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Skills Upgrading and Competitiveness In Developing Countries

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Access to technology, quality of materials and labor are the main constraints to production. The lack of skilled workers was cited as the principal constraint to quality, competitiveness and the adoption of new technology. Similar evidence in other developing countries.
Primary Sources of Training

• In-Service Training
  -- Informal OJT from supervisors and co-workers
  -- Formal in-house company programs or external training

• External Training Providers
  -- Public VET institutes
  -- Private training institutes
  -- Industry associations/industry-run centers
  -- Buyers and Equipment Suppliers
  -- Other Firms/partners
World Bank Studies in Several Countries

Based on Enterprise Surveys

• 1995 Enterprise Training in Developing Countries
  -- Colombia, Indonesia, Malaysia, Mexico, Taiwan
• 1996 Evaluation of Mexico’s CIMO program for SMEs
• 1997 Malaysia: Enterprise Training, Technology and Productivity
• 1998 Malaysia: Inter-Firm Linkages and Technology Transfer Study
• 1999 Guatemala: Skills for Competitiveness
• 2000 Nicaragua: Enhancing Competitiveness through Skills Upgrading
• 2001 World Business Environment Assessments: Competitiveness Modules
Enterprise Training: The Evidence

- Training differs by countries’ development level
- Within countries, uneven training incidence across firms -- higher among larger firms, MNCs, export-oriented firms, and in higher-tech sectors
- Educated workforce more likely to get training
- In-house programs, private schools, buyers and suppliers more important than public institutes as sources of training
- Empirical evidence on productivity effects of formal training, no discernible effects of informal OJT
- Important information failures and training externalities warrant public policy intervention
Enterprise Training by Ownership

Note: This includes both manufacturing and services sectors
Training varies with level of economic development
MNCs have higher levels of training than domestic firms

Source: WBES 2000
Enterprise Training by Firm Size

Source: WBES 2000; includes manufacturing and services

...Training increases with level of development

...Across countries training increases with firm size
Enterprise Training by Source

Always greater reliance on internal training vs external training

Greater reliance on public training institutions in China and Singapore, less so in other countries
50% of enterprises provide in-house training. Of the external providers, public training institutions are not a popular choice—16% of enterprises use public institutes.

Source: WBES, 2000
Guatemala: Incidence and Type of Training by Skill Breakdown

Supervisors, engineers and technicians more likely to be trained as compared with production workers—observation consistent across sectors and firm size
Across all countries, firms that are interested in upgrading technology and gaining access to new markets through proper certification are more likely to train…
Estimating the Productivity Impact of Training

Simple Production Function Approach:

$$VA = a.K + b.L + c.\text{Training}$$

<table>
<thead>
<tr>
<th>Country</th>
<th>Productivity Effects of Training (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia (1992)</td>
<td>71.1</td>
</tr>
<tr>
<td>Colombia (1992)</td>
<td>26.6</td>
</tr>
<tr>
<td>Malaysia (1994)</td>
<td>28.2</td>
</tr>
<tr>
<td>Mexico (1992)</td>
<td>44.4</td>
</tr>
<tr>
<td>Guatemala (1999)</td>
<td>49.0</td>
</tr>
<tr>
<td>Nicaragua (2000)</td>
<td>56.4</td>
</tr>
</tbody>
</table>

Impact by Skill and Training Source
--Guatemala, Mexico, Malaysia, Nicaragua

• Evidence of productivity effects only for formal training
• Measurable productivity impact of formal training for educated/skilled workers, less so for unskilled workers
• Local firms--productivity effects from private training institutes, less so from in-house programs, public training institutes
• Foreign firms--productivity effects from in-house training, and private training centers, less so from public institutes

Weak capability of local firms—need to upgrade in-house training capabilities, public VET institutes need to improve training, become more demand-driven.
MARKET FAILURES IN TRAINING?
LAC: Principal Constraints to Training (Identified by Firms)-Regional Average

…Skilled workers readily hired from other firms, use of mature technologies, informal training adequate, high labor turnover are the main constraints to training in LAC.
Findings not unique to LAC.
Use of mature technologies, informal training being adequate and high labor turnover cited as key reasons for little or no training in East Asia too—labor turnover more of an issue in East Asia vs LAC
Guatemala: Constraints by Firm Size

...Major constraints especially for SMEs are (a) limited knowledge of training, (b) limited resources, (c) skepticism of benefits. This supports the case for schemes such as matching grants to SMES to assist them get experience in training.
Summary: Possible Explanations for Not Training

-- low levels of education of the workforce
-- limited resources for training
-- imperfect information and knowledge of training
-- labor turnover, “poaching” of trained workers
-- mature technology requires little training
KEY ISSUES TO BE ADDRESSED

1. Under-investment in training by enterprises in developing countries, particularly among SMEs

2. In countries which have a payroll levy (Guatemala, Nicaragua) enterprises that contribute to the levy do not benefit from it--most public institution programs are directed at pre-employment programs and the informal sector; but even here gaps exist

3. Weak linkages between technologically advanced large enterprises and SMEs reduce potential flows of knowledge and training to SMEs.

4. Better integration between enterprise development and human resource development--Although enterprises recognize the need for training they have not invested in it (market failures).
KEY ISSUES …

5. There is a concentration of training programs within large cities

6. Monopolization of training levy funds inhibit responsiveness of public providers to training needs of private sector (eg. INTECAP, SENA, INATEC)

7. Thinly developed training markets (The Supply of Training is relatively weak and lacks diversity--no significant entry of private providers in smaller countries)
R**oads to Reform…**

- Better information on training (particularly for SMEs)
- Proper Implementation of training levy-grant schemes with choice of training providers (*variations of scheme adopted in Morocco, Brazil, Singapore, Venezuela, Honduras, Malaysia, Nigeria, Zimbabwe, Tunisia, Guatemala*)
- Provision of subsidized training as part of SME support
- Matching Grants Schemes (Mexico, Chile, Guatemala, Nicaragua)
- Grass Roots Management Training ( & Micro-net) for the Informal Sector (India, Guatemala, Mexico)
- Strengthening Inter-Firm Linkages (Venezuela, Malaysia, Mexico)
Current World Bank Projects (PSAS involvement)

Guatemala Competitiveness Loan
• Reform of Training Law
• Matching Grants to Increase Demand
• Strengthening supply side

Nicaragua: Learning and Innovation Loan (SMEs)
• Improved Business Development Services

Honduras: Learning and Innovation Loan (SMEs)

Morocco: Enterprise Training

Tunisia: Competitiveness