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THE 'DISABLED' LABOR MARKET: THE DISABILITY SUPPORT PROGRAM AND UNEMPLOYMENT

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The Commonwealth Government's 2002-03 Budget proposed to make it more difficult for new applicants to qualify for the Disability Support Pension (DSP). The Government is concerned that the growth in social security payments is eating away at its Budget surplus. For example, Government outlays on income support were 25.7% of the Commonwealth Budget in 1989 but constituted 30.3% of outlays in 1999. Similarly, as a percentage of GDP, income support outlays rose during this period from 6.3% to 7.5%, with the percentage of the working age population on some form of income support rising from 14.1% to 21.3% (FaCS, 2000: 4). Tightening eligibility of major income support programs such as DSP will help, it is believed, maintain a Budget surplus.¹

This is not the first time that the Commonwealth Government has attempted to reduce the pressure on the Budget outcome by tightening eligibility for disability payments. Such 'reforms' occurred in the early 1980s and again in the early 1990s. On each occasion the policy changes failed to restrict welfare outlays. This article analyzes the reason for these past failures, and will argue that the cause of these failures still

¹ This element of the 2002-03 Budget has as yet not passed through the Senate at the time of writing, so that eligibility criteria for the DSP have not formally changed, although anecdotal evidence from people involved in the administration of the DSP suggests that doctors have informally implemented the closer eligibility criteria in fear of tighter government scrutiny.

exists, bringing into doubt the likelihood that the current 'reforms' will succeed.

The central argument is that social security 'reforms' since the early 1970s have been undermined by a particular structural change in the labor market – the decline in full-time employment rates among the working age population. We will show that males have been particularly affected by the loss of full-time jobs and it is this group that has been most responsible for the growth in the number of DSP recipients. Cross-sectional data for Statistical Sub-Divisions and States/Territories show the extent to which the rise in disability pension recipient rates among older males has been due to their limited job opportunities.

Disability Support Programs in Historical Context

The notion of disability has always incorporated a combination of medical/psychological factors and socioeconomic conditions. Stone (1984), for example, argues that the concept of disability is a social construction that results from a 'distributive dilemma' created over the course of capitalist development. She argues that people are allocated to either the work-based (employment) or needs-based (welfare) categories of the system of distribution. As not everyone is able or willing to work, a boundary category is created – disability – in which people are 'parked' as the State tries to allocate people on the principles of either work or need.

Similarly, Jordon (1984) summarizes the inherent complexity of the concept of disability and the scope this provides for disability support programs to act as buffers for unemployment as follows:

[I]nvalid pensions are not granted simply because of concrete impairment but because the person is thought to be permanently incapacitated *for work*. Invalidity is a social status and incapacity for work is an economic status; neither of them is a medical status although both have some relationship to medical status. Health, illness and disability are not entities with a constant, objective reality; or, in so far as they can be defined objectively the definitions are too restricted to be of much use for the purposes of

social policy. Their meaning, and therefore their practical reality, varies according to personal, social and societal context ... [t]he record of invalid pension is more a history of disability as it has been socially defined, and even socially generated, than a natural history of chronic impairment (1984: 8).

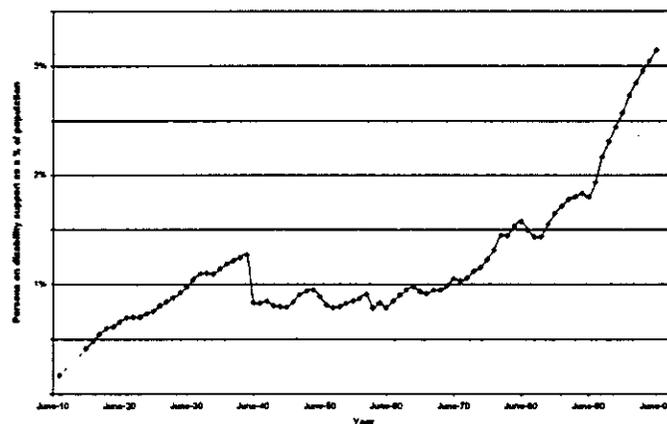
In other words, the determination as to whether someone is 'disabled' requires a judgment about a complex set of factors consisting of medical, social and economic conditions. For example, a level of eyesight impairment may or may not affect everyday activity since it is dependant upon the socio-economic context of the person whose everyday activity is being judged.

This definitional problem was relatively easy to resolve during the two and a half decades of full employment following the Second World War. The then Invalid Pension acted as a palliative for those unable to find employment during those relatively buoyant economic times. In the 1970s, however, the growing percentage of jobless people required the welfare system to play a much more demanding role; rather than acting as a 'palliative', it now had to act as a buffer for structural problems in the labor market in an era where the government was no longer committed to full employment.

The relationship between disability support programs and these broad eras of employment conditions is illustrated in Figure 1, which shows the overall trend in disability support pension recipient numbers from 1910 to 1999 as a percentage of the working age population.

This time series can be divided into three distinct stages, corresponding to distinct phases of capital accumulation. The first stage, from 1910 through to 1939, shows a steady increase in recipient rates, particularly during the Depression. The second stage, from 1940 through to the early 1970s, begins with a sharp decrease in rates with the onset of the Second World War and associated labor scarcity. The disability recipient rate (the number of recipients as a percentage of the working age population) then remains relatively stable throughout the period of full employment in the 1950s and 1960s. The third and current stage is marked by a dramatic increase in recipient rates since the early 1970s, rising sharply throughout the 1990s.

Figure 1: Disability Pension Recipient Rates in Australia, 1910-2000



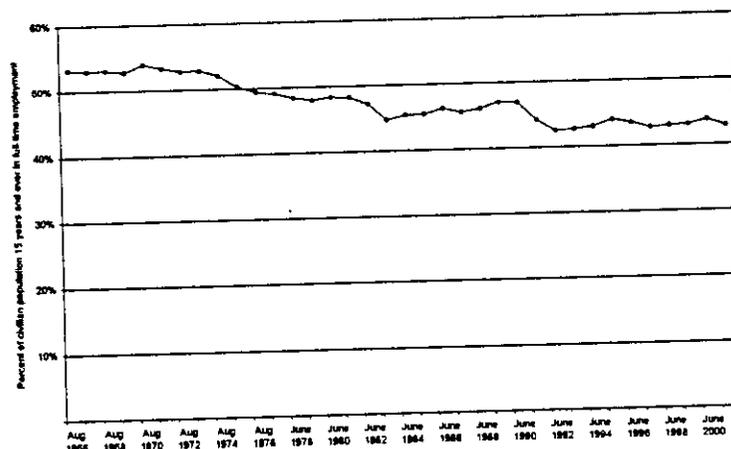
Source: Department of Social Security (various years), Department of Family and Community Services (various years).

Changes in the Australian Labor Market Since 1970

It is clear from Figure 1 that the underlying state of the labor market is a key factor affecting disability pension recipient rates. This section will analyze in more detail changes in the labor market since the early 1970s which will allow us to then assess the reasons why past attempts to restrict eligibility for disability support pensions have failed.

The Australian labor market has undergone drastic changes since the early 1970s, the most significant of which for the Australian welfare system is the loss of full-time jobs. In Australia, the percentage of the working age population in full-time employment has been steadily declining since 1971 (Figure 2).

Figure 2: Full-Time Employment Rates in Australia, 1966-2001



With the recessions of the early 1980s and early 1990s, the percentage of the civilian population aged 15 years or over in full-time employment has fallen, and this decline has not been recovered in subsequent booms.

There are a number of possible (and not mutually exclusive) explanations for this decline in full-time employment rate. These include:

- changes in industrial composition, particularly away from manufacturing and toward service industries (Toner, 2000).
- changes in the total amount of public employment and in the hiring practices of public services (Mitchell, 2002).
- personal preferences away from full-time work toward more 'flexible' working arrangements (Wooden, 2002: 189).
- the attractiveness of welfare payments as a form of income receipt rather than paid employment (Burkhauser and Haveman, 1982).

For whatever reason, the net result has been a 10% decline in the percentage of the civilian population aged 15 years and over in full-time employment. To give this percentage change some practical meaning, we can say that, had the full-time employment rate remained at its 1970

peak, there would be 1.7 million more people employed in full-time jobs than the 6.6 million currently employed full-time in Australia.

A critical aspect of this decline in full-time employment rates is that those who have lost full-time jobs have not generally been those who have found work in the expanding part-time sector of the labor market (Gregory, 1991). This applies particularly to men who have lost their jobs. If the figures are broken down by sex it is clear that the operation of successive business cycles has had a very different impact on males and females. Table 1 presents the major labor force aggregates for men and women in 1971 and 2001.

We can see that females have maintained their respective full-time employment rate so that *all the decline in the full-time employment rate has been borne by male workers*. On the other hand, while males have been able to share in some of the increase in part-time employment, 68% of the 2 million part-time jobs that have been created since 1971 have been taken up by women.

Table 1: Labor Force Status of Males and Females, 1971-2001

Labor force status	August 1971	June 2001
Male		
Employed full time	79%	57%
Employed part time	2%	10%
Employed	81%	67%
Unemployed	1%	5%
Not in labor force	18%	28%
Female		
Employed full time	29%	29%
Employed part time	10%	23%
Employed	39%	52%
Unemployed	1%	4%
Not in labor force	60%	44%

Sources: 1971: ABS (6204.0); 2001: ABS (6202.0)

Given that men have not been able to easily shift from the full-time to the part-time labor markets, the question arises as to what other activity they rely on as a means of income support. There has been an increase in male unemployment rates over successive business cycles. But, more importantly, the decline in the full-time employment rate has led to men leaving the labor force. *More than one-in-four working-age men are now no longer in the labor force.*

This exit from the labor force can partially be attributed to younger males staying in formal education longer and in larger proportions. But, as Table 2 indicates, the greatest rate of exit from the labor force has been among older males.

These figures show that changes in the structure of employment since the early 1970s have been particularly severe on the labor market conditions faced by older males. In the following sections we argue that the welfare system has had to absorb a large part of this population of males who have 'fallen out' of the labor market as a result of the lack of full-time jobs.

**Table 2: Male Labor Force Participation Rates
by Age Group, 1971-2000**

Age group	1971	2000	Change since 1971
15-19 years	59.4	57.7	-1.7
20-24 years	91.5	85.6	-5.9
25-34 years	97.4	93.0	-4.4
35-44 years	97.8	91.7	-6.1
45-54 years	95.2	87.1	-8.1
55-59 years	90.9	72.2	-18.7
60-64 years	76.3	46.3	-30.0

Sources: 1971: ABS (6204.0); 2000: ABS (6203.0).



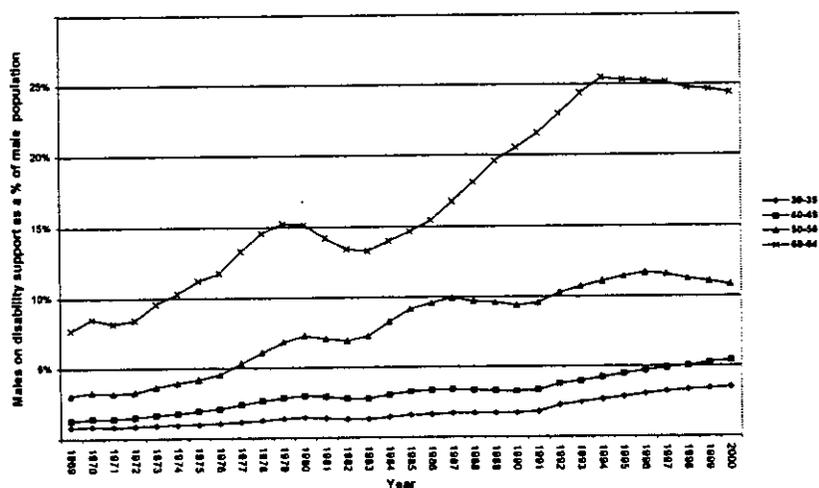
Trends in Disability Support and Structural Unemployment

The general connection between the growth of disability pension recipient rates and the changes in the labor market is illustrated by analyzing the groups for whom the rate has grown most dramatically.² As Figure 3 shows, it is precisely the group most severely affected by the weakness in the full-time employment – older males – that has had the highest increase in disability pension recipient rates. Two-thirds of the additional recipients since 1971 have been males.

Previous studies of the factors associated with an increase in disability pension recipient rates have emphasized supply-side factors that affect the pattern of 'incentives' for work and welfare. For example, Weaver explains "the explosion of costs and caseloads" in the equivalent US disability program as due to "the disincentives to work for those on the rolls, the enticement of high benefit levels for those still at work, and lax administration" (1986: 31). Empirically, these studies focus on the relative value of welfare benefits to the unemployment benefit or wage level (see, for example, Burkhauser and Haveman, 1982). However, while the relative value of benefits may affect a jobless person's decision as to whether to be in or out of the labor force, they do not explain the level of joblessness as a whole (Lombard, 1998). Absent from these studies is any consideration of demand-side conditions that determine the availability of work, which are more fundamental elements in explaining the 'incentive' to access disability support programs. The relative value of benefits plays only a second-order role in determining in which category of joblessness those excluded from work will find themselves (i.e. whether they are officially counted as 'unemployed' or 'not in the labor force').

2 While applied to Australia, the results are consistent with studies of both the USA (Autor and Duggan, 2001; Black, Daniel, and Sanders, 2002) and the UK (Beatty, Fother Gill, and MacMillan, 2000) that have shown that the growth in the number of people on disability support programs has been driven primarily by demand conditions in the labor market. Notably, Black, Daniel, and Sanders identify "permanent job-creation or destruction" as having the largest effect on disability programs in the US (2002: 47).

Figure 3: Disability Support Pension Recipient Rates for Males in Various Age Groups, 1969-2000

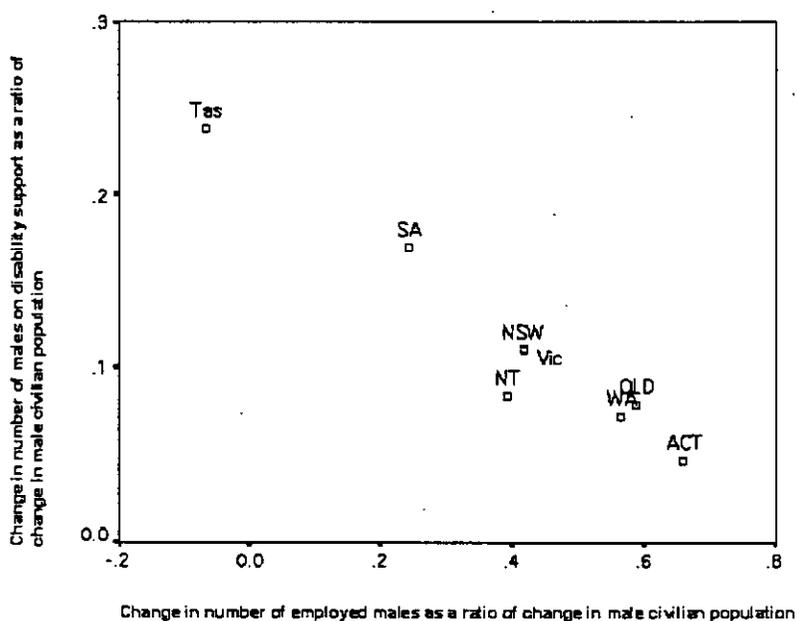


Source: Department of Social Security (various years), Department of Family and Community Services (various years).

The following analysis uses cross-sectional data to draw a direct relationship between the availability of work and the pension rate. The use of cross-sectional data can, to an extent, filter out the effect that the relative value of benefits has had on disability pension recipient rates because Australia has a uniform national system for payment of disability pensions. At any given point in time, the dollar value of the disability pension is the same across regions, so will not play a major role in regional variation in receipt rates.³

³ However, the real value of benefits will be affected by regional differences in wage rates and cost of living so that even with a uniform national pension some differential 'incentive effects' may still exist.

Figure 4: Changes in Male Employment and Changes in the Number of Males on Disability Support by State, 1971-2000



We begin with a comparison of disability pension recipient rates across states and territories. For each of the six states and two territories the change in the number of males receiving disability support pensions and the change in the number of males employed between 1971 and 2000 is calculated. Each of these two numbers is then expressed as a proportion of the change in the male working age population. Figure 4 presents the scatterplot of the relationship between these two variables.

This figure displays an extremely strong, negative association between state employment rates and disability support pension rates for males. It is particularly noticeable that the Australian Capital Territory has had the largest increase in male employment relative to the growth in total male working age population and has also had the smallest increase in

disability pension recipients since 1971. The ACT, being an administrative center, has an unusually high percentage of public employment, and has until recently been sheltered from the labor market changes described above.

Despite the extremely high correlation coefficient for this relationship of -0.98 , other important factors have been omitted from this simple model. Of particular concern is that no account has been taken for changes in the age distribution of the working age population, nor any changes in the underlying medical condition of the population. Disability, as noted above, is determined by a combination of medical criteria and socioeconomic factors, so that some measure of the underlying 'health' of the population needs also to be taken into account when analyzing the statistical relationship between the labor market and the rate of disability pension receipt.

To account for both the age composition and health status of the population, more detailed cross-sectional analysis is undertaken. The following analysis uses data at the Statistical Sub-division level to apportion the growth in pension numbers between the two elements of the definition of disability: the medical/psychological and the socioeconomic. In other words, two regions may differ in the rate of pension receipt because they differ in terms of the actual rate of medical impairment that is prevalent in each region and/or because the labor market conditions in each region are different. To account for each of these factors, measurements of the underlying health conditions in each region and the employment conditions in each region are used in a regression model to gauge their respective influence on disability pension recipient rates across regions. To control for the effects that differences in the age structure of the male population in each region may have, the analysis is conducted for the entire 35-64 year age group, and also for the 35-49 years and 50-64 years age groups separately (details of the measurement procedures, data sources, and results are included in the Appendix).

The results of these regression analyses confirm the argument that employment conditions in regional labor markets have had a major influence on disability pension recipient rates. The regression models that used only health level data explain only around a third of the

variation in pension receipt rates across regions. Noticeably this factor alone is much weaker for the older male age group than for the 35-49 year olds. The models that included some measure of labor market conditions, on the other hand, have much higher explanatory power, accounting for nearly half of the variation in pension recipient rates. The correlation coefficients increase for each age group when labor market conditions are included in the regression analysis, indicating that our ability to explain the pension receipt rate increases when we have information about medical disability *and* labor market conditions. It also shows that the employment rate has a little more influence on the disability pension rate for older males ($r = -0.37$) than for the younger age group ($r = -0.31$), and that the medical disability rate is less influential for older males ($r = 0.52$) than for the younger group ($r = 0.59$).

Previous Reforms of the Disability Pension System

The loss of employment has been a major factor affecting the growth of disability pension recipient rates, and one may infer from this that attempts to tighten eligibility for the disability pension will not succeed if they do not simultaneously increase the jobs available. Indeed, successive governments have attempted to restrict eligibility over the past 30 years, but on each occasion the attempt did not succeed in reducing the number of recipients, and the policies have had to be subsequently abandoned.

Until the early 1990s the main criterion for determining eligibility for disability support was proof of 'permanent incapacity for work to an extent of 85 per cent'. However, no clear definition of what might be considered 85 per cent permanent incapacity was given (Cass *et al*, 1988: 21). This eligibility criterion appears to have been a trade-off between a person's *capacity* to earn some income and their *incapacity* to find regular employment.

In practice the implementation of this notion of '85 per cent incapacity' was left to a large number of professional people operating within or alongside the bureaucracy. These included the doctors who certify

disability claims, the social workers who case manage the claimants, and the members of appeals tribunals that review disputed claims. During the period of full employment after the second world war, this notion of incapacity as a grounds for justifying a pension claim was applied in a relatively routine and uncontroversial fashion. With the weakening labor market of the 1970s, however, these people were confronted with a growing legion of older males who had often spent long periods on unemployment or sickness benefits. The response of these professional people at the 'coal face' was to give greater weight, when operationalizing the meaning of '85 per cent permanent incapacity', to the job prospects faced by claimants relative to strictly medical factors.

This liberalization of eligibility criteria for disability pension produced a counter-response from the policy-makers at more senior levels of the bureaucracy. These policy-makers wanted to reduce welfare numbers, particularly as welfare outlays became an increasing burden on the Federal Budget and worked against the Government's self-imposed balanced budget imperatives. This led to an effort in 1981 to reduce the existing number of disability pension recipients and to halt the increase in new pensions granted. In order to achieve this reduction, the Government attempted to reduce the discretionary powers of general medical practitioners, by insisting only the medical component of incapacity be considered when assessing eligibility, and the removal of all other environmental and social factors such as employment prospects from consideration (Cass *et al*, 1988: 74; Jordon, 1984: 126).

This 'medicalization' of eligibility criteria caused a dramatic decrease in the number of recipients. These tighter eligibility criteria, however, were applied precisely at a time when the economy was entering a deep recession, so that the stabilization of the pension recipient rate came at the cost of an increase in unemployment numbers. Since the aggregate problem of joblessness remained, tightening eligibility of one component of the income support system simply led to a shifting of the problem to other components of the income support system, particularly unemployment benefits. This led to a backlash against the tightening of eligibility by those in the welfare system directly dealing with pension claimants. This backlash was supported by decisions of the Administrative Appeals Tribunal, the Federal Court of Australia and

other appeal bodies in favor of the original measure for eligibility that included prospects for employment. The more liberal eligibility criteria were re-established and the number of disability pensions began to rise again in 1983, so that the pension recipient rate returned to its long-term trend rate of increase, even though by this time the economy was creating full-time jobs.

It is interesting to note that exactly the same process at precisely the same time occurred in the United States. A rapid increase in the number of people receiving Social Security Disability Insurance in the 1970s led the Reagan administration in 1981 to implement legislative changes that required more frequent and more stringent reviews of those in receipt of SSDI. In the following thirty-six months 480,000 people were deemed ineligible for payment (Weaver, 1986). As with the Australian case, however, this tightening of eligibility only shifted the problem of aggregate joblessness, whereby those deemed ineligible could not find alternative means of support. The backlash by courts and state administrations against the restrictions led to a Federal backdown and a change in the legislation in 1984 (Weaver, 1986).

Throughout the 1980s the recipient numbers in Australia continued to trend upwards. The Federal Government again was concerned with the budgetary implications of welfare dependence, so another attempt to alter eligibility criteria was pursued in the late 1980s:

Conscious of the growth in numbers and of the need to ensure that invalid pensions are paid only to those genuinely incapacitated to work, the Government announced measures in the May Statement to restrict the acceptance of non-medical grounds. From July 1987, grants of invalid pension will be made only where medical impairment constitutes the major part of the invalid pension's incapacity for work. (Commonwealth of Australia, 1987-88: 154).

However, implementing the new medicalized eligibility criteria again proved too difficult and was considered to be merely reallocating recipients into other categories of welfare payments such as unemployment or sickness benefits. Subsequently, the eligibility criteria were partially relaxed:

It was originally intended to administer the new legislative provision by assessing the claimant's level of impairment against a schedule classifying disabilities by a percentage functional impairment. However, initial monitoring revealed that the [application of this] rule *would have resulted in more than half of all claimants being rejected* (Commonwealth of Australia, *Budget Paper No. 1, 1988-89: 156, emphasis added*).

Having failed to contain disability numbers by 'medicalizing' eligibility criteria, the Government took a different approach with the welfare reforms of the early 1990s. It was felt that the notion of 'permanent incapacity to work' created a disincentive for people on disability support to test their capacity to find employment. Those in receipt of pensions were reluctant to take up any employment, since if they subsequently lost work they would find it harder to establish 'permanent incapacity'. Under the new approach access to the program was restricted to those who were unable to work at least 30 hours a week for at least the next two years. This replaced the concept of 'permanent incapacity to work' and was intended to restrict the number of new pensions granted by creating and operationalising a new measure for eligibility - 'the ability to work 30 hours per week' - reflecting the growth in part-time and casual employment.

Incentives to reduce the number of existing recipients were also introduced. Recipients were offered a 'workforce transition package'. The package sought to make it easier for people to move back into employment after spending time on disability support and included: education and employment 'entry payments'; increase in allowable weekly income before a medical review for eligibility was required; retention of the Pensioner Health card for up to 12 months; and the provision to allow return to DSP within two years of leaving it for full-time work without having to be medically examined to re-confirm eligibility.

These reforms in general were aimed at making the relationship between the DSP and the labor market more open so that people could more easily flow between the welfare system and periodic employment. It was expected therefore that the total stock of people on income support would decline. However, the underlying weakness of the labor market, even

during a period of economic growth, meant that traffic flowed more heavily from the labor market to the welfare system, rather than the reverse. The DSP rate for all male age groups accelerated, and for the first time the rate of female disability pension receipt began to rise.

Figure 5: Full-Time Employment and DSP Recipient Rates for Males, 1966-1999

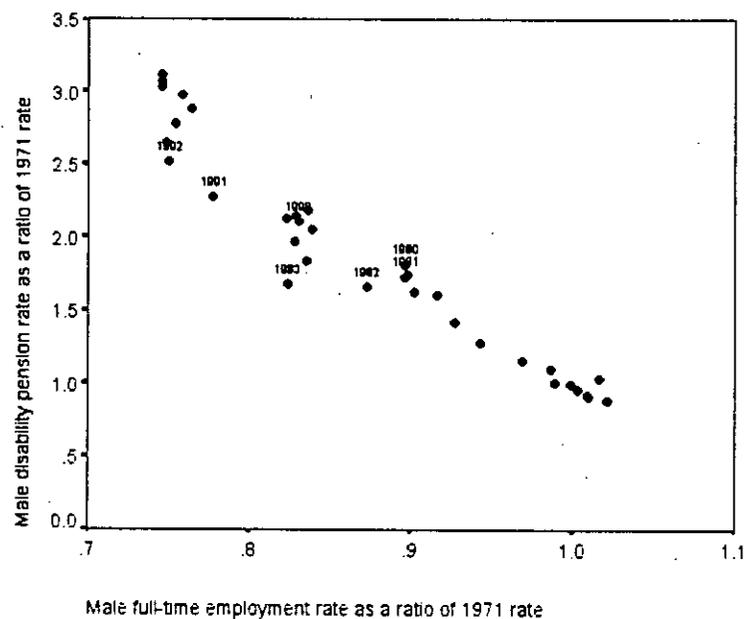


Figure 5 expresses the full-time employment rate for each year since 1966 as a *ratio* of the 1971 full-time employment rate, and plots this against the disability pension recipient rate in each year as a ratio of the 1971 rate. This scatterplot illustrates a long-term trade-off between full-time employment and disability pension recipient rates. Of particular interest are the deviations from the trend in the early 1980s and 1990s, which are due to the attempts to tighten eligibility discussed above. On each occasion disability pension rates plateaued for a couple of years,

only to be followed by a subsequent sharp rise in pension recipient rates back to their long-term trend as labor market conditions meant that those who could no longer access the disability support program could not find employment as an alternative.

With this history in mind it is possible to assess whether the current attempt to restrict DSP eligibility is likely to succeed. Recent trends in the Australian labor market indicate that the lack of jobs that caused past 'reforms' to fail still prevail. In fact, the problem may be getting worse. During the recession of 2001 full-time employment of males again declined, but this time female full-time employment fell by a greater rate. Moreover, the part-time labor market did not remain buoyant (unlike previous recessions) so that the downturn was particularly weak in terms of overall job creation. Table 3 presents data for year-on-year changes in 2001 to the major labor force aggregates (Cully and Ngo, 2002: 3).

**Table 3: Change in Labor Force Status,
December 2000 to December 2001**

Labour force status	Change (000s)	Share of Total Change
Employment	73.3	35.6%
Unemployment	44.4	21.5%
Not in the labour force	88.5	42.9%
Total civilian population	206.2	100%

Nearly two-thirds of the increase in the working age population during this period did not find employment; 21.5% were classified as unemployed and 42.9% remained outside of the labor market altogether. Whether subsequent economic expansions are strong enough in terms of job creation to take up this slack remains to be seen, but the evidence from past expansions do not offer much hope.

Conclusion

The disability support program has acted as an institutional mop for soaking up older males who have lost jobs. The analysis presented here

suggests job loss is the initiating factor that leads to a rise in the pension recipient rate. *It is the labor market that is 'disabled' and needs government attention, and not just the individuals on DSP.*

Studies using other methodologies such as factory closure longitudinal surveys have found similar evidence. One study from the UK, for example, found that 50% of people on the equivalent disability program cited redundancy as the primary reason for their joblessness (Fother Gill 2001). For those who have lost employment, a dynamic interaction between unemployment and health conditions then sets in so that health does indeed deteriorate and makes it more difficult to return to employment (Darity and Goldsmith, 1998; Harris and Morrow, 2001).

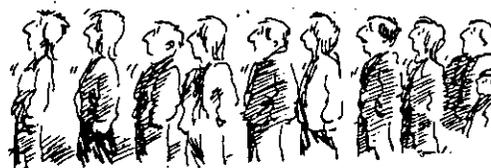
These results suggest that unless the demand-side of the labor market is improved, attempts to tighten eligibility for DSP and encourage recipients back into the labor force will only have the same effect that such 'reforms' have had in the past: shifting recipients from one form of income support to another. Interestingly, a recent ABS survey of job search activity of welfare recipients found that 97.1% of those sampled in 1995 who were on Disability or Sickness Benefits *and actively sought a job* were still on such benefits a year later (ABS 2000: Table 3.6).

Advocates of current policy would argue that jobs will be created by government micro and macroeconomic reforms, particularly labor market deregulation and surplus budgets. They claim that these policies, by injecting greater competition and flexibility into the economy, stimulate appropriate private sector employment to soak up those who find it difficult to stay on welfare. One could make the argument, however, that it is precisely this set of policies which is fuelling the loss of full-time jobs rather than creating them (King, 1998). A vicious policy cycle seems to have set in over the past thirty years, whereby the Government pursues a surplus Budget outcome through 'fiscal consolidation' (i.e. cost-cutting). The immediate effect of such fiscal consolidation may reduce the deficit or increase the surplus, but over the medium to long term it leads to job loss, particularly since the employment-creating component of government spending, public investment, has been the item of spending most savagely cut (Lombard, 1999; Argyrus, 1999). The depressive effect of fiscal consolidation thereby leads to greater welfare dependence and renewed pressure on the

Budget outcome, leading to a further round of spending cuts. It is at this point that Government currently finds itself, and its response is to repeat the mistakes of the past and keep the vicious cycle turning.

The problem of welfare dependence does not rest on the supply-side with the personal characteristics of the individuals. It rests on the demand-side with insufficient jobs. At the macro level, this implies that Budget policy should be more stimulatory, and should seek to restore the rate of public investment to levels associated with full employment (Kadmos and O'Hara, 2000).

At the micro level, the analysis above suggests the need for active job creation as a necessary element of any attempt to reduce the number of people dependent on welfare, so that the full-time employment rate moves back to somewhere near its historical levels. Researchers centered at the University of Newcastle in Australia and at the University of Missouri in the USA have advocated an 'Employer of Last Resort' or 'Jobs Guarantee' program for this purpose. Under such a policy the government would be obliged to employ at a minimum wage anyone wishing to work but who cannot find a job in the private labor market (Mitchell, 1998). This pool of workers would act as a 'buffer stock' from which the private sector can draw during business cycle upswings. During recessions, however, the government would be the employer, thereby keeping the unemployed in regular work. The Government has already been acting as a kind of employer of last resort but it has hitherto been 'employing' the unemployed in an extremely inefficient way, that is by collecting welfare payments, and in a way that results in the likelihood of eventual private sector employment becoming more remote rather than more probable.



Appendix

The regression model discussed in the text used the following data:

The *dependent variable* is the number of males on the Disability Support Pension (DSP) in 1997 in each region, as a percentage of the population of males within that region and within the relevant age group. DSP data were obtained from the relevant government department at the postcode level and then aggregated into the corresponding 169 statistical subdivisions as per the ABS *Australian Standard Geographical Classification*.⁴

A measure of general health conditions is necessary to assess the extent to which pension recipient rates are affected by the actual state of health of the relevant population. To measure the independent variable of 'medical disability' we obtained from the Australian Bureau of Statistics, at the Statistical Sub-Division level, the number of males in the relevant age groups that were recorded as 'disabled' during the 1996 nationwide *Survey on Disability* (ABS, 1998). The notion of disability employed in this survey is much broader than that used to determine welfare receipt and is based on self-reporting of the incidence of specific impairments. These numbers were expressed as a proportion of the number of males in each age group in each SSD according to the 1996 Census.

To measure the *independent variable* of labor market conditions we obtained employment rates and full-time employment rates at the Local Government Area (LGA) from 1996 census data. The data were then aggregated up to the Statistical Sub-Division level and, as with the disability data, the numbers of males in each employment category group were expressed as a proportion of the number of males in each age group in each SSD according to the 1996 Census.

A simple bivariate regression was first carried out to detect any relationship between the pension recipient rate across regions and the medical disability rate (that is, without reference to labor market conditions in each region). Two regressions were then conducted

⁴ Changes in geographic boundaries over this period meant that matching data for the ACT, Farwest (NSW) and Bathurst-Melville (NT) was not possible. Therefore these locations are excluded from the analysis.

alternatively using the employment rate and the full-time employment rate as additional predictors of pension recipient rates. Each regression was run for each of the two age groups and for the two age groups combined. The standardized coefficients for these variables and the coefficients of determination for each model as a whole are presented in Table 4.

Table 4: Regression results

Dependent variable	Independent variable: Standardized Beta Coefficients			R	Adjusted R ²
	Medical Disability Rate	Employment Rate	Full-time Employment Rate		
DSP rate 35-64 yrs	0.60			0.60	0.36
	0.55	-0.37		0.71	0.49
	0.57		-0.33	0.69	0.47
DSP rate 35-49 yrs	0.62			0.62	0.38
	0.59	-0.31		0.69	0.47
	0.60		-0.28	0.68	0.46
DSP rate 50-64 yrs	0.55			0.55	0.29
	0.52	-0.37		0.66	0.42
	0.54		-0.31	0.63	0.39

The table presents correlation coefficients for the relationship specified as:

$$X = a + b_1 Y_1 + b_2 Y_2$$

where X is the dependent variable (DSP rate), Y_1 is the first independent variable (the medical disability rate), and Y_2 is the second independent variable (the employment rate or full-time employment rate). The standardized coefficients can range from -1 , where there is a perfect negative correlation, to $+1$, where there is a perfect positive correlation, with 0 indicating no correlation.

The value for R indicates the strength of the correlation for the *combined* effect of the variables included in the model (whereas the beta

coefficients indicate the strength of the correlation for each independent variable separately), and the adjusted R^2 indicates the total amount of variation in the dependent variable explained by the variables included in the model.

These results are likely to underestimate the impact of the labor market on welfare receipt since they do not include males on the Mature Age Allowance, which was introduced in 1994. This payment acted as a preferred alternative to the DSP among males aged 61-64, since it was based solely on labor market status, without any medical eligibility criteria, and caused the DSP recipient rate for older males to immediately taper off.

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