

Wage Subsidy Programs: A Primer¹

Jeff Borland, Department of Economics, University of Melbourne

Abstract

This article provides an introduction to wage subsidy programs for jobseekers facing barriers to employment. First, the features of a wage subsidy program are described, and a brief history of this type of program in Australia is presented. Second, Australian and international evidence on the impact of wage subsidy programs is reviewed. Third, the main aspects of the design of wage subsidy programs are considered.

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What is a wage subsidy program?

A wage subsidy program involves an employer who has hired a new worker receiving a monetary transfer (or set of transfers over time) from the government. The objective of the transfer is to reduce the cost to the employer of having the new worker as an employee. The monetary transfer might be a direct monetary payment to the employer, or could take other forms such as a tax rebate. I will focus on programs where eligibility to receive the transfer is conditional on the employer hiring a new worker who has some disadvantage as a jobseeker (such as being unemployed), and the transfer is for a limited duration. Often the transfer will only be made in circumstances where an employer can demonstrate that the new worker is being hired to an additional job that has been created.

In the literature there are a variety of definitions of a wage subsidy program, and another type of program, a hiring subsidy, is sometimes referred to. One common approach is to define a wage subsidy program as involving direct monetary payments to employers, and a hiring subsidy as encompassing both wage subsidy programs and programs with other types of transfers such as reduced tax payments (European Commission, 2014). An alternative approach defines a wage subsidy as a payment made to maintain existing jobs and a hiring subsidy as a limited duration payment paid to an employer to hire a jobseeker (Brown and Koettl, 2015). In this article the term wage subsidy program is used to refer to a program where the monetary transfer to an employer is linked to the hiring of a new worker, and the monetary transfer could take a variety of forms (although the discussion will usually have in mind direct monetary payments). I restrict attention to payments made to employers for hiring new employees, and do not consider programs that provide a subsidy for self-employment.

A brief history of wage subsidy programs in Australia

Substantial spending on active labour market programs in Australia commenced with the onset of high unemployment in the early 1970s. Between 1972 and 1975, under the Commonwealth Labor government, most emphasis was placed on training programs and direct job creation. With the advent of the Liberal government in 1975, the orientation of policy shifted to creating private sector employment opportunities. The Special Youth Employment and Training Program (SYETP), introduced in 1976, paid a fixed wage subsidy for four months to an employer who provided a job to a youth who had been unemployed for at least four of the last eight months. In 1985 that program was superseded by the JOBSTART program, which provided a similar type of wage subsidy to long-term unemployed in all age groups. JOBSTART, with various modifications, remained as an available program for unemployed jobseekers through to the mid-1990s. At that time an expanded version of the program, with an increased subsidy rate and extended duration to 39 weeks, became part of the Working Nation Job Compact guarantee, whereby all unemployment payment recipients with spell durations longer than 18 months were guaranteed a work experience opportunity.

A major change in the provision of active labour market programs occurred in the late 1990s with the introduction of the Job Network, a ‘managed’ market for private sector provision of government-funded services to the unemployed (Davidson and Whiteford, 2012, pp.54-66). Under Job Network (now *jobactive*) eligible unemployment payment recipients are assessed by Centrelink, and may then be referred to service providers. These providers supply services – potentially including wage subsidy programs - to unemployed job-seekers according to their assessed needs as determined by their Job Seeker Classification Index (JSCI) score. Currently there are four main types of Commonwealth government wage subsidy programs available to be used with jobseekers: Restart; Youth Wage; Parents Wage; and LTU and Indigenous Wage. Each of these programs is targeted at a specific group of jobseekers. For example, the Restart program is available to jobseekers aged 50 years or older who have been unemployed for six months or longer. The maximum Restart payment amount is \$10,000 which can be paid to an employer on a flexible basis (negotiated with the service provider) over 12 months, and payments are pro-rata depending on weekly hours of work in the job.

How are wage subsidy programs supposed to work?

A wage subsidy program has the objective to motivate an employer to hire an unemployed jobseeker by lowering the cost of employing that jobseeker. For example, a profit-maximising employer operating in competitive product and labour markets will hire all workers whose value added to revenue is greater than or equal to their cost (wages and non-wage costs). In this case a wage subsidy, by lowering the cost of employing a worker, should make employers willing to hire extra workers – specifically, workers whose value added to revenue is lower than they would be willing to hire in the absence of the subsidy.

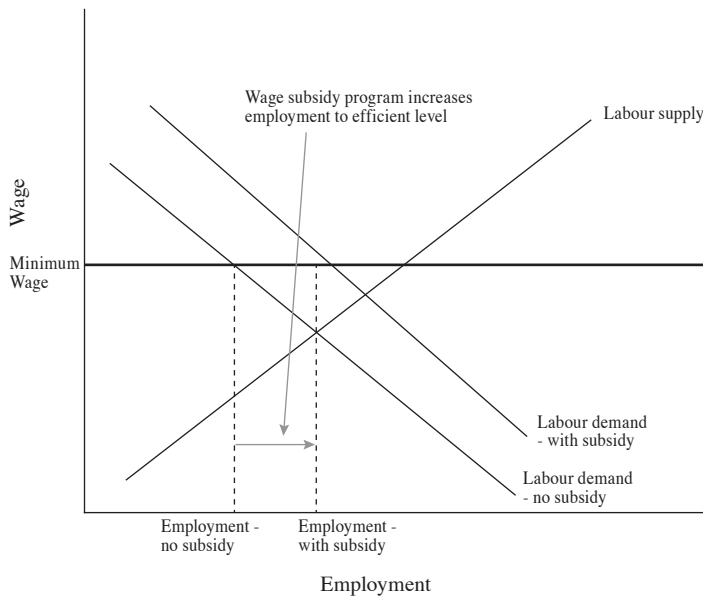
A ‘macro’ effect of wage subsidy programs can therefore be to increase aggregate employment. In a static partial equilibrium framework the effect of a wage subsidy is to increase the demand for labour, so that the impact on total employment will be positive and depend on: (i) The size of the subsidy; and (ii) The relative wage elasticities of labour demand and labour supply. [Formally, $d\ln N/ds = \theta\epsilon/(\theta+\epsilon)$, where N = total employment, s = subsidy, θ = labour demand elasticity, and ϵ = labour supply elasticity; see Bell et al., 1999, pp.16-17.]

The work opportunity provided through a wage subsidy program can also bring ‘micro’ benefits. First, participants may be assisted to retain or to increase their job readiness and skill development. Second, the work experience may allow participants to demonstrate their skills and job readiness to an employer. This can improve the subsequent work prospects of jobseekers where employers had previously under-estimated their ability, or been deterred from hiring them due to uncertainty about their ability.

What will be the welfare consequences of a wage subsidy program? This will depend on whether there is a market failure problem that is addressed by the program. For example, in a perfectly competitive labour market the effect of a wage subsidy program would be to increase employment above the optimal level, hence lowering

social welfare. However, if there are limits on adjustment in a labour market, caused for example by wage rigidity, that constrain employment to be less than the optimal level, then a wage subsidy may improve social welfare by increasing employment toward the optimal level. The effect of the wage subsidy will be to reorder the unemployment queue in favour of those jobseekers who attract the subsidy. Such a situation is illustrated in Figure 1 for the case of a labour market where a minimum wage is a binding constraint on downward wage adjustment.

Figure 1 - The effect of a wage subsidy program with a minimum wage



There may also be other sources of market failure that make a wage subsidy program welfare-enhancing. One possibility is that market imperfections have prevented jobseekers from obtaining an appropriate level of training and job skills – and the work experience provided by a wage subsidy program can remedy that problem. Another possibility is that imperfect information about the skills of a group of jobseekers has harmed their likelihood of being hired (for example, via statistical discrimination) – in which case the wage subsidy program, by increasing information about their skills, undoes this source of market failure.

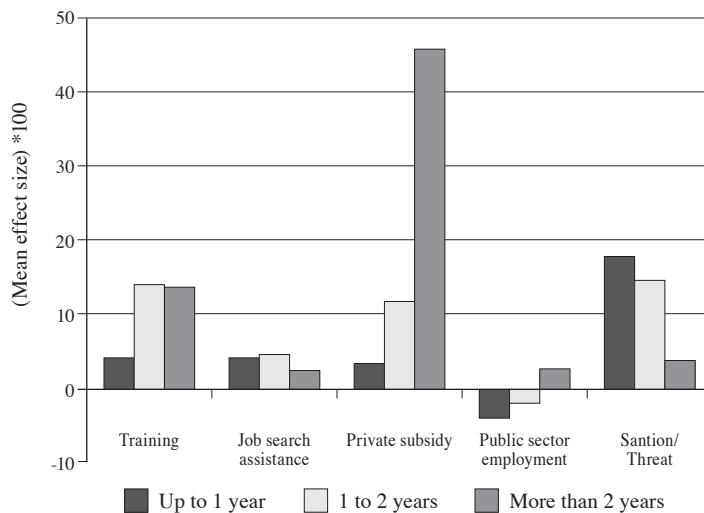
Evidence on the aggregate effect of wage subsidy programs

Lesson 1: The consensus from Australian and international evaluations is that wage subsidy programs increase the employment rate of participants.

Evidence on the impact of wage subsidy programs in Australia is confined to analyses of the SYTEP and JOBSTART programs from the 1980s and 1990s. Webster (1998, p.196) summarises this evidence as showing that ‘...wage subsidy schemes

do raise the employability of participants.’ (For some extra details of these studies, see the Appendix.) A more extensive set of international evidence on wage subsidy programs is consistent with the findings from Australia. Kluge’s (2010, p.904) review of European labour market programs, for example, concludes that ‘wage subsidies... can be effective in increasing participants’ employment probability’; and a more recent report on US programs by Dutta-Gupta et al. (2016, p.ix) finds that ‘...a number of experimentally-evaluated subsidized employment programs have successfully raised earnings and employment, with some programs providing lasting labour market impacts’ (see also OECD, 2005: and European Commission, 2014). The most thorough review of the effect of wage subsidy programs is by Card et al. (2015) who undertake a meta-analysis of 207 studies of active labour market programs. They conclude that ‘...private sector employment programs tend to have small effects in the short run, coupled with more positive impacts in the medium and longer runs’. Figure 2 reproduces summary information from Card et al. on the average impact sizes of wage subsidy and other types of labour market programs derived from the program evaluations included in their study.

Figure 2 - Average effect of program on the probability of employment for a program participant, By duration after program commencement



Source: Card et al. (2015, Table 3a).

But there are some problems with this evidence

Lesson 2: Existing studies of the impact of wage subsidy programs are likely to over-state the net effect of those programs on job creation. First, these studies often fail to take account of general equilibrium effects. Second, estimates of the impact of wage subsidy programs may partly reflect selection effects.

It is well-known that net job creation due to a wage subsidy program is less than the estimated impact on employment outcomes for participants compared to non-participants. Several main factors account for this difference:

- Substitution effect: Workers hired through the wage subsidy program may crowd-out unsubsidised jobseekers who would otherwise have been hired;
- Deadweight loss: The wage subsidy pays for a job that would have been created anyway; and
- Displacement effect: Employers who do not hire workers using the wage subsidy may lose business to those who do use the subsidy, and hence employment shifts from employers who do not use the subsidy to those who do.

It is also likely that any positive effect on net job creation due to a wage subsidy scheme will disappear once the program ceases.

While the size of deadweight loss, substitution and displacement effects will depend on the specific details of a wage subsidy scheme, even in well-designed programs these effects are likely to be substantial. Martin and Grubb (2001) review evaluations for the OECD and conclude that the effects undo 40 to 90 per cent of the impact of wage subsidy programs; and a review for the US by Neumark (2013) finds that deadweight loss is 67 to 96 per cent of the program impact. Most recently, Brown and Koettl (2015, p.12) also suggest substantial effects: ‘...Swedish studies find sizeable displacement effects for Swedish hiring subsidies of around 65-70%, and studies for Ireland and the UK 20%, for Belgium 36% and for the Netherlands 50%’.

That a wage subsidy program might fail to create extra employment may not be a concern to policy-makers to the extent that the main objective is to make job ready the largest pool of jobseekers or to redistribute access to employment amongst jobseekers. However, considering the effect of deadweight loss and substitution and displacement effects does make the point that the best way for a government to create extra sustainable jobs is by doing all it can do to promote labour demand via economic growth.

A further issue with interpreting estimates of the impact of wage subsidy programs is the potential role of selection effects. It has been argued that existing studies, which generally estimate the impact of a wage subsidy program by comparing jobseekers from an eligible population who receive and don’t receive a wage subsidy, are likely to be biased (OECD, 2015, p.139). Getting a subsidy is conditional on obtaining a job, and jobseekers who can get jobs may not be identical to jobseekers who cannot get jobs. Where jobseekers who receive and don’t receive subsidy payments differ, it follows that comparisons of outcomes between them will confound effects of differences in characteristics with the impact of the subsidy.

Schunemann et al (2011) seek to overcome this potential selection effect by comparing a sample of unemployed jobseekers in Germany who are eligible to receive a wage subsidy with a matched sample who are not eligible. This study finds a zero effect of receiving a wage subsidy on employment outcomes. However, a critique by Wolff and Stephan (2013) argues that the control group in the study may have been receiving an alternative type of subsidy payment; and they conclude from a review of

other German wage subsidy programs that (p.20) ‘...even conditioning on employment, hiring subsidies on average positively influence tenure and cumulated earnings of initially subsidized persons’.

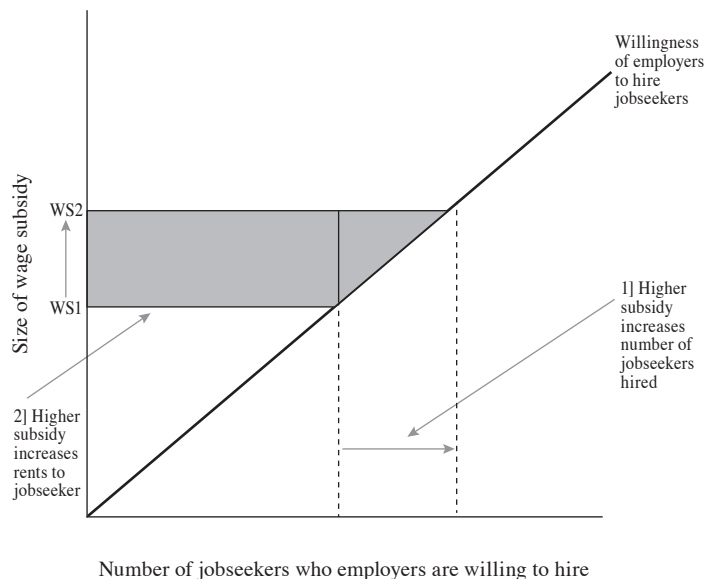
Finally, in considering the effect of a wage subsidy program on society’s well-being it is important to take into account that there will be a deadweight loss associated with raising the tax needed to finance the program (for a discussion of the size of this deadweight loss, see Dobes et al., 2016, Appendix 7).

Design matters 1

Lesson 3: The level and structure of the wage subsidy transfer will affect its impact and the cost to government.

The size of monetary transfer to the employer is associated with a trade-off. When the size of payment is increased then an employer will be willing to hire from a larger pool of jobseekers. But the higher payment means the employer is receiving a payment for the more job ready in the pool of jobseekers that is higher than necessary to induce them to employ those jobseekers. This trade-off associated with increasing the size of monetary transfer is illustrated in Figure 3.

Figure 3 - A trade-off in choosing the size of wage subsidy

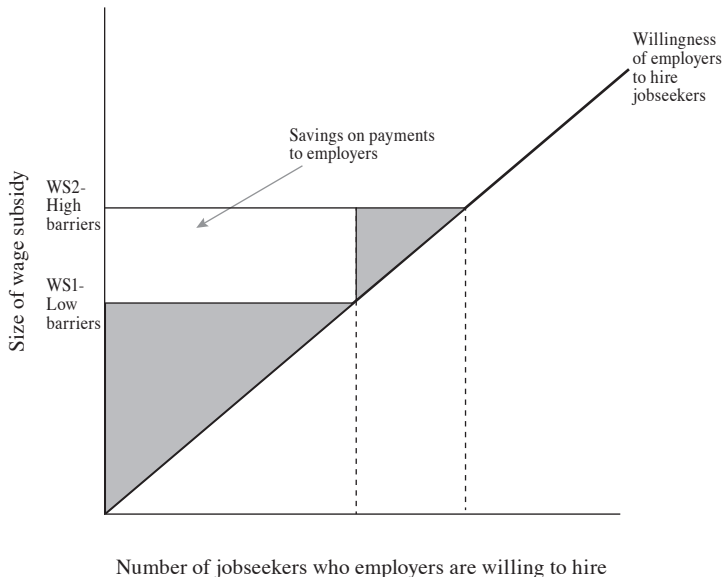


The existence of a trade-off depends on an assumption that employers need a higher level of payment to induce them to hire jobseekers with lower levels of job readiness. This assumption is supported by a range of evidence. A case in point was the Job Compact in the 1990s. It was intended that the major method for fulfilling the job guarantee made to jobseekers with unemployment spells longer than 18 months would be the JobStart wage subsidy program. However, compared to the

objective of 70 per cent of jobs coming from wage subsidies, such placements only accounted for 34 per cent of jobs created for the long-term unemployed in the initial phase of the Job Compact. The explanation provided by an official study was that ‘...employers perceive that the long-term unemployed have a range of problems that can make them unsuitable employees’ (Commonwealth Department of Employment, Education, Training and Youth Affairs, 1996, pp.46-47). International evidence also indicates strongly that increasing the size of monetary transfer to employers will increase the take-up of wage subsidy programs (see European Commission, 2014, pp.39-40).

One way for the government to seek to overcome the trade-off is through price discrimination. An example is shown in Figure 4.

Figure 4 - The scope for price discrimination in setting the wage subsidy



Suppose the government is able to distinguish between job seekers with low and high barriers to employment. It could then offer a lower level of payment that would be sufficient to induce employers to hire jobseekers with low barriers to employment, and a higher payment for hiring jobseekers with higher barriers to employment. This method of price discrimination can achieve the same total amount of hiring of jobseekers, but at lower cost to the government, since the level of the monetary transfer is being targeted at the amount necessary to induce an employer to hire each jobseeker. The main issue for the government in order to be able to implement this method of price discrimination is, of course, having sufficient information about employers' willingness to hire to allow targeted wage subsidy payments. One obvious possibility is to vary the size of transfer according to a jobseeker's duration of unemployment (Brown and Koettl, 2015, p.14). A more

sophisticated option would be to vary the size of transfer according to an index based on a set of jobseekers' characteristics that are related to their barriers to finding a job, such as the JSCI in Australia.

There are a variety of other important dimensions of the structure of the monetary transfer to the employer that need to be considered:

- *How to vary the monetary transfer over the duration of program?:*

There are many different ways in which the timing of wage subsidy payments can be organised. One way is to make a lump-sum payment at the start or end of the program. Another way is to spread payments throughout the program (such as on a per week basis); and those payments could be equal across time or either front-loaded or back-loaded. Where some of the subsidy payment is made up-front it is possible to require employers to repay part of the payment if a new worker is not retained for a threshold length of time – an example is the hiring credits provided by US states in the aftermath of the Great Recession (Neumark and Grijalva, 2013). A trade-off is likely to arise in choosing the timing of payment – Increasing the up-front component of the subsidy payment is generally thought to increase the take-up by employers, but it may also decrease the willingness of employers to retain the new workers or adversely affect the quality of work experience provided.

- *Fitting the monetary transfer to different types of jobs:*

Different employers are likely to want to create different types of new jobs – for example, part time or full time jobs. Hence, it is important for a wage subsidy program to increase the incentive for creating all those types of jobs. One way to address differences in hours of work between jobs would be to relate the total subsidy payment to hours worked. Making the payment on a per hour worked basis would mean that there was an equal percentage decrease in the cost of hiring a worker, regardless of hours worked. However, this may not completely deal with differences in the cost of hiring workers into jobs with different weekly hours of work. For example, employers may have the same fixed cost of hiring and training a part-time or full-time worker. Paying the same subsidy per hour worked for part-time and full-time jobs would then imply a lower extra incentive for hiring part-time than full-time workers. So in order to equalise the incentive effect on employers wanting to offer part-time and full-time jobs, it might be necessary to make some extra fixed payment to employers offering part-time jobs. (This discussion assumes that a government would want the wage subsidy scheme to provide incentives for employers to create extra jobs of different types. However, even where the government has an alternative objective, for example, a stronger preference for creating full-time than part-time jobs, this does not change the point being made here - that attention needs to be given to fitting the structure of the payment to the types of jobs that are intended to be created. Brown and Koettl (2015, p.13) do argue that the amount of employment provided by a subsidised job should be sufficient to develop habits of regular employment.)

- *How to make the monetary transfer:*

Possible options, for example, might be a direct monetary payment or a reduction in tax payments. Most programs have involved a direct monetary payment; and there is some evidence that employers prefer to get the ‘money in their pocket’ at the time they hire the new worker (European Commission, 2014, p.39). It has also been suggested, however, that making the transfer via a tax reduction may be administratively simpler for employers.

- *Whether to vary the monetary transfer over business cycle?:*

The optimal subsidy payment might vary over the business cycle for several reasons. First, the extent of incentive provided for hiring extra workers by a wage subsidy program will depend on the size of the decrease in the costs of employing workers relative to their productivity. If productivity varies pro-cyclically, then in order for a wage subsidy scheme to provide the same extra incentive for hiring across the business cycle, it would be necessary to vary the size of monetary transfer counter-cyclically. Second, the scarring effects of unemployment during economic downturns may mean that the government is more concerned to redistribute employment opportunities during a downturn than in other periods. For a wage subsidy program to contribute to that objective, it would be necessary to increase the size of monetary transfer during a downturn.

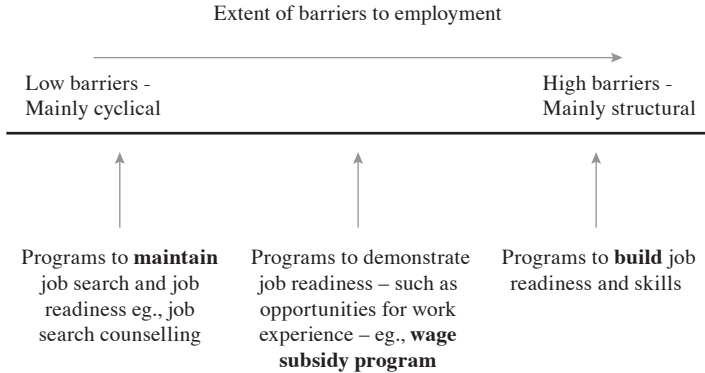
Design matters 2

Lesson 4: Wage subsidy programs need to be targeted at jobseekers who can benefit (most).

The potential impact of a wage subsidy program is likely to vary between jobseekers according to the extent of their barriers to employment. Access to a wage subsidy program may not be necessary (or is a more extensive intervention than warranted) for jobseekers with low barriers to obtaining employment. And jobseekers with high barriers to employment require more substantial assistance than a wage subsidy program. For example, Card *et al.* (2015, p.21) conclude that: ‘...long-term unemployed participants benefit relatively more from ‘human capital’ programs (training and private sector employment) and relatively less from ‘work first programs’ (job search and threat/sanction programs)’. Therefore, a wage subsidy program might be an element of the appropriate policy for jobseekers with high barriers, but other interventions such as training to increase their skills and job readiness will also be necessary. For this group of jobseekers work experience obtained through a wage subsidy program would also need to be accompanied by monitoring and support in the job placement (Borland *et al.*, 2016).

Wage subsidy programs therefore are most likely to be valuable for jobseekers who need the opportunity to demonstrate their job readiness to employers. A possible portfolio approach to matching appropriate type of labour market program to the needs of jobseekers, and how wage subsidy programs fit into the portfolio, is shown in Figure 5.

Figure 5 - A portfolio approach to labour market programs



Saying that wage subsidy programs fit jobseekers who are ‘somewhere in the middle’ of the distribution of barriers to employment still leaves the question of exactly where to draw the lines for eligibility for wage subsidy programs and how to achieve that targeting. Where the lines are drawn for eligibility for a wage subsidy program should depend on the benefit-cost outcome from offering this type of program to jobseekers with different barriers to employment.

An important determinant of the benefit-cost outcomes will be the size of displacement effects. For example, displacement effects are likely to be larger where jobseekers with low barriers to employment are eligible for a wage subsidy scheme; whereas a program that is more tightly targeted at jobseekers with medium barriers to employment will have smaller displacement effects (Brown and Koettl, 2015, p.12). Achieving targeting of a wage subsidy program can be done on the basis of jobseekers’ characteristics – for example, restricting eligibility to jobseekers with more than some threshold duration of unemployment spell. But that targeting must also be supported by a level of monetary transfer that induces employers to hire the targeted jobseekers.

Design matters 3

Lesson 5: Other details of design will matter for the impact of a wage subsidy program.

Several other dimensions of wage subsidy programs will be important considerations for a policy maker:

- *Mechanisms for finding job placements?:*

The outcome from a wage subsidy program will ultimately depend on having employers who are willing to participate in the scheme. Hence, the mechanisms used to inform employers about the program, and to convince them to participate, are critical aspects of program design.

- *Whether to restrict the types of jobs and work for which a subsidy can be paid?*

Aspects of employment where eligibility for wage subsidies has been restricted include the size of firm hiring a worker; the sector of employment; the hourly wage rate of

the created job; and the type of work and amount of training that is provided during the work experience (European Commission, 2014, p.41; Dutta Gupta et al., 2016; Neumark and Grijalva, 2013);

- *How to monitor?:*

Monitoring of some aspects of the implementation of wage subsidy programs is necessary to ensure integrity. For example, where a wage subsidy is paid to an employer only for extra jobs that it creates, it is necessary to ensure that employers are not transferring existing employees to take up wage subsidy payments; and where the size of payment varies with hours of work it is necessary to monitor actual hours worked by participants in a wage subsidy program. At the same time, extra monitoring and administrative complexity increases the costs to an employer of providing a job through the wage subsidy program, and hence reduce employer take-up.

The overall institutional environment matters too

Lesson 6: Labour market regulations, other labour market programs and the unemployment benefits system can affect the impact of a wage subsidy program.

Interaction with other labour market institutions will influence the outcomes from a wage subsidy program. One example is the effect of minimum wages. Where a minimum wage (or some other barrier to downward wage adjustment) is constraining employment, a wage subsidy program will increase employment by the full amount of the increase in labour demand from the wage subsidy. By contrast, where a minimum wage does not exist, for the same wage subsidy program with the same increase in labour demand, there will be a smaller increase in employment because there is also an increase in wages that occurs as part of the equilibrium adjustment. Hence, the impact of a wage subsidy program on aggregate employment will be larger in a labour market where there is a binding minimum wage.

Appendix:

Australian studies of wage subsidy programs

Richardson (1998) uses an IV approach to examine the impact of the SYTEP wage subsidy program for youth between 1984 and 1987. His study finds that the program had a large positive effect on employment outcomes – for example, having participated in SYTEP increased the probability of having a job 8 to 13 months after subsidy expiry by about 25 per cent. Most of this effect was due to subsidised workers retaining the same job after the subsidy expiry; but the program also had a positive effect on later employment for those who lost their subsidised job.

Johnston (2007) uses a quasi-experimental matching method to examine the effect of the Working Nation interventions between 1994 and 1997, and concludes that at 24 months after program commencement ‘...wage subsidy programs have a large positive impact on job seekers’ labour market outcomes: wage subsidy participants were 21 percentage points more likely to be employed and 10 percentage points less likely to be unemployed than non-participants’. Outcomes for participants in wage

subsidy programs were significantly better than for participants in training or public sector job creation programs. Stromback and Dockery (2000) also examine the Working Nation wage subsidy scheme and find even larger effects – for example, a positive effect on the proportion employed of 44.3 percentage points for participants by two to three years after commencement in the program. These results, however, are certain to over-estimate the true effect of the program. It is known that during Working Nation employers were only willing to take workers under the wage subsidy scheme if they had higher levels of skills (Commonwealth Department of Employment, Education, Training and Youth Affairs, 1996, p.42).

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