

4. Financing, Costs and Efficiency of Training

This section presents a regional view of financing of training in the Caribbean and compares the levy schemes with similar financing schemes in the world. Further, it discusses what little is known about unit costs for training in Jamaica, and looks at other efficiency factors such as overhead costs and salary costs. It was not possible to complete an analysis of efficiency and cost effectiveness due to insufficient comparative data across countries, although Jamaica's costs look rather high in comparison.

4.1 The Use of Training Levies

Dar and Canagarajah (2001) analyzed training levies across the world and found the following broad types:

“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).”

INFOTEP and HEART Trust/NTA are financed principally through the payroll levies in effect in those countries; in the Dominican Republic a training levy of one percent of payroll and one-half percent of workers’ bonuses is enforced and in Jamaica the levy is three percent on employer payrolls (above a low threshold). Barbados has the Employment and Training Fund (ETF) for financing a limited number of training programs offered by the TVET Council, while in Trinidad & Tobago and St. Lucia, all training is financed by government general revenues, with cost sharing in place for some programs at tertiary institutions.

The Dominican Republic levy is essentially a training cost reimbursement scheme that has also functioned as a revenue generating mechanism allowing the development of education and training programs in the communities to flourish. The total amount generated by the levy could not be ascertained. INFOTEP also derives revenue from providing services, and from any fines or extra charges imposed on firms that have been delinquent in paying the levy.

The Jamaican three percent levy is the highest that has been found in the world. The law has a payroll tax exemption that allows firms to reclaim their tax paid by providing traineeships. In practice, the Trust also employs levy-grant and training cost reimbursement, depending on the circumstances. The Trust has accumulated a surplus over the years amounting to about six months of operational cost, and is intending to lower this surplus amount in the coming two years by providing incentives for worker training and certification. In a significant sense, the Trust has functioned as a revenue-raising scheme and has used the levy to develop a sizeable training system. The 3% levy is currently under review at the Ministry of Finance in consultation with the IMF with the idea of consolidating payroll taxes, including a dedicated tax for the National Housing Trust, to streamline the payment process. Whether this will result in a lowering of the 3% levy is not yet known. HEART Trust/NTA derives 89.5 % of its income from the levy, 7.5% from earned income, and 3.0 % from interest earned (down considerably after a period of high interest rates that helped swell its accumulated surplus). Various development assistance projects are in place that may or may not show as income to the Trust.

The Barbados TVET Council is supported by a one percent tax falling half on employers and half on employees, administered under the National Insurance scheme. This becomes the Employment and Training Fund (ETF) administered by the TVET Council. The Barbados ETF policy stipulates that firms pay 25% of the costs of training programs administered by the TVET Council, but generally this is a levy-grant scheme. The amount collected by the ETF could not be ascertained.

Training levies are common throughout the LAC. Comparable training levies in the region include Ecuador 0.5%, Guatemala 1%, Nicaragua 2%, Paraguay 1%, Peru 0.75%, and Venezuela 2% (Dar, 2001). Table 4.1 captures and enlarges upon Dar's analysis.

The evidence on levy schemes from Dar is that these schemes do increase the quantity of training available, but that their effectiveness is dependent on

Table 4.1 Payroll Levies in Comparison

Country	Rate (%)	Revenue Generating	Payroll Tax Exemption	Levy-Grant	Training Cost Reimbursement
Bahrain	1.0-3.0	✓			
Barbados	1.0			✓	
Brazil	1.5	✓			
Cote d' Ivoire	0.4-1.6		✓		
Dominican Republic	1.0 +0.5				✓
Ecuador	0.5	n.a.			
France	1.5		✓		
Guatemala	1.0	n.a.			
Hungary	1.5			✓	
Jamaica	3.0	✓	✓		
Kenya	1.0				✓
Korea	0.5		✓		
Malaysia	1.0				✓
Morocco	1.6	✓			
Nicaragua	1.0	n.a.			
Nigeria	1.25				✓
Paraguay	1.0	n.a.			
Peru	1.0	n.a.			
Singapore	1.0				✓
South Africa	0.5-2.0			✓	
Tanzania	2.0			✓	
Turkey	n.a.	✓			
U.K.	1.0-2.5			✓	
Venezuela	2.0	n.a.			
Average Latin America	1.12				
Average Caribbean	1.66				
Average Africa/Mid East	0.96				
Average Europe	1.33-1.6				
Average Asia	0.83				

Source: Type of levy: Dar and Canagarajah (2001); author's findings

economic growth, which is needed to focus the financing on real needs. They also note that smaller firms are less likely to benefit from levy resources, as there may be time and expense involved in accessing the levy's benefits, and that skilled workers usually benefit most.

That the levy has increased the amount of training seems clear in the DR and Jamaica, although in Jamaica this is mostly institution-based training, and, in this sense the levy has been used as a revenue-generating device to build a significant training system. And, at least in the Jamaica case, it is probably true that small firms are more challenged to use the levy to their benefit and that the system is less than optimal because of low economic growth. The data suggest that the levy has indeed encouraged training of skilled workers and technicians in the DR.

The high level of the levy in Jamaica puts it at risk for a downward revision, especially as it is under review by the Ministry of Finance. The recent study on returns to investment by James (2003) lends support to the case to keep HEART Trust/NTA operating at a high level, since the data indicate HEART Trust/NTA programs appear to add value to otherwise weak secondary school graduates.

For Barbados, it is impossible to assess the effects of the ETF levy as data could not be had about its amount and how it is actually spent.

4.2 Public Sector Allocations for Training Programs

Table 4.2 attempts to summarize the funding picture based on available information according to types of training offered across the five countries in the region. Barbados is spending about US\$11.66 million, Jamaica about \$54.5 million, and St Lucia about \$1.63 million. The amount spent in total by Trinidad and Tobago could not be accurately ascertained as not all reports were received and several large institutions were not reported upon; however an amount of about 10.8 million was ascertained. Data were not received for the Dominican Republic.

The data suggest wide variation in the amount spent per member of the working age population with the figure for Barbados being the highest at \$60.08 per member of the working age population, followed by Jamaica at \$31.35, St. Lucia at \$15.79 and Trinidad and Tobago at \$11.21. The figure for Trinidad and Tobago would be larger with the inclusion of missing data.

Table 4.2. Public Expenditure on Training by Country (US\$)

PROGRAM	BARBADOS	DOM. REP.	JAMAICA	ST. LUCIA	TRINIDAD & TOBAGO
Institutional Training	BCC Hospitality Institute=\$2.5m Barbados Community College=\$9.2m (about 1/3 TVET=\$3.06m) SJPP=\$5.35m	Data not received	\$33.9m	EC\$12.6M 30% is technical & management studies= EC3.8= US\$1.41m	YTEPP =1.76m JDTI=data not received SFTI-data not received MIC & NSEC-data not received
On-the-Job Training	Barbados Vocational Training Board=\$3.9m		\$2.94m		\$2.88m
Community Training & Youth Programs	BYS—no figures supplied BYES—no figures supplied		3.6M	\$.22m	YAPA=\$5.34m Export Centers = \$0.799M
Other	TVET Council budget = \$.75m		\$17.7M		NTATT-data not received
TOTAL ESTIMATE	\$11.66m		\$54.54m	\$1.63m	\$10.779M
Annual expenditure per working age population (in US\$)	\$60.08		\$31.35	\$15.79	\$11.21

Source: Compiled from various sources by author. Barbados figures supplied by Barbados TVET Council Note: Tertiary Education allocation includes SALCC, which is about 30% technical and vocational.

In terms of private sector expenditure the analysis of Blank (2003) in Jamaica is interesting in providing an estimate of the kinds of money being spent by firms:

“Based on the data reported by the Jamaica Employers Federation study, we estimate that the 67 firms that provided information on training expenditures spent approximately J\$219.3 million (US\$5.0 million) on staff upgrading. While it is impossible to extrapolate to all employers based on the data presented by JEF, there is no question that employers make significant investments in staff upgrading.”

4.3 Training Incentives in Tax Policies

In Barbados tourism firms can deduct 150 percent of training expenditures (200 percent if there is an approved employee share ownership scheme in place), and in information technology a training grant of U.S.\$50 per employee per week is applicable. St. Lucia provides a three-year tax credit to firms who take on a participant from its new (short-term) Youth Apprenticeship Program. Trinidad and Tobago is examining proposals for a training tax credit or other financing mechanism for its planned Science and Technology Park. The Jamaican HEART Act allows for a tax credit against the three percent levy obligation to firms participating in providing traineeships, but the amount of the credit is small and has been eroded by inflation over the years, and does not appear to operate as a genuine incentive. HEART Trust/NTA is instead looking at a temporary set of incentives financed from its accumulated surplus to stimulate training and certification of existing workers in contributing firms.

INFOTEP operates a levy-grant scheme for the approved training in firms, thus returning amounts paid in by both employers and workers.

4.4 Analysis of Training Costs

It was not possible to get detailed expenditure information from most of the jurisdictions under analysis to understand the specific allocation of resources to salaries or overhead costs, or to evaluate unit costs. It is possible, however, to calculate the unit enrolment cost for the public-financed training. This analysis shows Barbados spending U.S.\$7,900 per enrollee, more than six times the amount per enrollee spent by Jamaica at HEART Trust/NTA. Trinidad and Tobago’s

figures are missing COSTAATT expenditure, so its \$600 per enrollee is an underestimation, while St. Lucia shows expenditure of \$441 per enrollee.

The unit cost per enrollee is calculated in Table 4.3 below:

Table 4.3 Unit Cost Calculations (US\$)

Country	Expenditure	Enrolment	Unit Cost
Barbados	11.66m	1,476	7,900
Jamaica	54.54m	42,490	1,368
St. Lucia	1.63m	3,694	737
Trinidad & Tobago	10.8m	18,000	600

Source: Author's calculations from data supplied

The 2000 World Bank report on youth programs in Trinidad and Tobago said that unit training costs in Youth Development Apprenticeship Centers were about TT15,000 (U.S.\$2,400) per student and that salaries accounted for 80 percent of the budget.

The only more detailed data that were available were from HEART Trust/NTA. In terms of the largest categories of spending, HEART Trust/NTA reports the following major categories of expenditure for 2003-04 in its budget:

- Personnel Costs = 42.8% (down from 49% in 1998/99)
- Training Subventions = 14.6% (funds given to external providers)
- Food & Drink = 4.2%
- Stipend = 2.5% (Level 1 trainees receive JA\$250 per week for transport)
- Special Incentives = 2.02% (to promote participation in new framework, levy-grant approach)
- Security = 2.5%
- Part-time personnel = 1.7%
- Other costs: 29.38 (all line items less than 1.7%, but includes all learning materials and training supplies)

As shown in Table 4.4, central administration consumes nearly 14 percent of the budget (finance, tax compliance, personnel, planning, etc.); program moni-

Table 4.4 HEART Trust/NTA Budget 2004/05

HEART Trust Expenditure	Projected 2003-04	%	Budget 2004-05	%
Central Admin	438,861,806	15.0%	477,412,435	13.6%
Program Monitoring & Admin	137,236,130	4.7%	161,415,987	4.6%
Training Support	74,692,909	2.5%	89,331,530	2.5%
Academies	999,253,772	34.1%	1,172,131,860	33.3%
VTCs	456,958,256	15.6%	583,483,368	16.6%
Community Programs	163,735,991	5.6%	215,962,966	6.1%
Industry Programs*	54,690,860	1.9%	107,022,391	3.0%
OJT**	101,795,480	3.5%	178,176,597	5.1%
VTDI	156,542,256	5.3%	187,499,158	5.3%
NCTVET	99,138,216	3.4%	114,870,718	3.3%
Other	247,483,136	8.4%	229,579,136	6.5%
TOTAL	2,930,388,812	100.0%	3,516,886,146	100.0%
Training Only				
Academies	999,253,772	34.1%	1,172,131,860	33.3%
VTCs	456,958,256	15.6%	583,483,368	16.6%
Community Programs	163,735,991	5.6%	215,962,966	6.1%
Industry Programs	54,690,860	1.9%	107,022,391	3.0%
OJT	101,795,480	3.5%	178,176,597	5.1%
VTDI	156,542,256	5.3%	187,499,158	5.3%
TOTAL	1,932,976,615	66.0%	2,444,276,340	69.5%

*Large increase for Caribbean Institute of Technology to expand to community colleges' offerings.

**New Special Incentive under OJT (\$71M for firms to perform training & certification)

Source: HEART Trust Budget

toring and training support, an additional form of overhead, consume 7.1 percent. Accreditation and certification consumes about 3.3 percent, and other costs, like assistance to the Ministry of Education for Technical High Schools, comput-

ers and IT services, consumes 6.5 percent. This leaves about 70 percent for the actual training programs, including significant new, planned expenditure to increase the number of sites offering the Caribbean Institute of Technology program and the new incentive for training and certification planned for this year.

The unit costs of training are only available for Jamaica's HEART Trust/NTA, and this presentation borrows heavily from Blank, 2003. These costs can only be analyzed at the level of the training location and not the actual training programs. The accounting system is presently being modified to capture costs at the program level. The unit cost calculations are skewed by the currently high cost of the relatively new Caribbean Institute of Technology at about seven thousand U.S. dollars per participant. Otherwise average costs are about U.S.\$1,400 per completer, with the Academies, some of which are residential, showing the highest cost, and community programs and on-the-job training showing the lowest costs. Within the Academies category itself, unit costs are quite variable and indicate that smaller institutions operate with significantly higher costs as shown in Table 4.5.

It appears that among the HEART Trust/NTA-financed programs the size of enrollment is a main determinant for unit costs while residential status and

Table 4.5 HEART Trust/NTA Unit Costs by Program Type

Training	2003-04	%	Output 2003-04	%	Unit Cost
Academies	999,253,772	34.1%	9,342	42.16%	J\$ 106,964
VTCs	456,958,256	15.6%	4,682	21.13%	J\$ 97,599
Community Programs	163,735,991	5.6%	4,070	18.37%	J\$ 40,230
Industry Programs	54,690,860	1.9%	199	0.90%	J\$ 274,828*
OJT	101,795,480	3.5%	2,073	9.36%	J\$ 49,105
VTDI	156,542,256	5.3%	1,790	8.08%	J\$ 87,454
TOTAL/AVERAGE	1,932,976,615	66.0%	22,156	100.00%	J\$ 87,244

*Industry programs' cost is inflated by CIT, if removed the average for industry-based programs is \$62,569.

Source: HEART Trust/NTA Budget

skill area may also contribute (See Table 4.6). For instance, unit cost per trainee was highest in two non-residential Academy institutions with the smallest enrollments (Cosmetology and Cornwall Automotive) while Portmore (J\$52,790) and Stony Hill (J\$49,843), both residential academies with high enrollments, recorded relatively low unit costs. Cornwall Automotive, which is a non-residential academy training automotive skills, had the second smallest enrollment (175). Its unit cost was J\$ 114,253, the second highest among Academies. By contrast, at JAGAS, also a non-residential Academy providing automotive skill training, the unit cost was only J\$43,009, less than half of the unit cost in CATI. However, it should be noted that the lower unit costs at JAGAS are also due to the fact that the calculation does not differentiate part-time students in the second- and the third-year training.

**Table 4.6 Expenditures and Unit Costs by Cost Centers
(Academies and VTCs) 2001/02**

Location	Residential Status	Projected Expenditures 2001/02	Enrollment	Unit Cost
Cosmetology	NR	20,778,361	173	120,106
Ebony Park School	R	82,745,725	908	91,130
Garmex	NR	67,932,098	1575	43,131
Kenilworth	NR	84,001,251	2118	39,661
Cornwall Automotive	NR	19,994,264	175	114,253
Portmore	R	78,393,198	1485	52,790
Runaway Bay Institute	R	56,841,536	801	70,963
Stony Hill	R	92,208,746	1850	49,843
JAGAS	NR	39,009,380	907	43,009
NTEI	NR	47,103,191	1239	38,017
VTCs Average	NR	327,510,380	6506	50,340

Source: HEART Trust/NTA 2002/2003 Budget and other information provided by HEART Trust/NTA

At VTCs, the average unit cost of training an individual trainee was J\$50,340. Diseconomies of scale in VTCs caused by the smaller enrollment size seem to be a main determining factor for the disparity in the unit costs. In 1999/2000, the unit cost varied across 16 VTCs ranging from J\$46,066 (Rockfort) to J\$105,143 (Culloden). As in the Academies, there is a strong correlation between unit cost and size of enrollment. For instance, Culloden and Boys Town which recorded the two highest unit cost, J\$96,757 and J\$105,143, respectively, had the smallest size of enrollment (142 and 126, respectively).

The inverse link between the size of training institutions such as Academies and VTCs in Jamaica is consistent with international experience. This suggests the possibility of examining various alternatives to maximize the use of training resources, including consolidation of training institutions, different organizational arrangements for learning opportunities, partnerships with other education and training establishments or firms, distance education and the use of information technology in learning, and/or initiatives to promote private sector provision. Efforts to expand the size of the small VTCs, as suggested by HEART Trust/NTA, may also be appropriate. It is important to note that these alternative strategies may not reduce unit costs. For example, distance education programs can be very expensive to establish. Analysis of the economic and social costs and benefits of alternative strategies would help to inform policymaking.

The findings on institution size and unit costs has an important implication for the CANTA process and suggests possible scope for larger regional institutions that operate with relatively high efficiency. The analysis of unit costs should be extended to other countries in the CANTA process to confirm the Jamaica finding.

