An Estimate of the Equity
Effects of Labour Market Programs*

Elizabeth Webster and David Johnson
Melbourne Institute of Applied Economic and Social Research
The University of Melbourne

Melbourne Institute of Applied Economic and Social Research
The University of Melbourne
Victoria 3010 Australia
Telephone **(03) 8344 5330**
Fax **(03) 8344 5630**
Email **melb.inst@iaesr.unimelb.edu.au**
WWW Address **http://www.melbourneinstitute.com**

Abstract

Labour market programs aim to enhance both total employment and equality of job opportunities. While the employment effects have been studied extensively in Australia and overseas, the effects on equality has scarcely received any attention. The existing literature implies that any assistance to a disadvantaged group will promote equality. However, because many programs operate by substituting one group of people for another, the effects on equity cannot be determined until some estimates are made of the type of person who has been displaced. This study attempts to present comparative information on the types of people who benefit and lose from the provision of labour market programs. It is found that expenditure on labour market programs, as they were constructed under *Working Nation*, favours people with more disadvantaged work histories and lower household incomes compared with an alternative of higher levels of health and education expenditure.

1. Introduction

One of the prime aims of labour market programs is to improve the jobs prospects of the most disadvantaged members of the labour market vis-à-vis the rest of the working population. Economists such as Layard et al., (1991) have argued, by deduction, that labour market programs should introduce positive hysteresis into the labour market and will therefore have the effect of reducing the rate of unemployment consistent with target levels of inflation (the NAIRU). However, empirical evidence from Australia at least, indicates that the effects on inflation and the NAIRU, if it exists, are small at best and, by inference, the main effect of labour market programs is limited to how far they re-allocate employment opportunities across the labour force (Webster 1999, Webster and Summers 2000).

While equity remains the chief attraction of labour market programs, there appear to be no published evaluations of their equity implications either Australia or overseas. At best, it is assumed that, if labour market programs have a positive effect on the post-program employment prospects of 'disadvantaged job seekers', then an equity goal has been achieved. However, equity is a macroeconomic concept. Whether or not it has been enhanced depends not only on the changed circumstances of the target group, but also on the effects on incidental and displaced groups of people.[1] Without some consideration of who has been displaced by successful labour market program participants, no clear statement can be made with respect to the equity outcomes of labour market programs.

A second key issue in the evaluation of labour market programs is that of the basis of comparison or what is known as the choice of the counterfactual. Often, evaluation of a public policy program is implicitly compared with some preceding situation.. However this is rarely a sensible basis for the counterfactual since rarely are other things equal. Ideally the comparison should be with what would have obtained in the absence of the policy change. However since it is difficult to visualise all of the macroeconomic consequences that have occurred as a result of the change, a more

accessible comparison may be with a similar large expenditure but in some other area of government jurisdiction, such as equivalent expenditure on say health and education.

This paper attempts to define and measure the effects which labour market programs expenditure under the Labour Government's *Working Nation* has had on the distribution of employment and income across major labour force groups in the economy. In the next section we outline our interpretation of the measurement of equity. Subsequently, we estimate the number of people affected by the alternative forms of expenditure and finally, we compare the characteristics of affected households and labour force groups.

2. Meaning of equity

Static indices of equity for groups of people or economies compare the distribution of outcomes (generally incomes or employment opportunities) between two or more situations. People or households are ranked and a measure is constructed which captures the difference in the magnitude of outcomes between the worst and best off members or each pair of members (ie the Gini coefficient). It is generally the size of this gap at one point in time rather than the history of disadvantage or future prospects of members given their position in the ranking that matters.

However this view of equity takes no account of the history of disadvantage. The situation at each of the points in time are considered independent. In practice equity is felt over time and disadvantage may accumulate so what is relevant is not the level of an individual's disadvantage at a point in time but the path of disadvantage over time. Consider two situations. In both we compare populations at two points in time. In situation A the same people are at the bottom of the income distribution at both points in time whereas in situation B the people at the bottom of the distribution at the second point in time are different from those at the first point in time. In considering these two situations we say that disadvantage is greater and equity is less in situation A. Dynamic indices take into account some aspects of people's past history of disadvantage or prospects for future well-being.

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gives a simple example where the static distribution of outcomes in two situations, say for example, before and after a program, yields the same Lorenz curve, but person A has swapped places with person B. In this case, there has been a dynamic improvement in efficiency as the improvement of the more disadvantage person comes at the expense of a more advantaged person.

It is the latter type of index that is relevant to this study. Labour market programs are mainly concerned with re-allocating given jobs between different members of the labour force and it is quite possible, especially given conclusions from macroeconomic literature, that the static distributions of outcomes are not affected. If displaced members are more disadvantaged in term of their past employment history, current incomes and future prospects, then labour market program's role in promoting equity should be called into question. If however, the people who are primarily displaced have already had an abundance of employment opportunities, comfortable incomes and possess good prospects for employment, then they can said to have a clearer positive role in promoting employment equity.

The foregoing discussion has referred to two indicators of equity, income and unemployment. A small number of indicators makes interpretation straight forward and conclusions may be unambiguous but there is an accompanying danger that important differences may be hidden. A wider range of indicators is likely to provide a richer picture of the degree and nature of disadvantage. In this study we employ a number of other indexes of equity including employment status, gross income, socio-economic measure of disadvantage and level of education

Similarly in presenting statistics about some facet of equity we may use a single summary statistic such as a Gini index, or we may present a table of statistics in the form of a table of shares of income and shares of population. While the latter provides the most information it also potentially, the most demanding in both construction and interpretation

Figure 1: Lorenz curve same static distribution but different dynamic situation
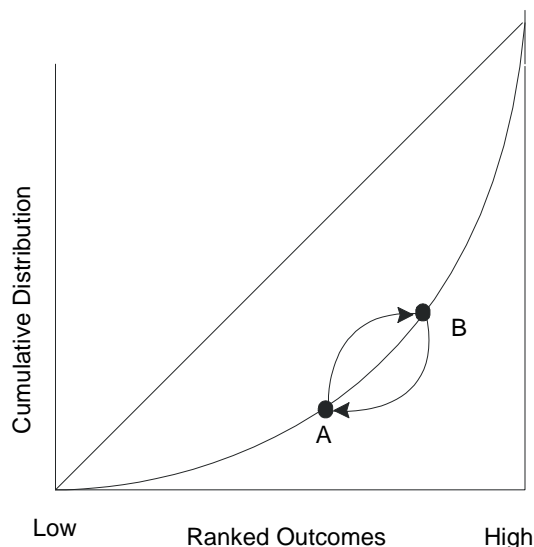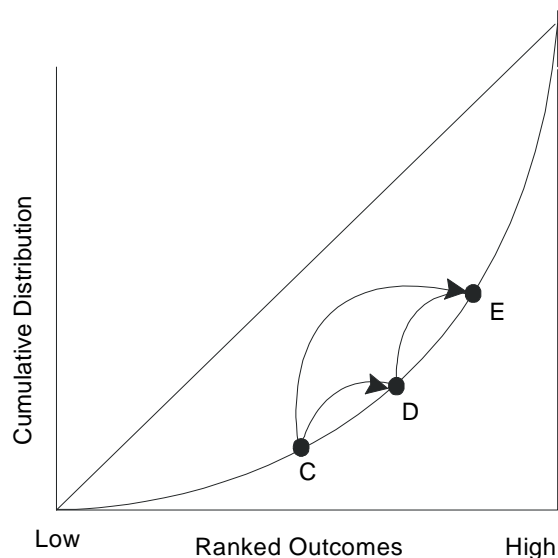
Figure 2: chain effect

3. Method

Existing microeconomic evaluations of Australian labour market programs provide estimates of the proportion of people who are expected on average to gain from participation on a program, however because they make no estimate of the type of person who had been displaced in employment either directly or indirectly, they say relatively little about the final effects on equity. Identifying people who have been disadvantaged as a result of programs requires an estimation of the type of person most likely to have been displaced in a job by the successful participants as well as an estimation of hypothetical beneficiaries from alternative ways to spend the government labour market program appropriation. Options for alternative expenditures are infinite and to contain the estimation exercise, only one counterfactual is evaluated in this paper. This alternative assumes that the monies are spent on the health and education portfolios in a manner that leads to a proportionate expansion of these industries. To avoid difficult macroeconomic issues, *ceteris paribus* is assumed, in particular it is assumed that the size and composition of the government budget remain the same. Accordingly, aggregate employment will only differ to the extent each situation employs cheaper labour, uses less imports and is less profit intensive (ie less roundabout method of production) than the other.

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The two program options to be evaluated are depicted in Figure 3. The immediate beneficiaries of expenditure of $1 billion by Government are those who get jobs or increased hours of work, as a result of the spending. In the case of the labour market programs these are employment services workers, that is the people who provide training for the unemployed, the counsellors, case workers and associated support people. In the situation where moneys are spent in health and education they will be workers in those industries, doctors, nurses, and teachers. Since the beneficiaries under each scenario are likely to be almost mutually exclusive they need only be counted in one scenario to avoid double counting.[2]

Under option 1, the labour market programs scheme, $1 billion is allocated to provide labour market programs to people who were unemployed and classified as 'eligible disadvantaged' prior to the program period. The consequential effects are shown within the post-program period. A certain per cent of the unemployed are estimated to have gained a job as a result of program participation and the remainder either are deemed to have obtained a job even in the absence of the program, or are unsuccessful and accordingly return to unemployment or exit the labour force. The per cent who have gained a job as a result of program participation, are assumed to displace from a job people who have characteristics which are representative for the occupation and earnings group taken up by the successful labour market program participants.

Under the health/education scheme, $1 billion is apportioned during the program period across all existing government (federal, state and local) schemes to subsidise or totally fund the Australian health and education sector in a manner that leads to a proportional expansion of these industries. Accordingly, a number of people who were unemployed, not in the labour force or employed in other industries before the program, will take up health and education sector jobs. By a process of substitution, workers who move from other industries are replaced in their old jobs so the net effect is that all additional employment stems from reductions in unemployment or not-in-the-labour force. The funding is for one period only and after the program this movement is reversed. The post-program effects of the expenditures on health and education are the increased education and

health of the recipient population. There are no ramifications for employment of these effects, at least in the short term.[3]

Direct expenditure by a government has two types of indirect effects not mentioned above; upstream and multiplier expenditures. Upstream expenditures refer to the demand for intermediate and capital inputs that are complementary with the newly created direct employment. Both labour market programs and expenditures on health and education are labour intensive with low levels of capital and intermediate inputs. Multiplier effects refer to the production, incomes and employment created when the newly employed spend their incomes on household purchases (Kahn 1931). Unless there are strong reasons for believing that on average beneficiaries under the two scenarios spend their incomes differently, these effects will also be much the same under the two scenarios. Accordingly, it is not necessary to calculate the size and distributional consequences of upstream and multiplier effects and they are ignored in the remainder of this paper.
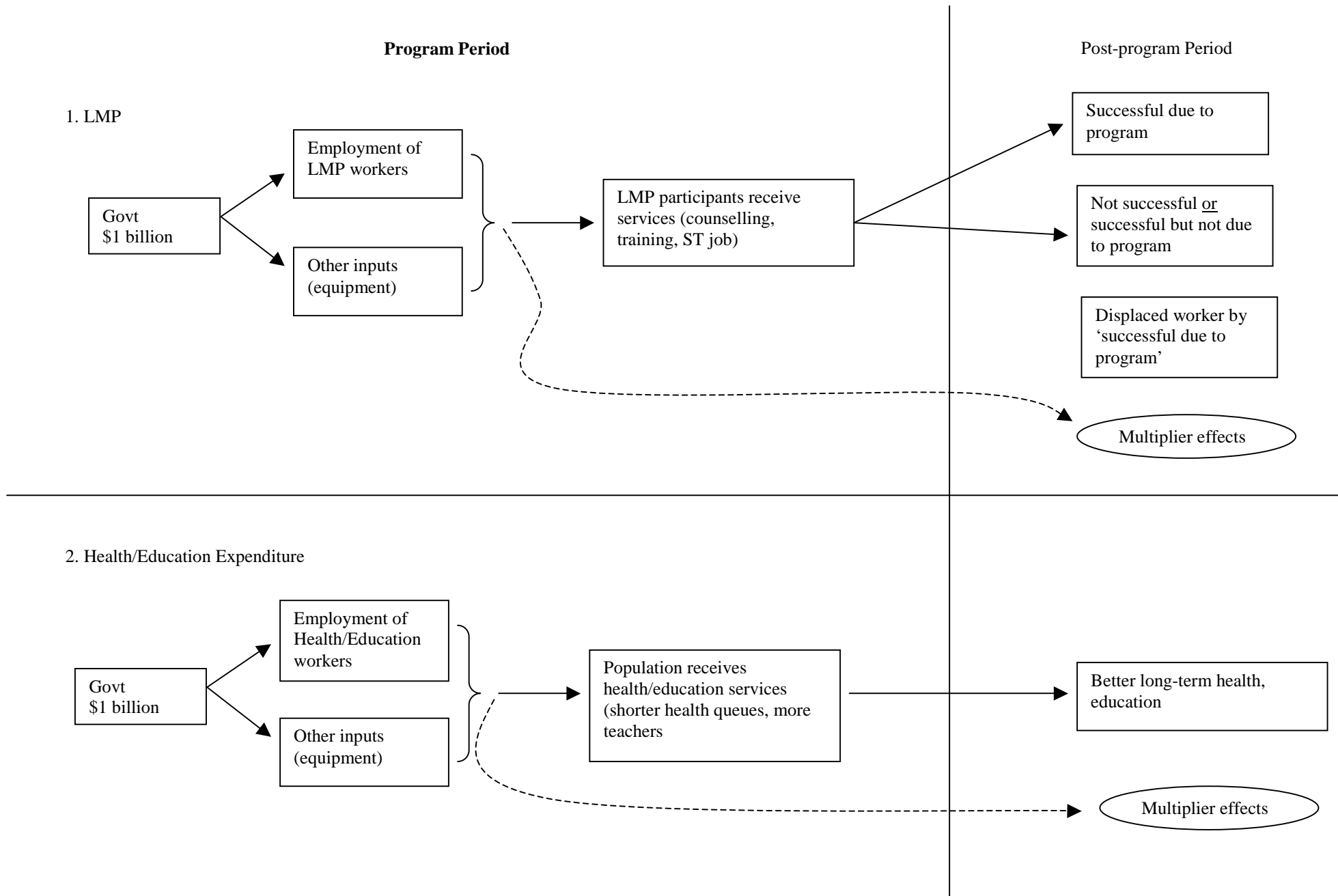
As mentioned above, additional workers, who are employed as a result of higher government expenditure in designated areas (in this case, employment services or health/education) may be drawn directly from the ranks of the unemployed or not-in-the-labour force. Alternatively, there may be a chain effect as workers from other industries are attracted into these designated areas thereby creating vacancies which are filled by non-working people. A simple exposition of this is given in Figure 2. Either the disadvantaged person at C moves directly into a good job at point E or the person at D take the job at E and the person at C moves into the D slot. Under a dynamic equity measures, improvements to the outcomes of the most disadvantaged weigh more heavily in a summary index than improvements to more advantaged people. Valuing a unit of improvement gained by the most disadvantaged more than a unit of improvement by two less disadvantaged people, will judge situation C to E as more equal than C to D to E.

To the extent the labour market operates to allocate the most suitable people to job vacancies (which depends on the distribution of market knowledge and impediments to mobility), a chain or

trickle down effect will operate as the most able or skilled, and often those in the best pre-program position, get the better jobs leaving the less desirable jobs to the less skilled.

In terms of an evaluation of labour market programs, the change to equality has two stages. First there is the effects on the distribution of desirable outcomes during the program period. The main affected parties are the unemployed which are eligible for labour market programs, members of the population who receive additional health and education services, new workers in the employment services sector who administer these labour market programs and the additional workers in the health and education sectors. Secondly, there are the post-program effects. While most affects created during the program period are undone as the appropriation is spent, labour market programs (by design) and health and education expenditures, generally, have enduring effects. In particular, most microeconomic evaluations of labour market programs have shown that participation enhances one's employment prospects. Macroeconomic evaluations suggest that this has mainly been at the expense of other workers and job seekers. Accordingly, some measures need to be undertaken of the post-program effects on successful labour market program participants and displaced workers.

Whether one has gained employment or not will be the major defined outcome. However, for the measure of dynamic equity, we need to know how 'disadvantaged' those gaining or (implicitly) losing employment were before the program period. As stated above, our measures of disadvantage include employment history, socio-economic index of area of residence, [4] family type, and household income. In addition, an educational profile of each group is given as a proxy for their labour market prospects, as well as their age distribution.

Figure 3: Effects under 2 program options: labour market programs and health/education expenditure

Program Period   Post-program Period

1. LMP

Govt
$1 billion

Employment of
LMP workers

Other inputs
(equipment)

LMP participants receive
services (counselling,
training, ST job)

Successful due to
program

Not successful or
successful but not due
to program

Displaced worker by
'successful due to
program'

Multiplier effects

2. Health/Education Expenditure

Govt
$1 billion

Employment of
Health/Education
workers

Other inputs
(equipment)

Population receives
health/education services
(shorter health queues, more
teachers

Better long-term health,
education

Multiplier effects

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4. The data

The evaluation has used unpublished data from the ABS panel Survey of Employment and Unemployment Patterns (SEUP) 1995 to 1997. The panel was established in May 1995 and people were re-surveyed in the Septembers of 1995, 1996 and 1997. Survey data was supplemented with administrative records from the department operating labour market programs at the time.[5]

The sample comprised three groups: labour market program participants who participated in a at least one program between July 1994 and February 1995, job seekers who were either unemployed, marginally attached to the labour force or under employed, and a representative population group. One thousand known labour market program participants were randomly selected from government records for the labour market program group. Job seekers and a representative population group were selected from a preliminary screening interview of 69 000 people. 5 200 people were interviewed for the job seeker group and 2 300 were interviewed for the representative population group. About 5 per cent of people selected to participate in the interviews refused to co-operate.

By wave 3, the number of interviewees had been reduced to 775, 4261, and 1983 for the three respective groups representing attrition rates of 22.5, 11.1, and 13.8 per cent over the three years. Only people who were in all three waves of the survey were included in our analysis. (For further detail see Stromback and Dockery 2000, pp 6-8.)

Table 1: Labour market program participants by type, 1994 to 1997

Type of Labour market program	SEUP (9/94 – 9/97)		DEETYA Annual Reports (7/94 – 6/97)	
	No.	(%)	No.	(%)
Employer support	40744	8.1	76694	5.7
Training	272259	54.4	673311	50.2
Wage subsidy	73956	14.8	247942	18.5
Special apprenticeship & traineeships	30239	6.0	48285	3.6
Job creation	46743	9.3	138404	10.3
Job clubs	36894	7.4	155903	11.6
Total	500835	100.0	1340539	100.0

Source: Unpublished data from ABS Survey of Employment and Unemployment Patterns (SEUP), 1994 to 1997. DEETYA (1996). DEETYA Annual Reports (1994-95, 1995-96, 1996-97).

According to Table 1, 54.4 per cent of labour market program episodes were training programs (Job train, SIP train, Skill Share and Job Place), 14.8 per cent were wage subsidy placements (Job Start)

and less than 10 per cent were in each of the remaining groups: other forms of employer support (SIP assessment, fare subsidies, re-location and other minor assistance), specially subsidies apprenticeships and traineeship (National Training Wage and subsidies for disabled apprentices), job creations programs (Land care and Environment Action Program, Job Skills, NIES, New Work Opportunities, community employment) and Job Clubs. The SEUP distribution of program episodes across types is not appreciably dissimilar from administrative departmental records, presented in the last two columns.

A 'successful labour market program participant' was defined as a participant who was working in unsubsidised employment 3 months after the program ended. Because some respondents were not able to accurately re-call the date they ended their program, the 3 month period has been defined to be sometime between day 90 and day 120 after finishing their labour market program.[6] People who had started and ended more than one program were counted by as many times as programs attended.

It is conceptually more complex to estimate the type of person who has most likely been displaced in the workforce by the successful participant. The constructed displaced person is the average worker in the occupation (at the 1-digit ASCO level) and weekly wage group (4 categories) as the successful participant. As successful participants are spread across all occupation and wage groups, the constructed person is a weighted average of this composite occupation and wages group.[7] For the profile of displaced people, 12 quarterly cross sections of people who were working in each sector at the mid-point of each quarter were created. The profiles of workers in employment services, health and education have been constructed from similar 12 quarterly cross sections of workers.

5. Numbers directly affected through alternative expenditures

Table 2 represents estimates of the distribution of effects according to whether the $1 billion is spent on labour market programs or health and education services. As discussed in section 3, the numerical size of the direct aggregate employment effects are likely to be comparable between the

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two alternatives. Furthermore, because it is assumed that non-labour inputs and the multiplier effects are equivalent, no estimate is required for these effects.

The division of the $1 billion between government departmental employment (Commonwealth in the case of labour market programs and both Commonwealth and State for health and education) and industry employment, have been estimated from departmental annual reports, for the relevant period, and 1996 Census data. Cost or expenditure per employed worker, which has been derived from the Census and National Accounts data, is presented in Table 3. The average cost per program place has been derived from gross estimates of the cost per type of program and the assumed mix of programs. Gross unit costs are taken from departmental estimates of the net unit costs (DEETYA 1997) plus estimates of a single person's unemployment benefits since program participation disqualifies participants from unemployment benefits. The assumed mix of programs mirrors the distribution of programs in the final column in Table 1.[8]

Direct employment generated to provide either the government administrative functions or to deliver the program services is the division of the total budget in each area by the estimated cost per job. It is assumed that the number of jobs needed to deliver employment services relates only to training programs and job clubs, as most of the program costs of wage subsidy programs and job creations programs are assumed to be expended in the transfer payments to the participant. Recipients of the latter programs are classified as program participants in this table, but could alternatively be considered as in employment. It is assumed that the budget allocation necessary for each person who delivered services in training and job clubs was, at $63 598, the same as government administration generally.

The number of labour market program recipients was estimated according to the dispersion of program types (Table 1) and the estimated gross program costs per participants (Table 3). Numbers of participants is strictly speaking number of episodes and thus involves a double counting of individuals who have done more than one program. Finally, the estimated numbers of labour market program participants who gained an unsubsidised job, as a result of the program, have been

estimated from the microeconomic economic evaluation by Stromback and Dockery (2000, Table 8.8). The numbers in each type of program have been multiplied by the estimated percentage point difference that the program has made to the post-program employment rate.

It is not possible to objectively compare the value of a service to households with the benefit derived from obtaining a job and the discussion below compares, as far as possible, similar types of benefit. Three types of comparison will be made in the following three sections:

1. Between household beneficiaries of employment and health/education services;

2. Between groups which gain a job providing these services to households (7 800 labour market program workers versus 31 500 health and education workers); and

3. Between successful labour market program participants and displaced workers (11 000 each).

On a numerical basis, the LMP scenario benefits are more concentrated on fewer LMP program recipients compared with health/education benefits. Health/education spending provides more industry workers.

Table 2: Estimated numbers of people affected by $1billion spent in either scenario

	a. Budget allocation $m	b. Cost per job/program place $	c. Direct employment (=a/b except emp services)[d]	Recipients of program services	Post program effect
Labour market programs					
Govt administration	160[a]	63 598	2 500	Na	Na
Employment program services	840	3 600	5 300	232 400[e]	11 000
Displaced workers					- 11 000
Health & Education					
Govt administration education	15[b]	63 598	240	Na	Na
Govt administration health	45[c]	63 598	710	Na	Na
Education services	485	43 205	11 200	Many	Na
Health services	455	41 973	10 800	Many	Na

Notes: (a) The ratio of Commonwealth departmental running costs to program costs for the 3 year period was 16 per cent.
(b) Assumes 1.3 per cent of budget is required for departmental costs Commonwealth and States. It was not possible to get comparable data from relevant annual departmental reports. This figure is based on the ratio of effective full-time departmental staff to all effective full-time ANZIC education employed people in Victoria 1996-97. The ratio of Commonwealth department running costs to program costs over the 3 years was 1.4 %.
(c) Assumes 9.0 per cent of budget is required for departmental costs in Commonwealth and States. The ratio of effective full-time departmental staff to effective full-time ANZIC heath services employed people in Victoria 1996-97 was 9.8%. The ratio for the Commonwealth department running costs to program costs was 1.4% in 1996-97.
Na - not applicable.
(d) Derived from Table 3.
(e) Many of these participants will be in employment.

Table 3: Value of total output per employed worker and hours of work in selected industries, Australia, June 1994 to September 1997. Current prices.

Value of industry output per worker	$
Property and business services*	68 837
Government administration and defence	63 598
Education	43 205
Health and community services	41 973

Notes:* Excludes ownership of dwellings.
Source: ABS Tables labhq.wks, labej9j.wks, 5206015.wks

6. Household beneficiaries of additional employment services or health/education services

An additional $1 billion expenditure on the health and education industries is expected to generate an extra $1 billion worth of health and education consumer services if these services are valued at their cost of production. Figure 4, which shows the dispersion of government non-cash health and education benefits according to the recipients household income during 1993, indicates that per capita non-cash benefits are almost equal across household deciles. There is a slight tendency for the second and fourth decile to receive more per capita and for the eighth and sixth to receive less.

The distribution of non-cash benefits across differing type of family shown in Figure 5 indicate that a reasonably even spread of benefits. The only disproportion occurs because couple families with dependent children tend to receive slightly less than other families.

While the effect on equity of additional health/education services is estimated to be neutral, this is not the case for additional labour market program services. According to Table 2 an additional $1 billion spend on employment services or labour market programs was enough in 1994-95 to 1996-97 to fund about 386 900 program places. Figure 6 to 12, which provide comparisons between LMP participants and the whole labour force, reveal how well programs have been targeted towards the most disadvantaged. The solid lines in the following diagrams represent LMP participants and the broken lines indicate all labour force members. According to Figure 6 and 7, LMP participants have had proportionally less work experience and more unemployment since leaving education full-time than the average labour force member.[9] The median LMP participant had spent only 66.6 per cent of their time working and 21.7 per cent of their time looking for work since leaving school. By comparison, the percentages for the median labour force member were 95.6 and 11.1 respectively.[10]

Figure 4: Distribution of non-cash health and education benefits by household income, Australia, 1993
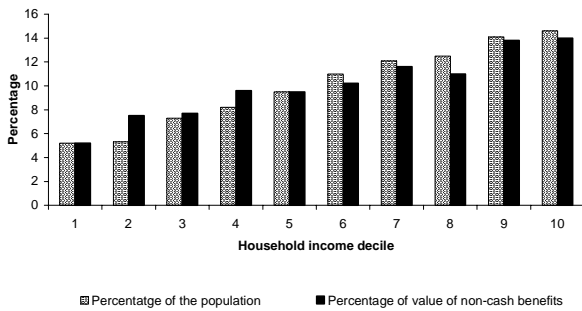

Figure 5: Distribution of non-cash health and education benefits by family type, Australia, 1993
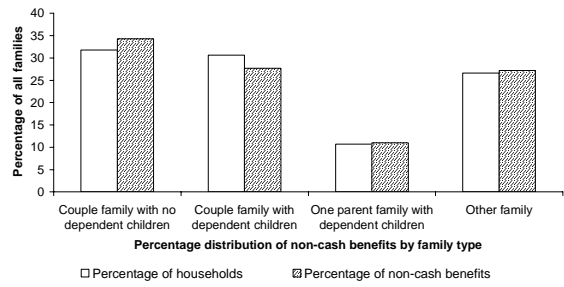

Figure 6: Years working as a percentage of years since leaving full-time education, Australia, 1994 to 1997
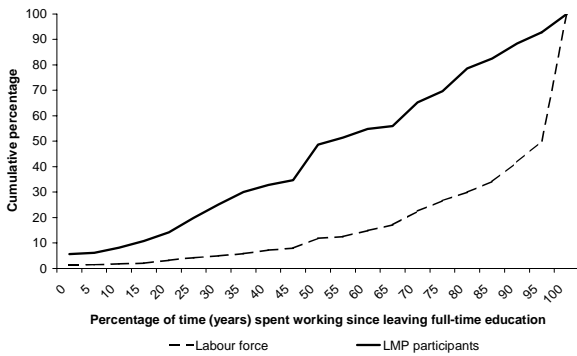

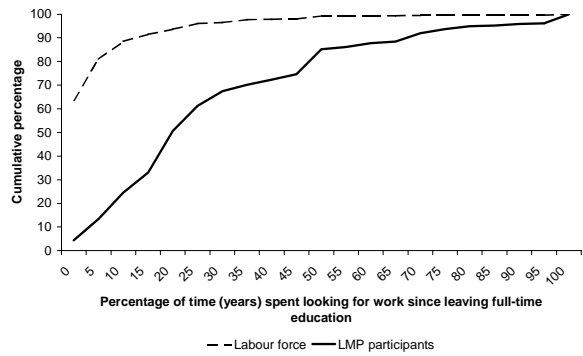**Figure 7: Years looking for work as a percentage of years since leaving full-time education, Australia, 1994 to 1997**

Figure 8: Distribution by area of residence, deciles ranked by level of socio-economic disadvantage, Australia, 1994 to 1997
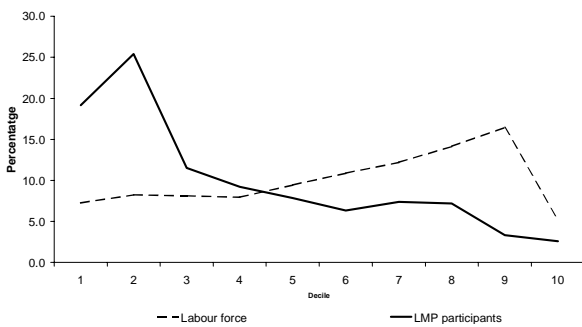
Figure 9: Distribution by family type, Australia, 1994 to 1997
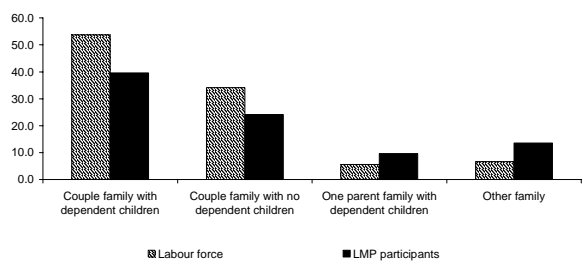
Figure 10: Cumulative percentage distribution of groups by household income*, Australia, 1994
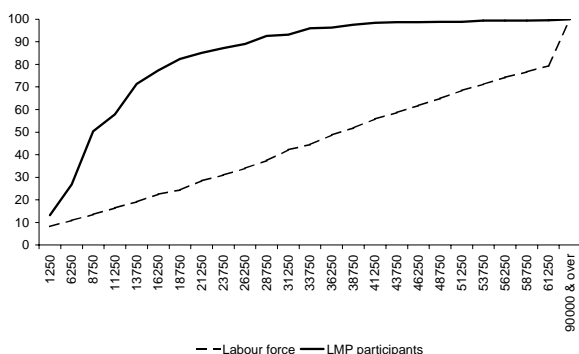
Figure11: Highest level of education attained, Australia, 1994 to 1997

Notes: * Annual incomes reported for the period 9/94 to 9/95. 7.7 per cent of respondents did not state their household income for this period and in this case the income reported for the period 9/95 to 9/96 or 9/96 to 9/97 has been taken.
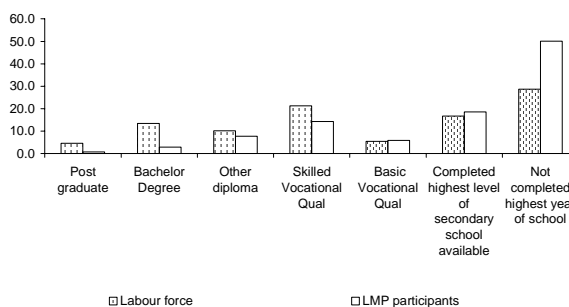
Figure 8 shows the same groups of people ranked according to the level of socio-economic disadvantage of their residence location. While the distribution for the whole population is a horizontal line at 10 per cent, labour force members are skewed towards the higher ranked decile socio-economic areas. In contrast, LMP participants are skewed towards the less advantaged areas.

Family type is not an indicator of disadvantage per se, but has been included provide a further dimension to the type to people who are affected by the different program options. Figure 9 indicates that LMP participants are slightly less likely to come from a couple relationship and are more likely to be sole parents or in 'other' family contributions compared with the average labour force member.

Figure 10 present the distribution of each group according to their annual household income. In most cases, income represents the total income received from September 1994 to September 1995. This is not completely *ex ante* data for 27.0 per cent of successful labour market program participants had undertaken a program and obtained employment within this period (compared with 14.5 per cent of all participants). Nonetheless, the data reveal show a considerable disparity between LMP participants and labour force members. During 1994, the median LMP participants had an annual median income in the $10 000 to $12 499 range, while the median income for labour force members was in the range $37 500 to $39 999.

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Educational attainment in Figure 11 also shows considerable differences. LMP participants are more likely to not have completed secondary school and are less likely to have acquired a post school qualification other than a basic qualification compared with the rest of the labour force.

Finally, while age is not a indicator of disadvantage *per se*, the data (not shown here) reveals that LMP participants are younger on average than the labour force in general. The median age for labour market program participants was 27 and for the labour force as a whole it was 34.

The summary statistics presented above support the view that the *Working Nation* labour market programs was effective in selecting more disadvantaged people compared with addition health/education expenditure.

7. Worker beneficiaries in employment services and health/education sectors

If $1 billion dollars is spent on labour market programs then, it is estimated that this would lead to the creation of 8 400 additional jobs in the employment services industry (counsellors, placement officers, trainers, supervisors). If, on the other hand, $1 billion was spent on the health and education industry, then it is estimated to lead to an additional 31 500 jobs for nurses, cleaners, medical practitioners, teachers and administrators.[11]

This section compares the profile of a representative groups of workers and former workers from both these sectors. This assumes that additional spending in the health and education sector will draw some non-working people into the workforce. It was not possible to identify from the data set, the employment services industry on its own and the larger group 'Other business services- 786' sector has been used instead.[12] Furthermore, it is assumed that non-working former workers from 'other business services' and from the health and education industries are most likely to be the job seekers who will be drawn into work when these sectors expand.

The data essentially show that past workers are more disadvantaged than current workers but that people associated with the health and education industries are, on balance, no better or worse off than people associated with the 'other business services'. According to Figure 12, current workers from both sectors have spent a similar time since leaving school in work, but past health/education

workers have, spent less time working than past business service workers. This difference seems largely due to the larger number of female worker in health/education, as there is no mirroring discrepancy in the time spent looking for work (Figure 13).

Figure 12: Years working as a percentage of years since leaving full-time education, Australia, 1994 to 1997
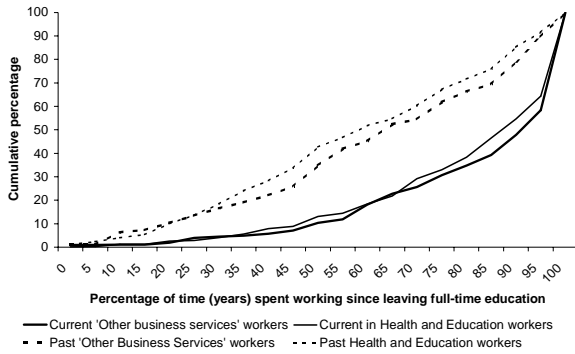

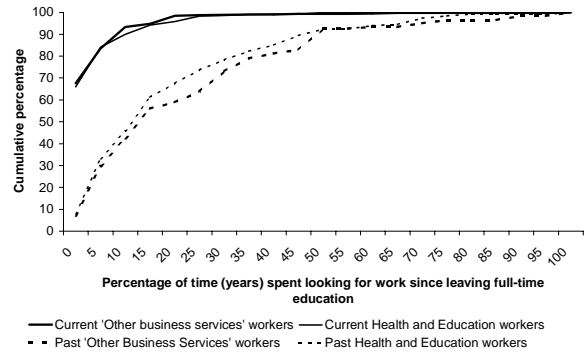**Figure 13: Years looking for work as a percentage of years since leaving full-time education, Australia, 1994 to 1997**

Figure 14: Distribution by area of residence, deciles ranked by level of socio-economic disadvantage[13], Australia, 1994 to 1997
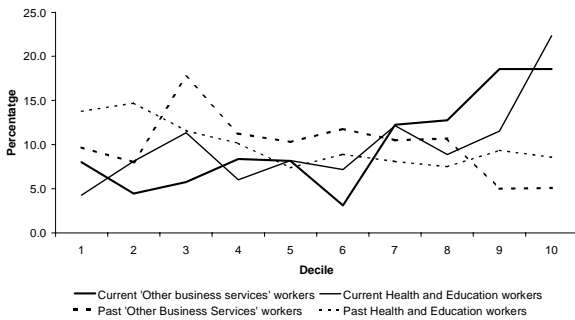
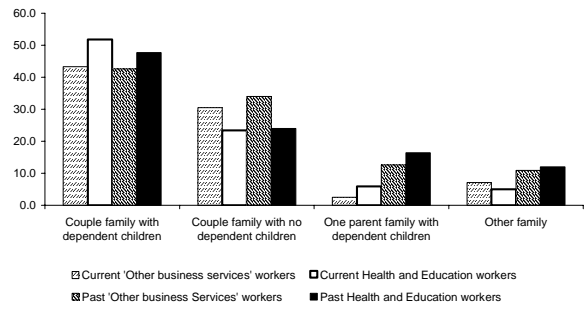**Figure 15: Distribution by family type, Australia, 1994 to 1997**

Figure 16: Cumulative distribution of annual household incomes, Australia, 1994 to 1997
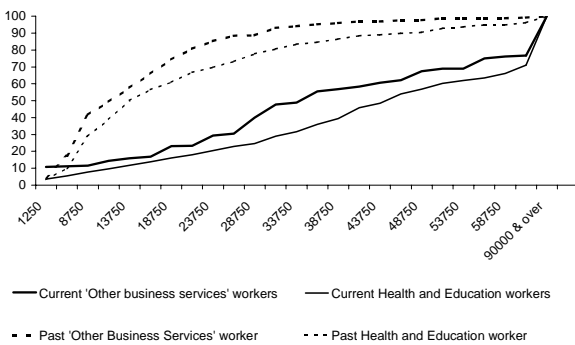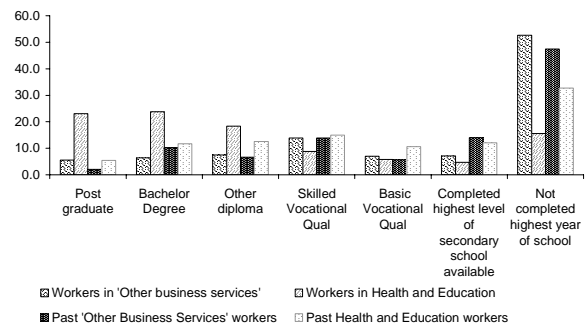

Figure 17: Highest qualifications obtained, Australia, 1994 to 1997

Notes: * Annual incomes reported for the period 9/94 to 9/95. 7.7 per cent of respondents did not state their household income for this period and in this case the income reported for the period 9/95 to 9/96 or 9/96 to 9/97 has been taken.

Similar to the picture for worker's career paths, data on the level of socio-economic disadvantage of one's residence which is presented in Figure 14, finds that which there is, on balance, little

difference according to the sectors one worked in. The clear differences according to whether one was a current or past worker remain.

Little notable patterns emerge from the data on family type shown in Figure 15. Current health/education workers are most likely to be living as part of a couple with dependent children while former health/education workers are more likely to be sole parents or in other types of family.

The pattern in Figure 16 according to household income divides predominantly by employment status rather than by industry although the hearth/education sectors are better-off on average. The income of the median worker in health/education lay in the range $45 000 to $47 499. For 'other business services' it was between $35 000 and $37 499. For their non-working equivalents it was in the ranges $12 500 - $14 999 for both industries.

The picture was more marked for highest level of educational attainment, which is not surprising given the preponderance of professions in the health and education industries. Current health/education workers had the highest level of tertiary qualifications and the lowest early school leaving rate. Past health/education workers had lower levels of attainment but were more qualified on average than both current and past 'other business service' workers.

Again, a comparison of the age distribution of the four groups indicates that both types of health/education worker tend to be slightly older than the business service workers.

6. Worker beneficiaries in post program period

Having discussed the main groups who stand to lose or gain during the program period, this section considers the two main groups of people who will be affected after the program has finished: LMP participants who succeed in obtaining a job (as measured by their 3-month post-program status) and the estimated profile of the typical worker they have replaced. Using the marginal employment effects of four types of LMP derived from Stromback and Dockery (2000, Table 8.8) and the assumed mix of programs (last column in Table 1), it is estimated that 4.7 per cent of participants will be in open employment at 3-months post-program as a result of the program *per se*.[14]

If the background characteristics of successful participants is compared with the estimate of the type of person they have replaced in the jobs market (the constructed displaced person), then on all the defined measures used in this study, the successful participant can be shown to be considerably more disadvantaged than the displaced person. The data reveals that the average successful participant has a close profile to the average labour market program participant, while the displaced worker, with a few exceptions, has a profile similar to the average labour force member (these comparisons are not shown).

Figure 19 shows that successful LMP participants have clearly spent a larger proportion of their post-'school' life looking for a job than those currently working in the type of occupation/wage jobs that are normally taken by successful participants. Ranking successful participants by the time spent looking for work reveals that the median person had spent 17 per cent of their time since leaving 'school' looking for work whereas the median displaced person had spent 3 per cent. Not surprisingly, these same differences are reflected in a measure of the proportion of time spent working since 'school' (Figure 18). The median successful participant had spent 64 per cent of their time working whereas the displaced person had spent 84 per cent. In order to test for the sensitivity of our definition of a displaced worker, successful participants are also compared in Figure 18 with people working in the least skilled labouring and related worker occupations. This comparison reveals that successful participants have had a considerably poorer work history than currently employed labourers etc.

Figure 18: Years working as a percentage of years since leaving full-time education, Australia, 1994 to 1997
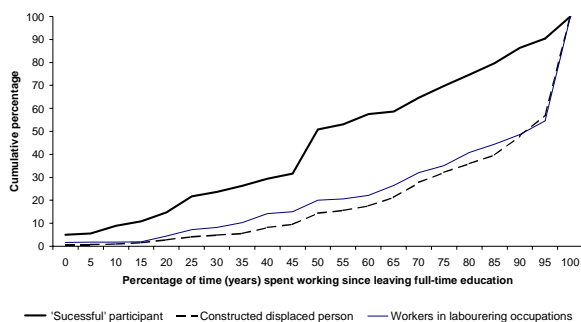

Figure 19: Years looking for work as a percentage of years since leaving full-time education, Australia, 1994 to 1997
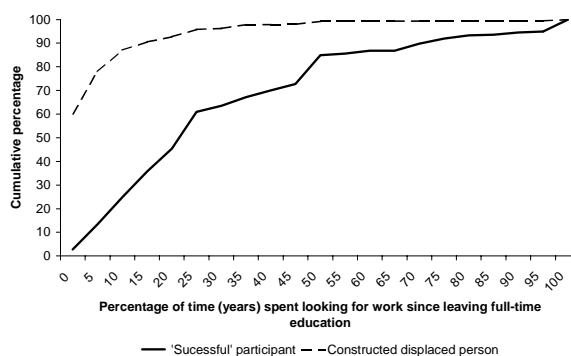

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Figure 20: Distribution by area of residence, deciles ranked by level of socio-economic disadvantage, Australia, 1994 to 1997
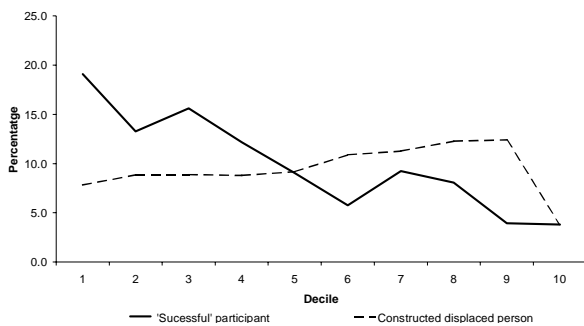
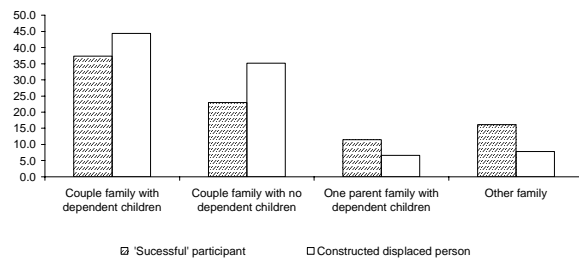**Figure 21: Distribution by family type, Australia, 1994 to 1997**

Figure 22: Cumulative percentage distribution of groups by household income*, Australia, 1994
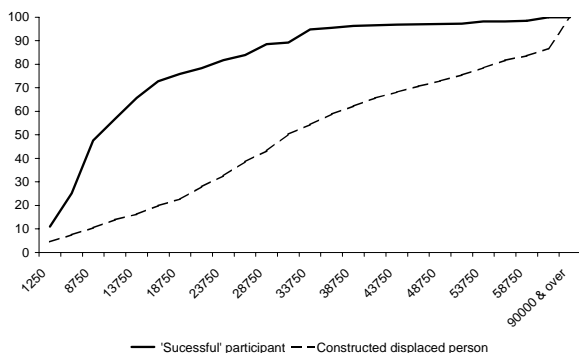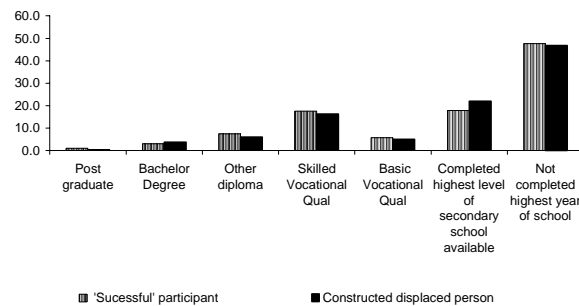
Figure 23: Highest level of education attained, Australia, 1994 to 1997

Notes: * Annual incomes reported for the period 9/94 to 9/95. 7.7 per cent of respondents did not state their household income for this period and in this case the income reported for the period 9/95 to 9/96 or 9/96 to 9/97 has been taken.

Figure 20 shows the same groups of people ranked according to the level of socio-economic disadvantage of their residence location. Successful LMP participants are heavily weighted toward lower socio-economic locations while displaced workers are evenly spread across all areas.

The type of family each group lives in is presented in Figure 21. Successful participants are more likely to live in a one parent family or an adult(s) only family than displaced workers. The latter tend to live as a couple either with or without children.

Figure 22, which presents the cumulative distribution of the post program effects by household income, shows that successful LMP participants are drawn from households where the average annual income was considerably lower than for displaced workers. The median incomes for
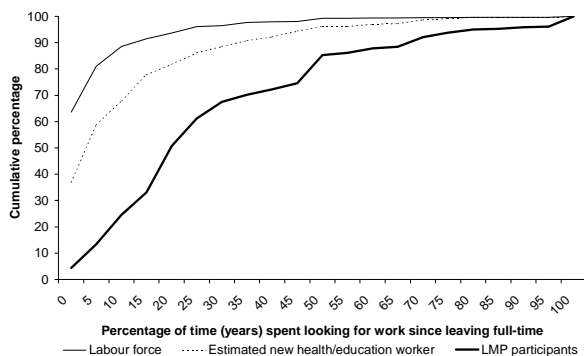
successful LMP participants was in the $12 500 to $14 999 range. For the median displaced worker was between $27 500 and $29 999.

Figure 23 shows a comparison of the highest level of educational attainment as indicators of the labour market prospects of each group. Successful participants differ little from the displaced person and can not be unambiguously said to be less or more qualified. They have marginally higher rates of post graduate qualifications (1.0 percent compared with 0.3 per cent), other diplomas (7.3 to 6.0), skilled vocational qualifications (17.5 to 16.3) and basic vocational qualifications (5.6 to 5.0) and a slightly lower rate of bachelor degree qualifications (3.0 compared with 3.7), and school completion rate (17.8 to 21.9).

The cumulative distribution of age across the four groups (not shown here) reveals that successful participants are younger on average than the displaced workforce (and the labour force in general). The median age for successful participants was 28 compared with 33 for displaced workers.

Figure 24: Comparison of LMP participant with estimated health/education worker, Australia, 1994 to 1997

Percentage of time (years) spent looking for work since leaving full-time
—— Labour force   ····· Estimated new health/education worker   —— LMP participants

Conclusion

Expenditure on labour market programs appear to discriminate in favour of disadvantaged people compared with an alternative of expanding the health and education industries. While most of the population is expected to be affected by the provision of more health and education expenditure, we estimate that fewer than 400 000 people will be directly affected by more labour market program services.

There is no major difference in the profiles of likely providers of the different services between the two alternatives except there are absolutely more health/education services providers. However, successful labour market program participants are more disadvantage than the estimated person they replace.

On a net absolute numbers-of-people basis, the labour market program scenario tends to favour potential program participants while the health and education scenario benefits potential heath and education workers. Using our indices of disadvantage, the former are more disadvantaged than the latter (see Figure 24).

References

DEETYA [Department of Employment, Education, Training and Youth Affairs] (1997), *The Net Impact of Labour Market Programmes*, Evaluation and Monitoring Branch, Canberra, .

Kahn, R. (1931), 'The relation of home investment to employment', *Economic Journal,* **41,** 173-98.

Layard, R.*, et al.* (1991) *Unemployment. Macroeconomic performance and the labour market,* Oxford University Press, Oxford.

Stromback, T.*, et al.* (1999), 'Labour market programs and labour force status', *Australian Bulletin of Labour,* **25,** 159-178.

Stromback, T. and Dockery, M. (2000), 'Labour Market Programs, Unemployment and Employment Hazards,', *Australian Bureau of Statistics Occasional Paper,* **6293.0.00.002**.

Webster, E. M. (1999), 'Labour market programs and the Australian Beveridge curve: 1978 to 1997', *Economic Record,* **75,** 405-416.

Webster, E. M. and Summers, P. (2000), 'The effects of labour market programs on wage inflation', *Journal of Industrial Relations,* **42,** 383-397.

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[1] At best, studies have tried to estimate which people have been supplanted by wage subsidy recipients while the subsidy has operated.

[2] That is by comparing beneficiaries of labour market programs with the population in general and by comparing the beneficiaries of expenditures on health and education with the population in general we are implicitly comparing beneficiaries of labour market programs with beneficiaries of extra spending on health and education.

[3] In the longer term it might well be argued that better education leads to better employment opportunities.

[4] This is based on a vry disaggregated locational level data (Collectors Districts) from the 1996 ABS Census of Population and Housing.

[5] The (then) Department of Employment, Education, Training and Youth Affairs (DEETYA).

[6] In theory survey respondent's time should be attributable to at least one type of activity however there can be 'gaps' between episodes because of re-call error. Accordingly while we are seeking the standard measure of employment status 3 months after the program has finished, we have allowed from 90 to 120 days.

[7] We obtained an occupation and wages profile of the successful participant, converted this frequency matrix to a percentage matrix and then used this matrix as a weight in the total sample of non-labour market program participants working people.

[8] Employment support and Special apprenticeship and traineeships program are excluded because they are relatively small, heterogeneous and it proved difficult to obtain reliable data for them.

[9] The definition of a job seeker in the SEUP is not the same as the ABS definition of an unemployed person. The formers includes in addition to the latter, underemployed people and those marginally attached to the labour force (such as discouraged job seekers).

[10] Working and looking for work are not defined as mutually exclusive events.

[11] As discussed above, the total direct employment effect of the $1billion should not necessarily differ between programs.

[12] This includes in addition to employment services, contract staff services, secretarial services, Security and Investigative Services (Except Police), Pest Control Services, Cleaning Services, Contract Packing Services, and Business Services n.e.c.

[13] An ordinal ranking of socio-economic disadvantage of local area's (Collectors' District) constructed from residents' income, educational attainment, unemployment rate and occupation. For further details see ABS cat. 2039.0.

[14] This low success rate is partly due to the high proportion of participants under *Working Nation* in training and placement programs, which according to Stromback et al. 1999 had negligible success rates.