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Hong Kong
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Wage Subsidies as a Labour Market Policy Tool

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October 1996

Abstract

In this paper, the author argues that the wage subsidy is a valuable policy tool in the face of structural changes such as would result from the removal of tariffs, or in the face of a need to assist the disadvantaged or redress distributional inequity. After discussing wage subsidies that target at specific segments of the population, which has the potential to improve both static and dynamic efficiency, the author goes on to discuss and contrast his universal wage subsidy proposal with the negative income tax and the minimum wage legislation, all of which are designed mainly for distributional purposes.

Key words: wage subsidy, minimum wage legislation, efficiency, redistribution, trade liberalisation

1. Introduction

In the face of rapidly changing technology and external trade relations, relations between capital and labour can become very difficult. Very often, capital may have to respond to externally imposed challenges with unpleasant measures such as layoffs and even plant closures. During such times wage subsidies can serve an important function, potentially furthering both the objectives of efficiency and equity. Wage subsidies designed for these purposes are generally of the "*targetted*" category, i.e., they are targetted at specific segments of the working population.

In the face of growing disparity between the wages of the skilled and the unskilled such as observed in recent years, wage subsidies can also serve distributive purposes. This paper will look at a special form of wage subsidy that is designed specifically for this purpose. It goes hand in hand with marginal tax rate alterations. This is the "*universal*" category of wage subsidy. It is applied universally across the entire labour force. Far from being a burden to fiscally hard-pressed governments, it is argued that they can be supplemented with adjustments in tax rates and thus become self-financing. Indeed they have the potential to reduce government budget deficits.

Section 2 will discuss how wage subsidies can facilitate the transition of an economy from protection to free trade and reduce excessive unemployment. Section 3 will describe the redistributive "*universal*" wage subsidy and compare it to minimum wages and the negative income tax. As well it will discuss how the wage subsidy can assist disadvantaged workers. Section 4 will provide the conclusions.

2. Efficiency Applications

A. From Protectionism to Free Trade

Economists generally agree that free trade is welfare-improving. However, moving from a regime of protectionism to a regime of free trade will likely involve a gigantic redistribution of welfare that will prove politically unacceptable. In particular, workers of the formerly protected industries may lose their jobs. The affected firms may go bankrupt, affecting its creditors and suppliers along the way and leading to a complete writeoff of much capital, even though given the time to shape up they may evolve into leaner, profitable operations. Although consumers may gain and the structure of the economy becomes rationalised over the long run the short term pain imposed on certain groups may be unbearably high. They will put up a stiff fight, often postponing the implementation of free trade or even making it a dream that cannot be realized.

To make the transition to free trade less painful, more acceptable, and less costly, we can consider introducing wage subsidies that are tied to the existing labour force of the formerly protected firms but paid to employers. The wage subsidies are not tied to jobs, so that workers should be able to take them to other employers if they want¹. The principle is that these subsidies should reflect the external cost of unemployment--which may be in the form of a direct impact on the utility function of other members in society for seeing otherwise productive workers being thrown out of work for an extended period of time, or in the form of socially undesirable activities such as alcoholism and family violence. The logic of wage subsidy is illustrated in Figure 1. Removal of protection will lower the Marginal Revenue Product lines for both young and old workers. The lowered MRP lines

are represented as solid lines in Figure 1. There it is assumed that older workers and younger workers have the same productivity and wage within the firm to start with. To the extent that, subsequent to the introduction of free trade, the surpluses ABC plus DFG fail to cover the recurrent fixed costs of running the firm, the firm would close, leading to unemployment. Now suppose wage subsidies are introduced reflecting the marginal external benefits of maintaining employment for the workers(=marginal external cost of unemployment). MRP plus wage subsidy(W_S) equals the wage as received by workers. Supposing the additional surplus now can cover the recurrent fixed costs, profit maximizing employment would then be E_Y for the young workforce and E_O for the old workforce.

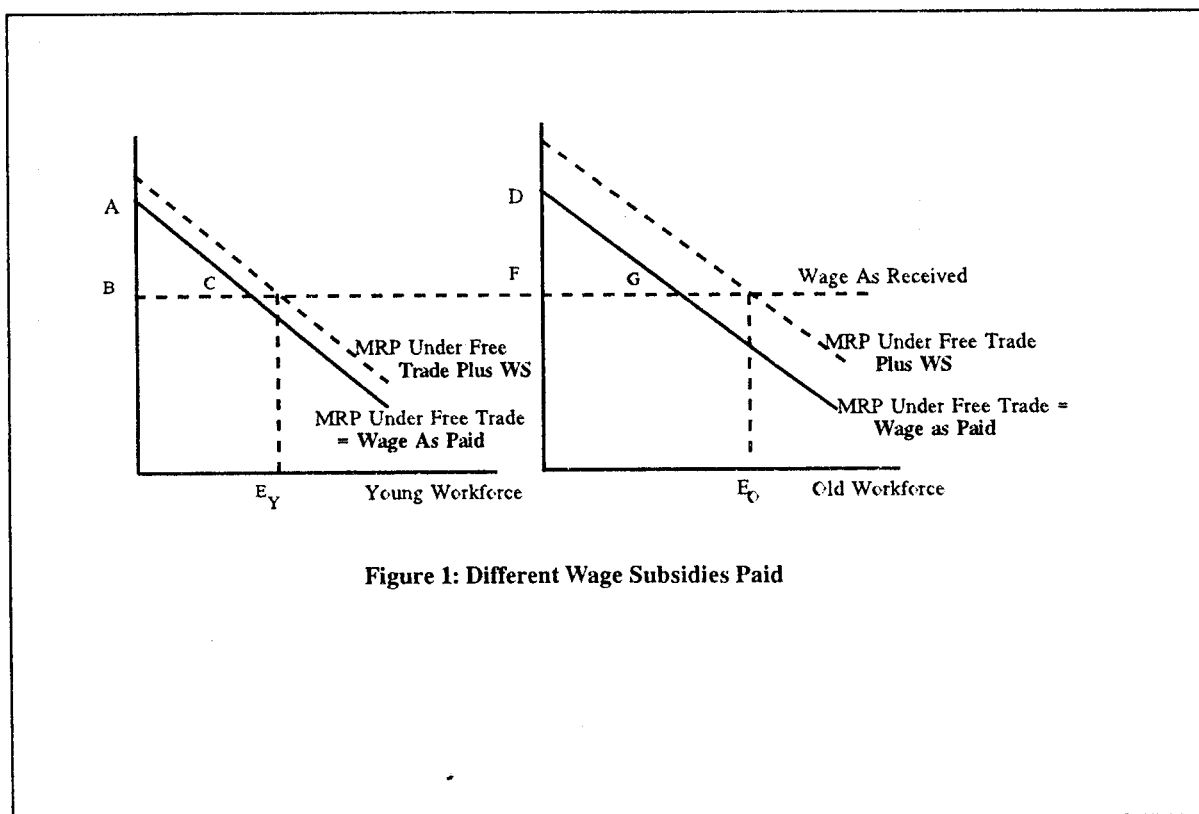
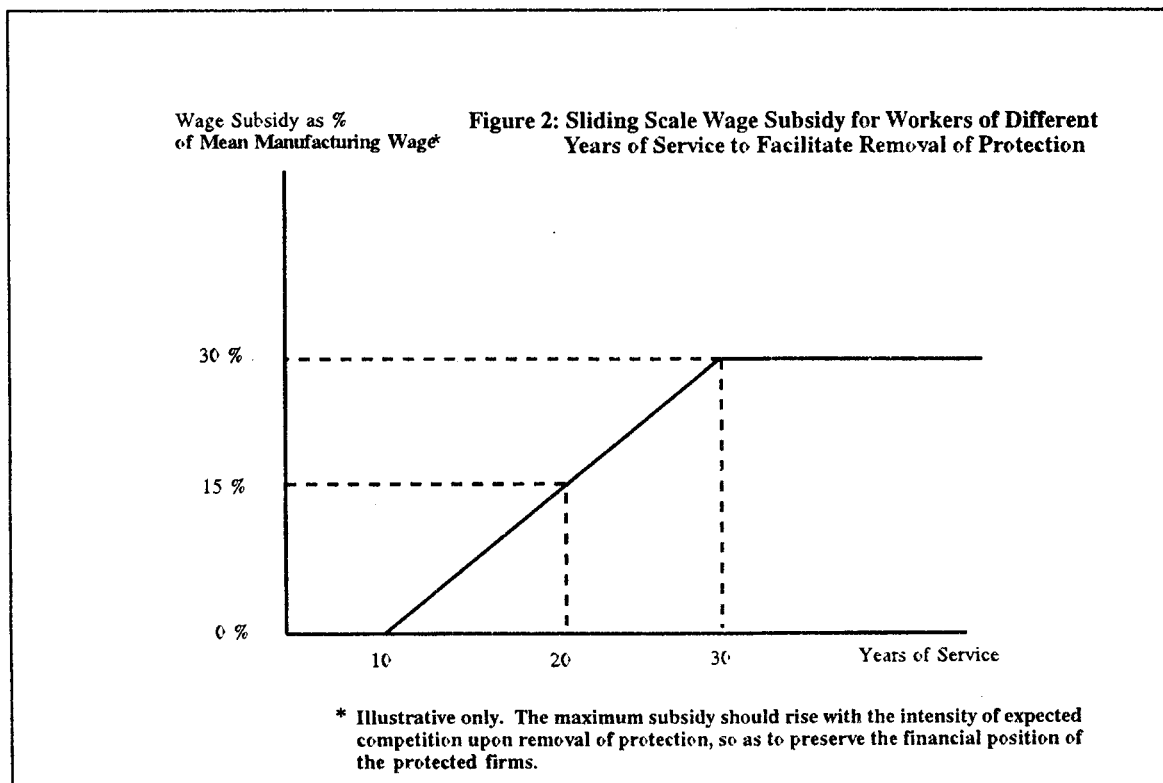


Figure 1: Different Wage Subsidies Paid

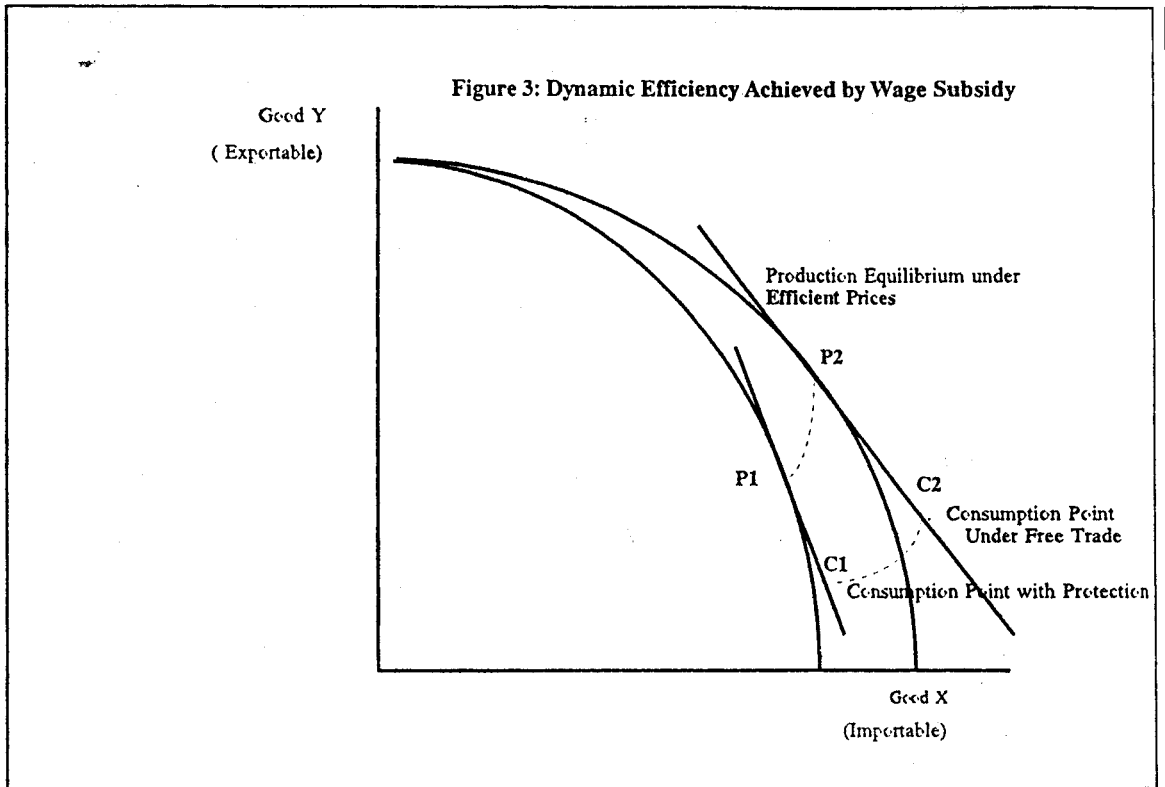
Because workers eligible for the wage subsidy are restricted to those currently employed, there is a possibility that employment for old workers falls short of the profit-maximizing E_0 for old workers. There is also a possibility that the firm may lay off some of the young workers because E_Y is still smaller than the previous level of employment for the younger workers.

It is assumed that workers with a shorter employment history with the firm are more able to leave for other jobs compared to those with a longer employment history. The external cost of layoff is lower for younger workers than for older workers. These considerations are illustrated in Figure 2.



In general, the wage subsidy buys time for the firm and reduces the social cost of laying off long term workers. Under the proposed arrangement the wage subsidy programme will have a built-in mechanism for phasing out. As the existing workers retire or otherwise transfer to other industries, the subsidies to the firm declines. So the firm has to seize the opportunity to shape up quickly, or its survival over the longer term will be at risk.

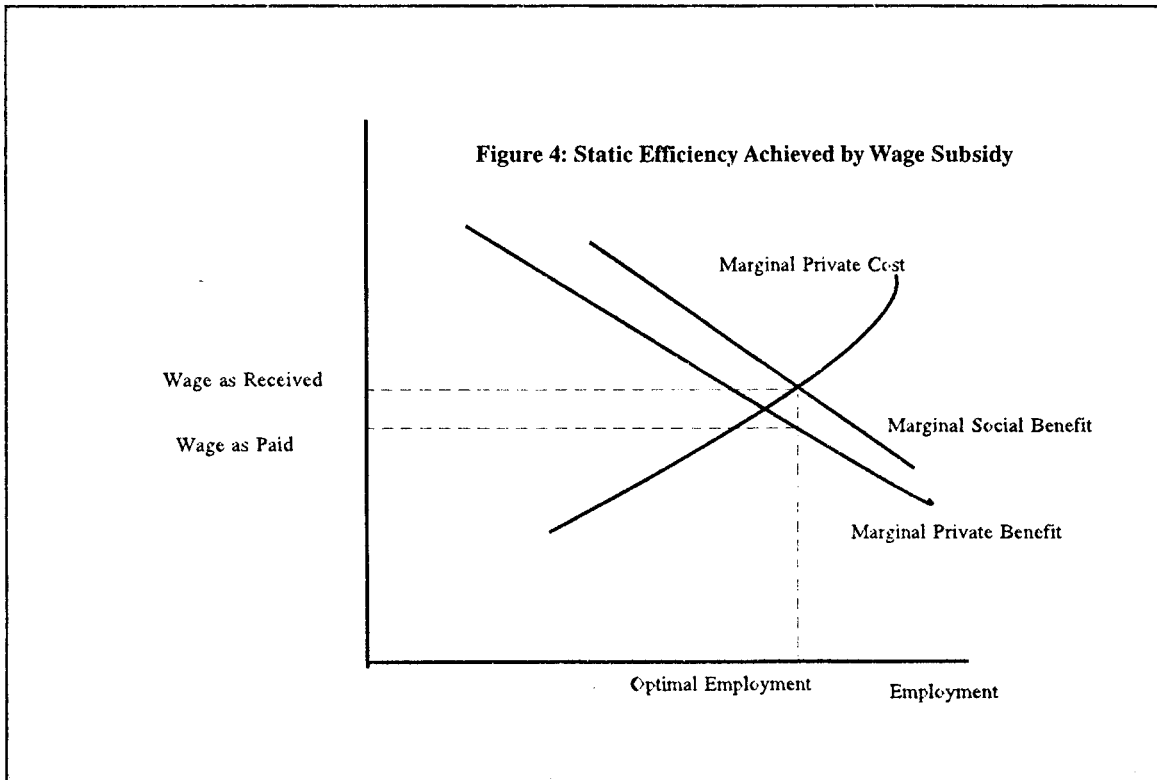
To the extent that the wage subsidy facilitates the removal of impediments to competition it can be said to enhance dynamic efficiency. The economy is allowed to go through restructuring that is efficient over the long term. This is illustrated in Figure 3. Here good X is an importable while good Y is an exportable. Originally production is at P_1 and consumption, at C_1 , is achieved by trading down the exchange line P_1C_1 . With free trade made possible by the wage subsidy, producers of good X become more efficient over the longer run, with the production frontier expanding outwards. Finally production is at P_2 while consumption is at C_2 , indicating more consumption of both good X and good Y.



B. To Correct Market Failures due to Undercosting Unemployment(Static Efficiency)

Economists today generally recognize that unemployment has costs beyond the loss of productivity due to idling resources. Unemployment is linked to social problems such as crimes, social unrest, racial discrimination, and health problems such as stress, heart attacks, and alcoholism. Unemployment also has to be "financed," often by government deficits, which crowds out private fixed capital formation. This latter phenomenon is particularly disturbing, because a low rate of capital formation is often cited to be the reason for long term unemployment. Long term unemployment is also widely recognized to be associated with the loss of human capital and the creeping up of the "natural rate of unemployment."

If unemployment has external costs, then conversely reducing unemployment has external benefits. The Marginal Social Benefit of Employment Curve is higher than the Marginal Private Benefit. Wage subsidies that momentarily reduce the cost of hiring workers improve static efficiency in the sense of improving allocation of resources, particularly the allocation of time between employment and unemployment(Figure 4).



3. Equity Applications

A. **To Serve Redistributive Purposes**

The minimum wage was recently advanced as a redistributive tool(Freeman, 1996). According to Freeman, "an appropriately set minimum [wage] can be a modestly effective redistributive tool."(p. 640). The effectiveness of the minimum wage would be particularly enhanced if the social welfare system complements the minimum wage by enhancing in-work benefits(pp.644-645).

Freeman does recognize, however, that the minimum wage will potentially reduce the availability of jobs (p.648). From a theoretical point of view, if the minimum wage is set at a sufficiently high level, there is no question that jobs will disappear. What is debateable is whether a minimum wage set at a low level will also adversely affect job availability.

If there is effectively only one buyer of labour services so that the single buyer of labour services will pull up wages by hiring more labour (the "monopsony" case), then the employer or consortium of employers faces a rising marginal factor cost line. Minimum wage legislation will then replace the otherwise rising marginal factor cost line with a horizontal wage line. This could lead to a rise in employment. Such a scenario, however, is unlikely in real life. In practice there are usually many buyers of unskilled labour services. Each employer is a price taker rather than a price setter in the labour market.

David Card and Alan Krueger (1994) presented a case of minimum wage increasing jobs. In that particular case, the minimum wage was raised in one region (New Jersey) relative to that of a neighbouring region (Eastern Pennsylvania). Employment in the region with raised minimum wages was found to increase. The reason behind this phenomenon, however, may be that workers from other regions, particularly better workers from other regions, are attracted to the region. Because of the increase in productivity the demand for labour curve or the marginal product curve of labour shifts to the right at the same time as labour supply increases (Figure 3). The increase in employment in New Jersey may well be at the expense of employment elsewhere. If so, a nation-wide increase in the minimum wage will reduce employment.

Economists usually find minimum wage legislation ineffective as a means to improve the well-being of workers (Baumol and Blinder, 1991, pp.773-774). First, it does not increase the incomes of those whose wages are higher than the minimum wage. For those workers whose wages would have been lower than the statutory minimum wages, only a few will be employed at the minimum wages. The rest will be denied the opportunity of employment altogether. In the industrial world, where minimum wage legislation generally applies, the unemployment of unskilled, younger workers, who are supposed to be the major beneficiaries of the legislation, is often serious. These groups are clearly hurt by the policy².

To ensure that the workers have a minimum income or living standard without increasing unemployment we can use a *wage subsidy*. The proposed wage subsidy will be called the universal wage subsidy. In order to bring wages up to the minimum level desired it is proposed that *all* workers be given a uniform wage subsidy (equal to X per cent of mean manufacturing wage), paid against hours worked up to some standard number of hours, for example 35 hours. If only the lowly paid workers are given the wage subsidy employers would be encouraged to reduce wages offered so as to "milk" the government.

It is useful to contrast the *universal wage subsidy* with the *negative income tax*. The negative income tax was first suggested by Milton Friedman. Such an idea is like providing a universal taxable "demogrant" to households³. This scheme has found favour among economists. However, whereas the universal wage subsidy is *conditional on the employment status of those assisted*, the negative income tax is totally unconditional. The negative income tax provides a net positive income to anyone so long as he is poor enough. Figure 5 illustrates how the universal wage subsidy works.

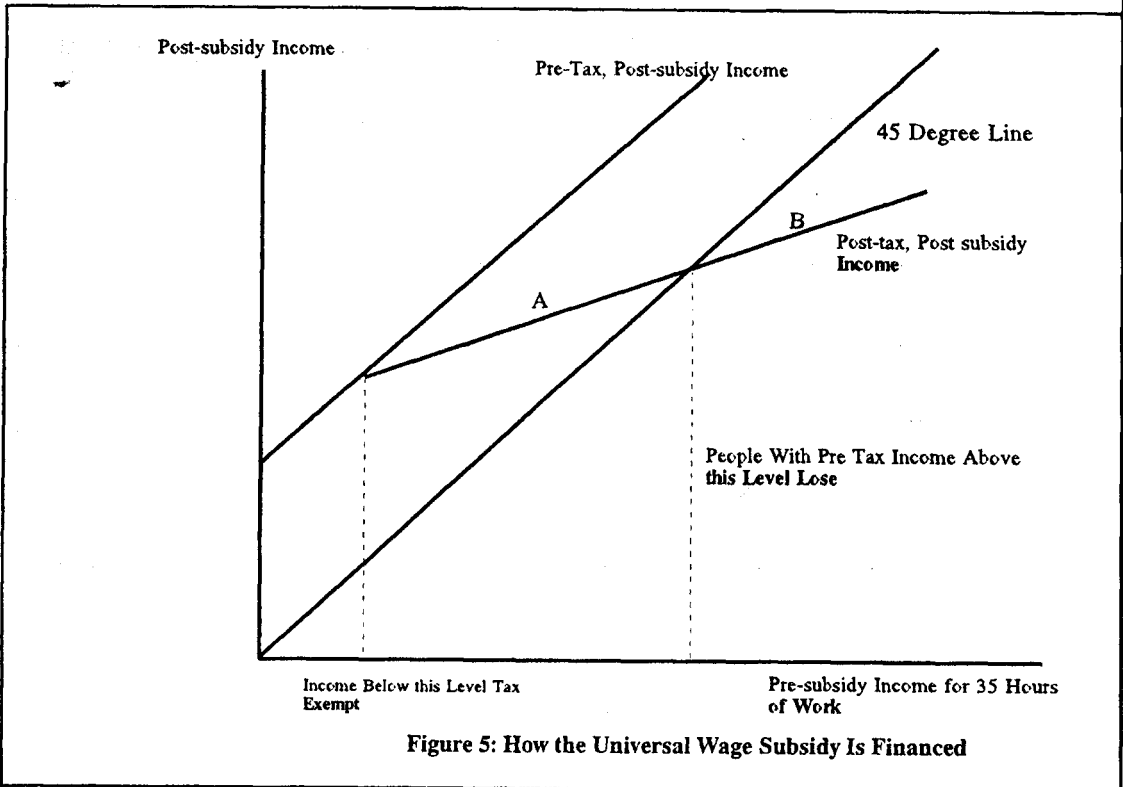
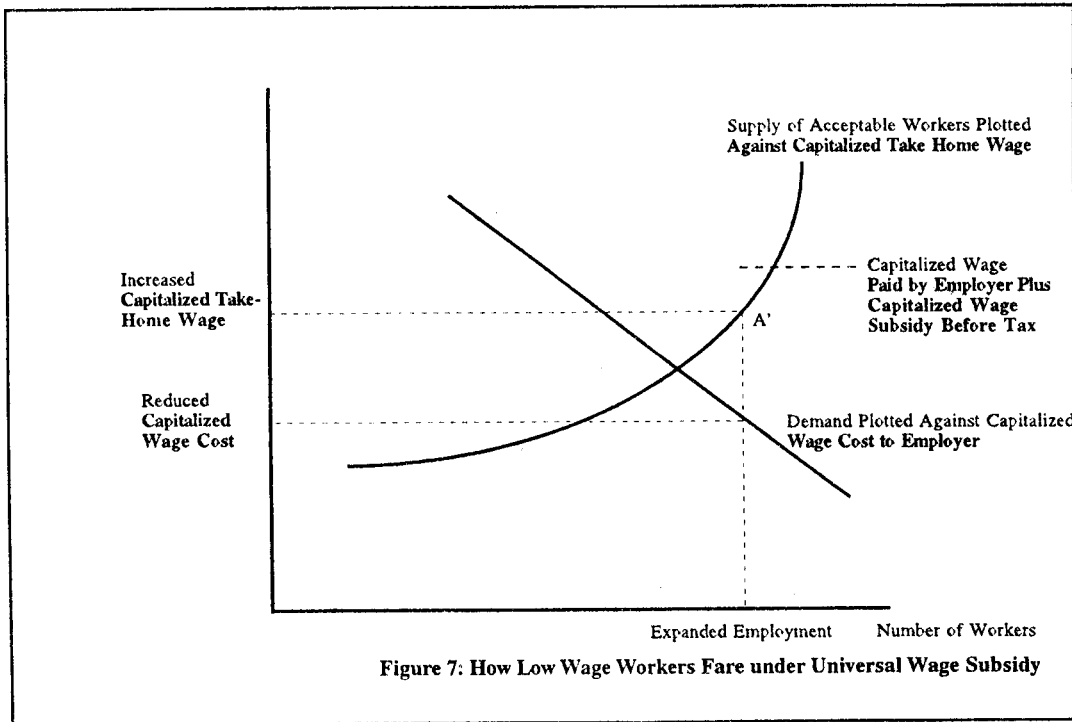
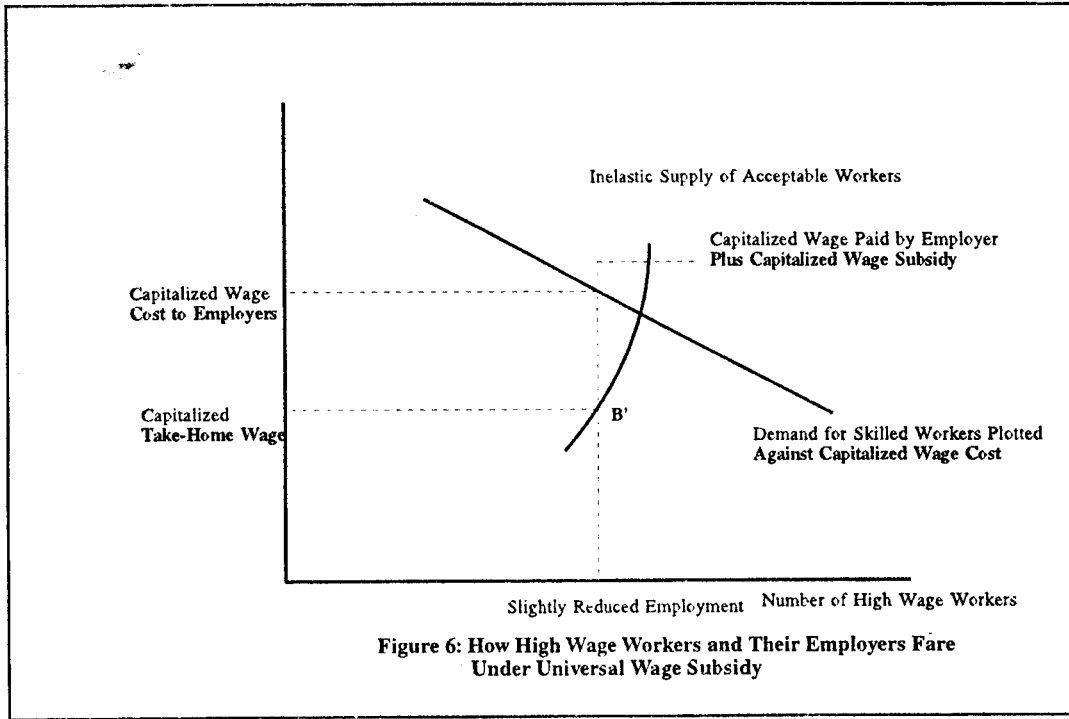


Figure 5: How the Universal Wage Subsidy Is Financed



Note: "Acceptable Workers" are a percentage of the available workforce who are found to be acceptable to employers. It varies with the quality of the workforce and information cost.

Like the minimum wage the universal wage subsidy can ensure an effective minimum income for workers. Yet unlike the legal minimum wage the universal wage subsidy does not set a floor to market wages. Unlike the Negative Income Tax, which redistributes income from income-earning people to non-income-earning people and has adverse incentive effects, the *universal wage subsidy* increases low income peoples' incentive to work. It should be recognized, however, that given the higher marginal tax rates imposed on higher income people *this increase in low income peoples' incentive to work is achieved at the expense of higher income peoples' working incentives*. Indeed, as a result of universal wage subsidy employers of high wage employees will need to pay *more* to hire workers(though workers receive *less* in net terms)(Figure 6), while employers of low wage employees will pay *less*(though workers receive *more* in net terms)(Figure 7). Assuming that high wage earners are skilled and are less likely to be unemployed than unskilled workers, the universal wage subsidy scheme will have a positive effect on total employment.

Some people may be concerned that a wage subsidy scheme opens up opportunities for fraud. To implement the scheme the government needs to have a record of the hours worked per month for each worker. Such information has to be filed by the employer with the government in order for the wage supplement to be paid. It may be objected that the employer may collaborate with individuals who pretend to be working in order to share the wage supplements. It may also be objected that the employer may reduce the wage offered in view of the supplement.

With regard to the first objection, occasional random checking by inspectors plus a stiff penalty should be sufficient to rule out large-scale fraud. In any case, by mandating that

a worker can claim for wage subsidies only in one designated employment, we should be able to contain this kind of fraud. With regard to the second objection, it should be noted that employers have to compete for workers in the market place. The uniform wage supplement will not give any one employer an edge over the others. Competition will leave relative wages more or less intact, with the result that low-income workers benefit.

B. To assist disadvantaged workers

The prevailing trend towards globalization is exposing workers in many parts of the world to competition unimagined of in the past (Biagi, 1996). The loss of manufacturing jobs in Hong Kong to South China is only one example. Economic restructuring, resulting from the relocation of manufacturing or even servicing functions, or arising from the total disappearance of markets for traditional products as a result of the emergence of new products, is leaving many workers out in the cold. These are typically older workers whose skills have become obsolete. Some governments have introduced retraining programmes for the disadvantaged⁴. This may not, however, be cost-effective, because their remaining working life is relatively short, while acquiring a new skill from scratch at that age is difficult, especially for those with a limited educational background. As one worker complained, "I took the 'Job Hunting Skill Workshop' offered by the Employees Retraining Board..... I was told to draw the attention of prospective employers to my strong points. I started work at the age of 13 with a borrowed identity card, had worked in wig manufacturing, electronics, metalware, sewing, and garment. But my more-than-twenty years of working experience won no recognition.... I went to three 'Job Plazas' organized by the Labour Department...but everytime the job entry requirement is completion of Form

3 and age below 35..."⁵

Unable to find alternative employment at a market wage, many workers may give up looking for work altogether. There is little doubt that these workers face tremendous hardship and eventually have to rely on public assistance. Providing a wage subsidy for these workers will increase the attractiveness of hiring them. A wage subsidy may actually save money, because the creation of job opportunities will reduce the demand for public assistance or unemployment insurance benefits. By reducing the cost of hiring the older, displaced workers the wage subsidy will allow them to realize their productive capacity, albeit diminished. Wage subsidies for the handicapped fall into the same category.

4. Conclusions

Two strands of economic theory are particularly useful for analysing labour market policies. These are, respectively, the theory of "externalities" and the "capital theory" of labour. Externalities are simply the impacts, positive and negative, of private, market-driven decisions on other members of the community. The capital theory of labour stresses the similarity between investment in worker skills and any other investment decision. Unifying these theories is the familiar tool of cost-benefit analysis.

In general, private-sector decision makers only take account of their own private costs and benefits, but private decisions may well have external benefits and costs. A decision to lay off workers will have external effects on the community, not just because laid-off

workers have lower purchasing power, but also because the government may have to provide assistance, have lower tax revenue, and because unemployment may lead to social distress. Similarly, on-the-job training is likely to produce benefits external to the firm. Over the long run, as a variety of firms provide training to their workers, the pool of workers with useful skills will be increased. This reduces the cost of hiring and the incidence of any prolonged shortage of specific skills.

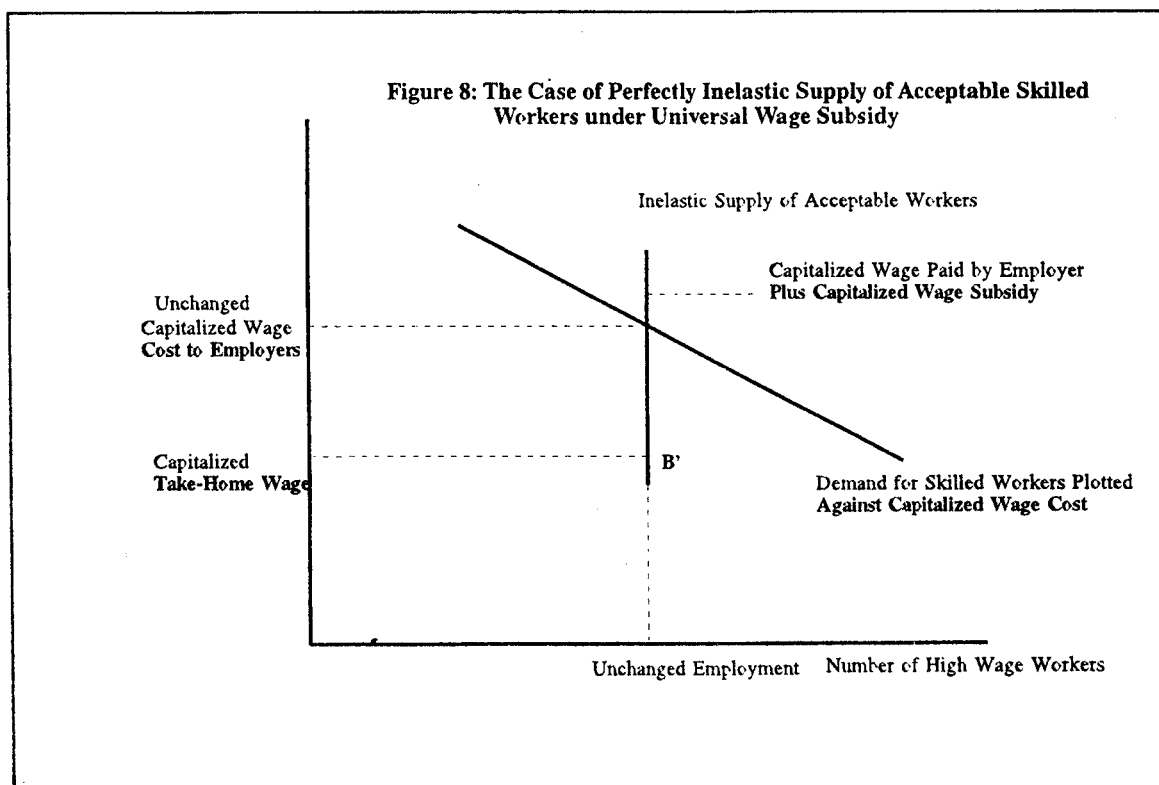
The impact of externalities from private labour-market decisions is the most easily understood basis for government intervention in these markets. But the full impact of intervention can only be appreciated when labour market choices are understood as longer-term, investment decisions.

The decision to hire and train workers, or to receive training is an investment decision because it entails long-term commitments and long-term costs and benefits. An investment in equipment should be made only if the present value of the stream of net benefits over time exceeds the cost of the investment. Similarly, the decision whether or not to hire or to train someone should be based on there being a positive discounted present value of net benefits over the long term.

Given this theoretical background, wage subsidies most definitely will increase hirings of low skill workers. They tip the balance between capitalized costs and capitalized benefits of hiring a worker towards greater capitalized benefits and hence hiring. By landing otherwise unemployed workers into jobs, learning by doing will increase the human capital of these workers. To the extent that handicapped people are entitled to larger wage subsidies

their employment opportunities will certainly improve.

A universal wage subsidy that goes hand in hand with higher marginal tax rates for higher income people will in principle lead to a move down the supply curve for skilled workers. This has the effect of raising the cost of hiring such workers to firms. However, to the extent that the opportunity cost of being not employed is very high for the skilled workers, supply may be perfectly inelastic in the relevant range. If so, the employment of skilled workers will not decline, while the effective cost to employers will also not change (Figure 8). To the extent that highly paid skilled workers are often paid fixed monthly salaries rather than by the hour there may not even be a decline in the hours of work rendered. In other words, the universal wage subsidy will effectively take away economic rent from the skilled workers and subsidize employment for the unskilled. This has both efficiency implications and distributive implications.



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Endnotes

1. In practice few existing workers of a long employment history with the firm will be able to move to other firms because of their limited skills and background. However, the provision makes sure that we would not artificially impede the decline of obsolete firms. I owe this point to John Heywood.
2. In a controversial study on the labour market in the fast-food industry, David Card and Alan Krueger of Princeton(1994), using cross-section data, found that fast food stores in New Jersey, which were affected by an increase in the minimum wage, actually had an increase in employment relative to stores in nearby Pennsylvania. Their results, however, only show that *local* employment may increase with a higher minimum wage by attracting more stable and productive workers, but do not support the notion that raising the minimum wage *globally* will raise *total* employment. This point is suggested, though not explicitly, in Neumark and Wascher(1995).
3. In some versions the demogrants can be means-tested. For an introduction see Fischer, Dornbusch, and Schmalensee(1988).
4. Hong Kong Governor Chris Patten in his policy address in October 1993 proposed that the Labour Retraining Board start programmes tailored to the needs of the elderly workers who have difficulty finding employment in today's labour market.
5. Ming Pao, October 28, 1993(Hong Kong).