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ABSTRACT

The two papers in this document explain various options and modalities for UNEVOC (International Project on Technical and Vocational Education) Member States' financing of their individual systems of technical and vocational education and disseminating experiences in this area. "Financing Vocational Education and Training in Developing Countries" (Pradeep Bolita) provides a systematic overview of various modalities of public and private finance of technical and vocational education. It describes four of the more well-known financing mechanisms: public financing, enterprise financing, private and public sponsored financing, and international donor assistance. The advantages and disadvantages of each type are identified and policy implications indicated, with some country examples. "Financing Vocational Education: Concepts, Examples, and Tendencies" (David Atchoarena) draws conclusions from experience with various existing concepts of financing. It first reviews the main issues, such as cost sharing and subsidiarity; apprenticeship; privately financed institutional training; the use of earmarked taxation to finance training; and training funds. It then focuses on selected country experiences, illustrating different kinds of strategies and instruments involved in the financing of vocational education. These countries are highlighted: Brazil, Republic of Korea, Singapore, Mauritius, and Ivory Coast. A final chapter looks at future trends and variables affecting funding scheme options. (Each paper contains references.) (YLB)

UNEVOC

International Project on Technical and Vocational Education
Projet international pour l'enseignement technique et professionnel

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This document was prepared by UNESCO
in co-operation with the
Industrial Occupations Promotion Centre
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Under Programme Area C, one of the UNEVOC activities is to identify studies and documents, to publish them and to disseminate them to educational administrators, teacher educators, curriculum developers and other interested parties. It is in this context that the present study has been make the experiences and findings widely available to all those concerned.

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The Industrial Occupations Promotion Centre (ZGB) of the DSE offers advanced training in the field of vocational training. The 26 programmes aim to
- give more people in the developing countries access to vocational training opportunities,
- improve the efficiency of vocational training in the developing countries,
- support the introduction and further development of in-plant forms of vocational training in the sectors of industry, crafts and services,
- promote co-operation between school and in-plant vocational training agencies (dual approach),
- make it easier for target groups on the brink of poverty in the informal sector to set up their own business by undergoing crafts-oriented basic vocational training,
- support the processes of reform in the countries of Eastern Europe by promoting vocational training.

More information can be obtained from:
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Introduction

Technical and vocational education, according to UNESCO's Convention on Technical and Vocational Education,

> *"... refers to all forms and levels of the education process involving, in addition to general knowledge, the study of technologies and related sciences and the acquisition of practical skills, know-how, attitudes and understanding relating to occupations in the various sectors of economic and social life".*

It can be provided

> *"... in educational institutions or through co-operative programmes organised jointly by educational institutions, on the one hand, and industrial, agricultural, commercial or any other undertaking related to the world of work, on the other"*

Thus, technical and vocational education occurs in a large variety of structures and under various responsibilities, both in the public and in the private sector. As far as its financing is concerned, additional factors related to the socio-economic, political and administrative situations prevailing in respective countries, have to be taken into account.

This partially explains why UNESCO's Convention on Technical and Vocational Education, which covers extensive areas of technical and vocational education, such as, its objectives and principles, its contents, its structures, its development, its teaching staff, and its international co-operation, does not even touch upon the issue of financing technical and vocational education.

Financing, however, is as crucial an issue to technical and vocational education, as technical and vocational education itself is to human resources development in any country, no matter at what stage of development.

UNESCO can hardly supply its Member States with prescriptions for the financing of their individual systems of technical and vocational education. It can, however, explain various options and modalities, and disseminate experiences in this area that have been gathered from existing systems. It is to this end that UNESCO is disseminating the present documents. The first contribution, by Ms Pradeep BOLINA, provides a systematic overview of various modalities of public and private finance of technical and vocational education.[1] The second contribution, by Mr David ATCHOARENA, draws conclusions from experience with various existing concepts of financing.

This document has been prepared by UNEVOC Berlin in co-operation with the German Foundation for International Development (DSE) and UNESCO's International Institute for Educational Planning (IIEP).

It is hoped that it will stimulate the debate in Member States, and contribute to new and creative solutions to the pressing need for the effective financing of technical and vocational education.

Hans Krönner
Chief. UNEVOC Berlin

[1] Ms Bolina's contribution had previously been published by the German Foundation for International Development (DSE). Her text has been slightly edited; the table on page 51 has been updated in the light of recent data from the UNESCO Statistical Yearbook

Financing Vocational Education and Training in Developing Countries

by Pradeep BOLINA

Ms Pradeep BOLINA is Deputy Secretary in the Department of Economic Affairs of the Ministry of Finance. Before, she served at the Ministry of Human Resource Development. She has been a participant in the programme "Planning of Vocational Training Systems" of the German Foundation for International Development (DSE).[2]

1 Preface

This paper has been developed for the use of the participants of vocational training courses conducted by the Industrial Occupations Promotion Centre of the German Foundation for International Development in Mannheim. The participants, mainly in-service personnel, come from more than 100 countries representing vocational training centres, Ministries of Education and Labour and Non-Government Organisations. As the participants are involved at different levels in the planning and implementation of vocational education and training in their respective countries, the main aim of this paper is to create in them adequate awareness of how vocational education and training systems are financed. The manual is a simple readable document which could be of use to participants with varying levels of education.

In its preparation the Paper leans heavily on the works of Dennis Herschbach and Maria Ducci and draws upon the ideas and country experiences contained in books and articles on the subject written by other eminent educators and trainers.

This paper has been prepared under the general guidance of Mr H. Burk, Director of the Industrial Occupations Promotion Centre, and Dr M. Wallenborn.

2 Introduction

In almost all the countries in the world education is provided in both the public and the private sectors. A certain minimum level of education is necessary for a country to achieve economic growth. The allocation of resources to education varies in each country in accordance with its priorities but generally ranges from 3 to 8 % of the gross national product (GNP) (UNESCO, 1993).

The overall costs on education are on the increase. Developing countries are particularly hard hit due to the economic crisis. They need to improve productivity to enable them to compete in an era of rapid economic and technological change. This requires both capital investment and a workforce with the flexibility for acquiring new skills for new jobs. They are also faced with the challenge of meeting the requirements of the education sector, to fulfil the overall responsibility vested in the state for development of human resources. Governments cannot shift this responsibility as education confers benefits to the society at large. It can at best harness the support of the private sector, the community and individuals in its endeavour to reach its goals towards social and economic development of the country. While budgetary constraints are prevailing everywhere it is more severe in countries which have completely public financed education systems. Some of the reasons for the crisis in financing education are increase in demand for access to education, increase in teachers' salaries, inefficiency in the use of available resources, demographic growth creating additional demand for schooling facilities, unemployment of graduates, increase in the costs of land and buildings etc. Reform in financing has to come about by modifying financing modes. Some ways could be, that users should bear some part of the costs as entire public funding cannot be justified; more efficient management of funds, search for private financing, community and enterprise involvement, foreign aid.

As budget allocations from government sources for education get tighter, the squeeze on availability of funds for Vocational Education and Training (VET) is apparent in so far as VET is dependent on public funds. Costs on VET as compared with general education are also 2 to 3 times

[2] This text is a slightly modified version of: Problems of Financing Vocational Education and Training in Developing Countries, Training and Discussion Papers, published by the German Foundation for International Development (DSE), Industrial Occupations Promotion Centre, ISBN 3-924441-76-6, Mannheim 1994

higher as classes are small with instructor trainee ratios of 1:7 sometimes. This increases the unit teaching costs. Expenditure on equipment, infrastructure, consumables e.g. raw materials and spare parts is also much higher. It is then imperative to search for alternative means of financing. The challenge before policy makers is to introduce new and different ways of financing as well as to ensure that the resources which are available for VET are used more effectively.

Traditionally VET was provided by employers who paid lower wages and sometimes apprentices had to pay the employer. This was prevalent in many different countries. In Germany, approximately since the 12th century, a person was allowed to pursue a trade independently if he had finished the apprenticeship in a craft with a master. After apprenticeship he had to obtain professional experience as a journeyman. The master taught his apprentice and journeyman the knowledge of his trade. The craftsmen got united and formed guilds (craftsmen's organisations) and evolved a proper training system. The main responsibility for vocational training lay with the craftsmen's organisations and all conditions were regulated by the guild.

Traditional apprenticeship also existed in India for centuries. Even today in towns and villages it is a very common sight to observe an apprentice working with the master, learning by working on the job, all at a very early age. In the former times in India apprentices often lived with the master and there was a certain unity in living, learning and working. In the small by lanes of towns and cities in countries like Indonesia, Nepal, Bangladesh and India it is very common to see young apprentices in the age group of 10-20 years being trained by their employers e.g. the bicycle repair, the auto mechanics workshop. They go straight 'on the job'. Sometimes in the initial stages there is no payment. As they learn the work they begin to get a small wage. The costs are shared by the employer who provides the training and the worker who accepts low wages.

In the modern times the scenario has somewhat changed. Gradually governments have become more involved in VET especially in the last two decades. This is mainly to link vocational education and training with the social, economic and employment policies of the country. Public revenue for VET has assumed more importance. But owing to the economic crisis governments had to reduce the public budgets for education and this has a direct bearing on all sectors of education including VET. Serious attempts have to be made to find resources to supplement available funds. Every country has to assess its training needs and requirements in accordance with its goals and priorities and the prevailing socio-economic conditions. Thereafter strategies for financing VET have to be worked out and additional resources generated.

While governments are searching for new and alternative mechanisms, the private sector is being drawn in justifiably, for those who benefit must pay for it. The relevance of vocational education to the labour market requirements is crucial. As the employers become more involved in the actual provision of vocational education and training it will come closer to labour market needs influenced particularly by the rapid technological change.

Skill requirements have also become more complex. Vocational Training Institutes are set up with new and modern training methods being offered. This has naturally led to questions being raised about the costs of training and the mechanisms of financing it. It is difficult to estimate the exact costs on VET due to the complexities involved in the training systems, the absence of accurate accounts by employers and the productive work of the apprentices/trainees who accept lower wages and thereby offset part of the costs incurred. Nevertheless studies have concentrated on the total amount of funds allocated for VET and its adequacy. Mincer conducted a study as early as in

Abbreviations:

CONET	National Council for Technical Education, Argentina
INACAP	National Institute for Training, Chile
NGO	Non-Government Organisation
OTE	Technical Execution Organisation, Chile
SENA	National Training Service, Colombia
SENAEM	National Employment Secretariat, Chile
SENAI	National Service for Industrial Training, Brazil
SENATI	National Service for Apprenticeships and Industrial Employment, Peru
SENCE	National Service for Training and Employment; Chile
	Vocational Education and Training
	Vocational Training Institute

1958 on the costs of industrial training in USA. He estimated that the total opportunity cost of formal and informal vocational training was over US$ 16 billion in 1958 of which US$ 10 billion was the cost of training in private firms or corporate enterprises. 70 % of this was spent on informal 'on the job' training and 30 % on formal training (Mincer 1962). The costs on VET in the UK were also estimated, which put the total costs of education at £ 9.000 million per annum in Great Britain. Roughly the estimates out of this on VET would account for £ 3.000 million a year (Johnson 1979).

Even though the studies mentioned above show that a large volume of resources was used for VET in these countries, in many countries it is being consistently felt that not enough resources are provided for VET. This is particularly the case in developing countries which are experiencing a shortage of skilled manpower. Governments are therefore getting more concerned about financing of vocational training to meet the new and emerging labour market requirements.

Various financing strategies are practised in different parts of the world. Some of the more well known mechanisms for financing VET have been categorised in the following four types:
1. Public Financing
2. Enterprise Financing
3. Private and Public Sponsored Financing
4. International Donor Assistance.

In the following pages the four types of financing mechanisms have been described briefly with some country examples. The advantages and disadvantages of each type have also been identified and policy implications indicated.

3 Public financing

Traditionally vocational training was provided by employers who paid lower wages or no wages at all to the trainees. Employers did this if it increased productivity of workers. In many cases, government was only involved with standards of training.

Involvement of governments increased mainly to link vocational education and training more closely with social, economic and employment policies of the country. There was also a growing concern about distribution of training opportunities for the poorer and disadvantaged sections of the society.

Public Financing is provided through public revenue (government funds). When the State finances vocational training through public funds it is on the assumption that the ultimate responsibility for development of human resources for national development lies with the State.

Governments also intervene in the provision of vocational training to ensure social equity for the poor in the rural and urban informal sector. Public financed VET provides opportunities to persons who may otherwise have limited chances e.g. those from the deprived sections of the society.

In most countries the budget for VET from public sources is relatively small, ranging from 1 to 12 % of the current expenditure on education (UNESCO, 1993). A table indicating the total educational expenditure as percentage of GNP and the vocational expenditure as percentage of public current expenditure on education for some countries in each continent may be seen on page 51. The table shows the priority of governments to vocational education in budget allocations from public expenditure. A comparison can also be made of the provisions for education and particularly for vocational education in the developed countries vis-à-vis the developing countries.

Mostly public financed vocational training programmes are implemented in schools before employment is taken up. Non-formal training centres, pre-service and in-service training for Ministries also receive public funding.

Specialised vocational training institutions receive public funds mainly through subsidies, budget appropriations, tax incentives, financing of special programmes with special grants, financing of development projects, financing of supervisory bodies, fellowships for VET. In developing countries e.g. Pakistan, India and Thailand the main financial contribution for VET comes from public funds (government). Industry takes little part in contributing to vocational training institutes.

In cases of mixed funding, generally capital expenditure is provided by the governments and recurring expenditure is shared through other sources.

Public vocational training institutions generally offer courses which provide basic skills necessary in pre-service training. In Canada, manpower training programmes are offered in public institutions e.g. in colleges and vocational training centres.

3.1 Tax revenue

The major source of public funds is through tax revenue. Sometimes governments give grants to vocational training institutions which can raise some resources on its own. Such a grant is called matching grant as it makes it obligatory for the potential recipient to first raise some finances on its own. In USA, the Federal Government makes use of financing through matching grants and categorical aid. It gives about 6-8 % of the State and local contributions for public supported VET (Herschbach, 1993).

Categorical aid is given for a specific purpose to meet the special needs of certain target groups. It supplements funds which are provided for general purpose VET.

In many countries owing to a shortage of skilled manpower governments had to create proper vocational training systems for long term social returns of training, need for equal opportunities of training for those who are unable to pay costs of their training, and to promote national VET policies. Training institutions thus created were mainly financed by a general tax through compulsory contributions made by firms and enterprises, contributions from national treasury, co-financing agreements and sale of training services (Ducci, 1991).

When governments finance vocational training institutions they control the volume of resources allocated to VET in accordance with the priorities of the social and economic sectors (Ducci, 1991). They are also able to exercise control on the quality of the programmes.

The cost effectiveness of vocational training through public financing is said to be low as public training institutions are not very keen to evaluate the qualitative and quantitative training needs. In Argentina, CONET receives funding from the Ministry which has been declining over the years due to a reduction in the overall budget of the ministry. There are restrictions on CONET securing funds from other sources e.g. sale of services, international sources and this has led to a serious shortage of resources affecting the efficiency of the institution in maintenance of infrastructure and equipment and reduction in staff salaries (Ducci, 1991).

When public training institutions are expanded and do not get adequate finances correspondingly the quality of training may become poor. In Egypt government enrols more than half of upper secondary students in vocational schools to divert them from higher education. Open unemployment among graduates exceeds 35 %. In Bangladesh, Cameroon less than half of public trainees find wage employment in their trade. Public training has to respond to the demand in the labour market, only then can it become cost effective with good quality training leading to high placement rates (World Bank, 1991).

Public contributions are controlled by restrictive policies. Vocational training institutions which are dependent solely on public funds have the chance of becoming stagnant with a deterioration in their planning and efficiency. Sometimes subsidies to vocational training institutions are dependent on the good will of the government.

Many developing countries have highly centralised systems and major control is with the central government. When VET is financed through the State it controls the curriculum, certification, qualification of teachers (World Bank, 1988). In decentralised systems there is a sharing of power. A healthy policy is to allow communities and lower levels of government to have greater autonomy.

There should also be a balance between the resources controlled by the central government and those available to the lower levels of government.

3.2 Advantages and disadvantages

Advantages

- When government finances vocational training through public revenue it can co-ordinate the requirements in accordance with the demand projected in the economic and employment policies.
- Matching grants encourage local initiative as institutions wishing to receive grants from the government try to raise resources on their own.
- Categorial aid usually helps to implement change as it is given for a specific purpose or to meet the needs of specific target groups in the population.
- Through both these methods of financing, governments can share control and at the same time have part of the financial burden shared by others.
- In the initial stages, national training centres are said to develop better in centralised systems as the institutional capacities are not strong. But centralisation is not desirable when institutions become well developed. At that stage more autonomy is required.
- In public distribution systems there is more equity. Publicly financed vocational training systems offer opportunities to the poorer sections of the society. For them it may be the only opportunity to become trained.

Disadvantages

- Underfinancing. Shortage of resources for VET from public educational funds.
- Sometimes governments are under pressure to open more VET institutions even when resources are inadequate. This leads to implementation of programmes which are underfinanced and the quality of training may decline.
- Unreliable support. There are variations in the allocation of educational budgets. Funding fluctuates and VET programmes get affected.
- Sometimes new programmes receive substantial support. But priorities may change on account of political considerations.
- Unbalanced allocation of resources. Sometimes there is a larger investment in capital costs and not enough provision for recurrent expenses. Low salaries of teachers is found to adversely affect the quality of instruction and consequently student achievement may become low.
- In centralised systems there are high administrative costs, lack of flexibility and unresponsiveness to labour force requirements.
- The cost effectiveness of vocational training through public financing is found to be low in many countries as public training institutions are not very keen to evaluate the qualitative and quantitative training needs (Ducci, 1991).
- Rigidly prepared curricula in public institutions prevents them from responding to locally identified training needs.
- Public institutions are less able than private institutions to adjust training for the labour market in accordance with the rapidly changing technology.

3.3 Policy Implications

To be successful public training should concentrate on choosing appropriate objectives, improving market orientation and matching policies in accordance with labour market needs, using resources efficiently and diversifying sources of finance.

Public supported vocational training systems should be able to receive funding from local taxes, user fees and collaborative arrangements.

When Public Financing is the sole source of support to VET, institutions may face fluctuations in budget allocations. This can cause shortage of resources which may lead to low quality programmes with limited returns on investment.

In countries where the quality of vocational programmes is poor in public funded institutions, these programmes should be removed and available resources reallocated (Herschbach, 1993).

VET systems can be strengthened with complementary public funds from other sources and this can be done through programme reduction and resource reallocation.

Stability in provision of training facilities can come from long term financial support. Governments should adopt consistent policies required for removing inefficiencies.

Decentralisation helps through delegation of authority to lower levels. Training institutions with a board of representatives of employers, workers organisations and the government have better chances to discuss and adopt relevant and cost effective strategies for training.

4 Enterprise financing

The enterprise/company conducts the vocational training of its labour force directly and bears the entire costs of training.

Often enterprises finance a major part of the training but actual training occurs in specialised vocational training institutions.

Sometimes enterprises contribute a small amount of money to a central vocational training fund as taxes and these resources are used in different ways to finance training.

4.1 Single employer financing

Japan

Japan is well known for its vocational training organised within large private companies. Employers prefer to recruit fresh school leavers with general education and then provide them with continuous training within the enterprise.

The public sector is generally small. In 1980's it employed 3.6 % of the labour force (Inoue, 1985). Private industry employs 85 % of the labour force and is dominated mainly by large industrial companies.

Japanese people have a strong influence of culture derived from Buddhism, Confucianism and Shintoism which teaches them to achieve high standards through hard work and have lasting obligations to the school group, the family and the company (Lauglo, 1993).

Generally a person devotes his whole life to working in the same company. Most Japanese companies also recruit a workforce for life. Training is given on the assumption that employees will continue to work for the same company. In large companies which employ 30 % of the labour force employment for life is an important norm (McCormick, 1989).

...t large companies organise their own voca-...l training and the outlays for in-house vocational training are considered a part of the labour costs. Smaller companies with less resources rely on training facilities outside the company and are supported financially from proceeds of the unemployment insurance funds to which the government and employers contribute half and half. Enterprises can also pay to get membership of outside training organisations and can thus use their facilities for training of trainers.

Vocational training is also organised outside the companies in special vocational schools run by various Ministries. Private vocational schools offer courses of varying duration including day and evening courses. These schools get grants from the government if they are not run for profit.

Most technical training in companies takes place in close connection with production. Production engineers train a small group of workers who will use the latest technology and in turn these workers will further teach others in their work groups which are established for production purposes. As such the extra resources provided for training are sometimes much less than the training that actually takes place (McCormick, 1989).

Technical training also takes place through self study of manuals or through correspondence courses. These costs also do not fall on the employers. According to Dore and Sako (1987) if hourly wages were to be calculated for this contribution the total may exceed the training costs incurred by the industry. Sometimes companies also provide finances for self development of workers. Employees are highly motivated to upgrade their skills.

The government helps to finance and guide vocational training among small firms. But major companies do not rely on training done in government institutions. They also believe that employee training should be tailored to the requirements and conditions of each company (Pedder, 1989).

The Japan Industrial and Vocational Training Association (JIVTA) is the main organisation in Japan concerned with training within industry. It is a private association of employers and has a constitution and a budget supervised by the Ministry of International Trade and Industry.

JIVTA policy is developed by 1.000 company representatives of which 60 % are from large companies and 40 % from small companies. The government does not provide funding to JIVTA. 25 % of its budget is collected from membership fees and 75 % is generated from course fees. In the last 30 years JIVTA trained 30,000 persons as training leaders who in turn trained more than 1,000,000 trainees in their own industries. JIVTA has given a unique direction to the employers about an independent approach in vocational training (Pedder, 1989).

Employers consider training as an investment. They provide training in accordance with their own needs and this has resulted in developing effective policies.

Korea

In Korea the Basic Law for Vocational Training enforced in 1976 makes it mandatory for enterprises with over 300 employees to conduct in plant training. If they do not do so they pay a training levy based on a certain percentage of payroll costs ranging from 1 % to 3,9 %. Large companies have training budgets and consider training as an important investment. Apart from Japan, Korea is an important example of a country in the Asian region which is relying heavily on skills training in the enterprise. But small companies still rely on the public training system (Pedder, 1989).

4.2 Payroll tax

In Latin America payroll tax was generally used to support vocational training. In 1942, the Brazilian government levied a special tax on enterprises for offering compulsory technical training to apprentices and SENAI - the National Industrial Training Service - was founded. Colombia established SENA in 1957, Venezuela the INCE in 1959 and Peru set up SENATI in 1961. There was a close collaboration between the government, the employers and worker groups (Ducci, 1983).

In 1987, Vocational Training Institutes (VTI) in 12 Latin American countries enrolled more than 3 million persons equivalent to 37 % of total secondary school enrolments in the same countries (CINTERFOR/ILO, 1991).

Government usually assesses an annual levy of 1 2 % of the wage bill paid by the employers and sometimes even 3 %. In every country there are variations. Sometimes state enterprises and government bodies do not contribute. Sometimes smaller firms are exempt and larger firms pay more. Sometimes workers also pay, but most of the funds come from enterprises.

The range of training services include formal apprenticeships with classroom instruction, sandwich courses and training of instructors offered for technicians, supervisors and middle managers.

In UK the Industrial Training Act of 1964 aimed at increasing the amount of training in industry, improving its quality and redistributing costs more fairly. Through the levy grant all firms contributed towards costs of training which ranged from 1 % to over 3 % of the total wages and salaries. The system increased the quantity of training but the Industrial Training Boards and the Industrial Training Act came under criticism. The Training Act was replaced in 1974 by a selective levy grant system involving exemptions to small firms or those which provide enough training for their own labour needs. Levies were not compulsory but imposed on firms which provided no training or limited training (Woodhall, 1987).

In France there is a compulsory tax system of training funds and an apprenticeship tax so that all firms must pay a certain proportion of their total wages and salaries as a payroll tax, and these funds are used for financing vocational education.

In some countries governments provide subsidies to encourage training and the costs are met from general taxation. In Australia the Commonwealth Rebate for Apprenticeship Full Time Training (CRAFT) is a subsidy used for reimbursing employers for part of the costs of apprenticeship training (Woodhall, 1987).

In some of the Latin American countries the payroll taxes have been criticised. In Argentina the payroll tax was removed in 1981 as attempts were made to restructure public expenditures to cope with the economic crisis. In Brazil, the payroll tax has grown. But co-financing between the enterprises and VTIs is gaining more importance. In Colombia, on one side the payroll taxes have been questioned and on the other its application has been diversified (Ducci, 1991).

In Costa Rica although the payroll contribution increased from 1 % to 2 % in 1983, the surplus money was transferred to another fund and used for purposes other than vocational training. In Peru, SENATI has lowered payroll taxes and is trying to find funding from other sources (Ducci, 1991).

4.3 Tax rebates and credit schemes

In most regions other than Latin America, Tax Rebates or Tax Credit system is more frequently used. The principle is the same as Payroll Levies - those who benefit, pay the costs of training.

In Tax Rebates, a portion of the tax is returned to the firm as subsidy for training. In Singapore and Tunisia, the rebate is on the basis of costs incurred. In Nigeria and Zimbabwe it is in the form of grants to set up training systems.

In tax credit the firm reduces its tax bill by the value of training.

4.4 Ways in which tax is used

In Ivory Coast modern sector enterprises have to pay 1.2 % for continuing vocational training and 0.4 % for apprenticeship and initial training. Funds are managed by the Fund for Development of Vocational Training (FDFP) (Herschbach, 1993).

In Taiwan the small and medium sized firms took a keen interest for training in the enterprise. Firms get up to 80 % of training costs reimbursed (Herschbach, 1993).

Tax rebates for financing vocational training were prevalent in Argentina since 1981 and in Brazil and Chile since 1976. In 1975 the Brazilian Government passed a law for deduction in the form of income tax of juridical persons equal to twice the expenditure invested in vocational training and up to a ceiling of 10 % of taxable earnings. But after 10 years a review showed discouraging results. The impact was small. There was evidence that tax rebates were mainly being used by those enterprises which already had ambitious training programmes (Ducci, 1991).

In Argentina tax credit system was introduced by law in 1980. Enterprises were authorised to deduct from their taxes up to 8 per thousand of overall wages and salaries as expenditure on technical education and training of workers. CONET is in charge of the spending and issuing of certificates when enterprises pay their dues to the general tax department. The Argentine Construction Chamber set up a Vocational Training Centre and a support body called Caesar M. Toledo Training Centre Association. Firms which belong to the Chamber give their share of contributions to this Association which uses the funds for training (Ducci, 1991).

In Chile the National Training and Employment Service (SENCE) created in 1976 is mainly responsible for Vocational Training. Tax incentives to enterprises are the main source of financing. Implementing agencies conduct training which is supervised by SENCE (Ducci, 1991).

France has a very comprehensive system of financing vocational training (Herschbach, 1993). There is a combination of public supported pre-service training, enterprise supported in-service training and funds from the state, regional and local levels account for approximately 40 % of the total annual budget for all types of VET. The rest is financed by private enterprises.

There are 3 ways of financing in France:

a) General tax revenues used for supporting public and private secondary level pre-employment vocational education. Outlay for VET is about 1.5 % of the Gross Domestic Product (GDP).
b) Compulsory Apprenticeship Tax of about 0.6 % of a company's wage bill is used for initial training. Of this 0.1 % is kept by the government for training of youth between 16 - 25 years of age and 0.5 % is collected and administered by regional councils. If employers accept apprentices they do not pay tax. They can also pay fees to the institutions that organise courses or they can pay taxes directly to the government. In this way employers fulfil their obligations.
c) Compulsory in-service tax is applicable to all enterprises which have more than 9 employees. It is 1.2 % of each company's total wage bill. Employers can use 0.8 % of this for their own

in-house training. From the remaining amount 0.3 % is used for youth training and 0.1 % for training employees during paid training leave.

The French Training System has a large training industry and offers a variety of VET programmes. Government takes an active interest. It formulates policy, legal framework and monitors quality of training.

4.5 Vocational training funds

In many countries where employers are active participants in VET a Training Fund for financing vocational training has been set up. Tax contributions from the employers collected through payroll levies or subsidies from the government are transferred to the Training Fund.

In Zimbabwe companies by an Act of Law have to contribute 1 % of their wage bill to a central fund managed by the Ministry of Education and called Zimbabwe Manpower Development Fund (ZIMDEF). The fund is used for financing vocational training activities e.g. apprenticeship training for various categories of trainees, upgrading training of skilled workers. Also companies that provide 'on the job' training to apprentices can claim rebates from this fund at a prescribed rate.

Management of funds can be handled by the concerned Ministry, the employers association and the workers' unions. This is a useful way as such cooperation facilitates formulation of appropriate training policy.

Funds can be managed in the following ways (Atchoarena, 1993):

a) The "Fair Return" system of management
Every firm contributes to the Fund in accordance with legal provisions. After contributing, the firm has a right for a certain period of time, to refund an amount equivalent to its contribution and use it for training.

b) Mutualization
According to Atchoarena mutualization is a term used as the financial expression of the principal of solidarity. Under this system, the contributions from the companies are managed entirely by the Fund. The management of the Fund decides how much training is required from each firm. The firms do not have special claims. Some of the small firms may get more funds than their contributions and others may get less. Training activities are organised according to the target group and demand for training.

c) Drawing Rights
Every firm gets a drawing right which is a fraction of its contribution. The remaining amount is mutualised. Every firm retains a certain degree of autonomy and the Fund also has some reserves.

4.6 Advantages and disadvantages

Advantages

- When individual companies train their own work force such as in Japan they can tailor their requirements in accordance with the actual needs. This leads to effective management policies and avoids wastage of trained manpower.
- When training occurs alongside production it reduces the overall costs on training.
- Training and employment in one company or enterprise gives stability to the individual and to the company.
- A study of financing of vocational training in Latin America (Kingler & Reyes, 1978) indicated that payroll taxes proved to be an effective financing mechanism as it helped to create training institutions that are workable and good alternatives to traditional training systems.
- Payroll levies are found to be more successful in middle income countries. They are effective in addressing the training needs of large formal sector enterprises. Also effective in strengthening government, employers and labour cooperation (Inter-American Centre for Research and Documentation for Vocational Training, 1991).
- Payroll levies are shouldered by enterprises but part of the costs fall on workers in the form of lower wages. This leads to sharing of costs as workers subsidise their own training.
- Although training costs are high for the national training agencies but quality of training programmes is better and linked to employers needs.
- Larger enterprises benefit more through tax rebates and credits. In 1985, in Singapore all the firms with 200 or more employees applied for training grants in contrast to 25 % of firms with 50 employees or less. Firms which had 10

employees or less only 2.2 % applied for grants (Pang and Salome, 1986).

- Tax credits are more effective in matured or maturing economies.
- When seen from a broader perspective VTI's compete with each other to train manpower required by the enterprises. This encourages efficiency within the institutions.
- As the Vocational Training Fund observes the labour market closely and has regular interaction with business and industrial houses, it can influence the organisation of appropriate VET programmes in accordance with labour market demand.
- It can also influence the quality of training.
- As it negotiates funding of training with business and industrial houses, to an extent it effectively regulates industrial relations.
- Through the process of Mutualization the Fund can provide resources for training to small firms and enterprises which may not otherwise have enough access to training. As such it can offer equal training opportunities to firms.

Disadvantages

- Government officials try to regulate the independence of individual companies and this may create some policy problems.
- Companies try to recruit only the best students as trainees. This may cause social inequity.
- When training takes place only in one company there is absence of general certification. This affects labour mobilisation from one company to another.
- Companies may reduce training places to avoid costs if they do not make adequate profit.
- Payroll levies are found to be less effective in addressing the training requirement of small and medium sized employers, women, the workers and unemployed (Ducci, 1991). In small countries private sector is small, governments have less capacity to generate income, less administrative capability to collect payroll taxes and so they have not been successful.
- Payroll levies lead to firms reducing their self financed training activities. Taxes, in a sense crush the individual initiative and firms only train to fulfil the legal requirements (Bas and Castro, 1989).
- Payroll levies are often criticised. Governments divert some of the funds collected through levies to finance other programmes. Sometimes only 15 % is used to finance national training authorities. In Colombia SENA has to give 50 % of the revenues generated through payrolls to support formal public school vocational programmes (Cuervo and Van Steenwyk, 1986).
- In tax rebate and credit schemes high administrative costs are involved. Firms which would normally invest more have a tendency to reduce their effort to the bare minimum required by law. Sometimes reluctant firms organise poor training (Bas and Castro, 1989).
- In Brazil and Chile where some evaluations were made, tax rebates concentrated benefits on large enterprises in the more developed regions. Steps had to be taken to promote small and medium sized firms and associations (Ducci, 1991).
- Tax rebates ultimately imply that financing is by the State but the training imparted is by the enterprises. Although this leads to better coordination of the demand and supply of vocational training, sometimes the demand may not correspond to the real need.
- Tax credit schemes are less beneficial for low income countries as firms are not able to organise different types of training.
- The System of Mutualization may weaken the mechanism when in a difficult economic situation, many firms request the Fund to provide them resources at the same time (Atchoarena, 1993).
- Sometimes due to structural adjustment in the economies there is an expansion in the informal sector and a decline in the number of larger firms. This leads to reduction of tax contributions to the Fund and a shortage of available resources for vocational training. The Fund has to then search for alternative financing.
- It has been observed that sometimes the state makes use of the resources of the Training Fund for other purposes or it does not pay the Tax Revenue to which the Fund is entitled.
- Sometimes the Fund gets more occupied with banking functions and investing the resources it has collected rather than concentrating on development of training (Atchoarena, 1993).
- Experience has shown that with mutualization sometimes there is favouritism towards larger, more privileged firms and towards employees who are already well trained. These benefici-

aries are better placed to negotiate their demands and get away with more funds (Atchoarena, 1993).

4.7 Policy implications

While the single employer financing mechanism has been very successful in Japan there are strong cultural influences which contribute to this success. It is questionable whether in the absence of cultural traditions such as spending a whole lifetime in one company or lasting obligations to the school group, the family and the company, this system of individual company training could be as successful in other parts of the world.

In developing countries the responsibility for training cannot be left to the enterprises alone. The government has to organise and finance training alongside to ensure social equity. The deprived and poorer sections of the society need adequate opportunities for training and the enterprises may not necessarily cater to all these groups.

Payroll taxes help to develop training institutions in the initial stages when institutions are building their training capacity. But it takes time to create training capacities and this may lead to high costs and sometimes inefficiencies in management.

While National Training Agencies have been more successful in larger economies, the same success was not possible in low income countries due to factors such as restricted economies, weak management, less financial resources and high unit costs (Herschbach, 1993).

Use of tax rebates and credits creates a dynamic approach to training when enterprises are encouraged to become responsible for training, and is particularly good for retraining and upgrading but less effective for pre-employment training. It is used best with other systems of financing. Tax rebates are particularly advantageous to large employers who have good management systems (Herschbach, 1993).

When resources are diversified for creating a Training Fund, efforts should also be made to get additional funding from the state in the form of subsidies.

Sometimes Training Centres may be managed directly by the management of the Training Fund. Fees can then be introduced to support financing. Donor agencies and regional authorities can also help in the provision of resources (Atchoarena, 1993).

The Training Fund is an important mechanism of financing VET and can diversify its funding, depending on the quality of financial services it offers.

5 Private and public sponsored financing

Governments faced with a shortage of resources would like individuals, enterprises and non-government organisations (NGOs) to share the financial responsibility for VET.

5.1 Training fees

In some cases the entire operational costs are borne by the participants through payment of fees.

More commonly, employers or trainees bear part of the costs and government finances the remaining. Fees could be paid to the government or the training institution. In the informal sector the apprentices pay their master (Herschbach, 1993).

5.2 Fellowship, grants and loans

In most countries of the Latin American region, public financing is through fellowships and grants. The most important system of fellowships and grants is being implemented in Chile. The National Employment Secretariat (SENCE) administers a large system of training fellowships which are designed to offer training opportunities to unemployed young people, the poorer sections, the workers from informal sector and the handicapped. The system is a supplement to tax rebates. The agencies which execute the training programmes are called OTE's and they are supervised by the SENCE. From 1977 to 1987 SENCE provided training to 300.000 persons with fellowships and grants through 19.000 courses organised by different agencies. The courses were mainly short term ranging from 6 - 12 weeks and covering a wide range of occupations e.g. agriculture and live stock production, forestry, mining and trade. SENAEM has another training programme for training young people in the age group of 18 - 24 who do not have adequate access to programmes offered by enterprises based on their tax rebates (Ducci, 1991).

Loans can facilitate training for students coming from poor families if they have to pay for vocational training. But in many developing countries there is no formal system of loans for education (Psacharopoulos and Woodhall, 1985).

5.3 Sale of training / non training services

Training Institutes can generate income from the sale of services to public and private enterprises or through individual tuition services.

Some VTI's sell complete training packages to enterprises. Some firms may even buy services for setting up training units in their companies. INCAP, SENATI and SENAI in Latin America are well known for this (Ducci, 1991).

Some VTI's offer non-training services such as consultancies.

5.4 Co-financing agreements

In Argentina co-financing has been arranged with enterprises, communities and vocational schools. In Colombia, Brazil and Peru also co-financing is popular (Ducci, 1991).

When there is an agreement between different parties then availability of funds becomes assured and training can be related to the actual demand.

5.5 The German Dual System

In Germany more than two thirds of the 16 - 19 year olds receive training within the dual training system (Greinert, 1992).

The system is called dual because there are two places of learning - the vocational schools and the companies. The training is governed by training regulations of the Vocational Training Act, 1969.

The system offers a combination of training in vocational schools with learning and practical experience at the worksite. In a week, apprentices spend 1 or 2 days at the public vocational high schools where training in general subjects is [illegible]ed. The remaining part of the week is spent on the job in the firm/enterprise. Training is usually for three and a half years after which individuals get certification and are free to get jobs.

The dual system sets high standards of training which leads to high productivity and competitiveness of the labour force. This is why the workers and employees trained in the system are highly appreciated by the German society (Timmermann, 1993).

Expenditure on training is met by the state and the enterprise. School costs are provided by the State i.e. the Länder (Federal States) and local authorities from the public budget whereas the participating enterprise bears the cost of practical training or in-plant training. No company is obliged to provide training but it is evident from the number of companies that participate in dual training that they have economic benefit from training their own skilled workers.

The Federal Institute for Vocational Training, the institution of governance is totally funded from the federal budget. The chambers and training boards get their finances from levies on all member firms, specific fees from companies who demand services of the chambers and boards e.g. in counselling and examinations, and subsidies from state budgets for special activities. The firms/ enterprises finance training from their own resources by overrolling them onto the prices of goods and services sold in the market; shifting part of the costs on the taxpayer; returns from the training through the contribution of the trainees to productive work; sale of training to other firms (Timmermann, 1993)

Outlays for Vocational Education and Training were approximately 1.85 % of the GNP in 1992. Contributions by the public and private sector increased from 1980 to 1992, with the expenditure on vocational education and training, rising from DM 15.5 to DM 51.7 billion (Federal Ministry of Education and Science, 1993/94).

In 1985, the annual unit cost to a company was about DM 20,500 for all apprenticeable trades. Companies recovered a fair percentage of this from the work that the apprentice does and contributes to the production. The net cost to the firm was eventually DM 16,000 approximately (Gilardi and Schulz, 1989). The German Federal Institute for Vocational Training (BIBB) estimated for 1980 that the gross cost to a company was about DM 17,000 and the net cost was about DM 10,000. In 1991, the gross cost to a company rose to DM 29,573 with the net cost at about DM 17,862.

The cost surveys are however not completely representative as all training firms do not provide information and surveys in fact cover a small number of training firms. Other limitations are due to the structure of the in-plant training system. The value of the productive work of apprentices during in-plant training can only be estimated but cannot be exactly determined. It is also difficult to account for the actual staff costs of part-time instructors. But surveys do reflect accurately the trends in the levels of vocational training costs (Hegelheimer, 1986).

The German Federal Government has continued to make efforts to improve training financed by firms. In 1973 a programme was started to promote inter-firm training workshops aimed at improving training by small and medium firms which were already providing more than half the number of training places. For the first time federal aid was given to the dual system on a significant scale. It was intended to raise the places in inter-firm training workshops from 20.000 to 77.000. It entailed a total expenditure of DM 2.7 billion of which the federal government paid DM 1.7 billion, the Länder about DM 0.4 billion and the firms about DM 0.6 billion. Firms that benefited were mainly craft firms and some in the industry and agriculture.

Federal government also gave funds for vocational schools for special areas. In the late 1970's Länder gave financial aid to provide extra training places in firms to special groups such as girls, foreigners, the handicapped or apprentices from bankrupt firms (Schmidt, 1985).

In the dual system the federal government regulates the activities at the workplace through training regulations. Regional (Länder) governments work closely with the implementing agencies. There is need for constructive partnership between both.

In Germany, the dual system has proved flexible enough to offer a considerable number of training places even in times of economic difficulty. In large scale industry about 80 % of apprentices are subsequently employed by the company in which they trained (Raggatt, 1988). When large companies invest in the training of their future employees they feel confident that the skilled labour force would be of high quality and in accordance with their requirement.

In 1987, the ratio of youth to total unemployment rates in Germany was 1.1, while the average ratio for 14 other OECD countries was 1.9 (OECD, 1991). It would be reasonable to infer that apprenticeship system in Germany is an explanation for this pattern (Lauglo, 1993).

Financing by individual firms is a relatively efficient system and it is doubtful if better results could have been achieved in Germany with another financing system (Schmidt, 1985).

Among the developing countries, Jordan has successfully adapted the dual training system conducted by the Vocational Training Corporation. In large companies formal instruction as well as practical training is provided on site thereby reducing costs. In smaller firms, apprentices are given formal instruction one day a week at a training centre. Training in Jordan is effective because of co-operation between VTC and employing establishments, co-ordination of economic and training policy and centralised control. There are some problems too, such as inadequacy of off-site training. More vocational centres were required for theory work, so the costs went up. All students were also not successful in getting jobs as there are imbalances between the demand and supply of skilled manpower (Herschbach, 1993).

5.6 Production for profit

Money raising through productive work is widespread in primary and secondary schools. In vocational training programmes, while students learn they also produce. But a high percentage of costs cannot be offset through productive activities. Generally the most effective programmes are operated by NGOs which have greater flexibility. One would assume that the product which is best for the training institution to sell is training itself (Lauglo, 1993).

5.7 Apprenticeship

Apprenticeship is a way of combining practical experience with theory. Generally there is a formal contract between an employer and a trainee under which the trainee agrees to work for the employer in return for practical experience which makes him a skilled worker. He gets a small wage till he reaches the level of a skilled worker. Thus the tradition of financing apprenticeship involves sharing of costs between employers and trainees (Woodhall, 1987). In India companies are obliged under the provisions of the Apprentices Act to accept a certain percentage of trained technical people for apprenticeship ranging from a period of 1 - 2 years. The apprentices are paid a stipend by the company and the government on a sharing basis.

5.8 Paid educational leave

Another pattern of financing vocational and industrial education in some countries is the provision of paid educational leave. Employers continue to pay wages to employees while they receive part time or full time vocational education. In some countries e.g. France and Sweden there is legislation giving the right of paid educational leave to workers. In some other countries there are variations in the method of financing paid educational leave. A study in 1976 concluded that the system shifts the burden on the employers and creates many ambiguous situations. Almost all countries make the financing of educational leave the responsibility of the community. Therefore paid educational leave also becomes another way of distributing costs between the employers, workers and tax payers (Woodhall, 1987).

5.9 Non-governmental and voluntary organizations

The involvement of Non-Government Organisations (NGOs) and Voluntary Organisations in the implementation of VET is yet another way of cost sharing or financing of vocational programmes. Sometimes NGOs are charitable institutions working with the aim of upliftment of ...er and poorer sections of the society. Such ...utions may have their own infrastructure and when they come forward to participate in VET, they can be successful especially in conducting short term training programmes in the rural or urban informal sectors. At times they provide education and training entirely from their own resources and at other times they receive grants or subsidies from the government.

In developing countries, the involvement of the NGOs in vocational training is assuming greater importance as governments continue their search for partners to share costs on training. In India e.g. the Society for Rural Industrialisation in Ranchi Bihar is conducting vocational training courses related to rural technology for the poor tribal people of the local region. Grants are given by the central government and other agencies but the organisation has to bear responsibility for some part of the costs. Similarly there are many other agencies voluntarily engaged in educational and training activities.

In the Philippines too, the involvement of NGOs in the social development process of the country has gained momentum in the last few years. Dualtech has been offering vocational training in Manila and other parts of the Philippines through the dual system with the involvement of the companies. It started its activities in 1982 with contributions from the industry and donations from the Hanns Seidel Foundation in Germany.

Since 1990 Dualtech has become more independent in its financing by adopting the dual system through which there is a sharing of costs with the industry. A large number of students from the lower income group are trained and 15 % of the poorest students are given scholarships. The NGO tries to maximise its resources through optimum utilisation of existing facilities for training. When not in use for training, the facilities are used for commercial production on a small scale. In 1993 the organisation had an operating budget of $ 600,000, of which 95 % came from the industry and 5 % from the Hanns Seidel Foundation (Dualtech, 1993).10.

5.10 Advantages and disadvantages

Advantages

- Training fees enhance efficiency and contribute resources as well. Participants are likely to pay for training if it is of good quality and can bring personal benefits and high private rates of return.

- Fee level can control excessive demand as fees can be raised if there is more demand.
- If fees are high the quality may improve.
- Fees are found to be effective in financing short term training in the informal sector. Master craftsmen are paid small stipends for additional training which they give in approved sites. This is more economical than organised formal training (Herschbach, 1993).
- Loans are good for financing short term training.
- Sale of training services facilitate additional income for Vocational Training Institutes.
- Co-financing agreements raise the resource level of VTI's.
- Training can be organised in accordance with demand and therefore enhance training-employment linkages.
- Dual training system is beneficial to firms although cost figures are difficult to calculate due to hidden expenditures e.g. breakage and waste of materials, lower productivity of experienced workers who spend time in instructing apprentices. Work of apprentices also offsets costs.
- Dual system is an efficient system of financing by individual firms and it is doubtful if better results could be achieved in Germany with another financing system. From 1980 to 1984 the number of college graduates entering the dual system rose from 20,000 to 80,000 (Schmidt, 1985).
- Production for profit can offset a small percentage of costs. In low income countries school production may help to supply goods and services when there are shortages (Herschbach, 1993).
- Paid educational leave motivates the workers/ employees to upgrade their skill levels. Higher and more skills contribute to productivity.
- NGOs generally work for charitable causes contributing to the socio-economic development of the country. When they become involved in vocational training they take over the liability of financing some of the costs which would otherwise fall on the government.
- As they are highly motivated and often work for the upliftment of the poorer and weaker sections of the society, their contribution leads to social equity.
- They are mostly very successful in providing short term training.
- NGOs operating in the rural and urban informal sectors generally have a good knowledge of the local market. Thus they can effectively link training with the local employment requirement.
- Non-profit making NGOs generally have dedicated persons on their management. They are keenly engaged in offering good quality vocational training and can thus provide effective support to vocational training systems.

Disadvantages

- Fees affect poor students or the underprivileged as they may not get access to training.
- Training fees cannot fully support programme costs.
- If fee levels are too low it affects incentive to be responsive to students as the income from fees comprises only a small portion of the budget. In Sri Lanka the Foreman Training Institute recovers 10 % from fees paid by students and employers and government pays the remaining 90 %. The Institute is not concerned to observe economy measures, have a relevant curriculum and respond to market needs (Bressler and Hultin, 1987).
- Fellowship programmes can be expensive for governments as there are higher administrative and management costs (Herschbach, 1993).
- Fellowship programmes are subject to political interference.
- Loans involve problems of disbursements, collecting repayments and preventing defaults.
- Loans do not lead to greater equity as affluent students are in a better position to make use of them (Psacharopoulos and Woodhall, 1985).
- Too much emphasis on training services detract from the main function of Vocational Training Institutes which is vocational training.
- In the dual training system there can be imbalance between training demand and placement opportunities. To regulate imbalance, training workshops are set up in larger firms for supplementing on-the-job training. In countries which do not have a tradition of shared responsibility, dual system can be exploited by firms e.g. the firms can use trainees as cheap labour.

- Training by firms can meet only a part of the demand for training and cannot help to solve such problems as training of people with learning difficulties, language defects etc. (Schmidt, 1985).
- Sometimes institutions pay more attention to production activities than devoting time and effort to formal learning.
- As NGOs are not always subject to external scrutiny they may not maintain a high standard of training.
- They may also have problems of certification especially if they are very small organisations working in the rural or urban informal sectors.
- Sometimes NGOs may experience a shortage of resources. In such circumstances some of them are found to have an over dependence on foreign donors.

5.11 Policy implications

There are limits to which fees can be used to finance VET. Too much reliance on fees is not advisable as it cannot fully support training costs.

The most efficient way would be for governments to give subsidies to complement the use of fees.

Fees could be high enough to generate adequate income but not so high as to stifle the demand (Herschbach, 1993).

Fellowships are not effective in low income countries. The more affluent usually benefit more (Herschbach, 1993). The system of student loans is not very prevalent in developing countries.

While sale of training and non-training services could become a secondary source of income, it should not become the main objective of Vocational Training Institutes. The Institutes should primarily concentrate on development and provision of training.

Co-financing agreements raise the volume of resources available for vocational training. Institutes which have such agreements keep their courses updated and relevant to new technology (Ducci, 1991).

The dual system is an effective system of financing by individual firms. It is beneficial to firms, trainees and the society. The dual system involves collaborative financing with contributions from tax revenues, enterprises and the trainees. Mobilisation of additional resources is achieved as there are close links with enterprises and a rough balance between demand and supply. Training in the dual system is successful when there is a constructive collaboration between social partners and adequate potential for placement. Training is also less likely to be obsolete as close links with employers are maintained (Herschbach, 1993).

Production for profit is not a reliable way to generate a large amount of resources for formal VET programmes. Production activities in formal VET should be limited so that more time is spent on formal learning. Local institutions will also require some autonomy for introducing a curriculum shaped by local production requirements (Herschbach, 1993).

Paid educational leave is a good way to upgrade the skills of an employee. While the burden of financing may become shared, the system promotes motivation in the workers to enhance their skills and qualifications thereby contributing to productivity and economic growth.

In the developing countries the involvement of NGOs in vocational training is gradually assuming greater importance. They not only share the financial burden but some of them are known to work for the upliftment of the downtrodden and weaker sections of the society. Thus they support the vocational training systems by helping to equalise opportunity in training for all and contribute to the social developmental process. They should be encouraged to come forward in closer partnership with the governments in organising VET.

6 International donor assistance

Donor support plays a very important role in developing VET systems.

In many developing countries the large amount of international aid has contributed to the setting up of a base of training capacity. Infrastructure and facilities have been created, staff trained and instructional systems implemented through donor assistance. Mostly donors provide financial resources for capital costs and it is limited for short periods (Herschbach, 1993).

In the 1980's, international assistance to vocational and technical education and training averaged about $ 600 million annually of which the World Bank provided 45 %, bilateral agencies 30 % and other multilateral agencies 25 %. Approximately 40 % of multilateral assistance for education was used to support VET programmes. NGOs and private sources also made a sizeable contribution but the exact amount is not known (World Bank, 1991).

From 1963 to 1976, 40 % of lending for education by the World Bank was for VET at the secondary and post secondary levels. But evaluations conducted in the 1970's regarding cost effectiveness of vocational schooling especially diversified schools began to raise doubts. The World Bank lending then began to shift from diversified vocational education to centre based vocational training and development of national authorities (World Bank, 1991).

In Africa about 7 % of direct international aid goes to finance primary education, 40 % to secondary education and 17 % to VET. For every S 1 spent on a primary school pupil, S 11 is spent on a secondary school student and S 182 on a VET student (World Bank, 1988).

In Latin American countries much of the institutional infrastructure for VET was built through international donor assistance. A study of SENA in the 1970's showed that it had taken the maximum advantage of technical assistance offered by foreign governments and international organisations. The Brazilian SENAI at present benefits from assistance of nearly all countries of the EEC and Canada, Israel, Japan and USA (Ducci, 1991). In the beginning vocational training institutions sought international support for starting the Institution. Subsequently international resources tried to achieve the transfer of productive technology which would be appropriate for national development.

Among multinational donors a very high amount goes towards capital expenditures and among bilateral donors a greater share goes for technical assistance and overseas fellowships at the expense of support for recurrent costs (World Bank 1988).

6.1 Advantages and disadvantages

Advantages

- Donor assistance helps to set up vocational training institutions.
- In some of the low income countries, but for donor support, it may not be possible to create infrastructure required for VET.
- Donor assistance facilitates transfer of latest productive technology to low income countries which can stimulate economic growth.
- Donors provide technical assistance from countries which have been successful in vocational training.

Disadvantages

- VET systems require long term support as they take long periods to mature, sometimes decades. Donor assistance is generally short term, sometimes for a few years. Donor agencies generally do not make long term commitments. This limits the effectiveness of assistance as recipient countries are not able to make long term plans.
- Donor agencies like to fund capital expenditure as it is easier to calculate and measure. Capital investments such as newly constructed buildings are visible and proof of the contribution made by the donor and therefore said to have greater impact. Extensive facilities are thus built which may not get adequate recurrent support from governments because they do not have adequate resources (Herschbach, 1993).

6.2 Policy implications

Donor assistance is found to concentrate on capital costs creating large training facilities. Programmes cannot operate successfully without adequate support of recurrent expenditure by the host country. Therefore the size of the project to be funded by the donor and its duration should be based on the capacity of the recurrent funding available. Otherwise a project started with good intentions may start malfunctioning. The most successful donor projects are those which lay emphasis on strengthening the management and upgrading the quality of staff of training institutions (Herschbach, 1993).

Distortions should be avoided between over importance on capital expenditure as compared with recurrent costs. If initial investments are very extensive, countries may not be able to sustain VET institutions. When this happens the quality of the programmes in the institutions deteriorate and the project does not yield adequate return on the investment.

Donor assistance is most effective when a moderate level of finance is provided over a long period of time (Herschbach, 1993). Long term partnership with governments helps them in their efforts to build proper training facilities.

The host country should strengthen its essential systems so as to sustain the project long after the donor assistance is over.

7 Conclusion

Governments will continue to finance VET through public revenue as the overall responsibility for development of human resources in the country rests with it. Without adequate investment in education, it is almost impossible to promote development. Government support in financing VET will therefore continue to flow and remain the most reliable.

With diversification of financing mechanisms however, larger resources are available for creating more training opportunities. But the problems of financing VET cannot be solved entirely through diversification of resources. Efforts have to be made to better utilise available resources by removing existing inefficiencies, stricter accountability, improving organisational structures and proper application of new information technology. Vocational training systems should remain flexible with the ability to adapt to the changing social, economic and technological requirements of the country. To keep vocational training dynamic the following should be borne in mind:

- Public revenues are used mainly to finance pre-employment VET but pre-service and in-service VET is also being supported. Vocational Training Institutions funded through national budgets have more stability as there is a consistent flow resources and the institutions can plan its ining possibilities accordingly. When there is a reduction in the budget due to shortage in availability of overall resources it could affect the training programme in quantitative and qualitative terms.
- Single employer financing in Japan has proved very successful. However the strong cultural traditions prevalent in the Japanese society have in some measure contributed to making this training system the backbone of the growing economy. As a mechanism of financing it is highly recommended if it works as well in other parts of the world.
- Excessive dependence on payroll levies as an important financing mode has to change slowly. There has been criticism that taxes imposed on employers eventually discourage the demand for manpower. Payroll levies have however been effective in building national training capacity especially in middle income countries.
- Tax rebates have been effective in financing in service training and less effective in pre-employment training. Small and medium sized enterprises do not make much use of it.
- Fees can easily finance VET but there are limits on the amount of resources that can be generated. Fees are a better way to finance short term training.
- Fellowship and loans do not generally work in developing countries.
- Production for profit is effective in financing VET for poor youth, unemployed school leavers and disadvantaged adults. It works best in programmes operated by NGOs.
- While co-financing agreements are emerging as a popular method of generating resources, other sources of funding are required for providing financial stability. Agreements with firms and enterprises bring training institutions into closer contact with market requirements and with the emerging of new technology and bring better prospects of return. However generally, only those sectors which have enough resources can propose significant agreements (Ducci, 1991). Donations from the private sector in exchange for their involvement in the curriculum design of training programmes, and membership of governing boards can also be explored.
- The Dual System is an efficient system of financing by individual enterprises. Firms provide training voluntarily at their own expense as they believe it is the best way to train a skilled

workforce according to their requirement. They also demonstrate a social responsibility for training as a contribution to economic development. But it is not only the firm which invests in the trainee. The trainee does his share of work, thus to a certain degree offsetting the expenditure the firm incurs on him. The costs of vocational training also reduce the tax on the firm's profits.

- Although the dual system involves collaborative financing with contributions from tax revenues, enterprises and the trainees, it does not reduce much the overall tax burden on public revenues but the employers play a very crucial role in the training through apprenticeship. Training in the dual system is very successful when there is a constructive collaboration between social partners and adequate potential for placement. It is widely acknowledged that one of the reasons for the economic success of Germany is the vocational training of its labour force.
- involvement of NGOs in cost sharing for VET in developing countries is gaining momentum. Not only do these organisations bear a part of the financial liability but they are also known to work with a commitment for the socio-economic development of the country. Governments should try to bring forward more NGOs as partners in vocational training.
- Donor Assistance is a very important source of financing vocational training systems. It is effective in all types of VET programmes but it has its limitations. Generally building of institutional infrastructure is through support for capital expenditure. But donor assistance can cause inefficiencies if the project cycles are too short and the host country is not able to maintain the quality of the institution. Donor assistance should have long term development policies, resources should be concentrated and special attention should be paid to recurrent funding (Herschbach, 1993).

Vocational training systems should continue its search for generating additional resources through the public and private sector such as government subsidies, enrolment fees in the long term or contributions from associations and unions. They should maintain a certain proportion of income from payroll levies and use it effectively for encouraging co-financing with enterprises. They could include decentralised and local bodies in the sale of general services to adapt to the new requirements of the governments. They should also make use of non-monetary contributions in the form of equipment and new materials for the training centres which may be donated through agreements with business.

If vocational training systems are very large and programme activities cannot be adequately supported, it may be better to reduce the programmes and consolidate the existing resources and reallocate them appropriately. The important thing is effective management of the institution through a proper balance between capital and recurrent expenditures. All training components should be strengthened and emphasis should be on quality training. The management should work closely with the employers.

Diversification of resources is not easily possible in countries which have highly centralised systems with rigid controls. New ways of raising resources will require new working relationships with religious bodies, trade associations and that requires delegation of authority. Governments have to consider making these changes (Herschbach, 1993).

The economic situation in the country also affects the financing mechanism. In low income countries there is a shortage of resources in the Government. At the same time it is not possible to find many suitable alternatives to government funding. In the middle income countries there are greater possibilities for diversifying financing and experience has shown that it is possible to have different forms of vocational education and training.

Strategies for financing VET have to take into account the pattern of economic development. There is no optimal combination of financing. In most countries there is a need to diversify training and new ways of financing may lead to new ways of training. Attempts to diversify financing will ensure stability in the long term as it will reduce excessive dependence on a single source. If there is financial stability, it will lead to better quality VET programmes (Herschbach, 1993).

There is no single or universal solution for financing vocational training and no one method which can serve all sections of the society. There are many different limitations in every system. Questions about who should meet the costs, the employers, individuals or the government are raised from time to time. A World Bank study reviewed the literature on these questions and concluded that the survey eventually raised more questions than it answered and that there is no universal solution about the absolute effectiveness of any one method (Zymelman, 1976). A combination of funding leads to greater access in VET. Diversifying financing will create greater opportunities and improve the quality of training (Herschbach, 1993). Governments have to realise that funding from public revenue is not the only way to finance investment in vocational education and training. There should be a determination to involve employers, individuals and the local communities.

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Financing Vocational Education: Concepts, Examples and Tendencies

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1 Introduction

The financing of vocational education is of increasing concern to governments as well as, in many countries, to industry. This renewed interest is often due to adverse economic and financial conditions, but it is also linked to the search for cost-effectiveness in a context of intense international competition.

Over the past decade many countries have been forced to introduce economic adjustment and stabilisation policies. Such programmes have had serious effects on patterns by which governments finance education (Samoff, 1994). In many cases, adjustments led to drastic measures aimed at minimising government spending and transferring costs to other actors. This orthodox policy has not left vocational education unscathed. In this context, higher unit costs constitute an additional handicap in the financing of training.

It is difficult to measure the bulk of spending allocated to vocational education and training. Official data, such as those published by UNESCO, usually refer to central government expenditures, overlooking spending made by decentralised units, such as local governments which, in certain countries, may play a significant role in financing training. In addition, the integrated nature of secondary education in some systems does not allow for the easy differentiation between the vocational and general components. In fact, the lack of clear definitions makes it difficult to produce comparative data. Finally, a large share of investment in vocational education, by companies and individuals, often remains invisible. As data on the different sources of financing are not always recorded in an exact manner, it is possible that the overall financial effort involved in training is underestimated.

In a context of financial scarcity, vocational education has to provide clear evidence of economic and social returns. In many countries, such evidence is lacking, which is threatening the sustainability of the system and leading to a thorough questioning of vocational education. At the same time, in a period of high unemployment, political pressure to expand vocational education often becomes more intensive.

Vocational education has been an important component of international assistance to education (Middleton; Ziderman, 1993). However, project support has often been preferred to a more integrated sectoral approach. Recent shifts in international assistance seem to seek sustainability through a long- term strategic approach. Current directions include institutional capacity-building, strengthening private training and training by the employer, improving the management and efficiency of public institutions as well as their capacity to raise funds. At the same time, support for general secondary education seems to be considered as a priority for the fostering of flexibility, the increasing of "trainability" and the achievement of equity (Hallak, 1990).

Although the reference to so-called 'models' is frequent, the overall management and co-ordination of national training systems is quite varied, ranging from centralised planning to market-oriented regulation (Caillods, 1994). Similarly, financing training modes are very diverse and far more complicated than a simple choice between public spending and earmarked payroll taxes. Such a diversity, combined with the constant evolution of national systems, makes overall comparisons somehow difficult. However, it is worthwhile identifying and analysing the range of options available. With this in mind, this chapter reviews the main issues and focuses on selected country experiences, illustrating different kinds of

[4] This chapter is inspired by a study published in 1994 (Atchoarena, D.: Financement et régulation de la formation professionnelle: une analyse comparée, UNESCO/IIPE)

strategies and instruments involved in the financing of vocational education.

The assumption of this chapter is that funding policies for vocational education should not be considered as purely a combination of financial devices and mechanisms commanding the collection, allocation and spending of resources. They also reflect and have an impact on the distribution of authority throughout the system: controlling finance is always a major asset in influencing the decision-making process (Atchoarena, 1994). Furthermore, if one also considers that the training system must prove highly adaptable to economic, technological and organisational change, the financial participation of various kinds of partners and, in particular, industry, may not only increase the availability of funds but, eventually, have a positive impact on training volume and content.

2 Issues and policies

2.1 The emergence of new principles of government intervention: Cost sharing and subsidiarity

Wide recognition that the State can no longer assume alone the financial burden of vocational education has led to the development of new modes of government intervention such as cost-sharing and subsidiarity. The effort of governments to share the cost of education, including vocational education, with other members of society has now become a global phenomenon, affecting both developing countries and industrialised nations (Gasskov, 1994). Apart from being an expression of cold pragmatism - compensating for the decrease in government spending - cost sharing corresponds to the belief that the financial burden of education should be distributed among all beneficiaries (Birdsall, 1986)). Hence, employers and individuals who take advantage of higher productivity and income should contribute to the cost of vocational education.

Implementation of the cost-sharing principle has led to the introduction of a diversity of measures, such as student fees, employer sponsorship of trainees, technology-transfer grants and contracts from industry, sale of continuing education serv- sale of other products and services. Deferred ent through the use of loans has also been considered as a promising way of securing resources from students, based upon their future income. Although student loans have mainly been implemented at university level, such a system can be applied to other levels and forms of education, including post-secondary technical education.

Together with cost sharing, the principle of subsidiarity tends to become a central tenet in the clear definition of the respective roles and responsibilities of the various levels of government, including in public spending. In brief, subsidiarity holds that the central level should only control what cannot be done effectively at a lower level.

In the field of vocational education it seeks to uphold the local dimension of the training system or, at least, the relevance of training provision vis-à-vis the needs of local labour markets. Therefore, within a decentralised framework, financing training should be organised according to the principle of subsidiarity, the central state only supporting programmes that cannot be efficiently covered by lower entities, for instance, those considered to be critical for industrial development strategies or those aimed at vulnerable groups.

However, in practice, even assuming that local governments have a comparative advantage in providing training, the huge differences observed in tax base at this level would hardly ensure an adequate amount of finance. Hence, the central government may retain the role of harmonising funding in order to guaranty minimum standards across the country.

In spite of the far reaching implications of cost-sharing and subsidiarity, many economic justifications remain for the subsidising of vocational education services. First, benefits are not only captured by individuals, or firms, but have a spill-over effect on the entire society. Indeed, assuming that most initial training is transferable, vocational education may be considered as a quasi-collective good, just like general education. Secondly, economies of scale can only be achieved through providing services to a significant share of the population. Finally, in the absence of sufficient knowledge of the costs and benefits of alternative forms of education, it is doubtful whether individuals, or enterprises, are able to make the best decisions. This lack of information would then lead, at the macro level, to a state of under-investment in training.

In addition to the economic rationale, it is arguable that leaving the vocational education of the disadvantaged groups in society entirely to what they could buy on the open market would be socially unacceptable. Therefore, training for such groups must rely on public money, although other sources can also contribute.

2.2 Apprenticeship: Sharing training responsibilities and costs

In many countries, apprenticeship constituted the traditional way of educating the labour force for craft production. Progressively this training mode, which involved skills being imparted on-the-job by masters to young people, was transferred to industrialised business. Compared to other training modes, apprenticeship is characterised by its capacity not only to train but also to organise the process of transition of the young labour force to the labour market (Greffe, forthcoming).

Through apprenticeship, the cost of training is borne by the employers who, in turn, compensate for the poor productivity of new apprentices through low wages (below the marginal productivity rate). Therefore, in its traditional form, apprenticeship is a cheap way of training young people for the State, the cost being shared between the employers on one side and the apprentices, and their respective families, on the other.

Another advantage of apprenticeship remains in the way it adjusts, at least in theory, training provision to the needs of the enterprise, in accordance with business cycles. Therefore, it is often argued that this system ensures efficient resource allocation through market forces.

For all these reasons, largely brought to light by the popularity of the German dual-training system, apprenticeship features prominently in the international debate on vocational education (Timmermann, 1993). This is the case not only in industrialised economies but also in developing countries. In fact, this issue is marked by a strong current in favour of the introduction, modernisation or development of the apprenticeship system. However, the actual implementation of the 'model', in terms of the rationale inspiring it (training or employment policy) or the operational features (labour status, duration, wage rate, dual or company based etc.), differs widely from one place to another.

Considering such variations, the term 'apprentice' itself can be misleading. It is applied to very different activities and attainments across countries. As a result, the concept of apprenticeship, often equated to the term 'dual training', is, in fact, relatively vague, if not ambiguous.

Similarly, the term 'market financing', often used for apprenticeship, can be a source of misinterpretation. Although, in the theoretical model, training is financed, on one side by employers investing in apprentices' skill formation, and on the other side by individuals, the apprentices, and their respective families, accepting low wages and sometimes paying fees, contemporary apprenticeship combines market financing and public intervention. For instance, various legal instruments, such as fiscal or monetary incentives, often make it attractive for employers to take on apprentices. In addition, in systems based upon the concept of duality of training, centre or school-based training is usually financed out of general taxation.

Yet, the actual mechanisms being put in place to finance apprenticeship should not only be evaluated from the point of view of financing and training concerns but should also be seen within the framework of labour market policies.

2.3 The consumer rationale: Privately financed institutional training

Private institutions tend to make an increasing contribution to training. They constitute a very heterogeneous sector, difficult to define and to clearly delineate. Legal status, ownership, objectives, operations and, of course, financing are some of the criteria differentiating private vocational schools and training centres.

Tuition fees, paid by individuals or enterprises, usually represent a significant, if not a major source of income. However, in many countries, private institutions also benefit from government financial allocations and tax incentives. Institutions linked to NGOs may raise a significant share of their resources through donations.

It is arguable that private training institutions constitute a market-financed response to a growing social demand. Apart from reducing reliance on the state budget, it is hoped that the private sector can promote fair competition, eventually leading to cost reduction. Yet, the quality of training given by this sector varies immensely from one institution to the other. In fact, the variation in quality may be much wider within the private sector than for public institutions that have to meet certain standards. It is doubtful that this issue of quality control can be resolved by pure market mechanisms. In many countries, governments are developing information on training supply and trying to regulate the training market by introducing accreditation and monitoring mechanisms for private institutions.

Apart from the quality issue, private provision raises the question of access for low income groups. A fair system should make provision to grant financial assistance to students from the poorest families. Furthermore, past experience has shown that private institutions have a tendency to invest in 'cheap to teach' subjects, leaving programmes requiring heavy infrastructures to government. This short-term market rationale limits the capacity of the private sector to provide a viable alternative to public provision (De Moura Castro, 1995). Nevertheless, it can be a useful supplement to public structures and finances.

The market approach to vocational education does not only lead to the development of private institutions. It also has an impact on the way public institutions are managed and financed. In particular, it is argued that market incentives provide a better manner of allocating resources. Apart from the introduction of cost-recovery measures, this policy advocates giving institutions autonomy over programmes, admissions and financial resources. Increasing financial autonomy may also encourage public institutions to develop income-generating activities and seek local solidarity through strengthening links with businesses and communities in their environment. Besides attracting dona- in cash or kind, such a strategy is meant to improve the capacity of institutions to assess training needs at the local level.

Increasing accountability is usually the counterpart of more autonomy. In the context of a decentralised and competitive framework, institution managers are encouraged to move away progressively from the traditional pattern of basing budget estimates on allocations of previous years, in favour of a system based on performance.

Introducing the use of vouchers can offer an alternative way of allocating funds to training institutions (Herschbach, 1993). In line with the principle of consumer-paid services, this mode of intervention reflects a major shift towards a demand-driven formula. This funding arrangement, based on output rather than on input, requires, among other things, that individuals and enterprises be fully informed of the programmes of institutions and their performance. However, their large scale use would introduce instability and eventually threaten the sustainability of the training system.

Whatever the mechanism might be, the allocation of public money to institutions enjoying greater autonomy inevitably raises the issue of control. The market-feedback system is often said to be the most effective. Nevertheless, some reservations can be made concerning its reliability, taking into consideration the information problem and the need to follow certain national objectives, such as the promotion of labour mobility or giving priority to specific groups.

2.4 The use of earmarked taxation to finance training

International data tend to show that, although general taxation still represents, in most instances, a major source of funding, especially for initial training, earmarked taxation now constitutes a significant option. It usually takes the form of a payroll tax and finds its justification in the equity principle, which stipulates that enterprises should be responsible for the cost of the education which is of direct benefit to them (Whalley; Ziderman, 1989, 1990).

Although the human capital theory indicates that enterprises benefit from investment in training, they may actually underinvest due to the so-called 'poaching effect'. This phenomenon, also described as a 'free-rider issue', reflects the fact that some 'smart' employers, rather than investing in training, prefer hiring ('poaching') workers that have been trained by a competitor. Eventually, this risk may discourage employers from training their employees beyond enterprise-specific skills, resulting in an overall underinvestment in human capital. Correcting such a 'market failure' requires State intervention, such as introducing a payroll tax to finance transferable training.

Subject to renewed interest, payroll taxes cannot be considered as a financial innovation: let's remember that they were first introduced in Brazil in the early 1940s. Their great potential for expanding the tax base under which training is financed explains the wide dissemination of training levies and their adaptation to various national conditions in developing as well as in developed countries, notably in Europe (Drake; Germe, 1995).

Financing systems based upon payroll taxes are often classified into two groups (Whalley; Ziderman, op. cit.): the revenue-raising schemes, and the levy grant or rebate schemes. Each type corresponds to a different objective. Revenue-raising schemes are usually implemented to finance the establishment of a training system (the so-called 'Latin-American model'). Levy grant, or rebate schemes, constitute incentives to employers to develop in-service training. Incentives can either take the form of reimbursement of part of the training cost, exemption of the training levy or a rebate in company tax.

According to the country, available data indicate that the rate of the levy varies from 0.5 % to 4 % of the payroll. In some cases, it also changes according to sectors of the economy and size of the enterprise's workforce. The public sector as well as small enterprises are often exempted. The introduction, and sometimes abandonment, of a financing scheme based on payroll tax depends very much on specific considerations, such as the availability of skills and training, the overall structure and weight of the tax system, the cost of labour, and the strength of the consensus between the State, employers and the wider community regarding the necessity and use of a training levy.

The main criticism of payroll taxes lies in their inflationary effect on labour costs. This concern is particularly strong when fiscal and social levies on labour are already high. Eventually, using payroll as the basis for the training tax might have other macro-economic effects. In particular, such a system produces a distortion between labour-intensive and capital-intensive enterprises that could supposedly affect investment patterns and, in the long run, the economic structure.

These examples show that payroll taxes cannot be considered neutral as far as inflation, employment or even industrial development are concerned. The instruments selected to finance vocational education have broad implications which reach far beyond the field of training policies and outcomes.

2.5 From financing to regulation: Training funds

The introduction of payroll tax has led to the creation and wide dissemination of a new type of institution often managed by both the public and private sectors, sometimes also involving unions through a tripartite formula. These bodies or Training Funds, which collect and allocate the resources raised by the tax, combine financial and training responsibilities.

In some cases, financing and promoting training are the major objectives of such institutions. In others, the Fund is incorporated into a broader Training Agency or Board which also operates its own training system, parallel to the vocational streams of the education sector, and sometimes decides upon the national training policy (Wilson, 1993). Indeed, giving the management of Training Funds to the social partners can contribute to the enhancement of the quality, relevance and flexibility of training.

The central Fund model is not the only option, and some countries have established sectoral bodies (Drake, 1991). Mostly applied in the developing world, the use of a large centralised Fund tends to redistribute training costs between training and non-training firms. Sectoral Funds can better meet the requirements of well organised sectors of the economy or facilitate dealing with specific manpower or qualification shortages.

The collectivisation, or mutualization, of resources allowed by the Funds, especially central Funds, helps in the development of a collectively agreed training strategy aimed at specific types of firms, sectors, categories of workers or regions. This option can be a very powerful instrument for promoting both equity and effectiveness. In some countries, notably in Latin America and Africa, Funds have been used to implement special projects for the informal sector.

In financial terms, this redistributive function is made possible by introducing a formula, whereby individual firms have access to only one portion of their contribution to finance their own training. The balance remains accumulated in a collective account put at the disposal of the Fund to finance programmes decided upon by its governing body. It is important to note that, for many institutions, accumulated savings constitute a stabilisation fund that can be used to finance capital investment or face a drop in payroll tax collection.
Usually, nation-wide Funds both levy for their own training policy and make grants to training firms. Progressively, many of them have developed their activities to provide, on a cost-recovery basis, consultancy services to enterprises in the field of human resources development. They also often play a key role in regulating the training market by introducing accreditation procedures, and quality control for private training institutions.

The diversification of services and resources represents a major trend in the current evolution of the Fund model. More and more, in addition to securing diversified finance, training Funds aim at regulating training at both the micro (enterprise) and macro (national) levels, through incentives, direct interventions and dialogue (Atchoarena; Caillods, 1995).

3 A brief review of experience

3.1 Back to the roots: Brazil

The Brazilian vocational education system
Brazil pioneered the establishment of autonomous ...tions responsible for the training of the man... ...r required by the economy (CINTERFOR, 1991). Funded by payroll taxes and developed as distinct from the school system, this model was conceived as one of the instruments needed to face the challenges of industrialisation.

The National Industrial Apprenticeship Service (SENAI) was established in 1942 to provide a qualified workforce for the developing industrial sector[5]. Conceived to serve the needs of the industry, SENAI is also managed, financed and operated by industry. It was established by decree but is regulated under private law.

SENAI adopted a regional structure, partly due to the size of the country and its federal nature. The National Council, headed by the President of the National Confederation of Industry, comprises representatives of various industrial sectors, as well as those of fisheries, transportation and communications, officials from both the Ministries of Education and of Labour and the Presidents of the Regional Councils.

The National Department is mainly in charge of providing overall normative guidance, technical assistance and co-ordination. The Regional Councils have a pattern of membership similar to the one adopted at the national level. They are the executive arms of SENAI and operate the vocational training centres as well as provide training and related services to the enterprises. It is to be noted that workers' organisations are not represented in the SENAI management bodies.

SENAI's training infrastructure embraces a great diversity of elements, including over 500 various types of vocational training centres, more than 200 mobile training units and several personnel development centres. Many of these institutions are joint ventures operated in co-operation with industry. Major training activities combine in-centre pre-employment vocational training, an apprenticeship scheme and continuing vocational education, including company-based programmes. This diversified training structure and strategy has allowed SENAI to train, since 1942, more than 10 million people. SENAI's activities are meant to cater for the needs of the modern sector of the

5 A sister institution, the National Commercial Apprenticeship Service (SENAC), was later set up for the tertiary sector

economy, although the importance of the informal sector is recognised.

It is argued that one of SENAI's major assets is its close relationship to industry and its needs. Such a close linkage is largely due to the financial participation of the employers and to the design of the governing bodies of the system. However, co-operation also exists at the operational level where business representatives are very active, taking part, for instance, in curriculum development, recruiting apprentices, providing part-time instructors or by participating in the technical advisory boards of the training centres.

Financing modalities

SENAI's financing modalities are based on a 1 % payroll tax paid by enterprises from the industry, transportation, communications and the fish-processing sectors. Businesses employing more than 500 workers are subject to an additional levy of 0.2 %. The tax is collected by the Government Agency in charge of social security, and then transferred to SENAI. Government subsidies complement the budget.

The allocation of funds is governed by the following principles. SENAI's central administration absorbs 1 % of funds raised to cover related costs and further retains 15 % of the general contribution for its running expenditures, as well as the product of the additional tax. The balance of the general contribution (85 %) is transferred to the regional bodies.

The retention of funds at the central level enables SENAI to perform a redistributive function by allocating supplementary resources to disadvantaged regions, such as the Northeast, or to support priority programmes. The additional resources levied from large companies are mainly used to finance their training plans. Finally, public subsidies benefit programmes linked to government policies, such as the training of trainers or the building and equipment of new training centres.

In 1975, the revenue-raising scheme was complemented by a tax-rebate incentive. This arrangement provided training enterprises with the possibility of deducting, within an upper limit, twice amount of their training bill from their income . The tax rebate was subject to the prior approval of the enterprise's training plans. Such an option reflected a Government strategy to boost in-company training, in view of improving labour productivity. However, it was suspended in 1990 for an indefinite period, within the framework of broader orthodox fiscal measures.

The effort to promote company training led SENAI to sign specific financing agreements with large enterprises. According to these contracts, the firm that agrees is exempted from the 1 % levy and is allowed to retain part of the 0.2 % additional tax. Corresponding savings must be allocated to enterprise-based training programmes. These contracts are primarily of benefit to enterprises making significant investments in areas considered as contributing to industrial development.

Apprenticeship, managed by SENAI, constitutes another financing modality of training. It is compulsory for enterprises to employ, and enrol in SENAI centres, a number of 14 to 18 year-old apprentices ranging from an equivalent of 5 % to 15 % of their ordinary workforce. During the first half of their training, apprentices receive half the minimum wage. This income increases to two-thirds of the base salary for the second part of the learning period.

The various components of this system are meant to contribute to the development of training. While the levy, complemented by public subsidies, guarantees, under normal circumstances, a certain financial stability, the tax-rebate scheme supports the expansion of in-service training and increases the interest of employers in training. Co-financing agreements and the management of the apprenticeship system are instrumental in ensuring that SENAI remains close to the enterprises and their changing needs.

What lessons?

The evolution and the results of the Brazilian financing system provide an interesting overview of the various financial instruments and strategies used. The payroll tax has obviously contributed to the development of a strong training system, focusing on long-term training programmes. However, the allocation mechanisms have not been able to operate a redistribution of funds in a manner which significantly reduces the disparities of access between the various regions, between the size of the enterprise, and between the category of worker. In addition, the expansion of the institution is sometimes said to have generated a quasi-monopoly or, at least, given it a dominant position, which has impaired the development of a competitive training market (Leite, in Gasskov, op. cit.)

The profound crisis that Brazil faced in the early 1980s revealed the solidity of the revenue-raising scheme and its ability to adapt to a changing economic context. Adverse conditions resulted in a fall in revenue as employment and salaries fell. In constant price, the contributions collected in 1989 represented only 63 % of the 1980 figure. Over that period, the survival of the institution required both the reduction of expenditures and the diversification of revenues. The interest produced by surpluses accumulated in the past constituted a stabilising income which guaranteed SENAI's financial solvability. Developing closer links with enterprises also contributed towards supplementing the decline in the regular payroll-based income (Gomes, 1991).

The results of the tax-rebate scheme showed a significant increase in company training (2 million trainees in 1980), and the development of enterprise training centres. However, a careful analysis showed that only 1 % of the taxable companies took advantage of this device. The heaviness of the procedure for approval was sometimes identified as an obstacle to the system. The fiscal incentive was, in fact, taken up by the large companies from Sao Paulo, which used it to further consolidate their training policies. The impact on other industrial sectors and states remained limited. Therefore, the tax-rebate facility did contribute to an expansion of the training effort, but in a way that further increased the training gap between regions and categories of enterprises.

The co-financing agreements, conceived as an alternative way of developing enterprise-based training, have shown rather positive results, as indicated by a rapid increase in the number of contracts. However, this trend has also confirmed a bias towards large firms. Major agreements are d with companies having their own training centre. The participation of smaller companies remains marginal.

In spite of its limitations (lack of competition, bias towards large companies, lack of adequate incentives), the Brazilian system demonstrated a strong capacity, in a changing labour market, to diversify its sources of income as well as its provision of services to firms. This flexibility and the close links established with enterprises are certainly the result of an appropriate mixture of institutional and financial arrangements. Administrative independence, a hybrid status combining private ownership and public mission, a management structure, including industrial and governmental representatives, probably accounted for SENAI's achievements.

Its prestige explains the wide dissemination of the Brazilian experience all over Latin America and the Caribbean (Ducci, 1991). However, this propagation did not purely duplicate the model but adjusted it to specific conditions. Notably, most of the other institutions of the region depend upon the public sector, not on industry, and their governing body usually give predominance to Ministries.

In the case of Brazil, future adjustments to the system may put more emphasis on incentive instruments, as opposed to compulsory ones, in order to facilitate an evolution of company strategies for training and, more globally, for human resources development (Gasskov, op. cit.) The bias in favour of big companies also constitutes an issue that calls for increasing attention. Finally, the non representation of labour interests might resist the evolution of social forces and the trend towards further democratisation.

Government options in human resources development

More than anything else, a significant share of the Brazilian workforce remains quasi-illiterate and poorly skilled. The low education profile of the population constitutes a major obstacle to further modernisation and development of the economy (Amadeo et al, in Samoff, op. cit.). A training system in itself, as sophisticated and effective as it may be, does not offer an adequate long-term response to the needs of human resources development.

3.2 Financing training in a context of rapid growth: Examples from Asia and the Indian Ocean

The Republic of Korea and Singapore: State regulation of the labour market through educational and manpower development

The long-term economic performance of the Republic of Korea and of Singapore is well known. A rapid economic growth, a high level of exports and a low unemployment rate are among the signs of such achievements. Labour shortage is also one of the features of this development pattern. It is often argued that this success is, to a large extent, due to non-economic factors, such as labour market institutions and educational development. Today, in both countries, there is a renewed commitment to manpower development in an effort to move towards a greater volume of production in the area of high technology.

In both countries, technical and vocational education is based on the solid foundation of a relatively high level of attainment in general education. In Korea, the development of primary education raised the literacy rate from 22 % in 1945 to 90 % by the early 1960s. It is estimated that in the mid-1980s more than 90 % of young people entering the manufacturing sector had had some form of secondary education. In Singapore, the post-independence educational policy immediately focused on providing free and universal primary education and on expanding access to secondary level. Today, both countries enjoy a high level of educational development, as reflected in school enrolment rates (see Table 2).

In Korea, as in Singapore, the evolution of the educational and training system is closely linked to manpower planning and technological modernisation. However, while Korea invested heavily in the development of technical and vocational education, as a sub-sector of its school system, Singapore recently chose to offer, within secondary schools, a technically oriented course, as part of general education. In the meantime, external to the school system, the Vocational and Industrial Board, renamed the Institute of Vocational Education, was restructured in order to focus on the provision of post-secondary technical and vocational education for students having completed a minimum of ten years of general education.

In Korea, vocational education is offered at the end of junior high schools. Vocational high schools' curricula provide a combination of general education and specialisation in a vocational subject. The system comprises different types of schools according to the number of skills offered. The vocational sub-sector includes a significant number of private schools. The Ministry of Education lays down and controls standards in both public and private institutions.

School budgetary allocations are made by the Ministry of Education through local Boards of Education. Tuition fees, as well as other contributions made by parents' and teachers' associations, also partly contribute to the financing structure. In response to the Ministry's control over fees charged, private schools are entitled to Government subsidies. In this context, the private sector is clearly viewed as complementing the supply of vocational education so that social demand can be met. In order to preserve the interest of the lower income groups, targeted financial assistance is made in the form of scholarships and fee exemptions.

The Government plans foresee the significant development of technical education. Long-term development aims at achieving, by the year 2000, a 50/50 enrolment ratio in vocational and general high schools.

Besides the vocational education stream, Korea also operates a vocational training system. Vocational training institutes are said to provide a more narrowly-based skill training to school leavers. Korea's effort to implement a manpower development framework dates back to 1967 when the Vocational Training Act was passed. In addition to public institutions, the Korean training system also comprises private vocational training institutes and in-plant training centres.

The administration of public vocational training institutions is co-ordinated by the Korea Manpower Agency (KOMA). The bulk of the cost of training in KOMA centres is met by Government. While large companies invest in well funded training centres providing in-plant training, small enterprises rely on public sector institutions.

The majority of vocational training is provided by the private sector. A recent trend has emphasised this distribution pattern, reflecting the Government policy to increase private sector responsibility, in view of fostering a more demand-driven system.

In spite of the size and strength of technical and vocational education and training, certain critics question the content of the programmes. It has been argued that employers and workers do not fully recognise the relevance of technical education for industrial jobs (You, in Rodgers, 1994).

Apart from meeting the needs of industry, the massive supply of qualified manpower produced by Korean vocational education and training systems may have contributed to maintaining the salary rate at a moderate level. The stable supply of qualified and relatively cheap labour is considered to be a major factor in the economy's success (Park, in Rodgers, op. cit.).

In Singapore, under the restructured scheme, vocational training became the major mode of pre-employment skill development (Cheung, 1994). The Institute of Technical Education (ITE), responsible for the overall training system, is a tripartite body with a board which includes the Government, employers and trade unions. Through its training institutes, the ITE provides pre-employment training to secondary school leavers. On average, admission represents about 25 % of the school cohort. Besides full-time institutional training, ITE operates an apprenticeship scheme which was upgraded and expanded in 1990.

The promotion of continuing education also forms part of the ITE's missions. In so doing, it has implemented various schemes aimed at upgrading the education and skills of the workforce. Hence, in addition to vocational courses, continuing education and training centres provide part-time evening and weekend academic classes. In 1981, ITE also introduced its "Approved Training Centres" scheme, whereby industries are encouraged to set up their own facilities.

Finally, ITE has also developed a skill-certification system to encourage skill formation and to improve information on the market for skilled labour.

Within this overall framework, Singapore's vocational education system is mainly financed by the Government. The ITE's operating budget represents approximately 6 % of the total educational expenditure.

Parallel to the development of a vocational education system, mainly school-based in Korea, and external to the education sector in Singapore, both countries have set up various incentive or compulsory mechanisms to promote training in industry. In the mid-seventies, Korea introduced compulsory training requirements (Lee, 1985). Under this scheme, firms with over 300 employees (later reduced to 150) had to train a certain percentage of their workforce, defined for each industry by the Ministry of Labour. In 1976, a training levy was introduced as a penalty for firms that did not comply with the mandatory training requirements. A Vocational Promotion Fund was set up to manage the resources raised by the levy. In contrast to the experience of many other countries, the levy was initially determined annually on the basis of the estimated training cost in each industry (25 % of the cost initially, later increased to 75 %). The Fund operates under the sole authority of Government, through the Ministry of Labour. Its resources contribute to public vocational training programmes and to the development of in-plant training centres. Levy-based funds are now focused on upgrading public training institutions.

In the past, the Korean levy system has not proved to be particularly effective in promoting in-plant training. Although it is said to have contributed, during the 1970s, to fast industrial development, a sharp decline in the number of trainees during the 1980s raised Government concern. This downward trend was largely attributed to the heaviness of the procedure involved in getting training plans approved, as well as in the calculation of cost data required by the initial system. It is argued that, while the levy did not make much difference to the already strong motivation of the large companies to invest in training, it failed to have an impact upon small enterprises. They end up preferring to pay the levy and relying on graduates or on poaching. In this respect, the levy seems to have been considered as another tax. Such results raised some doubts about the relevance of the state-led manpower development policy and instruments. Under-investment in training by enterprises is considered to have contributed to skilled labour shortages in the 1980s. This phenomenon may further be aggravated by the reluctance of young people to choose industrial occupations (Baek, in Gasskov, op. cit.).

In spite of the limitations of Government policy, massive and early investment in human capital through educational development may have contributed to an acceleration of the economic growth rate, as announced in the recent theories of endogenous growth.

In Singapore, a Skills Development Fund was established in 1979 to promote in-plant training. The financial instruments associated with such a policy include a payroll tax and incentives to training firms. The originality of the Singaporean system lies in the fact that a levy was made only on the lower waged workers. Initially, the levy rate was 2 %. In 1980, it was increased to 4 %. Subsequently, a decision was made to restore the 2 % rate (1985), and then to decrease it to 1 %. Accordingly, in 1986, the definition of low wage was inflated to reflect changing economic conditions.

Using the low skilled employees' payroll as a basis upon which to set the levy originally formed part of a broader government industrial strategy to restructure the economy towards a more capital-intensive production system.

In its effort to support company training, the Fund provides grants on the basis of approved training plans. It also promotes special training programmes focusing on the upgrading of workers' skills.

Although the increase in company-based training programmes has been significant, the Fund experiences difficulties in transforming employers' attitudes towards training. Small enterprises and low skilled workers still constitute largely unreached targets. The bureaucratic procedure which is required for grant applications is considered to be one of the obstacles to a more equitable expansion of grants awarded.

In the meantime, requests are being made to introduce levy exemptions for some categories of firms. These issues may lead to a further refining of the financial scheme supporting industrial training.

Meanwhile, Singapore provides an interesting experience in the linking of educational and manpower development policies. The 1992 reform, by delaying vocational education so that it followed on after a minimum of ten years of general education, reflected an effort to produce easily retrainable graduates, with a wider educational background. The choice of an out-of-school tripartite institutional framework also indicated a search for more flexibility and partnership. This overall policy and organisational shift corresponds to an effort to move towards a more capital and technology-intensive production.

Training in the transformation of a plantation economy: Mauritius

In the 1960s, Mauritius was the archetype of a small island plantation economy, dominated by the sugar industry. Twenty years later, as a result of export-oriented manufacturing together with tourism, a major structural transformation of the economy had been achieved, leading to full employment. Inspired as it was by high performing Asian economies, the island's industrialisation strategy was based on macro-economic stability, the dynamism of the business community, low salaries, and on a literate and increasingly skilled labour force.

Rapid modernisation, however, has led to pressure on wages and labour shortages, while changing international conditions have threatened the traditional export market. The emerging context has required increased competitiveness and a sustained investment in human resources development. Education and training are the key elements in the government's strategy to catch up with the best practice in international technology. In order to guide educational development up to the year 2000, the Ministry of Education has prepared, in close consultation with all domestic sectors and the international community, an Education Sector Master Plan.

In spite of a relatively rapid educational progress since independence, as reflected in universal primary education, the educational profile of the labour force still requires upgrading. For instance, it is estimated that only about half the workforce has attained secondary level, as compared to approximately 70 % and 90 % respectively in Singapore and Korea.

Limited access to secondary education - of an unsatisfactory quality - its low level of efficiency, together with an excessive emphasis on examinations, are some of the issues faced by the Mauritius education system. Indeed, it is felt that many vocational programme applicants are inadequately prepared academically.

As in Singapore, the development of vocational education and training is mainly the responsibility of a specific institution, external to the school system. The Industrial and Vocational Training Board (IVTB) was set up in 1988 as a bipartite parastatal body, associating both public and private sectors. The IVTB is responsible for promoting, co-ordinating, financing and providing training to school leavers, as well as to the existing workforce (Munbodh, 1995).

Until 1991, the IVTB was under the direct responsibility of the Prime Minister. It now operates under the responsibility of the Ministry of Manpower Resources and Vocational and Technical Training. Applying the principle of partnership, the IVTB governing council provides a balance between the private and public sector. However, the act regulating the institution provides that the Chairman of the council shall be appointed by the Prime Minister, while the Vice-Chairman is designated in consultation with the Mauritius Employers' Federation. Concern has sometimes been voiced about the non-representation of labour interests. It seems that the possible evolution of the governing structure remains subject to an improved working agreement between the different parties and would require an assessment of the potential contribution of workers' representatives.

The IVTB operates training centres focusing on areas considered as inadequately covered by enterprises or private institutions. A major target group for long-term programmes are school leavers with a minimum of 2 years of secondary education and who are at least 15 years-old.

In recent years, the IVTB has started to provide pre-training programmes for pupils having completed primary education. This scheme was implemented as a partial response to a growing demand for an alternative to scarce secondary education places. Providing this type of remedial education also reflected the IVTB's concern for the inadequate academic preparation of applicants due to the unsatisfactory quality of basic education. However, the IVTB's pre-vocational training centres were conceived as part of a transitional policy. The implementation of the Education Master Plan makes provision for a gradual transfer of this responsibility back to the Ministry of Education, within the framework of the newly established basic secondary schools.

The IVTB also operates a still modest apprenticeship system, inspired by the German dual model. The apprentices spend about one and a half days per week in a training centre, the rest of the time being devoted to on-the-job training supervised by the enterprise.

Besides initial training, short-term courses are being organised for employed workers. Most of them are attended by enterprise-sponsored trainees.

Contributing to more transparency of the labour market through the greater availability of relevant information, and the establishing of a market for training, form part of the IVTB's responsibilities. It is with this in mind that the Board is developing a National Trade Certification System leading to the official recognition of the various levels and types of skills. In addition, the accreditation of private training centres and trainers contributes towards monitoring the quality of private training and to improving information on the supply side. As a part of this accreditation policy, the IVTB publishes a directory of registered training institutions and trainers.

Together with the establishment of a training Board, Mauritius has revised the financing of training. The current mechanism combines a payroll tax together with incentive schemes.

The training levy was defined as a 1 % tax on the basic salary of all employees, excluding household workers, to be paid by all employers into a Fund managed by the IVTB. The tax is collected by the National Pension Fund.

The levy contributes towards covering 50 % of the IVTB's recurrent expenditures and 15 % of its capital investment, the balance being provided by Government.

In order to promote in-plant training, the legislation makes provision for a mixed system, combining a training grant and a tax rebate. Subject to prior approval of training plans, employers are entitled to a grant as well as to a rebate on taxable profit, which is equivalent to twice the investment made in training. According to this system, the employers can recuperate up to 75 % of the total training cost. The difference is absorbed by the State (through the tax rebate) and by the IVTB, through reimbursement. As the corporate tax is regulated by a multiple rate regime, the determination of grant allocations varies.

Altogether the IVTB income originates in five major sources: the training levy, Government subsidies, loans and grants, interest on financial reserves, and fees. In addition, the IVTB training centres are required to generate part of their recurrent expenditures through fees and sales of products or services. The implementation of this cost-recovery policy gave contrasting results. Hence, it is estimated that in 1994, institutions earned between 6 to 30 % of their recurrent expenditures.

Over the years, the surplus of income over expenditure has generated important reserves. Such accumulated resources constitute a security for the Board in case of a possible reduction in government support or to enable it to maintain and update training facilities. This financial pattern is mainly due to the slow expansion of the grant scheme, many employers not having immediately taken advantage of the incentive provided by the reimbursement scheme. It is expected, assuming a more positive attitude on the part of the employers towards training, that the future development of the system will introduce a shift from the revenue-raising component to the grant incentive. This trend would eventually lead to a decline in financial surpluses.

As the IVTB is still in a preliminary phase of its development, it is too early to assess its impact. Introducing the levy and combining this resource with Government money has obviously constituted a sound financial base upon which to establish and expand the training system. At the same time, the increase in grant applications reflects the growing interest of companies in training. However, as has been observed in other similar systems, the processing of grant applications represents a substantial amount of work, sometimes leading to detrimental delays.

In the years to come, it is likely that the continuation of the trend observed for the grant incentive will require a review of the existing financing formula. In any case, such a revision will soon be necessary as it is intended that the present three-rate corporate tax structure be replaced by a single-rate regime.

As the employers have indicated their reluctance to an increase in the tax rate, one of the avenues towards broadening the income-base might lie in the diversification of resources. In particular, the IVTB could be led to expand, on a cost-recovery basis, the range of services it provides to enterprises.

One of the issues regarding the future development of the IVTB's activities and funding concerns Government plans to further develop technical education. In 1990, a specific body, the Management Trust Fund, was established to promote technical education. Management of the institution is ensured by a board of trustees consisting of representatives from public and private sectors, the Chairman being appointed by the Minister of Education. Financing of the Fund is also ensured by the Ministry of Education.

The Fund, which was mainly responsible for the sole "lycée polytechnique", will be in charge of two new technical (polytechnic) institutions, designed to develop the education of technicians. Although polytechnic education, inspired by the Singaporean model, is meant to be vocational, its future development will require careful monitoring. In particular, its capacity to address the economy's requirements for technicians, as opposed to becoming a stepping stone to an engineering degree, remains to be seen.

Finally, in order to obtain an adequate return on the overall vocational education and training investment, a strengthening of the linkages between the IVTB and the Management Trust Fund will be necessary. Furthermore, progress in training needs to be accompanied by a significant improvement in the internal efficiency and quality of basic education. This surely represents a crucial prerequisite in order to succeed in the establishment of the standards required by a high performing economy.

3.3 An African experience: Côte d'Ivoire

False hopes

Côte d'Ivoire is one of various middle-income countries in West Africa. It is viewed as a partner of major importance in the sub-region, due to its economic weight. During the two decades following independence, its economy enjoyed a relatively rapid growth. As from the 1970s, however, adverse international conditions in the price of export commodities, especially coffee and cocoa, affected the country's development. By the early 1980s, the debt level led to a series of structural adjustment programmes. The fall in real GDP reflected a clear economic decline. This reversal in trend meant a significant contraction in government revenues and, consequently, in expenditures. Following the 1994 devaluation of the CFA franc, the economy seems to have shown some signs of recovery, needing further consolidation. In the meantime, the effects of the long-term deterioration of the macro-economic situation are being felt in all social sectors, including education.

Education: A national priority

In Côte d'Ivoire, relatively high priority has always been given to education. In spite of the economic and financial difficulties experienced by the ›my, education still represents a significant of government expenditures and of the GDP (see Table 2). Sustained educational effort has contributed, during the two decades of economic expansion, to an increase in enrolment rates at all levels. Over the following period, the crisis marked a set back for most educational indicators. Apart from the economic environment, the rapid demographic growth constitutes a serious challenge for the education sector, as reflected in a still high level of illiteracy (see Table 1).

Technical and vocational education and training are an important part of educational and employment policies, set against a background of declining labour demand, including for graduates. In Côte d'Ivoire, the technical education sub-sector was established prior to independence. It has since experienced a number of structural reforms. The apprenticeship tax was introduced as early as 1959.

One of the problems of technical education has been its inability to adjust to a changing labour market. Employment in the rural and urban informal sector has gradually become a key variable in determining the absorption of school leavers, including technical education graduates. As a result of compressed government spending, additional difficulties were experienced in trying to maintain teaching quality and equipment.

Innovations in the financing of training

Apart from technical education, the introduction, in 1977, of a payroll tax provided the financial resources and incentives necessary to boost in-service training in the private sector. The system developed at that time by Côte d'Ivoire constituted a real innovation in the region (Kone, in Atchoarena; Caillods, op. cit.)

The law on the financing of continuing education provides that all enterprises in the industrial, agricultural and commercial sectors, subject to the corporate tax, shall pay a training levy equivalent to 1.5 % of their payroll. In practice, a tax rebate reduces the rate to 1.2 %.

The payroll tax was introduced in a relatively favourable economic context, before the effects of the international crisis were felt. Therefore, employers did not object to what they first considered as additional taxation, without close linkage to training issues. However, consultations and studies related to the introduction of the new tax were initiated as from 1974, leading to a wide consensus in 1977.

In accordance with the law, enterprises had to pay half of the compulsory contribution into an account named the 'National Intervention Fund for Vocational Training', managed by the Office National de Formation Professionnelle (ONFP). The ONFP was established in 1966 to supervise public vocational training centres, co-ordinate their activities, as well as to manage the resources of the apprenticeship tax.

The other half could be retained by employers, if they financed their own training programmes. This arrangement was meant to provide an incentive for the development of company-based training. However, it was not enforced and so the employers had to pay the entire tax.

The Fund, later renamed the 'National Fund for Regulation' (FNR), was established as a tripartite body, under the dual authority of the Ministries in charge of technical education and of finance (Achio, 1993). Members of the FNR board were nominated by their respective constituency and selected by the responsible ministerial authorities, chairmanship being given to an employer's representative.

Up to 1987, the executive arm of the FNR was the ONFP. This institutional framework lacked transparency in its allocation of funds, the ONFP being in charge of both the apprenticeship tax and the payroll levy for continuing education. It was therefore decided to give the Fund full autonomy, and to provide it with its own administrative and operational structure regulated by private law. The employer's chairmanship and the adoption of private sector rules and status for accounting procedures and staff management were supposed to ensure the full flexibility of the Fund according to labour market conditions.

The Tax Department of the Ministry of Finance plays a central role in the organisation of the system. It collects the tax together with other levies and transfers these sums into an account opened in the name of the Fund.

The allocation of Funds made provision for a mixed system. Firstly, each enterprise acquired a drawing right equivalent to half its compulsory contribution in order to finance its training plan. Secondly, the other half was kept by the Fund in order to constitute accumulated resources (mutual funds) used to finance special programmes aimed at supporting specific sectors or categories of workers considered as a priority. Accumulated resources were instrumental in supporting the policy of the Fund to promote training. To this aim, the FNR regulations also introduced a savings principle, defining a minimum accumulated contribution (originally equivalent to 12 months) before an enterprise could claim reimbursement.

Success or failure?

The establishment of the FNR, in 1987, led to an increase in the number of people trained. This trend was sustained until 1989-90, the beginning of a liquidity crisis, indirectly linked to the financial problems of the State in a period of structural adjustment. The continued fall in resources recorded for the 1988-91 period) reflects the economic difficulties and the contraction of employment in the modern sector.

It is estimated that between 1985-86 and 1988-89 the share of the workforce having benefited from training increased approximately from 5 % to 14 %. Such an evolution represents a significant progress.

Collected data (Atchoarena; Caillods, op. cit.) also reflect, up to 1987-88, the development of programmes initiated by the Fund using the accumulated resources (mutual funds). Most of them were allocated to priority sectors, such as agro-industry, mechanical engineering, electricity and transportation.

Finally, the FNR contributed to establishing a market for training through accreditation procedures for private training institutions. Globally, about 37 % of levy-based resources were allocated to private training institutions and 34 % to company training centres, as compared to only approximately 10 % to public institutions, the balance having benefited foreign training institutions. In 1988, the establishment of an association of private training institutions (Syndicat National des Opérateurs de Formation Continue) contributed to initiating a self-regulated control of the sector and to facilitating dialogue with the Fund.

In spite of these achievements, the system did not prove to be sustainable. As from 1989, the financial difficulties experienced by the State did not allow the Ministry of Finance to transfer to the FNR the revenue raised by the levy. As a result, the Fund was unable to meet its reimbursement commitments to enterprises. This crisis led to the gradual bankruptcy of the system. The FNR was eventually liquidated in 1992.

The apprenticeship tax

The apprenticeship tax, established in 1959, was revised in 1966 and, three years later, its rate increased from 0.3 % to 0.5 % of the sector's payroll, including the public civil service. In practice, a tax rebate reduced the rate to 0.4 %. The objectives of the tax, which went unmentioned in the initial law, were clarified by the 1966 reform. It stipulated that the ONFP should reimburse part of the revenue raised by the tax to enterprises supporting initial training programmes.

Although precise data are lacking, it is estimated that only a marginal share of the resources collected contributed to the apprenticeship system or to other forms of initial training. The tax-based income was mainly used to cover the recurrent expenditures of the ONFP. Overturned by its own bureaucratic practices, it was also eventually liquidated in 1992.

Restoring the system: The 1992 reform

In 1992, the Government decided to reform the entire institutional framework for labour market and training policies. It established a new Fund, named 'Fund for the Development of Vocational Training' (FDFP), for the financing of training (Niango, in Atchoarena; Caillods, op. cit.). The new institution is in charge of the promotion and financing of continuing education and apprenticeship, replacing the FNR and the ONFP.

The major change in the new system concerns the financial circuit and the role of the Treasury. The collection is still performed by the income tax department but the revenue is no longer trans-[illegible]d to a special Treasury account. Resources are now directly allocated to an account at the disposal of the FDFP.

Another important transformation is the transfer of both the continuing education levy and the apprenticeship tax to the same Fund, now operating under the sole authority of the Ministry of Finance. However, the concern for transparency has led to the management of the resources under two separate accounts.

The closer monitoring of the system by the Ministry of Finance is also reflected in the reform of the governing body of the FDFP. Hence, although the tripartite principle is maintained, chairmanship is now ensured by the Minister or his representative, and no longer by the employers. In addition, the new Fund operates under public sector regulations.

The reform also concerned the modalities under which enterprises must pay the tax for continuing education. They now have the possibility of retaining 50 % of the tax, corresponding to 0.6 % of their payroll, to finance their own training programmes. These plans are being subject to FDFP approval. Although this arrangement certainly meets the demand of one section of the employers, it limits the possibilities of redistribution among enterprises to the detriment of the smaller ones.

Beyond the technical aspects linked to the financial circuit, the Côte d'Ivoire experience shows the difficulty of maintaining a financing mechanism based on a payroll tax in a period of a decline of the modern sector. It also raises the issue of conflicting State priorities in a context of structural adjustment. To what extent training should then be protected remains debatable.

Recent developments will also illustrate the ability of a Training Fund, by nature designed to serve the needs of the modern sector, to address the training and development requirements of other segments of the labour market. Indeed, in 1994, a loan agreement was signed with the World Bank to implement a project aimed at non-conventional targets. The management of this programme will undoubtedly require making innovative adjustments in the operational procedures of the Fund.

	Population (1993)	GDP per capita (1993) (US$)	GDP per capita, average annual growth rate (1980-1993)	Adult literacy rate (1992)
Brazil	156,578,000	2,930	0.3 %	81.9 %
Korea	44,508,000	7,660	8.2 %	97.4 %
Singapore	2,798,000	12,310 (1990)	5.7 % (1980-90)	89.9 %
Mauritius	1,109,000	3,030	5.5 %	81.1 %
Côte d'Ivoire	13,397,000	630	-4.6 %	36.6 %

Table 1: Socio-economic indicators
Sources: World Development Report 1995; World Bank; Human Development Report 1995, UNDP

	1st level net enrol-ment ratio (1991)	2nd level net enrol-ment ratio (1991)	Share of education in total government expenditure	Expenditure as % of GNP
Brazil	86 %	16 %	-	4.6 % (1989)
Korea	100 % (1993)	88 % (1993)	14.8 % (1992)	4.4 % (1992)
Singapore	107 % (gross)	69 % (gross)	-	3.4 % (1988)
Mauritius	89 %	54 % (gross)	11.8 % (1990)	3.7 % (1990)
Côte d'Ivoire	52 %	24 % (gross)	-	-

Table 2: Educational indicators
Source: Statistical Yearbook 1994, UNESCO

4 Conclusions and further thoughts

4.1 The rationale in brief

It is widely felt that investing in technical and vocational education and training contributes to economic growth, as reflected in the above country examples. In particular, this form of human capital formation supposedly facilitates technological change and international competitiveness.

At the same time, and in spite of the absence of clear statistical evidence, there is a feeling that societies underinvest in training. This attitude is suspected to be widespread in industry, where individual enterprises often tend to prefer ...ching skilled workers.

Such so-called "market failures" require public intervention, although there is strong international support in favour of the allocation of resources through market forces (World Bank, 1991). The issue then becomes to determine how governments can best design financing policies in order to improve the efficiency and effectiveness of technical education and training. Specific aspects concern the possibility of defining appropriate cost-sharing arrangements and ways of conceiving effective incentive structures.

4.2 Major trends

In spite of their wide economic, social and cultural differences, the countries selected here illustrate some of the major trends affecting the financing of technical and vocational education and training systems worldwide. Based on the material previously reviewed, at least four of the above can be identified:

a) Financial diversification

This trend is observed in most countries, reflecting either an effort to shift financing towards a more market-driven pattern or to change workers' and employers' attitude, as reflected in the case studies. This strategy also frequently corresponds to a forced adjustment to shrinking public budgets (Brazil). The introduction of fees and the use of general or earmarked taxation represent various possible market, state or collaborative instruments to diversify resources. The examples show that there is no pure model, and that financing systems fluctuate from state to market regulation over a period of time within a specific country. The need and/or the wish to diversify finances forms one of the main reasons for such fluctuations.

Foreign aid, through grants and loans, also constitutes, in many countries, like in the Côte d'Ivoire and Mauritius, a significant element in the initial support of the gradual restructuring of national financing systems.

b) The establishment of training Funds

The performance of Korea and Singapore in regulating labour markets cannot be attributed to efficient market mechanisms. In trying to understand these successes, increasing interest is being paid to the role played by specific social institutions. Among these, Training Funds and Boards deserve special attention, especially when assuming that skill development is a precondition for sustained growth.

In most selected examples, the financing system relies on a Fund, sometimes incorporated within a broader Board, which plays a central role in the allocation of resources, partly raised by a payroll tax. This institutional arrangement is currently in place, or being considered, in many developing countries. The case studies indicate that such an institution can constitute a useful interface between the different enterprises and the training system. It also plays a key role in correcting market imbalances in training access.

It is possible to identify three functions performed …aining Funds: banking, mutual funding and …ance. As in a bank, enterprises can withdraw from their account funds required to cover their training expenditures: this constitutes the basic function of Training Funds. The redistributive function, present in many systems, made possible by the constitution of mutual funds, contributes towards tackling the needs of disadvantaged workers, enterprises or regions (Brazil, Côte d'Ivoire, Singapore). Finally, enterprises facing sudden technological change may be able to benefit from the Funds' accumulated savings to finance emergency training programmes. To this extent, the payroll tax can represent a form of mandatory savings account, which can offer additional protection to enterprises requiring greater training-related financial support at certain stages of their development.

Over and above administrative and financial aspects, the shaping of National Training Funds is the result of a complex mixture of economic, social and political forces. Such diversity is fully reflected in the institutions set up in Brazil, Korea, Singapore, Mauritius and Côte d'Ivoire. A major difference can be distinguished between institutions of a purely financial nature (FDFP) and those also involved in training provision (SENAI, ITE, IVTB). Another distinction can be made between mandatory but privately managed Funds (Brazil) and publicly managed earmarked tax funded bodies (Korea, Singapore, Mauritius, Côte d'Ivoire). However, while the precise nature of these institutions varies, they perform everywhere a decisive role in allocating resources for training. The extent to which Funds contribute to the effectiveness and efficiency of training provision remains, however, to be seen.

c) The diversification of services provided by the training funds

As indicated in the examples of SENAI, ITE, IVTB or FDFP, financing, and sometimes training delivery, only represent part of the Funds' activities. Increasingly, they perform other services, such as labour market analysis, the certification of skills, accreditation of private training institutions or providing advisory services to enterprises.

Developing a formal system for the recognition and certification of skills contributes to the greater availability of relevant information concerning the labour market. Similarly, supporting and monitoring the establishment of a market for training introduce a demand-driven mechanism for training provision.

Some of these functions are implemented on a cost-recovery basis and have thus contributed to broadening the financial resources of training institutions. Furthermore, it is often argued that cost-sharing arrangements increase the flexibility and responsiveness of the training system by building closer relationships between institutions and enterprises.

d) The emergence of the concept of partnership
Getting together all the institutions involved in the decisions that affect them is increasingly considered an efficient approach towards improving the functioning of training systems. Participation of stakeholders means giving them the institutional capacity to influence policy making and management as well as to control activities and resources.

Reforming the financing mechanisms must be seen against the broader context of redefining the responsibilities of the main economic agents vis-à-vis technical and vocational education and training systems. Over and above the financial participation of employers by way of the payroll tax and fiscal incentives, public policies also reflect an effort to modify the role of the state in training and to achieve a new social contract between the different partners involved. In this respect, Training Funds or Boards represent an important locus in forging an agreement between the State, employers and individuals regarding policy issues as well as their respective role in training. Complementary trends concern the participation of local governments and NGOs, especially in the context of decentralisation and territorial development policies.

Finally, the challenge of partnership is to ensure that the main actors involved in the productive sector are committed to the principle of investing in human capital formation, and acknowledge its importance for development.

However, partnership does present some costs and risks. Participation and dialogue involve time. In practice, partnership often slows down the decision-making process. A kind of trade-off occurs between the adoption of a participatory approach and being able to make fast decisions. Short-term management objectives may favour the handiness of the system, while a sustainable training strategy would require the sharing of control.

Increasing the number of actors involved is also subject to cultural and political limitations. In some cases, labour representatives may be perceived as threats. Therefore, although often praised, increased partnership still encounters much resistance.

4.3 Variables affecting funding scheme options

National training systems and their financing are the product of specific historical developments. Therefore, the appropriate mixture of instruments will not be the same at all times and all places. It depends on many factors, including a country's administrative culture and current circumstances. Among more specific variables affecting the funding formula, the following six deserve particular attention:

a) The structure and the size of the economy
The level of economic development constitutes a major constraint for the financing system. In particular, the extent to which the State can share the cost of training with other partners is directly linked to the structure of the economy. If the possibilities of introducing and operating a payroll tax funded system are high in middle-income and high-income countries, it may be more problematic in a low-income economy. Below a certain scale the benefits of the levy-based system are necessarily limited due to the impossibility of initiating an accumulation process.

In this respect, it must be underlined that the payroll-tax system is tailored to address the needs of a modern economy. Its capacity to consolidate skills in the informal sector is minimal.

b) The economic policy
The role of the State in the economy has an influence on financing policies. Financial diversification corresponds to an era dominated by a global shift to a market economy. In many countries, such a predominant strategy also forms part of a broader response to an unprecedented fiscal crisis.

However, under certain circumstances, financing strategies for training may contradict economic policies. It is notably the case in the use of payroll taxes in a context of fiscal austerity. Indeed, taxation becomes a sensitive issue in a process of economic liberalisation, when resource allocation is increasingly meant to be driven by market signals. Facing the pressure for more fiscal orthodoxy, the use of payroll tax, as compared to general taxation, can appear questionable.

Nevertheless, reforming the financing system certainly constitutes a way of changing the attitude of the various actors. In many countries (Côte d'Ivoire, Mauritius, Singapore), medium- or long-term perspectives reflect a clear evolution of investment strategies in training, much of it probably resulting from the implementation of financial instruments. Reforming the financing principles can therefore also be part of a proactive long-term government strategy.

c) The maturity of social partners vis-à-vis training

The performance of a given financing system will very much depend on the attitude of individuals and employers regarding training. For instance, the case of Korea illustrates the difficulty faced by an incentive structure when individual employers are not always convinced of the need to invest in training and sometimes prefer poaching skilled workers (You, in Rodgers, op. cit.). Similarly, providing incentives to individuals also necessitates access to relevant information on training options, costs and returns.

Therefore, the reform of the financing system requires, as much as possible, a wide consensus between all of the partners involved: government, employers, workers, students, parents, public training institutions and the public at large.

The introduction of a payroll levy may be viewed by employers as just another tax. Making them aware of the associated incentives and of the potential impact of training on labour productivity may call for intensive and long periods of consultation. In Côte d'Ivoire, the preparatory work was initiated three years before the actual introduction of the payroll tax.

Introducing fees often requires similar preparatory work in order to convince individuals, and sometimes heads of institutions, that cost-sharing is necessary and, under certain conditions, equitable.

Incentive structures for investing in training are based upon the assumption that the willingness and strategy of firms and individuals depend largely on the cost factor. This statement may be challenged. When making investment decisions in training, enterprises may take into account a number of elements, including the business cycle, technological change and also industrial relations.

d) The state of relationships between the partners involved

Highly conflicting situations are hardly conducive to positive dialogue. They are more likely to lead to hostile confrontation. It is obviously difficult to manage a training system under such conditions. A pragmatic approach to this problem might mean the exclusion of certain parties from the governing body of the Funds (Brazil, Korea, Mauritius).

It could also be argued that the full participation of the social partners in labour institutions, including Training Funds, can contribute to the collective organisation of the various parties and later facilitate training-policy dialogue with government. Current developments taking place in some African countries (Bénin, Mali) seem to follow this rationale. Their full effect remains to be seen.

e) Institutional capacity to enforce, manage and control the system

In order to be effective, financial diversification policies must benefit from a strong institutional framework. This is especially the case for payroll tax that requires a reliable administrative machinery to ensure that tax recovery is effective. Payroll taxes are usually collected by the Income Tax Department of the Ministry of Finance, together with other company taxes, or by the national insurance scheme, which already raises social contributions. In both cases, a sound institutional capacity to collect an additional tax is required.

The performance of a Training Fund depends in part on its administrative cost. The selected experiences indicate that the operation of a tax rebate or reimbursement schemes requires extensive processing for grant or exemption applications. Often, malfunctioning bureaucracy leads to delayed payment and to a loss of confidence in the system (Côte d'Ivoire).

Regulating the training market by issuing accreditation to private institutions (Côte d'Ivoire, Mauritius) also implies some sort of bureaucracy. Government control of standards and outcomes is required to ensure that public funds are used in conformity with their initial objective.

In reality, the true administrative cost is practically never measured. Hence, costs incurred by collecting taxes are not accounted for, the job being done by the Ministry of Finance or the national insurance or pension scheme.

Depending on the magnitude of economies of scale, the average cost would be relatively lower for large systems, given the number of contributing enterprises. In small, low-income countries, lacking strong taxing and regulatory capabilities, a simple financing system would minimise collection, record-keeping, pay-out and other administrative costs.

Although it would be harmful to establish a link between legal status and administrative efficiency, experience has shown that, in certain environments, publicly managed Funds run a higher risk of encouraging wasteful spending (e.g. ONFP, Côte d'Ivoire).

f) The objectives of the financing system

The objective can be either to raise funds for training or to change attitudes. In some cases, objectives go beyond the training issue to affect further dimensions, such as the choice of technology (Singapore).

A distinction can be made between the systems based upon compulsory requirements and those using incentive instruments. The review of objectives and instruments provides an interesting feature of national financing systems:

Objective / Instrument	Promote company-based training	Build-up a training system	Influence enterprises' labour policies	Regulate the training market
Compulsory requirements	• Republic of Korea	• Brazil • Singapore • Mauritius	• -	• Mauritius • Côte d'Ivoire
Incentives	• Brazil • Mauritius • Côte d'Ivoire	• -	• Singapore	• Mauritius • Côte d'Ivoire

Major features of selected financing system

Incentive structures are based on a tax rebate (Brazil, Mauritius) or a training grant (Mauritius, Côte d'Ivoire). Compulsory instruments usually take the form of a payroll tax; less frequent is the enforcement of a quota for training (Korea).

Government resources are usually used to finance a public system for technical education or vocational initial and continuing training (Korea, Singapore, Mauritius, Côte d'Ivoire). They are also used to support programmes designed for disadvantaged groups (Brazil, Côte d'Ivoire).

Over and above these specific objectives, training systems, and their financing, can be considered within a macro-economic and educational perspective. For instance, financing training can be [illegible]rt of a public policy aimed at reducing investors' [illegible]ks. It is notably the case in export-oriented countries operating with a long-term vision, such as Singapore or Mauritius. In such cases, training serves broader industrial policy goals involving, besides incentive instruments, substantial State financing to develop certain skills and establish powerful publicly financed training institutions.

In another context, heavy investments in training can be viewed as an effort to compensate for the low quality of basic education (Brazil).

4.4 Issues for debate

How to prevent the diversion of resources?

Training Funds, especially when they enjoy substantial financial surpluses (Côte d'Ivoire, Mauritius, Singapore), constitute a hidden and exclusive source of income. As such, they represent a tempting prey for a government budget under pressure, especially when they are publicly managed. Past experience in Côte d'Ivoire provides clear evidence of that risk. A relevant response might be to enforce by law the Fund's autonomy and thus reduce the control of the government's Income Tax Department over the resources collected. However, it is difficult to fully prevent such a crisis, especially when the government is faced with growing budgetary constraints.

Part of the problem lies in the dualistic nature of payroll taxes. Their fiscal origin justifies considering them as public money. Yet, their earmarked destination and the fact that they are being paid and partly managed by employers tend to lead to their assimilation as private funds.

As the concept of earmarked taxation is alien to orthodox fiscal doctrine and often contradictory to fundamental public finance principles, it is difficult to establish legitimately a complete separation between payroll-generated income and the State budget. In many African countries, this partly explains why the apprenticeship tax is, in fact, never used to finance training but allocated to other, less clearly defined purposes.

Training versus employment?

Although macro-economic empirical evidence is still lacking for training levies, common sense tells us that high payroll taxes mean fewer jobs. In some countries, like Brazil, taxes for pensions are already over 25 % of gross wages. Adding additional taxation to this already massive burden cannot be considered as an incentive for creating employment. This problem is found in industrial and developing countries alike.

Furthermore, it is argued that the growth of the informal sector labour force is partly due to excessive payroll taxes. Hence, evasion not only undermines the sustainability of the financing system but also affects the structure and competitiveness of the economy, labour productivity being usually lower in the informal sector.

Does financing training help the poor?

Heavy investments in technical and vocational education and training often correspond to a policy emocratising education and broadening ng opportunities. In addition to expanding secondary education by developing vocational tracks, or providing alternative, non-formal forms of education, this policy has also led to compensatory government programmes. These schemes, sometimes supported by industry, are aimed at disadvantaged groups in the labour markets. Early school dropouts, minorities, and informal sector workers, often form part of these targeted populations. Such training schemes also constitute an important component of poverty-alleviation policies or "active" labour-market programmes.

The rationale inspiring these policies seems sound against a background of high structural unemployment: providing the jobless with the skills required by the economy should improve the labour market situation. Similarly, if one accepts that wages are linked to labour productivity, to train people for qualified jobs should contribute to reducing poverty.

In reality, the results of these policies are mixed, and often disappointing, especially in periods of high unemployment. Can, and should, governments really finance training on a large scale in order to address efficiently the issues of unemployment and poverty? In spite of the fact that there is little empirical evidence to support such intervention, such questions remain open. Some argue that, taking into account the high cost of training, social objectives and equity would be better addressed by improving the overall educational level of the population through increased investment in basic and general education (Carnoy, 1994). Improving the "trainability" of people through higher quality education would eventually diminish training costs, especially as the science and technology content of general education is on the increase (Caillods; Göttelmann-Duret; Lewin; forthcoming).

Financing training revisited: is the classical cost-sharing pattern still valid?

It seemed fair to consider that enterprises should contribute towards the direct financing of work-related education and training. This basic demarcation between general education, on one side, and technical and vocational education and training, on the other, has long served, with some variations, as the guiding mark in defining financing responsibilities and mechanisms.

While general education increasingly includes technological contents, the requirement of vocational skills tends to become less applicable to specific, narrowly defined, occupations. The use of similar technologies across a variety of sectors constitutes a major factor explaining this shift away from job-specific abilities. In addition, the progressive transformation of work organisation, relying less on the principles of Taylorism than it used to, increasingly involves workers in process improvement and quality control. Although this trend may be mainly affecting capital and knowledge-intensive industries, it already has a strong impact on the way skill formation and industrial learning are being addressed, and financed.

In the long run, the continuation of this tendency, and its dissemination to an increasing number of countries, as a result of intense international competition, may require reconsidering the concept of technical and vocational education and, therefore, reassessing the premises underlying the classical financing paradigm.

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Table: Public Expenditure on Education

Source: UNESCO, Statistical Yearbook 1995, tables 4.1 and 4.3

		Educational expenditure		
		Total		Vocational
Country	Year	as % of GNP	as % of total government expenditure	as % of public current expenditure on education
Africa				
Botswana[6]	1991	8.2	18.7	5.5
	1992	7.5	14.8	...
Cameroon[7]	1990	3.4	19.6	...
	1991	3.0	16.9	...
Ethiopia	1992	5.1	11.9	...
	1993	6.4	...	0.9
Ghana	1989	3.5	24.3	...
	1990	3.1	24.3	4.9
Mauritius	1985	3.8	9.8	1.2
	1990	3.7	11.8	...
North America				
Canada	1991	7.4	...	...
	1992	7.6	14.3	...
Costa Rica	1992	4.5	21.4	...
	1993	4.6	20.2	[8]6.7
Mexico	1992	4.9	...	...
	1993	6.0	...	[9]6.0
United States of America	1985	4.9	15.5	...
	1990	5.3	12.3	...
South America				
Argentina[10]	1992	3.1	15.7	...
	1993	3.3	12.4	...
Chile[11]	1992	2.8	12.9	...
	1993	2.7	...	5.7
Colombia[12]	1992	3.1	...	...
	1993	3.5	12.3	...
Ecuador	1992	2.7	19.2	10.0
	1993	3.0	...	...
Uruguay	1991	2.9	16.6	...
	1992	2.8	15.4	10.5
Asia				
Bangladesh[13]	1991	2.2	11.3	...
	1992	2.3	8.7	2.3
China	1992	2.0	12.2	...
	1993	1.9	12.2	...
India	1991	3.8	11.9	...
	1992	3.7	11.5	...
Indonesia[14]	1992	2.2	...	...
	1993	1.3	...	8.3
Israel	1990	5.8	10.5	14.6
	1991	5.8	10.6	14.6
Japan	1990	4.7	16.5	...
	1991	4.7	16.6	...
Jordan[15]	1992	3.9	9.1	...
	1993	4.6	11.6	1.8
Malaysia[16]	1992	5.5	16.9	
	1993	5.1	...	2.9
Nepal[17]	1991	2.7	12.3	...
	1992	2.9	13.2	3.5
Pakistan[18]	1990	2.6	...	...
	1991	2.7	...	...
Philippines[19]	1992	2.3	...	...
	1993	2.4	...	...
Singapore	1980	2.8	7.3	5.1
	1985	4.4	...	...
Europe				
France[20]	1992	5.7	...	...
	1993	5.8	...	...
Germany, Fed. Rep. of	1990	4.0	8.6	...
	1991	4.1	11.6	...
Norway	1991	7.9	14.1	...
	1992	8.4	13.6	...
Sweden	1991	8.0	14.0	...
	1992	8.3	12.6	...
United Kingdom	1990	4.9	...	...
	1991	5.2	...	...
Oceania				
Australia	1990	5.4	14.8	...
	1991	5.5	14.1	...
Fiji[21]	1991	4.9	...	...
	1992	5.6	18.6	...

... = data not available

6 For 1992, expenditure of the Ministry of Education only
7 Expenditure of the Ministry of Education only
8 Expenditure of the Ministry of Education only
9 Expenditure of the Ministry of Education only
10 For 1990, expenditure of the Ministry of Education only
11 For 1990, expenditure of the central government only
12 Expenditure of the Ministry of Education only
13 Expenditure of the Ministry of Education only
14 For 1993, expenditure of the Ministry of Education only
15 For 1992, expenditure on third level education not included
16 Expenditure of the Ministry of Education only
17 "Regular" and "development" expenditure
18 Not including expenditure on education by "other ministries" which are not directly related to education
19 Expenditure of the Ministry of Education only
20 Metropolitan France
21 Expenditure of the Ministry of Education only

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