

**TRAINING LEVIES:  
RATIONALE AND EVIDENCE FROM  
EVALUATIONS**

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(December 2003)

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## **I. Introduction**

Training systems in many developing countries are confronted with trying to develop strategies about how to enhance their efficiency and effectiveness. While there are many important elements to such a strategy, one important issue is that of financing training. An appropriate financing policy should ensure both the stability of funding needed to develop the capacity for policy implementation as well as the level of financing to improve training outcomes (World Bank, 1991). The claim on public resources for vocational education and training is much less strong than that for lower levels of education in most countries. Furthermore, in many developing countries, government budgets constitute a vulnerable and unreliable source of financing for training. Thus an important objective in the financing of such a system is to increase the contribution of beneficiaries – both employers and trainees.

This paper examines one of the most commonly used techniques for generating resources from employers – payroll levies. A number of countries have resorted to imposing payroll taxes on enterprises, which have become a significant source of financing for skills training, both in specialized training institutions or in enterprises (Middleton, Ziderman and Adams, 1993). The key principle behind such schemes is “who benefits pays” – according to the human capital model developed by Becker (1964), while the cost of completely general training should fall on the trainees, employers should share in firm-specific training costs. Another rationale for such schemes is usually that governments feel that because the firms are contributing financially, such interventions will encourage them to put greater emphasis on upgrading the skills of their workforce and make them more competitive. Payroll taxes are also attractive to governments because they provide a sheltered source of revenue for training and a means of mobilizing funds that may otherwise be unavailable to the public sector.

This note attempts to present information on international experience with training levy schemes,. In doing this, the note also discusses the rationale behind such schemes and look at some of the evidence on the effectiveness of these schemes

## **II. Types of Payroll Taxes<sup>1</sup>**

While there are mixed models, two major types of payroll taxes for financing training exist in developing countries.<sup>2</sup> In the traditional (revenue generating) scheme, firms are taxed to generate revenues to finance training provided by the public sector. In the alternative (levy-grant

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<sup>1</sup> For a detailed description see Middleton, Ziderman and Adams (1993) or Whalley and Ziderman (1989).

<sup>2</sup> It has often been seen that these payroll taxes have not been spent on training alone. Revenues have been diverted to other uses in Brazil, have been used to build up surpluses in Kenya and Nigeria and in some countries – Benin, Haiti and Mauritania, payroll tax revenues are comingled with general revenues (Middleton, Ziderman and Adams, 1993).

or levy-rebate scheme), in-plant training provision is encouraged by providing firms with training incentives. These schemes are described below.

*Revenue-Raising Schemes.* In these schemes, revenues are used to build up national training systems, which provide a wide range of pre-employment and in-service training courses such as in Brazil and Morocco. The emphasis is on public sector training provision rather than encouragement of firms to undertake training. The coverage of this levy also varies, both in terms of sectors and firm size. In many countries, this levy is restricted to the industrial sector of the economy, reflecting the limitations of the programs offered by public training establishments, but it may also cover the commercial sector and in some cases may be all-encompassing (Dougherty and Tan, 1991; Gasskov, 1994). Usually small firms ((less than 50 workers) are exempt from participating in this scheme.

*Levy-Disbursement Schemes.* In other countries, the payroll tax is linked to a disbursement scheme, with firms receiving grants in proportion to the level of training that their employees undergo. The advantage of this scheme is that the payroll tax proceeds are used to encourage firms to either set up programs of in-service training or upgrade skills of their workers by purchasing training for them at a recognized training center, and then qualifying for a rebate of upto a specified percent of the tax paid.<sup>3</sup> Interventions where the tax is linked to a disbursement scheme takes various forms involving payroll tax exemption, levy-grants or training cost reimbursements.

- Payroll tax exemption: firms can reduce or eliminate their levy obligations by the amount of training they provide or purchase. It is assumed that as firms know what their training needs are, they will spend their money on appropriate training programs. Examples of countries which implement these schemes include Cote 'd Ivoire and France.
- Training cost reimbursement: firms are paid grants based on the cost incurred for certain designated forms of training. These schemes usually encourage ad-hoc approaches to training provision, rather than pressing firms to develop systematic training programs. Examples of countries which implement these schemes include Kenya, Malaysia and Singapore.
- Levy-grant schemes: grants are paid to firms conditional on criteria met once a systematic training approach is adopted. In thinking about its eligibility to qualify for a rebate of the levy, levy-grant schemes encourage firms to act systematically in relation to their training programs. Examples of countries which implement these schemes include South Africa and Hungary.

Administration of these schemes differs by country and type of scheme. In revenue-raising schemes the money is usually collected and administered by the government body/agency directly responsible for training. On the other hand, national or sectoral funds are normally created by governments and/or employers and workers organizations to administer reimbursement mechanisms and levy-grant schemes. Such funds collect levies and decide on the distribution of training grants between firms. Levy-exemption schemes usually operate through

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<sup>3</sup> However in many countries, part of the proceeds of the levy are channeled back to national training authorities or to public training institutions. For example, in Colombia, the training authority has to give 50% of revenues generated through payroll tax formal public school vocational programs (Bolina, 1996).

employers' individual actions and are supervised by either the Ministry of Labor, or by the national general revenue agency or tax authorities.

### **III. Advantages and Drawbacks of Levy Schemes**

This section begins by furnishing the theoretical explanation behind who bears the burden of training taxes and the conditions under which the tax burden is “fair”. This is followed by an examination of the potential advantages and disadvantages of revenue-generating levy and incentives schemes, and the circumstances that factor in their manifestation.

#### *Who Bears the Burden?*

Taxes for financing training fall upon the enterprise and it is believed that the same enterprises bear the burden of the levy, thus making it appear to be “fair”. But on whom does the real burden fall – do employers bear the costs or are they passed onto workers in the form of lower net-of-tax wages?

Who bears what share of the burden of these taxes depends on two factors:

- The extent to which the design of the training scheme differs from what workers would have chosen for themselves.
- To the extent that some differences exist between the existing scheme and that which workers would have chosen for themselves, payroll contributions will be viewed as a tax, the incidence of which will depend on the elasticities of demand and supply of labor.

Thus, if the firm-sponsored training program is exactly what every worker would have chosen by themselves (i.e. if the worker is willing and able to pay for the training), then the cost will be borne entirely by the worker (who will willingly accept a wage net of all payroll tax contributions). If – as is more likely – the scheme is different, the tax burden will in general be shared by the worker and the employer.<sup>4</sup> The higher the elasticity of demand for labor, ceteris paribus, the larger the share of the tax borne by the worker; the higher the elasticity of supply of labor, ceteris paribus, the higher the share of the tax borne by the employer. Who actually pays (i.e., bears the incidence) therefore depends not on whom the tax is levied but the design of the scheme and the relative market power of the worker vis-à-vis the employer.

Evidence from developed countries seems to suggest that workers bear the brunt of payroll taxes. Thus, an issue to be considered is how close training benefits match the individual tax payments made. For example, charging a uniform tax across the board, which is the prevalent method in use in most countries, when costs and type of training vary significantly by sector, may lead to cross-subsidization of workers in some sectors at the expense of others. Another issue to be considered is whether training opportunities are distributed equitably across workers. The answer to this question depends on whether the tax is used to finance public training or encourage on-the-job training by firms, as well as on the type of programs being financed by the

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<sup>4</sup> An issue to be raised here is that of cross-subsidization. While all workers may be contributing to the scheme, not all will benefit. Only those who receive training in specific skills that are needed by the employer will benefit from the scheme. Thus, in some sense, unskilled workers may be subsidizing the training of more skilled workers.

tax. For example, if the tax finances public sector training, workers in tax-exempt firms (e.g. parastatals) may derive some benefits from the training without paying for the costs which would contribute to some inequity (Middleton, Ziderman and Adams, 1993). Similarly, an issue of cross-subsidization may arise, if only some workers in a firm are benefiting from the training.

We now turn to a discussion of the possible advantages and disadvantages that may be associated with revenue-generating levy schemes and incentive schemes.

### ***Possible Advantages and Disadvantages of Revenue-Raising Levy Schemes***

Revenue-generating levy schemes are one of the most sheltered and reliable sources of financing *public* vocational education and training in developing countries, especially in those which face considerable difficulties in mobilizing the necessary funds through the other options at their disposal. These schemes may assist in developing national training capacities and may assist in finance the training needs of disadvantaged groups and small employers.

However such schemes are also fraught with serious problems. It is difficult to sustain employer interest and participation in these schemes – many employers regard their contributions simply as a tax. Often when the public system is of low-quality, they feel that the levy they are paying is supporting an inefficient supply-led and hence, inappropriate, public training system, and in some cases is even being diverted by the government to uses other than training. For example, employers in Brazil feel that public training centers are not fully responsive to their needs. Furthermore, revenue-generating levy schemes are administratively costly to put in place. They tend to create bureaucracies which under-provide training and accumulate unnecessary surpluses which are then sometimes used to expand into areas not relevant to employer demands. For example, the Colombian training authority (SENA) has expanded into areas such as agriculture, construction and training for the self-employed – services that are only loosely tied to the needs of firms that pay the levy (Gasskov, 1994).

For such a system to be sustainable, it is also very important that a well functioning tax collection apparatus is in operation and that the number of firms be sufficiently large in order to generate revenues. This is usually a significant problem in many of the poorer developing countries where tax collection mechanisms may not be operational. Relatedly, because employers – especially small and medium enterprises – may have a negative attitude towards the levy and may resist paying, the pool of firms that pays is significantly small.

### ***Possible Advantages and Disadvantages of Levy-Disbursement Schemes***

The main advantage of these schemes is their ability to promote a high degree of self-financed, employer-based training. They can also contribute to the development of an employer-based training culture. Such schemes also allow management of the profile and quality of training offered by employers by establishing conditions that must be met if a given program is to be eligible for financing from levy-based funds. These advantages are apparent in Singapore's Skills Development Fund where the number of individuals trained tripled since inception and number of firms benefiting from the fund has more than doubled since 1991, with a significant portion of training being conducted on the job.

However, a drawback with these schemes is that incentives may be inadequate to mobilize additional training and consequently, may result in a deadweight loss – programs that employers may have provided anyway end up being subsidized. Often these schemes end up being a windfall to firms that already have well-established training programs. In the Singapore case, for example, all firms with 200 or more employees applied for training grants in contrast with just 25% of firms with 50 employees or less. Furthermore, procedures are usually complicated – hence may discourage smaller firms from filing claims (Edwards, 1997).

Under these schemes, firms may also have a tendency to implement programs that accomplish little beyond satisfying the compulsory training requirements and hence may not bring about any tangible benefits. To address this issue, training quality and content can be supervised. However, this can be both expensive and problematic (ILO, 1998). Sometimes such supervision is carried out by tax auditors or departments that lack relevant experience. High quality supervision often requires the creation of a bureaucracy which can result in its own problems and costs.

Another problem with these schemes is that employers never recover their levy contributions in full – in many cases part of the contributions are channeled back to national training authorities of public training institutions to finance pre-employment training programs. In Mauritius, for example, close to 50% of recurrent expenditures of public training institutions were funded through the payroll tax raised through the levy-grant scheme.

#### **IV. International Experience with Levy Schemes**

We now turn to a discussion on the coverage of levy schemes around the world and look at evaluative evidence on the effectiveness of these schemes.

##### ***Coverage***

There are over 30 countries in the world where levy schemes exist or have existed in the recent past. Revenue generating levy-schemes are most common in Latin America, while the other types of levy schemes have been implemented in different regions. Generally tax rates range from 0.5-2.0 percent of payroll and tend to stay reasonably stable over time. Countries differ in the sectors covered by the tax – with agriculture and the public sector most often excluded (Middleton, Ziderman and Adams, 1993). Smaller employers are also sometimes excluded from coverage. Table 1 provides information on tax rates and type of financing schemes in some developing and developed countries.

**Table 1: In-Service Training Initiatives**

<i>Country</i>	<i>Rate (%)</i>	<i>Revenue Generating</i>	<i>Payroll Tax Exemption</i>	<i>Levy-Grant</i>	<i>Training Cost Reimburse.</i>
Bahrain	1.0-3.0	√			
Brazil	1.5	√			
Cote d' Ivoire	0.4-1.6		√		
France	1.5		√		
Hungary	1.5			√	
Kenya	1.0				√
Korea	0.5		√		
Malaysia	1.0				√
Morocco	1.6	√			
Nigeria	1.25				√
Singapore	1.0				√
South Africa	0.5-2.0			√	
Tanzania	2.0			√	
Turkey	n.a.	√			
U.K.	1.0-2.5			√	

*Source: Various Sources*

### ***Impact of Levy Schemes***

Evaluative evidence on levy schemes is limited. In spite of the relative prevalence of these schemes, rigorous evaluations of the effectiveness of levy programs are extremely uncommon. We present some evidence on the effectiveness of 13 levy schemes that have been evaluated (to differing degrees). They include revenue-generating levy schemes such as the Brazil SENAI scheme, payroll tax exemption schemes such as Cote d' Ivoire's Vocational Training Development Fund, levy-grant schemes such as Hungary's Vocational Training Fund and training cost reimbursement schemes such as Malaysia's Human Resources Development Fund (HRDF). Appendix Table 1 summarizes evidence on the effectiveness of each of these schemes.

The scattered evidence suggests that while these schemes have, in general, had a positive impact on increasing in-service training, they have been inequitable – large employers have benefited to a greater extent than small or medium-size employers. Employer reaction to these schemes has been mixed, with most (especially the smaller ones) feeling that the levy is an additional tax that has been imposed on them unjustifiably. Problems associated with administering the fund and problems of non-compliance abound, especially with such schemes in developing countries.

Some general findings that emerge on the impact of these schemes (as the evidence is somewhat limited we have not attempted to differentiate by type of scheme) are:

- *Levy schemes have led to an increase in quantity of training.* In some countries levy schemes have had some impact on increasing training. For example, in Malaysia, HRDF participants were more likely to have trained their employees as compared to non-

participants (Tan and Gill, 1998). Similarly, in France under the levy-exemption scheme and in Singapore through the Skills Development Fund, the amount of training undertaken by employers increased (Kuruvilla, 1999; Tzannatos and Jones, 1997). A common feature of schemes in which training has increased has been the fact that an effective system is in place for administering the levy – both for levy collection as well as administration of grants. On the other hand, Korea saw a steep decline in the number of trainees once the training levy exemption was put in place in the mid 1970s (Gill and Ihm, 1998). The reason for this was that there were very complicated rules governing training requirements for the levy and the criteria for approval – hence employers did not find it worthwhile to apply for it.

- *These schemes are more effective under conditions of economic growth.* This is not a surprising finding as training has greater impact under conditions of economic growth. For example, in Singapore, the success of the Skills Development Fund is related to the fact that the economy and correspondingly, the demand for training, has been growing. The government has made a conscious decision to link skills development policies with the economic development strategy. Thus, upskilling is a continuous and expanding process that is based on economic development needs (Kuruvilla, 1999). However in countries such as Tanzania where economic growth has been slow, imposition of the levy has not had a significant impact on increasing training as economic growth rates, and employer demand has remained depressed (Dar, 1998).
- *Small employers do not benefit substantially from these schemes.* These schemes usually end up being, in some sense, akin to subsidies to large firms and taxes on small ones. Evidence shows that the more educated/higher-skilled workers are the primary recipients of training and these workers are more likely to work in larger enterprises (OECD, 1999). This issue is of great concern to developing countries where over 80% of employment is in small to mid-sized firms. Small and mid-sized employers have rarely benefited from payroll levies in any country for which we have available evidence. Firms are either non-compliant in paying the levy or, even if they pay the levy, do not claim reimbursements for training their workers (e.g. Singapore, Malaysia). The high rates of non-compliance are related to the low administrative capacity of governments and ineffective levy-collection mechanisms that are not able to target smaller employers ((e.g. Nigeria, Cote d' Ivoire, Tanzania). Reasons for non-participation vary. Smaller employers may be less likely to train their workers as they feel that costs are significant or training provided – especially if it is contracted out - may not be relevant to their needs (e.g. Brazil). Even if training is provided, the bureaucracy involved in claiming reimbursements dissuades firms from submitting claims for reimbursements (e.g. in Nigeria).
- *Leveling effect.* There appears to be some sort of “leveling” effect. Firms which may have otherwise invested more in training, tend to reduce their effort to the level required by law in order to receive the minimum rebate or tax credit. There is also some evidence which suggests that if firms are reluctant to train, they organize training which is not relevant to their needs in order to qualify for the rebate or tax credit (Herschbach, 1993).

Based on the evidence, countries that are planning to implement some sort of levy schemes for training should keep the following principles in mind. These principles are similar to those suggested in the Bank's policy paper on VET (Box 1).

### **Box 1: General Principles to Guide The Operation of Payroll-Levy Schemes**

Several points of principle should guide the operation of payroll levy schemes, so that the benefit relation between levy payers and training beneficiaries is maintained. These include:

- Levies should be subject to periodic review
- Where possible, levies should vary across sector and industry to reflect differing skill composition of the labor force and training needs
- Training authorities should not venture into extraneous activities
- The range of training services and courses provided should reflect the range of employer needs
- Levies should be used to promote training by enterprises.

Source: Middleton, Ziderman and Adams (1993)

- *Employers buy-in for these schemes is crucial.* While smaller employers are less likely to avail of the schemes and hence treat the levy as a tax, as mentioned above, other employers are also not always well disposed to the levy. For example, the U.K. levy-grant scheme was viewed by employers as an additional tax which added to industry's costs and tended to reduce overall competitiveness (Dougherty and Tan, 1991). In Hungary, employers felt that the government exerted too strong a control over funds and limited their effectiveness (see Box 2). For such a scheme to be successful, governments should ensure that employers are consulted at an early stage and are involved in the design, implementation and evaluation of the fund.

### **Box 2: Lack of Employer Involvement in Hungary's Training Fund**

Three hundred and forty top managers in Hungary were asked to assess the degree of influence of various actors on the allocation of the training fund on a scale of 0 to 100. They judged that government and ministries have the strongest influence (score of 87), followed, in descending order, by local governments (41), schools and training institutions (37), employers' associations (32), and trade unions (21). In their opinion, the order of precedence should be more or less reversed, with employers followed by schools exerting the strongest influence on how and for what purpose funds should be allocated and government, central and local, playing a less dominant role. As an example of excessive government influence, employers cited the government's decision to use the training fund to finance public training institutions and a research and development organization that they believe should have been financed from the government budget.

Source: Godfrey (2000)

- *Administrative efficiency and transparency is crucial.* This is a prerequisite for the successful functioning of any training levy scheme. Characteristics of such a scheme include

an effective tax system/levy-collection mechanism, efficiency in processing and reimbursing claims and clear and transparent application procedures which promote employer compliance. The Singapore Skills Development Fund, the French levy-exemption scheme and the Malaysian levy-reimbursement scheme are examples of well administered schemes (Gasskov, 1994). However, even these schemes encounter high rates of non-compliance – over one-third of employers in Malaysia do not comply with HRDF regulations because they find them quite burdensome (Box 3). In poorer countries where administrative capacity is not as well-developed (e.g. Nigeria, Tanzania), non-compliance rates tend to be higher, especially among the smaller employers.

- *Fund design should ensure that non-governmental providers are not crowded out.* This has been observed in some countries especially when the levy collected is being channeled back partly to fund public training institutions, there has been crowding out of non-governmental training providers. In Kenya and Tanzania, with part of the levy going to support underfinanced public training institutions, non-governmental providers of craft training were being crowded out (Adams and Fretwell, 1997). The fund should be designed in such a manner that it allows both government and non-government providers to compete on a level playing field as providers of training. Not only will this ensure that non-government providers are not crowded out, but through ensuring greater competition, it will also increase the effectiveness and efficiency of public provision of training. The government has an important role in ensuring quality control among training providers, both government as well as non-government – only providers of good quality and relevant training should be allowed to access the fund.
- *Governments should play a significant role in evaluating the effectiveness of these schemes.* As has been repeatedly pointed out, these schemes have rarely been evaluated in a rigorous manner. While over 30 countries have implemented these schemes, we only came across a handful of evaluations, few of which were rigorous. Governments have unfortunately largely neglected their roles as providers of information about the impact and effectiveness of these schemes. These schemes are most effective when they are implemented in conjunction with rigorous evaluations in order to ensure that the training is actually implemented as intended, the quality of training is high, and employers are benefiting from the scheme. Without rigorous and systematic monitoring and evaluation, there is significant opportunity of misuse in these schemes. While the cost of monitoring and evaluation is likely to be high, an expansion of this role may be one of the most effective ways for governments to foster the development of relevant and cost-effective training systems.

## V. Conclusions

This note has attempted to discuss the rationale behind levy schemes and look at some of the evidence on the evaluation of these schemes. This note discussed the different types of payroll tax schemes – revenue-raising and incentive schemes. It has also explained the rationale for payroll tax schemes and elucidated the possible advantages and disadvantages of such schemes. Finally, the note has also reviewed the evidence on the effectiveness of these schemes and presented some general lessons that emerge from these evaluations. The paucity of

evaluative evidence on the effectiveness of these schemes makes it difficult to derive conclusions on some important issues – e.g. the quality of training under these schemes and the financial sustainability of these schemes. However, we have tried to present evidence on other aspects of these schemes.

### **Box 3: The Malaysian Human Resources Development Fund (HRDF)**

The HRDF, a levy reimbursement scheme, was established in 1992. The Human Resource Development Act created the Human Resource Development Council, with representatives from the private sector and from responsible government agencies, and a secretariat to administer the scheme. Under HRDF, employers pay a payroll contribution of one percent and are eligible to claim a portion of allowable training expenditures up to the limit of their total levy for any given year. The reimbursement rates vary by sector and type of training. The HRDF is considered to be one of the most well-run schemes administratively and is extremely efficient in reimbursing claims and making application procedures easy for employers to comply with. To date, a total of 3,304 companies have registered with the HRDF.

#### *Evaluation of HRDF*

A survey conducted in 1994 of 1450 firms eligible to participate in the HRDF found that 402 firms (27.7 percent) were not registered with the HRDF. Of those registered, another 34.5 percent reported that they did not claim reimbursements under HRDF. Small firms (with 50 to 100 workers) are more likely to be non-compliant (49 percent) than large firms (8 percent). These data also revealed wide variations across sub-sectors in the take-up of the HRDF scheme. The highest take-up rates of the scheme were in professional and scientific instruments, general machinery, electric machinery, and ceramics and glass. Sub-sectors with low take-up rates were food, beverages and tobacco, textiles and apparel, and wood products and furniture.

Comparing the training experiences of two groups of firms: those registered with the HRDF, and those who were eligible but chose not to register, provides some answers to whether HRDF has resulted in an increase in training among firms. In principle, the registered group would have increased incentives to train so as to recover their payroll levy contributions, while the non-registered group would not have the same incentives. The results show that HRDF has increased training modestly - 49 percent of the registered companies said that they had increased training and 39 percent firms said that their training had remained the same. In contrast, of the eligible firms not registered with the HRDF, 27 percent said that their training had increased while 47 percent firms said that their training had remained unchanged. Regression analysis showed that while HRDF did not have any impact on increasing training among small firms, it did have a role in increasing training among medium and large firms.

Who are these non-claimant firms and why are they not training? Only 6.1 percent of these non-claimants do no training. The majority of firms not claiming (54.1 percent) are those that only provide informal on-the-job training. Thus about 60 percent of these firms are not eligible to claim for reimbursements because they either do not provide training or are only training informally. The remaining 40 percent report that they provide formal training, yet do not claim reimbursements for expenditures.

Empirical analysis showed that firms least likely to claim from HRDF are small firms and firms providing no training or only informal training. Important factors that employers cite as inhibiting their training: the limited resources available for training, the use of mature technology with low skill requirements, the adequacy of skills provided by schools, and the availability of skilled workers who can be hired from other firms.

*Source: Tan and Gill (1998)*

From this discussion, it is clear that implementing an efficient and equitable levy scheme may be more suitable for middle-income countries rather than most low-income developing countries. While these schemes have usually led to an increase in the quantity of training

undertaken, some of the prerequisites for such a system are not yet fully in place in most of these countries. Their economies are growing relatively slowly. It is also crucial that an effective administrative setup be in place both to collect the levy as well as to disburse it and such a system is not in place in most of these countries. Furthermore, the evidence points towards these interventions acting as subsidies to large employers while being a tax on the smaller employers. Given that a significant majority of employment is concentrated in small and medium-sized enterprises, governments should not dampen their growth by imposing a further tax on them.

A final, though equally important point is that, if implemented, these schemes should finance in-service and not pre-employment training. Firms are more likely to share in the cost of firm-specific training but less likely to share in the cost of general training. To the extent pre-employment training is general in nature, the burden of paying for that training should not fall upon firms. However, some countries have used a portion of the resources levied from firms to fund training authorities and public training centers which provide pre-employment training for unemployed youth and other marginalized groups. While this may be a socially justifiable objective in itself, it may not be the most optimal economically.

If governments are mainly concerned with upgrading the skills of the workforce, an alternative levy-grant scheme that can be implemented is a system that is revenue neutral overall. All money collected by the government through a levy would be transferred back to firms – possibly after the government takes a small administration fee. Firms who train more would get back a larger proportion of funds. Under such a scheme, a firm would receive a grant not only on the basis of how much it trains, but also how much it trains relative to other firms in the economy - hence firms have an incentive to train more to keep pace with their competitors and get a larger grant. This initiative could also encourage small firms to train more. However, the drawback of putting in place such a scheme in a developing country context is similar to that of any other levy scheme - implementing such a scheme may be administratively difficult to do.

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**Appendix Table 1: Effectiveness of Levy-Rebate Schemes**

Scheme Background and Objectives	Impact/Evaluation	Comments
<p><i>Brazil SENAI and SENAC schemes.</i> Since 1942, vocational training institutes have been financed by a compulsory levy imposed on payrolls. SENAI funds come from a compulsory contribution of one percent of payroll on industries. Industries with more than 500 employees pay an additional contribution of 0.2 percent of payroll. Emphasis on public sector training provision.</p>	<p>Evaluation done in the 1980s suggest a successful program – training had gone up by 300%.</p>	<p>Employers feel that public training centers are unresponsive to their needs. While numerically training seems to have gone up substantially, it only mainly benefited the largest firms. Very low participation rates among smaller firms. Similar results for levy scheme in Chile.</p>
<p><i>The French levy-exemption system.</i> Dates back to 1925 aimed at providing incentives to promote both school-based vocational training and employer training. Composed of two parts: an “apprenticeship tax” and a “training tax” combining for over two percent of payroll. Payment of taxes is due at end of year, unless evidence can be presented by employer that an amount equivalent to tax was spent on authorized training. VET schools receive employer grants on the basis of competition between providers.</p>	<p>These provisions have been increasingly utilized by employers. Amount of training tax not spent by employers and to be collected by the state was almost zero in the 1990s. Similarly only four percent of the apprenticeship tax was not spent by employers and paid to state. Competition between providers of training – both public and private – ensures that training remains relevant to market demand.</p>	<p>Effective system in place for administering levy. Efficient tax collection mechanisms in place. Larger employers invest more heavily in training. Small enterprises (less than 10 workers) have not expressed an interest in participating and hence are exempt from the training tax. Training costs remain high and provision is not highly cost-effective.</p>
<p><i>Singapore Skills Development Fund.</i> Established in 1979 to provide incentives for the development of higher-level skills to support Singapore’s economic restructuring. All firms levied one percent of payroll for low wage workers (those earning below S\$1000/month). Firms can claim partial reimbursement on certified courses.</p>	<p>Number of individuals trained tripled since inception and number of firms benefiting from the fund has more than doubled since 1991. A significant portion of training is conducted on-the-job.</p>	<p>Part of success of this program is due to excellent administrative capacity that allows tight selectivity in the offering of grants, growing local demand for training, strong network of industry based training facilities, and a policy that ensures that grants are linked to firms restructuring programs. Even though the program is aimed at improving skills of low-wage/low-skilled workers, small enterprises, where such individuals predominate, want to be exempted from the levy as they feel they do not benefit from it – less than 14% of firms with less than 10 employees avail of the SDF. Employers are also reluctant to use funds to train older workers (over 40 years).</p>
<p><i>U.K. Levy-Grant System.</i> In 1964 the Industrial Training Act proposed to address the problems of skill shortages and supply of skilled labor through the establishment of</p>	<p>In 1969 there were 27 statutory ITBs, training levies raised 195 million pounds and covered 15.5 million workers out of a total working</p>	<p>The levy-grant scheme was viewed by employers as a tax system which added to industry’s costs and tended to reduce overall competitiveness. They felt that the</p>

<p>industrial training boards. The establishment of these boards was expected to increase the amount of training carried out by firms, improve training quality and produce data on employment and training trends. ITBs set their own levy between 1-2.5%. Grants were given on the basis of evidence that a firm was training sufficiently and that the training was meeting approved standards.</p>	<p>population of 25 million. However, due to objections voiced by employers and the diminishing effectiveness of levies, this system was disbanded during the 1980s.</p>	<p>government was trying to interfere into a levy system to a greater extent than was necessary. Employers also felt that the policies governing the allocation of grants and cost reimbursement were unclear</p>
<p><i>Nigeria Industrial Training Fund.</i> Established in 1971 in order to encourage acquisition of skills in commerce and industry. Employers are charged a 1.25% payroll levy. ITF reimburses direct expenses on approved training courses. Enterprises that hire training personnel are entitled to reimbursement of their wages. Generally an employer can qualify for upto 60% of the levy paid.</p>	<p>Only 50% of firms that are registered (3600 registered firms) pay their levy. Less than 15% of firms request reimbursements for their training costs.</p>	<p>Fund is significantly overstaffed (over 1,500 employees in all) but has achieved little success in collecting revenues as well as reimbursing firms for training expenditures – many firms do not submit receipts as they feel that the level of bureaucracy is too high. Fund has not been effective in targeting small and medium sized firms.</p>
<p><i>Cote d' Ivoire Vocational Training Development Fund (FDFP).</i> First set up in the late 1950s to finance (a) continuous training; (b) apprenticeship training and (c) studies of technical training. Apprenticeship is funded through a payroll tax of 0.4% while the continuous vocational training is funded through a payroll tax of 1.2%. Employers can keep upto 0.6% of the vocational training tax for training.</p>	<p>7500 registered companies. All contributed to fund but less than 11% undertook training programs (1995). Over 165,000 individuals have participated in training programs since the late 1970s.</p>	<p>Small and medium enterprises are still reluctant to participate. More focus need on monitoring and evaluation of training quality and impact of training.</p>
<p><i>Kenya Industrial Training Levy Fund.</i> Established in 1971. Levy (which varies by industry) is paid by all registered companies with four or more employees. Employers who provide training in certain recognized types of programs are reimbursed.</p>	<p>No rigorous evaluation. Training has tended to decline in some cadres of industrial workers though the amount of management training has remained relatively high.</p>	<p>Levy will not be able to meet training reimbursements if all contributors participated in legitimate training. It may be necessary to reduce reimbursement level –which could be met with resistance by employers. Most employers do not use the levy but directly pay for the costs of initial training of their employees. Due to the levy, the Department of Industrial Training has crowded out other providers of craft training.</p>
<p><i>Hungary's Vocational Training Fund.</i> Established in the 1990s but later merged into a Labor Market Fund which provided a variety of labor market services. The VTF was a levy-grant system with employers contributing 1.5% of payroll.</p>	<p>No rigorous evaluation of the impact of the levy. Over 14,000 people were trained in 1995.</p>	<p>Employers feel that government exercises strong control over the fund and limits effectiveness. When asked to assess the degree of influence of various actors on the allocation of VTF (on a scale of 0-100), the government had the strongest influence (87), as compared to employers associations (32) and trade unions (21). In their opinion the order of precedence should be more or less reversed.</p>
<p><i>Malaysia's Human Resource Development Fund</i></p>	<p>Initial use was low. A 1994 survey showed</p>	<p>Levy-rebate scheme is extremely well run, but still faces</p>

<p>(<i>HRDF</i>). HRDF was established in 1992. Employers who have contributed one percent of total payroll for at least six months can reclaim a portion of allowable training expenditures.</p>	<p>that out of 1,500 eligible firms, 28% were not registered under HRDF and one-third of registered firms did not claim reimbursements. Smaller firms are much less likely to participate. Among registered firms, 50% increased training over last three years, while training remained about the same for 40% of firms. In contrast, among the non-registered firms, 27% had increased training while for 50% training had remained unchanged.</p>	<p>considerable non-compliance problems and uneven take-up across industries. Despite being efficient in reimbursing claims and making application procedures easy for employers to comply with, the training impact of the scheme appears to be modest.</p>
<p><i>Korea's compulsory in-plant training scheme</i>. A type of a levy exemption scheme put in place in the mid 1970s. Government made in-plant training compulsory for firms with 500 employees in 1974 (revised to 300 in 1976 and 150 in 1991). Employers were given the right to waive training through payment of a training levy to the government administered Vocational Training Promotion Fund. Government had stringent regulations in place to determine was qualified as "recognized training".</p>	<p>Number of trainees rose from 13,000 in 1974 to over 96,000 by 1976. Number of registered trainees fell to 15,000 by 1989 even though the levy was increased eight fold during this period. About one third of covered firms opt to pay levy, sometimes even when they provide in-house training.</p>	<p>Levy has now been repealed as it proved ineffective in increasing in-plant training. While the levy was well administered, part of the reason for this failure was that there were very complicated rules governing training requirements for the levy and the criteria for approval. A survey of employers also showed that a majority of employers felt that the levy should be abolished as it provided no benefit to employers.</p>
<p><i>South Africa's Industrial Training Boards</i>. These industry-specific training boards were formed in the 1980s. There are currently 27 boards. They are voluntary and their functions vary. However, most impose a training levy on their members in order to encourage them to train and organize training courses for firms in their sectors.</p>	<p>No serious evaluation of the levy system. However, reports indicate that compliance with regards to levy payment is low.</p>	<p>Weak administration leads to high level of evasion and low impact of levy. Less than 20% of formal workforce covered by an ITB.</p>
<p><i>Taiwan's subsidy scheme</i>. Firms undertaking approved training within the enterprise qualify for a 50% subsidy. Similar subsidy offered to firms which send workers to a public training center. Individuals undertaking training receive fully subsidized tuition and materials.</p>	<p>Scheme has not been rigorously evaluated. Large scale enterprises have been active in the provision of training promoted in-part through these government subsidies.</p>	<p>Protracted mismatch between skills and needs of industry. Small firms not availing of subsidy.</p>
<p><i>Tanzania's Levy-Grant scheme</i>. Government has set up an autonomous Vocational Education and Training Authority to provide tailor made courses to meet training needs of employers. This was set up in 1995 and is financed through a payroll levy of 2% on employers.</p>	<p>Scheme too recent to have been evaluated rigorously. Initial evaluations show that employers are reluctant to pay levy.</p>	<p>Demand for training remains low as economy grows slowly. Levy not likely to enhance training significantly.</p>