. Rather, these indicators are taken as proxy measures of the average welfare of the population, and the degree of general prosperity and security which its members could be said to be experiencing. While they are far from perfect substitutes for such complicated sentiments, they are relatively easy to obtain, compare and analyse.10

There have been substantial changes in the composition and nature of the Australian labour market and economy, as well as society generally, between 1976 and 2000, and it is impossible to completely control for the influence of these extraneous factors on an indicator like fertility. However, the period is sufficiently recent and limited to allow some useful analysis to be undertaken. Also useful, this period contains several recessions that highlight the effects under discussion.

A number of charts are presented which describe and illustrate broad trends in TFR, unemployment and GDP. Some analysis is then made of these observed phenomena, which are tested using regression analysis. The results support the theories put forward in general terms.

In broad terms, Australia conforms to the generally inverse relationship between GDP growth and TFR, which is witnessed generally in the developed world. The focus of this section is on the observed TFR responses to the economic downturns and upswings between 1976 and 2000.
7. Observed trends

**Total Fertility Rate**

The Australian TFR is compared with TFRs for several OECD nations in Figure 1.

As can be seen from this figure, the TFR in Australia has been steadily trending downwards over the past 30 years, from a peak of just under three in 1971, to a low of just under 1.75 in 2000. This is broadly in line with the trend in fertility rates throughout the developed world.

**Figure 1  TFR in Australia and other selected OECD countries, 1970–1999**

Notes: Certain economic figures are available for financial years, while TFRs are only available for calendar years. When the two are compared, the TFR figure relates to the calendar year corresponding to the latter of the two financial years (that is, TFR 1989, unemployment 1988–89).

Full sources for the data used are given at Appendix A. The author derived all figures from these data.

The decline in the TFR over the last 25 years is not uniform, however. There are a number of ‘waves’ within the overall downward trend when fertility was falling faster or slower than average—or even, at times, risen. It is these waves, highlighted in later figures, which are of particular interest and which are discussed in some detail.

**Macroeconomic trends**

As in most developed nations, the overall trend in Australia’s GDP over the past 25 years has been upwards. However, there were several periods when the economy contracted. In aggregate terms, this occurred in 1982–83, when GDP fell by about 2.6 per cent, and again in 1990–91, when GDP declined marginally (by 0.1 per cent), and only grew by 0.27 per cent the following year. This compares to an average annual growth rate of closer to 3.6 per cent over the decade from 1991–92 to 2000–01.

Per capita trends are very similar, and are shown below in Figure 2, along with the relevant TFR.

**Figure 2  GDP per capita and the TFR, Australia**

Notes: All dollar figures are in real 1989–90 dollars, except for family payments, which are in real 1995 dollars.

Certain economic figures are available for financial years, while TFRs are only available for calendar years. When the two are compared, the TFR figure relates to the calendar year corresponding to the latter of the two financial years (that is, TFR 1989, unemployment 1988–89).

Full sources for the data used are given at Appendix A. The author derived all figures from these data.

Source: Australian Bureau of Statistics (ABS) 2001, cat. nos. 5204.0 and 3105.0.65.001.
As can be seen in this figure, in per capita terms, GDP fell marginally in 1977–78, then by more than 4 per cent in 1982–83. The per capita figures also show falls in both of the financial years 1990–91 and 1991–92, by around 1.5 per cent and 1 per cent respectively.

Generally, unemployment trends closely parallel GDP trends. The association between the two during times of economic downturn over the past 20 years in Australia is summarised in Table 1.

Table 1  GDP growth and unemployment, selected years

<table>
<thead>
<tr>
<th>Year</th>
<th>Aggregate GDP growth (%)</th>
<th>Per capita GDP growth (%)</th>
<th>Unemployment change compared to previous year (%)</th>
<th>Unemployment rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977–78</td>
<td>+ 0.78</td>
<td>- 0.41</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>1982–83</td>
<td>- 2.60</td>
<td>- 4.12</td>
<td>+ 3.3</td>
<td>10.2</td>
</tr>
<tr>
<td>1990–91</td>
<td>- 0.01</td>
<td>- 1.48</td>
<td>+ 2.1</td>
<td>9.5</td>
</tr>
<tr>
<td>1991–92</td>
<td>+ 0.27</td>
<td>- 0.99</td>
<td>+ 1.9</td>
<td>10.7</td>
</tr>
<tr>
<td>Average per annum change 1975–76 to 2000–01</td>
<td>+ 3.24</td>
<td>+ 1.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average unemployment rate 1978–79 to 2000–01</td>
<td></td>
<td></td>
<td></td>
<td>7.9</td>
</tr>
</tbody>
</table>

Source: ABS 2001, cat. nos. 5204.0; 6202.0 and 3105.0.65.001. Author’s own calculations.

As can be seen from this, the recession in Australia of 1982–83 was related to a total increase in unemployment of 3.4 percentage points. Similarly, the decline in per capita GDP of 1990–91 and 1991–92 was associated with increases in aggregate unemployment of 3 and 1.2 percentage points a year respectively, so that overall unemployment rose from 6.5 per cent in 1989–90 to 10.7 per cent in 1991–92. Figure 3 shows unemployment trends in graphic form, again with the absolute TFR for the applicable year.
Comparison of TFR and macroeconomic trends

When the GDP per capita growth and unemployment rates are compared to the TFR, an apparent relationship between TFR trends and these macroeconomic indicators emerges. Figure 4 illustrates this, by showing the change in GDP per capita relative to the previous year and the change in TFR compared to the previous year. This is a dynamic depiction of how GDP changes have related to changes in fertility rates over the past 25 years.

As can be seen from Figures 4 and 5, particularly steep declines in the TFR coincide with or closely follow periods of negative growth in GDP and high unemployment. Compared to an average drop of 0.02 in the TFR over the period 1976 to 2000, major falls occurred in 1977 and 1978 (by 0.18 to 1.96 in 1978 from 2.15 three years earlier), 1984 (by 0.09—to 1.84 from 1.93) and in 1991 (by 0.05—to 1.86 from 1.91).

This information has also been compiled for total unemployment rates, as shown in Figure 5.
The ultimate vote of confidence. Fertility rates and economic conditions in Australia, 1976–2000

Figure 4  Change in GDP per capita and change in TFR, Australia

Notes: All dollar figures are in real 1989–90 dollars, except for family payments, which are in real 1995 dollars. Certain economic figures are available for financial years, while TFRs are only available for calendar years. When the two are compared, the TFR figure relates to the calendar year corresponding to the latter of the two financial years (that is, TFR 1989, unemployment 1988–89).

Full sources for the data used are given at Appendix A. The author derived all figures from these data.

Source: ABS 2001, cat. nos. 5204.0 and 3105.0.65.001. Author’s own calculations.

Figure 5  Change in unemployment and change in TFR, Australia

Notes: Certain economic figures are available for financial years, while TFRs are only available for calendar years. When the two are compared, the TFR figure relates to the calendar year corresponding to the latter of the two financial years (that is, TFR 1989, unemployment 1988–89).

Full sources for the data used are given at Appendix A. The author derived all figures from these data.

Source: ABS 2001, cat. nos. 6202.0 and 3105.0.65.001. Author’s own calculations.
Conversely, over sustained periods of economic growth and employment growth, the decline in the TFR appears to slow—that is, the TFR declines by progressively less each year. This occurred over the period 1987 through to 1990, and then from 1993 through to 2000. Towards the end of the first of these periods, the TFR had actually stopped falling and started rising—that is, in 1989 the TFR rose marginally compared to the previous year, and in 1990 the TFR actually rose by 0.07 to 1.91—from 1.84 in 1989.

This observation forms the basis of the first argument put forward here, being that, over the past 25 years in Australia:

- Changes in the prevalent economic conditions appear to be associated with changes in the fertility rate. While the TFR in Australia has been trending downwards consistently over the past 25 years, years of negative economic growth are associated with particularly pronounced declines. Conversely, when strong and sustained economic growth is observed, a slower rate of decline in the TFR is also observed. The tail end of periods of sustained economic growth appears to correspond to some increases in the TFR.

The second argument here pertains to the sharp ‘spikes’ in the TFR which are evident in the period immediately following the first year of the last two recessions (specifically, 1985 and 1992). It is argued that:

- These spikes in the TFR, evident immediately following fertility declines associated with economic downturns, may, in effect, be the response to a ‘pent-up’ demand for births, resulting from previous delays. As such, they can be thought of as ‘mini baby booms’.

In the second of these instances, that is 1992, the ‘spike’ appeared even though economic conditions had in fact continued to worsen in terms of per capita GDP and unemployment. A possible explanation for this is that, in the early stages of an economic downturn, people’s perceptions of the future are negative and decisions about having children are delayed. As a recession progresses, however, people may find that they have been overly pessimistic about the extent of the impact on their lives; alternately, they may have been able to adjust their labour force participation or expenditure to mitigate the effect of changed conditions. As such, a couple may decide that it is not necessary to delay having a child any longer.

Thirdly, subsequent to these ‘spikes’, fertility ‘dips’ back down to a point. This appears to be consistent with the overall, downward trend that we would expect to see, given Australia’s status as a developed country. Figure 6, over which a ‘trend’ line has been superimposed, illustrates this more sharply.
Figure 6  TFR in Australia 1976–2000 with (linear) trend line

![TFR in Australia 1976–2000 with (linear) trend line](image)

Notes: Certain economic figures are available for financial years, while TFRs are only available for calendar years. When the two are compared, the TFR figure relates to the calendar year corresponding to the latter of the two financial years (that is, TFR 1989, unemployment 1988–89).

Full sources for the data used are given at Appendix A. The author derived all figures from these data.

Source: ABS 2001, cat. no. 3105.0.65.001

This forms the basis of the third argument here, being that:

- Overall, Australia’s TFR is affected by those factors which appear to be influencing most developed western nations, and is generally trending downwards as a result. However, the magnitude of ‘waves’ within this overall trend appears to bear some relationship to macroeconomic conditions.

In total, this suggests that Malthus’ observations of pre-industrial societies may be more relevant to modern contexts than has been acknowledged.

8. Quantitative analysis

To further the analysis presented here, quantitative modelling of the relationship between TFR (as the dependent variable) and a number of independent variables was carried out.

Variable selection

The independent variables initially selected for analysis included a number of macroeconomic indicators, being labour force participation (LFP) (by gender and total), unemployment (by gender and total), and GDP (aggregate and per capita).

'The ultimate vote of confidence'. Fertility rates and economic conditions in Australia, 1976–2000
Because economic indicators are measured for financial years and TFRs by calendar years, correlations with GDP per capita (PC) were initially run between the GDP change registered in a financial year and the latter calendar year which corresponds to the year of a given fertility rate. In other words, the analysis relates the TFR for 1990 to the economic growth in the financial year 1989–90 (the variable GDP_PC). This builds in a lag, and represents the relationship between the TFR and the economic growth that was occurring around the time between conception and birth.

A ‘backward’ lagged variable [BLGDP] was subsequently added. This relates fertility in 1990 to the GDP per capita in 1988–89. That is, it relates fertility rates in a calendar year to the economic conditions prevailing in the year of and leading up to conception. Another lagged variable, [FLGDP]—‘forward’ lagged GDP—relates the TFR of the calendar year 1990 to the economic conditions in the financial year 1990–91. The implication of this variable is that it describes the relationship between the TFR and the economic situation that was to follow in the 12 months after the conception decision was made. It could be said to describe some relationship between a predicted economic situation at the time of conception and the TFR.

As noted, GDP per capita is assumed to act, in all cases, as a proxy measure of general economic wellbeing. While not a perfect substitute, it is nonetheless an indicator of overall economic wellbeing and welfare, in average terms.

Per child family payments [FP_PC] were also examined. While there are substantial other forms of financial and non-financial assistance available to families, these were taken as a proxy measure of the level of government support available to families with children.

The additional variables of age of mother at first (nuptial) birth [AGE_BIR] and age at first marriage [AGE_MAR] for women were also examined to capture the effects of other social forces on fertility, particularly changing values and norms about family formation. The proportion of all women aged 15 to 24 engaged in education [FEM_ED] was also included as a variable, as women who are in education during their early twenties are less likely to be available for child bearing and rearing.15

The time-series effect was captured by the use of year as a variable [YEAR].

Data limitations
Substantial data limitations are noted here. Specifically, a high degree of collinearity between and among the independent variables was expected, and indeed was evident. In particular, as was expected, almost all of the macroeconomic indicators (GDP, GDP per capita, unemployment and labour force participation rates) are highly correlated. This makes untangling the influence of any one element particularly complicated, and also complicates models using more than one of these variables.
In addition, while regressions and correlations can indicate the strength of a relationship, they do not indicate causality or the direction of any relationship. A positive relationship between TFR and female unemployment, for example, does not indicate whether a higher rate of unemployment leads to more births, perhaps because women have not been able to find work and have decided to have a child instead. On the other hand, it does not indicate whether more births lead more women to seek employment (hence increasing labour force participation and unemployment) perhaps because of an increased need for resources. Importantly, in neither case can a causal relationship be inferred—it may be that both factors, for example, are caused by a third factor that influences both. However, these models can give some indication of the degree to which a relationship between two or more variables is likely to be related.

**Bivariate results**
These substantial caveats noted, a number of bivariate correlations were run. Initially, these showed strong and statistically significant relationships (at the 0.01 level) between TFR (as the dependent variable) and most of the independent variables, particularly GDP (aggregate and per capita), labour force participation (female, male and total), and family payments. Female unemployment was significant at the 0.05 level (although returning a relatively low R² of 0.199). Male and total unemployment did not appear to be significantly related to the TFR.

The social variables capturing the effects of education, age at marriage and age at birth were also significant, as was the year.

Because of the collinearity of many of the indicators, correlations, which controlled for the influence of other of these variables, were carried out. These suggested that the initial correlation between TFR and the variables of family payments and female unemployment did not hold when the effect of GDP per capita on these was controlled for.

**Multivariate model results**
Several independent variables were subsequently selected for further analysis through multivariate analysis. Two models were produced, both of which included year [YEAR], family payments per child [FP_PC], the age of the mother at first birth [AGE_BIR], the proportion of all females aged 15 to 24 who were undertaking education [FEM_ED], and the labour force participation rate of females [LFP_FEM]. Model 1 used semi-lagged GDP per capita [GDP_PC], while Model 2 used both the forward lagged and the backward lagged variable GDP per capita variables [FLGDP; BLGDP].

Both models only use from 1980 onwards, due to the lack of availability of data for some variables prior to this time.
Model 1
The best subset with one variable included GDP per capita, and returned an Adjusted R² of 0.706, at a significance of less than 0.001.

Best subset with one variable:

<table>
<thead>
<tr>
<th>R²</th>
<th>Adjusted R²</th>
<th>YEAR</th>
<th>FEM_ED</th>
<th>GDP_PC</th>
<th>AGE_BIR</th>
<th>FP_PC</th>
<th>LFP_FEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.7237</td>
<td>0.7064</td>
<td>-</td>
<td>-</td>
<td>-6.47</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The best subset with two variables improved the Adjusted R² slightly by adding female labour force participation, as summarised below.

Best subset with two variables:

<table>
<thead>
<tr>
<th>R²</th>
<th>Adjusted R²</th>
<th>YEAR</th>
<th>FEM_ED</th>
<th>GDP_PC</th>
<th>AGE_BIR</th>
<th>FP_PC</th>
<th>LFP_FEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.7469</td>
<td>0.7131</td>
<td>-</td>
<td>-</td>
<td>-3.77</td>
<td>-</td>
<td>-</td>
<td>1.17</td>
</tr>
</tbody>
</table>

However, with a significance of 0.260, this second variable (LFP_FEM) could be discounted.

A problem emerges as the model returns subsets with three variables, which change the model entirely to include only the year, education and age at first birth variables, for a total Adjusted R² of 0.784. Each of the best three models with three subsets now include the education variable. The best model summary is as follows:

Best subset with three variables:

<table>
<thead>
<tr>
<th>R²</th>
<th>Adjusted R²</th>
<th>YEAR</th>
<th>FEM_ED</th>
<th>GDP_PC</th>
<th>AGE_BIR</th>
<th>FP_PC</th>
<th>LFP_FEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8224</td>
<td>0.7843</td>
<td>-3.98</td>
<td>2.85</td>
<td>-</td>
<td>2.95</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Each of these is significant, as indicated below.

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Standard error</th>
<th>t-score</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>139.9</td>
<td>34.4</td>
<td>4.07</td>
<td>0.001</td>
</tr>
<tr>
<td>YEAR</td>
<td>-0.0721</td>
<td>0.0181</td>
<td>-3.98</td>
<td>0.001</td>
</tr>
<tr>
<td>FEM_ED</td>
<td>0.0349</td>
<td>0.0122</td>
<td>2.85</td>
<td>0.013</td>
</tr>
<tr>
<td>AGE_BIR</td>
<td>0.1800</td>
<td>0.0611</td>
<td>2.95</td>
<td>0.011</td>
</tr>
</tbody>
</table>

It is noted, however, that this model is complicated by collinearity among the variables, which may affect the influence attributed to factors. In particular, age at first birth and year are nearly perfectly correlated. Models with four and five predictors indicate increasingly severe problems with collinearity.

From this, it could be said that the relationship between GDP per capita and TFR does appear to be strong and significant, although the results of the more complicated models are less straightforward.
**Model 2**

The second model added the two alternate GDP variables to the equation. The first of these, BLGDP, was backward lagged by 12 months. The second, FLGDP, was forward lagged.

The best subset with one variable included the forward lagged GDP per capita variable [FLGDP], returning an Adjusted $R^2$ of 0.7692, at a significance of less than 0.001.

Best subset with one variable:

<table>
<thead>
<tr>
<th>R²</th>
<th>Adjusted R²</th>
<th>YEAR</th>
<th>FEM_ED</th>
<th>GDP_PC</th>
<th>BLGDP</th>
<th>FLGDP</th>
<th>AGE_BIR</th>
<th>FP_PC</th>
<th>LFP_FEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.7828</td>
<td>0.7692</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.759</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The best subset with two variables improved the Adjusted $R^2$ to 0.8088 by adding female education participation, as summarised below.

Best subset with two variables:

<table>
<thead>
<tr>
<th>R²</th>
<th>Adjusted R²</th>
<th>YEAR</th>
<th>FEM_ED</th>
<th>GDP_PC</th>
<th>BLGDP</th>
<th>FLGDP</th>
<th>AGE_BIR</th>
<th>FP_PC</th>
<th>LFP_FEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8313</td>
<td>0.8088</td>
<td>-</td>
<td>2.08</td>
<td>-</td>
<td>-</td>
<td>4.63</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

In this model, both variables are significant.

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Standard error</th>
<th>t-score</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.481</td>
<td>0.108</td>
<td>22.97</td>
</tr>
<tr>
<td>FLGDP</td>
<td>-0.00002801</td>
<td>0.00000605</td>
<td>4.63</td>
</tr>
<tr>
<td>FEM_ED</td>
<td>0.01096</td>
<td>0.00528</td>
<td>2.08</td>
</tr>
</tbody>
</table>

The forward lagged GDP variable remains in all of the best subset models with three or four variables, although these do not improve on the Adjusted $R^2$ of the one or two variable models. There are two identical subsets with three variables, both of which include FLGDP. One adds education and FLGDP (Adjusted $R^2$ of 0.8016), the other adds education and female LFP (Adjusted $R^2$ of 0.8015).

The results of Model 2 initially appear somewhat problematic, however. This is because the time difference between the conception and the economic conditions, which appear so strongly correlated, is greater than would be expected. The implication is that child bearing decisions are based on predictions of (presumably accurate) economic conditions 12 months in the future, which must be somewhat questionable.

A plausible explanation for the strong correlation may be that some business or economic decisions, such as downsizing, do occur in advance of actual changes in the economic outlook, and that it is these changes which are affecting perceived job security, consumer confidence and general ‘optimism’ (and hence decisions about having children) ahead of when the actual changes in GDP are seen.
From these results it is possible to say that expected economic conditions seem to be related to the fertility rate. Further analysis of the mechanism through which this occurs would be highly beneficial.

Discussion
Overall, these models tended to return a similar pattern—GDP per capita shows a highly significant relationship to TFR, although the more complicated models returned somewhat ambiguous results once other variables were introduced. Model 2, incorporating the forward lagged GDP per capita variable, showed a consistently significant relationship. This may indicate that the predicted economic situation may be at least as important as that which is actually experienced around the time of conception. Further research on these results would be valuable.

Per child family payments were also examined in the regressions, although a significant relationship between this and fertility never appeared, once the effect of GDP was controlled for.

This is not altogether surprising. Because family payments increase when a family’s income decreases, and vice versa, they act to compensate a family at times of loss in wage income, thus assisting them to ride out economic fluctuations. Families who do not have children would not experience this effect, and in addition may not be aware of the level of government support that could be available to assist them with the costs of their children. For these reasons, it would be expected that changes in government support for families would be most likely to influence people who already have children. It may be that some analysis that examines the impact of family payments on second or later order births may find a relationship.

Summary
Overall, the results here provide support for the hypothesis presented in the earlier part of the paper, namely that economic conditions are likely to have influenced fertility decisions in Australia over the past few decades, as they appear to have in other countries.

9. Conclusions
The arguments presented in this paper are that in Australia over the past 25 years:

- Changes in the prevalent economic conditions appear to be associated with changes in the fertility rate. While the TFR in Australia has been trending downwards over the past 25 years, years of negative economic growth are associated with particularly pronounced declines. Conversely, when strong and sustained economic growth is observed, a slower rate of decline in the TFR is also observed. The tail end of periods of sustained economic growth appears to correspond to some increases in the TFR.
Sharp spikes in TFR follow the drops associated with depressed economic conditions. These may, in effect, be the response to a previous delay in births relating to an economic downturn. As such, they can be thought of as ‘mini baby booms’.

Overall, Australia’s TFR is affected by those factors which appear to be influencing most developed western nations, and is generally trending downwards as a result. However, the magnitude of ‘waves’ within this overall trend appears to bear some relationship to macroeconomic conditions.

These arguments are supported by the results of numerous quantitative and qualitative studies carried out in other countries. They are also supported by regression modelling, which highlights the role that predicted economic conditions may play.

Importantly, economic conditions are understood here as a proxy measure of the general welfare which families and individuals are, on average, experiencing. Qualitative studies would suggest that the key factor in the debate is not economic growth per se, which has been examined here, but a measure that incorporates notions of employment certainty and stability and general optimism about the future. Further work using more qualitative indicators would be beneficial.

This research also focused only on aggregate level data. As fertility rates are closely related to such demographic variables as income, educational achievement and socioeconomic status, future research would also, ideally, focus on the responses of certain demographic categories to economic changes. It is likely that the responses of given groups would differ markedly from the overall pattern.

Myriad of influences—some complementary, some conflicting—culminate in any eventual birth, or the decision to postpone a birth. It seems likely, though, given the findings of this paper, that a family’s perceived wellbeing, and predicted wellbeing in the future, is one factor which is taken into account. For this reason, it is suggested here that the role of the economic environment on fertility should be more strongly acknowledged and considered in the debate in Australia.

The influence of economic factors might primarily be on the timing of children. As such, even if some children are initially delayed due to financial difficulties, or brought forward due to relative prosperity, the total number of children born may not greatly differ overall. However, given that delays in child bearing are generally related to a lesser number of children being born, whether for voluntary or involuntary reasons, it is likely that any delay in child bearing would result in an overall reduction in the number of children ever born.
Appendix A

Data sources are as below:

<table>
<thead>
<tr>
<th>Data</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment (male, female, total);</td>
<td>ABS 2001, 6202.0 Labour Force, Australia, Preliminary, Labour Force Status (Aged 15 And Over): Seasonally Adjusted, June figure [Time series data]</td>
</tr>
<tr>
<td>Total Fertility Rate; Age at first marriage;</td>
<td>ABS 2001, Australian Historical Population Statistics—4.Births, Age at first (nuptial) birth, cat. no. 3105.0.65.001, tables 37 and 38, [Time series data]</td>
</tr>
<tr>
<td>Total Fertility Rates (ex-Australia)</td>
<td>World Bank Health, Nutrition and Population data time series query</td>
</tr>
<tr>
<td>Family payments</td>
<td>Author’s own calculations from annual reports of the former Department of Social Security and the Department of Family and Community Services, 1975–76 through to 2000–01</td>
</tr>
</tbody>
</table>

Endnotes

1. My sincere thanks to Jeff Wood, Statistical Consulting Unit, Australian National University, for substantial assistance with the quantitative component of this paper. Julie Peterson, Department of Family and Community Services, also made helpful comments on earlier drafts, as did the anonymous referees. Responsibility for all errors and omissions remains my own.

2. Becker labelled more expensive children ‘higher quality’, but was at pains to point out that by ‘higher quality’ he did not mean ‘morally better’. He noted, ‘If more is voluntarily spent on one child than on another, it is because the parents obtain additional utility from the additional expenditure and it is this additional utility which we call higher “quality.”’ (1960, p. 211)

3. A comprehensive review of the theories of fertility decline can be found in Weston and Parker (2002). De Vaus (2002) specifically examines the phenomenon in the Australian context.

4. As distinct from non-marital partnership. This pattern has also been observed in western European countries (Hoem & Hoem 1996).

5. The TFR is the average number of children a woman would expect to have across her lifetime if she were to experience all of the age-specific birth rates occurring in that year. It does not, however, identify the number or proportion of women who are having no children (Barnes 2001).

Government benefits, which in Australia are largely based on the number of children within a family, do provide additions to private family incomes. Generally these contribute to, rather than cover the entire cost of, raising children.

It is noted that concepts such as stability, security, and even the economic circumstances that people judge themselves to be in, are inherently highly subjective. An ‘objective’ assessment of an individual’s or family’s economic position may differ considerably from the subjective assessment they themselves make, although it is likely that it is the latter which will most influence any decisions.

Broadly speaking, there are two mainstream lines of thought in the literature (outlined in De Santis & Bacci 2001). The economic paradigm interprets the perspective parents’ demand for children basically as any other consumer demand. The sociological paradigm sees demand for children within a complex set of societal and individual dimensions. While the economic arguments receive greater prominence here, they are obviously only one part of a large and complex debate.

The analysis could readily be extended to incorporate other, more qualitative indicators at a later stage, however, and would benefit from such an addition.

The correlation between unemployment and GDP is not straightforward, as during an economic downturn some people who would ordinarily be seeking work will be discouraged, and thus leave the labour force. As unemployment is calculated from the proportion of the labour force that is seeking work, unemployment is more likely to be under-represented during times of economic downturn.

Australian Bureau of Statistics unemployment figures prior to 1978–79 were not examined here.

Hoem and Hoem (1996) note that, in Sweden, cut backs in family policy generosity appeared to take a toll on fertility, even though benefits still remained generous in relative terms. They opine, ‘The suddenness of recent upheavals is likely to have caused a kind of a shock [sic], and fertility may have taken a temporary blow while people adapt to new conditions’ (1996, p. 17).

Data sources are given in full in Appendix A.

The final education a woman achieves is also likely to influence fertility through affecting the income she is likely to be able to command in the labour market, and thus the opportunity cost of having children to her at a later stage. However, we would expect to see a significant lag between any influence of ED_FEM on TFR if it were this effect which was being measured.

Only extracts from the models are given here. Full models results can be supplied.
References


Rowland, DT 1998, ‘Cross-national trends in childlessness’, Working papers in demography, no. 73, Research School of Social Sciences, Australian National University, Canberra.


Pension reform in China: Funding the transition

Timothy Murton

*International Branch, Department of Family and Community Services*

1. Introduction

As a country in transition, China is developing rapidly in both the economic and the social spheres, and has achieved mixed results in its reforms to date. Many of its economic reforms have been relatively successful, especially in the context of being able to sustain an economic growth rate of at least 7 per cent per year for almost the last decade. However, China’s economic achievements are being placed under increasing pressure from many other factors, which are impacting adversely on the Central Government’s finances. It is in this context that social security reform, particularly in relation to the provision of pensions, has assumed great importance in China.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Chinese economic statistics: 1999–2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
<td>1999</td>
</tr>
<tr>
<td>Real GDP (%)</td>
<td>7.1</td>
</tr>
<tr>
<td>GDP per capita (PPP in US$)</td>
<td>3626</td>
</tr>
<tr>
<td>GDP per capita (US$)</td>
<td>787</td>
</tr>
<tr>
<td>Inflation (%)</td>
<td>-1.4</td>
</tr>
<tr>
<td>Central Government’s fiscal balance (% GDP)</td>
<td>-4</td>
</tr>
<tr>
<td>Foreign reserves (end year, US$ bn)</td>
<td>157</td>
</tr>
<tr>
<td>Government debt (% GDP)</td>
<td>20.9</td>
</tr>
<tr>
<td>Gross domestic savings (% GDP)</td>
<td>40</td>
</tr>
<tr>
<td>Unemployment rate (%)</td>
<td>3.1</td>
</tr>
</tbody>
</table>


Notes: 1 Gross Domestic Product
2 Purchasing Power Parity

The importance placed on social security reform is evident from the macro level planning documents of the Chinese Government and stems from many factors, among which the most important are a rapidly ageing population and reform of State Owned Enterprises (SOEs). In the Tenth Five-Year Plan, which was issued in late 2000, the Chinese National Development and Reform Commission (NDRC),¹ the highest social policy formulation agency in the Chinese bureaucracy, indicated that perfecting the social security system was essential for China’s sustainable, rapid and healthy economic and social development (NDRC 2001a). As such, social security reform in China is necessary in order to ensure social stability, and to enable China to speed up the pace of its economic reforms.
The primary objective of the Chinese Government in developing and improving its social security system is to develop a system that:

- is independent of enterprises and work units, in that the management of social security does not impact on the core business of these organisations
- has many sources of funding
- guarantees system standardisation, in that the basic elements of the system remain the same throughout China, even though there is considerable variation in how those elements are implemented across provinces and municipalities
- has society wide administration and services (Ministry of Labour and Social Security (MOLSS) 2001).

This paper focuses primarily on the many sources of pension funding, especially in the context of the transition of China’s retirement income system from the current partly funded, two-pillar system to an off budget, three-pillar model. Some of the funding problems currently being experienced in the transition process are also examined.

Throughout the paper, the transitory nature of pension reform in China is referred to time and again. In this context, transition refers to the period where responsibility for social security funding and management in China has moved from enterprises to a partially funded two-pillar system, and eventually to an off budget, contributions based three-pillar pension system.

**What is social security in China?**

Social security (shehui baozhang) is a broad term in China, and refers to four main areas. The most important and commonly referred to component of social security is social insurance (shehui baoxian), which encompasses old age pension insurance, unemployment insurance, health insurance, work injury insurance, and maternity insurance. In this way, the Chinese social insurance system possesses similar components to some of those found in Western Europe, from where the Chinese MOLSS—the line ministry responsible for social insurance policy formulation, service delivery and regulation—has studied many models, particularly that of Germany.

The other components of social security in China are smaller, but are by no means less important. Social welfare (shehui fuli) and social relief (shehui jiuzhu) equate more to the Australian understanding of social security. Social welfare in China covers broadly the provision of community services to disadvantaged groups, such as people with disabilities, the elderly, and disadvantaged families (tekun jiating). Social relief commonly refers to the provision of monetary assistance or income support, through a Minimum Living Guarantee (zuidi shenghuo baozhang) system, to low-income families. In this sense, the social relief system acts as a kind of social safety net. The final component of social security in China is preferential treatment and resettlement (youfu anzhi), which refers to providing special treatment and resettlement services for members of all branches of the armed forces.
2. Background

Previous arrangements
Prior to the period of ‘Reform and Opening’ in 1978, SOEs in urban areas were responsible for providing much of the social security services for their employees. This system was known colloquially as the ‘Iron Rice Bowl’, which denoted the cradle-to-grave welfare provided by all SOEs at that time. All workers in such enterprises were covered by and enjoyed access to social insurance payments and social welfare services from their work unit (danwei), simply because of their employment. When workers retired from their work unit, they were eligible to receive a pension from it. These schemes provided a defined benefit pension with high replacement rates. Replacement rates provided under this scheme often ranged from 60 per cent to 90 per cent, and in some cases exceeded 100 per cent (National People’s Congress 2002; Whiteford 2001, p. 2).

In the early 1980s, a Pay-As-You-Go pension scheme was introduced. Under this scheme, employees contributed a portion of their earnings to pay for the pensions of those workers who had already retired. In effect, the money went into a fund pool and was paid out to retirees at the same time. Schemes of this nature work on the principle that employees make contributions based on the assumptions that the next generation of workers will pay for their retirement, and that there will be enough workers coming through to continue to make it viable. From the 1950s to the early 1980s, the social security system worked quite well as there was enough labour to replace retirees. It was not until the 1990s that the Chinese Government realised that population ageing, particularly of the SOE based workforce, was likely to occur and that the Pay-As-You-Go pension system was unsustainable in the long term. In this context, the Chinese Government realised that effective measures to reform the pension insurance system needed to be explored and identified.

Impact of population ageing
Rapid population ageing in China is one of the major drivers for pension reform in that country. China became an ageing population in 2000, at which time 10 per cent of the population was aged over 60 years (Ministry of Civil Affairs 2000). Furthermore, it is expected that the number of elderly people aged over 60 years will reach 400 million by 2050, which will represent 20 per cent of the total number of elderly people worldwide (Ministry of Civil Affairs 2000). This demographic transition has occurred much more rapidly than in many European countries and has also occurred during a period of transition. As a result, China must address an extremely complex issue at a much earlier stage of development, especially when compared to countries such as Germany and Sweden, which experienced population ageing over 56 and 85 years respectively (Economist Intelligence Unit 2002).
Figure 1  Population projections for People’s Republic of China

The issue of population ageing has been exacerbated by China’s reliance on the ‘One Child Policy’ as a form of population control. While this policy curbed the growth of the Chinese population, it has contributed to the structural ageing problem that is now being experienced. The rapid ageing of the Chinese population has placed enormous pressure on the budget of the Chinese Government, especially in terms of being able to meet its pension requirements.

Such rapid population ageing and the impact of the One Child Policy also means that the ratio of workers to pensioners is expected to decline to three to one in 2050 from 10 to one in 1995 (Miles 2002, p. 16). Unless effective and successful policies are implemented to address the problem of pension funding, this ratio will make it increasingly difficult for workers to fund adequately the pensions of current retirees and place even more pressure on the Chinese Government to provide that funding.

Current system

In 1996, the Chinese Government advocated the adoption of a partly funded, two-pillar system, comprised of a social pool (shehui tongchou) and individual accounts (geren zhanghu). These pension arrangements generally cover residents of urban areas only, which the Chinese Government estimates at approximately 36 per cent of the total population. However, it was from 1997, with the issuing of State Council Circular No. 26, that reform of the social security system in China began in earnest (Whiteford 2001).
China’s emphasis on pension reform at that time also bears testament to its commitment to SOE reform, particularly in terms of that country’s bid for membership to the General Agreement of Tariffs and Trade, and, later, to the World Trade Organisation. As part of its bid for membership, the Chinese Government recognised that inefficient SOEs would not be able to compete in an increasingly competitive market, and that they should shed those responsibilities that were not their core business. In this way, SOE reform has also helped drive China’s desire to achieve its objective, which was mentioned earlier, in reforming its social security system.

Under the present arrangements, the social pool is designed to provide a basic pension of 20 per cent of the average wage\(^1\) for all retirees covered under the pension insurance scheme, while the individual account supplements that basic pension. At present, the system is funded by employers, employees and the Central Government. With regard to the funding of the social pool, employers are required to make contributions of 20 per cent of the payroll. Of this 20 per cent, the majority (17 per cent) goes directly into the social pool, while the remaining 3 per cent goes into the employee’s individual account. The social pool still operates as a Pay-As-You-Go system, and pays pensions to all retirees from SOEs no matter when they retired. It is widely believed that the current financing arrangements for the social pool does not provide sufficient funding to meet current pension requirements, and that the full 20 per cent of contributions paid by enterprises should go directly to the social pool (James 2000).

Individual accounts, making up the second pillar of the system, are designed as supplements to the basic pension received from the social pool and are paid out on the basis of \(1/120\)th of the account balance. Employees are largely responsible for funding individual accounts. The amount of contributions required under this system is being raised progressively throughout China to 8 per cent of an employee’s salary. Although these accounts work this way in theory, the reality is quite different in that individual accounts are often raided to pay for current pension requirements.

**Influence of German model of pension provision**

The adoption of a partly funded, two-pillar system in this way reflects MOLSS’ interest in the German model of pension provision. It is widely acknowledged that MOLSS holds the German pension system in high regard, and there are similarities between both systems. In particular, the Chinese Government adopted a contributions based, Pay-As-You-Go pension scheme providing replacement rates similar to that of Germany.

Under the German system, 19 per cent of an employee’s salary goes to funding current pension requirements through a social pool type Pay-As-You-Go system. However, the German Government has recognised that its system requires major reform, especially as Germany faces the prospect of an ageing population. In this
context, the German Government had a number of options available to it, including reducing the replacement rate and increasing the contribution rate. In the end, the German Government decided to encourage voluntary saving through an individual account type system, which is being encouraged through preferential taxation policies and the Government making a small co-contribution in some cases (Nocker 2000). Under this new reform in Germany, the role of individual accounts is to encourage people to save voluntarily for their retirement and to supplement the amount of basic pension that they will receive from the social pool. However, it should also be noted that this reform has been slow to progress, due in large part to the German Government’s unwillingness to tackle the unions (Economist 2003). In addition, many companies still do not have in place the facilities to introduce these individual accounts, due to a lack of choice of pension fund providers (Watson Wyatt 2002). Due to its ageing population and its high unemployment rate, the slow pace of pension reform in Germany is impacting adversely on the Government’s ability to meet its future pension commitments, as well as highlighting the significant economic challenges that must be addressed.

Liaoning Pilot Program on Perfecting the Urban Social Security System
In order to improve its social security system, the Chinese Government is conducting the Liaoning Pilot Program on Perfecting the Urban Social Security System. In carrying out this pilot program, the Chinese Government is hoping to obtain valuable experience and lessons that can be applied throughout China in the near future. Liaoning province was chosen for the pilot program because it:

- is an old industrial base
- has many SOEs, retirees and ‘laid off’ workers
- has a heavy financial burden4
- has prominent social security problems5 (MOLSS 2001)
- apart from the self-governing municipalities, is the most urbanised province in China, with 53 per cent of its population holding urban residency.6

An important part of the pilot program is pension reform, an area where the Chinese Government has been experimenting with improving the funding, investment and administration of its pension arrangements. The major focus areas of pension reform under the pilot program include efforts to separate the management of social pools and individual accounts, and developing effective and reliable methods of regulating and investing social security funds.

To date, the Liaoning Pilot Program has not been as successful as the Government would have hoped or expected. Senior officials of both MOLSS and the Liaoning Provincial Government note that ‘the work of the pilot program has been good and bad’, and that ‘it has been extremely difficult to carry out’7 (China Economic Information Network 2002). This has been due largely to persistent large shortfalls
in funding, which have plagued the pilot from its commencement. Despite its apparent failure, the Chinese Government is still expected to apply the lessons learned from the pilot program throughout China, commencing in 2003.

Based on the lessons learned from the Liaoning Pilot Program, and an analysis of recent policy discussion within the State Council's Development Research Centre, it appears that the Chinese Government is keen to adopt a fully funded system along the lines of the three-pillar model supported and promoted by the World Bank. The World Bank model consists of an unfunded mandatory first pillar, a funded mandatory second pillar, and a voluntary private third pillar (Holzmann & Stiglitz 2001, p. 1).

3. Future direction of the social security system in China

It is evident that the Chinese Government is moving to adopt an off budget, three-pillar pension insurance system, but there is still some speculation regarding the composition of such a system. The transition to a system of this kind is the result of weaknesses in financing the Chinese pension system, particularly the limitations placed upon it by relying largely on contributions. Moreover, the transition to a three-pillar system reflects MOLSS' thinking that such schemes resist demographic shocks much better than Pay-As-You-Go models, and that there could be more scope to open up other avenues of pension financing. As such, this type of pension system has the support of senior officials in MOLSS, who have called for the establishment of an independent private pillar with fully funded pensions (CATO Institute 2001).

One of the possible models for an off budget three-pillar system was put forward by Ma Jun, an economist with the Deutsche Bank in Hong Kong. His model suggests that a possible three-pillar system could consist of a Pay-As-You-Go system as the first pillar, in which 13 per cent of an employee's wages would be paid as contributions into a social pool. Contributions would be paid by all workers, except those who have retired or are about to retire, and a basic pension provided in line with current arrangements for the social pool. The second pillar would be a transitional one funded by those people about to retire, at a contribution rate of 11 per cent of salary, and the Central Government. The third pillar would be funded by contributions from people new to the workforce into individual accounts. Both pillar two and pillar three would provide a supplement to the pillar one pension that all covered people would receive (Ma 2002).

Based on MOLSS' current focus on supplementary forms of pension insurance, it would appear that the above model is not in line with current thinking. MOLSS is presently exploring ways to encourage people to save voluntarily to help fund their retirement. As such, the Chinese Government is likely to adopt an off budget, three-pillar pension system that more closely resembles the Australian pension system.
Under the off budget system, the first pillar would consist of the social pool and individual accounts. The social pool would provide a basic pension with a replacement rate of approximately 20 per cent of average wages for the local area. In addition, it would be funded from employer contributions with some government assistance. The individual accounts, which closely resemble superannuation accounts in Australia, would make up the second tier of the first pillar, and be funded entirely by employee contributions of approximately 8 per cent of an employee’s wage. The second pillar would comprise supplementary forms of pension insurance, which would be voluntary, and which could include occupational pension schemes. The third pillar would consist of voluntary, private saving for retirement. No matter which way it decides to go, the adoption of a fully funded system by the Chinese Government will need to address and alleviate the pressure placed on its budgetary resources.

Although the system would closely resemble that of Australia, the Chinese Government has modelled its requirements on the Chilean model of pension provision, primarily because Chile underwent the transition to a fully funded three-pillar system quite early on, and because it has been quite successful in managing the transition process to date.

Under the Chilean pension system, the first pillar is a government funded safety net. Since Chile began its reforms, the huge social security deficit fell by two-thirds, and it is expected that in 30 years’ time, the only people receiving government funded pensions would be the poor and those with no other form of coverage. The second pillar is composed of an individual account, to which employees are required to make a monthly contribution of 10 per cent of wages to their selected fund manager, of which there are 21. In Chile, individual workers have responsibility for selecting their individual account fund manager, whereas Chinese workers do not have this option. Moreover, the investment returns of the Chilean system have been quite high at about an average of 12 per cent per year. The third pillar in Chile consists of voluntary contributions into individual accounts. These voluntary contributions can be up to 10 per cent of wages. (Ferrara, Goodman & Matthews Jr 1995).

The National Social Security Fund

The establishment of the National Social Security Fund (NSSF) is probably the most important indication of the Chinese Government’s desire to move toward adopting an off budget, three-pillar system. In his paper, Ma Jun notes that the objective of the NSSF is to reduce the need for budgetary top ups, especially as the funding and investment of social security funds provide the major form of saving and funding for the NSSF (Ma 2002).

When it was set up last year, the NSSF was expected to be a stable, medium to long-term reserve fund, which would ensure the future sustainability of the social security system. Its major sources of funding are monies from the Central Government’s budget, proceeds from the sell off of state shares, the welfare
lottery, and returns on investments made by the Council of the NSSF. The Government also hopes that the NSSF will remain untouched for at least 20 years to enable it to accumulate sufficient funds to cover any future shortfalls in social security funding. In this way, the role of the NSSF is to make up pension shortfalls when the Ministry of Finance cannot provide the necessary extra funding.

According to the Chinese Government, the current amount of funds in the NSSF totals approximately 124.2 billion yuan renminbi (China Labour Net 2003), of which the majority has been provided through block transfers from the Ministry of Finance.

4. Funding of the system

**Contributions**

Although current pension requirements remain under funded, the funding of the social security system reflects the Government’s objective in developing its social security system. The transition to a fully funded three-pillar pension system is already being funded through a number of ways, and the Chinese Government is exploring new ways to provide stable and steady sources of funding. At present, one of the most important forms of pension funding is through social security contributions, in which both the employer and the employee are required to make payments. Current pension contribution rates were explained earlier in the paper, as was the relationship between the social pool and the individual accounts. There are a number of problems in using contributions to fund pensions in China, some of which are explained in the following section.

**Budgetary funding**

An important funding source of pension funds in China comes from the budget of the Central Government, which is relied upon to help boost the level of savings in the NSSF. In effect, the Central Government appears to be largely responsible for keeping the system afloat. The top ups provided by the Central Government’s budget assists provinces in making up their shortfalls. Figure 2 provides an explanation of the social security responsibilities of each level of government in China.

It is estimated that, last year, total expenditure on pensions amounted to 232.1 billion yuan renminbi, a substantial portion of which came directly from the Central Government. Within that expenditure, there was also 1.4 billion yuan renminbi paid out in overdue pensions (HKiMail 2002).
Relying on investment revenue from the NSSF

In an important development for the NSSF, Feng Jianshen, one of the councillors of the NSSF, commented at the 35th Asian Development Bank Meeting in Shanghai this year that the operation of the NSSF had been established. The Chinese Government has decided that social security funds in the NSSF will be invested in a more diverse way. It is understood that 50 per cent of the funds will remain in Government bonds and bank deposits (which are currently the only form of approved investments for social security funds), 10 per cent will be invested in enterprise bonds, and the remaining 40 per cent will be able to be invested in stocks, equities and securities (Xu & Chen 2002). The Chinese Government expects that such a break up of investment streams will provide a higher return for the NSSF, which the Chinese Government has stipulated must be at least three percentage points higher than the rate of inflation (Yang 2003). However, in today’s investment environment, this will be quite difficult to achieve, let alone maintain. In 2002, for instance, the NSSF’s real rate of return on its investments stood at 2.75 per cent (China Labour Net 2003).
While this 40 per cent is a positive move and will help to develop China's fledgling securities and capital markets, it is not clear whether these funds will be able to be invested in overseas markets. It is, however, clear from the funding split that the Government appears to favour the use of bonds as an investment mechanism to raise more social security funds. In the current environment, this appears to be a prudent move, especially since bonds have generally been more impressive in their performance over the past year than the stock market. Moreover, it appears that the Chinese Government is now relying largely on the prospect of higher rates of investment return to fund the NSSF, especially since the State Council’s announcement that it would not proceed with the sell off of state shares.

**Sell off of state shares**

In order to raise more funds for social security purposes, the Chinese Government, in June 2001, proposed a sell off of state shares in SOEs. The Government expected that 10 per cent of the proceeds would go to fund social security commitments, particularly current pension requirements. This announcement by the State Council, the Chinese Cabinet, caused the stock markets to lose a substantial part of their worth. It is estimated that between May and October 2001, the Shanghai stockmarket lost more than 30 per cent of its value because investors were cautious about a sudden influx of shares (China Daily 2002). Some commentators, in particular Yiping Huang, have argued that the stockmarkets were on the verge of collapsing (Huang 2002, p. 27).

At this point, the Chinese Government announced that it was going to suspend the sell off of state shares. However, the market remained reticent to bounce back. In June 2002, the State Council announced that it would not go ahead with the sale of state shares and that it would not do so in future (Xinhua News Agency 2002). The reasons given for the turnaround are because the social security fund had enough funds and that the Government top ups for the NSSF at present were not very large (Xinhua News Agency 2002). In this context, the Chinese Government appears to have a lot of confidence in the NSSF and feels that its investment scope at the moment is about right.

The back down on selling off state shares is widely viewed as a positive move, and stock market investors responded very positively to it. Both the Shanghai and the Shenzhen stockmarkets increased more than 9 per cent in value on the day following the announcement (China Daily 2002). Although the Government claims that it will not again proceed with this option, it has still left an opt-in avenue, based on the fact that the sell off of state shares is a matter that "requires further exploration" (Xinhua News Agency 2002).

Although the Chinese Government has decided against selling off state shares to raise funds for social security, there appears to be a general consensus that such a move would have placed the Chinese Government in good stead to meet its funding requirements. Many commentators have estimated the value of these shares at between US$350 to 400 billion (James 2000; Pitsilis, Von Emloh & Wang 2002), which would have been enough to help make up the deficit.
As an alternative, the Chinese Government has begun to explore ways to dispose of inefficient SOEs without selling them off through the stockmarket. In March 2003, the National People’s Congress authorised the establishment of the State Assets Management Commission, which has the power to dispose of SOEs by selling them off to asset management and corporate restructuring companies. This is expected to further open up China’s financial markets (Boston Globe 2002).

**Bonds**

Instead of a share sell off, the World Bank has argued that China should move to convert these shares into bonds and sell off the debt through that avenue (James 2000; Holland 2002). The Chinese Government is not shy about issuing bonds to help fund debt, and has been doing so for some time, especially in relation to other areas of the economy. However, bond issues are not a long-term solution (Miles 2002). At some stage, the bonds will need to be bought back, and it is by no means certain that the Chinese Government will have the funds available to do so.

**The welfare lottery**

The welfare lottery is another important source of funding for social security in China. The introduction of lotteries in China is only a recent thing, due to the previous illegality of all forms of gambling. From the time it was introduced, the welfare lottery has become very popular. Many people are participating in it and the lottery’s scope has been growing consistently. Indeed, the NDRC has been so impressed with the popularity of the welfare lottery that it has called for it to be expanded even further (NDRC 2001b). Given the popularity of the lottery, it is able to provide a stable and steady source of funds for funding social security in China.

Despite the popularity and success of the welfare lottery, it has not been immune to problems. The most pressing problem is that of counterfeit money being used to purchase lottery tickets, especially in Guangdong province, which is one of the wealthiest provinces in China. Furthermore, there is an important opportunity cost in using the lottery to help fund pensions, in that those funds would not be available for other purposes, such as improving health and aged care facilities.

**Social security tax**

In order to fund the social pool adequately, some commentators have noted that the Chinese Government must increase its contribution rate (James 2000; Holland 2002). It is not clear whether the Chinese Government is willing to raise the contribution rate, considering that its aim is to ‘lessen the social security burden on enterprises and encourage them to become more competitive’ (China Economic Information Network 2002). In order to address the current shortfall in pension funds, there is currently much debate in China surrounding the possibility of a social security tax; a prospect that was raised a few years ago by the Ministry of Finance, the ministry responsible for policy development relating to the regulation and investment of social security funds (White 1998).
The debate regarding a social security tax began to gather steam in late 2001, and was placed on the social security agenda at the National People’s Congress in March last year. Since then, much debate has circulated among the Central Government and research institutions about the most appropriate way to implement such a tax. These policy discussions have centred on international comparisons and the setting of adequate taxation rates. Much of this data has resulted from extensive modelling carried out by these institutions.

It is widely acknowledged that the Chinese Government has a lot of scope within which it can reform the taxation system. According to estimates in a recent article in Business Week, tax collection in China accounts for 16 per cent of GDP, which is considered low by world standards (Clifford 2002). White (1998) comments that the idea of a social security tax would be very difficult to introduce, given the complex problems currently being encountered in recasting the fiscal system as a whole and the apparently widespread aversion to increasing taxation among the general population. The Chinese Government hopes that a social security tax would produce a steady source of funding for the social pool. However, such a tax can only be effective if robust reporting and monitoring arrangements are in place. The reform of taxation arrangements will help to reduce the high level of tax evasion in China, but it will take a substantial period of time for an effective system to develop. The Development Research Centre of the State Council also notes that the major benefits of a social security tax are that ‘Taxation is compulsory and low cost in management, whereas contributions are not necessarily seen as compulsory’ (Ge et al. 2000).

It is clear that the Government is considering its options regarding the prospect of a social security tax. It is most likely that the Government’s favoured position will be a simple change of terminology, in that the word ‘contribution’ will be replaced with ‘tax’ (National People’s Congress 2002). In effect, there would be very little change to current arrangements for the social pool, but it may provide some benefits for employees in that they would have more of a legal basis for arguing for the payment of pensions from their former places of work.

5. Problems in funding the transition

The immense shortfall in pension funding

The most significant problem facing the funding of pensions in China is the immense shortfall. It can reasonably be expected that the effect of rapid population ageing and the One Child Policy will increase the size of the shortfall. MOLSS readily acknowledges that there is a serious shortfall in pension funds and has predicted that the funding shortfall may reach 3.7 trillion yuan renminbi over the next 30 years (Holland 2002). In addition, a recent article by McKinsey Consulting has forecast a US$110 billion deficit by 2010 (Pitsilis, Von Emloh and Wang 2002).
Raiding of individual accounts to pay for current pension requirements
The most important problem for funding the transition to an off budget three-pillar system is the fact that individual accounts are often raided to pay for current pension requirements. The World Bank estimates that, at present, the full 20 per cent of employer contributions are needed to cover the current requirements of the social pool (James 2000). Yet, this does not appear to be enough and has resulted in the individual accounts being raided to help fund that shortfall. While the Chinese Government readily acknowledges the problem of ‘empty accounts’ (kong zhang), it does not have a solution to the problem. In effect, the Government is writing IOUs to the owners of those individual accounts, but cannot guarantee that, when the time comes, it will have the money available to pay back those people. Some commentators have argued that, to resolve the problem, pension funds, especially those in the individual accounts, must be ring fenced, and that money be paid in to the system and independent funds managers appointed to manage the funds (Holland 2002). This assumption is based on the principle that pension funds must be given access to investment vehicles that can provide a higher rate of return.

Evasion of contributions
It has been reported that many companies do not fulfil their pension requirements, either because they deliberately do not make payments or because they do not have the money available. In any case, the evasion of contributions is considered to be an important factor in undermining the funding and financial viability of the pension system. Part of this problem lies in the way that companies in China perceive the payment of pension contributions. Instead of seeing contributions as a benefit for their employees, many companies consider them as a tax. However, because the payments made by businesses are ‘contributions’ and not ‘taxes’, there is the perception that they are not mandatory payments. The evasion of contributions is a particular problem in foreign owned and joint venture enterprises. Foreign owned enterprises fail to contribute relatively often to public pension insurance, which is a practice that appears to be tolerated by some local authorities, perhaps in order to attract foreign direct investment (OECD 2001). The only way to address this problem is to develop and implement an effective regulatory system. With the common perception that contributions are not necessarily mandatory, the Government is not very effective in regulating the funding of pension insurance because there is still no firm legal basis for regulation to occur (Ge et al. 2000). When designing a regulatory system, MOLSS and the Ministry of Finance need to recognise that regulation is a serious business and both agencies need to be prepared to do more than just publicise the names of offending enterprises on MOLSS’ web site from time to time.14

Joint investment of social pool and individual account funds
Because the funding of the pension insurance system in China lacks an effective regulatory system, reporting on contributions paid and on the amount of funds in
social pools and individual accounts is often very difficult. One of the biggest problems facing the funding of pensions in China is ensuring that the management and investment of pension funds in social pools and individual accounts is managed separately. This is the ideal for the Chinese Government, but the evolution of such a system is fraught with problems and will take a long time to develop. It is understood that because social pools and individual accounts access the same investment channels, namely government bonds and bank deposits, both kinds of funds tend to be brought together in the investment process. Once this occurs, it is difficult for provincial or municipal level labour and social security bureaus to report properly on the location or amounts of these funds. With such a large fund pool and no way of effectively reporting on it, the embezzlement and misuse of pension funds has become a particular problem.

**Misappropriation of social security funds**

In its latest survey, The Economist comments that there is increasing public resentment of party officials and factory managers siphoning off state assets, including pension funds, to do their own business or simply to live it up. It adds that billions of dollars are secreted abroad every year and that corruption is far worse now that it was in 1989 (Miles 2002). Moreover, there have been a number of well-publicised examples of people caught for embezzling and misusing social security funds. Despite this, there is no way of knowing the success that the Chinese Government has made in tackling this problem because statistics are not usually kept and those cases that are publicised are usually exceptional.

5. **Conclusion**

There is no doubt that the Chinese Government is having real problems in finding ways to fund adequately the transition to a three-pillar system. Many SOEs and provincial governments are having great trouble finding funds to make up pension shortfalls and this is placing great pressure on the Central Government’s budget. Moreover, the transition to this type of system will take 20 to 30 years at least to develop fully, and requires a long-term view to address these problems effectively.

Although the funding system comes from a variety of sources, many of the solutions are short-term ones, which indicates that the Chinese Government appears to be keen on finding quick fix solutions to funding the pension problem. It is clear that, for the Chinese Government, solving pension problems means finding solutions to relieving pressure on the budget. In not taking a long-term approach to this problem, it runs the risk of adopting ad hoc measures, which will not solve the causes of the funding problem or address the future magnitude of population ageing.

Despite the gloomy scenarios and the problems it faces in financing pensions, the Chinese Government has studied many different options for funding adequately its current and future pension commitments. As such, it is clear that the Chinese
Government understands what is required in order to resolve these issues effectively. On this basis, the problems being faced by the Chinese Government are not insurmountable, and can be fixed, provided there is real commitment on the part of the Chinese Government to address this issue.

Endnotes

1 The NDRC was previously known as the State Development Planning Commission. National Development and Reform Commission is used in this paper as the organisation’s name as this is how it appears on that organisation’s website (<http://www.sdpc.gov.cn>). However, some China scholars still refer to it as the State Development and Reform Commission.

2 It should be pointed out that this is the author’s translation of the Chinese Government’s objective in reforming its social security system. Where indicated, all translations in this paper are the author’s. On a related point, use of the term ‘society wide’ here refers to the Chinese Government’s intention for society based organisations to provide social security services. Good examples of this are for communities to provide services to the elderly, and for pension payments to be delivered through agencies such as post offices and banks.

3 The 20 per cent of the average wage is based on whether the pool is at the provincial or at the municipal level.

4 The financial burden being referred to here is public finances.

5 Author’s translation.

6 Information obtained during an interview of an actuary in Hong Kong, who worked on the Liaoning Pilot Program as part of a project funded by the Asian Development Bank.

7 Author’s translation.

8 This information comes from a meeting between the Department of Family and Community Services and the China Securities Regulatory Commission (CSRC) in December 2001. Officials from the CSRC made this point quite clear during the course of that meeting.

9 Author’s translation.

10 Author’s translation.

11 There are only two lotteries in China at present—the welfare lottery, which funds, in part, social welfare services and social insurance payments, and the sports lottery, which raises funds for the development of sport in China. The welfare lottery is managed by the Ministry of Civil Affairs, while the sports lottery is managed by the ministry responsible for sports. The responsibility for regulating the management of both lotteries rests with the Ministry of Finance.
This information was obtained from a report from Channel 2 of China Central Television in its nightly news report on 12 December 2001. The news report indicated that the use of counterfeit money in Shenzhen, which was being used to purchase lottery tickets, is becoming a problem.

Author’s translation.

MOLSS publicise on their website the names of companies that do not pay pension contributions. This occurs usually once in every six-month period.

This information comes from a conversation the author had with a senior official of the Guangdong Provincial Labour and Social Security Bureau in December 2001.

A recent example is of an official in the Shenzhen Labour and Social Security Bureau, who was caught embezzling approximately two million yuan renminbi in unemployment insurance funds from the bureau’s fund pool. The article, which appeared on the Xinhua News Agency’s website, indicated that he was sent to prison.

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The lone person household demographic: Trends and implications

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1. Introduction

Connections with others sustain and enrich us. Surveys asking what is most important in life routinely find relationships at the top of the list (Clark 2002). Families are a major source of emotional, social and financial support, forming the basic unit of home life for many. Yet since 1971 the average number of residents in a household has been in steady decline in Australia. Much of this can be attributed to the growth in the number of small households (one or two residents) and the decline in the number of large households (six or more residents). In particular, the proportion of lone person households grew from 13.6 per cent to 22.9 per cent of all households between 1971 and 2001; conversely, family households fell from about 83 per cent to 68.8 per cent as a proportion of all households (ABS 1998a, p. 157). Australians are increasingly living alone and hence spending more time alone, and on all projections this will only increase (as in other developed countries).

In the context of an ageing population, a burgeoning number of elderly widows might largely appear to explain this phenomenon. Certainly this is an important contributory factor, but this paper shows that various social and demographic trends at play—described in the sociological literature as ‘individualisation’—are also seeing adults in their middle years begin to rival numerically the life course stage of elderly widowhood typically associated with living alone. Of interest, therefore, is both the growth in, and changing composition of, lone person households, and the arising implications for social policy and government. Indeed, the rise of more individualised lifestyles is possibly leading to a paradoxical situation of greater reliance on income and other social support among many lone person households.

This paper adopts a macro-level approach to the issue. It is interested in recent and future trends in lone person households, the causes of their escalating growth and shifting composition, the patterns of their social and economic participation, and the arising social policy issues and implications. It does not look at questions like the average amount of time spent alone per day, attitudes to spending time alone, and the influence that time alone has on personal well-being in Australia (see ABS 1999a, pp. 5–39). Following the Australian Bureau of Statistics (ABS), this paper defines a ‘lone person household’ as someone who makes provision for his/her food and other essentials for living, without combining with any other person to form part of a multi-person household (she/he may live in a dwelling on their own or share a dwelling with another individual or family).
2. Trends in lone person households

It has been projected that the number of households in Australia in the period 1996–2021 is likely to grow between 38 per cent and 46 per cent. At the same time, however, the ABS projects average household size to decline from 2.6 persons in 1996 to between 2.2 and 2.3 persons per household by 2021. This will primarily be driven, in its view, by a growing proportion of both lone person households and couples without children. Specifically, lone person households are expected to grow by between 1.7 per cent and 3.1 per cent per year between 1996 and 2021, to comprise between one-quarter and one-third of all household types by 2021 (ABS 2002a, p. 103). Of all living arrangement types, the number of people living alone is projected to increase most rapidly over the period 1996–2021, from 1.6 million people in 1996 (representing 9 per cent of the population) to between 2.4 million and 3.4 million in 2021 (representing between 11 per cent and 15 per cent of the population). Admittedly, while lone person households are projected to grow the fastest of all household types, family households are likely to remain the predominant household type, still comprising between 62 per cent and 71 per cent of household types in 2021, compared to 73 per cent of all households in 1996 (ABS 1999b).

The number of lone women is projected to increase from 876 000 in 1996 to between 1.4 million and 1.8 million in 2021, a rise of between 61 per cent and 107 per cent. The number of men who live alone is projected to increase from 712 000 in 1996 to between 996 000 and 1.6 million in 2021, a rise of between 40 per cent and 119 per cent. In all three ABS (1999b) population series, women are projected to represent over half of the population living alone.

Under the age of 50, men are more likely to live alone than women, but beyond this age, women are much more likely to live alone than men. In 2001, 6 per cent (395 997 men) of all males aged less than 50 years lived alone, compared to 3.9 per cent (255 691 women) of all females in this age group. In contrast, 13.7 per cent (336 550 men) of all males aged over 50 lived alone, compared to 23.3 per cent (627 975 women) of all females in this age group. In short, while women are more likely to live alone in old age, the tendency for men to live alone is more evenly distributed across the age groups, reflecting both the likelihood of young men to live alone and the effects of divorce, among other things.

Although the majority of younger people still live in family households, the number of people aged 20–29 years living alone has almost doubled in the past 30 years. Over two thirds of younger people (71.2 per cent) were living in family households in 2001 (compared to 71.8 per cent in 1996 and 88.2 per cent in 1971). The proportion of younger people living alone in 2001 was 7.1 per cent and, although relatively stable since 1996, this is a rise from 4.7 per cent in 1971.5
3. Understanding the rise of lone person households

This section looks at possible explanations for the phenomenon of a rising number of lone person households in Australia. In all likelihood, there is a blend of (intensified) old and more recent factors underlying the rise of lone person households (see Hugo 1999). Many of these factors are also, to some degree, interrelated.

There are a number of distinct social trends underlying the trend towards more people living alone. One concerns what has been described as the 'new individualism'. As the sociologist Ulrich Beck observes, the new individualism (cited in Giddens 1998, p. 36):

...is not market individualism, not atomisation. On the contrary, it means 'institutionalised individualism'. Most of the rights and entitlements of the welfare state, for example, are designed for individuals rather than families. In many cases they presuppose employment. Employment in turn implies education and both of these presuppose mobility. By all these requirements people are invited to constitute themselves as individuals: to plan, understand, design themselves as individuals.

The contemporary politico-economic paradigm emphasises individual responsibility and success, thereby perhaps contributing to a perceived imperative of self-reliance. In this context, it is less clear what material security and social benefits a traditional family unit or relationship would provide to the individual. Indeed, such ties may be construed as compromising personal aspirations, independence and freedom.

Another social trend is what has been referred to as the ‘social revolution’—namely, changes in social attitudes regarding the roles and responsibilities of men and women since the latter part of the 20th century. Thus it is now socially acceptable for women to work and pursue education. But the roles and responsibilities of men have equally been transformed. The average age of marrying men has been rising, as has the fall in number of men marrying, both in largely similar proportions to that of women. This is more than a mere function of changes to female patterns of partnering. Just as it is by and large socially acceptable for women to live alone and remain childless, there is less expectation on men to marry and have a family. Indeed, young men (aged 20–29 years) have a higher likelihood than women to be living alone, and this is projected to rise.

Since the 1970s, women in particular have established growing levels of financial and social independence. As Figure 1 shows, women today participate in far greater numbers in the labour force than their mothers. In the past, labour force participation was highest amongst teenage girls, before falling steeply for women in their twenties and early thirties and then steeply rising among women in their mid-thirties.
With growing labour force participation by women comes less reliance on another wage earner, traditionally a husband. Thus women are no longer compelled to enter a relationship for largely financial reasons. Among other things, this can in part explain the rising average age of marrying women, and the fall in number of women marrying altogether.

With growing labour force attachment and less family orientation, women are likely to want, and are indeed having, fewer children and later in life, while an increasing number will remain childless. The total fertility rate, which has progressively declined since the 1960s to reach a historic low of 1.73 babies per woman in 2001, is anticipated to continue to fall during this decade to 1.6. The introduction in the 1960s of the contraceptive pill has facilitated this development.

With the changes to the Family Law Act in 1975, there has been a steady (but stable) rise in the proportion of divorced people in the population since the 1971 Census. In 2001, 7.4 per cent of people aged 15 years and over were divorced, up from 6.4 per cent in 1996 and less than 2 per cent in 1971. If the 1997–99 rates for marriage, widowing, divorce, remarriage and mortality were applied to a newly-born group of babies, 32 per cent of their marriages would end in divorce. This is a growth of 28 per cent in the proportion expected if 1985–87 rates were applied (ABS 2002b, p. 49).
The decline in the traditional family with children can be less attributed to the rise in the rate of divorce and separation, and more to the fall in the number of people getting married, and to the rise in those delaying marriage and those entering de facto partnerships (ABS 2002a, p. 100). The proportion of men and women who will ever marry is declining. If the 1997–99 first marriage rates were to continue into the future, it is estimated that 29 per cent of all men and 23 per cent of all women will never marry. The corresponding proportions based upon 1985–87 rates were 21 per cent and 14 per cent, respectively (ABS 2002b, p. 9).

Like many other developed countries, Australia’s population is ageing. This is due to a combination of growing life expectancy, falling fertility rates and the ‘baby boom’ generation entering retirement. The proportion of the population aged 65 years and over is expected to increase substantially, from 12.4 per cent in 2001 to 26.1 per cent in 2051 (FaCS 2002a, p. 3). As people age, there is an increased likelihood of living alone through the death of a partner or separation due to illness or disability. A related issue here is the decline of extended family living arrangements, with more unattached grandparents, aunts and uncles who previously would have cohabited with relatives. All this is underpinned by policy over the past 15 years designed to assist older people to remain in their own homes and support themselves as much as practicable (‘ageing in place’). Thus, at any given age, older people have been less likely to move in with children and less likely to move to a nursing home.

In an increasingly skills-based labour market, more people are studying and longer. People are still most likely to undertake their initial vocational or higher education qualification during their late teens and early twenties. Yet, between 1990 and 2000, the proportion of people with a non-school education qualification increased for all age groups (ABS 2002c, p. 61). With changing social values, the differences between males and females in regard to educational attainment have become less pronounced. For example, the proportion of women studying at university has more than doubled since 1951, from 20 per cent to 56 per cent of all people enrolled in 2001 (FaCS 2002b). The growing emphasis on post-secondary qualifications is important as both men and women tend to defer family formation while studying. As well, the shift towards life-long learning and the need to develop and update knowledge and skills in a changing labour market may also account for the tendency to prefer living alone without family pressures and demands on time.

A variety of factors can be identified in the growth of lone person households. Both the growth and evolving composition of lone person households represent challenges for future policy. It is thus instructive to look at the economic and social participation patterns of lone person households in Australia, particularly in light of the growth of adults in their middle years living alone.
4. Economic and social participation of lone person households

This section looks at the levels of economic and social participation of lone person households, and other relevant indicators. It is organised into four subsections. It first examines patterns of economic participation among lone persons, and then turns to associated issues of income poverty and hardship. The third section examines their patterns of social participation, while the final section describes the prevalence of mental health by living arrangement.

**Economic participation**

In a June 2000 survey, the ABS explored the labour force characteristics of Australian families. It estimated that persons living alone accounted for 12 per cent (1,672,200) of the population ‘where relationship in household was determined’. Of these persons, 44 per cent (732,600) were employed, 3.9 per cent (65,200) unemployed, and 52 per cent (874,500) not in the labour force (ABS 2000a, p. 8).

Of those living alone and employed, 58.5 per cent were male and 41.5 per cent female. More males than females were employed across most age groups, apart from the 20–24 years age group (23,900 versus 25,000) and 55–64 years age group (51,700 versus 52,600). Of all employed males, 88.5 per cent were in full-time work compared to 74.5 per cent of all employed females. This is instructive, because women living alone (with presumably no immediate family responsibilities, and so on) reflect wider ‘gendered’ patterns of economic participation. In the context of an ageing Australia, it is further useful to consider the proportions of those aged 65 years and over who work across family types. For those in this age group and working, 3.9 per cent were living alone, 8.3 per cent were in couples (with or without dependants) and 2.9 per cent were sole parents (with or without dependants). This indicates that there seems to be scope to improve economic participation among older workers living alone.

Of those people aged 15 and over who were living alone and unemployed in 2000, 69 per cent were male and 31 per cent were female. At June 2000, the unemployment rate for men living alone stood at 9.2 per cent, compared to 3.8 per cent for coupled men, 8.8 per cent for sole fathers and an average of 6.3 per cent for men across all families. The unemployment rate for women living alone was 6.6 per cent, compared to 4.1 per cent for coupled women, 12.5 per cent for sole mothers and an average of 6.1 per cent for women across all families. The overall unemployment rate for lone persons in June 2000 was 8.2 per cent, compared to 3.9 per cent for couples, 11.8 per cent for lone parents, and an average across all families of 6.2 per cent (ABS 2000a, p. 30). Thus, in all cases (male, female, overall), the unemployment rate for lone persons was above the average across all families. All of this is illustrated in Figure 2.
Women living alone may have had a lower unemployment rate than men living alone, but this is not the full picture. While men aged 15 and over and living alone had a participation rate of some 62 per cent, their female counterparts had a participation rate of only 36 per cent. Thus not only did women living alone pursue less full-time work, they participated less in the workforce more generally. Overall, lone persons had the second lowest participation rate among all households—their rate of 47.7 per cent compared to 66.6 per cent for coupled households, 53.7 per cent for lone parent households, and an average household participation rate of 65 per cent (ABS 2000a, p. 26).

The unemployment issue was compounded by duration. The median duration of time in unemployment for men living alone was 39 weeks in 2000, the second highest after lone male parents (40 weeks) and above the median male duration of unemployment of 23 weeks. The median duration of time in unemployment for women living alone was 26 weeks in 2000, equal highest with lone female parents and above the median female duration of unemployment of 13 weeks. For all persons, lone persons had an overall median duration of time in unemployment of 32 weeks, higher than all other household types and well above the overall median duration of unemployment of 18 weeks for all household types (ABS 2000a, p. 31). The issues of participation rates and unemployment duration possibly raise implications for the process of welfare reform.

Lastly, the situation of those persons living alone and not in the labour force deserves attention, since over half of all lone person households falls into this category. Of these persons, some 67 per cent were female. Moreover, over
70 per cent of these persons were aged 65 years or more (ABS 2000a, pp. 27–8). This raises more important issues in the area of social than economic participation for older Australians.

**Income poverty and hardship**

In light of economic participation patterns among lone person households, it is useful to take a closer look at comparative levels of income poverty between this and other household types. Any discussion of income poverty will always be complex and contested, especially given the various limitations to traditional income poverty measures as identified in the March 2003 submission by the Australian Government Department of Family and Community Services (FaCS) to the Senate Inquiry into Poverty and Financial Hardship, including the importance of equivalence scales.9

Importantly, the adequacy of income support payments needs to be considered against various estimates of poverty lines. Analysis by FaCS (2003, p. 86) found that income support payments, taking into account Rent Assistance (RA), are in most cases above the various poverty lines. The main exception to this finding is in the case of persons living alone (apart from pensioners), exacerbated for students on Austudy Payment as it is not a RA eligible payment. Nonetheless, it bears pointing out that where single people share accommodation, their payments are generally above the various poverty lines.

More generally, in his analysis of financial stress and hardship in Australia, Bray (2001, p. 29) shows that lone person households experience higher than average levels of financial stress and multiple hardship.10 In particular, analysis of the 1998–99 ABS Household Expenditure Survey revealed that 52,300 (or 6.8 per cent of) households comprising a single person aged between 25 and 54 years experienced ‘multiple hardship’—that is, where households record two or more negative responses to specific questions on missing meals and heating, selling or pawning items, or seeking assistance from community organisations—the second highest incidence of all family types after lone parents. Similarly, young (aged under 25 years) single households were well above average in the incidence of hardship (although there are some age-specific factors to be taken account of here—see Bray, 2001 pp. 32–3).

A number of factors would join together to produce this situation of financial stress and hardship among lone person households. Other analysis suggests that persons living alone experience higher levels of housing stress than other household types, a likely combination of high housing costs (no economies of sharing) and limited income given relatively low levels of economic participation (Burke et al. 2002, p. 14). With the projected increase in lone person households, these statistics reinforce a picture of economic exclusion among this group (though less so for pensioners, who constitute a reasonable proportion of lone person households).
Social participation
There is no single agreed understanding of the term ‘social participation’. It ‘has been variously described as a way of maintaining engagement with the community, as a pathway into employment, as a vehicle for the development of skills and attitudes that are transferable to the workplace, or as a mechanism to actually assist people to overcome their personal barriers’. Notwithstanding more complex conceptualisations (see Clark, 2003), this subsection will focus upon social participation in terms of volunteering and caring activities.

The ABS conducted two surveys on volunteering in Australia, in 1995 and 2000. In 1995, persons living alone who participated in some form of volunteering constituted 8.25 per cent of the Australian volunteering population; this increased to 9.5 per cent by 2000. For males living alone, there was a small rise in the level of volunteering over this period from 7.5 per cent to 8.3 per cent. Similarly, for females living alone, there was a small rise from 9 per cent to almost 10.7 per cent (ABS 2001, p. 12). Clearly, more women than men living alone volunteered in both an absolute and relative sense in 1995 and 2000 (consistent with other family types).

The above compares the absolute and relative number of lone persons who volunteer against all other family types and by gender. Yet it is also useful to know the level of volunteering among a given population group alone. This is known as the ‘volunteer rate’, which refers to the number of volunteers in that group expressed as a percentage of the total population in the same group. Between 1995 and 2000, the volunteer rate for males living alone increased from 15.6 per cent to 23.2 per cent, and from 21.2 per cent to 29.3 per cent for females living alone. Overall, the volunteer rate for lone persons therefore rose from 18.3 per cent to 26.5 per cent in 2000. This needs to be understood in the context of the volunteer rate of other family types. In 2000, there was a volunteer rate of 33.7 per cent for partnered males, 35.4 per cent for partnered females, 30.9 per cent for sole fathers and 33 per cent for sole mothers. The overall average volunteer rate was 30.5 per cent for males, 33 per cent for females, and 31.8 per cent for all persons. Thus, despite a small increase in the level of volunteering among lone persons between 1995 and 2000, both men and women living alone volunteered less than all other family types by gender and overall. All this is shown in Figure 3.

The story of weaker than average levels of social participation among lone persons is reinforced by ABS (2000b) survey data on caring activity. Of all carers, 10 000 persons living alone were identified as primary carers and 95 200 as other carers, amounting to 4.5 per cent of the caring population in 1998. As a proportion of all persons living alone, this was about 6.5 per cent of that group. This compares to 17.9 per cent for a carer (primary or other) living with a partner, 8.3 per cent for a carer living with a relative, and 6.6 per cent for a carer living with non-relatives. Thus, as a proportion of their group, lone persons were least involved in caring activity. This is shown in Figure 4.
Figure 3  Volunteer rate by gender and family type, 2000

![Volunteer rate by gender and family type, 2000](image)

Source: ABS, Voluntary Work, cat. no. 4441.0.

Figure 4  All carers by living arrangement as group proportion, 1998

![All carers by living arrangement as group proportion, 1998](image)

Source: ABS, Caring in the Community, cat. no. 4436.0. ‘Primary’ carers are those who provide the most assistance with one or more of the core activities of self-care, mobility or communication, while ‘other’ carers provide occasional assistance.
Given the fact that 52 per cent of all lone persons were not in the labour force in 2000, and that many (70 per cent) of these persons were 65 years or over (and female), this engenders an important role for social participation. The above survey data on volunteering and caring activities suggests that lone persons have less than average participation levels, but it is also important to look at the dimension of age in this context. The voluntary work survey did not break down categories by age and living arrangement, though it was shown that women volunteered more than men, an important finding since some 67 per cent of women are not in the labour force (and most aged 65 years or more). In terms of caring, the ABS survey does offer data by age and living arrangement. The proportion of carers by age and living arrangement is shown in Figure 5.

**Figure 5  All carers by age and living arrangement, 2000**

The picture of caring activity by lone persons is more positive than that for volunteer activity. While caring among those living with a partner clearly increases across ages, the inverse holds true among those living with relatives. Like carers who live with a partner, there is a small but noticeable increase across ages for persons living alone, from 2.2 per cent for those aged 0–34 years, to 4.7 per cent for those aged 35–64 years, and almost 8.2 per cent for those aged 65 years and over. 12
Mental health and lone person households
Mental illness has major economic, social and personal costs. It is thus appropriate to consider it separately as it influences patterns of economic and social participation.

Mental health relates to emotions, thoughts and behaviours, with implications for a person’s interactive and functionality skills. The stigma and ignorance surrounding mental disorder can sometimes lead to isolation, and lack of social contact can be as damaging and painful as the disorder itself. In this context, it is useful to look at the association of living arrangements with the prevalence of mental disorder. Table 1 shows both the prevalence rate and age standardised prevalence rate of mental disorder by living arrangements.

Table 1 Prevalence of mental disorder\(^{(a)}\) by living arrangements, 1997

<table>
<thead>
<tr>
<th>Prevalence rate</th>
<th>Age standardised rate(^{(b)})</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
</tr>
<tr>
<td>No. persons in household</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>20.7</td>
</tr>
<tr>
<td>2</td>
<td>15.5</td>
</tr>
<tr>
<td>3</td>
<td>17.1</td>
</tr>
<tr>
<td>4</td>
<td>18.8</td>
</tr>
<tr>
<td>5 or more</td>
<td>17.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Prevalence rate</th>
<th>Age standardised rate(^{(b)})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>13.4</td>
<td>15.8</td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>25.4</td>
<td>29.6</td>
</tr>
<tr>
<td>Widowed</td>
<td>9.1(^{(c)})</td>
<td>7.8</td>
</tr>
<tr>
<td>Never married</td>
<td>26.8</td>
<td>24.5</td>
</tr>
</tbody>
</table>

Source: ABS, Mental Health and Wellbeing: Profile of Adults, cat. no. 4326.0.

Notes: (a) Mental disorders from across the major groups—anxiety, affective and substance abuse disorder.

(b) Because mental disorder is age-related, when examining the effect of factors such as household size, marital status and labour force status (all of which are also age-related), it is useful to adjust the data to control for age. This is done by calculating age standardised prevalence rates. For further information on this, refer to the Explanatory Notes (paragraphs 32–4) of the source.

(c) Estimate has a relative standard error of between 25 per cent and 50 per cent and should be used with caution.

After adjusting for age, the prevalence of mental disorder was highest for both men and women living alone (24 per cent and 27.2 per cent respectively). This was the case for anxiety, affective and substance abuse disorders individually. Overall, the prevalence rates of mental disorder decreased as the number of people living in the household increased. In light of the projected increase in lone person households, this data presents a new challenge to social policy. In particular, any strategies to assist economic and social participation among lone persons will need to address mental health issues among this group.
The mental health data by marital status is equally important given earlier discussion showing increasing rates of marriage avoidance and delay among young people, and very high levels of separation and divorce, all leading to a greater likelihood of living alone. After adjusting for age, the prevalence of mental disorder was highest for both men and women who had separated or divorced (23.7 per cent and 27.4 per cent respectively). This was followed by those who had never married (23 per cent for men and 20.8 per cent for women). Strategies to help lone persons establish and sustain relationships hence also need to integrate a strong mental health dimension. The comparatively lower level of mental disorder prevalence among widowed persons augurs well in the context of an ageing society where increasing numbers of people will live alone through the death of their partner, though the rate of prevalence is still quite high for widowed women (19.4 per cent) who will form the majority of older people living alone.

5. Policy challenges

This section explores how current social policy conceives and responds to lone person households. It also traces some future possible directions for social policy and research work in this area by FaCS.

Current FaCS policies and perspectives

The FaCS portfolio focuses on three essential social policy outcomes: individuals reach their potential, families are strong and communities are strong. FaCS takes the lead and works with others to help families, communities and individuals build their self-reliance and make choices through economic and social participation, prevention and early intervention, and a responsive and sustainable safety net. It is unclear how the growth and changing composition of lone person households fits with government directions in social policy.

Housing policy

The Commonwealth-State Housing Agreement (CSHA) represents a contribution by the Australian Government to achieve specified housing outcomes. The agreement also reflects the fact that the states and territories have ultimate control over delivery of the relevant goods and services. At present, 346,000 households rely on public housing, 90 per cent of public housing tenants are on income support, and 60 per cent of tenants are age and disability support pensioners.

The previous CSHA, which expired in June 2003, had been negotiated to support states and territories undertaking stock reconfiguration to meet changes in demographics. The newly agreed CSHA, effective from 1 July 2003 to 30 June 2008, also includes a clause to this effect. Although the CSHA does not specifically outline various demographic changes, states and territories have been aware of the shift to smaller household sizes over recent years and attempting to realign their stock. This process, however, is inevitably hampered by what is available for purchase on the open market.
The states and territories outline their key priorities and priority groups for housing in their bilateral agreements with the Australian Government. In the past, the Australian Government has largely agreed with the state-defined priorities. In terms of public housing, the issue is not about single people’s eligibility so much as stock availability. To house sole person households can cost much the same as a family or couple in terms of capital. The advent of more sole person households does, however, mean a greater demand for more dwellings, and the cost and maintenance of dwellings will be factors in the availability and cost of public housing options in the future. This equates to greater capital cost per person housed than perhaps for a different household configuration.

Another relevant issue is that single people in public housing can sometimes inhabit dwellings of far greater size than required (that is, when children or a partner cease to live there). Any changes in the concept and enforcement of ‘housing for the duration of need’ versus ‘security of tenure’ require the housing authority to have a viable and attractive form of alternative accommodation for the sole person. This will be costly and possibly affect the sense of community a long-term tenant experiences, a problem given FaCS’ outcome of ‘stronger communities’. In the public rental sector now, sole people are often being allocated two-bedroom dwellings as that is all that is available for purchase in the open market.

For sole person households in the private rental and purchase markets, the question of what the market will provide in terms of stock is equally complex. The market seems to continue to prefer providing two to four-bedroom accommodation, which is limiting to sole person households in terms of potential rental/mortgage payments. Certainly, the rise of the studio apartment seems to be limited to the gentrified inner-city areas.

Wulff (2001) provides a valuable and unique insight into the housing demand characteristics of the growing number of people living alone in Australia. She broadly finds that the relationship between housing requirements and household size in the case of lone persons are particularly complex: while people living alone would prefer flats to separate detached houses, those with the income or particular lifestyle preferences (that is, a home office, entertaining, visiting children) seek more bedroom space. What is more, the demographic and social trends surrounding this phenomenon ‘signal that a spell as a one person household may come to form a part of each person’s life course housing career, possibly once and perhaps multiple times’ (Wulff 2001 p. 487).

Another relevant Australian Government-State agreement is the Supported Accommodation Assistance Program (SAAP). Its homelessness service system does not specifically record data on households, whether they be lone person or otherwise, but records the support periods provided by the SAAP system to individuals who are homeless, and whether the individual is accompanied by children or a member of a homeless couple or family. In 2000–01, some
73.8 per cent of SAAP client periods were provided to single homeless people. This percentage dropped slightly in 2001–02 to 72.5 per cent. The characteristics of single homeless people accessing SAAP services vary across jurisdictions. In 2001–02 in New South Wales, single unaccompanied males comprised 57.4 per cent of client support periods, whereas in Victoria the figure was only 32.9 per cent. Factors influencing the characteristics of SAAP client data include local social and economic conditions, and configuration of the SAAP service system.

FaCS also administers the Rent Assistance (RA) scheme. RA provides a non-taxable payment to low-income recipients who rent privately. It is subject to both individual and parental means tests and is paid as a supplement to other income support payments. The definition of private rental includes boarding schools and halls of residence type accommodation. Young people living at home with their parents (even if they are paying rent) are not eligible for RA. Young people do not have to be classified as ‘independent’ in order to qualify but, if they are not, they must be living away from the parental home for approved reasons. Unlike equivalent programs in many other countries, RA in Australia is not explicitly a housing program. It is payable to private renters (not the landlord) whose income and rent meet eligibility conditions, and the expenditure is not tied to housing outcomes; a recipient could use it to reduce rent, but it could be used for other expenditures (and may thus be better described as an income supplement). The interaction between RA and Youth Allowance (YA) is looked at in greater depth in the next subsection.

Table 2 describes selected current RA rates. Notably, there is a lower maximum rate of assistance for couples than singles. Further, there is a lower maximum rate of assistance for singles without children who share accommodation.

<table>
<thead>
<tr>
<th>Family situation</th>
<th>Maximum rate of RA</th>
<th>Rent threshold</th>
<th>Rent at which maximum rate of RA payable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single, no children</td>
<td>$93.20</td>
<td>$82.80</td>
<td>$207.07</td>
</tr>
<tr>
<td>Single, no children, sharer</td>
<td>$62.13</td>
<td>$82.80</td>
<td>$165.64</td>
</tr>
<tr>
<td>Couple, no children</td>
<td>$88.00</td>
<td>$134.80</td>
<td>$252.13</td>
</tr>
</tbody>
</table>

Source: FaCS Internet site.

Despite the higher RA rates for single renters, they experience far greater affordability problems than young people in shared accommodation. Of young renters living alone, 66 per cent paid more than 25 per cent, and 45 per cent paid more than 40 per cent, of income on rents. A third of young renters living alone paid more than half their income in rent. This compares to young renters in multi-person households (single sharers and couples) where 35 per cent paid more than 25 per cent, and 14 per cent paid more than 40 per cent, of income on rents, with only 8 per cent paying over half their income in rent (Burke et al. 2002, p. 14).
The shift from single to shared arrangements among 20–24 year-olds between 1980 and 2000 should be seen in this light. The lower rates for single sharers tend to be justified on the basis that sharers enjoy ‘economies in housing’ similar to those for partnered persons. However, an alternative way to articulate this is that housing costs and affordability underlie the trend away from living alone among young people, especially as they tend to have low incomes. Overall, it can be said that RA best supports couples living together in the sense that they face lower housing affordability problems and receive higher rates. They are nonetheless still a falling household type among young people, from 46.9 per cent in 1980 to 36.5 per cent in 2000, probably though for more non-financial reasons.

Rent Assistance does not distinguish between younger and older persons living alone. The maximum rates of assistance, and minimum rent required to receive assistance are the same for all single persons living alone. An older and younger person paying the same rent would each receive the same RA amount. Yet the different basic rates for pensions and allowances mean that older persons, who are more likely to live alone, tend to have higher incomes than young persons and hence more affordable housing. As such, there is a sense in which the existing RA program delivers better housing for older persons. Against this, it could be argued that RA represents a greater proportion of total government payments provided to younger persons. Nevertheless a key unacknowledged policy challenge in this context is how RA meets the different needs of young and old lone person households: where the needs of youth tend to be transitory, and the issues for the aged can be acute and ongoing (that is, access to public transport, proximity of shops and housing quality).

Table 3 shows results of a 1999 survey conducted for FaCS by the Swinburne Institute for Social Research, which found that 23 per cent of income units receiving RA were lone person households, representing the predominant form. Interestingly, ABS data looked at earlier also showed that 23 per cent of households are now lone person. The 1999 survey further found that a majority (81 per cent) live in one or two-bedroom homes.

The RA survey did not enquire about reasons for living alone, but it did include some questions about level of satisfaction with size, condition and locational aspects of the accommodation. Further analysis could look at this as well as the age structure of lone person households getting RA.
Table 3  Rent Assistance recipients by household composition, 1999

<table>
<thead>
<tr>
<th>Single income unit households</th>
<th>Bedsitter</th>
<th>1 br</th>
<th>2 br</th>
<th>3 br</th>
<th>4 br</th>
<th>5+ br</th>
<th>All</th>
<th>Percentage of all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone person</td>
<td>3.2</td>
<td>39.4</td>
<td>41.6</td>
<td>13.2</td>
<td>2.2</td>
<td>0.3</td>
<td>204 478</td>
<td>23</td>
</tr>
<tr>
<td>Sole parent 1 child</td>
<td>1</td>
<td>3</td>
<td>50</td>
<td>44</td>
<td>3</td>
<td>–</td>
<td>61 703</td>
<td>7</td>
</tr>
<tr>
<td>Sole parent 2 children</td>
<td>–</td>
<td>1</td>
<td>15</td>
<td>72</td>
<td>11</td>
<td>–</td>
<td>53 709</td>
<td>6</td>
</tr>
<tr>
<td>Sole parent 3 children</td>
<td>–</td>
<td>–</td>
<td>10</td>
<td>63</td>
<td>27</td>
<td>–</td>
<td>17 751</td>
<td>2</td>
</tr>
<tr>
<td>Sole parent 4+ children</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td>51</td>
<td>37</td>
<td>10</td>
<td>8227</td>
<td>1</td>
</tr>
<tr>
<td>Couple no children</td>
<td>0.9</td>
<td>10.8</td>
<td>48.5</td>
<td>37.0</td>
<td>2.8</td>
<td>–</td>
<td>56 120</td>
<td>6</td>
</tr>
<tr>
<td>Couple 1 child</td>
<td>–</td>
<td>3</td>
<td>36</td>
<td>55</td>
<td>6</td>
<td>1</td>
<td>34 337</td>
<td>4</td>
</tr>
<tr>
<td>Couple 2 children</td>
<td>–</td>
<td>–</td>
<td>22</td>
<td>69</td>
<td>9</td>
<td>0</td>
<td>47 812</td>
<td>5</td>
</tr>
<tr>
<td>Couple 3 children</td>
<td>–</td>
<td>0</td>
<td>9</td>
<td>64</td>
<td>23</td>
<td>3</td>
<td>24 503</td>
<td>3</td>
</tr>
<tr>
<td>Couple 4+ children</td>
<td>0</td>
<td>–</td>
<td>1</td>
<td>55</td>
<td>38</td>
<td>6</td>
<td>14 537</td>
<td>2</td>
</tr>
<tr>
<td>Sub-total</td>
<td>1</td>
<td>17</td>
<td>34</td>
<td>39</td>
<td>7</td>
<td>1</td>
<td>522 997</td>
<td>59</td>
</tr>
</tbody>
</table>

Source: 1999 National Survey of Rent Assistance Recipients. A person is treated as a child if they are a child or stepchild of the respondent and either under 16 years of age or a full-time secondary student.

Note: Multiple income unit households totaled the remaining 41 per cent of the survey. This clearly does not affect the number of lone person households.

Family policy
The Australian Government is committed to supporting and strengthening family relationships and this is reflected in services and programs administered by FaCS. The growth of lone person households has not been actively fostered as a policy goal.

FaCS administers a range of programs designed to assist individuals, couples and families to reach solutions to family relationship problems. The Family Relationships Services Program (FRSP) is central in this respect. The FRSP initially focused on marriage guidance services, but it now aims to enable children, young people and adults in all their diversity to develop and sustain safe, supportive and nurturing family relationships, as well as minimise the emotional, social and economic costs associated with any disruption to family relationships.

The FRSP also provides funding for various programs. One is the Men and Family Relationships Program, established in 1997, which has piloted services designed to take men’s and fathers’ particular help-seeking and problem solving strategies into account. The aim is to help men manage a range of relationship difficulties with partners and ex-partners, children and step-children and to enable organisations to develop more sensitive and responsive approaches to working with male clients. The funded services target men at a range of relationship stages, including pre- and post-separation, and at particular life and relationship transitions, such as following the birth of a first child or the breakdown of a relationship. As a part of the 2003–04 Australian Government Budget it was announced that the program would be extended for a further four years.
Of the arising policy implications of lone person households in the context of family policy, much relates to men's involvement in relationships and their wellbeing more generally. That many younger men live alone may, to some extent, be explained by relationship breakdown. Evidence clearly shows that women are more likely to seek help than men and that women perceive relationship problems when men do not, as shown by the number of women seeking relationship support services and applying for divorce compared to men. An emergent policy challenge is thus how to provide greater support for men in continuing relationships. That said, women are more likely to live alone than men beyond the age of 50, largely because of their greater life expectancy. Therefore, in the wider context of ageing, families are increasingly best placed to offer basic support into old age.

Youth policy
The primary income support payment in the area of youth policy is Youth Allowance (YA), along with RA. The Australian Government introduced YA on 1 July 1998 as a means-tested payment replacing a range of existing allowances for young people (broadly defined as those aged 15–24 years and studying full-time, and those aged 16–20 years and looking for full-time work).

Of particular importance in this case are the changes to the eligibility criteria for the ‘away from home’ rate. Under YA, independent status no longer carries automatic access to the higher level of payment. Rather, this is to be decided on the living arrangements of the young person, namely whether they are living ‘at home’ or ‘away from home’. Even if classified as ‘dependent’, young people living away from home for approved reasons, like study or job search purposes, are now eligible for the higher rate of YA. Many of the changes introduced under YA are attempts to make education a more attractive option for young people dependent on income support and, conversely, make unemployment less attractive.

To better align entitlements between students and jobseekers, further changes were made to the RA eligibility criteria. Since its introduction in 1996, young people on unemployment benefits living away from parents have had relatively broad access to RA, while, prior to YA, Austudy recipients were able to qualify for RA only if they could demonstrate ‘homeless’ status or if they were orphans or refugees. Under YA, similar conditions of access to RA have been extended broadly to full-time students under the age of 25 who are renting privately. With the introduction of YA, Austudy (now called Austudy Payment) has remained for full-time students over the age of 25, but RA is not available to such recipients. Given affordability issues, the importance of RA to all young renters is evident, even though only a proportion of young people are eligible.

Earlier analysis showed that the growth in lone person households among ‘young’ people is best seen as concentrated among 25–29 year olds. While for those under 25 years of age in receipt of welfare assistance, it is more common for
jobseekers to be living alone than students (27.2 per cent compared to 14.1 per cent). There thus appears to be a need to develop targeted strategies to reconnect young unemployed people living alone to work opportunities and routines, and their families and communities.

Economic and social participation among young lone person households is currently only incidentally addressed through the Stronger Families and Communities Strategy (discussed in depth below) and, for those aged 11–16, through the Youth Activities Services and Family Liaison Worker programs. Increasingly, young people view volunteering as a valuable way to acquire skills and workplace experience and have social contact, and there thus appears to be scope to promote volunteering among those aged 16–24 and living alone. In particular, FaCS manages the Volunteer Management Program, which in turn funds Volunteer Resource Centres to provide matching and referral services, and assistance to organisations using volunteers. Through these centres, the level of awareness among young lone persons of the benefits of volunteering as well as the opportunities could be enhanced.

**Welfare reform**

Analysis above suggests that lone person households generally have lower levels of economic and social participation than other household types. As a part of its welfare reform process, the Government is currently reviewing the income support system for working-age people to ensure that it supports participation and self-reliance, provides stronger incentives for paid work and does more to tailor requirements and assistance to individual circumstances. A consultation paper, Building a Simpler System to Help Jobless Families and Individuals, was released in late 2002 to this end. It raises issues both directly and indirectly relevant to the problems facing lone person households.

The consultation paper notes that the differences between the single and partnered rates are not consistent across pensions, allowances and student payments, and thus suggests two approaches to establishing a common basis for rates, with allowances for the costs of living for lone person households. One maintains a primary distinction between single and partnered people. The second extends the principle that anyone who shares housing with other adults pays less for housing than adults who live alone or only with children. As such, people with partners and single ‘sharers’ would get similar amounts of assistance, while people who do not live with any other adult (including lone parents living only with their dependent children) would get a higher rate of assistance with housing. Under this second approach, the rate structure could include a standard payment rate for everyone, with an extra module for lone adults.

To the extent that living alone is correlated with poor social and economic outcomes, it is desirable to minimise incentives to living alone among persons with weak levels of workforce attachment. There is a tension between helping lone persons meet living costs and reinforcing poor social and economic outcomes.
The extra costs of living alone should be recognised, as both approaches appreciate. Yet there is a danger that in making the 'lone adult add-on' explicit, some may seek to leave group housing or couple arrangements for perceived or actual financial gain. Against this, a standard rate of payment would reduce incentives to shift payment to maximise financial gain (rather than pursue economic and social participation). Ultimately, the point is that there is nothing amiss per se in (wanting to) living alone; it becomes an issue when this preference is correlated with poor economic and social outcomes.

Another particular issue in the context of welfare reform arising from this analysis of lone person households relates to mental health as a barrier to economic participation. As Butterworth (forthcoming) describes it, the presence of mental disorders decreases the likelihood of finding or maintaining employment, makes it more difficult to meet participation requirements, makes participation in programs and interventions less effective, and makes many recipients more likely to be sanctioned and leave welfare without employment or other financial support. Researchers have begun to identify policies and interventions to address mental health barriers to economic participation among its clients. This paper further suggests the need for an awareness of the ‘household dimension’ to common mental health problems.

**Ageing policy**

Older Australians have much to offer towards fostering social capital within their communities with a lifetime of experience in developing and maintaining strong family and community relationships. Yet, major life events such as loss of partner or friends through bereavement, moving house or becoming ill can impact on a person’s ability to be part of their community. Australian Government policy for older Australians aims to promote active and healthy ageing—that is, fostering social participation and ensuring appropriate care.

Certain trends have increased the likelihood of family support for older people, living alone or not. First, with falling mortality rates and rising longevity, the proportion of older people in a couple relationship has grown. For adults in couple relationships, the spouse tends to be the primary carer. Second, over the next 30 years, older people are more likely to have surviving children than the current and more recent generations of older people. After a spouse, adult children are the primary carers.

Yet these trends will be countered to some extent by an increase in family breakdown. The proportion of those aged 45–54 years not living with a partner has been growing and is now above 20 per cent. Most have had children, though, if their relationship with their children has become distant, care at older ages from children may not be forthcoming. This is chiefly an issue of relationships between fathers and their adult children, with implications for family policy. There is also the situation of older people living alone through the death of a partner, and again
the role of children may be important (McDonald & Kippen 2001, p. 62). The potential for mutuality between private and public support of older people, according to Peter McDonald, will be even greater in the future than now.

Although most older Australians lead active, busy lives, numerical ageing is likely to increase the number (if not proportion) of older people living alone and experiencing social isolation and loneliness, especially among women given their propensity to live longer than men. Other contributing issues include lack of awareness of information about community services, and cultural and/or religious or language barriers. Around one in three older Australians were born overseas, and some lack sufficient English skills. The number of older overseas-born Australians is expected to grow in coming decades as today’s working-age cohorts, with higher concentrations of people born overseas, move into older age (see Clark, forthcoming).

Increased social participation among older Australians has the potential to strengthen communities and reduce the risk of isolation for older people. Volunteering is one key aspect in this respect. Voluntary work meets needs within the community and helps to develop and reinforce social networks and cohesion. In response to population ageing, the nature of volunteering has been changing more recently. With people living longer in retirement, the elderly are devoting more of their skills and knowledge to voluntary organisations. In 2000, around 530 000 people over the age of 65 undertook volunteer work, contributing to the community, welfare, religious and health sectors. Education, training and youth mentoring also offer opportunities for fostering intergenerational bonds, where the life skills of older people can be shared with younger generations (AURA 2002).

This paper has highlighted that the issue of the growth in lone person households deserves increased policy attention. In particular, a better understanding of the actual situation of those living alone is needed, as well as an assessment of pathways for effective policy intervention. In the end, policy needs to be consistent with promoting cohesiveness and self-reliance among individuals, families and communities.

6. Conclusion

Not only is the lone person household on the rise in Australia (like other developed countries), but the various social and demographic trends at play are seeing adults in their middle years begin to rival numerically the life course stage typically associated with living alone, the elderly widow. Further, as this analysis has shown, living alone appears to be correlated with lower levels of social and economic participation, along with a higher prevalence of mental health disorders, than other household types.
The implications of all this for government and social policy may not be clear, but there is a need for greater understanding, particularly from a longitudinal perspective. This paper has begun to explore the implications for housing, families, welfare reform, the aged and young people. The broader social consequences of the rise of the lone person household demographic remain still more ambiguous: What changes will occur in the leisure and entertainment industries as our society moves away from families? Will paid (and voluntary) work become an even more central life-interest? How will the retail market be affected by the increasing emphasis on the individual? This paper will hopefully provoke a deeper conversation in this area.

Endnotes

1 Including calculations from the ABS 2001 Census of Population and Housing. The other main household type—group households—grew marginally from about 3 per cent to 4 per cent over this period (though between 1996 and 2001 there was a fall in this type from 4.1 per cent to 3.7 per cent).

2 The trend of a rising number of lone person households is not isolated to Australia. It is part of a broader trend among OECD countries. Research, for example, has equally revealed that more Canadians are living on their own than ever before and that they are spending more time alone, even if they live with others (Clark 2002).

3 Over the past two decades there has been a proliferation of literature on the issue of homelessness. It should be noted that this paper on lone person households refers to non-homeless Australians, unless it is otherwise stated. There is some discussion of the Supported Accommodation Assistance Program (SAAP), but it is not possible to do justice to the issue of homelessness here. For research and strategies regarding this issue, refer to <http://www.ahuri.edu.au/publish/page.cfm?contentID=48>. For specific FaCS policies, look at the SAAP and the Reconnect program at <http://www.facs.gov.au/>.

4 The ABS definition could be construed as slightly broader than that in the Social Security Act 1991. According to relevant sections in the Act, all single customers without dependants who share a major area of their accommodation with others (including non-dependent members of their own family) are potentially sharers for the purposes of income support and other payments. A single person who has the exclusive right to use a bathroom, a kitchen and a bedroom and has the right, in common with others, to use other major areas of accommodation is not, however, to be treated as a sharer. Nonetheless, the ABS does recognise group households, which it describes as a household consisting of two or more unrelated people where all persons are aged 15 years or over.

5 Derived from various ABS censuses of Population and Housing.
De facto partnering has arisen as an alternative living arrangement prior to or instead of marriage, and following separation, divorce or widowhood. Between 1992 and 1997, the number of people in de facto relationships rose by 6.4 per cent from 710,800 to 756,500 people.

The trend towards older age at marriage continued in 2001. In 2001, 75.6 per cent of 20–29 year olds (1,981,247 people) had never been married, increasing from 70.3 per cent in 1996, and a significant increase since 1971 when only 35.7 per cent (725,116 people) had never been married. The median age at marriage for men was 31 years, rising from 26 years in 1981. For women the median age rose to 29 years in 2001 from 23 years in 1981. The median age at first marriage also rose. In 2001 it was 29 years for men, increasing from 24 years in 1981. For women, the median age at first marriage was 27 years in 2001, increasing from 22 years in 1981 (ABS 2002b, p. 9).

See ABS, 2000, p. 28. The estimate for sole parents aged 65 years or over has a relative standard error of between 25–50 per cent.

As FaCS (2003, p. 81) states: ‘The needs of households vary, with the most easily measured determinant being the size of the household. To take account of these differences analysts use “equivalence scales”. These allow the incomes of households with different household compositions to be compared with each other and with any benchmark income poverty line. As with other areas of income distribution, there is little agreement on what such scales should be, and there are a number of ways in which they can be derived. Notwithstanding this lack of agreement on what to use, there is relatively strong agreement that income data does need to be equivalised for inter-household comparisons to be valid’. Since the poverty line is ultimately a construct, what determines the line for those living alone is the implicit equivalence scale.

Bray’s analysis is based on the 1998–99 ABS Household Expenditure Survey, which includes a number of questions measuring the ‘financial stress’ of households. Bray categorises these questions into three specific groups—missing-out, cash-flow and hardship. The concept of ‘multiple hardship’ is where households record two or more negative responses to the specific questions on missing meals and heating, selling or pawning items, or seeking assistance from community organisations.


This includes all carers (primary and other). Also note that for the age categories 35–64 years and 65 years and over, the estimate for lone persons has a relative standard error of between 25–50 per cent.

The nationwide survey in 1999 was designed to provide FaCS with information on the extent to which eligibility for Rent Assistance (RA) impacts on young
people’s decisions to study and how it influences choice of educational institution, living arrangement, and engagement in paid employment—in other words, the non-shelter aspects of housing assistance. A second objective of the research was to develop a dataset to supplement the existing RA database and to provide initial information on students on Youth Allowance (YA) as a new RA client group (students under 25 became eligible for YA, and therefore RA from 1 July 1998). The study surveyed over 8000 young people with a response rate of 42 per cent yielding some 3000 responses.

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Length of completed spells on the Disability Support Pension (DSP) program

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1. Introduction

Currently not much is known about the length of stay on the Disability Support Pension (DSP) program in Australia, even though this statistic is of policy importance in terms of understanding the growth of the DSP program and projecting its future expenditures. This paper fills this gap by presenting an estimation of the length of completed spells on DSP. It is estimated that the average duration of completed spells of an entry cohort of DSP recipients is 9 to 10 years, but it varies with entry age, gender and recipient source. However, because multiple spells of some recipients are not accounted for in the paper due to data limitation, the estimated duration of completed spells might underestimate the total length of stay of DSP recipients.

Duration on the DSP program is of great interest to policy makers. First, the number of DSP recipients is not only determined by inflows of new recipients, but also by duration on the program. Understanding duration will help enhance understanding of the growth of the program (Cai 2002). Secondly, projections of future expenditures on the DSP program depend on the expected duration of the recipients. Thirdly, when comparing costs for recipients with different characteristics, duration differences among them become very relevant. Take entry age as an example. If a 20 year old new DSP recipient is expected to stay on the program for 10 years, this person’s cost is equivalent to five 60 year old new recipients if the latter are expected to stay for only two years. In addition, policy makers may also be interested in how the length of stay varies with subgroup characteristics, such as age and gender.

However, currently not much is known about the length of stay on the DSP program in Australia. The only formal information is the duration distribution at the end of a financial year published by the social security administrative authority (that is, the Department of Family and Community Services (FaCS) and its predecessor, the Department of Social Security (DSS)). Table 1 presents some examples of this kind of data. Although this information reveals how long the current recipients had stayed on the program up to the date when data were
extracted, we still do not know how long a ‘typical recipient’ will stay on the program, or how long a cohort of recipients who enter the program in the same month (or year) will be expected to stay on DSP. In other words, the duration presented in Table 1 is the length of the incomplete or interrupted spells. The information in Table 1 may therefore be useful in estimating the costs already incurred, but it is less useful in projecting future program costs, which are of more policy interest.

Table 1  Proportion of DSP recipients by incomplete duration (per cent)

<table>
<thead>
<tr>
<th></th>
<th>&lt; 1 year</th>
<th>1–5 years</th>
<th>5–10 years</th>
<th>10–15 years</th>
<th>15–20 years</th>
<th>&gt; 20 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun 86</td>
<td>11.3</td>
<td>39.4</td>
<td>26.4</td>
<td>11.7</td>
<td>5.6</td>
<td>5.6</td>
</tr>
<tr>
<td>Jun 91</td>
<td>11.2</td>
<td>35.8</td>
<td>26.6</td>
<td>13.3</td>
<td>6.3</td>
<td>6.8</td>
</tr>
<tr>
<td>Jun 96</td>
<td>12.6</td>
<td>41.3</td>
<td>21.1</td>
<td>11.4</td>
<td>6.4</td>
<td>7.2</td>
</tr>
<tr>
<td>Jun 99</td>
<td>13</td>
<td>46</td>
<td>20</td>
<td>9</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: June 1999 figures come from FaCS (1999); figures for other years from DSS (1997).

In other countries, especially the United States, recent studies discussing duration on disability benefits have been published. Using a random sample of social security beneficiaries who were first entitled to disabled-worker benefits in 1972 and were followed until January 1981, Hennessey and Dykacz (1989) estimated their final exit destinations and expected duration on benefits. First, they applied a competing risk model to their sample. They distinguished three exit destinations (or outcomes)—recovery, death and retirement. In their model they related these outcomes to a set of covariates including primary diagnosis, educational level, past occupation, primary insurance amount, sex, race, and age at entitlement. Then, they used the estimated parameters to project the outcomes beyond the observable period and to calculate the proportion of recipients who ultimately left the program for each reason. They projected that 11 per cent of the recipients would ultimately leave the program due to recovery, 36 per cent due to death, and 53 per cent due to retirement at age 65. Average completed duration on the program was estimated to be 9.3 years, although considerable variations existed by entry age, sex, educational level and primary diagnosis.

Rupp and Scott (1995) used a follow-up of a 1974–82 cohort of new recipients of Supplemental Security Income (SSI) disability benefits to estimate the average stay of different recipient groups. Instead of employing a formal model, as in the Hennessey and Dykacz’s paper, Rupp and Scott projected the exit rate beyond the 10-year follow-up period by assuming that the hazard rate after this period was only a function of age. Their estimated mean length of all the first SSI disability benefit spells was 5.5 years. It was 11.3 years for disabled children, 1.3 years for disabled adults eligible for both the Social Security Administration’s Disability Insurance and SSI, and 6.4 years for adults eligible for SSI only. When multiple spells were accounted for, the projected mean total pre-retirement length of stay on SSI disability benefits almost doubled to 10.5 years for all recipients and increased to 26.7 years for children.
This paper provides estimates of the duration of completed spells (referred to later as ‘completed duration’) of Australian DSP recipients. It should be kept in mind that the estimated duration of completed spells is not the same as the total length of stay on DSP because some recipients may experience multiple spells on DSP and this is not accounted for in the estimation due to the limited data period. The rest of the paper is organised as follows—Section 2 discusses the difference between completed and interrupted spells and shows why the duration statistics published by the administrative authority are not adequate in understanding the length of stay of DSP recipients; Section 3 presents duration distribution and destination outcomes of the 1995 entry cohort of DSP recipients over the observable period to gain some feeling of the dynamics of DSP recipients; Section 4 describes the estimation strategy and present estimation results; Section 5 uses the estimated completed duration to show how entry age impacts on costs of DSP recipients; and Section 6 sets out the conclusion.

2. Completed and interrupted spells

The difference between completed and interrupted spells is emphasised in the literature of unemployment duration. Figure 1, which follows Akerlof and Main (1980) and Salant (1977), illustrates the difference between these two measures in the context of DSP spells.

Figure 1 Completed and interrupted spells
Suppose the duration of a DSP spell is a random variable and a survey on duration is conducted at time $t_0$. This paper uses data from the FaCS Longitudinal Data Set (LDS), which is an administrative data set containing fortnightly records of all income support payment recipients. In the context of the LDS data, the survey at $t_0$ can be thought of as an extraction of only one fortnight of data from the LDS data at a date $t_0$. To simplify, further assume there are only six spells for six DSP recipients and only four of the six spells are in progress and captured at the time $t_0$ of survey or data extraction (that is, the spells denoted as (1), (3), (4) and (5) in Figure 1). The other two spells not captured are either concluded before the survey or data extraction (the spell (2) in Figure 1) or have not yet started (the spell (6) in Figure 1). The durations of the spells encountered in and up to the time of the survey (denoted as $T_i$ for spell or individual $i$), are obviously incomplete since the spells are still in progress at $t_0$. $T_i$ is then the duration or length of an interrupted spell. Then the length of each of the four spells until its conclusion is called the length of a completed spell (denoted as $S_i^c$).

Corresponding to the four surveyed spells, two mean durations of spells can be computed: $\bar{T} = \frac{1}{4} \sum_{i=1}^{4} T_i / 4$ and $\bar{S}^c = \frac{1}{4} \sum_{i=1}^{4} S_i^c / 4$. The statistic $\bar{T}$ (or E(\$T) for population) is the average length of the interrupted spells. Obviously, the durations in Table 1 measure the length of interrupted spells of DSP recipients. Since the interrupted spell is only part of the completed spell, $\bar{T}$ underestimates the average length of the four completed spells captured in the survey, which is $\bar{S}^c$ (or $E(S^c)$ for population).

Both $\bar{T}$ and $\bar{S}^c$ are derived from the spells captured in the survey, but one more relevant statistic is the average duration of all spells ever occurring. If we denote the two spells not encountered by the survey by $S_i^c$, this corresponds to,

$$\bar{S} = (\frac{1}{4} \sum_{i=1}^{4} S_i^c + \frac{2}{4} \sum_{i=1}^{2} S_i^c) / 6 = \frac{1}{6} \sum_{i=1}^{6} S_i / 6$$

Where $S_i$ represents the length of the completed spell for spell $i$ no matter whether $i$ is encountered or not in the survey. While $\bar{T}$ can be estimated using cross-section survey data, the estimates of $\bar{S}$ and $\bar{S}^c$ need longitudinal data so that completed spells can be obtained. The period of the longitudinal data required for the task depends on the nature of the spells. In the case of DSP, the required period will be quite long.

**Relationship between $E(T)$, $E(S)$ and $E(S^c)$**

As noted above, the length of a completed spell captured in a survey will exceed that of an interrupted one. If a spell is equally likely to start at any time and its length is assumed to be drawn from the same distribution regardless of when the spell begins, then the captured spells are on average halfway through their full length at the time of a survey and the average length of the interrupted spells is half the average length of the completed spells captured by the survey. This was
referred to by Salant (1977) as ‘interruption bias’. The relationship between $E(T)$ and $E(S)$, where $S$ represents all spells ever occurring, is more complicated. Because of the interruption bias, $T_i$ is an underestimate of the $S_i$ captured in the survey. On the other hand, it is the spells with longer than average completed length that are more likely to be in progress at the time of a survey and then captured in the survey. This is known as ‘length bias’ (Salant 1997). These two effects are in conflict. With a constant population assumption (in our context this requires the number of DSP recipients to be constant), it can be shown that the following relationship holds between $E(T)$ and $E(S)$ (Salant 1977; Lancaster 1990):

$$\frac{E(T)}{E(S)} = \frac{1}{2} \left\{ \frac{\text{Var}(s)}{[E(S)]^2} + 1 \right\}. \quad (1)$$

Between $E(T)$ and $E(S)$, which one is larger is determined by the hazard rate of the spells (Salant 1997): If the hazard rate rises with time, $E(T) < E(S)$; if the hazard rate is constant, $E(T) = E(S)$ and the effects of length-bias and interruption-bias exactly offset each other; and if the hazard rate falls with time, $E(T) > E(S)$.

From the above discussion, it is clear that the duration information on DSP in Table 1 is about interrupted spells of DSP recipients. As such, it is not adequate in understanding the full length of stay of DSP recipients on the program. It is well established in the literature that participation in the disability benefit program is, among other things, determined by labour market conditions (Rupp & Stapleton 1995; Disney & Webb 1991; Lando, Coate & Kraus 1979). This implies that a DSP spell is not equally likely to start at anytime. The conditions under which the duration of an interrupted spell equals one half of its completed length therefore do not hold for DSP recipients. In addition, as shown in the next section and in Cai (2002), the hazard rate of DSP recipients is not constant. The expected completed duration of DSP spells cannot be inferred to be equal to the expected interrupted duration. The completed duration of DSP spells needs to be estimated empirically.

### 3. Destination outcomes and duration distribution of the 1995 entry cohort

Before discussing the estimation method and results of the completed duration on DSP, this section documents the experience of the recipients who entered DSP between 3 March 1995 and 31 December 1995 (inclusive), called the 1995 entry cohort. This cohort is followed to the end of the 1 per cent sample LDS data, which was 16 June 2000 at the time this paper was written, to find out how many of the recipients had exited (this refers to exit from DSP without transferring to the Age Pension over the observable data period); transferred to the Age Pension (referred to as ‘retirement’ later); or were still on DSP. The duration distribution of this cohort is also documented.
3.1. Destination outcomes of the recipients and distribution of the number of spells

From the FaCS 1 per cent sample LDS data, 763 new recipients entered the DSP program between 3 March 1995 and 31 December 1995. Table 2 presents the destinations of the recipients in this cohort as on 16 June 2000, the end of the sample data set.

Over the observable period, 16 per cent of the recipients in the cohort exited from DSP, 14 per cent transferred to the Age Pension (or retired), and 70 per cent were still receiving DSP benefits at the end of the sample data set. A larger proportion of males had left through exit and retirement than females. These destination outcomes also differed among different recipient sources. Those who transferred from unemployment benefits had the lowest proportion leaving (including exit and retirement) and highest proportion staying on.

Table 2 Destinations of the recipients of the 1995 entry cohort (per cent)

<table>
<thead>
<tr>
<th>(a). Overall</th>
<th>Whole cohort</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exit</td>
<td>15.73</td>
<td>17.45</td>
<td>12.25</td>
</tr>
<tr>
<td>Retirement</td>
<td>14.42</td>
<td>17.25</td>
<td>8.70</td>
</tr>
<tr>
<td>Still on</td>
<td>69.86</td>
<td>65.29</td>
<td>79.05</td>
</tr>
<tr>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(b). By recipient source</th>
<th>From outside income support</th>
<th>From unemployment</th>
<th>From other payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exit</td>
<td>14.40</td>
<td>10.74</td>
<td>20.92</td>
</tr>
<tr>
<td>Retirement</td>
<td>19.20</td>
<td>10.74</td>
<td>21.21</td>
</tr>
<tr>
<td>Still on</td>
<td>66.40</td>
<td>78.52</td>
<td>69.87</td>
</tr>
<tr>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Given the time limitation of the observable period in the data set, the proportion of recipients transferring to the Age Pension (or retiring) was determined by the age composition of the new recipients. Larger proportions of males and of those who came from outside the income support system transferred to the Age Pension. This was because a larger proportion of older new recipients was male and came from outside the income support system.

Table 3 presents the distribution of the number of spells of the 1995 entry cohort. Following Barrett (2002), a spell is defined as a sequence of consecutive fortnights of DSP receipt and an exit is defined as two or more consecutive fortnights not in receipt of DSP benefits. For the 1995 entry cohort as a whole, less than 10 per cent of the recipients had more than one spell and only 2.5 per cent had more than two spells. However, note that those who came from outside the income support system had the highest proportion having more than one spell (12 per cent) and those who transferred from unemployment benefits had the lowest proportion having more than one spell (5 per cent).
Table 3 Distribution of the number of spells of the 1995 entry cohort (per cent)

<table>
<thead>
<tr>
<th>No. of spells</th>
<th>Whole cohort</th>
<th>Outside the income support</th>
<th>From unemployment</th>
<th>From other payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>90.56</td>
<td>88.00</td>
<td>94.63</td>
<td>92.05</td>
</tr>
<tr>
<td>2</td>
<td>6.95</td>
<td>9.60</td>
<td>2.68</td>
<td>5.44</td>
</tr>
<tr>
<td>3</td>
<td>1.83</td>
<td>1.87</td>
<td>1.34</td>
<td>2.09</td>
</tr>
<tr>
<td>4–7(a)</td>
<td>0.66</td>
<td>0.53</td>
<td>1.34</td>
<td>0.42</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Note: (a) The highest number of spells for this cohort is seven.

3.2. Duration distribution of the spells of the 1995 entry cohort

Due to data limitations, only a censored duration distribution of the spells for this cohort can be documented. Although the number of spells having a 4.5 years duration can be identified from the data, we censored the duration at four years to divide the spells into five duration groups, as shown in Table 4. However, to avoid the impact of transition to the Age Pension on duration, only those spells that entered DSP at age 55 or younger were included in Table 4.

At least two features stand out from Table 4—(i) consistent with the results in the previous section that most of the recipients in the cohort were still on DSP at the end of the data period, most of the spells in the cohort (66 per cent) had a duration longer than four years; and (ii) the next largest proportion consists of spells with a duration of one year or less. The proportion of spells with 1–2, 2–3, and 3–4 years of duration were much smaller than that of spells with less than one year duration. This implies that the proportion of spells that ended DSP receipt within one year was relatively high and the proportion of spells that left after a one year period was relatively small. This also implies that, for recipients who exited DSP, they tended to leave earlier; if recipients had not left within one year, they tended to stay.

Also, for each duration interval under four years, males consisted of a larger proportion than females; a larger proportion of females than males had a duration of more than four years. This indicates that males have a higher hazard rate than females.

The duration distribution by recipient source shows that the spells of the recipients who transferred from unemployment benefits had the lowest rate of leaving within four years, and that the spells of those recipients who transferred from other income support payments had the highest proportion leaving within a four year duration.
Table 4  Duration distribution of the spells of the 1995 entry cohort, entry age 55 or younger (per cent)

(a). Overall

<table>
<thead>
<tr>
<th>Duration</th>
<th>Whole cohort</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;=1 year</td>
<td>15.49</td>
<td>17.08</td>
<td>13.11</td>
</tr>
<tr>
<td>1&lt;and&lt;=2</td>
<td>6.59</td>
<td>7.99</td>
<td>4.51</td>
</tr>
<tr>
<td>2&lt;and&lt;=3</td>
<td>7.25</td>
<td>7.99</td>
<td>6.15</td>
</tr>
<tr>
<td>3&lt;and&lt;=4</td>
<td>4.94</td>
<td>6.34</td>
<td>2.87</td>
</tr>
<tr>
<td>&gt;4 years</td>
<td>65.73</td>
<td>60.61</td>
<td>73.36</td>
</tr>
<tr>
<td>100.00</td>
<td></td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(b). By recipient source

<table>
<thead>
<tr>
<th>Duration</th>
<th>From outside the income support</th>
<th>From unemployment</th>
<th>From other payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;=1 year</td>
<td>20.93</td>
<td>9.17</td>
<td>10.66</td>
</tr>
<tr>
<td>1&lt;and&lt;=2</td>
<td>8.97</td>
<td>0.92</td>
<td>6.09</td>
</tr>
<tr>
<td>2&lt;and&lt;=3</td>
<td>7.97</td>
<td>5.50</td>
<td>7.11</td>
</tr>
<tr>
<td>3&lt;and&lt;=4</td>
<td>4.98</td>
<td>5.50</td>
<td>4.57</td>
</tr>
<tr>
<td>&gt;4 years</td>
<td>57.14</td>
<td>78.90</td>
<td>71.57</td>
</tr>
<tr>
<td>100.00</td>
<td></td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

4. Estimation of duration of completed spells on DSP

4.1. The estimation method
What is of interest is the expected length of stay on the DSP program by its recipients with a certain characteristic (say entry age or gender) once they enter the DSP program. In principle, this can be estimated by tracing an entry cohort with that characteristic through their entire DSP experience. For example, if we want to know how long a recipient, who enters at age 20, would be expected to stay on the program, we could follow a cohort who started receiving this benefit at the same time (and were 20 years old on entering the program) up to the time when all the recipients in the cohort have left. The average duration of this cohort is the expected length of stay of a recipient who enters at age 20.

If the number of recipients in the cohort at the start is denoted as \( f(0) \) and \( f(x) \) represents the number of individuals remaining on the DSP program after each of \( x \) fortights, where \( 0 \leq x \leq m \) and \( m \) is the maximum number of fortights on DSP, then the average duration of the cohort can be written as:

\[
\bar{T} = \sum_{x=1}^{m} \frac{x(f(x) - f(x))}{f(0)} = \sum_{x=0}^{m} \frac{f(x)}{f(0)} = 1 + \sum_{x=1}^{m} s(x) ,
\]

where \( s(x) = \frac{f(x)}{f(0)} \) is the survival rate just after \( x \) fortights. In the case of a continuous time, equation (2) is written as \( E(T) = \int_{0}^{m} s(x)dx \) (Lancaster 1990).
From equation (2), the key information needed to estimate the average completed duration is the survival rate \( s(x) \). If a cohort could be followed until all recipients exited, these survival rates could be calculated directly from the data. However, given that the longest data period for DSP recipients in the sample LDS data is currently 5.5 years (January 1995 to June 2000), direct derivation of the survival rates for all periods is not possible. Therefore, the problem of estimating completed duration is reduced to estimating survival rates, especially those beyond the observable data period.

The estimation of survival rates is based on the parameter estimates for the hazard function in Cai (2002, Chapter 5). There, the hazard function for individual \( i \) is assumed to take a proportional form,

\[
 h_i(j) = h_0(j) \exp \{ X_i' \beta \},
\]

where \( h_0(j) \) is the baseline hazard rate in the duration interval \([j-1, j]\) and assumed common to all recipients. In the model estimation, a nonparametric piecewise constant baseline hazard function was adopted due to its advantage over a parametric baseline hazard function (Barrett 2002). \( X_i \) is a vector of covariates associated with individual \( i \), including entry age into DSP, gender, country of birth, marital status, homeownership, rental arrangement, number of children, age of the youngest child, whether having earned income when receiving DSP and the amount of earned income, whether having unearned income when receiving DSP and the amount of unearned income, state/territory in which the recipient was living, year of entry into DSP, recipient source, and the state/territory's quarterly unemployment rate. \( \beta \) is the vector of coefficient parameters to be estimated. From the estimation results in Cai (2002), variables that have a statistically significant impact on the hazard rate include entry age, gender, country of birth, amount of earned income, whether having unearned income, and recipient source. The sample used to estimate the hazard function includes those fresh DSP spells that occurred over the period 3 March 1995 to 31 December 1999. For a detailed discussion on the model estimation and the parameter estimate results, see Chapter 5 in Cai (2002).

In a discrete time case, the relationship between the survival function and the hazard function is:

\[
 s(x) = \exp[- \sum_{j \leq x} h(j)] .
\]

Given the parameter estimates \( \beta \) in Chapter 5 of Cai (2002), \( h(j) \) for any group of recipients with characteristics \( X \) can be calculated using equation (3). The survival rate can then be computed using equation (4) and the expected completed duration can be estimated using equation (2).

In this paper, expected durations of completed spells by entry age, gender and recipient source are estimated because, as mentioned earlier, these factors are
statistically significant in determining the hazard rate. Before reporting the estimated results, it is worth noting that the following assumptions underlie the calculations:

(a) The baseline hazard rate for duration periods is longer than the observable ones. In the sample used to estimate the parameters in Cai (2002), the longest duration is 140 fortnights. Basically, this sample consists of new recipients who entered DSP between 3 March 1995 and 31 December 1999. From equation (3) and (4), to estimate the hazard rate and then the survival rate beyond 140 fortnights, the baseline hazard rate for longer duration periods has to be known. Because the baseline hazard function was not parameterised as mentioned earlier, the hazard rates for durations longer than 140 fortnights could not be estimated from the model estimation and had to be assumed. In the following duration estimation, the hazard rates for duration longer than 140 were assumed to be 0.00257, which was the baseline hazard rate estimate for durations between 104 and 140 fortnights. The assumed baseline hazard rate is slightly lower than the average baseline hazard rate between 52 and 103 fortnights (see Figure A1 in Appendix A). This lower assumption might be reasonable because the hazard rates would be expected to be relatively higher for the 52 to 103 duration period as the review of DSP recipients normally takes place between two and five years of benefit recipiency. But it should be borne in mind when interpreting the estimation results of completed duration that the baseline hazard rates for durations longer than 140 fortnights were assumed constant.

(b) The possible maximum period of DSP recipiency. In theory, DSP duration can go to infinity. But because a recipient will normally be transferred to the Age Pension when reaching the age pension age, in practice DSP duration cannot become infinite. Therefore, for a DSP recipient, the maximum period (fortnights) on DSP is equal to the product of 26 (fortnights per year) multiplied by the difference between the age pension age and their entry age. Since the female age pension age is changing, we assume two age pension ages for females—60 and 65. The male age pension age is 65.

4.2. Estimation results of completed duration

Three sets of results are reported in this paper. The first shows the completed duration of ‘typical recipients’ defined as Australian born, single, non-home owner, other rent type, no-child, no-earned income, no-unearned income, living in the Australian Capital Territory or New South Wales, entered into DSP in year 1995 and entered by transition from unemployment benefits. The recipients with these characteristics are referred to as ‘typical’ and a separate estimation is calculated for them because persons with each of these characteristics consist of the largest proportion of the sample used for parameter estimation. For example, in the sample, the proportion of Australian born recipients is 70 per cent; single persons 57 per cent; and so on.
The second set of results show the completed duration by entry age and gender, assuming all other covariates equal to the mean values in each gender and age group cell of the sample used for parameter estimation. These recipients are referred to as ‘mean recipients by entry age and gender’. This estimate shows on average whether there is a gender difference in completed duration on DSP.

The third set of results show the completed duration by entry age, gender and recipient source, again, assuming all other covariates equal to their mean values in each gender, age group and recipient source cell of the sample used for parameter estimation. These are ‘mean recipients by entry age, gender and recipient source’.

For each set of the above estimation the unemployment rate is assumed to be 6.8 per cent, the quarterly average over the period 1995 to 1999.

To simplify the calculations for the last two sets of results, the average entry age of each age group by gender and/or recipient source is used to calculate the maximum period on DSP. The average entry age and the maximum period by gender, and by gender and recipient source can be found in Table 6.A3 of Appendix 6A in Cai (2002).

Of particular interest is the expected completed duration of a cohort that enters the program at the same time (say in the same year). Instead of calculating the completed duration for each recipient in a cohort and then calculating averages by characteristics of interest, ‘mean recipients’ are used to represent the cohort. This greatly simplifies the calculations, but would provide similar results. The values of the variables taken by the ‘mean recipients’ for completed duration calculations can be found in Tables 6.A4 to 6.A7 of Appendix 6A in Cai (2002).

Table 5 presents the first set of results for the typical recipients as defined above. For example, a male with the characteristics described above and who entered DSP at age 16 would be expected to stay on the program for 33 years. For a female entering at the same age, the expected completed duration would be 34 years if the female age pension age was 60, and 37 years if the female age pension age was 65. The expected completed duration decreases with entry age because this is the completed duration before the age pension age.

Table 5 also presents the ratio of the completed duration to the time between DSP entry age and the age pension age for typical recipients. For example, a male typical recipient with the characteristics described earlier, who entered DSP at 16 years of age, would be expected to spend 67 per cent of his time from DSP entry to the age pension age on DSP. Overall, regardless of the age pension age (60 or 65) and DSP entry age, female recipients would spend a larger proportion of their time on DSP than did male recipients. Also, this ratio increases with entry age for recipients who enter after 20 years of age.
Table 5  Completed duration on DSP of typical recipients and the ratio of completed duration to the time between entry age and retirement

<table>
<thead>
<tr>
<th>Entry age</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a)</td>
<td>(b)</td>
<td>(a)</td>
<td>(b)</td>
</tr>
<tr>
<td>16</td>
<td>32.7</td>
<td>34.0</td>
<td>36.9</td>
<td>0.67</td>
</tr>
<tr>
<td>21</td>
<td>20.2</td>
<td>23.5</td>
<td>25.2</td>
<td>0.46</td>
</tr>
<tr>
<td>31</td>
<td>17.3</td>
<td>19.0</td>
<td>21.0</td>
<td>0.51</td>
</tr>
<tr>
<td>41</td>
<td>15.0</td>
<td>14.5</td>
<td>17.2</td>
<td>0.63</td>
</tr>
<tr>
<td>51</td>
<td>11.0</td>
<td>8.0</td>
<td>11.9</td>
<td>0.79</td>
</tr>
<tr>
<td>56</td>
<td>7.9</td>
<td>3.8</td>
<td>8.2</td>
<td>0.87</td>
</tr>
<tr>
<td>60</td>
<td>4.6</td>
<td>4.7</td>
<td></td>
<td>0.92</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>to time before retirement (%)</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a)</td>
<td>(b)</td>
</tr>
<tr>
<td>0.67</td>
<td>0.77</td>
<td>0.75</td>
</tr>
<tr>
<td>0.46</td>
<td>0.60</td>
<td>0.57</td>
</tr>
<tr>
<td>0.51</td>
<td>0.66</td>
<td>0.62</td>
</tr>
<tr>
<td>0.63</td>
<td>0.76</td>
<td>0.72</td>
</tr>
<tr>
<td>0.79</td>
<td>0.89</td>
<td>0.85</td>
</tr>
<tr>
<td>0.87</td>
<td>0.96</td>
<td>0.91</td>
</tr>
<tr>
<td>0.92</td>
<td></td>
<td>0.95</td>
</tr>
</tbody>
</table>

Notes: (a) Female Age Pension age is assumed 60.
(b) Female Age Pension age is assumed 65.

Note that these typical recipients are assumed to come from unemployment benefit recipients. From the model estimation results in Cai (2002), those who transferred from unemployment benefits had the lowest hazard rate. Therefore for recipients coming from outside the income support system and other income support payments, the expected completed duration would be shorter than for those who transferred from unemployment benefits (see Table 8).

Table 6 presents the second set of results for the ‘mean recipients by entry age and gender’. From Table 6, the average completed duration of a cohort is 9–10 years. If the female age pension age were still at 60, on average males and females would have roughly similar completed durations (8.8 and 9.5 years, respectively). If the age pension age for females were 65 (the same as males’), females’ completed duration would be about three years longer than males. This is because, other things being equal, females have a lower hazard rate than males. In addition, the younger the entry age, the bigger the difference of the completed duration between males and females. For the older entry ages, the impact of the age pension age, which provides an institutionalised leaving date, becomes significant. Also note that the impact of the female age pension age on female completed duration is smaller for the younger entry age groups than for the older ones. Again, for the younger age, the impact of the age pension age is negligible.

From the parameter estimation results in Cai (2002), the hazard rate for the age groups 21–30, 31–40 and 41–55 is similar. If there were no Age Pension, we would have expected these three age groups to have a similar completed duration. However, due to the exogenous age pension age, the older the entry age, the closer to the age pension age and the shorter the completed duration on DSP before retirement. Therefore, although the difference in the mean values of other variables among these three age groups may contribute to the difference in the estimated completed duration, the main effect would come from the age pension age.
For comparison, Table 7 presents the interrupted duration estimation as on 2 July 1999 using the FaCS 1 per cent sample LDS data. As noted earlier, these are durations of interrupted spells. The duration of interrupted spells underestimates the duration of completed spells. Also, as mentioned earlier, the conditions under which the interrupted duration equals the completed duration do not hold for DSP recipients. Therefore, as shown in Tables 6 and 7, the completed durations do not equal twice the interrupted duration and the effect of the Age Pension is a further confounding influence.

### Table 6  Completed duration of ‘mean recipients by entry age and gender’

<table>
<thead>
<tr>
<th>Entry age</th>
<th>Male (a)</th>
<th>Female (b)</th>
<th>Total (c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16–20</td>
<td>21.6</td>
<td>26.1</td>
<td>23.5</td>
</tr>
<tr>
<td>21–30</td>
<td>12.3</td>
<td>15.8</td>
<td>13.5</td>
</tr>
<tr>
<td>31–40</td>
<td>11.4</td>
<td>13.3</td>
<td>12.2</td>
</tr>
<tr>
<td>41–50</td>
<td>10.2</td>
<td>9.9</td>
<td>10.0</td>
</tr>
<tr>
<td>51–55</td>
<td>8.4</td>
<td>5.9</td>
<td>7.3</td>
</tr>
<tr>
<td>56+</td>
<td>4.3</td>
<td>2.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Average (d)</td>
<td>8.8</td>
<td>9.5</td>
<td>9.0</td>
</tr>
</tbody>
</table>

Notes:  
(a) Female Age Pension age is assumed 60.  
(b) Female Age Pension age is assumed 65.  
(c) Weighted average of male and female durations.  
(d) Weighted average over age groups.

### Table 7  Duration on DSP of interrupted spells as on 2 July 1999

<table>
<thead>
<tr>
<th>Age groups</th>
<th>Male</th>
<th>Female</th>
<th>All recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td>16–20</td>
<td>12.72</td>
<td>12.69</td>
<td>12.71</td>
</tr>
<tr>
<td>31–40</td>
<td>8.18</td>
<td>7.65</td>
<td>7.99</td>
</tr>
<tr>
<td>41–50</td>
<td>7.47</td>
<td>5.32</td>
<td>6.61</td>
</tr>
<tr>
<td>51–55</td>
<td>5.29</td>
<td>3.94</td>
<td>4.86</td>
</tr>
<tr>
<td>56+</td>
<td>3.22</td>
<td>2.04</td>
<td>2.97</td>
</tr>
<tr>
<td>Average</td>
<td>6.90</td>
<td>6.66</td>
<td>6.82</td>
</tr>
</tbody>
</table>

Cai (2002) showed that the hazard rate is significantly different between recipients from different sources. Those who transferred from unemployment benefits had the lowest hazard rate and those who came from outside the income support system had the highest hazard rate. Those who transferred from other income support payments fell between. Therefore, it is worth comparing the completed duration by recipient sources.
Table 8 presents these estimates. It is clear that recipients who transferred from unemployment benefits had a longer completed duration than those from either outside the income support system or other income support payments. The difference of the completed durations between those who transferred from other income support payments and those who came from outside the income support system seems not to be significant.

### Table 8  Completed duration on DSP of ‘mean recipients by entry age, gender and recipient source’ (years)\(^8\)

<table>
<thead>
<tr>
<th>Age groups</th>
<th>Male (a)</th>
<th>Female (b)</th>
<th>All recipients(^{c}) (a)</th>
<th>All recipients(^{c}) (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16–20</td>
<td>18.9</td>
<td>24.3</td>
<td>25.7</td>
<td>21.1</td>
</tr>
<tr>
<td>21–30</td>
<td>9.4</td>
<td>11.0</td>
<td>11.3</td>
<td>10.0</td>
</tr>
<tr>
<td>31–40</td>
<td>7.5</td>
<td>12.3</td>
<td>13.3</td>
<td>8.9</td>
</tr>
<tr>
<td>41–50</td>
<td>7.9</td>
<td>8.6</td>
<td>10.3</td>
<td>8.1</td>
</tr>
<tr>
<td>51–55</td>
<td>7.4</td>
<td>5.5</td>
<td>8.6</td>
<td>6.6</td>
</tr>
<tr>
<td>56+</td>
<td>3.9</td>
<td>1.8</td>
<td>5.8</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Average(^{d})</strong></td>
<td><strong>6.9</strong></td>
<td><strong>9.1</strong></td>
<td><strong>11.6</strong></td>
<td><strong>7.6</strong></td>
</tr>
</tbody>
</table>

B. Recipients who transferred from unemployment benefits

<table>
<thead>
<tr>
<th>Age groups</th>
<th>Male (a)</th>
<th>Female (b)</th>
<th>All recipients(^{c}) (a)</th>
<th>All recipients(^{c}) (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16–20</td>
<td>27.7</td>
<td>30.7</td>
<td>33.3</td>
<td>28.9</td>
</tr>
<tr>
<td>21–30</td>
<td>15.6</td>
<td>18.0</td>
<td>19.2</td>
<td>16.3</td>
</tr>
<tr>
<td>31–40</td>
<td>13.6</td>
<td>14.9</td>
<td>16.6</td>
<td>14.0</td>
</tr>
<tr>
<td>41–50</td>
<td>11.8</td>
<td>10.8</td>
<td>13.5</td>
<td>11.4</td>
</tr>
<tr>
<td>51–55</td>
<td>9.0</td>
<td>6.1</td>
<td>9.9</td>
<td>8.0</td>
</tr>
<tr>
<td>56+</td>
<td>5.1</td>
<td>2.3</td>
<td>6.7</td>
<td>4.5</td>
</tr>
<tr>
<td><strong>Average(^{d})</strong></td>
<td><strong>10.7</strong></td>
<td><strong>11.1</strong></td>
<td><strong>14.0</strong></td>
<td><strong>10.8</strong></td>
</tr>
</tbody>
</table>

C. Recipients who transferred from other income support payments

<table>
<thead>
<tr>
<th>Age groups</th>
<th>Male (a)</th>
<th>Female (b)</th>
<th>All recipients(^{c}) (a)</th>
<th>All recipients(^{c}) (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16–20</td>
<td>22.6</td>
<td>23.7</td>
<td>25.2</td>
<td>23.1</td>
</tr>
<tr>
<td>21–30</td>
<td>11.4</td>
<td>15.2</td>
<td>16.0</td>
<td>13.0</td>
</tr>
<tr>
<td>31–40</td>
<td>9.9</td>
<td>12.1</td>
<td>13.2</td>
<td>11.3</td>
</tr>
<tr>
<td>41–50</td>
<td>9.3</td>
<td>9.4</td>
<td>11.5</td>
<td>9.4</td>
</tr>
<tr>
<td>51–55</td>
<td>8.2</td>
<td>5.9</td>
<td>9.2</td>
<td>6.8</td>
</tr>
<tr>
<td>56+</td>
<td>4.4</td>
<td>2.2</td>
<td>6.4</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Average(^{d})</strong></td>
<td><strong>8.4</strong></td>
<td><strong>8.1</strong></td>
<td><strong>10.6</strong></td>
<td><strong>8.2</strong></td>
</tr>
</tbody>
</table>

Notes:
(a) Female Age Pension age is assumed 60.
(b) Female Age Pension age is assumed 65.
(c) Weighted average of male and female durations.
(d) Weighted average over age groups.
5. Distribution of benefit-years by entry age

Given the level of benefits, current costs of the DSP program are mainly determined by the existing number of DSP recipients. However, projection of future costs of the program requires estimation of expected completed duration of recipients as noted earlier. Another interesting and policy relevant issue is the comparative costs of individual recipients in the same entry cohort but with different characteristics, such as entry age and gender. To compare these costs, we need to know the completed durations of different recipients.

Use entry age as an example. Because recipients with different entry ages have different expected completed durations, the expected individual contributions to the cost of the program differ. One simple way to assess the contribution to the costs of recipients by different entry ages is to look at the benefit-years of each group rather than estimating the direct cost in terms of money. Benefit-years for any entry age group is simply the product of the number of recipients in that group and their estimated completed duration.

Figure 2 presents the distributions of expected benefit-years and the distribution of recipients by entry age for the whole recipient sample used for parameter estimation in Cai (2002). Here a female retirement age of 60 is assumed in the calculations.

Figure 2 Comparison of distributions of recipients and expected benefit-years of an entry cohort by entry age
The largest proportion of recipients was the 56 years and over age group, but their contribution to the costs of the DSP program was the second lowest because they had the shortest expected completed duration on DSP. In contrast, the 16–20 years old age group represented the smallest proportion of recipients, but their contribution to program costs was the third largest because they had the longest expected completed duration. Except for recipients whose entry age was over 50, for all other entry age groups, their contributions to the costs of the program were greater than their representation in the entry cohort of DSP recipients.

6. Conclusion

By predicting the survival rate beyond the observable period, this paper estimated the duration of completed spells on DSP prior to retirement. However, the duration estimation in this paper is not the total length of stay of DSP recipients. To estimate the total length of stay, we need to know the number of spells for those recipients with multiple spells on DSP. However, this is not possible given the data currently available. Future research will overcome this problem when data covering a much longer period become available.

It was estimated that the average duration of completed spells on DSP was 9–10 years for an entry cohort, which is similar to Hennessey and Dykacz’s (1989) estimate for the United States. The estimated duration varied with gender, entry age and recipient source. Female recipients had a longer completed duration (9.5 years if female retirement age was 60 and 12 years if female retirement age was 65) than their male counterparts (8.8 years).

Recipients who transferred from unemployment benefits had the longest completed duration (10.8–11.8 years depending on female retirement age), while recipients who came from outside the income support system were estimated to have the shortest completed duration (7.6–8.3 years). Recipients who transferred from other income support payments had an average completed duration of 8.2–9.7 years.

The younger the entry age of the new DSP recipients, the longer was the estimated completed duration. In terms of the proportion of time spent on DSP before reaching retirement, for new recipients who entered after 20 years of age, the older the entry age, the larger the time proportion, but for those who entered at an age younger than 20, this proportion was larger than for those who entered between 21 and 30 years of age.

Differences in completed duration for recipients with different characteristics, especially entry age, suggest that a change in the composition of new recipients may change the completed duration of the cohort and therefore have an impact on the number of recipients. For instance, if the proportion of younger recipients increases in new recipients, the number of recipients will increase over time even if the total number of the new recipients remains the same.
Entry age and gender are not the only characteristics that affect completed duration. Other important factors that might well be expected to determine this duration are the diagnosis and the seriousness of a recipient’s disability. However, at present the data are not available to distinguish completed duration differences among different diagnoses. We should also expect that death exit and cancellation exit would follow different processes and are determined by different factors. If adequate termination reason data were available, it should be possible to model death termination and cancellation termination separately. This should allow an estimation of the proportion of recipients in a cohort who would ultimately exit from the program due to death and the proportion due to cancellation and retirement.

Appendix A

**Figure A1** Baseline hazard rate estimates of DSP spells

![Baseline hazard rate estimates of DSP spells](image)


Source: Cai (2002, p. 145)
Endnotes

1 This paper is a revised version of one chapter in my PhD thesis titled ‘The Dynamics of The Disability Support Pension (DSP) Recipients in Australia’ (2002). I thank Professor Bob Gregory, my supervisor, for his valuable comments and suggestions on this paper and the thesis. Scholarships from the Australian Government Department of Family and Community Services for supporting my PhD study at The Australian National University are acknowledged. I would also like to thank the anonymous referees for their useful comments.

2 The hazard rate (or function) is a key concept in this paper. The hazard rate at time $t$, $h(t)$, is the instantaneous rate of leaving per unit time period at $t$.

Formally defined as $h(t) = \lim_{dt \to 0} \frac{P(t \leq T < t + dt | T \geq t)}{dt}$, it can be interpreted as the probability of exit from a state (for example, DSP receipt in the context of this paper) in the short time interval $dt$ after $t$, on the condition that the person has survived on the state to $t$.

3 The discussion on the relationship between $E(T)$, $E(S)$ and $E(S^c)$ followed Salant (1977).

4 The earliest data currently available in the 1 per cent sample LDS data was on 6 January 1995. The analysis in Section 3 used spells that began from 3 March 1995 (inclusive) rather than 6 January 1995 for two reasons: The first is to identify and exclude the left censored spells; the second is to identify the sources of new recipients (that is, transition from unemployment benefits, transition from other income support payments, or from outside the income support system).

5 Table 2 reports the destinations of the recipients (not spells) in the cohort over the observable period. If a recipient experienced multiple spells over the observable period, this person’s destination was determined by the last spell observable in the sample data set. On the other hand, in Table 3, we are looking at the spells (not the recipients) in the cohort.

6 From the data, among the 1995 entry cohort, no person aged 55 or younger transferred to the Age Pension over the observable period between 3 March 1995 and 16 June 2000.

7 Due to the nonlinear nature of the hazard function and the procedures involved in calculating the expected completed duration, it is very difficult to calculate the variance of the duration estimate. Therefore, in this paper only the estimates of completed duration are calculated and reported.

8 There is a concern that the estimation results for the recipients who were from unemployment benefits and had an entry age of 16–20 might be artifacts due to the functional form used to estimate the hazard function. This is because the number of recipients in this group is very small in the sample and the coefficient estimates for the hazard function might be driven by the old recipients. Ideally,
the hazard function should be estimated for each age group. However, because in the sample the number of recipients in the 16–20 age group is very small, a separate estimation for this group using the same set of variables as described in the paper is impossible. Future research should overcome this problem when more data become available.

9 The benefit-years are calculated on the assumption that each recipient in the cohort only has one DSP spell. Due to the existence of multiple spells for some DSP recipients, this is an underestimation. As noted in the paper, estimation of total length of stay on DSP is impossible given the data currently available. How the distributions of benefit-years are different between using duration of one spell and total length of stay is not clear because the benefit-years for all entry age groups could be underestimated using the one observed spell. While the recipients with young entry age in the cohort might be more likely to experience multiple spells in the future, the recipients with old age in the cohort might have had some spells before (although they were less likely to have multiple spells in the future). However, the difference might not be a big issue because the number of DSP recipients having multiple spells is relatively small. Furthermore, if the focus is on comparing expected costs of an entry cohort of DSP recipients by different characteristics as done in this paper, the one-spell assumption might be very valid, because expected duration is most likely to be estimated with one spell.

References


Inflows, outflows and the growth of the Disability Support Pension (DSP) program

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1. Introduction

The Disability Support Pension (DSP) program has grown rapidly over the past three decades both in terms of the number of DSP recipients and the proportion of the population receiving DSP. While both inflows and outflows affect the growth of the DSP program, this paper demonstrates that the increase in the inflow rate might be more important than the decrease in the outflow rate. Although there were many factors that might have contributed to the increase in DSP inflows and the inflow rate, it appears that changes in policies, which altered the eligibility criteria for DSP, and worsening labor market conditions might have played the most important roles, while the impact of population ageing was negligible.

The DSP is the payment for people of working age with an illness or injury for a prolonged period of time that prevents them from undertaking full-time employment. Prior to 1991, this payment was known as the Invalid Pension\textsuperscript{1}. In this paper both the Invalid Pension and the DSP are referred to as DSP.

Over the past three decades, the DSP program has grown rapidly. The number of DSP recipients increased from 134,000 in 1971 to 602,000 in 2000, with an average annual growth rate of 5.32 per cent. This growth is much faster than that of the DSP age eligible population\textsuperscript{2}, which has increased from 7.8 million in 1971 to 12.2 million in 2000, with an average annual growth rate of 1.55 per cent. As a result, the proportion of population receiving DSP, referred to as DSP incidence rate, has increased (see Figure 1). In 1971, the DSP incidence rate was 1.73 per cent, but it increased to 4.93 per cent in 2000.

Understanding the rapid growth of the DSP program has important policy implications. The commonly suggested reasons for the DSP growth during 1990s are policy changes, which led to reduced access to other income support payments, demographic changes including population ageing, and increased incidence of disability in the population and the economic recession in the early 1990s (FaCS 1999; McClure 2000; Disability Task Force 1995). But not much research has been done to estimate the impact of these factors.
One exception is research by the Australian Council of Social Service (ACOSS) (2002). To estimate the impact of policy changes that reduced the access to other payments between 1990 and 1999, ACOSS estimated a counterfactual trend of DSP recipients by making assumptions on the growth of the recipients of other payments in the absence of the policy changes and on how the changes in the recipients of other payments impact on the changes in DSP recipients. To estimate the impact of the increased incidence of disability in the population, ACOSS further estimated a counterfactual trend of DSP recipients by assuming there were not a growth in the population with disability and changes in other payments. ACOSS research attributed 20 per cent of the increase in DSP recipients over the period 1990–99 to the reduced access to other payments; 40 per cent to the growth of the population with disability; and suggested that another 40 per cent could be due to the recession in the early 1990s and changes in state government policies regarding workers and accident compensation payments. ACOSS did not provide a justification for its assumptions to estimate the impact of the policy changes in other payments. These assumptions may be very strong. Furthermore, ACOSS did not take into account the impact of the change in the outflow rate of DSP recipients on the program growth.

Most of the literature of explaining the growth of the disability benefit program comes from the United States (US), where the studies date back to 1974 and 1975 (Lando 1974; Hambor 1975). Recent studies include Stapleton, Coleman and Dietrich (1995), Stapleton and Dietrich (1995), Rupp and Stapleton (1995), and
Stapleton, Coleman, Dietrich and Livermore (1998). These studies used aggregate time series or cross-state and time series data to model the applications and grants of disability benefits. Among the explanatory variables, the unemployment rate and the replacement rate of disability benefits were found to have a significant impact. Bound and Burkhauser (1999) provided a good summary of these studies.

The current paper tries to examine the growth of the DSP program over the period 1971–99, which is longer than that considered by ACOSS (2002). Most importantly, we try to explain the growth in the context of an analysis of inflows and outflows of DSP recipients. The changes in the number of DSP recipients are directly determined by inflows and outflows. The impact of any explanatory factor on the number of DSP recipients is indirect in the sense that it must operate through changing inflows or outflows. Ignoring this relationship by directly estimating the impact of an explanatory factor on the number of recipients would lead to misleading results (Klerman & Haider 2001). Using the inflow-outflow framework, we find that over the past three decades the increase in the inflow rate has contributed more to the program growth than the decrease in the outflow rate. When the factors that determine the inflow rate are examined, it is found that changes in DSP policies, which altered the eligibility criteria for DSP, and worsening labour market conditions may have played the most important roles, while the impact of population ageing is negligible.

2. Inflows, outflows and the DSP growth

The number of DSP recipients can be viewed as a pool with an inflow and an outflow. The change in the number of DSP recipients in year \( t \), \( \Delta D_t \), equals inflows in year \( t \), \( I_t \), minus outflows in year \( t \), \( O_t \), i.e.,

\[
\Delta D_t = I_t - O_t.
\]

An increase in the number of DSP recipients can occur whenever inflows exceed outflows.

This section looks at inflows and outflows of DSP recipients and assesses their impacts on the program growth. We first present the inflow and outflow over the past three decades and then assess their respective impact on the program growth.

2.1. Inflows and outflows of DSP recipients

Figure 2 plots inflows and outflows of DSP recipients over the financial years 1966–67 to 1998–99. Over this period, except for very few years (1968–69, 1980–81 and 1981–82) inflows were greater than outflows and, therefore, the number of DSP recipients was increasing. Another interesting pattern is that the
large variation in inflows in the early 1980s, 1987–88 and early 1990s, were accompanied by DSP policy changes, which will be discussed later, as well as significant increases in unemployment in the first and last periods.

From Figure 2, it is apparent that the variation of outflows was not as large as the variation of inflows. Outflows are determined by past inflows and their continuation rates. The effect of the long duration on DSP acts as an application of a weighted average of past inflows to produce current outflows and, as a result, the outflows will be smoother than the inflows unless there are substantial shocks that influence all continuation rates in a similar fashion.

**Figure 2  Inflows and outflows of DSP recipients, 1966–67 to 1998–99**

Source: The numbers of inflows before 1996 are taken from DSS publications, the numbers between 1996 and 1999 are estimated by the authors from the Longitudinal Data Set (LDS) at the FaCS. The numbers of outflows were derived from the inflows and the number of recipients, using the identity—the number of DSP recipients this year = the number of recipients last year + inflows this year – outflows this year.

It is the difference between inflows and outflows (or net inflows) that leads to the change in the number of DSP recipients. From the financial year 1991–92 the net inflows have become much larger than before and, as a result, the following decade saw the largest increase in the number of DSP recipients. Between 1966–67 and 1979–80 the average net inflows were 8800 persons per year; between 1980–81 and 1990–91 the average net inflows increased to 10 200 persons per year; between 1991–92 and 1998–99 the average net inflows became more than 30 400 persons per year. Since net inflows add directly to the number of DSP recipients, the greater difference between inflows and outflows in the 1990s led to a substantially higher growth in the number of DSP recipients.
Regardless of the variations, both inflows and outflows showed a trend of increase. The increase in inflows is itself not a policy issue because the growth of population means more people are at risk of entering DSP even if the entry probability of the population remains the same. What is more policy relevant is whether the entry probability has increased over time. We do not have an entry probability of individuals, but the DSP inflow rate can be used to assess the entry probability for the population. The inflow rate in year $t$, $R_I^t$, is defined as the ratio of DSP inflows in year $t$, $I_t$, to the age eligible population, $P_t$, i.e., $R_I^t = \frac{I_t}{P_t}$.

Similarly, the increase in outflows could be caused by the increasing DSP recipients without a change in the probability of leaving DSP. Again, changes in the probability of leaving DSP are more policy relevant than the change in outflows. The probability of leaving DSP can be measured by the DSP outflow rate. The outflow rate in year $t$, $R_o^t$, is defined as the ratio of outflows in year $t$, $O_t$, to the number of DSP recipients at risk of leaving DSP, $D_t$, that is, $R_o^t = \frac{O_t}{D_t}$.

Figure 3 presents the inflow and outflow rates of DSP recipients. Presentation of the data as the inflow and outflow rates yields a slightly different picture of past history. DSP policy changes in 1980 and 1991 were associated with large changes in the inflow rate. In 1980 the eligibility criterion for DSP was tightened by administrative changes, although there was a no legislative change to the criteria (Cass, Gibson & Tito 1988). A commensurate fall in the inflow rate was clearly evident following the 1980 policy change, but within a few years the inflow rate had returned to its previous level. Specifically, there was a substantial increase in the inflow rate between 1983 and 1984. As will be discussed shortly, this increase might be due to two reasons—the reversal of the 1980 policy change and the worsening labour market conditions.

In 1987 the eligibility criterion was tightened again by introducing the new requirement that 50 per cent of the incapacity be caused by physical or mental impairment. There was a slight decline in the inflow rate, but it is not clear why the impact of the 1987 policy change was not as substantial as that in 1980. There was considerable debate on changing the eligibility criteria to contain the rapid growth of the DSP program before the actual introduction of the new criterion in 1987. Perhaps the eligibility criteria might have been tightened in practice before 1987 (as shown in Figure 3 the inflow rate started to fall from 1985). In addition, the unemployment rate had been falling over this period and this might have contributed to the decrease in the inflow rate and masked the effect of the 1987 policy change.
Another large policy change in DSP occurred in 1991 when the Disability Reform Package (DRP) was introduced, with significant changes in the eligibility criteria. Contrary to the intention of this policy change (see Section 3 for more details), the inflow rate increased following the introduction of DRP. Between 1970–71 and 1979–80 the average inflow rate was 0.42 per cent. Between 1980–81 and 1990–91 the inflow rate fluctuated substantially and the average inflow rate was 0.41 per cent. Between 1991–92 and 1998–99 the average inflow rate was 0.66 per cent. Since the introduction of the DRP, the average inflow rate has been 0.16 percentage point higher than the highest one before its introduction.

Presentation of the data in terms of the inflow rate also makes clear that there was no clear upward trend in the inflow rate before 1990 and that the main change appears to be an increase in the inflow rate to a new plateau in the 1990s.

Unlike the number of outflows, the outflow rate showed a trend of decrease over the past three decades. This implies the average duration on DSP has been slowly increasing. Furthermore, although the inflow rate change was large in response to DSP policy changes, the outflow rate was relatively unresponsive. This reflects the fact that the average duration is long and policy changes impacted directly on inflows rather than on the outflow rate. It is also noticeable that the outflow rate during 1990s continued to fall at much the same rate as in the previous two decades and that there was not sudden changes in behaviour like that observed in the inflow rate.

A decrease in the outflow rate would increase the duration on the program and thus contribute to the increase in the number of recipients. Both the increase in the inflow rate and the decrease in the outflow rate, therefore, could have contributed to the past growth of the DSP program. The next subsection accesses their respective impact.
2.2. The role of the inflow and outflow rate changes in DSP growth

From the definitions of the inflow and outflow rates above, inflows in year $t$ can be expressed as $I_t = R^I_t \times P_t$ and outflows as $O_t = R^O_t \times D_t$. Then the change in the number of DSP recipients over year $t$,

$$\Delta D_t = D_{t+1} - D_t = I_t - O_t$$

$$= R^I_t \times P_t - R^O_t \times D_t$$

$$= (R^I_{t-1} + \Delta R^I_t) \times (P_{t-1} + \Delta P_{t-1}) - (R^O_{t-1} + \Delta R^O_t) \times (D_{t-1} + \Delta D_{t-1}), \quad (2)$$

where $\Delta R^I_t$ is the change of the inflow rate from year $t-1$ to year $t$, $\Delta P_{t-1}$ the change in population over year $t-1$, and $\Delta R^O_t$ the change in the outflow rate. Reorganise equation (2),

$$\Delta D_t = (R^I_{t-1} \times P_{t-1} - R^O_{t-1} \times D_{t-1} - R^O_{t-1} \times \Delta D_{t-1})$$

$$+ R^I_{t-1} \times \Delta P_{t-1} + \Delta R^I_t \times P_{t-1} - \Delta R^O_t \times D_{t-1} + (\Delta R^I_t \times \Delta P_{t-1} - \Delta R^O_t \times \Delta D_{t-1}). \quad (3)$$

Equation (3) decomposes the change in the number of DSP recipients over a year into five parts. The first term in the right hand side of equation (3),

$$(R^I_{t-1} \times P_{t-1} - R^O_{t-1} \times D_{t-1} - R^O_{t-1} \times \Delta D_{t-1}),$$

shows that, even if the inflow rate, the outflow rate and the population were all fixed, there might still be a difference between inflows and outflows, which would lead to a change in the number of DSP recipients.

The second term in equation (3), $R^I_{t-1} \times \Delta P_{t-1}$, is the contribution of the change in population alone. The third and fourth terms, $\Delta R^I_t \times P_{t-1}$ and $\Delta R^O_t \times D_{t-1}$, measure contributions from changes in the inflow and outflow rates, respectively. The fifth term $(\Delta R^I_t \times \Delta P_{t-1} - \Delta R^O_t \times \Delta D_{t-1})$ measures the interactions between the changes in the inflow rate and the population and the changes in the outflow rate and the number of DSP recipients.

This decomposition can be utilised to analyse the changes of the number of DSP recipients between two consecutive years, but is not completely applicable to a multi-year period dynamic because, for a multi-year period, the number of DSP recipients is endogenous in the years between. Consequently, while the sum of the decomposed changes will equal the actual change for a two-consecutive-year period, this is not true for a multi-year period. But the ideas behind equation (3) can be extended to a multi-year period analysis to roughly assess the impacts of factors of interest, such as population growth and changes in the inflow and outflow rates, on the change in the number of DSP recipients.
Following the above framework, four counterfactual numbers of DSP recipients can be calculated by (i) fixing the inflow and outflow rates and population; (ii) fixing the inflow and outflow rates, but allowing the population to change; (iii) fixing the inflow rate only and allowing the outflow rate and the population to take their actual values each year; and (iv) fixing the outflow rate only.

As noted earlier, even if the inflow and outflow rates and population were kept constant, the number of DSP recipients might still change due to the initial imbalance between the inflow and outflow rates. Thus the change in the number of DSP recipients from (i) would be due to the initial imbalance of inflows and outflows. The difference of the change in the hypothetical numbers of DSP recipients between (ii) and (i) could be attributed to the impact of the change in the age eligible population. The difference of the change between (iii) and (ii) could be attributed to the impact of the change in the outflow rate. The difference of the change between (iv) and (ii) could be attributed to impact of the change in the inflow rate. Table 1 presents the results for each of the past three decades and the three decades as a whole.

The number of DSP recipients increased in each decade, leading to a total increase of 443,400 recipients over the period 1971–99. Most of the increase occurred in the 1990s (55 per cent). The increase in the other two decades was relatively small, each accounting for 22 per cent.

Table 1  Impacts of changes in the inflow and outflow rates and population on the change in the number of DSP recipients

<table>
<thead>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Initial imbalance (a)</td>
<td>1.10</td>
<td>-32.85</td>
<td>83.74</td>
<td>1.26</td>
</tr>
<tr>
<td>Population change</td>
<td>17.20</td>
<td>14.96</td>
<td>18.10</td>
<td>69.50</td>
</tr>
<tr>
<td>Inflow rate change</td>
<td>33.03</td>
<td>80.80</td>
<td>113.23</td>
<td>160.88</td>
</tr>
<tr>
<td>Outflow rate change</td>
<td>40.52</td>
<td>25.36</td>
<td>25.07</td>
<td>146.44</td>
</tr>
<tr>
<td>Actual increase</td>
<td>95.17</td>
<td>94.77</td>
<td>243.23</td>
<td>443.40</td>
</tr>
</tbody>
</table>

Notes: (a) This impact is due to the fact that even if the inflow and outflow rates and population were fixed, the number of recipients could still change (see equation (3)).
(b) For periods 1971–1980 and 1971–1999, the inflow rate and/or the outflow rate was fixed at the 1970–71 level.
(c) For period 1981–1990, the inflow rate and/or the outflow rate was fixed at the 1980–81 level.
(d) For period 1991–1999, the inflow rate and/or the outflow rate was fixed at the 1990–91 level.

The first row in Table 1 shows that the impact of the initial imbalance varied substantially across the three decades and was consistent with the results in Figure 2. From Figure 2, in the financial year 1970–71 the difference between inflows and outflows was trivial and this resulted in a negligible impact of the initial imbalance on the change in the number of DSP recipients during the first decade and the three decades as a whole. In 1980–81, inflows were smaller than
outflows and, therefore, during the second decade the impact of the initial imbalance was negative. In 1990–91, the difference between inflows and outflows was relatively large and net inflows were positive. This was translated into a substantial positive impact of the initial imbalance on the change in the number of DSP recipients in the 1990s. For this reason, the impact estimation may be sensitive to the choice of years for fixing the inflow and outflow rates. Different choices of starting and ending years were tested and they did not affect the relative importance between the inflow and outflow rate.

The growth of the DSP age eligible population was steady and this produced a stable and relatively small impact over the three decades. For the whole period 1971–1999, an increase of 69 500 recipients could be attributed to the population growth, which was 16 per cent of the actual increase in the number of DSP recipients over the period.

The impact of changes in the inflow rate was positive and had increased substantially over the past three decades. The impact in the second decade more than doubled that in the first decade and the impact in the third decade was 1.4 times that in the second decade. Over the whole period 1971–99, an increase of 161 000 recipients could be attributed to the change in the inflow rate, which was 36 per cent of the actual increase in the number of DSP recipients over the period.

The impact of changes in the outflow rate was steady during the 1980s and 1990s. But in the 1970s, the impact of the change in the outflow rate was relatively large. From Figure 3, the fall of the outflow rate in the 1970s was substantial, while the fall was small during the later two decades. For the whole period 1971–99, an increase of 146 400 recipients could be attributed to the change in the outflow rate, which was 33 per cent of the actual increase in the number of DSP recipients over the period.

During two of the past three decades and the three decades as a whole, the impact of the change in the inflow rate exceeded that of the outflow rate. During the period 1981–90, the impact of the change in the inflow rate was more than three times that of the outflow rate change. During the period 1991–99, the impact of the inflow rate change was 4.5 times that of the outflow rate change. Only during the first decade did the impact of the change in the outflow rate exceed that of the inflow rate.

It is interesting that the variation of the inflow rate from decade to decade was larger than the variation of the outflow rate and that the impact of the inflow rate change was more important than the outflow rate change. It seems common across nations that changes in disability benefit policy are more targeted at inflows than at outflows. If the concern of the government were that there were too many DSP recipients, it would seem that the most effective way to deal with this would be to cut off the recipients directly (that is, by raising outflows). This measure was probably not taken because, once a person were granted the benefit, it would be very hard to move them off the program unless the person would like to go. Once granted the benefit, people are unlikely to be willing to leave, perhaps
partially because of their effort to establish their eligibility, partially because of the depreciation of their human capital while on the DSP program and the extra work related costs associated disability, and partially as a result of the level of their disability.

There also may be political reasons why governments often target inflows rather than outflows. Current DSP recipients are recognised as a disadvantaged group of people by the community, while potential new applicants are not directly recognisable. So, tightening eligibility criteria for potential applicants may be more acceptable to the public than moving current recipients off the program by changing the eligibility criteria.

For these reasons, changes in the number of DSP recipients and variations in the level of inflows show a close association over the past three decades as shown in Figure 4. Because of this observation and the earlier finding that the change in the inflow rate contributed more to the program growth, in the next section the focus is on examining the reasons for the change in the inflow rate.

**Figure 4  DSP inflows and changes in the number of DSP recipients, 1970–71 to 1998–99**

3. **Factors that might have caused the change in the inflow rate**

It has been suggested that economic and non-economic factors affect inflows of the DSP program through the demand and supply sides of the disability benefits (Rupp & Stapleton 1995). Economic factors may include the financial attractiveness of the value of disability benefits, usually represented by the replacement rate defined as the ratio of the value of the benefit to potential earnings or wages. Labour market conditions (reflecting the business cycle as well
as changes in economic structure) and the availability and values of other benefits are also likely to be important. Changes in population structure and changes in eligibility criteria may be referred to as the main non-economic factors.

This section explores the above possible factors that might lead to the changes in the inflow rate over the past three decades. Here, graphical illustrations are mainly used to examine the association between the changes in the possible factors and the change in the inflow rate. As such, the results from this descriptive approach are only suggestive. To estimate the impact of each of the factors within a general framework requires an econometric methodology, which is not the focus of this paper.

3.1. **Financial attractiveness of DSP benefits**

A higher rate of benefits reduces the opportunity cost of participating in the program and raises an individual’s incentive to apply for the benefit. Studies conducted in other countries, especially in the US, provide supportive empirical evidence in this regard. Table 2, reproduced from Bound and Burkhauser (1999), presents the estimated elasticity of disability benefit applications and awards with respect to benefit levels from different studies in the US. The elasticity ranges from 0.2 to 1.3, depending on studies, with most studies estimating the elasticity to be less than 0.6.

<table>
<thead>
<tr>
<th>Applications</th>
<th>Aggregate time series data</th>
<th>Cross-sectional micro data</th>
<th>Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US quarterly</td>
<td>SDNA(^{(a)})</td>
<td>County data</td>
</tr>
<tr>
<td>Halpern (1979)</td>
<td>0.4</td>
<td>0.2</td>
<td>0.3–0.4</td>
</tr>
<tr>
<td>Lando et al (1979)</td>
<td>0.4–0.6</td>
<td></td>
<td>KY, OH, PA, WV counties,</td>
</tr>
<tr>
<td>Bound (1987)</td>
<td></td>
<td>SDW(^{(b)})</td>
<td>1970–1993 (^{(c)})</td>
</tr>
<tr>
<td>Halpern and Hausman (1986)</td>
<td>1.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kreider (1986)</td>
<td>0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leonard (1979)</td>
<td></td>
<td>SDNA(^{(a)})</td>
<td>Men, aged 45–54, 1972</td>
</tr>
</tbody>
</table>

Notes: (a) 1972 Social Security Survey of Disabled and Non-disabled Adults.
(b) 1978 Social Security Survey of Disability and Work.
(c) KY: Kentucky; OH: Ohio; PA: Pennsylvania; WV: West Virginia.

The determination of the rate of DSP benefits is quite different in Australia from other industrialised countries in that the DSP benefit is a universal flat rate and not related to individual previous employment or earning history. In addition, as shown in Figure 5, the ratio of the maximum single pension rate to the average total weekly earnings did not change much over the period 1971–1999. In fact, the ratio appeared to decrease marginally from 1992 when the inflow rate sharply increased.

Figure 5  Ratio of the maximum single pension rate to the average total weekly earnings, 1971–1999

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1973</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>1975</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>1977</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>1979</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>1981</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>1983</td>
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<td>40</td>
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<td>1985</td>
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<td>1989</td>
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<td>1997</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>1999</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>

Sources: (1) The pension rate in June each year is taken from DSS (or FaCS) annual reports.
(2) Male total average weekly earnings (MTAWE) is taken from Average Weekly Earnings, Australia, ABS cat. no. 6302.0. Up to 1981 June quarter data are used for each year and after 1981 the May quarter data are used. Up to 1983 female earnings was derived from the male rate using average weekly earnings (AWE) figures at December each year (from Vamplew 1987, p. 157). From 1983 female AWE were taken from ABS cat. no. 6302.0.

Therefore, even if the effect of the benefit level was correctly estimated by the above studies, it is still doubtful whether we can expect the change in the value of the benefit to explain very much of the increase in the number of the DSP recipients in Australia. From 1971–99, the ratio of the single pension rate to the total average weekly earnings of males increased by 30 per cent (this ratio increased less for females). Even if we took the largest elasticity estimate of 1.3, we would only have expected the number of DSP inflows to increase by 40 per cent from 1971–1999, an increase of 11,000 recipients; but the inflows actually increased by 213 per cent, an increase of 58,300. Also note that the increase of the relative benefit mainly occurred before 1975, but the sharp increase of DSP inflows mainly took place during the early 1980s and the early 1990s.
3.2. Labour market conditions

It is often argued that an economic recession may lead to an increase in DSP inflows. The main reason is that during economic downturns the probability of application for DSP benefits increases. On the one hand the probability of becoming unemployed may be higher for workers with disabilities than for a workers without disabilities; on the other hand, it may be more difficult for people with disabilities to find jobs. Both imply a lower opportunity cost of participation in the disability benefit program and a higher probability of applying for the benefits (Autor & Duggan 2003).

Studies conducted in the US found marked effects of an adverse labour market shock on the number of applications and grants of disability benefits (Lando, Coate & Kraus 1979; Rupp & Stapleton 1995). Disney and Webb (1991) and Piachaud (1986) also found significant effects of the unemployment rate on the increase in the incidence rate of disability benefit recipients in Britain.

As for Australia, Figure 6 plots the inflow rate and the unemployment rate over the period 1971–99. There was a close association between these two series. But whether there is a causal relationship is not clear by only looking at the figure because the close association between the two series in the 1970s and 1980s was accompanied by changes in DSP policies. Cai (2002) showed that, after controlling for the policy changes, the unemployment rate still had a significant positive impact on the inflow rate. But there is still one puzzle from Figure 6. That is the ease in labor market conditions (as indicated by the fall in the unemployment rate from 1994) did not lead to a decrease in the inflow rate of DSP recipients. This may be because population ageing started to have an impact as shown later in Figure 10, or there are other factors that need further investigation.

Figure 6  DSP inflow rate and the unemployment rate, 1971–1999
### 3.3. Change in population structure

An increase in the DSP eligible population increases DSP inflows because the number of persons with disability is expected to increase. Changes in population structure may change the inflow rate even if the population remains constant because the incidence rate of disability increases with age, as shown in Figure 7, and the inflow rate for the older age population is higher, as shown in Figure 8.

It is often argued that population ageing contributed to the growth in the DSP program in Australia. However, while both the number of DSP recipients and the DSP incidence rate have been increasing from 1971 (except for the early 1980s), the proportion of the male population aged 50–64 and the female population aged 50–59 to the DSP age eligible population decreased for about 10 years prior to 1991 as shown in Figure 9.

**Figure 7  Population disability rate by age and gender, 1998**

Source: Disability, Ageing and Carers Survey (1998), ABS cat. no. 4430.0.
Figure 8  The DSP inflow rate by age and gender, 1998–1999

![Figure 8](image)

**Source:** DSP inflows by age were estimated by the author from the FaCS LDS data.

Figure 9  Ratio of population aged 50–64(59)\(^{(a)}\) to the DSP age eligible population

![Figure 9](image)

**Note:** (a) 50–64(59) refers to population aged 50–64 for males and 50–59 for females.
Therefore, if anything, the change in population structure should have pulled down the inflow rate of DSP recipients during the 1980s. Jackson (1999) showed that until 1997, population ageing had a negative effect on the number of male DSP recipients.

One way to assess the effect of changes in population structure on the inflow rate is to keep the age specific inflow rate fixed and allow the population structure to change to see what happens to the overall inflow rate. Figure 10 presents this exercise result using 1995–96 age specific inflow rates, which were derived by the authors from FaCS LDS data.

**Figure 10  Projected DSP inflow rate using 1995–96 age specific inflow rate**

The projected inflow rate is very smooth with little change. By 1991 the projected inflow rate had decreased, implying population structure changes up to 1991 had a negative impact on the overall inflow rate. Only from 1992 did the population ageing start to have a positive impact on the overall inflow rate. But, this impact is very small compared with the increase of the actual inflow rate. Over the period 1991–99, the projected inflow rate increased by 0.037 percentage point, while the actual inflow rate increased by 0.21 percentage point, and from 1991 to 1992 alone it increased by 0.17 percentage point. Therefore, the impact of change in population structure on the inflow rate for the past three decades might not be important.

The actual inflow rate is also plotted in Figure 10 for comparison. What is impressive in the comparison is the large difference between the projected inflow rate and the actual inflow rate before 1991. Although data are not available for direct derivation of the age specific inflow rate for the years before 1991, the
comparison suggests that the age specific inflow rate before 1991 must have been much smaller than that in 1996. This comparison also confirms the observation in Section 2 that it was the change in the inflow rate which led to the dramatic increase in the number of DSP recipients.

3.4. Changes in eligibility criteria for DSP
As noted earlier, over the past three decades there were three important occasions when changes in DSP eligibility criteria took place:

- 1980—Tightening the eligibility rules. In response to concerns over the liberalised interpretation of the criteria of 85 per cent permanent incapacity, which was believed to have at least partly caused the rapid increase in the number of DSP recipients before 1980, the administrative authority tightened the eligibility rules by putting greater emphasis on medical factors. The legislative eligibility criteria did not change at this time, but the interpretation of the criteria and the focus of the assessment process were changed. Inflows and the inflow rate experienced a dramatic decrease in response to this change. But this new policy did not last long. There was considerable criticism of the change and with the change of government in 1983, socio-economic factors were again allowed to play a considerable role in the assessment process (Cass, Gibson & Tito 1988). Consequently, the inflow rate rebounded to the previous level by 1984–85.

- 1987—Introduction of the proportion of incapacity caused by impairment. This change was to ensure that payment of disability benefit was based on impairment as the cause of incapacity rather than the effect of one or more socio-economic factors. In addition to the criterion of at least 85 per cent of the permanent incapacity for work, the requirement was added that 50 per cent of that incapacity be caused directly by a physical or mental impairment. As discussed earlier, the effect of this policy change was relatively small.

- 1991—Introduction of the Disability Reform Package (DRP) in November. With the introduction of the DRP the eligibility criteria were changed to: (i) introducing a minimum impairment threshold of 20 per cent; (ii) replacing the concept of 85 per cent permanently incapacitated for work by an inability to work for at least 30 hours a week at full award wages for at least the next two years, due to a physical, intellectual or psychiatric impairment (DSS 1992).

The 1991 DSP policy changes might be quite complicated in terms of their effect on DSP inflows. One objective of the DRP was to 'reduce long-term total dependence on income support' (DSS 1992). This can probably be interpreted as tightening the eligibility criteria for DSP. However, compared with 50 per cent of impairment introduced in 1987, the adoption of the minimum impairment requirement of 20 per cent in 1991 might be regarded as a relaxation of the eligibility criteria. As for the replacement of the 85 per cent of permanent incapacity for work by an inability to work for at least 30 hours a week, it is hard to make a judgment.
because there was no requirement like this before. But this can be compared with a similar requirement in the US disability benefit program. In the US, if a disabled person can engage in work that earns a substantial gainful activity (SGA) amount, the person automatically loses the Social Security Disability Insurance benefits. In 1997, the SGA amount was US$500 per month (Hu, Lahiri, Vaughan & Wixon 1997). If a person earns the minimum wage, US$5.15 per hour, the SGA amount is equivalent to about 24 hours of work per week. Thus the 30 hours per week requirement may be generous.

It is evident that large inflows and the inflow rate responses were associated with the DSP policy changes, especially for the 1980 and 1991 policy changes. However, while the DSP policy changes in 1980 and 1987 helped reduce inflows and the inflow rate, the changes in 1991 were associated with a sharp increase.

3.5. Changes in policies of other payments
Other income support payments and assistance can be classified as either ‘substitutes’ or ‘complements’ for DSP. Substitute payments are those for which an expansion in the value of benefits reduces applications and grants for DSP, while benefit expansions for complementary payments increase applications and grants for DSP (Rupp & Stapleton 1995). Pension concession cards, Rent Assistance, and family payments are examples of complementary benefits. All the other social security benefits might be substitutes in the sense that DSP recipients are not eligible for them while receiving DSP. Since the changes in complementary benefits are negligible, only the substitute payments are summarised below9.

Changes in other payments that could have lead to an increase in DSP inflows include:

- phasing out of Widow B Pension from 1987
- imposing a time limit of 12 months to sickness benefits from 1991
- abolishing Sheltered Employment Allowance and phasing out of Rehabilitation Allowance in 1991
- increasing the female eligible age for the Age Pension from 1995.

Change in other payments that could lead to the decrease in DSP inflows is:

- introducing Mature Age Allowance in 1994, which is payable to unemployed men over 60 years old who have received income support for 12 months or more.

It should be noted that there was no notable change in other payments during 1970s and most of the 1980s, which would have impacted on DSP inflows and the growth of DSP recipients. The changes in other payments discussed above mostly took place in the 1990s.
Another payment that was often suggested as impacting on DSP inflows in a longer timeframe than those listed above is the Service Pension. The eligible age for the Service Pension is five years earlier than that for the Age Pension. During 1970s and most of the 1980s, the number of Service Pension recipients had been increasing because many World War Two servicemen entered their Service Pension age and became eligible for pension. This might have contributed to containing DSP inflows over that period. During the 1990s, however, the number of Service Pension recipients fell dramatically. This fall could have led to the increase in DSP inflows.

In summary, the above illustrations suggest that, while other factors, such as the changes in other payments, might have had some marginal impact on the increase in the DSP inflow rate, the most important factors seem to be the changes in DSP policies, which altered the eligibility criteria for DSP, and labor market conditions. This is confirmed by the empirical tests in Cai (2002), where it was estimated that labor market conditions represented by the unemployment rate and the changes in DSP policies had significant impacts on the application and grant rates of DSP benefits. The impacts of changes in population structure (measuring population ageing) and the ratio of disability benefits to the average weekly earnings were not significant.

4. Conclusion

The DSP program has grown rapidly over the past three decades both in terms of the number of DSP recipients and the ratio of DSP recipients to the DSP age eligible population. The increase in DSP recipients was much larger in the 1990s than in the previous two decades. Analysing this growth in an inflow-outflow framework shows that, while both the increase in the inflow rate and decrease in the outflow rate have contributed to the program growth, the increases in the inflow rate contributed more than decreases in the outflow rate over the past three decades, especially in the 1980s and 1990s. Over the whole period 1971–99, over 36 per cent of the increase in the number of DSP recipients could be attributed to the change in the inflow rate, while 33 per cent could be attributed to the change in the outflow rate, and another 16 per cent could be attributed to the growth of population.

When further examined by decade, it appears that the impact of population change on the increase in DSP recipients was relatively stable for the past three decades. The results also show that the contribution of the change in the inflow rate to the increase in the number of DSP recipients was more important during 1980s and 1990s. During the 1980s, the impact of the change in the inflow rate was three times the impact of the change in the outflow rate. During the 1990s it was 4.6 times the impact of the change in the outflow rate, and during the 1970s it was a little smaller than the impact of the change in the outflow rate.
Because the variation of the inflow rate was much larger than the variation of the outflow rate, and the change in the inflow rate contributed more to the increase in the number of DSP recipients than the change in the outflow rate over the period 1971 to 1999, the factors that determined the inflow rate are further examined. Among the factors that determine DSP inflow rate, the aggregate time series data suggest that the changes in DSP policies, which altered the eligibility criteria for DSP benefits, and changes in labour market conditions might have played the most important roles. The impact of the relative benefit level and changes in the population structure seem not to be important.

In the US, it is noticed that, while worsening labour market conditions during a recession raise inflows of disability benefit recipients, an economic recovery would not increase the outflow rate (Rupp & Stappleton 1995). This appears also to be true in Australia. The Australian aggregate data did not show a negative relationship between the unemployment rate and the DSP outflow rate. By analysing the administrative LDS data at FaCS, Cai (2002) found that the unemployment rate has no impact on the probability of leaving DSP.

It is not clear how the 1991 policy change affected the composition of DSP inflows. If this change attracted more older people to the DSP, the impact of the new policy on the number of DSP recipients was smaller than if it attracted more young people, because younger recipients stay on the program much longer than older recipients.

The evidence provided in this paper on the reasons for the increase in DSP inflow rate is only suggestive. Further detailed research is required to estimate the impact of each factor. In addition, although the contribution of the decrease in the outflow rate is not as large as that of the inflow rate, the impact is still substantial. The decrease in the outflow rate therefore needs also to be explained to better understand the growth of the DSP program.

Endnotes

1 Legislation to enact the Commonwealth Invalid Pension program was introduced into Parliament along with that for the Age Pension in June 1908. The Invalid Pension came into operation in December 1910 when it became payable to persons from the age of 16 years who had resided in Australia for at least the previous five years and who were permanently incapacitated for work, provided that the incapacity arose within Australia and was not self-inflicted. With the introduction of the Disability Reform Package (DRP) in November 1991, the Invalid Pension was replaced by the DSP and the eligibility criteria were also changed.

2 The eligible age band for DSP is between 15 years and the Age Pension age. For males the Age Pension age is 65. For females the Age Pension age was 60 years.
before 1995. But from 1995, for every two years the female Age Pension age has been raised by a half-year and this will continue until it reaches 65. However, for simplicity, most of this paper does not consider the change in the female Age Pension age and therefore defines the DSP age eligible population as 16–64 for males and 16–59 for females.

3 The outflows in year t,

\[ O_t = I_{t-1} (1 - c_t^1) + I_{t-2} c_{i-1}^1 (1 - c_t^2) + \ldots + I_{t-k} c_{i-k+1}^{k-1} (1 - c_t^k) \]

where \( c_t^i \) is the continuation rate for duration \( i \) in year \( t \) and \( k \) is the maximum duration on DSP.

4 Although changes in population structure may affect the inflow rate, this is not accounted for in these projections because the age specific inflow rate for the financial years before 1995–96 was not available. It will be shown later that changes in population structure are relatively unimportant.

5 Initial balance means here that, at the start of a period, the inflow and outflow rates are such that inflows equal outflows in the first year of the period.

6 Mainly due to policy change in 1980, the inflow rate in the year 1980–81 was very low. In contrast, in 1980–81 the outflow rate was relatively high compared with that in other years during this decade. The change in the number of DSP recipients when the inflow and outflow rates and population were fixed is therefore negative (−32 850).

7 Note that the benefit-earnings ratio could be different for different individuals. The benefit-earnings ratio could be larger for low paid workers and smaller for high paid workers. As suggested in the literature, wage dispersion has increased over the past two to three decades (Borland & Wilkins 1996; Gregory 1993; King, Rimmer & Rimmer 1992; McGuire 1994). This implies that the benefit-earnings ratio might have risen for low paid workers. Since the people with disabilities are more likely to hold positions with low wages, although the ratio of benefits to total average weekly earnings did not change much, the ratio of benefits to the earnings of the workers with disabilities might have increased.

8 However, some authors did not share this view and regarded the 20 per cent minimum impairment requirement as a tightening of the eligibility criteria (ACOSS 2002; Disability Task Force 1995). The Disability Task Force supported its argument by citing that the DSP grant rate, defined as the ratio of the number of new DSP grants to the number of applications, had fallen between June 1992 and June 1994. However, this fall could be because more people were attracted to apply for the benefits because of the seemingly reduced eligibility requirement. In fact, the increase in the number of applications was dramatic following the introduction of DRP (Cai 2002).

9 For a detailed discussion of these changes and their impact on DSP recipients, see ACOSS (2002).
References

ABS 1971–1999, Australian Demographic Statistics, cat. no. 3101.0
—— 1998, Disability, Ageing and Carers, Australia: Summary of Findings, cat. no. 4430.0.


Key experiences of ‘baby boom’ cohorts

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Note on terminology:
Although the ‘baby boom’ generation is generally understood to be the generation born in the 19 years from 1946 to 1964, given the limited choice of age ranges available in statistical collections, this paper focuses more widely on those three 10-year cohorts which encompass the baby boom generation.

Throughout this paper the cohort of Australians born between 1940 and 1949 is referred to as the 1940s cohort. The cohort born between 1950 and 1959 is referred to as the 1950s cohort and the cohort born between 1960 and 1969 as the 1960s cohort.

1. Background

People’s ability to live comfortably in retirement and their capacity to adequately provide for their retirement income needs are profoundly influenced by experiences earlier in the life cycle. In particular, the extent to which people remain attached to the labour force during prime working years and the extent to which they can accumulate assets over their lifetimes will often determine how comfortable and financially secure they will be in retirement. Different age cohorts have been exposed to different economic conditions and different life opportunities. Also, over the past 50 years, social mores and values have changed profoundly. These changes have also had different impacts on the different age cohorts.

The baby boom cohorts and the age ranges they fall into in particular years are identified in Table 1.

Table 1 Baby boom cohorts—age range in selected years

|---------------------------|------|------|------|------|------|------|------|------|------|
2. Purpose

The experiences and likely retirement outcomes of the baby boomers are often referred to in a general way as if they are an homogenous group. Recognising that they are not, this paper attempts to describe the circumstances of these cohorts by making best use of currently available statistical data. The paper aims to contribute an understanding of the characteristics of these cohorts by describing, to the extent that it is possible to do so, the key differences between them in terms of their demographic, social and economic characteristics.

Based on these data, the paper also draws some inferences about how cohorts’ different experiences may translate into differences in retirement outcomes. Such understanding is timely because, over the next three decades, the baby boom cohorts will progressively enter into retirement.

3. Demographic projections and characteristics

At June 2001 the Australian resident population comprised 19.4 million people. Members of the 1940s cohort comprised 10.8 per cent, the 1950s cohort comprised 14.2 per cent and the 1960s cohort comprised 15.2 per cent of the population. In total these cohorts comprised 40.2 per cent of the whole population (Australian Bureau of Statistics (ABS) 2001a).

Life expectancy for both sexes has increased over the past four decades. At the age of 20 an older member of the 1940s cohort was expected to live to the age of 76.2 if female and 70.4 if male. By the time the 1960s cohort had reached 20 life expectancy at this age had increased. At 20, an older member of the 1960s cohort was expected to live to age 79.4 if female and 72.8 if male. At age 30 even greater improvements in life expectancy have taken place. Compared with an older member in 1940s cohort, an older member in the 1960s cohort was expected to live around an additional five years to age 81.5 if female and age 76.1 if male (see Figure 1 below).
In 2001, people aged between 65 and 74 comprised 6.71 per cent of the population and people of prime working age (that is, the population aged between 25 and 54) comprised 43.9 per cent of the population. When the baby boom cohorts are aged 65 to 74 they will comprise between 9 per cent and 11.5 per cent of the population. Also, people of prime working age will comprise a reduced proportion of the population (see Table 2).

These demographic characteristics have two important implications for government funding of retirement incomes. That is:

- as each younger cohort reaches Age Pension age, the proportion of the population of age pension age will increase (and hence the proportion of the population dependent on Age Pension).
- as a result of increased life expectancy, each progressively younger cohort will spend longer in retirement (and hence will be dependent on Age Pension for longer periods).
Table 2  Selected age groups as a proportion of Australia’s resident population for selected years

<table>
<thead>
<tr>
<th>Date of estimate/projection</th>
<th>Total resident population (millions)</th>
<th>Population aged 65–74</th>
<th>Population aged 65+</th>
<th>Population aged 25–54</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2001</td>
<td>19 387</td>
<td>6.71</td>
<td>12.39</td>
<td>43.92</td>
</tr>
<tr>
<td>June 2014</td>
<td>21 800</td>
<td>8.88</td>
<td>15.56</td>
<td>41.73</td>
</tr>
<tr>
<td>June 2024</td>
<td>23 370</td>
<td>10.85</td>
<td>19.65</td>
<td>39.89</td>
</tr>
<tr>
<td>June 2034</td>
<td>24 548</td>
<td>11.46</td>
<td>23.07</td>
<td>37.91</td>
</tr>
</tbody>
</table>

Source: Derived from ABS, 2000a.

Compared with people born after 1969, the cohorts approximating (as nearly as possible) the three baby boom cohorts have high proportions of members born overseas (see Table 3). The cohort approximating the 1940s cohort has 23.5 per cent of its members born in non-English speaking countries and 13.2 per cent born in English speaking countries—a total of 36.7 per cent born overseas. Comparative figures for the cohort approximating the 1950s cohort are 20.6 per cent and 10.8 per cent and a total of 31.4 per cent respectively. For the cohort approximating 1960s cohort comparative figures are 17.6 per cent and 9.0 per cent and a total of 26.6 per cent respectively (ABS 1996). In aggregate terms, these differences are unlikely to have much impact on the retirement outcomes of the different cohorts.

Table 3  Population by age and country of birth, Australia, 1996

<table>
<thead>
<tr>
<th>Year of birth</th>
<th>Age</th>
<th>Australian born</th>
<th>Non-Australian born</th>
<th>Total No. ('000)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>English speaking(a)</td>
<td>Non-English speaking(b)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td></td>
<td>('000)</td>
<td>('000)</td>
<td></td>
<td>('000)</td>
</tr>
<tr>
<td>1982 or later</td>
<td>&lt;15</td>
<td>3 452.7</td>
<td>89.6</td>
<td>73.6</td>
</tr>
<tr>
<td>1972–81</td>
<td>15–24</td>
<td>2 097.9</td>
<td>80.4</td>
<td>114.7</td>
</tr>
<tr>
<td>1962–71</td>
<td>25–34</td>
<td>2 031.7</td>
<td>73.4</td>
<td>250.1</td>
</tr>
<tr>
<td>1952–61</td>
<td>35–44</td>
<td>1 883.8</td>
<td>68.6</td>
<td>296.7</td>
</tr>
<tr>
<td>1942–51</td>
<td>45–54</td>
<td>1 427.0</td>
<td>63.3</td>
<td>298.4</td>
</tr>
<tr>
<td>1932–41</td>
<td>55–64</td>
<td>915.8</td>
<td>61.2</td>
<td>193.6</td>
</tr>
<tr>
<td>1922–31</td>
<td>65–74</td>
<td>819.1</td>
<td>64.6</td>
<td>146.3</td>
</tr>
<tr>
<td>Before 1921</td>
<td>75+</td>
<td>599.8</td>
<td>66.9</td>
<td>116.9</td>
</tr>
<tr>
<td>All years/ages</td>
<td></td>
<td>13 227.8</td>
<td>73.9</td>
<td>1 490.1</td>
</tr>
</tbody>
</table>

Source: CDATA 1996.

(a) English speaking countries include Canada, Ireland, New Zealand, the United Kingdom and the United States.

(b) Non-English speaking countries include countries other than Canada, Ireland, New Zealand, the United Kingdom and the United States.
4. Educational attainment

Level of education attained varies considerably between cohorts. The most noticeable variation is that the proportion of people (particularly women) who did not complete high school significantly reduces for later cohorts. For example, whereas close to half the people in the 1940s cohort did not complete high school, only 35 per cent of the 1960s cohort did not. Although the 1960s cohort also has a higher proportion of members with post-school qualifications (that is, undergraduate or vocational qualifications—see Figure 2), a substantial proportion of people in the 1960s cohort do not have any post-school qualifications (46 per cent of men and 59 per cent of women).

Across all cohorts males are more likely to have acquired a post-school qualification. Interestingly, however, for the 1960s cohort the proportion of women with higher levels of educational attainment (that is, bachelor qualifications and postgraduate qualifications) exceeds that of men. (23 per cent of women in the 1960s cohort have these higher-level qualifications compared with 19 per cent for men.)

It is notable that the proportion of males in the 1960s cohort with post-graduate qualifications (5.5 per cent) is slightly lower than the proportion for the older two cohorts (6.9 per cent and 5.9 per cent). Similarly, the proportion of females in the 1940s cohort with post-graduate qualifications (5.7 per cent) is lower than the proportion for the 1950s and 1960s cohorts. A likely explanation for this difference is that, considering that the youngest members of the 1960s cohort are only aged 33, a comparatively higher proportion of people in this cohort are yet to complete post-graduate studies.

Figure 2  Highest level of educational attainment by sex and cohort, 2001

Source: Derived from ABS 2001b.
5. Economic climate

In the last 40 years there have been many fluctuations in Australia’s economic conditions as well profound structural changes. These fluctuations and changes have prevailed at different stages of the life cycle for each cohort. As a consequence, it is conceivable that changes in economic conditions have had different impacts on members of the different cohorts, particularly their likelihood of achieving economic prosperity and earning sufficient lifetime income to fund a comfortable lifestyle in retirement. The economic conditions that have prevailed over the last four decades are summarised in Table 4 below.

<table>
<thead>
<tr>
<th>Decade</th>
<th>Age at decade mid-point</th>
<th>Summary of economic climate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960–69</td>
<td>1940s: 15–24 years</td>
<td>Consistently strong economic growth (average Gross Domestic Product (GDP) growth 5.3 per cent)</td>
</tr>
<tr>
<td></td>
<td>1950s: 5–14 years</td>
<td>High tariff protection of industries</td>
</tr>
<tr>
<td></td>
<td>1960s: 0–5 years</td>
<td>High male employment rates (for example, they exceeded 90 per cent for those aged 20–59 years in 1966)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low unemployment rate (average less than 2 per cent)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low inflation (average 2.5 per cent)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low Interest Rates (average around 6.5 per cent)</td>
</tr>
<tr>
<td>1970–79</td>
<td>1940s: 25–34 years</td>
<td>Weaker and volatile economic growth (average GDP growth 3.2 per cent)</td>
</tr>
<tr>
<td></td>
<td>1950s: 15–24 years</td>
<td>International oil crisis early 70s and local downturn late 70s</td>
</tr>
<tr>
<td></td>
<td>1960s: 5–14 years</td>
<td>Easing of tariffs in agricultural, manufacturing and mining sectors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Significant restructuring in some industry sectors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increasing unemployment (in 1978, rate peaked at nearly 7 per cent and unemployment for 15–19 age group at nearly 17 per cent)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Removal of some barriers to married women working</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Growth in female employment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High inflation (average 10.6 per cent)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Higher interest rates (rate peaked at just over 10 per cent in 1975 but remained above 9 per cent for rest of decade)</td>
</tr>
<tr>
<td>1980–89</td>
<td>1940s: 35–44 years</td>
<td>Continued weak economic growth (average GDP growth 3.0 per cent)</td>
</tr>
<tr>
<td></td>
<td>1950s: 25–34 years</td>
<td>Recession early in decade</td>
</tr>
<tr>
<td></td>
<td>1960s: 15–24 years</td>
<td>Floating of the exchange rate and liberalising of the financial sector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Broader reduction in tariffs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unemployment rate above 6 per cent for most of decade with a peak of over 10 per cent in 1982 from which it steadily declined</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Youth unemployment rate much higher than total unemployment rate, peaking in 1983 at 22.6 per cent for 15–19 age cohort and 14.7 per cent for 20–24 age cohort</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Introduction of award superannuation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continued growth in female employment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High inflation (average 7.9 per cent)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interest rates above 10 per cent throughout decade, peaking at around 17 per cent in 1989</td>
</tr>
<tr>
<td>1990–99</td>
<td>1940s: 45–54 years</td>
<td>Stronger economic growth particularly compared with other developed countries (average GDP growth 3.6 per cent) after recession in 1992–93</td>
</tr>
<tr>
<td></td>
<td>1950s: 35–44 years</td>
<td>Unemployment rate rose above 10 per cent in 1992–93 followed by steady decline to around 6 per cent</td>
</tr>
<tr>
<td></td>
<td>1960s: 25–34 years</td>
<td>Youth unemployment rate peaked at 24.5 per cent in 1993 and declined steadily after</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Superannuation Guarantee commences</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continued growth in female employment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low inflation (average 2.3 per cent)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Declining interest rates (from around 16 per cent at the start of the decade to 6.5 per cent by the end)</td>
</tr>
</tbody>
</table>
6. Labour force participation of men

Prevailing economic conditions have had the most noticeable impact on men’s labour force participation. The majority of men in the 1940s cohort entered the workforce during the 1960s or the early 1970s, a period of consistently strong economic growth and very low unemployment. In the 1970s around 90 per cent of men in the 1940s cohort were in the workforce. The majority of the next cohort, (that is, the 1950s cohort) would have entered the labour market during the 1970s or early 1980s when conditions were changing and unemployment was rising rapidly.

Figure 3 shows estimates of the proportion of men in employment. A limited set of points is available for the oldest cohort because the series starts in 1978 (when the cohort was aged 29–38). The series is limited for the two youngest cohorts because 2001 data were the latest data available at the time this paper was written. (In that year the mid-cohort ages for the 1950s and 1960s were 46 and 36 respectively.) The proportion of employed men in the 1950s cohort rose from around 84 per cent during the 1982–83 recession (when the mid-cohort age was around 27 to 28) to 90 per cent by the end of the 1980s. This trend suggests that the 1982–83 recession may have had the impact of delaying labour force entry by some years for some younger members of the 1950s cohort.

Figure 3 Estimate of the proportion of civilian male population working by selected birth cohort and age range

Source: Derived from ABS 2002b using August data points only.
Members of the 1960s cohort would have been entering into the labour force from the early 1980s to the early 1990s when the mid-cohort age was between 17 (in 1982) and 28 (in 1993). In other words, the oldest would have been seeking employment for the first time during the 1982–83 recession and the youngest would have been trying to enter the labour force for the first time around the time of the 1992 recession. Again some members of this cohort may have had their entry into the labour force delayed by a few years as a result of these recessions.

Figure 4 shows estimates of the proportion of men in full-time employment and part-time employment (note that different scales are used). Overall, for each successively younger cohort a lesser proportion of men worked full-time at each age range point. Conversely, a higher proportion worked part-time (or not at all).

Peak full-time employment rates for all cohorts occurred around the time the mid-cohort age was around 35 to 36. For the two oldest cohorts, from this high point the rates dropped off quite substantially over the next few years then rose slightly when the mid-cohort age was around 38 to 40. A slow decline then commences. When the mid-cohort age nears 45, the decline in the proportion working full-time accelerates. Compared to the 1950s cohort, when the 1960s cohort mid-cohort age was 27 (in 1992), 10 per cent less of men in the cohort worked full-time. By 1994 the proportion of men in the 1960s cohort working full-time reached around 80 per cent and appears to have levelled out at around this proportion.

Figure 4  Estimate of the proportion of civilian male population in full-time and part-time work by selected birth cohort and age range

Source: Derived from ABS 2002b using August data points only.
By 2000, when the mid-cohort age for the 1940s cohort was 55, only 62 per cent in the cohort worked full-time. Past trends suggest that when the 1950s cohort reaches this age (in 2010) a somewhat lesser proportion will be working full-time. (For the most part, full-time participation rates for the 1950s cohort are at least 5 percentage points lower than the oldest cohort.) Similar differentials between the 1950s and 1960s cohorts are observable, although a narrower difference at latest comparable data point suggests that the full-time employment rates of these two cohorts may be starting to converge.

While the majority of men in each cohort who are employed work full-time, at equivalent ages the proportion working part-time was marginally higher for the two younger cohorts than it was for the 1940s cohort. The decline in male employment rates for successive cohorts probably would have been greater but for this modest growth in part-time work.

7. Labour force participation of women

For each successively younger cohort, the proportion of women working at any given age has increased (see Figure 5). However, trends seem to indicate that, for the 1950s and 1960s cohorts, once the mid-cohort age reaches around 34, the proportion of women working are quite similar.

In 1984, when the mid-cohort age for the 1940s cohort was around 39, the proportion of female members working moved above 55 per cent and remained above this level until 1998 (when the mid-cohort age was 53). For the 1950s cohort, the proportion of women working reached 55 per cent at an earlier age, that is when the mid-cohort age was 31.

Figure 5 Estimate of the proportion of civilian female population working by selected birth cohort and age range

Source: Derived from ABS 2002b using August data points only.
Peak labour force participation for women in the 1940s cohort occurred in the seven years from 1988 (when the mid-cohort age was around 44) to 1995 (when the mid-cohort age was around 50). During this seven-year period between 60 per cent and 67 per cent of female members were working. Labour force participation rates for women in the 1950s cohort reached a peak at 68 per cent in 1995 (when the mid-cohort age was around 40). Though it dipped a little in the following four years, at August 2001 the participation rate was again around the 68 per cent level. For the 1960s cohort, even during the peak child-bearing years from 1992 (when the mid-cohort age was around 27) to 1999 (when the mid-cohort age was around 34) the proportion of women in the labour market has stayed above 60 per cent. In more recent years it has peaked at around 68 per cent.

Full-time employment rates for women in the 1940s cohort peaked at around 35 per cent when the mid-cohort age was around 45 (see Figure 6). For the 1950s cohort, full-time employment rates have stayed above 35 per cent with the exception of the period 1983 (when the mid-cohort age was around 28) to 1986 (when the mid-cohort age was around 31). During these years (peak child-bearing years for the cohort) rates were a little below 35 per cent.

For the 1960s cohort, between 1992 (when the mid-cohort age was around 27) and 1998 (when the mid-cohort age was around 33), the full-time labour force participation rate for females was fairly stable at around 38 per cent to 40 per cent. Since then it has declined slightly.

Compared with men, part-time work is a much more important contributor to employment participation rates for women in all cohorts (see Figure 6). For the 1940s cohort, around a quarter of female members of the cohort work part-time. Peak part-time participation for this cohort occurred between 1986 (when the mid-cohort age was around 41) and 1993 (when the mid-cohort age was around 48). Since 1992 (when the mid-cohort age of the 1950s cohort was around 37), part-time rates for the 1950s cohort have been quite stable at around 30 per cent. From 1996 (when the mid-cohort age was around 31) part-time employment rates for the 1960s cohort followed a similar pattern to rates for the 1950s cohort. Latest data available at the time of writing (2001 data) indicate that 30 per cent of female members in the 1960s cohort work part-time.
Employment prospects for women in younger cohorts have improved while the prospects for men in younger cohorts have decreased. However, there is still a disparity in employment rates for men and women. The proportion of women employed does not exceed 70 per cent for any cohort at any age, whereas, for men, the proportion does not start to drop below the 70 per cent level for any cohort until the mid-cohort age reaches 56. The increased participation of women in the labour force probably reflects greater opportunities for women to combine work and family responsibilities (for example, increased availability of child care and part-time work). Changing patterns in family formation (for example, later child-bearing and reductions in family size) are also likely contributing factors and these are discussed in the next section.

8. Family formation, marriage duration and sole parenthood

The increased participation of women in the labour force, particularly the increased participation of married women, may be a response to changed economic conditions of a long-term nature. Concurrently, changing patterns of behaviour in respect of family formation and fertility which are occurring are reflected in participation.

The crude marriage rate commenced a strong decline in the 1970s. Based on marriage data for 1966, 1976, 1987 and 1999, it can be discerned that for each successively younger cohort, the rate of marriages per 1000 reduced across all age groups. For example, whereas the rate for men aged between 25 and 29 in the
1940s cohort was 195.7 per 1000, for males the same age in the 1960s cohort it was 105.5 per 1000. Equivalent figures for females are 183.9 per 1000 and 123.5 per 1000 respectively (see Figure 7). When the various cohorts attain the same age groups, young males experienced faster declines in first marriage rates than females, particularly for those under 30 years of age.

Compared with the 1940s cohort, a greater number of people in the 1960s cohorts married at later ages. Available data suggest that the median age at marriage for females increased from 21.1 in 1971 to 26.4 in 1999. For males it increased from 23.4 to 28.2. This is likely to be the result of a range of social changes including the increase in an incidence of de facto relationships, longer periods in education and increased access to improved contraception.

The proportion of men and women who will never marry is also increasing. The ABS estimates that if the 1997–99 first marriage rates were to continue into the future, 29 per cent of men and 23 per cent of women will never marry. These estimates take into account the likely experiences of the youngest members of the 1960s cohort. These proportions correspond with the respective proportions of 21 per cent and 14 per cent based on 1985–87 rates. These experiences take into account the experiences of the oldest members of the 1960s cohort (ABS 2000b).

**Figure 7 Age specific first marriage rates by sex, cohort and age range**

![Age specific first marriage rates by sex, cohort and age range](source)

Lack of availability of published data on the experience of divorce by age means that it is not possible to consider each cohort’s divorce experience separately using ABS data. Divorce rates rose substantially in 1976 following the introduction of the Family Law Act 1975 and then declined until 1979 as the backlog of applications was cleared. Since then the crude divorce rate has fluctuated between 2.4 and 2.9 divorces per 1000 population. The available data also show that since 1976 there has been a gradual increase in the median age of divorce from 36.2 to 40.9 years for men and from 33.1 to 38.2 years for women in 2001. In 2001 the median duration of marriage to divorce was 11.8 years which is 1.6 years longer than the median duration in 1981 (ABS 2001c).

Weston et al. (2003) recently undertook preliminary work on marriage survival rates using HILDA data and other life course survey data. These researchers selected a number of marriage cohorts (that is, persons first married in 1970–74, 1975–79, 1980–84, 1985–89 and 1990–94) and used the Life Table method to calculate first marriage survival rates for each marriage cohort. In a crude sense only, we can use these data by matching up marriage cohorts with the most likely predominant ‘feeder’ birth cohorts.

Table 5 shows the main feeder cohorts for the 1970–74 marriage cohort were likely to be persons born in the late 1940s and early 1950s, and for the 1975–79 marriage cohort people born in the early to mid-1950s. For the 1980–84 marriage cohort, the predominant feeder groups were likely to be persons born in the late 1950s and early 1960s and, for the 1985–89 marriage cohort, persons born in the early to mid-1960s. The 1990–94 marriage cohort was most likely to comprise mainly persons born in the late 1960s and early 1970s.

Table 5 shows a marked tendency for cohabitation prior to marriage to rise with each progressively younger cohort. For example, cohabitation before marriage for the 1970–74 cohort was around 16 per cent and for the 1990–94 cohort it was around 60 per cent.

Table 5 also shows that, for the 1970–74 marriage cohort (most of whom would have been born in the late 1940s or early 1950s):

- the probability of surviving a **direct marriage** for 10 years was 82 per cent and the probability of surviving for 15 years was 75 per cent
- measured from the start of cohabitation, the probability of surviving an **indirect marriage** for 10 years was 71 per cent and for 15 years it was 60 per cent.

Survival rates for all marriage types were higher among all cohorts married between 1975 and 1989 than for the 1970–74 marriage cohort. However, compared to all other marriage cohorts, survival rates after five years for the 1990–94 marriage cohort (most of whom would have been born in the late 1960s and early 1970s) were lower across all marriage types.
Table 5  Estimated probability of first marriage remaining intact by marriage duration

<table>
<thead>
<tr>
<th>Duration type</th>
<th>Marriage cohort</th>
<th>Survival rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most likely main ‘feeder’ birth cohorts</td>
<td>Late 1940s/early 1950s</td>
<td>Early to mid-1950s</td>
</tr>
</tbody>
</table>

Start of direct marriage
- 5 years
  - 1970–74: 0.913
  - 1975–79: 0.926
  - 1980–84: 0.916
  - 1985–89: 0.928
  - 1990–94: 0.896
- 10 years
  - 1970–74: 0.816
  - 1975–79: 0.858
  - 1980–84: 0.835
  - 1985–89: 0.842
  - 1990–94: -
- 15 years
  - 1970–74: 0.753
  - 1975–79: 0.775
  - 1980–84: 0.743
  - 1985–89: -
  - 1990–94: -
- 20 years
  - 1970–74: 0.687
  - 1975–79: 0.699
  - 1980–84: -
  - 1985–89: -
  - 1990–94: -

Start of indirect marriage
- 5 years
  - 1970–74: 0.834
  - 1975–79: 0.814
  - 1980–84: 0.854
  - 1985–89: 0.848
  - 1990–94: 0.814
- 10 years
  - 1970–74: 0.673
  - 1975–79: 0.718
  - 1980–84: 0.725
  - 1985–89: 0.735
  - 1990–94: -
- 15 years
  - 1970–74: 0.570
  - 1975–79: 0.591
  - 1980–84: 0.633
  - 1985–89: -
  - 1990–94: -
- 20 years
  - 1970–74: 0.454
  - 1975–79: 0.537
  - 1980–84: -
  - 1985–89: -
  - 1990–94: -

Start of cohabitation
- 5 years
  - 1970–74: 0.893
  - 1975–79: 0.861
  - 1980–84: 0.896
  - 1985–89: 0.905
  - 1990–94: 0.892
- 10 years
  - 1970–74: 0.710
  - 1975–79: 0.735
  - 1980–84: 0.769
  - 1985–89: 0.783
  - 1990–94: -
- 15 years
  - 1970–74: 0.602
  - 1975–79: 0.629
  - 1980–84: 0.666
  - 1985–89: -
  - 1990–94: -
- 20 years
  - 1970–74: 0.487
  - 1975–79: 0.548
  - 1980–84: -
  - 1985–89: -
  - 1990–94: -

Whether cohabitated before marriage
- Unweighted proportions
  - 1970–74: 16%
  - 1975–79: 32%
  - 1980–84: 45%
  - 1985–89: 51%
  - 1990–94: 60%


For each progressively younger cohort, the proportion of women having no children or just one child has risen (see Figure 8). At the same time, the proportion having three or more children has fallen. The proportion having two children has remained relatively stable.

Not only are women in younger cohorts having fewer children, but they are having their babies at older ages. The peak fertility in 1976 occurred in the 20–29 age group (ABS 1998). This best reflects the experiences of younger members of the 1940s cohort and members of the 1950s cohort. Since then there have been shifts in the age pattern of fertility over time. Progressively, fertility has become less concentrated in the 20–29 age group (as in 1976) and concentrated over a broader age range. For example, in 1987 it was concentrated over the 20–34 age range. Even further extension of the child-bearing age range is evident in the 1999 data, which best reflect the experiences of the 1960s cohort.
Later marriage, especially if coupled with later childbirth and/or home purchase may have implications for differences in retirement savings between cohorts because these major life events may be more compressed for younger cohorts compared with older cohorts. This may result in competing financial priorities and the need to juggle the cost of raising children with other costs such as mortgage payments and repayment of personal education debts. People who are in a situation of needing to juggle competing financial priorities often have little capacity to supplement compulsory superannuation savings with additional voluntary retirement savings.

Research by Winter and Stone (1999) using data from the Australian Life Course Survey (1996) gives some evidence of changing life course patterns. Although published findings did not provide data for all cohorts of interest, the findings indicate that cohorts born before the 1950s tended to buy their first home after marrying and after having their first child. The cohort born in the late 1950s tended to buy their first home around the same time they had their first child and after they had married. The cohort born in the late 1960s now typically live de facto before buying their first home. However, they tend to marry and have their first child after they purchase their first home.

While child care and improvements in pay since the 1970s have facilitated workforce participation, the experience of sole parenthood that divorce often brings is typically associated with a limited attachment to the labour force. At June 2000, 41 per cent of sole parents with dependants were not in the labour force. A further 7 per cent were unemployed and 24 per cent worked part-time.
In total 73 per cent had limited attachment to the labour force. This figure varied between men and women. Only 47 per cent of male sole parents with dependent children had limited attachment compared with around 77 per cent of female sole parents. Most sole parents caring for dependent children are women (86 per cent). Sole parents limited attachment to the labour force has implications for their retirement savings because it reduces their capacity to amass significant compulsory superannuation savings let alone their capacity to supplement compulsory savings with voluntary savings.

While some female sole parents may have adequate retirement income from divorce settlement, the experience of sole parenthood following separation/divorce at an older age more often brings many newcomers to the income support system at an age when they are already considered to be ‘older workers’. It may not be easy for them to find employment that pays enough to preclude payment of income support. Thus these older sole parents may remain on income support for long durations. Again, obviously, this has implications for retirement savings later down the track.

9. Home ownership

Mudd et al. (2001) identify two trends in the home ownership experiences of age cohorts. Firstly, at least until cohorts reach the age of 40, home ownership rates are lower for younger cohorts (see Figure 9). For example, the home ownership rates of people aged 30–34 years at each Census show that those aged 30–34 in 1981 (that is, those born 1947–51) had a higher rate of ownership (71 per cent) than for the same age range at succeeding Censuses. (Those born 1952–56 had an ownership rate of 66 per cent at this age in 1986. Those born 1957–61 had a rate of 63 per cent in 1991 and those born 1962–66 had a rate of 60 per cent in 1996.)

The second trend is less consistent but indicates that home ownership rates of the different cohorts are converging as each cohort ages. In other words, at later ages the gaps in the rate of home ownership narrow as younger cohorts begin to catch up with older cohorts. This seems to suggest a delay in entry into home ownership rather than not entering into home ownership at all. This pattern can be seen in the experience of the three cohorts for which data are available at both the ages 35–39 and 40–44 (that is, the cohorts born 1942–46, 1947–51 and 1952–56). The gap between the cohorts narrowed from 4.8 percentage points when they were aged 35–39, to 2.9 percentage points at the age of 40–44. However, this pattern is not uniform as can be seen in the pattern for those born 1962–66. After tracking closely with the next oldest cohort (that is, the cohort born 1957–61) in 1986 and 1991, it fell behind in 1996 (when its members were aged 30–34).
Mudd et. al also undertook a more detailed examination of the nature of these trends using logistical regression techniques. The examination showed that household type (as well as age) had a significant influence on home ownership rates. The final fitted model of the logistical regression showed that couple households, related-family households and multiple-family households had significantly higher ownership than sole-parent households (the reference household type for the model). The model also showed that single and group households were not significantly different from sole parents in their (somewhat lower) home ownership rates.

10. Superannuation

McCallum and Shaver (1986) inform us that historically superannuation has served different purposes. From the 19th century until the 1940s, it provided a select group of salaried males with an independent retirement income. By the early 1980s superannuation had become a more widely available employment fringe benefit but was still patchy in its coverage. With the 1986 National Wage Case came the introduction of award-based superannuation. Building on award-based superannuation arrangements in place at the time, the Superannuation Guarantee (SG) was introduced as a compulsory system in 1992. The superannuation reforms of the late 1980s, which culminated in the SG saw two notable changes which had differential impacts on the ‘baby boom’ cohorts.
The first notable change was the greatly expanded coverage from the mid-1980s. Before the reforms, only 40 per cent of employees had superannuation coverage. By 2001, 81 per cent of all workers and 97 per cent of all full-time workers had coverage. Expanded coverage means that a greater proportion of workers will have sizeable sums of private savings upon retirement. For those with substantial superannuation savings retirement income adequacy will be achieved through a combination of private superannuation and Age Pension receipt. Because members in the 1960s cohort will retire at a time when the SG is more mature, they will have greater opportunity to amass more significant levels of SG savings than members of older cohorts. (When the SG was introduced, members of the 1940s cohort were at least half way through their prime working years (that is, aged 43–52). Members of the 1950s cohort were aged 33–42 (and most well established in their careers). Members of the 1960s cohort were at the start of their careers (aged 23–32) in 1992.)

In 2000, superannuation balances were quite modest. The proportion of pre-retired persons with superannuation account balances of under $5000 ranged from 32 per cent for those aged 25–34 years to 14 per cent for those aged 55 to 69 years. The proportion with balances of $40 000 or more ranged from 6 per cent for those aged 25–34 years to 39 per cent for those aged 55 to 69 years. The extent to which superannuation account balances will continue to grow largely depends on the extent to which individuals remain attached to the workforce. Those with more restricted opportunities for amassing significant SG account balances include people with short working lives, those with broken periods of employment, and people in long periods of part-time employment and modest earnings.

For most people, even when the SG scheme is fully mature, SG superannuation savings will not be enough to fully fund retirement. In fact, based on current policy settings and anticipated patterns of behaviour, it is expected that most people in the 1960s cohort will receive an Age Pension payment equivalent to in excess of 60 per cent of the single Age Pension.

The second notable change to superannuation was to the type of schemes offered to employees. Most members of superannuation schemes in the early 1980s (around 82 per cent) were covered by ‘defined benefits schemes’ which, by today’s standards, typically offered generous retirement benefit payouts to certain employees (that is, employees who had stayed with the same employer for long durations) (ABS 2000d). Typically, employees in higher status occupations working for large employers in the private sector and employees in the public sector were covered by such schemes. Today most of these defined benefit schemes are now closed to new members. (In 2000, about 22 per cent of members of superannuation funds were covered by defined benefit or hybrid superannuation accounts.)

Today most employees belong to ‘accumulated contribution schemes’. In this type of scheme, upon retirement, members receive the return of contributions paid plus interest earned. The phasing out of the more generous defined
benefit schemes will have differential impacts on ‘baby boom’ cohorts. Many in the 1940s cohort will still receive generous defined benefit payouts. However, among those couples who divorced, these superannuation assets were often not clearly reflected in property settlements. A lesser proportion of members of the 1950s cohort and very few members in the 1960s cohort will receive such generous defined benefit payouts.

11. Wealth

The National Centre for Social and Economic Modelling (NATSEM) (Harding 2002) has identified the cohort born between 1923 and 1932 (aged 70 and 79 in 2002) as the cohort with the peak wealth holdings. Housing wealth is the key component of this cohort’s overall wealth. ‘Period’ effects (that is, those effects that reflect different conditions prevailing at different times, for example, returns on investments, taxation regimes, and the ease of access to home ownership) are believed to be instrumental in explaining this cohort’s peak wealth holdings and their substantial housing wealth. For the peak wealth cohort, their years of prime wealth accumulation coincided with the long post-World War II economic boom. For the cohort born before 1922 their early adult lives coincided with the 1930s depression and World War II. This older cohort shows notably lower wealth holdings in older age than the economically more fortunate cohort that followed.

Based on analysis of the 1997–98 ABS Survey of Income of Housing Costs, NATSEM also found the Australians born after 1957 (and aged 45 in 2002) are not quite so fortunate. In particular, there have been real declines over recent years in average wealth of families with heads born after the late 1950s. NATSEM believes that this is due to declining home ownership rates and the growing value of mortgages for younger cohorts. Allied with declining home ownership rates were sharp increases in the real value of mortgages. This means that many born in the late 1950s and in the 1960s would have been repaying substantial mortgages during the 1980s when interest rates were at an historical high. These factors have combined to produce falling real home equity values. While families headed by people in these cohorts have enjoyed increases in the average value of their shares and accumulated superannuation entitlements, these increases were not sufficient to offset their declining home equity.

NATSEM’s study would need to be extended past 1997–98 to ascertain whether rates of home ownership amongst younger cohorts have caught up with those for the 1940s cohort as the younger cohorts have aged. Extension of NATSEMs study past 1997–98 would also identify whether low interest rates from the mid-1990s have impacted on home equity and home ownership rates for younger cohorts.

Figure 10 shows that people born in the mid-40s to early 50s appear to have higher average wealth holdings than both people born in the mid-30s and early 40s and younger people. In 1986, when people born in the mid-40s and early 50s
were aged 35–44, the wealth of members of this cohort averaged out at $120,300 (expressed in 1998 dollars). By the time this cohort had reached the 45–54 age range (in 1998) average wealth had increased to $176,700 (1998 dollars). By the time the cohort reaches retirement age average wealth holdings will exceed $200,000 (in 1998 dollars). Between the ages of 35 to 44 for the cohort born in the mid-50s and early 60s wealth holdings averaged out at $66,000 less than holdings of cohort members born in the mid-40s and early 50s cohort at an equivalent age. Similarly, wealth holdings for the cohort born in the mid-60s and early 70s averaged out at $93,000 less than holdings for the mid-50s early 60s cohort at a similar age (that is, the age 25–34).

Figure 10 Estimated net average wealth by selected age cohort and age range

In a later publication (Kelly 2002) NATSEM estimate average family wealth by asset type and age. From this publication it can be deduced that, in 2000, compared with younger baby boomers, older baby boomers have slightly higher proportions of their wealth in home equity and shares and lower proportions in superannuation and cash deposits. For example, baby boomers born between 1946 and 1950 (and aged 50–54 in 2000) had 44.4 per cent of their wealth in the form of home equity, 17.4 per cent in the form of shares, 27.3 per cent in the form of superannuation, 5.2 per cent in the form of cash deposits and 5.7 per cent in the form of rental property equity. This compares with respective figures of 41.3, 16.1, 29.3, 7.7 and 5.7 per cent for baby boomers born between 1961 and 1965 (and aged 35–39 in 2000).
Although net average wealth is estimated to be around levels indicated in Figure 10 above, the wealth of each cohort is likely to be unevenly distributed within the baby boomer population. While NATSEM has not yet published figures for baby boomer cohorts, it is known that, in 1998, the top quintile of Australians aged 15 and over owned 62.8 per cent of personal wealth. In contrast, the bottom (poorest) three quintiles owned just 15.5 per cent of wealth in total (Kelly 2002). Also, based on estimates of family wealth of those about to retire (that is, those born between 1938 and 1953 and aged between 50 and 64 in 2002) AMP/NATSEM (2002) found that the average wealth of couples in the bottom wealth quartile was around 12.7 per cent of the wealth of couples in the top quartile ($130,800 compared with $1.8782 million). The average wealth of single men in the bottom quartile was around 4.9 per cent of the wealth of single men in the top quartile ($27,400 compared with $875,000). Single women in the lowest quartile had only 1.7 per cent of wealth of single women in the top quartile ($9,500 compared with $864,800).

The extent to which wealth held in the form of housing transforms into prosperity during retirement years has a number of aspects. The most obvious aspect is that it saves on the costs of renting. (Although given that costs of house maintenance can be quite a burden for income poor retirees, this argument is not as clear-cut for income poor retirees.) A second aspect is that retirees with high equity in housing are in a position to better set themselves up for retirement or generate additional retirement income by trading down their homes. A clear picture of the extent to which people do trade down their homes and the extent to which members of particular cohorts will be in a better position in retirement as a result of their housing equity than members of other cohorts requires further research.

In contrast to older cohorts, higher proportions of the 1960s cohort will have sizeable amounts held in superannuation by the time they retire. However, this form of wealth will be mainly driven by fortunes in the labour market and be unevenly distributed within each cohort.

12. Income support

Within the workforce age population, the percentage receiving income support has increased significantly over time. From a cohort perspective, each progressively younger cohort, at equivalent ages, had higher proportions of cohort members in receipt of income support payments.

For the 1940s cohort, the proportion of men in receipt of income support stayed at around 9 per cent to 10 per cent from the time the youngest cohort members were aged 35 (in 1984) until oldest members of the cohort reached the age of 50 (in 1990) (see Figure 11). From this point the proportion has increased quite steeply. Latest available data indicate that when oldest members of the cohort were aged 61 (in 2001) 22 per cent of male members of the cohort were in receipt of income
support. For female members of the cohort, the proportion in receipt of income support reached a low point when youngest members of the cohort were aged 40 (in 1989) when 11 per cent were in receipt of income support. Since then the proportion has steeply increased. Latest available data indicate that, when oldest members of the cohort were aged 61, 32 per cent of female members were in receipt of income support.

Figure 11 Estimate of the proportion of population in receipt of income support payments by birth cohort

For the 1950s cohort, from the point when youngest cohort members reached the age of 33 (in 1992) the proportion of men in receipt of income support has stayed relatively stable at around 14 per cent. For women, between the period youngest members of the cohort were aged 25 (1984) and 35 (1994) the proportion in receipt of income support ranged between 11 per cent and 15 per cent. Latest available data indicate that, when oldest members of the cohort were aged 51, 19 per cent of female members were in receipt of income support.

For the 1960s cohort the proportion of male members in receipt of income support reduced from 19 per cent in 1992 (when its youngest members were aged 23) to 15 per cent in 2001. It is possible that from the point when youngest members of the cohort reach the age of 42 (2011) the proportion in receipt of income may converge with proportions for men in the 1950s cohort. For female members of the 1960s cohort, the proportion in receipt of income support peaked at 25 per cent in 1996 (when its youngest members were aged 27). Latest available data indicate that, in 2001, 23 per cent of female members of the 1960s cohort were in receipt of income support.
Income support cohort data reflect the differences in workforce participation experiences between the cohorts. Given the increased reliance on income support by younger cohorts (particularly the 1960s cohort), it seems apparent that—despite the SG—a higher proportion of members of younger cohorts may have less opportunity than did members of the 1940s cohort to accumulate income and assets to provide for themselves in retirement. Gender differences in the proportion of cohort members in receipt of income support are also worth noting. The reasons for women’s greater reliance on income support probably includes:

- the greater propensity of women to have custody of children upon marriage breakdown
- the impacts of lower educational attainment and training as well as broken career paths amongst some segments of the female population, which limit women’s scope for economic participation
- because of their lower formal labour market attachment, older women (and women in general) are less likely to have private superannuation than men.

As Figure 12 shows, there are also differences between the types of income support payments males and females receive, which may also partly explain women’s greater reliance on income support. The main Department of Family and Community Services’ payments received by males are Disability Support Pension and unemployment payments. Income support payments for females are spread more widely across different payment types, with Parenting Payment being a common payment for females. The data suggest that women from younger cohorts with children are likely to be a particularly disadvantaged group in relation to opportunities for workforce participation and for the accumulation of income and assets over their lifetimes.

As is evident in Figure 12, for both men and women, there are steep increases in the proportion of the population in receipt of income support between the 55–59 and 60–64 age ranges. Because oldest members of the 1940s cohort were only aged 60 to 61 in 2001 they probably made only a minor contribution to the jump in proportions between age ranges. Said another way, currently, an already high proportion (around half) of new entrants to Age Pension come from other income support payments. Bearing in mind that those that do enter onto Age Pension from another payment are likely to have a lesser capacity to accumulate sufficient assets to generate additional private retirement income, unless the proportions in receipt of income support for the 1950s and 1960s cohorts start converging with proportions for the 1940s cohort, it is it is possible that, in the not too distant future, even higher proportions of new entrants onto Age Pension will come from other income support payments.
13. Conclusions

Two key demographic trends affecting the baby boom cohorts clearly have implications for government funding (and individuals’ funding) of retirement. Firstly, as each progressively younger cohort reaches age pension age, the proportion of the population of age pension age will increase. Secondly, as a result of increased life expectancy, younger cohorts will spend longer in retirement.

Fluctuations in Australia’s economic conditions as well as profound structural changes—which prevailed at different stages of the life cycle for each cohort—have had a most noticeable impact on men’s labour force participation. Despite being less well educated, men born in the 1940s were more fortunate in the labour market than male members of younger cohorts. Most of their prime working life coincided with times of economic prosperity. Across all comparable age ranges a higher proportion of the 1940s cohort were in work. Typically, their employment was more stable and secure than succeeding cohorts. Men from younger cohorts experienced a more uncertain labour market and entry into the labour market, because many in these cohorts may have been delayed by economic recession. The lesser fortunes of men in the 1950s and 1960s cohorts, to some extent, may have been ameliorated by wider access to superannuation.
Changed family formation patterns, changed economic conditions and changed values about the nature of the labour market—particularly the availability of part-time work and decreased fertility rates with each progressively younger cohort—have seen opportunities for women to participate in the labour market increase with each younger cohort. However, the extent to which increased participation in the labour market will translate into women being in a better position to contribute to their own retirement incomes will be moderated by their generally more limited capacity (than men) to save through superannuation and their (more likely) experiences of sole parenthood following marriage dissolution.

Although superannuation savings are a more significant source of wealth for a successively greater proportion of younger members of the 1950s cohort and members of the 1960s cohorts, housing wealth remains the most significant form of wealth for all cohorts.

NATSEM’s analysis shows that, not only are successively higher proportions of members of the 1950s and 1960s cohorts starting their ‘housing’ careers at older ages but, in relative terms, members of younger cohorts are accumulating less in housing wealth. NATSEM’s analysis of wealth differentials demonstrates that these differentials are, to a large extent, due to ‘period effects’. NATSEM suggest the lesser wealth of younger cohorts may be due to the growing value of mortgages for younger cohorts and the serendipitous increases in land values for members of the older cohorts who live in sought after locations. Because NATSEM’s analysis only covers data up to 1997–98, the important ‘period’ effect of low interest rates which have prevailed since then have not yet been taken into account in analysis. It is conceivable that, when data become available for updated analysis, they may show that the gap between the net housing wealth between the older and younger cohorts has narrowed.

In any case, while it is acknowledged that outright home ownership is instrumental in improving retirement outcomes by virtue of the fact that it reduces living costs in retirement, the contribution that ‘excessive’ housing wealth makes to retirement outcomes is more open to debate and requires further research. One aspect of this debate is the extent to which there is a potential to transform ‘excessive’ housing wealth into other forms of wealth (to help improve retirement living standards and retirement incomes). The degree to which this occurs or could be encouraged to occur has not been widely explored by researchers or policy analysts. When considering the wealth of cohorts it is also important to bear in mind the wide variation in wealth holdings within each cohort. In each cohort the poorest half are likely to own very little of the cohort’s wealth.

Perhaps the most revealing difference between cohorts is the increasingly higher proportion of people in receipt of income support payments with each successively younger cohort. Snapshot data of the proportion of the population in receipt of income support by age group suggest that the proportion of the 1940s cohort in receipt of income support will increase sharply over the next five to 10 years. Similar patterns of steep increases in the proportion of the population in receipt of income support is likely to flow for the 1950s and 1960s cohort in 10 to 30 years’ time.
Unless the proportions in receipt of income support for the 1950s and 1960s cohorts start converging with proportions for the 1940s cohort, it is possible that, in the not too distant future, even higher proportions of new entrants onto Age Pension will come from other income support payments. This is concerning because people who enter onto Age a pension payment from other income support payments have usually spent longer out of the labour force than those who were not previously on an income support payment. Consequently, they have less private financial resources to assist in funding their retirement.
Typically, the most disaggregated time series data available from the ABS and the Department of Family and Community Services are broken down to age ranges rather than single years of age. Given this limitation, throughout this paper, the methodology for deriving annual estimates of the proportion of cohort members falling within a particular category (for example, within the category ‘working full-time’) typically provides indicative estimates only.

The two examples below explain how most cohort time series estimates were derived.

**Example 1: 1999 estimate of the proportion of male members of the 1950s cohort working full-time**

In 1999 members of the 1950s cohort were aged between 40 and 49 years. However, ABS time series data used to calculate the proportion of men in the civilian population working full-time each year are available in limited age ranges only. These age ranges include the 35–44 and 45–54 ranges.

Both the 35–44 and 45–54 ranges were used to estimate the proportion of male members of the 1950s cohort working full-time in 1999. In 1999, 80.9 per cent men aged 35–44 and 77.1 per cent of men aged 45–54 were working full-time. Because the age range 40–49 includes five years from the lower age range (40–44) and five years from the higher age range (45–59), the mid-point of the two proportions for these ranges was taken to be the estimate for the age range 40–49 (79.0 per cent).

It should be noted that ‘mid-cohort age’ is indicated on the bottom axes of all figures reporting annual estimates of proportions. For example, in 1999 when the 1950s cohort was aged between 40 and 49, the mid-cohort age was (just turned) 44.

**Example 2: 2000 estimate of the proportion of male members of the 1950s cohort working full-time**

In 2000 members of the 1950s cohort were aged between 41 and 50 years. Again, the ABS time series data available in 2000 have limited age ranges, including the 35–44 and 45–54 ranges.

To calculate the proportion of men aged 41–50 in the civilian population working full-time in 2000, again both the 35–44 and 45–54 ranges were used. In 2000, 82.6 per cent men aged 35–44 and 77.4 per cent of men aged 45–54 were working full-time. Because the age range 41–50 includes four years from the lower age range (41–44) and six years from the higher age range (45–59), a point six-tenths of the distance between the two proportions was taken to be the estimate the proportion of male members of the 1950s cohort working full-time (79.5 per cent).

Note that for the year 2000, when the 1950s cohort was aged between 41 and 49, the mid-cohort age was (just turned) 45.
To summarise, when ABS data have been used, the formula for estimating proportions for the 1950s cohort when cohort members are aged between 35 and 54 is as follows:

\[ P_{35-44} - ((P_{35-44} - P_{45-54}) \times N) \]

Where:
- \( P_{35-44} \) is the relevant proportion for the 35–44 age range
- \( P_{45-54} \) is the relevant proportion for the 45–54 age range
- \( N \) is the number of years falling within the 45–54 age range

**Worked examples:**

- % of male members working full-time in 1999 = 80.9 – (80.9 – 77.1) ÷ 0.5) = 79.0
- % of male members working full-time in 2000 = 82.6 – (82.6 – 77.4) ÷ 0.6) = 79.5

Using ABS and Department of Family and Community Services’ data, a similar approach was taken to estimate proportions indicated for other age ranges and other cohorts.

**Endnotes**

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2. In the 1996 Census data, the nearest available birth cohorts were 1942–51, 1952–61 and 1962–71. These were used to respectively approximate the 1940s, 1950s and 1960s cohorts.

3. Due to future migration the proportion born overseas for all cohorts is likely to increase. Given the age profiles of our immigrants, the increase is likely to be larger for younger cohorts.

4. In this section estimates of cohort proportions are indicative only. See technical note at Appendix A for an explanation of how cohort proportions were derived.

5. Given a discontinuity in ABS’ data collection of the number in the civilian population who worked in the mid to late 1970s, points for 1940s cohort at younger ages could not be plotted.
The proportion also exceeded this level before the cohort had reached peak child-bearing years.

This figure gives indicative estimates of cohort proportions only based on available data which best approximate cohort proportions.

The terms used in this Table are defined as follows—‘Cohabitation’ means ‘living in a de facto relationship’; ‘direct marriages’ are ‘de jure marriages which are not preceded by a de facto relationship’; and ‘indirect marriages’ are ‘de jure marriages which are preceded by a de facto relationship’.

These figures benchmark reasonably well against ABS data. ABS data (1998 and 2000b) show that the proportion of couples who indicated they had cohabitated prior to marriage had trebled between 1978 and 2000, from 22 per cent to 71 per cent. Note that ABS data are not ‘first’ marriage data.

This is the only data available for this cohort.

In this figure estimates of cohort proportions are indicative only. See technical note at Attachment A for an explanation of how cohort proportions were derived.

ABS, 2000d.

The Retirement Modelling Task estimates that, with a fully mature scheme, a person earning 100 per cent of weekly ordinary time earnings (AWOTE) will receive 84 per cent of the single full-rate pension and have an average annual net expenditure in retirement in the order of 2.14 times the value of the single Age Pension. This estimate is based on a scenario where a person works from the age of 25 to the age of 65 and invests half their eligible termination payment in an annuity or pension. A person (in similar circumstances) earning 200 per cent AWOTE will receive 60 per cent of the single full-rate pension and receive an average annual net expenditure in retirement in the order of 2.89 times the value of the single Age Pension (Tinnion & Rothman 1999).

Less tax paid and superannuation fund fees payable. These imposts reduce savings disproportionately, with greatest proportional imposts on those with lower account balances.

Given that limited age range data are available and the fact that 11 years (from 1986 to 1997) has elapsed between measurement points which form the basis of NATSEM’s analysis, this figure makes comparisons between slightly different cohorts.

In this section estimates of cohort proportions are indicative only. See technical note at Appendix A for an explanation of how cohort proportions were derived.

There is one exception—that is, the proportion of women when aged 34 to 43 in the 1940s cohort in receipt of income support is higher that the proportion in the 1950s cohort.
Net increase may be overstated. From 1994 each member of a couple was required to qualify for income support payments in their own right and from 1 July 1995, Parenting Allowance (which later became Parenting Payment Partnered) was introduced. Before 1994, one partner in the couple received payment for both members of the couple.

Earlier estimates (that is, estimates up to 1988) are based on the Department of Social Security publication Pensioners and Beneficiaries as a proportion of the population and the labour force, Australia (ISSN 1034-6619). Later estimates are based on the Department of Family and Community Services publication Income support and related statistics: a 10-year compendium, 1989-1999, and ABS publication Australian Historical Population Statistics (cat. no. 3105.0.65.001). Given the discontinuity in the data, the decrease may be a little overstated. Data for the past two years were derived from Centrelink’s Superstar database, Department of Veterans’ Affairs administrative data, and ABS publication Australian Historical Population Statistics (cat. no. 3105.0.65.001).

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The psychological impact of joblessness

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1. Introduction

In the 2001–02 Budget, the Government announced the Australians Working Together package, designed to reduce the rate of joblessness and income support reliance in the Australian community. The package came about as a result of concerns about the increasing proportion of the Australian population dependent on income support; increasing numbers of jobless families; the divide between ‘work rich’ and ‘work poor’ families; and the extended duration of much income support reliance.

Potential consequences of joblessness for individuals and their families include poverty and financial hardship, reduced future work opportunities, reduced participation in mainstream community life, family relationship strains, and intergenerational welfare dependency. However, the psychological consequences of joblessness are also worthy of examination, given that psychological difficulties can cause a great deal of distress to sufferers and their families; prevent a return to work; and be costly to the community.

Understanding and promoting awareness of the consequences of joblessness for individuals and the community is important in order to mobilise societal commitment to tackle the problem, and to guide the policy responses that are made to it. Accordingly, the purpose of this paper is to promote awareness of the research and analysis that exists about the psychological impacts of joblessness.

‘Joblessness’ is a concept usually associated with those registered as unemployed and looking for paid work. However, there are many other people of workforce age who are jobless and reliant on income support. These may include people with disabilities on Disability Support Pension; those with caring responsibilities on Carer Payment; older people on Mature Age Allowance, Widow Allowance or Partner Allowance; and primary carers of children on Parenting Payment. Much of the debate following the announcement of the Australians Working Together package has focused on the extent to which such groups should be encouraged or required to take up opportunities for workforce participation.

For example, despite the fact that the majority of mothers with dependent children in Australia are in paid employment, there have been concerns about whether requirements to plan or prepare for workforce participation will be damaging to people on Parenting Payment (primarily mothers). An understanding of the psychological impacts for mothers of being in paid work or not should provide an additional perspective to inform this debate.
This paper firstly summarises research on the psychological impacts of unemployment. It then analyses some issues and research relating to people, primarily mothers, who are not in the labour force due to parenting/homemaking commitments.

2. Unemployment

There has been extensive international research over many decades showing poorer psychological health among unemployed than employed people. For example, Australian reviewers Murphy and Athanasou (1999) outlined that following on from early classic studies in the 1930s, at least four major reviews of the topic appeared in the mid 1980s, identifying a large number of studies indicating more psychological distress among the unemployed. Murphy and Athanasou themselves reviewed sixteen longitudinal studies published between 1986 and 1996 involving research from various countries, including three from Australia. Fourteen of the 16 studies supported the hypothesis that unemployment has negative effects on mental health.

Flatau, Galea and Petridis (2000) described various Australian studies pointing to poorer psychological health among the unemployed. Numerous overseas studies were also cited by Walsh and Jackson (1995) and Halvorsen (1998).

The finding of poorer psychological health among the unemployed is also demonstrated in large-scale Australian quantitative surveys, the 1995 National Health Survey and the 1997 National Survey of Mental Health and Wellbeing of Adults (Flatau, Galea & Petridis 2000; Australian Bureau of Statistics (ABS) 1997). Using the 1995 National Health Survey, Flatau, Galea and Petridis found that unemployed people reported reduced feelings of happiness and peacefulness, or enhanced feelings of nervousness and depression. Using the 1997 National Survey of Mental Health and Wellbeing of Adults, they found that the prevalence of mental disorders was lowest among full-time employed people and highest among the unemployed.

Establishing a link between unemployment and poor psychological health does not necessarily prove that unemployment causes psychological problems. An alternative explanation is that people with pre-existing psychological problems are more likely to become unemployed (the ‘selection hypothesis’).

However, while those with pre-existing psychological problems no doubt appear among the unemployed, they are unlikely to account for the majority of the unemployed, particularly in times of economic depression (Hannan, ORiain & Whelan 1997; Fryer 1997). In addition, various longitudinal studies (that are able to track psychological changes in individuals over time) have shown that people’s psychological wellbeing changes as their employment status changes. For example, in the studies reviewed by Murphy and Athanasou (1999), they found evidence of both decreased mental health for those moving from employment to
unemployment and increased mental health for those moving from unemployment to employment. They commented that the ‘selection’ effect did not seem to apply in the majority of the surveyed studies, and that the studies best placed to control for such potential confounding variables concluded that unemployment per se had an effect on mental health.

Two of the Australian studies reviewed, by Graetz (1993) and Morrell et al. (1994), used a four-year longitudinal survey of over 6000 young people aged 16 to 25. Graetz found lower levels of mental health disorders among employed than unemployed people, and attributed this to employment status itself, not to pre-disposing health differences. Morrell et al. concluded that ‘unemployment is a significant cause of psychological morbidity in the young, and that an effective cure for psychological morbidity resulting from unemployment is ... a job’ (p. 1563). Halvorsen (1998) also cited studies showing improvement in the mental health of unemployed people when they become re-employed.

In summary, there is considerable weight of evidence suggesting that on average, unemployment has negative psychological effects. However, the effect of unemployment on individuals may vary according to a wide range of factors, such as financial resources, socioeconomic status, age, gender, marital status, duration of unemployment, previous employment experience, and ethnicity (Nordenmark & Strandh 1999). The next sections examine why unemployment may have a negative impact and some variable factors.

**Why unemployment may have a negative impact**

Conventional wisdom would suggest that unemployed people commonly experience a sense of rejection, failure, low self-esteem, lack of purpose, lack of status and identity, and pessimism. Feelings of low esteem and status may be reinforced by having to seek help from welfare systems, and by feeling powerless when interacting with these systems.

There are various theories relevant to the question of why unemployed people might suffer psychologically. People who have lost employment involuntarily may face the type of grief reaction to loss described in Kubler-Ross’s (1969) groundbreaking work on death and dying. Kubler-Ross described five stages of grief among dying patients—denial, anger, bargaining, depression, and acceptance. This theory on grief reaction has since been applied to many other situations where people suffer a loss or a change in social identity.

The applicability of this theory to unemployment can be seen in Headey’s (2002) description of a large-scale German study showing that life satisfaction decreased after unemployment until it hit ‘rock bottom’ around a year after becoming unemployed. If unemployment continued beyond this, adaptation occurred, although satisfaction remained well below the level of employed people. Similarly, Flatau, Galea and Petridis (2000) described stages of shock, a degree of optimism, followed by pessimism and resignation, found in other research. In their own Australian study, Flatau, Galea and Petridis found an oscillating pattern, with a
reduction in mental health scores after becoming unemployed, followed by some recovery, then further deterioration. The worst outcomes were in the 13 to 26 week period after becoming unemployed.

It is then relevant to consider what sort of ‘loss’ people who become involuntarily unemployed experience (or in the case of those who have never or not recently worked, what it is that they are ‘losing out on’). As employment can have both financial and non-financial benefits, it is logical to assume that loss of both types of benefit would impact on psychological wellbeing. However, opinion has been divided on the relative importance of financial versus non-financial losses.

Jahoda (1982), in her latent deprivation model, argued that employment provides both manifest (income) and latent (psychological) benefits, the latter including a time structure, social contacts, participation in collective purposes, status and identity, and regular activity. Deprivation of the latent benefits was argued to have a negative effect on psychological wellbeing. Empirical support for this model is described by Creed and Macintyre (2001).

Warr (1987) drew on Jahoda’s work in his ‘vitamin’ model. Warr argued that psychological adjustment is affected by the following ‘vitamins’—opportunities for control; skill use; task variety; environmental clarity; externally generated goals; financial and physical security; social status; and interpersonal contact. He suggested that deficits in these vitamins were principal causes for the poorer mental health typically accompanying unemployment. Empirical support for Warr’s model is described in Jackson (1999).

Fryer (1986) put forward an ‘agency restriction’ model, focusing on the importance of people as active agents, striving to control their own situation and work towards their own goals. According to this model, unemployment restricts people’s ability to do this (primarily due to financial constraints), and hence impacts on psychological wellbeing.

Other researchers have also emphasised the psychological difficulties caused by financial hardship accompanying unemployment. According to Halvorsen (1998), in most unemployment studies it has been found that shortage of money is the greatest problem and an important cause of personal and family problems. Creed and Macintyre (2001) also cited studies providing evidence that financial hardship plays a substantial role in the lives of unemployed people.

Halvorsen (1997) discussed the following impacts of financial hardship; poverty; family problems caused by shortage of money; uncertainty about the future; decline in activities and social contacts requiring money; enforced dependence on family and welfare authorities; and stigma about receiving welfare payments. According to him:

lack of money excludes one from the mainstream of contemporary life where people define themselves increasingly in terms of their access to everything that money can buy. Without sufficient income it is difficult to maintain various social roles in society, personal identity and self-esteem (p. 258).
Two Australian studies examine the financial and non-financial aspects of unemployment. According to Flatau, Galea and Petridis (2000), the relationship between unemployment and mental health is consistent and strong while the impact of income is less clear. From their own study, Flateau et al. concluded that a component of the poor mental health and wellbeing outcomes of the unemployed appeared to be accounted for by lower income, but that unemployment itself also appeared to exert an independent negative effect. In another Australian study, Creed and Macintyre (2001) found that financial strain was the most important predictor of psychological wellbeing of unemployed people, but that time structure, activity, status, collective purpose, and social contact also had an impact.

It is beyond the scope of this paper to fully debate which of the above explanations has most validity. In the opinion of the author, they are not inconsistent, but simply have different emphases. Each may have more or less applicability according to individual circumstances. For example, one individual may be most affected by the financial deprivation of unemployment, whereas another may be more affected by the loss of status or social contacts.

**Variable factors**

*Quality and security of employment*

Opinion has been divided about whether any employment is better than unemployment in terms of psychological health. Jahoda (1981) contended that even a bad job was better than no job. Similarly, Theodossiou (1998) found that unemployed people had higher risks of anxiety, depression, loss of confidence, and reduction in self-esteem, even compared with those in low-paid employment (although level of pay may not be a good proxy for quality of employment).

However, Halvorsen (1998) reviewed many other studies finding psychological health to be dependent on the quality and security of the employment. According to Halvorsen, an unsatisfying or insecure job after an unemployment spell is associated with psychological distress, and unsatisfying work or insecurity can be a more important source of health disorders than being unemployed. In an Australian study, Graetz (1993) also found that dissatisfied workers faced higher risks to psychological health than unemployed people.

Conclusions from Australian reviewers Bohle, Quinlan and Mayhew (2001) fall between the two extremes. According to them, the evidence from a review of unemployment research suggests that although the negative impact of job insecurity may be smaller than that of unemployment, and may depend upon a more subtle interplay between demographic factors such as education and income, it is still significant.
**Age**
According to Fryer (1997), most researchers have come to believe that unemployment has a more negative psychological effect on older than younger people. Evidence to this effect was also found by Hannan, ORiain and Whelan (1997) and Theodossiou (1998), and cited in Halvorsen (1998), Creed (1999), and Winefield et al. (2002).

**Gender**
According to Dew, Bromet and Penkower (1992) the impact of job loss on women has been largely ignored. They attributed this to difficulties in determining whether women are unemployed or not in the labour force, and an assumption that employment is less important to women than men because of alternative homemaking and parenting roles.

Dew, Bromet and Penkower (1992) and Australian researchers Muller, Hicks and Winocur (1993) did cite various studies showing lower levels of psychological wellbeing in unemployed than employed women. However, in their own small study of 109 employed and unemployed male and female clerical workers in Brisbane, Muller, Hicks and Winocur found psychological difficulties among both employed and unemployed women. Unemployed women showed confusion, low self-esteem and low levels of vigour, while employed women had high levels of psychological distress, tension, fatigue and confusion. The latter finding may be due to aspects of role overload for working women, discussed later in this paper.

While both asserting that involuntary unemployment has a negative impact on both men and women, Dew, Bromet and Penkower and Muller, Hicks and Winocur formed different conclusions about whether men or women suffer most. From their review of relevant studies, Dew, Bromet and Penkower, concluded that most indicate that distress levels in unemployed women equal those in men, while several found that unemployed women were relatively more distressed. Muller, Hicks and Winocur, however, concluded that while findings on gender differences are somewhat inconsistent, unemployment appears to have a greater impact on males. Lahelma (1992) also found the adverse impact of unemployment on mental wellbeing stronger among men than women.

**Alternative ways of meeting needs**
If, as discussed above, people’s psychological wellbeing is affected by the loss of financial and non-financial benefits associated with employment, it is logical that their adjustment to unemployment will be affected by the extent to which they have alternative ways of meeting their financial and non-financial needs (for example, other sources of income to meet financial needs, or other activities and social contacts to meet psychosocial needs).
This concept was tested in a Swedish study by Nordenmark and Strandh (1999). They found that the unemployed who had good access to economic resources and could satisfy their other needs through activities other than employment fared well, whereas those more dependent on employment to meet their needs had poorer mental health. Creed and Macintyre (2001) and Winefield et. al. (2002) also described a number of studies showing that unemployed people with higher levels of structured activities and social contact had better psychological wellbeing than those with lower levels of activity or social contact.

*Individual qualities and resilience*

The psychological impact of any life event will vary according to the psychological strengths and personality characteristics of the individual concerned. For example, Shamir (1986) found that the psychological wellbeing of people with low self-esteem was more sensitive to employment status than that of people with high self-esteem.

Murphy and Athanasou (1999) cited evidence suggesting the potential importance of personal vulnerability to distress—a study analysing long-term unemployed graduates’ personality scores indicated that 69 per cent of the variance in distress scores was due to personal vulnerability rather than to their changed employment status. Morrison et al. (2001), found that the degree of sense of control and optimism regarding re-employment had an effect on the psychological wellbeing of unemployed men and women.

*Effects of unemployment on the psychological wellbeing of other family members*

Weston (1996) noted that much research focuses on the individual who is unemployed, ignoring the family context. However, Weston and other researchers have pointed to the negative psychological impacts on partners and families. McClelland (2000) described findings on the impact on partner mental health, family conflict, separation and divorce, and child abuse. Weston (1996) described findings linking unemployment of husbands with mental health of mothers during pregnancy and childbirth, and the development of depression in wives and children.

In her own study using the Australian Living Standards Study, Weston found that mothers with unemployed partners experienced the highest sense of unwellness (based on self-reports of health status, experience of pain, and health related interference with activities). Mothers with unemployed partners were also less satisfied with their lives, while those who were also unemployed (along with their partner) indicated significantly higher depression than all other groups of mothers. In another study, Weston (1993) found that adolescents in families where the father was not working had relatively low wellbeing in areas such as sense of mastery, sociability, satisfaction, boredom, and happiness.
3. Parenting/Home Duties

According to Nordenmark and Strandh (1999) employment is of great importance, indeed a central prerequisite, for meeting the socially defined needs of people in western society. Similarly, Winefield et al. (2002) described that paid work in western society is highly valued and can dramatically impact on individual identity and status. According to them, not to have paid work is to see oneself as a failure, to have an indeterminate identity and status, to be perceived as carried by the work of others, to be dependent, and to have an uncertain future.

If this is the case, it clearly follows that the psychological health of those involuntarily unemployed would suffer. But there are others who choose not to undertake paid employment because of commitments to other roles. One example is those, primarily women, undertaking a parenting and homemaking role. How is their psychological health affected by lack of paid employment?

This question can be analysed from both a theoretical and an empirical perspective. It is outside the scope of this paper to discuss the theoretical issues in a comprehensive manner. However, the paper will briefly present some issues, and follow this with some empirical findings of interest.

**Theoretical issues**

*Status and resources associated with homemaker role*

Firstly, it was posited above that employment fulfils a number of functions, and that the effects of unemployment will partly depend on the extent to which a person can meet their financial and psychosocial needs through other sources. It follows that the psychological impact for homemakers of being without paid employment will depend partly on the extent to which they obtain such factors as opportunities for control, skill use, task variety, environmental clarity, externally generated goals, financial and physical security, social status, and interpersonal contact through their homemaker role.

While the extent to which they do so will obviously depend on individual circumstances, there may be some general influencing issues. Evans and Kelley (2002), based on analysis of the 1996-97 International Social Science Survey, Australia, described that Australians have ‘strong moral reservations about employment for mothers of young children’ (under school age). Accordingly, it may be that women at home feel a sense of status and societal approval, which may have a positive effect on their psychological wellbeing. While the majority of Australian mothers do work, they may feel a sense of guilt or social disapproval, especially if they work long hours or when children are very young.

Another perspective, however, is that while lip service is paid to the value of the parenting/homemaker role, in reality status and resources are tied to the employment role. This could result in women in a homemaker role having poorer psychological health than those in an employment role.
According to this perspective women are pressured by the expectation that they should take on a parenting/homemaker role, but are not rewarded with status and resources for doing so. For example, Davies and McAlpine (1998) claim that ironically, despite normative demands and the widespread rhetoric involving family values and caring for children, housework and emotional labour receive few tangible rewards.

It is important not to underrate the psychological impact of financial constraints in this context. Women without paid work may be psychologically affected by financial dependence on their partner or welfare payments, by the stress of trying to manage on a low income, and by a sense of guilt and deprivation about the material goods, services and activities that they and their children are missing out on.

Responses from a recent survey of Parenting Payment recipients conducted by the Department of Family and Community Services (FaCS) provide a poignant illustration of how parents feel about conflicting societal expectations about homemaking and employment roles.

In this day and age you are made to feel like a lesser person if you are a stay at home mum, but then it’s the same if you’re working—you can’t win.

You either stay at home and you’re poor and you can’t afford to do anything, or you work your guts off and sacrifice your kids. (FaCS unpublished data)

**Reasons for being out of the workforce**

It could be expected that the mental health of mothers out of the workforce would vary according to whether this is an active choice, or a default position due to difficulties in entering the workforce. Women who are able to obtain paid work, but choose not to, could be expected to have better mental health than those who are involuntarily unemployed, who are ‘discouraged jobseekers’, or who lack the confidence and skills to even attempt to seek work.

Information from a recent survey of Parenting Payment recipients suggests that most are making an active choice (FaCS unpublished data). Three-quarters of those not working and preferring not to work cited family responsibilities as their main reason for this preference, and half of those not working but preferring to work cited family responsibilities as their main reason for not working. Lack of suitable jobs and lack of training or work skills did not feature as a main reason for preferring not to work or not looking for work (cited by 5 per cent or less).

Unfortunately, women who make an active choice to remain out of the workforce for long periods for parenting reasons may then find it extremely difficult to re-enter the workforce at a later stage, due to lack of recent work experience, skills, contacts and confidence. FaCS administrative data show that half of those who stop receiving Parenting Payment when their youngest child turns 16 are still on
income support five years later. This indicates that an active choice that may have positive or neutral psychological impacts at one stage of life may lead to negative psychological impacts at a later stage.

Role expansion—benefits of multiple roles
Another issue is that women may find the expansion of roles that goes with combining parenting/homemaking and paid employment to be of benefit. Parenting and paid employment can offer different types of stimulation, challenges, social contacts, and support, and women may find that combining these provides a good balance in their lives. It would follow from this perspective that women in a homemaker role could have poorer psychological health than those in an employment role.

In addition, being at home with children full-time can be inherently stressful, and paid employment may offer a respite from this. Theodossiou (1998), on the basis of his own and others' research, claimed that children appear to be a source of stress in the lives of parents. According to Lewis et al. (1999), being consistently at the beck and call of demanding young children can increase feelings of strain, and a lifestyle centred around the full-time care of children can lead to social isolation. They claimed that much previous research has stressed the positive benefit for mothers' mental health from the opportunity to engage in work outside the home.

For example, one study they described found positive spillover effects from job to parenting, suggesting that particularly for women with rewarding jobs, there could be some respite from troubled relationships with their children, which in turn afforded protection from negative mental health effects. In their own qualitative study of mothers of disabled children, Lewis et al. stated that almost all specifically highlighted the positive psychological benefit of multiple roles.

In a similar vein, Jackson and Huang (2000) investigated interactions between child behaviour problems, maternal depression, parenting stress and maternal employment. They found that maternal employment was associated with less parenting stress, which in turn was associated with higher levels of self-efficacy, and through the latter, somewhat better parenting. They suggested that even low-wage employment could have beneficial effects.

Role overload for working mothers
The opposite side of the coin to ‘role expansion’ is ‘role overload’. The issue of role overload for working mothers has been widely discussed (see, for example, Erdwins et al. 2001; Bryson & Warner-Smith 1998; Skues & Kirkby 1996; DeMeis & Perkins 1996; and Holtzman & Glass 1999).

Bryson and Warner-Smith (1998) commented that for many years research was focused on the likelihood of employment causing deterioration in women’s health because it was assumed that the ‘double burden’ caused by the combination of
family work and employment would be deleterious. They also commented that study after study shows that women still take major responsibility for family work, whatever their employment commitments.

Skues and Kirkby (1996) described that on the one hand women have benefited from employment by financial independence, increased self-esteem and the building of wider social networks, and that there is evidence that paid employment is associated with better physical health. On the other hand, they claimed that overload due to heavy job demands, multiple role strain, and conflict at work or home can lead to negative health consequences such as depression, fatigue and other health risk factors.

In a recent survey of Parenting Payment recipients, around half mentioned one or more of the following as a disadvantage of work—being away from, and having less time for, family and children; worry about children and family’s wellbeing; inability to fulfil carer responsibilities while at work; worry about children’s development; and extra workload at home and less time for housework (FaCS unpublished data).

The stress of managing both employment and domestic duties could be exacerbated by characteristics of the job. According to Tausig (1999), women’s employment is typified by job characteristics that have been found to be stressful. He claimed that women’s work is concentrated in low-paying, low autonomy, and less flexible occupations, smaller organisations, and peripheral, non-unionised industries.

In an Australian context, Winefield et al. (2002) described that because women are a clear majority of part-time and casual workers, many of the psychologically stressful effects of low-paid unskilled work disproportionately affect women workers. Bardoel, Tharenou, and Ristov (2000) similarly commented on the lower pay and status of part-time work.

**Empirical findings on the mental health of women in paid employment compared with those who are not**

It is clear from the above discussion that psychological impact of joblessness for a particular parent/homemaker could be affected by a complex range of issues, and would vary from individual to individual. However, empirical research allows generalisations to be made about how a particular issue affects an overall population. Therefore, useful insights into the psychological impact of joblessness on parents overall could be gained from looking at empirical research that compares psychological outcomes for parents/homemakers who do and don’t have paid employment.

Unfortunately, many descriptions of research do not differentiate between women with and without dependent children, and those unemployed versus not in the labour force. Therefore, although the results mentioned below provide some level of insight, it is clear that more specific research or reporting of such research is required to isolate effects for parents with dependent children who are out of the labour force.
The studies reviewed suggest that women in employment have equivalent to or better psychological wellbeing than those not in employment. Findings suggesting that employed women have better health/wellbeing than those who are not employed are cited by Bryson and Warner-Smith (1998), Lee (1987), Raphael (1992), Henwood and Miles (1987) and Roxburgh (1997). Klein et al. (1998) found no significant differences. Roxburgh (1997) claimed that although there is some mixed evidence regarding the comparative mental health of female workers and homemakers, no study has ever found that housewives are in better mental health than female workers.

There is potentially some useful information arising from Australian quantitative studies, but again, at this stage published data have limited specificity for this purpose.

Bryson and Warner-Smith (1998) examined responses from around 13 000 women aged 45 to 50 in the 1996 wave of the Women’s Health Australia project, also called the Australian Longitudinal Study on Women’s Health. Among those with a child under 18 years living with them, those who were not in paid work had the worst mental health scores, while those working 25 to 34 hours per week had the best scores. The authors suggested that there is ‘at least a prima facie case for asserting that employment itself makes a difference over and above self-selection effects’ (p. 10), and concluded that ‘There is a clear message here that the relevant social policy achievements which facilitated the combination of family and employment of the last decades need to be continued and enhanced’ (p. 13). However, the sample may have been of higher socioeconomic status than Australian women generally.

In a study of the 1977–78 ABS Australian Health Survey, comprising around 29 000 adults, Lee (1987) found that employed women had better health than those engaged in home duties. The group reporting the most mental health problems was women who were separated, divorced or widowed, engaged in home duties, and with children in the household. The group with the best mental health was professional women. In a study of the same survey, Broadhead (1985) described that the mental health of women engaged in ‘home duties’ was worse than women in any paid occupation, with the exception of those in the administrative category (and the number of women in the administrative category was small, with a large standard error).

The ABS conducted a National Survey of Mental Health and Wellbeing of Adults in 1997, comprising approximately 10 600 adults. ABS (1997) indicated that females who were not in the labour force had a higher rate of mental disorders than those in employment, but the publication does not distinguish between women with and without dependent children.

Flatau, Galea and Petridis (2000) conducted an analysis of both the 1995 National Health Survey and the 1997 National Survey of Mental Health and Wellbeing of
Adults. From the 1995 survey, they found that mental health outcomes were poorer for those not in the labour force than for those in full-time employment, but for women, these became insignificant when account was taken of income effects. From the 1997 survey, those who were not in the labour force and not studying had experienced a higher prevalence of mental disorders than full-time employed persons, although the quantitative difference was not as large as the difference between unemployed and employed people. However, the text relating to the 1997 survey does not distinguish between men and women, who may have different reactions to being out of the labour force.

In a recent survey of Parenting Payment recipients, respondents were asked if they were currently experiencing emotional or stress related problems. Among single customers, those not in paid work were significantly more likely to say they were experiencing such problems than those in paid work. The differences were not significant among partnered recipients (FaCS unpublished data).

The Household Income and Labour Dynamics Australia survey collects information on a number of mental health dimensions, as well as labour force status, for single and partnered mothers. A superficial examination of data does not reveal large differences between those in paid work and not in paid work, but a more detailed examination of data is warranted.

In addition to studies focusing on women, two studies have general findings on the psychological health of those employed versus engaged in home duties. Halvorsen (1998) found that those outside the labour force (consisting mainly of students and homemakers) seemed to have about the same distress levels as the securely re-employed.

On the other hand, Hannan, ORiain and Whelan (1997) found that employed people had the lowest levels of distress, followed by students, those engaged in home duties, and those unemployed. Those engaged in home duties showed levels of distress well above the average. For both young people and adults, average scores on a 12-item form of the General Health questionnaire to measure levels of psychological distress were over twice as high for those engaged in home duties as those in employment. The proportions with scores above a threshold for determining non-psychotic psychiatric cases were twice as high for youths engaged in home duties as those in employment, and three times as high for adults engaged in home duties as those in employment.

**Variable factors**

Many variable factors may influence the mental health of mothers in employment, and hence the comparison with mothers not in employment. These include personality/disposition, marital status, partner support, age and number of children, part-time/full-time employment, quality of and satisfaction with employment, and child care arrangements.
Fukumaru (2000) found that wives in dual-career couples experienced more depression if their husbands had a negative attitude towards the wife’s employment. They suggested that the father’s support of their wives is essential for working mothers’ mental health.

Erdwins et al. (2001) found that self-efficacy (sense of mastery) in work and parental roles, and support from spouse and supervisor, had an effect on role strain. Satisfaction with child care was related to less anxiety about being separated from young children. Evans and Kelley (2002) stated that there are conflicting findings on how stressful employment actually is for mothers, but the best evidence indicates that context is crucial, with supportive husbands and satisfactory child care arrangements effectively buffering depression.

Bardoel, Tharenou and Ristov (2000) described that analysis of the 1995 Australian Workplace Industrial Relations Survey showed that working between 1 and 20 hours per week (an option often chosen by women with young children) was associated with lower levels of job stress. They noted this was consistent with findings from the Australian Family Formation Project study (1981-91) which found that 43 per cent of women employed full-time, but only 19 per cent employed part-time agreed they did not have the energy to be a good parent.

Lewis et al. (1999) suggested that conditions of work, in particular flexibility and time demands, appear influential on outcomes. However, they also said that perhaps the most important influence on wellbeing is not whether a mother engages in paid employment per se, but rather how satisfied she is with her employment status.

This latter finding raises the important issue of preference. McKim et al. (1999), based on their own and other studies, claimed that it is complementarity of employment preference and decision that is critical in determining maternal mental health. Mothers who preferred to stay home but were working, and mothers who preferred to work but did not, were more depressed than those whose work status was in accordance with their preferences. This shows the importance of Fryer’s (1986) theories, that people should not be seen as passive responders to circumstance. Rather, they are active agents, striving to set and achieve their own goals, and restrictions to their ability to do so are likely to have a negative psychological impact.

According to Davies and McAlpine (1998), the literature suggests that employment is beneficial to women’s mental health to the extent that it provides a sense of control over their lives and is not offset by feelings of competing familial demands. They cited findings that compared to housewives and employed women with little job autonomy, women in jobs with high control experience the fewest symptoms of depression.
4. Conclusions and policy implications

The literature reviewed above appears to point clearly to the conclusion that unemployment has a negative psychological impact, which can cause distress to sufferers and their families, can prevent a return to work, and can be costly to the community. This in turn points to the importance of ongoing societal efforts to prevent and overcome joblessness in the community, as well as to help jobless people deal with negative impacts. Some of the policy challenges and initiatives in relation to this are described below.

At a macro level the challenge is to create an environment with sufficient employment opportunities. This is the province of broad government economic policy. However, even strong economic and employment growth does not guarantee that those most disadvantaged in the labour market will benefit from paid work. The Reference Group on Welfare Reform (2000, p. 2) was concerned that despite strong economic growth, disadvantage was concentrated increasingly in particular segments of the population and in particular localities.

At another level, the challenge is to assist disadvantaged people to take advantage of available opportunities (either for paid work, or positive alternatives), and to assist unemployed people to deal with negative impacts. While the family and community services portfolio has a major role in dealing with these issues, ultimately the responsibility is a whole of government one.

Findings that unemployed people with higher levels of structured activity and social contact have better mental health than those with lower levels of activity also supports the Government’s mutual obligation approach, whereby jobseekers aged 18 to 49 take part in an activity in order to improve job prospects and contact with the community. Changes to employment assistance through the introduction of Job Network, and successive changes to Job Network, were designed to deliver a better quality of assistance to unemployed people.

Attempts through initiatives such as Australians Working Together to maintain workforce attachment for older people of workforce age (or to increase their social participation where this is not possible) appear particularly necessary in view of the greater psychological impacts for older people than for youth. The Australians Working Together package combines elements of encouragement and requirements. Mature Age Allowance and Partner Allowance (both ‘passive’ income support payments) are now closed to new entrants. Most of those who would have claimed these payments will now be eligible for Newstart Allowance, which allows for flexible participation requirements and individually focused support. Existing recipients of Mature Age Allowance and Partner Allowance are invited to attend a voluntary participation planning interview with a Centrelink Personal Adviser to help them increase their economic and social participation.

The concept of these participation planning interviews is consistent with Fryer’s (1986) agency theory described previously, in which people are seen as active
agents, striving to set their own goals and control their own situation. Customers are encouraged to consider and set goals for participation and develop plans to work towards these goals. These principles are important to consider in all policy planning, because it is thought that being reliant on welfare systems may induce feelings of powerlessness and dependence which have a negative psychological impact.

Findings that people in insecure or unsatisfactory employment are also at risk of adverse psychological impacts raises a variety of challenges for society, in terms of the structural nature of employment, organisational and staff management practices, and assistance for workers (for example, employee assistance schemes).

The impact of an individual’s unemployment on the psychological wellbeing of the whole family points to the need to consider the family as a unit. Welfare reform pilots conducted by FaCS in 2000 explored offering active intervention to certain customer groups, and trialled interviewing Parenting Payment recipients in conjunction with their partners who were on Newstart Allowance. There is scope for further policy consideration of how to respond holistically to the needs of families on income support.

The impact of unemployment on the psychological wellbeing of the family also raises issues about support and counselling services for individuals and families. Unfortunately, a recent survey of Parenting Payment recipients who were partnered with a person on income support (most commonly Newstart Allowance) found that awareness and use of services such as financial counselling and personal and relationship counselling was very low (FaCS unpublished data). There is obviously scope for attempting to improve awareness and uptake of such services.

Another important challenge is to identify and provide support to those experiencing psychological problems in combination with joblessness. Centrelink already provides Social Work and Psychology services, and the recently established Personal Support Programme helps people with severe multiple personal obstacles to work. In addition, Personal Advisers are now available in Centrelink to assist mature age customers and Parenting Payment recipients to take advantage of opportunities for, and overcome obstacles to, greater economic participation. This should allow for greater identification of, and service for, customers experiencing psychological difficulties.

However, Butterworth (2003) pointed to the need for further policy consideration of issues such as mental health literacy among service delivery staff, improved assessment and screening, uptake of mental health services, integrating mental health and employment programs, and building personal capacity using the principles of cognitive behavioural therapy.

The psychological impact of joblessness among those undertaking parenting/home duties is a complex issue, involving considerations of personal goals, choices and preferences, role status and resources, role expansion, and role...
strain. Nevertheless, research appears to suggest better mental health among women/mothers who work than those who do not. While research findings are limited, and much more research is needed, this suggestion of the potential poorer mental health for mothers out of the labour force adds impetus to existing concerns about the need to address the risks of long-term welfare dependency for parents on income support.

Regardless of to what extent these findings reflect the ‘selection hypothesis’ (women with mental health problems are less likely to work) or the ‘causation hypothesis’ (employment has a beneficial psychological effect), findings suggest important issues for policy consideration. For example, mothers with mental health or other difficulties that prevent them from combining work and family in the same way that the majority of Australian mothers do, need to be given assistance to overcome these difficulties.

In addition, mothers who are making decisions about withdrawing from the labour force need to have information about the short and long-term consequences of these decisions, both in terms of psychological impacts, and other dimensions such as financial security. Mothers seeking to re-enter work after a period out of the labour force also need appropriate assistance to prepare for and find work, so that the potentially damaging impacts of unemployment on psychological wellbeing are avoided or minimised.

The Australians Working Together measure Helping Parents Return to Work is designed to address some of these issues. New claimants for Parenting Payment are given information on the benefits of paid work and the opportunities and assistance available to achieve this. Parenting Payment recipients with a youngest child aged six or over receive an annual participation planning interview to help them plan for a return to work and identify any difficulties they may have preventing this. Recipients with a youngest child aged 13 to 15 may be required to carry out a modest activity requirement to help them prepare for a return to work. An expansion of education, training, employment and support services accompanied these changes.

Finally, the quality of the employment experience appears to be an important variable, with the psychological wellbeing of employed mothers being affected by factors such as marital status, level of partner support, age of children, satisfaction with child care arrangements, hours of work, quality of the job, level of supervisor support, and satisfaction with employment. This has obvious implications. Mothers need to be assisted to obtain the type of employment that best suits their needs, and to mobilise partner and/or other family and community support to help them balance work and family.

At a broader level, there needs to be continuing promotion of the type of employment that best allows parents to balance work and family. This was discussed by the Reference Group on Welfare Reform (2000, p. 38). The Government’s response to this report indicated that the Prime Minister’s
Community Business Partnership would be asked to encourage companies to identify and generate opportunities for (among other groups) parents returning to work after being on income support. Issues related to parents returning to work are also likely to receive consideration in the context of the Government’s agenda to examine work/family issues.

Endnotes

1 In June 2003, 58 per cent of mothers with dependent children under 15, and 60 per cent of those with dependent children under 25, were in paid employment. This increased from 51 per cent and 54 per cent respectively in June 1993.

2 As part of the Government’s Australians Working Together package, from September 2003, Parenting Payment recipients with a youngest child aged 13 to 15 may be required to undertake an activity to help them prepare for a return to work. Prior to passage of legislation for this requirement, the Senate Community Affairs Reference Committee conducted an inquiry into participation requirements and penalties. The report of the inquiry stated that:

A number of submissions from welfare groups argued that the proposed participation requirements for parents and mature age Newstart recipients should be voluntary. It was argued that compulsory participation is not only unnecessary but may potentially place unnecessary barriers for many people seeking to engage in the workforce or other forms of participation. It was also argued that alternative approaches, such as retraining and education packages, wage subsidy schemes and family support services should be put in place to address the need for increased opportunities to participate.

The Committee itself formed the view that ‘generally speaking participation requirements for parents and mature age Newstart allowance recipients should be compulsory, as it provides an incentive to participate in a range of activities that may not otherwise be taken up by these groups’.

References

Australian Bureau of Statistics 1997, Mental Health and Wellbeing: Profile of Adults, Australia, cat. no. 4326.0, ABS, Canberra.


Females with dependent children—Information from the General Customer Survey and Longitudinal Administrative Dataset

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1. Introduction

The General Customer Survey (GCS) with its matched Longitudinal Administrative Dataset (LDS) records is one of the longitudinal datasets developed by the Department of Family and Community Services (FaCS). Using data on females with dependent children, the purpose of this note is to provide examples of the range of analysis that may be undertaken with this combined dataset.

In recent years, FaCS has developed several large data collections. One of the most important of these is the LDS, which is a dataset of administrative records of income security recipients from January 1995 until June 2001. This is an extremely powerful dataset but one of its limitations is that only variables used in the administration of various income security payments are present. To complement the LDS, a new survey, the GCS, was introduced during 1999. This survey collects information on a range of variables including education, housing and child care use that are not available from administrative records. Its longitudinal design means that it is able to provide information about people’s experiences after they have left the social security system. In addition it has been possible to link each GCS survey record with its matching LDS records.

The first sample for the GCS was drawn in 2000 and included those individual Australians who were clients of FaCS receiving either income support or family support payments or concession cards of various kinds. The survey was designed to produce both cross-sectional estimates of this population and also longitudinal information by interviewing respondents at least three times over a two-year period.

The release of the Year 2000 Wave 1 data from the first interview provided an opportunity to examine selected characteristics and circumstances of a sample of women with dependent children aged 15 years and under. The women were divided into groups on the basis of two characteristics—whether they were receiving income support (Parenting Payment) and family payments, or family payments only; and whether they were sole parents, or members of a couple.
The characteristics of sole parents have attracted considerable research attention particularly in relation to their receipt of income security payments and their participation in the labour force (see for example Barrett 2001). As a group, sole mothers have lower participation rates than partnered mothers and it has been suggested that sole mothers face additional barriers to participation (Wilson, Pech & Bates 1999). Since the introduction of Parenting Payment (in March 1998), which is paid to both partnered as well as sole parents, albeit at different rates, there has been greater interest in partnered mothers. For example, Saunders, Brown and Eardley (2003) used data from a sample survey of income security customers which included both Parenting Payment Partnered and Single to examine rates of economic participation.

Females with dependent children were chosen for this analysis in order to exploit the full potential of the combined dataset. One limitation of the LDS is that the records for a person generally cease, once the person leaves income support. However, women with dependent children usually continue to receive family payments for these children and as family payments are captured in the LDS, their LDS records continue and the change in payment status can be tracked over time. When matched with the wider range of variables in the GCS data, more can be understood about the characteristics and experiences of these women than was previously possible from point in time data.

This Note provides a summary of the exploratory analysis undertaken3 and looks principally at two areas.

◗ characteristics of the women, drawing on the variables from the GCS such as education, type of occupation and hours worked and for their households, average size of households, and number of dependants

◗ payment histories using the LDS to look at movement on to and between payments.

2. Data structure

The data used here are from Wave 1 of the GCS, collected in 2000. Women receiving income support were paid either Parenting Payment Single (PPS) if they were sole parents or Parenting Payment Partnered (PPP) if they were members of a couple. These women also received family payments.

Depending on their level of income, women receiving family payments only were paid either Additional Family Payment (AFP) or Basic Family Payment (BFP). BFP was a lower level of payment because private income was higher. Families receiving BFP could be considered middle-income families. A sole parent receiving AFP was also eligible for a supplement referred to as Guardian Allowance (GA) (AFP + GA). All sample members had at least one dependent child aged 15 years and under.
The sample numbers in each of the payments are provided in Table 1. All figures in this Note refer to the GCS records with the matching LDS records for this sample, unless otherwise stated.

Table 1  
**Main payment type at sample draw for females with dependent children aged 15 years or less**

<table>
<thead>
<tr>
<th>Payment type</th>
<th>Unweighted Number</th>
<th>Weighted Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parenting Payment Single (PPS)</td>
<td>112</td>
<td>338 000</td>
</tr>
<tr>
<td>Parenting Payment Partnered (PPP)</td>
<td>73</td>
<td>154 500</td>
</tr>
<tr>
<td>Additional Family Payment &amp; Guardian Allowance (AFP + GA)</td>
<td>102</td>
<td>32 400</td>
</tr>
<tr>
<td>Additional Family Payment only (AFP only)</td>
<td>341</td>
<td>186 800</td>
</tr>
<tr>
<td>Basic Family Payment (BFP)</td>
<td>505</td>
<td>761 600</td>
</tr>
<tr>
<td>Total</td>
<td>1133</td>
<td>1 473 400</td>
</tr>
</tbody>
</table>

Source: GCS Year 2000 sample.

3. Characteristics of the recipients

The GCS provided an opportunity to examine characteristics of the recipient and also the household in which she lived. Table 2 sets out recipients’ average age and size of the household, while Table 3 shows the proportion of women in paid work at interview, and, if working, the mean and median number of hours worked.

Table 2  
**Selected characteristics of females receiving various payments**

<table>
<thead>
<tr>
<th>Payment received</th>
<th>Mean age</th>
<th>Mean number in household</th>
<th>Mean number 15 years and under in household</th>
<th>Mean age of youngest child</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFP</td>
<td>36.4</td>
<td>4.0</td>
<td>1.8</td>
<td>6.6</td>
</tr>
<tr>
<td>AFP + GA</td>
<td>36.8</td>
<td>3.2</td>
<td>1.5</td>
<td>9.5</td>
</tr>
<tr>
<td>AFP only</td>
<td>35.3</td>
<td>4.5</td>
<td>2.2</td>
<td>na</td>
</tr>
<tr>
<td>PPS</td>
<td>33.5</td>
<td>3.5</td>
<td>1.9</td>
<td>5.8</td>
</tr>
<tr>
<td>PPP</td>
<td>33.1</td>
<td>4.3</td>
<td>1.9</td>
<td>5.6</td>
</tr>
</tbody>
</table>

Note: na = not available

Source: GCS Year 2000 Wave 1.
Table 3  Percentage distribution of whether or not in paid work and mean and median number of hours worked—females receiving various payments

<table>
<thead>
<tr>
<th>Payment received</th>
<th>In Paid work</th>
<th>Mean number of hours worked(a)</th>
<th>Median number of hours worked(a)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Per week</td>
</tr>
<tr>
<td>BFP</td>
<td>84</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>AFP + GA</td>
<td>87</td>
<td>13</td>
<td>35</td>
</tr>
<tr>
<td>AFP only</td>
<td>42</td>
<td>58</td>
<td>23</td>
</tr>
<tr>
<td>PPS</td>
<td>44</td>
<td>56</td>
<td>19</td>
</tr>
<tr>
<td>PPP</td>
<td>17</td>
<td>83</td>
<td>27</td>
</tr>
</tbody>
</table>

Note: (a) Of those in paid work, including self-employed.
Source: GCS Year 2000 Wave 1.

Table 2 shows that the groups receiving income support (PP) were similar in age (33 years) and in the number of dependent children (mean = 1.9). Recipients of BFP and single parents receiving AFP + GA were around three years older on average and their youngest child was older.

Household size was relatively small for all groups—the largest being AFP households with an average of 4.5. On average, the mean age of the youngest child for AFP + GA recipients was 9.5 years compared with around 5.7 years for all PP recipients. Apart from the dependent children and their parent(s), the households may contain a range of other people including older siblings, both dependent and independent, and unrelated individuals.

Table 3 shows the type of payment a woman is receiving is highly related to whether or not she is in paid work. This is consistent with the income tests for the different payments. PPP is paid to a woman (with a partner) who is caring for dependent children. In order to qualify, the woman’s income must be low and so most are not in the labour force—only 17 per cent were in paid work. This group in the sample appeared to have a high average number of hours worked (27 hours) but it should be noted that this estimate was based on a sample of only 11 people.

By contrast, sole parents receiving PPS were much more likely to be working (44 per cent), although their hours tended to be shorter. This could well reflect their need to balance work with caring responsibilities. The income test for PPS is also more generous, and so the financial incentive for the single earner is greater than for a PPP recipient.

At the other end of the spectrum, BFP was paid to middle-income households and the recipient was most commonly a member of a couple. She was very likely to work (84 per cent) and this contributed to their higher level of family income.

Women receiving AFP only were in households where the level of private income was too high to receive an income security payment but still low enough to qualify for the higher rate of payment for the children. Those receiving AFP only were
members of a couple while those receiving AFP + GA were sole parents. Consistent with this, 42 per cent of AFP only recipients were in paid work compared with 87 per cent of AFP + GA recipients, since these sole parents were also the sole income earners. In keeping with being the sole income earner with a relatively high income Table 3 shows that this group also worked on average the longest number of hours (mean = 35 per week).

As sole parents on comparatively high incomes, the AFP + GA recipients were an interesting, and relatively rare, group—there were only 32 400 in this family payment population of around 1.5 million. In terms of their working patterns (Table 3) and their education levels (Table 4), they were more like the higher income earning BFP recipients than other sole parents on PPS. For example, 15 per cent had a university degree compared with 14 per cent of BFP recipients and 2 per cent of PPS recipients. For sole parents the age of the youngest child appears important in influencing labour force participation. The mean age of the youngest child of the AFP + GA recipients was 9.5 years compared with 5.8 years for PPS recipients.

The PPS group has often been seen as disadvantaged. These tables suggest that some women in the PPP group may also face disadvantages. Forty-one per cent have either no qualifications or only Year 10 compared with 40 per cent of PPS recipients with that level of education.

### Table 4 Percentage distribution of highest qualification received—females receiving various payments

<table>
<thead>
<tr>
<th>Highest qualification achieved</th>
<th>No quals</th>
<th>Yr 10 equiv</th>
<th>Yr 12 equiv</th>
<th>Basic vocational</th>
<th>Skilled vocational</th>
<th>Diploma (1-3yrs)</th>
<th>University degree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment received</td>
<td>Per cent</td>
<td>Per cent</td>
<td>Per cent</td>
<td>Per cent</td>
<td>Per cent</td>
<td>Per cent</td>
<td>Per cent</td>
<td>Per cent</td>
</tr>
<tr>
<td>BFP</td>
<td>9</td>
<td>16</td>
<td>15</td>
<td>12</td>
<td>22</td>
<td>13</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>AFP + GA</td>
<td>12</td>
<td>14</td>
<td>12</td>
<td>11</td>
<td>17</td>
<td>18</td>
<td>15</td>
<td>100</td>
</tr>
<tr>
<td>AFP</td>
<td>12</td>
<td>24</td>
<td>21</td>
<td>9</td>
<td>17</td>
<td>9</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>PPS</td>
<td>15</td>
<td>25</td>
<td>12</td>
<td>21</td>
<td>21</td>
<td>4</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>PPP</td>
<td>18</td>
<td>23</td>
<td>15</td>
<td>8</td>
<td>21</td>
<td>8</td>
<td>7</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: GCS Year 2000 Wave 1.

The occupations of those who were in paid work were coded to the major group level (one digit) according to Australian Standard Classification of Occupation (ASCO) Second edition (ABS Cat. no.1220.0).

The common feature of the occupations of these women shown in Table 5 is that about 30 per cent in each payment type were employed as ‘intermediate clerical, sales and service workers’. Then consistent with the patterns observed in the education levels, those receiving BFP, AFP + GA, and AFP only have the greatest
proportions in the levels of ‘managers, professionals and associate professionals’, whereas PPS and PPP parents have larger proportions in ‘elementary clerical, sales and service workers’ and ‘labourers and related workers’. In the case of PPP recipients there were very few respondents working at the time of the survey.

Table 5  Percentage distribution of current occupation for those in paid work at survey—females receiving various payments

<table>
<thead>
<tr>
<th>Payment received</th>
<th>Managers and professionals</th>
<th>Associate professionals</th>
<th>Trades-persons</th>
<th>Advanced clerical</th>
<th>Intermediate clerical</th>
<th>Intermediate production</th>
<th>Elementary clerical workers</th>
<th>Labourers and related workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFP</td>
<td>19</td>
<td>11</td>
<td>5</td>
<td>15</td>
<td>27</td>
<td>3</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>AFP + GA</td>
<td>29</td>
<td>13</td>
<td>5</td>
<td>8</td>
<td>34</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>AFP only</td>
<td>23</td>
<td>17</td>
<td>6</td>
<td>7</td>
<td>28</td>
<td>3</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>PPS</td>
<td>10</td>
<td>8</td>
<td>6</td>
<td>8</td>
<td>32</td>
<td>2</td>
<td>14</td>
<td>24</td>
</tr>
<tr>
<td>PPP</td>
<td>0</td>
<td>11</td>
<td>15</td>
<td>8</td>
<td>31</td>
<td>0</td>
<td>12</td>
<td>24</td>
</tr>
</tbody>
</table>

Note: ASCO 2 codes were used except that Level 1—‘managers and administrators’ and Level 2—‘professionals’ have been combined.

Source: GCS Year 2000 Wave 1.

Since not all respondents were in the labour force at the time of the survey, a question about previous paid work was also asked. The results are provided in Table 6.

Table 6  Percentage distribution of whether in paid work at survey or previously—females receiving various payments

<table>
<thead>
<tr>
<th>Payment received</th>
<th>In paid work now</th>
<th>In paid work before</th>
<th>Never in paid work</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per cent</td>
<td>Per cent</td>
<td>Per cent</td>
<td>Per cent</td>
</tr>
<tr>
<td>BFP</td>
<td>84</td>
<td>15</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>AFP + GA</td>
<td>87</td>
<td>11</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>AFP only</td>
<td>42</td>
<td>52</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>PPS</td>
<td>44</td>
<td>52</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>PPP</td>
<td>17</td>
<td>67</td>
<td>17</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: GCS Year 2000 Wave 1.
The additional information presented here shows that amongst AFP only and PPS recipients where approximately 43 per cent were working, an additional 52 per cent had been in paid work at some time in the past, with around 5 per cent having never been employed. The PPP recipients were distinguished by 17 per cent having no experience of paid employment, indicating a level of labour force disadvantage. This reinforced the picture provided earlier of a sizeable proportion of PPP recipients having no qualifications (18 per cent) and the largest percentage (24 per cent—equal to that for PPS) in the lowest occupational category—‘labourers and related workers’.

4. Histories of income support

The GCS records provided information about certain family and labour force characteristics of mothers receiving varying levels of assistance for themselves and/or their dependent children. These records were matched to the administrative data (LDS records), which provided information about the payment histories of the survey participants. The payment histories consisted of any available LDS records from 25 February 2000 going back to 6 January 1995. The histories were thus retrospective. The record for each fortnight included the payment type being received at that point.

At a particular point in time, data may be missing because an individual has not entered the payment system or because there is a break between spells⁶. One of the main reasons for not being in receipt of payment is because there is no eligible child. Individuals receiving BFP only were not included in the LDS throughout the period. As the data for females receiving BFP only were characterised by a very high rate of missing data (34 per cent), these recipients have been excluded from this part of the analysis.

In the GCS sample each respondent was in receipt of a particular payment at the time of the sample draw. It is possible to determine from the payment histories what payment type, if any, they had received immediately before their GCS payment type. This partially answers the question ‘What different paths did individuals take onto their GCS payment type?’ The dataset consists of women with dependent children and generally in situations where they were not eligible for an income support payment, they were still eligible for a family payment and so an LDS record was generated.
Table 7  Percentage distribution of the payment type received immediately before payment type at sample draw

<table>
<thead>
<tr>
<th>Payment type before sample draw(a)</th>
<th>PPP</th>
<th>PPS</th>
<th>AFP + GA</th>
<th>AFP only</th>
</tr>
</thead>
<tbody>
<tr>
<td>No other payment type(b)</td>
<td>22</td>
<td>33</td>
<td>26</td>
<td>48</td>
</tr>
<tr>
<td>AFP(c)</td>
<td>45</td>
<td>20</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>PPP</td>
<td>4</td>
<td>21</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>PPS</td>
<td>9</td>
<td>5</td>
<td>59</td>
<td>2</td>
</tr>
<tr>
<td>Newstart Allowance and Youth Allowance</td>
<td>12</td>
<td>14</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Other payments</td>
<td>9</td>
<td>8</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Notes:  
(a) When the Payment type before sample is the same as the Payment type at sample draw this indicates that the recipient has had multiple spells on different payment types, the last two spells being the same payment type.  
(b) No other payment type means that the woman had one spell on the same payment for the entire time she was in the payment system.  
(c) AFP here includes both AFP + GA and AFP only.

Source: Matching LDS records.

Since the GCS sample was one of existing customers it contains respondents with a wide variety of durations on payment. In a more detailed analysis it would be useful to control for duration on payment; but this analysis simply shows the extent to which current recipients of family and Parenting Payment had been in receipt of other payment types.

In each of the four payment types at sample draw there was a proportion of women who had not received another type of payment. For AFP only, 48 per cent had received only a family payment—that is, they had not been in receipt of an income support payment.

Newstart Allowance (NSA) and Youth Allowance (YAL) (12 per cent) and AFP (45 per cent) are important sources for PPP, although 12 per cent of PPP recipients had previously received the single rate of payment (PPS). Movements on to PPS tended to come from AFP (20 per cent) and PPP (21 per cent). However, 33 per cent of the GCS sample had only ever received PPS during their period of income support.

It is also possible to summarise Table 7 as movements to higher or lower levels of welfare support. If women move from either PPS or PPP on to AFP, it is a move to lower welfare support and by implication greater financial independence. On the other hand, a move from AFP to PPS or PPP can be characterised as a move to a higher level of welfare support, as the woman is now receiving a payment for herself as well as her children. In a similar manner, moving from NSA or YAL, which are both activity tested payments, to PPS or PPP with no activity test can be considered as a move to greater dependence. These movements are shown in Table 8.
This analysis greatly simplifies the actual movements of some customers. For example, in the case of the PPS sample 67 per cent had more than one episode, ranging from two episodes up to 10.

Movement to a higher level of welfare support is indicated for PPP recipients, where 45 per cent had previously received AFP and a further 12 per cent had been either NSA or YAL recipients, giving a total of 57 per cent. Twenty-two per cent had received no payment other than PPP in one continuous spell and the remainder had moved to PPP from other income support payments such as PPS.

Table 8  Percentage distribution of movement within payment types

<table>
<thead>
<tr>
<th>Type of movement</th>
<th>PPP</th>
<th>PPS</th>
<th>AFP + GA</th>
<th>AFP only</th>
</tr>
</thead>
<tbody>
<tr>
<td>No other payment(^{(a)})</td>
<td>22</td>
<td>33</td>
<td>26</td>
<td>48</td>
</tr>
<tr>
<td>To higher welfare support(^{(b)})</td>
<td>57</td>
<td>34</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>To lower welfare support(^{(c)})</td>
<td>na</td>
<td>na</td>
<td>64</td>
<td>32</td>
</tr>
<tr>
<td>Equivalent welfare support(^{(d)})</td>
<td>22</td>
<td>34</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Notes:  
(a) **No other payment** means that the woman was on the same spell for the entire time she was in the payment system.  
(b) **Higher welfare support** means a move from AFP, NSA or YAL to either PPP or PPS.  
(c) **Lower welfare support** is a move to AFP + GA or AFP from PPS, PPP, NSA, YAL or Disability Support Pension (DSP).  
(d) **Equivalent welfare support** includes all other moves such as PPP to PPS or DSP to PPS.

Source: Matching LDS records.

AFP + GA recipients were distinguished by 64 per cent having moved from an income security payment to this payment. There appears to be a small group of sole parents who leave an income security payment (mostly from PPS) and move to family payments only because of greater income.

Some evidence that the movement is influenced by labour market involvement is gained from Table 9 where the mean number of hours worked by the type of movement is examined.

Those moving to lower welfare support worked two hours more on average than those moving between equivalent welfare support and four hours more than those moving to higher welfare support. Since the payment types are income tested, there is a correlation between additional hours of work and movement to a lower level of payment; and more hours of work should lead to higher earned income.

The exact nature of this relationship is best examined with longitudinal data where information on changes in labour force participation and any subsequent change in type of payment can be determined. For those with partners, the partner’s LDS record would also provide information about payment type and duration.
### Table 9  Mean number of hours worked by movement within payment types—all females employed at time of survey

<table>
<thead>
<tr>
<th>Movement between payment types</th>
<th>All females</th>
</tr>
</thead>
<tbody>
<tr>
<td>No other payment&lt;sup&gt;(a)&lt;/sup&gt;</td>
<td>21.2</td>
</tr>
<tr>
<td>Higher welfare support&lt;sup&gt;(b)&lt;/sup&gt;</td>
<td>20.7</td>
</tr>
<tr>
<td>Lower welfare support&lt;sup&gt;(c)&lt;/sup&gt;</td>
<td>25.0</td>
</tr>
<tr>
<td>Equivalent welfare support&lt;sup&gt;(d)&lt;/sup&gt;</td>
<td>22.9</td>
</tr>
</tbody>
</table>

Notes:  (a) to (d)—see Table 8.
Source: GCS Year 2000 Wave 1 and matching LDS records.

5. Conclusions and further research

This Note has examined the characteristics of females with dependent children receiving different payments. It suggests that the labour force participation of such women is influenced by several interacting factors. For example, the experience of AFP + GA recipients show that higher levels of education and older children increase the probability that a sole parent will be in employment and will work longer hours.

Of those employed at interview, approximately 30 per cent of each payment type worked as ‘intermediate clerical workers’. Women receiving only family payments were less than half as likely to be ‘labourers and related workers’ as either PPS or PPP recipients.

Being a partnered parent does not automatically provide an easier route into the labour market. Within the PPP payment type there appeared to be relatively disadvantaged groups of partnered recipients—those with no labour force experience, no educational qualifications, or working in the lowest occupational categories. It would be of interest to examine the extent to which such characteristics overlap, and the nature of any other employment barriers such groups face. With the longitudinal data it will be possible to examine changes in labour market participation over time, and further investigate the dynamics of payment receipt.

This exploratory analysis provides insights into the characteristics of females with dependent children that could be pursued further. The introduction of the New Tax System in July 2000 was associated with major changes to the free area and taper rate for PPS, a pension-based payment. These changes allowed sole parents with higher levels of earnings to retain an entitlement to a part payment. The cut out points for the second taper area for PPP recipients, an allowance-based payment, were also made more generous. In addition there was a major restructuring of family payments.
Using the later records from the LDS and the second and third GCS interviews it will be possible to investigate whether these changes have been associated with any behavioural changes in the women surveyed. Of particular interest will be the experience of women receiving AFP + GA, as some of these women may again be eligible for PPS because of the increase in the payment cut out point associated with a lower taper rate.

Endnotes

1. The LDS is regularly updated. At November 2003 it contained records up to June 2002.

2. More detailed information about the GCS is available from fred.connellan@facs.gov.au.

3. No attempt was made to take into account the New Tax System changes that occurred in July 2000. It is intended to repeat and refine the analysis using the second and third wave interviews for the Year 2000 sample, which along with the re-release of the Wave 1 data have been made available since this analysis was carried out.

4. Payment of money for children at a minimum level has been known by several names—for example, Minimum Family Payment. The name Basic Family Payment (BFP) will be used throughout the paper. It is now part of Family Tax Benefit Part A introduced in July 2000.

   Money for children paid at a higher level and subject to a more stringent income test has also been known as More than Minimum Family Payment. This will be referred to as Additional Family Payment (AFP). It is also now part of Family Tax Benefit Part A.

   Guardian Allowance was a payment to sole parents—now part of Family Tax Benefit Part B.

5. Estimates from surveys of the proportion of sole parents with paid work consistently produce higher estimates than those obtained from the income data recorded on the LDS. There are a number of reasons for this, but the introduction of the Australians Working Together Working Credit initiative should lead to more consistent estimates of the number with income from paid work at any point in time.

6. A continuous spell is one in which there is no more than two fortights break in the receipt of the one payment type.
References


Long-term durations on income support: An analysis of FaCS unemployed customers

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Labour Market and Parenting Branch, Department of Family and Community Services

1. Introduction

Despite good economic conditions and lower unemployment rates compared to the early 1990s, there is still a substantial number of people who have been on income support continuously for long periods. Between May 1999 and May 2002, the number of people on unemployment payments decreased by 12 per cent. Over this same period, the number of people on unemployment payments who had been on income support for one year or more, declined by only 9 per cent.

An extended duration on income support can be linked with greater difficulties in finding employment and a loss of connection with the labour market. The longer a person remains on income support, the lower the likelihood of leaving income support and becoming self-reliant.

This note describes the characteristics of Newstart Allowance (NSA) and Youth Allowance non-full-time student (YA(o)) customers as at May 2002 who were experiencing long-term continuous durations on income support. It builds on the ‘Long-term unemployment: a statistical analysis of FaCS customers’ article published in 1999 in issue two of Australian Social Policy.

The duration used in this paper is duration on income support, rather than duration on unemployment payments, and may include time spent on payments other than unemployment payments. Long-term (LT) customers are those people currently on unemployment payments who have been on some form of income support for 12 months or more.

This paper describes the overall trends in the number of LT customers and the characteristics of LT customers such as age and gender, recorded activities or exemptions, and earned income. Information for comparative purposes is provided on customers with short-term and long-term income support durations at May 1999 and at May 2002.
2. Overview of main findings

While both the short-term and long-term customer numbers decreased between May 1999 and May 2002, long-term customers dropped more slowly. As a result, the proportion of customers who are long-term unemployed has increased over this period. In May 2002, 57 per cent of unemployed customers had been on income support for more than 12 months.

Despite the decrease in the numbers of long-term customers on NSA/YA(o), the number of people with income support durations of five years or more increased by over 40 per cent in the same period (from 75 817 to 107 461). Five-year plus customers now make up 16 per cent of all unemployed customers.

The fall in the number of long-term customers was greater inside capital cities than outside, a fall of 11 and 6 per cent respectively.

Long-term unemployed customers were marginally more likely than short-term customers to have earnings, with 21 per cent of long-term customers having earnings compared to 19 per cent of short-term customers in May 2002. The incidence of earnings was highest for those long-term customers with durations between three and four years (25 per cent).

The average earnings of long-term customers are lower than short-term customers.

3. Unemployment payment definitions

The main income support payment for unemployed people aged 21 years or older is NSA. The income support payment for unemployed customers aged under 21 years of age is YA(o). In this paper the term ‘unemployed’ customers will be used for customers on these activity tested income support payments.

Unemployed customers with an income support duration of 12 months or more are defined as ‘long-term’ (LT) customers; and those with an income support duration of 24 months or more as ‘very long-term’ (VLT) customers. Customers with income support durations of less than one year are referred to as ‘short-term’ (ST) customers.

Comparisons are often made between the number of people receiving ‘unemployment payments’ and the official Australian Bureau of Statistics (ABS) unemployment statistics. However, there are significant differences between these statistical series, both in the definitions and methodologies used:

- The ABS series includes persons being paid a pension or other allowances but looking for work (such as Parenting Payment (Single) recipients)
- The ABS series includes people irrespective of their partner’s income, whereas NSA/YA(o) customers are subject to an income and assets test for their partner.
The ABS excludes people who work one hour or more in the reference week. NSA/YA(o) customers can work more hours, depending on the amount and nature of their earnings.

FaCS includes some NSA/YA(o) customers who are not required to look for work, such as people who are temporarily incapacitated or in training. The ABS requires all people to be available and actively looking for work.

FaCS measures the average of NSA/YA(o) customers in each month. The ABS measurement is based on a monthly survey of 0.5 per cent of the population. Moreover, the measurement of duration is substantially different from that used by the ABS:

Duration in this paper is measured by duration on income support of currently unemployed customers—for some unemployed customers this will include time spent on payments other than unemployment payments. The ABS measure of unemployment duration is based on the time spent unemployed (based on the ABS definition of unemployment).

The ABS resets unemployment duration after only two weeks of one or more hours work each week. NSA/YA(o) customers can have much longer breaks from payment without resetting the duration ‘clock’. These customers are allowed breaks in payment of up to six weeks for short-term customers and 13 weeks for long-term customers. In addition, customers who do not receive a payment due to their or their partner’s earnings can lodge a fortnightly form and be considered customers for up to 12 weeks. These two features mean that customers with breaks off payment of up to 25 weeks could still be counted as LT customers.

4. Trends in unemployed customers with long-term income support durations

The number of unemployed customers by short-term and long-term duration status for May 1999 and May 2002 is shown in Figure 1. As at May 2002 there were 683 808 current customers on NSA and YA(o) (Figure 1). Around 57 per cent of these had been on income support for one year or more (LT customers), with 40 per cent on income support for two years or more (VLT customers).

Between May 1999 and May 2002 the number of LT customers dropped by 38 241 from 426 332 to 388 091. Over this period, the number of LT customers declined more slowly than the total number of unemployed customers (Figure 2). The seasonal peaks, particularly in the total unemployed customer time series, can be partially explained by people moving from study to jobseeking at the end of each academic year. Customer numbers in May display little seasonal variation and for this reason were chosen as the basis for this analysis.
Figure 1  Number of unemployed customers with short and long-term income support durations: May 1999 and May 2002

Figure 2  Number of unemployed customers: total and long-term, 1998 to 2002

Number of customers

Total NSA/YA(o)  LT customers  ST customers

0  100 000  200 000  300 000  400 000  500 000  600 000  700 000  800 000  900 000  1 000 000

May 98  Aug 98  Nov 98  Jan 99  Mar 99  May 99  Jul 99  Sep 99  Nov 99  Jan 00  Mar 00  May 00  Jul 00  Sep 00  Nov 00  Jan 01  Mar 01  May 01  Jul 01  Sep 01  Nov 01  Jan 02  Mar 02  May 02  Jul 02
The number of people with income support durations of five years or more increased from 75,817 at May 1999 to 107,461 at May 2002 (Figure 3). This was despite the reduction in the overall number of both unemployed customers and LT customers—all of the decline occurred in the number of LT customers with durations of between one and five years. People on income support for more than five years made up 16 per cent of all unemployed customers in May 2002.

**Figure 3** Number of unemployed customers: by income support duration, May 1999 and May 2002

The percentage change in the number of unemployed customers by different durations between May 1999 and May 2002 is shown in Figure 4. The number of LT customers dropped by around 9 per cent, compared with a decline of about 12 per cent in the total number of unemployed customers. Short-term customers declined by around 16 per cent, almost double the percentage decline in the number of long-term customers. The largest percentage decline was in the number of unemployed customers on income support between two to three years, declining by around 33 per cent. Also noteworthy is the 40 per cent increase in the number of unemployed customers on income support for five years or more.

The lower relative decrease in LT customer numbers resulted in a higher proportion of unemployment customers being LT (57 per cent) in May 2002 compared to May 1999 (55 per cent) (Figure 5). Similarly, the proportion that is VLT increased from 37 per cent in May 1999 to 40 per cent in May 2002.
Figure 4  Per cent change in number of unemployed customers: by income support duration, May 1999 to May 2002

Figure 5  Proportion of total unemployed customers: by income support duration, May 1999 and May 2002
Most of the increase in the proportion of LT customers, however, appears to be driven by the increased proportion of customers with durations of three or more years.

The increase in the proportion of LT customers occurred during good economic conditions and provides some evidence for the theory that people with long durations are less able to take advantage of good economic conditions, than those with shorter durations.

There has also been an increase in mean and median durations for LT and VLT customers, as seen in Figure 6. That is, on average, customers who are LT are staying on income support longer. In particular, as already noted, there has been an increase in customers on income support for five years or more. For LT customers the median duration on income support was 3.2 years at May 2002, compared to 2.7 years at May 1999. For VLT customers the median duration is 4.2 years at May 2002 compared to 3.5 years at May 1999. A similar increase in mean durations is also observed over this period.

Mean durations are consistently higher than the medians, in both years. Since the mean is more sensitive to extreme values, it is likely that there are customers with very long durations pulling up the mean. That is, among the customers with durations of two years or more there seems to be more customers with particularly long durations (affecting the mean more than the median).

Figure 6 Mean and median income support durations of unemployed customers: long-term and very long-term, May 1999 and May 2002
5. Unemployed customers by age and gender

Around two-thirds of LT customers are men and one-third women. This closely reflects the profile of all unemployed customers, which is also two-thirds men and one-third women.

The largest group of LT customers are people aged 21 to 29–27 per cent of all LT customers (Figure 7). This is similar to this age group’s share of all unemployed customers (30 per cent). Appendix A provides a summary of the number of customers by age and duration for May 2002.

To gain a fuller understanding of the LT customer population, however, it is necessary to take account of the structure and use of other workforce age payments. Men and women have different patterns in the use of unemployment payments (Figure 8). Similarly, different age groups have different patterns of payment usage.

Figure 9 shows that for both men and women, the two youngest age groups have a relatively high incidence of long-term duration on income support. This is at least partly due to the fact that some would have received Youth Allowance as full-time students before moving onto unemployment payments.

Figure 7  Number of unemployed customers: by age, income support duration and gender, May 2002
Figure 8  Proportion of income support customers of workforce age on NSA/YA(o): by age and gender, May 2002

Figure 9  Incidence of long-term durations among unemployed customers: by age and gender, May 2002
Men aged 21 to 39 have high levels of usage of NSA and YA(o) (Figure 7). This starts to decline as men get older and start to access different payments. By the time men reach the 50 to 59 age group, almost double the number are on Disability Support Pension (DSP) compared to NSA (124 963 compared to 67 690) (Appendix B). After age 60, the number of men on Mature Age Allowance (MAA) further contributes to their decline in the NSA population. Many of the men who move onto DSP and MAA are LT customers. This helps to explain the sudden drop in the incidence of long-term male customers aged 60 to 64 on unemployment payments (Figure 9).

Women’s use of unemployment payments peaks when they are aged 21 to 29 (Figure 8). After this, their usage declines as more access Parenting Payment, particularly for the 30 to 39 age group. Women start appearing in the NSA population in greater numbers in the 40 to 49 age group but then fall again for older age groups. This latter decrease is largely due to access becoming available to Partner Allowance, Widow Allowance, MAA and, for those over 62 years of age, the Age Pension. Similar to the experience of men, access to these other payments explains the drop in the incidence of long-term durations for women aged 60 to 64 (Figure 9).

For both men and women, the mature-age people who move onto these other payments are those with longer durations. In May 2002, around 90 per cent of customers on MAA LT customers and 76 per cent VLT customers.

6. Activities undertaken by long-term customers

In return for financial support unemployed customers are expected to be actively looking for suitable work and undertaking activities to improve their employment prospects, such as further study, training or voluntary work. People can be temporarily exempted from these requirements for a variety of reasons including illness, injury or a major personal crisis.

LT customers were much less likely than ST customers to be jobseekers. LT customers were also more likely to be undertaking activities such as Intensive Assistance and training and development. The proportion of customers on different activities at May 1999 and May 2002 is shown in Figure 10.

In May 2002 slightly less than half of LT customers were jobseekers. This is a decrease from May 1999 when over two-thirds of LT customers were jobseekers. There was also a slightly smaller decline in the proportions of ST customers who were jobseekers.
Figure 10  Proportion of long-term customers: by activity type, May 1999 and May 2002

Around 28 per cent of LT customers were undertaking Intensive Assistance in May 2002, an increase from 20 per cent in May 1999. The proportion of customers undertaking Intensive Assistance also increased from May 1999 for ST customers (Appendix C). Around 7 per cent of LT customers were undertaking training in May 2002, around twice the proportion seen in 1999. The proportion of ST customers in training showed a slightly smaller increase.

There was a 46 per cent increase in LT customers with an incapacity exemption between May 1999 and May 2002. The proportion of LT customers with exemptions due to incapacity was not significantly different to ST customers, and both groups experienced a similar increase in the proportion of customers with incapacity over the period. In terms of those engaged in other activities, the main increase for LT customers resulted from an increase in other temporary exemptions and the inclusion of Community Development Employment Projects (CDEP) scheme participants (Appendix C).

In short, changes in activities for LT customers were largely comparable to ST customers except for a greater decline in the proportion that were jobseekers, and a slightly higher increase in those undertaking training.
7. Long-term customers by region

The incidence of LT customers is higher outside capital cities than it is within them; this difference has increased slightly between May 1999 and May 2002. In 1999 the incidence of LT customers outside the capital cities was 57 per cent compared to 53 per cent in the capitals (Figure 11). In 2002 the incidence of LT customers in capital cities has increased slightly (up to 54 per cent) compared to the relatively higher increased incidence outside the capitals (up to 61 per cent).

Along with the decline in the total number of unemployed customers, the number of LT customers decreased both inside and outside the capitals. In the capital cities, the number of LT customers fell from 234,318 in 1999 to 208,056 in 2002; outside they fell from 185,705 to 174,878. The higher increase in the incidence outside the capital cities is due to a relatively smaller decrease in the number of LT customers; LT customers inside capitals fell 11 per cent compared to 6 per cent outside.

A similar situation applies to the VLT. In the capitals, VLT customers fell from 153,566 to 143,378 (down 7 per cent); outside they fell marginally from 127,666 to 126,555 (down 1 per cent).

A larger proportion of LT customers had an incapacity exemption in the capitals than outside:

- In 2002, 16 per cent of LT customers in the capitals had incapacity exemption, compared to 9 per cent of LT customers outside. A similar comparison applies for VLT.
There has been a large increase in the proportion of customers receiving an incapacity exemption since 1999, but the increase was only marginally higher in the capitals—with a 46 per cent increase in LT customers with incapacitated exemptions in the capitals compared to a 44 per cent increase outside the capitals.

8. Earnings of unemployed customers

This section looks at changes in the earnings distribution between August 2000 and August 2002. Due to the inclusion of CDEP participants as unemployed customers from March 2000, this period was used to obtain a more consistent comparison, instead of the period May 1999 to May 2002\(^{10}\). Earnings for August 2000 are also given in 2002 dollars to facilitate comparisons between the two years\(^{11}\).

A large number of customers on unemployment payments have earnings. These include customers who, due to the application of the income test, receive no payment in a particular fortnight but who are still regarded as current customers.

There was an increase in the incidence of unemployed customers reporting earnings in August 2002 compared to August 2000 (Figure 12). Much of this increase was the result of more CDEP participants taking up the Community Participation Supplement and therefore being included in the unemployed customer population.

Figure 12 Incidence of earnings amongst unemployed customers: by gender and income support duration, August 2000 and August 2002
Customers with long-term durations were marginally more likely than ST customers to have earnings in both years. In August 2002, 21 per cent of LT customers had earnings compared to 19 per cent of ST customers. The incidence of earnings was highest for those LT customers with durations between three and four years (25 per cent).

While LT customers were slightly more likely to have earnings than ST customers in both years, they tended to earn less than ST customers (Figure 13). The mean fortnightly earnings of LT customers with earnings at August 2002 was $400 compared with $510 for ST customers.

As mean earnings can be affected by customers with very low or very high earnings it is useful to also look at median earnings. Median earnings for both LT and ST customers in August 2002 were less than their mean earnings (Figure 13 and Appendix D). This indicates that there are some customers with particularly high earnings who are ‘pulling up’ the mean. This is particularly the case for ST customers.

Earnings also varied by gender (Figure 12 and Figure 13). While a significantly higher proportion of women had earnings, women tended to have lower earnings than men. There was less of a difference between mean and median earnings for women than for men, which suggests that women tend not to be customers with particularly high earnings.

Figure 13 Mean and median fortnightly earnings amongst unemployed customers: by gender and income support duration, August 2002
There was a significant difference in the way earnings changed over the period (Figure 14). The difference in both mean and median earnings between men and women has decreased between 2000 and 2002. Unemployed men experienced a fall in real mean earnings and an increase in median earnings over the period. Women on the other hand, experienced increases in both real mean and median earnings.

The decrease in real mean earnings and increase in real median earnings, observed for men, appears to be the result of an increase in the number of men earning amounts between $400 to $500 per fortnight (Figure 15). This was above the median at August 2000, but below the mean, resulting in these measures being ‘pulled’ closer together in 2002. This concentration of customers appears to be influenced by CDEP participants, many of whom have earnings clustered around this range.

The increase in real mean and median earnings experienced by female unemployed customers is due to an increase in the number of customers earning between $320 and $630 over the period. The $320 to $630 range is mostly above both the mean and median earnings at August 2000; this resulted in an increase in both measures. While some of this increase may be due to CDEP, the impact of this program on earnings for women is less clear-cut than for men.

**Figure 14 Change in real earnings of unemployed customers: by gender and income support duration, August 2000 to August 2002**
9. Conclusion

This note provides a snapshot of long-term unemployed FaCS customers in 2002 and compares this to a similar snapshot for 1999. This analysis found that the number of LT customers has declined but at a slower rate than the number of total unemployed customers. The number of customers with durations of five years or more increased over this period.

The more marked decline of ST customers compared with those who are LT provides some support for the hypotheses that LT customers are less likely than ST to benefit from good economic conditions, and that the longer people remain on income support, the less likely they will leave and become self-reliant.

There may be several reasons why the duration on income support may reduce the likelihood of exit from payment:

- Those who are LT may have particular personal characteristics (both observed and unobserved) that reduce their ability to obtain employment. This may include low levels of education, skills, or motivation.

- Longer periods of unemployment may cause the unemployed to become less employable in some way, termed the ‘scarring effect’ of unemployment. This could be the result of factors such as declining motivation—resulting in reduced time spent in job search—or skills deterioration.
Employers may also be less likely to employ those who have been unemployed for a long period, the so-called ‘stigma effect’ of unemployment. Which of these factors is most important, and for whom, has implications for the development of appropriate policy.

This paper also highlights the fact that a fairly high proportion of LT customers have some earnings—in fact, a slightly higher proportion than that of ST customers. This means that many LT customers retain some connection to the workplace. However, they tend to be in lower paid jobs or work fewer hours. No definite conclusions can be drawn from this as to why LT customers might find it harder to get off benefits, but it appears any scarring or stigma effect is not sufficient to exclude them completely from the workforce.

Further research on income support reliance using longitudinal data would provide a fuller picture of LT customers. The FaCS Longitudinal Data Set augmented by the General Customer Survey and the survey of Household Income and Labour Dynamics of Australia provide a rich source of longitudinal data. These sources have yet to be fully explored in addressing questions about the income support reliance of unemployed customers. These could be used to answer such questions as:

- What are the characteristics of unemployed customers who stay on income support payments and those who move off payment?
- How does the behaviour of customers change with longer periods on income support?
- What is the nature of the work LT customers are doing, and what does this mean for continued income support reliance?
## Appendix A

Number of unemployed customers: by gender, age and income support duration, May 2002

<table>
<thead>
<tr>
<th>Age group</th>
<th>under 21</th>
<th>21-29</th>
<th>30–39</th>
<th>40–49</th>
<th>50–59</th>
<th>60–64</th>
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<tr>
<td><strong>Males</strong></td>
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<td></td>
<td></td>
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<tr>
<td>ST</td>
<td>24 670</td>
<td>65 536</td>
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<td>31 699</td>
<td>23 424</td>
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<td>264 128</td>
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<td>49 162</td>
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<td>40 380</td>
<td>33 613</td>
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<td>86 647</td>
<td>67 690</td>
<td>11 186</td>
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<td>62 636</td>
<td>3 409</td>
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<td>73 452</td>
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<td>60 819</td>
<td>47 457</td>
<td>2 116</td>
<td>273 550</td>
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<tr>
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<td>90 697</td>
<td>202 025</td>
<td>149 165</td>
<td>131 958</td>
<td>97 080</td>
<td>12 883</td>
<td>683 808</td>
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Appendix B

Workforce age customers on Disability Support Pension, Mature Age Allowance, Partner Allowance and Widow Pension: by gender, May 2002

<table>
<thead>
<tr>
<th>Age group</th>
<th>40–49</th>
<th>50–59</th>
<th>60–64</th>
<th>Total</th>
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<tbody>
<tr>
<td><strong>Disability Support Pension</strong></td>
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</tr>
<tr>
<td>Male</td>
<td>79 731</td>
<td>124 963</td>
<td>98 291</td>
<td>302 985</td>
</tr>
<tr>
<td>Female</td>
<td>57 670</td>
<td>103 588</td>
<td>25 391</td>
<td>186 649</td>
</tr>
<tr>
<td>Persons</td>
<td>137 401</td>
<td>228 551</td>
<td>123 682</td>
<td>489 634</td>
</tr>
<tr>
<td><strong>Newstart Allowance/ Mature Age Allowance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td>36 591</td>
<td>36 591</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td>3 339</td>
<td>3 339</td>
</tr>
<tr>
<td>Persons</td>
<td></td>
<td></td>
<td>39 930</td>
<td>39 930</td>
</tr>
<tr>
<td><strong>Partner Allowance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>446</td>
<td>4 017</td>
<td>5 480</td>
<td>9 943</td>
</tr>
<tr>
<td>Female</td>
<td>7 445</td>
<td>61 405</td>
<td>20 679</td>
<td>89 529</td>
</tr>
<tr>
<td>Persons</td>
<td>7 891</td>
<td>65 422</td>
<td>26 159</td>
<td>99 473</td>
</tr>
<tr>
<td><strong>Widow Allowance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>28 229</td>
<td>8 692</td>
<td>36 921</td>
</tr>
<tr>
<td><strong>All mature age payments</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7 891</td>
<td>93 651</td>
<td>74 781</td>
<td>176 324</td>
</tr>
<tr>
<td><strong>Newstart Allowance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>131 958</td>
<td>97 080</td>
<td>12 883</td>
<td>683 808</td>
</tr>
</tbody>
</table>
Appendix C

Activities of unemployed customers: by income support duration, May 1999 and May 2002

<table>
<thead>
<tr>
<th>Activity</th>
<th>1999</th>
<th>2002</th>
<th></th>
<th>1999</th>
<th>2002</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ST</td>
<td>LT</td>
<td>Total</td>
<td>ST</td>
<td>LT</td>
<td>Total</td>
</tr>
<tr>
<td>Jobseekers</td>
<td>78.6</td>
<td>67.6</td>
<td>72.4</td>
<td>64.1</td>
<td>46.6</td>
<td>54.3</td>
</tr>
<tr>
<td>Intensive Assistance</td>
<td>8.0</td>
<td>20.3</td>
<td>14.7</td>
<td>14.4</td>
<td>27.6</td>
<td>21.9</td>
</tr>
<tr>
<td>Training</td>
<td>2.6</td>
<td>2.5</td>
<td>2.6</td>
<td>3.6</td>
<td>6.5</td>
<td>5.2</td>
</tr>
<tr>
<td>Incapacitated</td>
<td>8.8</td>
<td>7.9</td>
<td>8.3</td>
<td>12.3</td>
<td>12.5</td>
<td>12.4</td>
</tr>
<tr>
<td>Other activities</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-employment development</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.3</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Voluntary/part-time work</td>
<td>0.3</td>
<td>0.4</td>
<td>0.4</td>
<td>0.9</td>
<td>1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Other temporary exemptions</td>
<td>1.5</td>
<td>1.2</td>
<td>1.4</td>
<td>3.2</td>
<td>3.4</td>
<td>3.3</td>
</tr>
<tr>
<td>CDEP participant(a)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1.2</td>
<td>2.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: (a) CDEP participants were not included amongst the NSA/YA(o) customers until March 2000, when they were required to be eligible for income support to receive the CDEP participation supplement and other ‘add ons’.

Appendix D

Earnings of unemployed customers: by income support duration and gender, August 2000 and August 2002

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ST</td>
<td>LT</td>
<td>ST</td>
<td>LT</td>
<td>ST</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incidence (%)</td>
<td>16.4</td>
<td>16.9</td>
<td>23.5</td>
<td>25.0</td>
<td>18.6</td>
</tr>
<tr>
<td>Mean earnings ($)</td>
<td>537</td>
<td>403</td>
<td>392</td>
<td>338</td>
<td>480</td>
</tr>
<tr>
<td>Median earnings ($)</td>
<td>348</td>
<td>278</td>
<td>300</td>
<td>262</td>
<td>330</td>
</tr>
<tr>
<td>Mean earnings (2002 dollars)</td>
<td>568</td>
<td>426</td>
<td>415</td>
<td>358</td>
<td>508</td>
</tr>
<tr>
<td>Median earnings (2002 dollars)</td>
<td>368</td>
<td>294</td>
<td>317</td>
<td>277</td>
<td>349</td>
</tr>
<tr>
<td>2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incidence (%)</td>
<td>17.2</td>
<td>18.6</td>
<td>24.9</td>
<td>25.9</td>
<td>19.6</td>
</tr>
<tr>
<td>Mean earnings ($)</td>
<td>552</td>
<td>422</td>
<td>446</td>
<td>366</td>
<td>510</td>
</tr>
<tr>
<td>Median earnings ($)</td>
<td>376</td>
<td>315</td>
<td>336</td>
<td>301</td>
<td>363</td>
</tr>
</tbody>
</table>

Change from 2000 to 2002

|                      |       |         |         |         |         |
|                      |       |         |         |         |         |
| Change in mean earnings ($) | -16  | -3      | 31      | 8       | 2       |
| Percentage change     | -3    | -1      | 8       | 2       | 0       |
| Change in median earnings ($) | 8    | 21      | 19      | 24      | 14      |
| Percentage change     | 2     | 7       | 6       | 9       | 4       |
Endnotes

1 The activity test is the requirement that customers undertake certain activities to improve their employment prospects.

2 This is a snapshot of customers with a Centrelink determination status of ‘Current’ as at 19 May 2002 and will differ from the monthly averages reported in the Department of Family and Community Services publication Labour Market and Related Payments: A monthly profile publication. Numbers in this note were derived from the Newstart Population Superstar database using definitions consistent with the revised customer count methodology introduced in July 2002.

3 These numbers are based on monthly averages rather than point of time data and thus will differ slightly from the other data quoted in this note.

4 By definition half the customers have a duration less than the median duration. It is useful to present both the mean and median of data, as some people may have extreme durations (such as very long or very short durations). As the value of the mean is sensitive to extreme values, the mean is probably consistently higher than the median, because customers with very long durations are pulling up the mean.

5 This chart uses data from several FaCS administrative data sources with extract dates for the second quarter of 2002. The exact extract dates vary from source to source.

6 Jobseekers are defined as a person on NSA/YA(o) who would usually engage in job search. People who did not receive a payment due to their own and/or their partner’s income (or where applicable their parents’ income) are excluded from this definition. The definitions of activity types are consistent with those used in the Department of Family and Community Services publication Labour Market Payments: A monthly profile. The only exception is that in this note the Intensive Assistance category is presented separately from the ‘Jobseeker’ category.

7 The number of customers with an incapacity exemption has declined significantly since June 2002. This decrease is assumed to be largely due to the new arrangements for jobseekers requesting a temporary incapacity exemption introduced in the Australians Working Together Better Assessment and Early Intervention measure in September 2002.

8 This scheme enables Aboriginal and Torres Strait Islander groups to offer work-related activities to community members. It was introduced from March 2000. CDEP participants were included amongst the NSA/YA(o) customers in March 2000, when they were required to be eligible for income support to receive the CDEP Participation Supplement and other ‘add ons’.
The capital and non-capital areas are aggregations of postcodes. Capital cities are defined here to include surrounding, or ‘peri-urban’ areas. These are typically commuter areas around a capital city, and so tend to be part of the same labour market. To address this the postcodes within 75 kilometres of the CBD are included as part of the capital. The capitals are essentially the first four categories of urbanisation, and non-capitals the remainder, defined in Rob Bray (2000), Social Indicators for Regional Australia, Department of Family and Community Services, Policy Research Paper no. 8.

CDEP participants were counted as unemployed customers following the implementation of the CDEP Participation Supplement in March 2000. This was because being eligible for income support was a requirement for receiving the supplement and other ‘add ons’. Some of the income of CDEP participants has been recorded as earnings in the Newstart Population Superstar database from June 2000. This resulted in a change in the pattern of the distribution of earnings, with a spike in earnings in the $400 to $445 range apparent from this period onwards. This dollar range suggests that much of the earnings represent the CDEP wage paid instead of income support payments, rather than additional earnings over and above this base amount. Centrelink data, however, do not clearly identify whether this was the case or not.

The estimates for the August 2000 mean earnings in 2002 dollars have been derived by adjusting for the change in the Consumer Price Index between August 2000 and August 2002.

The median earnings are the earnings of the middle customer: 50 per cent of customers earn less than this amount and 50 per cent more.

Mean and median earnings are calculated for customers with earnings only.

The earnings distribution is represented by a trendline for each period. A 10-period moving-average trendline was used as the original earnings data was very ‘noisy’.
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