

LABOUR MARKET
PAPERS

11

Indicators of cost-effectiveness of policy options for workers with disabilities

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ISBN 92-2-110062-6
ISSN 1020-2633

First published 1996

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1. Introduction

There are estimated to be some 500 million people with physical, mental or sensory disabilities in the world as a whole.¹ Some 80 per cent of these people live in developing countries, which shows the magnitude of the problem for the "Third World" in particular. Experts estimate that in the industrialized countries, too, the proportion of people with disabilities in the population is growing.

The ILO constituencies have recently expressed a desire for some policy guidelines on cost-effectiveness aspects of different labour market policies and programmes for workers with disabilities. The subject is topical and of interest, and not only to employers. The present paper, together with one on the specific Canadian approach to the cost-effectiveness issue, and a special survey of enterprises in one country, is a response to this call. Its purpose is:

- (a) to provide an insight into the complicated problem of methodology, and the costs associated with employment and labour market policies and programmes for workers with disabilities;
- (b) to review various policies and programmes, particularly from the point of view of costs and benefits;
- (c) to consider the impact on different actors in the labour market and, data permitting, on society too.

The paper draws exclusively on the empirical results of the research that has been published so far, both the ILO's own most recent research covering developed and developing countries and countries that are in the process of changing their social, political and economic system, and research conducted in various countries of the world by other agencies and individuals. As such it is a synopsis, a stock-taking paper designed to assist those concerned to know where we stand on the matter now and thus to facilitate the choice of a right course for the future.

Cost-effectiveness studies are important, especially when preparing, testing and evaluating new labour market programmes for workers with disabilities, making recommendations with a view to enhancing their positive impact on various actors, and suggesting ways to develop such programmes further. The limited number of positively verified programmes for workers with disabilities that have been implemented so far can be explained partly by the fact that coherent information on their cost-effectiveness and performance has not reached responsible decision-makers or the wider public. This is one of the gaps the present paper is striving to fill.

2. Cost-effectiveness issues relating to programmes and policies for workers with disabilities

2.1 Why cost-effectiveness is important but still not the only consideration

Practically no one today – workers, governments or employers – are questioning the feasibility and relevance of, or the necessity for, programmes to facilitate the employment of

¹ "Disability: Problems and solutions", in *Bulletin* (Centre for Europe, Warsaw University), 1994, special edition.

workers with disabilities and to enhance and equalize their chances in the labour market. Although a consensus as to the priorities seems to have been reached, the problem remains of how to achieve this goal in a cost-effective manner. In particular, what should be the content, size, target groups, coverage, time frame and optimum financial outlay for such programmes if they are to be really cost-effective vehicles for achieving the above aim.

So far sufficient research on the cost-effectiveness of labour market programmes and policies for workers with disabilities has not been conducted, despite the obvious need for it. In some countries no such research has ever been conducted. This provides indirect testimony to the fact that cost-effectiveness per se, though important, is not the only consideration. There are other issues at play.

People with disabilities work partly for reasons of self-affirmation and to achieve social recognition. Such factors are intangible. One of the challenges of our times is to achieve full employment in a free society, to provide everyone with a chance to obtain a job and an income from work. Workers with disabilities may have extra needs if they are to compete on equal terms with other workers in the labour market, and it should be society's task to ensure this is the case. These extra needs begin with education and continue as young men and women mature and enter working life.

The issue of cost-effectiveness can also be approached in terms of achieving maximum efficiency of existing programmes and policies, so that workers with disabilities can either be part of, or maintain the closest possible contacts with, the services offered to ordinary workers. As has been stated,

employment of people with disabilities and measures to achieve this should always have priority over financial assistance to people with disabilities, without prejudice to the financial support required to compensate for the extra costs of disability. Care should be taken to maintain a balance between measures aimed at vocational integration and financial assistance to the people with disabilities, to ensure that efforts to achieve integration are not thwarted.²

2.2 Methodological issues

The overriding objective of governments should be to ensure that people with disabilities are not excessively disadvantaged because of their disabilities in social, economic, educational, and especially working life. People with disabilities should be given equal opportunities to lead an active community and working life. Governments will of course seek the most cost-effective solutions to the problem as they are spending taxpayers' money and are thus accountable to them.

This section will consider, among other things, the problems of methodology which compound and complicate the whole issue of how to approach the provision of equal opportunities. It will also measure the cost-effectiveness of various policy options for workers with disabilities. Labour market policies and programmes for workers with disabilities are financed from the public purse, that is by taxpayers, whereas the benefits from them do not necessarily go back to the State but often accrue to individual people with disabilities. Some of these benefits, such as increased income, can be measured in money terms; others are intangible, for example higher self-esteem and a feeling of being productive.

² *A Coherent Policy for the Rehabilitation of People with Disabilities*, Council of Europe, Brussels, Recommendation No. R (92) 6, Article VII, 1.9.

The issue of the cost-effectiveness of employment and labour market policies for workers with disabilities is a complicated one for many reasons.

1. The broad policies and specific programmes have a different impact on the different actors concerned: workers with disabilities themselves; employers hiring people with disabilities; society, as represented by governments spending taxpayers' money; and workers without disabilities, who may be affected by displacement as a result of programmes (Figure 1). The type of intervention will play a role. Since, however, most programmes for people with disabilities are financed by the State, their cost-effectiveness can be looked at simply in terms of a benefit-cost correlation for the State budget.

Figure 1. Actors in cost-effectiveness studies and the basic impact of programmes on them

Actors	Workers with disabilities	Government	Employers	Displaced workers
IMPACTS ON THEM				
Income, earnings	Wages per hour, income per month, total earnings	Savings on reduced benefits, taxes from workers with disabilities now in employment	Output by workers with disabilities plus government equalization subsidies	Lost income from work in case of displacement
Employment	No. of jobs created	Net employment effect	Possibility to hire extra workers when participating in programmes	No. of jobs lost in case of displacement
Unemployment	Reduced unemployment	Reduced unemployment through net job creation	N/A	Possible unemployment in case of displacement
Quality of jobs	Job retention, level of wage in it, job security	N/A	Productivity of workers with disabilities	N/A
Losses	Loss of benefit, total or partial	Taxes from displaced labour, financial outlay on programmes	Accommodation costs and productivity losses, if at all, and if not compensated	Wages and income from work in case of displacement

N/A = Not applicable.

2. The issue of definition gives rise to methodological problems. By the term "person with disability" ILO Convention No. 159 (1983), "Convention concerning vocational rehabilitation and employment (people with disabilities)", understands an individual whose prospects of securing, retaining and advancing in suitable employment are substantially reduced as a result of a duly recognized physical or mental impairment.³ (The above Convention has been ratified by 50 countries, as of the time of writing this paper.) But various countries use other definitions for official and statistical purposes. Under the Americans with Disabilities Act (ADA

³ ILO Convention No. 159 (1983), Article 1.

Act), for example, “disabilities are conditions that place bounds on the range of work and activities that an individual can perform” (the qualification “substantially reduced” is missing from this definition). In some other countries people with disabilities can identify themselves on the basis of their own declarations. According to yet another definition, disability is a “restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being” (International Classification of Impairments, Disabilities and Handicaps (ICIDH), World Health Organization, 1980).

The issue of finding a universally acceptable definition has not so far been resolved. This means that the data on workers with disabilities obtained from different national sources, and cost-effectiveness analyses where done, may not be compatible. Thus cross-country variations in disability rates are not due solely to actual differences in such rates; they are also a result of differences in survey design, the statistical concepts and definitions used, and the survey and screening devices employed. Since the data themselves are not fully comparable, various derivatives from them may not be either. In Bahrain, for example, the proportion of the population with disabilities was reported to be 1 per cent in the year 1976 while in Austria the figure was 20.9 per cent. An average for all countries would probably be about 10 per cent.⁴

3. The methodology used for dealing with the cost-effectiveness issue will depend on the type of programme actually chosen to promote the employment of workers with disabilities. This might include special sheltered workshops or employment, semi-sheltered and supported employment in the mainstream, wage subsidies, job accommodation, special counselling and placement services for workers with disabilities, coach/supervisor provision, special transport to and from work, affirmative action programmes and quotas. Methodologies used to assess cost-effectiveness might include surveys of enterprises, cross-sectioned, over time (panel) or experimental; before and after comparison studies (“with and without”) and identification of control groups; questionnaires and interviews of employers and workers; a concentration on focus groups.
4. Measures for workers with disabilities can in turn be affected by labour market developments at different levels, for example macro or micro, or even international. The same measure will yield different results under different circumstances. As such, measures can have a different impact on broader or narrower categories of person; hence the scale of impacts, including cost-effectiveness outcomes, will vary and will be more or less sharply focused. The costs of policies and programmes can themselves differ depending on the period of application and their content; for example, they may be constant, continuous or one-off, fixed or variable, administrative in nature or affecting production, that is capital costs. Finally, the costs can be borne by the affected actors jointly or individually, or by several actors simultaneously but independently, and so on.
5. The type and level of disability of workers covered by the programmes can also affect the costs, and the ensuing impact may be different for different groups.

⁴ *World Health Statistics Quarterly*, 1989, Vol. 42, No. 3, pp. 124-125.

6. Cost-effectiveness analysis might include many variables of an intangible nature (see section 2.1), for which it is difficult to find and apply quantitative price tags and which consequently cannot be captured as costs/financial benefits.
7. The results of cost-effectiveness analysis can be misleading if it does not take into account a sufficiently long period. For example, a programme that has resulted in the employment of a considerable number of workers with disabilities may seem to have costs that are rather high. But the overall cost-effectiveness of such a programme can be correctly assessed only through a longitudinal study that takes into account not only financial but also job retention aspects, for which a tracer survey might be required. It is only longitudinal studies that have revealed a positive – albeit small – overall effect for affirmative-type programmes after the input costs have been found acceptable.
8. The situation of workers with disabilities in the labour market is not static. Rather it is fluid and changing, owing to the impact of various factors: changes in labour legislation; the demographic situation; the market conjuncture for different types of output and varying demand for workers with specific skills; technological change and its impact on employment in general and workers with disabilities in particular; changes in production and employment systems, and so on.

Different types of disability also require specific approaches in terms of training, placement, and the amount of support for workers with disabilities when in mainstream or in sheltered employment. An approach which can be cost-effective for one group of workers with disabilities may not be for another group. The costs of programmes can therefore vary according to the category of disabled person involved, but this is difficult to capture, especially when attempting to elaborate universal recommendations.

Qualitative elements which are not easily quantifiable pose a special methodological dilemma – one which pertains to both the input and the output side. Not only is the whole issue of who counts as disabled often cloudy; there is the further issue, as already mentioned, of how to measure greater equity and self-esteem for workers with disabilities as a result of labour market policies and programmes. Identification and measurement still remain the two great problems in measuring the cost-effectiveness of labour market policies and programmes for workers with disabilities.

Consideration of intangible factors, such as achieving equity and equality of opportunity for people with disabilities in the labour market, includes – at a macro level rather than the programme level – determining how equitable the labour market position is for people with disabilities. Some researchers have singled out four indicators for comparing the situation of people with disabilities with that of the general population:

- *Unemployment*: The level of unemployment among people with disabilities should be no higher than that for the workforce as a whole.
- *Representation*: The presence of people with disabilities at different levels of the workforce should be equal to their representation in the general population.
- *Income*: Income levels for people with disabilities should equal those for non-disabled people in similar jobs.

- *Participation*: People with disabilities should experience a level of workforce participation comparable to that of the non-disabled population.⁵

From the purely benefit-cost point of view, leaving intangible factors aside, the cost-effectiveness of programmes for workers with disabilities has actually been measured in some investigations as the net costs of the programme and flowbacks to the state budget resulting from the implementation of programmes and policies in respect of workers with disabilities. This approach also takes into consideration the impact on other actors, as it aims to arrive at the resulting sum of all such impacts (see, for example, the “losses” line in Figure 1) – that is, a systematic comparison of the benefits of the programme with its costs. To achieve this, it is necessary to measure the costs and to relate them to the flowbacks to the budget from the programmes in question. Several important factors have to be taken into account in this:

- direct programme costs;
- replacement of the output of able-bodied workers by that of workers with disabilities now in employment;
- the composition of such displaced employment;
- government savings on disability benefits, and increased taxes resulting from workers with disabilities now being in employment.

On the other hand, the costs of unemployment created among able-bodied workers who have been displaced should also be measured in terms of lost taxes, forgone wages, and unemployment benefits paid to displaced workers.

In comparing benefits and costs, most studies utilize the benefit-cost ratio (B/C), which calculates the level of benefits per dollar of costs. Other ways of comparing benefits and costs include calculation of: (a) the total net benefits (i.e. the difference between benefits and costs (B-C)); (b) the playback period (i.e. the amount of time before the original cost is recaptured in benefits); and (c) the internal rate of return (i.e. the average annual benefit as a percent of original cost).⁶

The sum of the different impacts of the programme on the different actors could in theory be considered to be the impact for society as a whole. Negative impacts and costs for some actors can then be balanced and even outweighed by gains for other actors.

As there has not so far been much research conducted on the “savings” on government transfer payments as a result of workers with disabilities finding jobs, and perhaps even less on the length of time such jobs are held and the savings resulting from releasing the carers of people with disabilities, one could suggest that more longitudinal and complex studies should be carried out.

We would recommend preparing detailed financial statements on the benefits and costs of programmes for workers with disabilities by year of operation; these could be a useful tool for cost-effectiveness assessments (Figure 2). When so doing it should be borne in mind that not all items of expenditure will necessarily occur in all the years the programme is run. Expenditure on training, job adaptation or work coaching, for instance, is likely to occur mainly in the first year of operation, and to be dramatically reduced or non-existent in subsequent years. The

⁵ Roehrer Institute: *On target? Canada's employment-related programmes for people with disabilities* (Toronto, 1992).

⁶ F. Rush (ed.): *Supported employment, modes, methods, and issues* (Sycamore Publishers, NY, 1990), p. 274.

Figure can be modified accordingly. Such an approach can demonstrate how programme costs and benefits and the total impact can vary over time. If necessary, costs and benefits can be broken down by individual participants or their groups.

A simplified approach to assessing the cost-effectiveness for workers with disabilities – and one that is actually being adopted in some countries, in respect of disabled ex-combatants for example – is to take account only of the number of jobs created for and filled by workers with disabilities and their retention (length of time the job is held) per unit of expenditure. This leaves aside financial considerations, or intangible considerations such as output or “value for money”, and focuses on the reduction of disabling conditions for affected workers, their return to productive work, the speed with which they find jobs, and the length of time they hold the jobs.

Although the methodology for measuring the cost-effectiveness of programmes for workers with disabilities has obviously not been sufficiently developed, especially if it is to be applied in developing countries, the literature reviewed does contain some results and conclusions with respect to the cost-effectiveness of different labour market programmes and policies for workers with disabilities in various countries of the world. These can be found below.

It is also obvious that more longitudinal and comprehensive studies are required to investigate all aspects of cost-effectiveness which can be measured in quantitative terms. The methodological problems are enormous. No consensus has yet been achieved on these methodological issues, and this remains a large area of future work for social scientists.

Figure 2. Financial statement of programme benefits and costs

Costs/Benefits	Benefits/Costs (by year of operation)	
	Year A	Year B
Benefits		
“Saved” transfer payments on disability benefits		
Taxes from workers with disabilities now in employment		
Value added by workers with disabilities now in employment		
Taxes and value added by former caretakers of people with disabilities		
Economy on administrative costs		
Total benefits		
Costs		
Administrative programme costs		
Programme costs; <i>including</i> :		
Rehabilitation		
Special employment services		
Job accommodation		
Training		
Special transport		
Coach workers		
Wage subsidies to compensate productivity losses		
Unemployment benefits for displaced workers		
Lost taxes from displaced workers wages		
Value added lost as a result of the programme		
Other (to be specified)		
Total costs		
Benefits/costs		

NB As this paper concerns the cost-effectiveness of government-financed programmes for people with disabilities, it would be remiss not to mention a discussion of methodological issues recently published by the Canadian government. The Office of the Comptroller General, Treasury Board of Canada (1991), notes, for example, that the specification, measurement and valuing of costs and benefits raises two problems: the identification and measurement of all costs and benefits and their reduction to a common denominator. Problems relating to identification and measurement stem from the fact that many programme effects (social, psychological, etc.) cannot be isolated and measured. In a benefit-cost evaluation of a treatment programme for people with mental disabilities, for example, evaluators were unable to obtain data on the burden that such patients impose on neighbours and co-workers. The second concern is that benefits and costs cannot all be measured in monetary terms. The Treasury Board notes that,

To place dollar values on educational results, health results (the value of human life or its quality), or equity and income distributional results, is difficult, and any such valuations are highly debatable. As well, government accounting systems may make it difficult to identify costs. If not all relevant benefits and components are included in the cost-benefit analysis, or if they are discarded because they cannot be converted into monetary values, the results of the analysis may be very misleading. Furthermore, once converted into monetary values, the costs and benefits have to be discounted to a common point in time in order to be added and compared. Cost effectiveness analysis allows for the comparison and ranking of programs. However, since the benefits are not converted to the same common denominator, it is impossible to determine the net worth of a program, or to compare programs in different areas.⁷

It is probably safe to say that any disabled person returned to work through a programme for workers with disabilities becomes more of an asset to society as he or she changes status from dependency to self-esteem and self-support (albeit not always total), starts contributing to society and to the upkeep of their family, and sets free for other things those who had been taking care of them.

2.3 The costs side of disability

2.3.1 Government budget expenditures on workers with disabilities

The main item of government expenditure on people with disabilities is disability pensions. In most countries, pension provision for people who are permanently disabled owing to non-occupational causes is very similar to that for old people. The same basic formula usually applies for total disability as for old age – the amount frequently being expressed as a percentage of average earnings. Increments and dependants' supplements are generally identical under total disability and old age schemes. Partial disability benefits, if payable under the scheme, are usually reduced, in terms of average earnings, according to a fixed scale. The possible variation in degree of disability and consequent gradation in pension amounts makes this the most complicated formula in social security systems around the world.

Often, but not necessarily – depending on national circumstances – people with disabilities stop being paid disability benefits when they are employed and sufficiently

⁷ Carl Raskin: *Canada's employment programmes and policies for persons with disabilities. A study of cost effectiveness*, Occasional Paper for the ILO, May 1994.

remunerated. That is one of the obvious ways in which society gains from the employment of people with disabilities.

It is difficult to specify a percentage of the government budget (percentage of GNP) that should "ideally" be devoted to disability (including transfer payments, rehabilitation and other costs) because of the great differences that exist in practices in different countries (see table 1). In the United States, for instance, a person who receives payments under a work injury scheme may not receive all of his/her social disability benefits at the same time. Some programmes which pay benefits to people with disabilities also pay benefits to people who are not disabled.⁸

Table 1. Public expenditure in OECD countries on labour market programmes, including measures for people with disabilities, 1991-92 (% of GNP)

Country	Total, programmes	Measures for disabled	Vocational rehabilitation	Work for disabled
Australia	2.09	0.04	0.02	0.02
Austria	1.46	0.05	0.03	0.02
Belgium (1991)	3.87	0.16	0.06	0.10
Denmark	6.53	0.40	0.27	0.14
Finland	5.52	0.17	0.07	0.10
France	2.82	0.06	—	0.06
Germany	3.46	0.24	0.15	0.09
Greece	1.18	0.01	0.01	—
Ireland (1991)	4.40	0.14	0.14	—
Japan	0.45	0.01	0.01	—
Luxembourg	1.04	0.10	0.01	0.09
New Zealand	2.68	0.05	0.01	0.04
Norway	2.65	0.24	0.02	0.22
Sweden	5.99	0.90	0.12	0.78
Switzerland	0.6	0.15	0.11	0.05
United Kingdom	2.28	0.03	—	0.03
United States	0.84	0.05	0.05	—

— = No data.

Source: *OECD, Employment Outlook* (Paris, July 1993), table 2.B.1.

Governments in countries with comprehensive and efficient systems of social support, basically the developed market economies, spend considerable amounts on disability benefits (for example, 6 per cent of GNP in the Netherlands, 3.5 per cent in Germany, 2.5 per cent in France).⁹ These costs have been growing. In the Netherlands, for example, public sector expenditure on disability benefits had increased fourfold in the 15 years up to the end of the 1980s.¹⁰ The main causes of this growth were:

- the increased size of the workforce, partly owing to increased female participation;
- a change in age distribution;
- increases in unemployment;

⁸ *Social security and disability*, ILO, Geneva, 1981, No. 17, p. 12.

⁹ *European Industrial Relations Review*, No. 234, op. cit.

¹⁰ *Social security and disability*, International Social Security Association, Geneva, p. 31.

- the fact that legislation does not provide for any fixed or quantitative criteria for defining disability;
- general increases in work pressure and stress;
- the absence of adequate arrangements for getting partly disabled people back to work.

In the United Kingdom spending on disability benefits had grown by 5.8 per cent in real terms between 1978-79 and the end of the 1980s. In many countries these payments are untaxed and granted virtually for ever.¹¹ This is probably why the issue of labour market integration has attracted so much attention lately. Integrating people with disabilities into the workforce can greatly reduce the burden of disability benefits on governments.

In some countries participation in the national disability pension scheme requires people to be incapable of pursuing an occupation. The Canada Pension Plan (CPP), for example, has been criticized by some observers for discouraging people with disabilities from attempting to seek either vocational rehabilitation or a return to work by other means, even for a trial period. In fact, vocational training in these circumstances means the loss of CPP benefits. An additional problem is that the process of labelling someone as “unemployable” so that they can receive benefits has a tendency to lower expectations and self-esteem on the part of the recipient. Finally, ancillary benefits such as payment for prescription drugs or health insurance may depend upon continuing eligibility under the main scheme. People receiving CPP disability benefits, or analogous benefits in other countries, tend, therefore, to remain fixed in a permanent state of dependency, notwithstanding their own motivation for training or the existence of job possibilities.¹²

Programmes for people with disabilities constitute a second large item of government expenditure on labour markets. There are considerable differences in spending between those countries for which data are available. Denmark, Germany, Norway and Sweden spend above average amounts overall on labour market measures for people with disabilities. France and the United Kingdom devote all their resources to work for the disabled programmes rather than vocational rehabilitation, whereas Greece, Ireland, Japan and the United States take the opposite approach. Data on public expenditure on labour market programmes for workers with disabilities from some industrialized countries can be found in table 1.

Data are also available on some of the transition economies. Under their former central planning system, employment of people with disabilities was considered to be “one of the principal social services available to them”. Disability was considered mainly in terms of ability to work. At that time, cost-effectiveness was hardly an issue since the economies of these countries were not market-oriented and cost-effectiveness played only a marginal role, if any. Large groups of workers with disabilities were employed, for example, in special establishments (we would now call them “sheltered enterprises”). Of course, the experience of these planned economies is of much less relevance to us now because of the change in socio-economic system in these countries. We can only state that under transition to a market-oriented system the methods that were formerly used to integrate people with disabilities have failed grossly. In

¹¹ *The Economist* (London), 16 October 1993, p. 37.

¹² Carl Raskin: “Employment equity for disabled”, in *International Labour Review* (ILO, Geneva), 1994, Vol. 133, No. 1, p. 85.

Russia, for example, in 1991-92, total employment of workers with disabilities declined by about 40 per cent.¹³

It is interesting to note, however, that the Czech and Slovak Republics, Poland and Rumania are now spending relatively more in percentage terms, as compared to developed market economies as a whole, on labour market programmes and policies for workers with disabilities. The share of government expenditure going to support labour market policies for people with disabilities in Central and Eastern European countries increased particularly between 1991 and 1992 (table 2).

There are fewer data available on analogous indicators for developing countries. In any case, these countries have less developed social safety nets than either the developed or the transition economies. This means that workers with disabilities in these countries tend to rely more on returning to work in some form of self-employment, or on family aid, than on social transfers.

Table 2. Growth of expenditure on labour market measures for people with disabilities, Central and Eastern Europe, 1991-92(% of labour market expenditure)

Measures for workers with disabilities %	Bulgaria		Czech and Slovak Republics		Rumania	
	1991	1992	1991	1992	1991	1992
	less than 0.1	0.4	0.5	1.4	1.8	3.3

Source: *Employment Observatory. Central & Eastern Europe*, No. 4, 1993, Brussels, "Alphametrics".

Most support programmes for workers with disabilities are of a financial nature; they provide "incentives" in the form of either tax breaks or direct transfers. These are nearly always to compensate employers for lost production, and the costs are borne by governments. It is only rarely that financial support is extended to employees with disabilities themselves rather than to employers, for instance to buy tools or hire special transport, or even to provide start-up credit to launch a business. (However, it is this type of support that is probably most needed by workers with disabilities in developing countries.) Support programmes generally aim to provide compensation for loss in productivity, encouragement to hire workers with disabilities, and compensation for workplace adaptations. They also boost the morale of workers with disabilities, who thus have a chance to be treated as equals with other workers in the labour market.

The costs involved in making workers with disabilities employable start with rehabilitation, either for special jobs (in "sheltered employment"), or for "mainstream" employment. Resort to wage subsidies and supported employment is normal if the aim is to find mainstream employment for workers with disabilities. Obviously, labour market programmes for workers with disabilities increase labour costs but, contrary to popular opinion, workplace adaptations for people with disabilities, for example, are not expensive. The average cost of equipment supplied under the Special Aids to Employment Scheme in the United Kingdom, for

¹³ L. Chikanova and P. Smirnov: *The disabled workers in Russia*, paper prepared for the ILO-CEET, July 1993, p. 17.

instance, is £906 for all recipients and £1,373 for blind workers.¹⁴ In Canada, analogous costs are in most cases also quite low, probably no more than a few hundred dollars.¹⁵

Employment of people with disabilities thus has its costs. It must be remembered, however, that costs, although on a lower scale, are also involved in providing jobs for, or making employable, workers without disabilities. Providing training or retraining for the unemployed; employment subsidies to firms agreeing to take on long-term unemployed (“Restart”-type programmes); retraining vouchers for school leavers, and other labour market programmes – all have their costs. In this sense, society does not have to differentiate between workers with disabilities and able-bodied workers. It is true, however, that the level of costs involved can be different.

It follows from the above that the overall effectiveness of policies and programmes for workers with disabilities depends on the extent to which payments of disability benefits can be reduced without sacrificing the target of social protection for people with disabilities. It is vital that employment and labour market programmes for people with disabilities should be run as cost-effectively as possible, thus making workers with disabilities efficient contributors to society.

2.3.2 Specific employers’ costs

Employers are often prejudiced against employing people with disabilities as they assume that their disabilities will limit their work capacity. Employment of people with disabilities should be economically neutral to the employer. Employers are unlikely to take a socially responsible and favourable attitude towards workers with disabilities if a drop in profit is the consequence of employing a disabled person.¹⁶ Existing programmes should help increase employers’ awareness that workers with disabilities can be as productive as others, and such programmes are not so costly as one might imagine.

Employers do not pay disability benefits to workers; that is the responsibility of governments. To employers the main extra costs in relation to employing workers with disabilities are those associated with the possible loss of productivity and the costs of accommodating workers with disabilities, which are normally one-off and, as a rule, not high. The loss in productivity can be dealt with by providing employers with wage subsidies to make up for the fall in productivity, in the majority of cases on a temporary basis. Employers can also be compensated partially or totally for accommodation costs. The authorities can shoulder the expenses incurred in connection with trial periods for workers with disabilities, including extra costs for interviews; they can cover the cost of special transport to and from work, or compensate employers for social contributions paid in relation to the employment of workers with disabilities.

“Reasonable accommodation” for workers with disabilities, as enshrined in the legislation of a number of countries, means “the tailoring of a work rule, practice, condition or requirement to the specific needs of an individual or a group. As its core is some degree of differential

¹⁴ *Employment Gazette* (London), September 1993, p. 434.

¹⁵ Raskin, “Employment equity for disabled”, p. 84.

¹⁶ OECD: *Disabled youth and employment* (Paris, 1994), p.134.

treatment.” In practice it encompasses every form of adjustment, from work rule to physical changes to a workstation.¹⁷

People with disabilities may alternatively wish to launch their own business. The computer technology of the late 1980s and early 1990s not only helps make it possible for workers with disabilities to be employed cost-effectively (such opportunities have been available from the late 1970s and early 1980s, in line with trends in technological development); it also assists them in becoming successful entrepreneurs. Many people with disabilities manage businesses in such fields as financial services, database entry, graphic design, architecture and desktop publishing. Using personal computers, people with disabilities can read, write, do research and interact with other people in much more sophisticated ways than previously.

2.3.3 Costs impacts of the legal framework

General disability legislation

The legislation in force in a particular country affects greatly the whole issue of the cost-effectiveness of providing employment for workers with disabilities. Countries allocate resources according to the prevailing legal norms pertaining to various aspects of employment and labour market policies and programmes. Hence, these legal norms can either enhance or decrease the effectiveness of policies and programmes for workers with disabilities.

It was the ILO that first put forward international labour standards for workers with disabilities. Apart from providing compensation and social protection – passive measures – these made disability one aspect of labour market policy. Just as there are labour market policies for other disadvantaged groups of workers such as women, young people, the long-term unemployed and older workers, so there are now labour market policies and programmes for workers with disabilities. The primary goal of such policies and programmes is equality of treatment and opportunity; this can be achieved by applying a mix of measures. These obviously entail costs but can in time lead to the achievement of the above goal. Importantly, the ILO’s approach towards any labour problem is distinguished by tripartism: involvement of both workers’ and employers’ organizations and government.

The first notable ILO instruments respecting workers with disabilities were adopted in the 1950s. Recommendation No. 99 of 1955, for example, for the first time in history emphasized the integration of workers with disabilities in the work process. ILO Convention No. 159 concerning vocational rehabilitation and employment (people with disabilities) and Recommendation No. 168 stipulate, amongst other things, that employers’ and workers’ organizations, together with governments and organizations of people with disabilities, share responsibility for helping people with disabilities to realize their rights. The international standards support the right of people with disabilities to appropriate training and employment, not only in specialized institutions (sheltered employment) but alongside non-disabled workers in open employment (the mainstream).

Some countries have already institutionalized the principle of equal opportunity, which implies that the same opportunities are afforded to all potential and existing employees regardless of their individual characteristics, including disability. Convention No. 159 provides, among other things, for the promotion of employment opportunities for people with disabilities

¹⁷ Raskin: “Employment equity for disabled”, p. 84.

in the open labour market. Complying with this requirement has its costs, which governments have to bear.

However, even if countries have not ratified ILO Convention No. 159, their internal legislation in respect of workers with disabilities may involve costs. The recent US Americans with Disabilities Act (ADA), for example, is probably the most far-reaching legislation of the kind. Employers may not refuse a job to a qualified person because of his or her disability, and within reason they are required to alter the workplace to meet the needs of employees with disabilities.¹⁸ However, the principle of equal opportunities for workers with disabilities has not so far been implemented in many countries, developed or developing.

Legal procedures for the registration of people with disabilities also have an impact on cost-effectiveness, and these, too, vary widely among different countries. Some require registration primarily for social security benefit purposes, while in others workers with disabilities have employment-related advantages if they register with a body linked to the employment service. Diversity of practice exists in respect of legal protection too. This diversity may give rise to a query if the time has not come for the harmonization of procedures.

Quota systems

Compliance with a quota system for workers with disabilities may imply substantial costs for employers. Specific employment-related legislation exists among the developed countries – in particular in France, Germany, Italy, the Netherlands, Spain, Sweden and the United Kingdom – and relates to the establishment of a quota system, among other things. For data on quota systems in the European developed market economy countries, see table 3.

In a number of developed market economy countries not only do quotas exist but certain occupations are reserved for people with disabilities. In Italy, for instance, telephonists' jobs are reserved for blind people, and in the United Kingdom car park attendants and passenger electric lift attendants' posts are specifically reserved for workers with disabilities.¹⁹

Quotas can also be found in almost all Central and Eastern European countries, as well as in the countries of the former USSR. They normally range from 3 to 6 per cent. In these countries, particularly in the countries of the former USSR, quotas are more often applied to state sector enterprises, whereas in the developed market economy countries such quotas are often applied to both the private and the public sectors.

¹⁸ ACID: *Employment policies for people with disabilities* (Paris, 1992), p. 20.

¹⁹ *EIRR*, 175, August 1988, p. 18.

Table 3. Quota systems for workers with disabilities in some European developed market economy countries

Country	Quota system		Quota size % of manpower at establishments	Enforced		Public Private Both
	Yes	No		Yes	No	
Belgium	N		N/A	N/A		N/A
Denmark	N		N/A	N/A		N/A
France	Y		6 ¹	Y		Both
Germany, FR	Y		6	Y ⁽²⁾		Both
Greece	Y		2 ⁽³⁾	Y		Both
Ireland	Y		3	N		Pu
Italy	Y		15 ⁽⁴⁾	Y		Both
Luxembourg	Y		5 ⁽⁵⁾	Y		Both
Netherlands	Y		2-5 ⁽⁶⁾	Y		Both
Portugal	N		N/A	N/A		N/A
Spain	Y		2 ⁽⁷⁾	Y		Both
Sweden	N		N/A	N/A		N/A
United Kingdom	Y		3	Y		Pr

Source: N. Lunt and P. Thornton: *Employment policies for people with disabilities* (University of Thornton, Sheffield, 1993). *European Industrial Relations Review*, August 1988, No. 175, pp. 17-31.

N/A = Not applicable.

1. Quota size of 6 per cent for enterprises employing 20 or more workers was set to be achieved progressively, from 1988 to 1992.
2. Employers with a workforce of 16 or more are obliged to ensure that they employ "people with severe disabilities" under the quota.
3. For people with disabilities and "others" with special needs.
4. For organizations employing more than 35 people.
5. The quota size for public bodies. For the private sector the size of the quota has been made dependent on the number of employees.
6. A target to be achieved voluntarily in the first years of operation.
7. Applies to undertakings with more than 50 permanent workers.

The efficiency of quota systems is largely determined by whether or not the quota is enforced. If it is not enforced then it represents a kind of moral obligation for employers. In some transition economies, in Kazakhstan for example, quotas for workers with disabilities are part of a general quota for all "vulnerable groups" of workers. Partly because of this, such quotas have not proved very effective.

However, even if a quota is enforced it can be made flexible. For instance, employers who do not meet the quota can be allowed to make payments in proportion to the wages workers with disabilities would otherwise have been paid; these might take the form of levies, or direct transfers to sheltered enterprises. The levies can then be seen as a kind of tax employers pay for the right not to employ workers with disabilities. Some choose this option as they consider it a more cost-effective one. In some countries, particularly very large ones, the size of the quota can even be made dependent on the region, taking into account the employment situation for

workers with disabilities in the particular area. In some countries, non-compliance with the quota is punishable by fines, sometimes significant ones.

2.4 The benefit side of programmes for workers with disabilities

Benefits derived from programmes for workers with disabilities may be expressible in money terms but they may also be intangible. The tangible benefits to society obviously include the value added created by workers with disabilities now in productive employment, the “savings” on transfer payments to such workers, and the taxes paid by them on their new incomes from employment. Those who were caring for people with disabilities can be freed for other gainful activities. Total employment in a country, or in an area, can increase as a result of implementing employment programmes for workers with disabilities and unemployment consequently be reduced. Besides, a society which has managed to provide jobs for people with disabilities is a more equitable society.

For workers with disabilities themselves the benefit side can be represented in terms of higher incomes, reductions in disability as a result of rehabilitation and support, and intangible benefits such as the very fact of participating in the work process, greater self-esteem, an escape from idleness and poverty, and greater overall happiness.

Employers might gain from tapping into the “untapped reserve” of manpower represented by workers with disabilities whose talents can be used to the profit of the enterprise. They may also benefit from subsidies and co-financing schemes in respect of workers with disabilities, provided either by the government directly or by other agencies and public bodies.

3. Examples of cost-effectiveness assessments of various policy approaches for workers with disabilities

The world literature provides a number of assessments of the cost-effectiveness of policies and programmes for workers with disabilities. These include:

- sheltered employment in special worksites;
- employment promotion measures for workers with disabilities in the open, competitive labour market (supported employment);
- special schemes run by employment services;
- adaptation of jobs for people with disabilities as part of mainstreaming;
- quota systems;
- government assistance to employers towards social security contributions;
- wage subsidies paid in respect of workers with disabilities;
- community-based rehabilitation (CBR);
- financial support for people with disabilities who want to undertake training (government subsidies underwrite part or all of the costs of on-the-job training for people with disabilities).

These approaches will be considered one by one. Each would merit a book in itself. However, it is not our aim here to go into details but rather to focus on the issue of cost-effectiveness.

3.1 Vocational rehabilitation

The costs of rehabilitation programmes can be measured more easily than the costs of other programmes. Rehabilitation programmes treat and retrain workers with disabilities and return them to gainful activity. Ultimately the costs of rehabilitation are borne by the taxpayer. Rehabilitation not only helps workers with disabilities into gainful employment but it also relieves their former carers to resume their usual work and activities, thus reducing the cost of disability to society as a whole. The rehabilitated workers and their families gain from their increased earnings, minus any increase in tax liability and reduction in welfare benefits. Non-disabled people and their families gain because their tax liability is reduced, owing to the increase in the taxable earnings of rehabilitated workers and the reduced need to provide maintenance and medical, nursing or custodial care for people with disabilities.

Ideally, the economic benefits and costs of rehabilitation should be measured by comparing the level of national income, the value of housekeeping services, the value of other work done around the house, and the special costs of disability with what they would have been if rehabilitation had not occurred. The gross material gain to society would be the sum of these differences, measured over the lifetime of the rehabilitated worker and discounted to the present value. Similarly, the net material benefits and costs to each subgroup in society should ideally be measured by comparing the relative economic position of each of these groups with and without rehabilitation. Such comparisons can be approximated.²⁰

As studies have shown, each dollar spent on vocational rehabilitation sets or maintains in motion a stream of output of several dollars. In sum, funds that are expended on vocational rehabilitation programmes are repaid, on average, many times over.²¹ Rehabilitation can thus be considered a really cost-effective way of promoting the return to work and employment of people with disabilities.

3.2 Sheltered workshops or employment

Sheltered workshops or employment have for a long time been a very popular approach to the problem of providing work for people with disabilities. This form of protection provides long-term support to enable people with disabilities to train and work in non-competitive (because of low productivity) production establishments. The State does not normally expect financial gains from this. The effectiveness of sheltered employment can be measured in terms of the number of workers with severe disabilities who are placed in jobs and the reduction in unemployment benefits paid to them. This is the main impact of sheltered employment schemes, apart from workers' higher self-esteem and increased incomes as a result of being employed. As a rule, sheltered employment is organized for workers with severe disabilities.

Often workers applying for sheltered employment have to be registered as disabled. Sometimes productivity criteria are also applied. It may, for instance, be stipulated that workers' productivity must be in the range of 30 to 80 per cent of that of workers without disabilities employed under the same conditions. The fall in productivity can then be prejudged and accepted. However, there exist enormous differences among the practices of different countries.

²⁰ *The economics of vocational rehabilitation* (Johns Hopkins Press, Baltimore, US, 1965), pp. 59-60.

²¹ *Human resources*, Spring 1969, Vol. IV, No. 2, p. 243.

Leaving aside the positive consequences for the workers who are employed, sheltered employment is a debit article to the state budget. In relative terms, however, the number of workers in sheltered employment is not great. In the European Union as a whole, there are on average 2.3 workers in sheltered employment schemes per thousand of population.²² Some countries do not have such schemes at all, often because other approaches are preferred.

Although some differences in the methods of financing sheltered employment do exist, the resources mainly come from the State, most often from the Ministries of Public Health and Social Security. The government may sponsor local authorities or agencies to provide sheltered employment. In Sweden, for instance, there were 338 sheltered workshops in 1992 employing 30,400 workers with disabilities; in the United Kingdom there were 127 sheltered workshops run by local authorities or voluntary bodies but there were also 94 state-owned "Re-employ" factories employing 8,800 people with severe disabilities.²³ In Sweden, government contributions in 1990/91 equalled 109.6 per cent of wage costs (with ordinary wages paid), but in other countries public contributions per worker were far more modest.²⁴

Sheltered workshops can also include non-workers with disabilities to coach workers with disabilities. In countries where this occurs, either a special unit in the Department of Employment or an umbrella-type consortium is charged with coordination, to make assistance to sheltered enterprises more effective. In some cases, sheltered employment schemes are oriented towards workers with specific types of disability, for example people with learning disabilities. Workers in sheltered employment are paid wages on top of their disability pension. Sometimes it is stipulated that the level of wages cannot be lower than, for instance, 75 or 100 per cent of the minimum wage in that country.

The efficiency of sheltered employment can also be measured in terms of the extent to which it meets its targets. Sheltered employment has two obvious targets: first, to provide long-term shelter in the form of employment to people with disabilities, and, second, possibly to prepare these workers for entering the open labour market (rehabilitation and vocational training would also be involved here). Experience shows, however, that even if the first target is achieved, the second can hardly be regarded as realistic. Only a very small proportion of workers in sheltered employment find their way into a competitive labour market.

In many developed market economy countries most employees in sheltered employment continue to receive disability benefits. Even a considerable increase in workshop wages would thus have little effect on disposable income because it would be accompanied by cuts in benefits.²⁵ It should, however, be remembered that sheltered employment is mainly targeted at workers with severe disabilities, or workers with special types of disability.

A successful attempt to assess the cost-effectiveness of sheltered employment programmes by quantifying the net costs and flowbacks to the state budget was undertaken in the United Kingdom. The net outflow of funds from the exchequer in a world with sheltered employment was compared with the net outflow if sheltered employment had never existed. The displacement effect of the production in sheltered employment was taken into account too,

²² E. Samoy: *Sheltered employment in the European Community* (Leuven, 1992), p. 19.

²³ ACID, *op. cit.*, p. 33.

²⁴ *Ibid.*, p. 34.

²⁵ Samoy, *op. cit.*, p. 60.

at the rate of 50 per cent of the output of firms in the open economy; the productivity of workers with disabilities was taken to be 50 per cent of that of able-bodied workers in the same occupations in the open economy. The main message of the research was that "sheltered employment did have a net cost to the public purse". In addition, some income is forgone by able-bodied workers owing to the presence of sheltered employment, so the government loses out on taxes too. Net costs to the exchequer at 1986/87 prices per disabled worker were £3,000 for the financial year 1979/80 and £2,600 for the year 1986/87.²⁶

Despite the fact that these purely financial assessments are not positive, innovative forms of sheltered employment introduced recently do constitute a more cost-effective way of employing people with disabilities than the traditional approach to sheltered employment, and they are especially attractive to young people with disabilities. Under such schemes, flexible financial support is provided to make up for the deficit in performance, together with support from an outside agent to overcome particular problems as they arise. The wages paid are the same as those paid to the host's ordinary employees. The host pays according to the output, while the sponsor provides for the remainder up to 100 per cent.²⁷

To sum up, sheltered employment schemes are not profit-oriented, nor can financial gains reliably be expected from them. However, these schemes are efficient especially in promoting the employment of workers with severe disabilities, where other schemes might fail.

3.3 Supported employment for workers with disabilities

Supported employment is a relatively new but fast-spreading approach towards solving the employment problems of workers with disabilities. However, sufficient experience has been gained to enable us to judge its advantages and disadvantages as compared to the programmes previously described. The aim of supported employment is to systematically integrate men and women with disabilities into an open labour market with non-subsidized wages through the provision of extra assistance and supervision for different periods of time. It has taken, so far, the following forms: individual placements, enclaves (small units of people with disabilities working in a host company) and mobile work crews. Supported employment programmes are typically run by a municipal agency, a non-governmental organization or a university-affiliated programme. As in the United States (where there are some 1,400 such programmes), they can be funded by a combination of federal, state and local tax money.²⁸

Special schemes run by employment services help workers with restricted abilities to find and keep jobs. The UK "Access to Work" programme includes communication support for deaf people; adaptation of vehicles for getting to work; and the provision of support workers for workers with severe disabilities, mental illness or learning disabilities.²⁹ The scheme is open to employed, unemployed or self-employed workers who are eligible to register as disabled (with priority being given to those out of employment). The employers' responsibility would be to contribute up to half of the cost of help for employees who have worked for them for six months

²⁶ P. Dutton et al.: *The net exchequer costs of sheltered employment*, Research Paper No. 69, UK Department of Employment, London, April 1989.

²⁷ Samoy, op. cit., p. 43.

²⁸ A. Koenig and R. Schallock: "Supported employment: Equal opportunities for severely disabled men and women", in *International Labour Review* (ILO, Geneva), 1991, Vol. 130, No. 1, p. 23.

²⁹ *Employment Gazette* (London), July 1993, p. 299.

or more, with contributions limited to a certain level over a five-year period. Unemployed deaf people can also get help towards the cost of communication at job interviews.

It is evident from the research conducted so far that the taxpayer benefit-cost ratio – the ratio between the financial savings to the taxpayer (taxes paid by the people with disabilities now employed, reduced welfare payments, or “SSI reduction”, and reduced alternative programme costs) and the additional costs to the taxpayer (project expenses and the tax credits offered to employers who hire a person with severe disabilities) – can be favourable. Supported employment programmes can over time result in a significant return on investment. The data indicate, however, that start-up costs can be high; cost-efficiency is likely to be reached only by the third year of a project.³⁰ In the United States, in particular, research shows that these programmes, even in the initial high-cost phase, are markedly cheaper than traditional day centres, and especially than sheltered employment schemes.³¹ The costs associated with intensive workplace training in the first year of employment may be significant, but will decrease sharply thereafter. Subsequent “maintenance” costs in future years are likely to be low in most cases.³²

The study by Adam Pozner and Judith Hammond indicates that the supported employment model can be used effectively for people with disabilities other than learning disabilities. Agency costs vary in the United Kingdom between £1,000 and £5,000 per person supported within employment. The number of new people supported ranges between four and eight per employment agency staff member. Flowbacks to the government (the exchequer) from increased tax revenues plus savings in terms of reduced benefits payout may significantly offset agency programme costs.³³ Quite significant drops in usage of local day services by people with disabilities once in employment were also reported. Job retention was excellent: people remained in their posts for long periods of time.

Although these results are clear-cut, there is still a need for more longitudinal studies since there are indications in favour of the long-term cost-effectiveness of supported employment whose influence can be captured only over a long period of time.³⁴ One should also remember that benefit-cost analysis might include some parameters which are difficult to quantify in money terms.

OECD (Organization for Economic Cooperation and Development) experts have noted that supported employment seems to require more continuing assistance than had earlier been foreseen. To this, the answer is given that enabling people to be employed and to contribute to society is less onerous and adds more to the quality of life than maintaining people in institutions or complete dependence.³⁵ In addition, Patricia Noonan Walsh of St. Michael’s

³⁰ Ibid.

³¹ Samoy, *op. cit.*, p. 43.

³² *Employment Department Research Brief*, Moorfoot, Sheffield, October 1993.

³³ *An evaluation of supported employment initiatives for people with disabilities*, UK Department of Employment, Research Series No. 17, October 1993.

³⁴ Ibid.

³⁵ ACID: *Labour market policies for people with disabilities* (Paris, 1992), p. xiv.

House Research (Dublin) notes that "the running costs of most supported employment services are comparable with those of more traditional services".³⁶

Studies carried out in the United States, at Virginia Commonwealth University, testify to the effect that "the benefits to people with disabilities and also to society/taxpayers exceed the cost of support".³⁷

Supported employment is thus a cost-effective alternative to other more traditional approaches; it also reduces people's usage of and dependency upon day services.

3.4 Work preparation and adaptation of jobs and workplaces for people with disabilities

Work preparation and adaptation of jobs for people with disabilities is a measure that can be applied both in sheltered and in supported employment, whether or not quotas are in use. Job opportunities for people with disabilities can be greatly enhanced through adaptation of the workplace, work tools, and equipment used in production to enable workers with disabilities to perform work tasks effectively. The costs of job adaptation can be very low, and it is a one-off expenditure.

Adaptation comprises several stages. The first is job analysis, which involves consideration of the applicability of measures to non-disabled workers as well; different categories of impairment and disability; the possibilities of matching job demands and the working capacities of people with disabilities; applicability to a wide range of jobs in industry, public services and sheltered workshops; applicability for the prevention of occupational diseases; reliability of job analysis results. Benefit-cost calculations must also be made.³⁸ As noted above, job adaptation costs are usually very low. In this sense job adaptation can be a very effective and cost-efficient vehicle for the promotion of employment for workers with disabilities. Such adaptations can sometimes benefit non-disabled workers too.

3.5 Quota system versus affirmative action

As noted above, many countries, especially in Europe, operate a quota system whereby a certain proportion of jobs are reserved for people with disabilities. The efficiency of a quota system in promoting employment depends on whether and to what extent it is enforced and what sanctions are imposed when a quota is not met. In certain countries a quota represents a moral obligation only.

However, such schemes have weak points in any case. In particular, it is unlikely that all the jobs covered by the quota will be easy to offer to workers with disabilities. Hence job adaptation will be required, and this will increase the costs of compliance with the quota. Industrial establishments can opt out of the scheme by paying a levy. Funds collected in this way can be channelled to finance other labour market programmes for people with disabilities such as training/retraining or job adaptation in other sites.

³⁶ *The morning after innovation: Developing employment opportunities for people with intellectual disability in the 1990s* (Dublin, October 1993), p. 10.

³⁷ Annable, 1989, p. 58.

³⁸ *Adaptation of jobs and the employment for the disabled* (ILO, Geneva, 1984), pp. 6-7.

In Western Europe, quotas range from 2 per cent in Spain and Luxembourg to 15 per cent in Italy. In the United Kingdom, for example, employers with 20 or more employees are required (under the Disabled Person Employment Acts of 1944 and 1958) to have 3 per cent of their workforce made up of people registered as disabled (unless they have obtained an exemption permit from the Department of Employment). In addition, the employer must not terminate such workers' employment without "reasonable cause" if it means the quota will not be met.³⁹ By 1985, however, only 30 per cent of employers had achieved their 3 per cent quota.

Some countries, rather than specifying a quota, seek to attain an "equitable" workforce. This is the case in Canada, where 603,000 jobs are subject to jurisdiction under the Employment Equity Act.⁴⁰ In some other countries where there are no quota systems, for example the United States, a different approach is taken towards the employment of people with disabilities: non-discrimination and affirmative action. Reportedly, the annual administrative costs of carrying out an affirmative action programme amount to as little as US\$100 to US\$200 per person.⁴¹ However, although the costs of affirmative action are low, affirmative action programmes appear to be limited in their effectiveness in that they fail to promote representative hiring of people with disabilities at all levels. Some researchers have found that the progress recorded by firms covered by the affirmative action legislation is comparable to that found in firms not covered by the legislation. They have been unable to detect positive programme impacts in terms of either employment growth or hiring.⁴²

In the countries of the former Soviet Union quota levels seem to be relatively very high. In Russia, for example, where the quota for people with disabilities is 5 per cent, it has been calculated that meeting the quota would involve employing five and a half times more people with disabilities than the total number of disabled people now working, which is close to the total official figure for people with disabilities in the country, including children.

Obviously, the quota system in itself provides no protection against discrimination for workers with disabilities once the quota has been met. In addition, the quota per se does not have cost-effectiveness as a target; rather, it assists workers with disabilities into employment. Its efficiency seems to stop at that. Employers often regard the quota system as a burden. The very fact that some enterprises prefer to pay levies instead of hiring workers with disabilities provides a demonstration of this: having assessed the costs and benefits, enterprises have decided to "buy" the right to opt out of the quota system.

A further problem can arise if a country's quota system does not differentiate between the various types of disability. In these circumstances quota systems have been found to be most beneficial to the least disabled applicants. Companies tend to engage in "creaming" or the hiring of people with the least severe disabilities.⁴³ Some employers count as disabled people who have no real disadvantages.⁴⁴ While establishing sub-categories of people with disabilities for

³⁹ *European employment and industrial relations glossary: United Kingdom* (Sweet and Maxwell, London, 1991), p. 64.

⁴⁰ Raskin, op. cit., p. 25.

⁴¹ Raskin, Occasional paper for the ILO, 1994, p. 30.

⁴² Raskin, Occasional paper for the ILO, 1994, pp. 36-37.

⁴³ Baker, 1992, p. 66.

⁴⁴ Roehrer Institute, op. cit., p. 58.

reporting and monitoring purposes would result in increased programme costs, research into the effects of such monitoring indicate that an increase in equity could result.

The quota system has been widely used in some countries, especially in Europe, but it cannot in general be considered as a completely cost-effective instrument for the promotion of employment of workers with disabilities. Its main impact is to achieve higher levels of employment of workers with disabilities in an open environment, thus ensuring greater equity for people with disabilities in the labour market. Quota laws have been found to be only "partially successful" in achieving their objectives. However, they should be phased out as, and only as, individual rights and contractual relations are strengthened by essential legal and institutional reforms.⁴⁵

3.6 Wage subsidies

Wage subsidies act in two ways: first, they reduce effective wage costs to employers; second, they enhance the employability of people with disabilities who are seeking work. OECD experts have noted that, given the fact that wage subsidies are found in many countries, "the lack of evaluative efforts is striking". Crude evaluations in some instances consist of noting that a wage subsidy programme exists, and that the number of subsidized people with disabilities in employment increased during the period.⁴⁶ A number of developed market economies, in particular Australia and some Western European countries, have wage subsidy schemes. Subsidies are paid to employers that hire people with disabilities. Subsidies are meant to make up for the loss of productivity to the employer resulting from employing a worker with disabilities. A distinct feature of wage subsidies is that they are normally granted only for a fixed period. This period can last from several months to several years. Wage subsidies can be applied to the private sector or the public sector or both. As far as workers with disabilities themselves are concerned, wage subsidies increase their wages by closing the gap between the wage calculated according to the actual productivity of the worker concerned and the wage to which that worker is entitled by law.

The system used in Denmark, for example, comprises the so-called 40:60 regulation: when employees with disabilities are hired under this programme, the employer bears 60 per cent of the wage costs, while the remaining 40 per cent comes from public institutions (state, community). Once a year, the performance of employees with disabilities is assessed and the relationship between the wages actually earned and the state subsidy is refixed.⁴⁷

In Australia, under the "Jobstart" scheme, wage subsidies are available for up to 26 weeks to private sector employers who employ and improve the employment prospects of disadvantaged job seekers. The rates are flexible, depending on the age and relative disadvantage of job seekers. However, it has been found that the wage subsidy programme "does not appear to exert much influence on the level of job offers to people with disabilities. The main problem seems to be that the market for workers with disabilities is not price (and hence subsidy) elastic."⁴⁸ The experience concerning job retention after the withdrawal of wage

⁴⁵ *Disabled workers in Central and Eastern Europe* (Policy Manual) (ILO, Budapest, January 1994), p. 118.

⁴⁶ *Ibid.*, p. 24.

⁴⁷ "New semi-sheltered forms..." *Op. cit.*, p. DK 5.

⁴⁸ N. Lunt et al.: *Employment policies for disabled people*, UK Department of Employment, Research Series No. 16, 1993, p. 13.

subsidies is different among the countries using that scheme. Hiring practices, the level of subsidies, personal and other factors seem to play a role here.

Another analysis carried out in Australia has confirmed that subsidies do not exert much influence on the level of job offers to workers with disabilities – although wage subsidies are much more attractive to employers than the quota system in that the compulsion to employ associated with the quota system is removed, thus allowing employers to pursue their own employment policies.⁴⁹ It has also been found that subsidies have a limited effect: doubling the subsidy increases employment by only 30 per cent.⁵⁰ Hence, wage subsidies can be considered as an attractive (in terms of cost-effectiveness) solution only within a certain range of their levels, e.g. in terms of time and employment impact.

Results from a number of studies concerning the effectiveness of subsidy programmes in redistributing employment opportunities in favour of workers with disabilities indicate mixed results. Subsidy programmes are apt to stimulate the employment of “low-wage” workers; however, this may not reduce overall unemployment rates in the target group. The length of the subsidy also influences success. Employers are unlikely to respond to temporary wage subsidies if corollary adjustment costs are high. Moreover, being categorized as eligible for a wage subsidy may, depending upon the target group, have a negative impact on the individual’s chances of employment, if the potential employer perceives labour market deficiencies. In addition, subsidies that are based on total employment can create windfall profits for employers arising out of that part of employment that would have existed anyway, even without the subsidy. Finally, problems may arise with certain subsidy programmes that cover the expenses of training new employees. Unless the programme stipulates that newly hired workers must be retained, such a subsidy would encourage employers to “churn” workers through the firm. Hammermesh notes that one outcome of such a practice is people whose initial experience of employment is tainted with the failure to be retained. Moreover, in terms of cost-effectiveness,

The return on investment in on-the-job training depends on the nature of the production function in the training. Returns may be constant with respect to time spent on the job, or they may be first increasing and then decreasing. If, as seems plausible, there are increasing returns in the early phases of job tenure, churning could lower the average amount of training of the labour force the induced increase in turnover can be beneficial or detrimental depending upon the nature of production of on-the-job training. Increased turnover need not imply an improvement in the functioning of the labour market; a hiring subsidy can lower average tenure and reduce labour market efficiency.⁵¹

On a per participant and per project basis, the Individually Subsidized Job (ISJ) was found to be most cost-effective – and it is being suggested that this assessment is true not only for the quantitative element (benefit-cost) but also for the qualitative dimensions. The ISJ component, in that it consists of training options tailor-made to the needs of individuals, is also the one most closely linked to the private sector. It is successful in terms of employability and earnings outcomes for people with disabilities. Moreover, the ISJ, in being tailored to the needs of the individual, is the most specialized.⁵²

⁴⁹ “Wage subsidies for the disabled ..”, in *International Journal of Manpower*, Vol. 11, No. 1, pp. 20-22.

⁵⁰ Koenig and Schallock, op. cit.

⁵¹ Hammermesh, 1978, pp. 87-101.

⁵² Raskin, op. cit., p. 65.

3.7 Community-based rehabilitation (CBR)

The CBR approach received worldwide recognition with the adoption of the World Programme of Action for people with disabilities, the basic document of the UN Decade of the Disabled Person (1983-92). CBR techniques were developed by the ILO for Africa and Asia in particular. The CBR concept comprises mobile rehabilitation units (MRUs), community-based resource centres (CBRCs) and community-based co-operatives (CCOs). The community-based approach is cost-effective in the sense that it avoids the need for large, costly centres and institutions. Instead greater use is made of existing resources close to the homes of people with disabilities, both for providing training and for employment creation. Community-based programmes are especially amenable to the conditions of developing countries as they often favour informal sector employment. The traditional occupations of people with disabilities often yield a range of training and employment opportunities not available in a formal rehabilitation setting.⁵³

MRUs provide services to people with disabilities in remote areas to enhance their employability. The MRU visits areas once every two weeks, providing vocational assessment, counselling and intensive craft training. The CBRC provides a focal point in each community for vocational rehabilitation services with a view to facilitating the social integration of community members with disabilities. The training usually lasts for two months. The CCO is essentially a cooperative of workers with disabilities, self-managed and concerned primarily with the sale of its goods and services.

It was found that the MRU was the most cost-effective – taking into account per capita training costs and per capita income after training.⁵⁴ For the most part benefit-cost studies of vocational rehabilitation programmes have attempted to approximate “with and without” studies by comparing the earnings of programme users “before and after” receiving services or by comparing the earnings of programme users with those of applicants to the programme who did not receive services. The use of any approximated “with and without” comparisons has been strongly criticized by researchers.⁵⁵

3.8 Special programmes for disabled ex-combatants in developing countries

Because of various regional or ethnic armed conflicts witnessed in the world in the last decades, especially in the developing countries, there are great numbers of people with disabilities stemming from war. What is worse, the proportion of disabled ex-combatants in the population is growing in certain countries. Disability from war affects a disproportionately high share of the population in developing countries as compared with the world as a whole. Now this situation is spreading to Europe too, particularly to the regions that were formerly the USSR and Yugoslavia.

The majority of people disabled in war are men, who would usually be the principal breadwinners in developing countries. In Eritrea in 1993, for instance, 66 per cent of disabled ex-combatants were married people who had children to support. There are also a lot of young people or people in their prime age among the war disabled. However, many of these first took

⁵³ “Disability and employment in Asia”, op. cit., p. 13.

⁵⁴ *International Labour Review* (ILO, Geneva), 1989, Vol. 128, No. 4, pp. 499-504.

⁵⁵ W. Conley and John H. Noble Jr., in “Supported employment...”, Sycamore Publ. 1991, p. 281.

up arms when in their teenage years and continued fighting for 10 to 15 years or longer; this could easily be the case in Afghanistan, for example. Even before the war, Afghanistan was one of the least developed countries in the world. After a decade and a half of participation in hostilities, the combatants have no civilian trades or skills. Their only trade and occupation is to wage war. For them, a return to productive employment means starting work life from scratch – from rehabilitation to basic education and training to their first placement and employment. And Afghanistan is not an isolated case: there are other countries that rank among the poorest in terms of living standards, health, child mortality and environment that at the same time face enormous problems in enabling ex-combatants to return to employment. In most cases the problem is being tackled with the assistance of international organizations, since the national governments alone cannot shoulder the expenditure. This is the case with Angola, Afghanistan, Ethiopia, Eritrea and Namibia, for example.

Normally, major efforts are required to achieve the social and vocational rehabilitation of disabled ex-combatants prior to their training and placement, including, among other things, corrective surgery, provision of artificial limbs and physiotherapy. However, efforts to integrate disabled ex-combatants into mainstream employment are not often successful. A project on vocational skill training and employment creation for disabled Namibians, for example, found that of 240 former SWAPO (South-West Africa People's Organization) casualties who had received language, literacy and skills training, the majority still remained unemployed.⁵⁶

Where employment and labour market policies for disabled ex-combatants in developing countries have been successful, this has involved the elaboration of comprehensive national-level strategies. As in other instances, the issue of cost-effectiveness arises: more disabled from war could be provided with productive employment if more resources were available to governments or if scarce resources were more efficiently used. The policy here can be formulated as follows: "to bring about the maximum possible integration and participation of people with disabilities in the socio-economic development process, including full employment".⁵⁷

In some cases, special or sheltered enterprises for war disabled in developing countries are open not only to the ex-combatants themselves but also to members of their families, or to the families of those killed in action, who thus also enjoy a privileged status in the labour market; this can be witnessed in Iran, for instance. Sometimes a certain percentage of vacancies and posts in industry can be reserved for disabled ex-combatants. This is in effect a special quota, specifically for the war disabled; it is a measure that may be relevant to those countries in which the number of disabled ex-combatants is especially large.

Attempts have been made in some countries to go into the cost-effectiveness aspects of policies and programmes for disabled ex-combatants, including rehabilitation. The example of Ethiopia demonstrates the potential of comprehensive, community-based rehabilitation (CCBR) programmes, aimed at providing basic but appropriate rehabilitation services for people with disabilities in their own environments on a least cost basis. Such programmes make as much use as possible of services, facilities, materials and manpower already existing in the communities, and they train and deploy middle and lower echelon rehabilitation fieldworkers. The primary activities in the CCBR programmes are registration and needs assessment; production and

⁵⁶ ILO document *NAM/87/MO1/NOR* (Geneva, 1992), p. 16.

⁵⁷ ILO Project IRA/89/010, section IV, "Objectives".

supply of low-cost orthopaedic appliances; a rural vocational rehabilitation programme that feeds suitable trainees into the Ministry of Education community skills training centres; promotion of integrated education for children with disabilities; and provision of advice and counselling services to people with disabilities and their families. It has been clearly shown in Ethiopia that, given a stable and workable system of community organization on which to pin such efforts, CCBR is an effective and cost-efficient method of providing services to people with disabilities within their own communities; it is an essential adjunct to institution-based rehabilitation services.⁵⁸

In the developing countries, most opportunities for ex-combatants are in the informal sector, in self-employment, or in small production schemes. A cost-effective policy approach for the integration of disabled ex-combatants should contain an element of training to overcome bottlenecks between them and employment. There is likely to be a need for start-up capital, equipment, tools and materials. Duty-free imports of equipment and materials for organizations and establishments working for and with people with disabilities have been suggested as one means of increasing the effectiveness of their operations.

4. Conclusions

The issue of the cost-effectiveness of labour market policies for workers with disabilities is a relatively new concern, which has attracted more and more attention recently. Various policy approaches towards the employment of workers with disabilities have begun to be analysed from this point of view. Behind this lies a desire to achieve higher returns on investments and more efficient labour market functioning without sacrificing – but rather promoting – greater participation by and equity for workers with disabilities. Reconciling these targets is a difficult task but not an impossible one, since equity in its turn is leading to greater efficiency, and vice versa.

It should be kept in mind when considering the above programmes and policy approaches that often they are targeting people with specific types of disability, for example those with severe or less severe disabilities, blind people, or people with learning disabilities. That is why drawing any general, all-embracing conclusion from them could be dangerous. Hence, this paper does not recommend any preferred policy approach to be employed in all circumstances, or single out one that should never be used. Its aim is simply and straightforwardly to provide some initial guidance on cost-effectiveness aspects.

The report has benefited from research and analyses conducted both within and outside the ILO; it draws heavily on the conclusions and findings of these, as presented in section 3. However, it has now become even more evident that more longitudinal studies on the issue of the cost-effectiveness of labour market policies for workers with disabilities are needed to better assess the long-term impact of different policy measures. Such studies should preferably take into account the specific conditions existing in different groups of ILO member countries, such as developing and developed market economies. Relevant conditions might include the predominance of informal or formal employment in rural or urban areas, and the presence of developed or underdeveloped safety nets, including financial transfers to people with disabilities and unemployment benefit schemes. Such factors can have a significant effect on the outcomes of cost-effectiveness analysis. The above approach can respect the irreversible fact that the

⁵⁸ ILO: *Socio-economic integration of disabled ex-soldiers* (Geneva, 1992), p. 10.

absolute majority of workers with disabilities currently live, work or are seeking work in the so-called "Third World" countries. Available population growth global forecasts could only underline the need for this fact to be taken into account.

Policies and programmes for workers with disabilities, for example sheltered and supported employment and quota schemes, increase the employment of people with disabilities and enhance their position in the labour market. The review of research conducted so far shows that supported employment – trying systematically to integrate workers with disabilities into open employment alongside able-bodied workers – can best be recommended as really efficient in terms of costs and benefits. Over time it may be expected to result in significant returns on investment. Supported employment can be effectively used, in particular, for young workers and for people with other than learning disabilities.

This review has also confirmed that accommodation costs (job adaptation) for people with disabilities are usually very low, under US\$1,000 per person, notwithstanding fears of employers to the contrary. Accommodation costs are not, therefore, a major hindrance to the employment of workers with disabilities and are thus cost-effective.

As to the cost-effectiveness of sheltered employment, it has been assessed mainly as "a net cost to the public purse". Hence, if there is a choice, the general trend may be towards integration into the mainstream. However, sheltered employment is still used widely for workers with severe disabilities for whom finding mainstream employment might pose a problem, and it has been found efficient in this task. No other approach seems to have promoted the employment of workers with severe disabilities so efficiently.

Wage subsidy schemes have been found to be more attractive to employers than a quota system, since they do not entail any compulsion to employ workers with disabilities. Wage subsidies have been found to be cost-effective, but with certain limitations. On a per participant and per project basis, the Individually Subsidized Job (ISJ) has been found to be the most cost-effective of wage subsidy schemes, and one that is attractive to private employers. As to the quota system, in spite of its obvious drawbacks it is still in wide use in some regions of the world, especially in Europe, where it has been traditionally preferred.

In concluding, it should probably be stressed that future work on cost-effectiveness should ideally be based on a tripartite principle, since the interests of the State, employers, and all groups of workers are involved. More comprehensive and longitudinal studies of each programme would be welcome.