

**LABOR MARKET POLICIES
CORE COURSE**

**Enterprise Training
in Developing Countries**

Skills Development and Training Policies

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Enterprise Training in Developing Countries

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- Recent evidence on enterprise training in developing countries
- Incidence, constraints, determinants, wage and productivity outcomes of enterprise training
- Issues these findings raise for training policy

Studies on Enterprise Training

based on enterprise surveys

- 1995 Enterprise Training in Developing Countries
- Colombia, Indonesia, Malaysia, Mexico, Taiwan
- 1995 Training and Productivity in African manufacturing
- 1996 Malaysia: Enterprise Training, Technology & Productivity
- 1998 Malaysia: Inter-Firm Linkages & Technology Transfer
- 1999 Guatemala: Skills for Competitiveness
- 2000 Nicaragua: Enhancing Competitiveness through Skills
- 2001 World Business Environment Assessments
- 2002 Evaluation of Training in African Enterprises

**Presentation draws on joint work with Hong Tan,
and my research on Latin America and WBES**

Illustrative Training Questions in Enterprise Surveys

- Invest in informal training? Formal training?
- Sources of formal training – in-house, external
- Who gets training, how much, what types?
- Participation in training programs, incentives
- If invest little in training, why? (List of constraints)

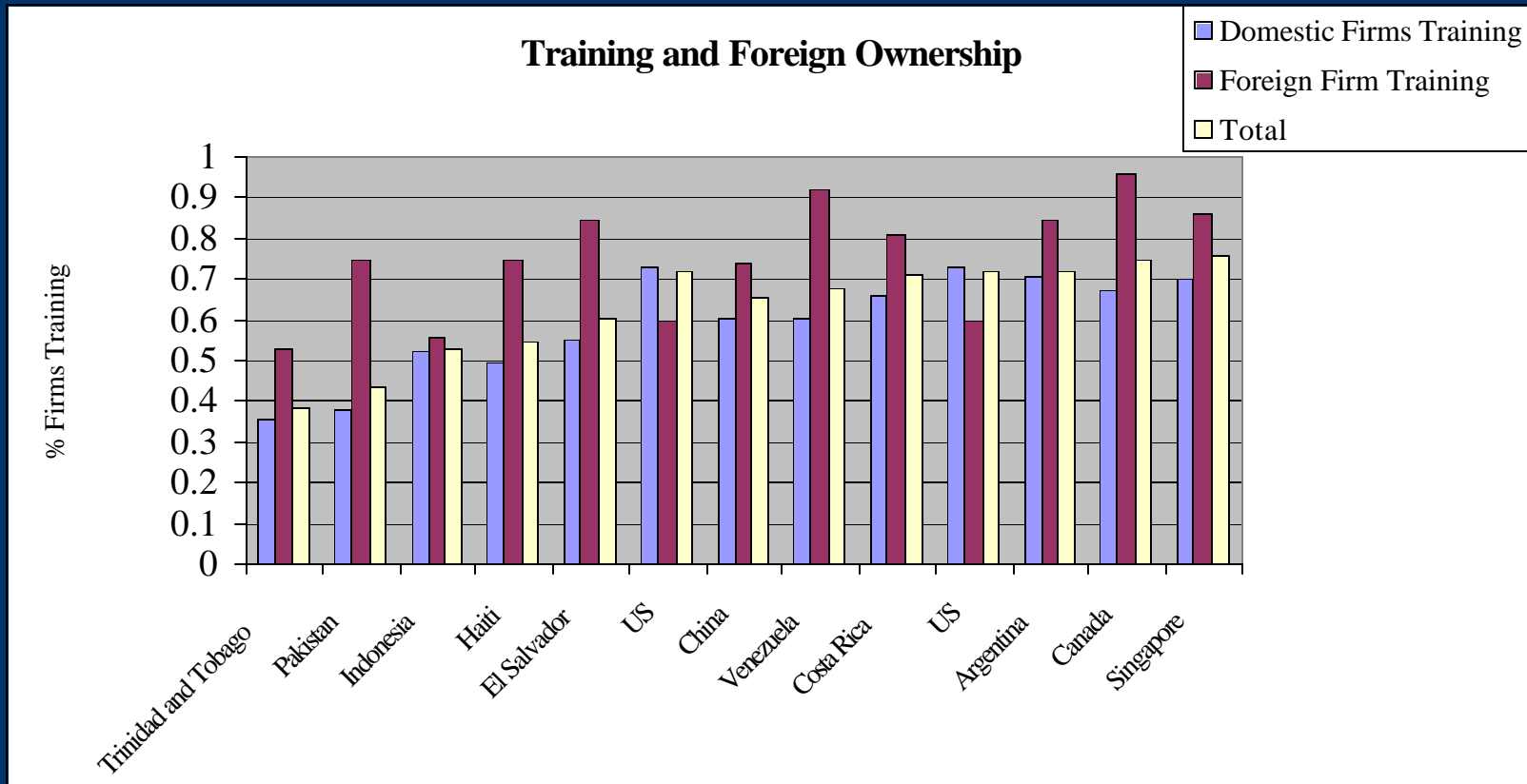
Coupled with various modules on firm attributes,
ownership, technology, production, exports

Enterprise Training

Overview of the Empirical Evidence - 1

- Incidence of training differs by countries' development level
- Within countries, uneven training incidence across firms -- higher among larger firms, MNCs, export-oriented firms, and firms in high-tech sectors
- Educated workforce more likely to get training

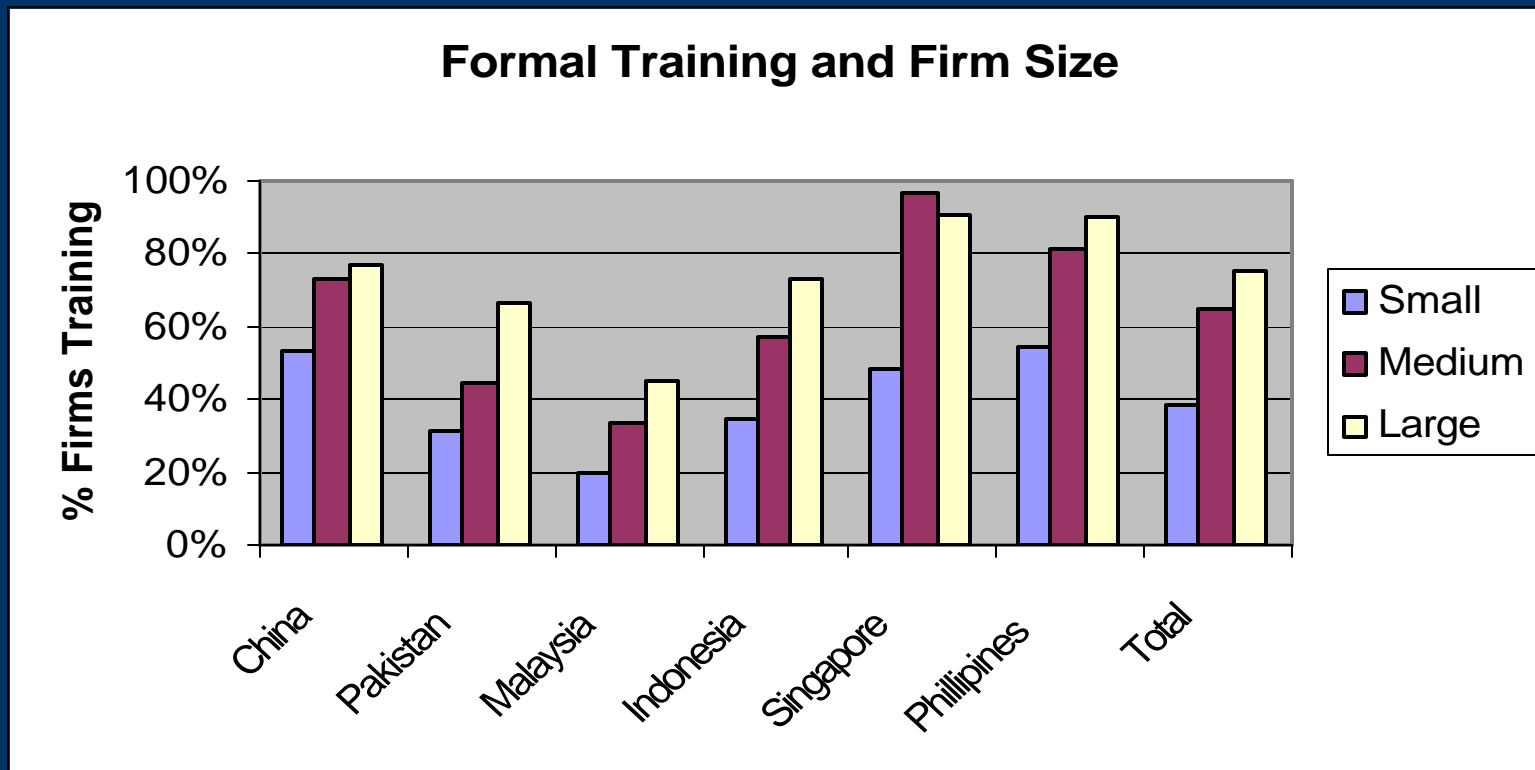
Enterprise Training by Ownership



Source: WBES 2000

...Training levels vary with level of economic development
...MNCs have higher levels of training than domestic firms

Enterprise Training by Firm Size

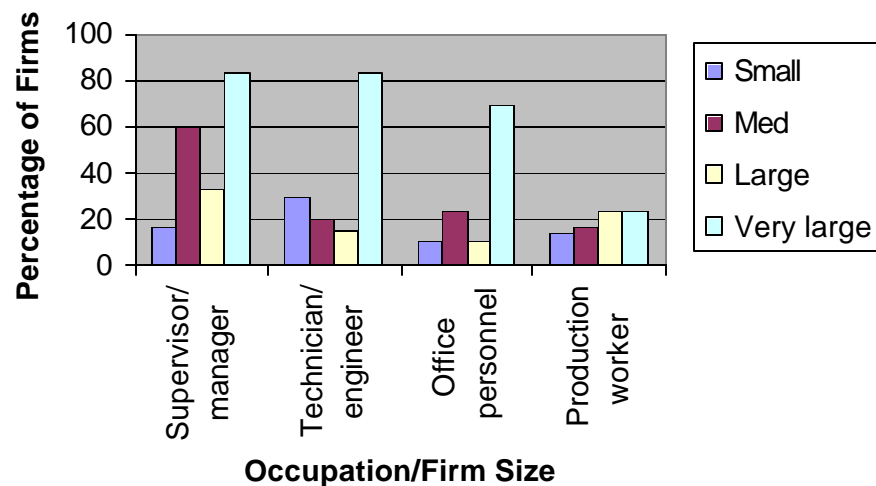


...Across countries training increases with firm size

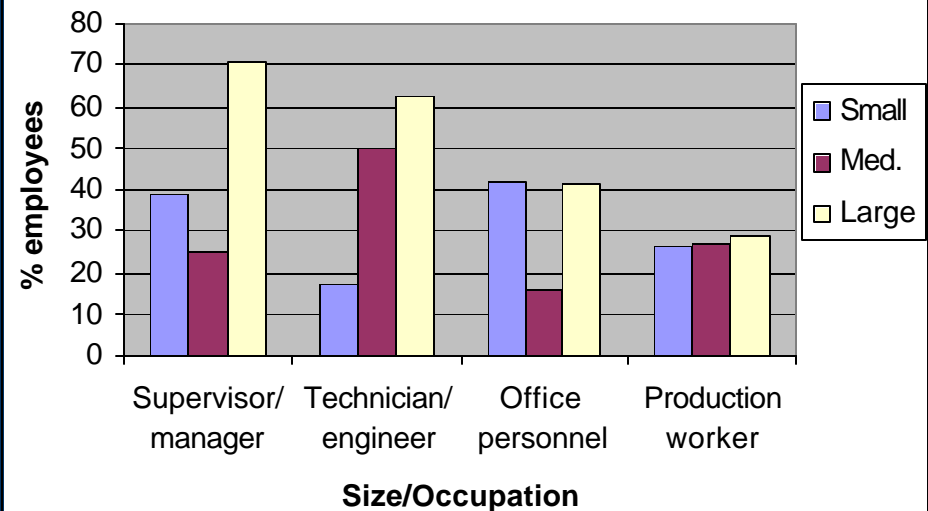
Who Gets Training?

Guatemala: Incidence of Training by Skill and Size

Percentage of Employees that Receive Formal Training in the Industry Sector



Percentage of Employees that Receive Formal Training in the Services Sector



Supervisors, engineers more likely to be trained as compared with production workers—observation consistent across sectors and firm size

Overview of empirical evidence – 2

where firms get their training

In-House Training

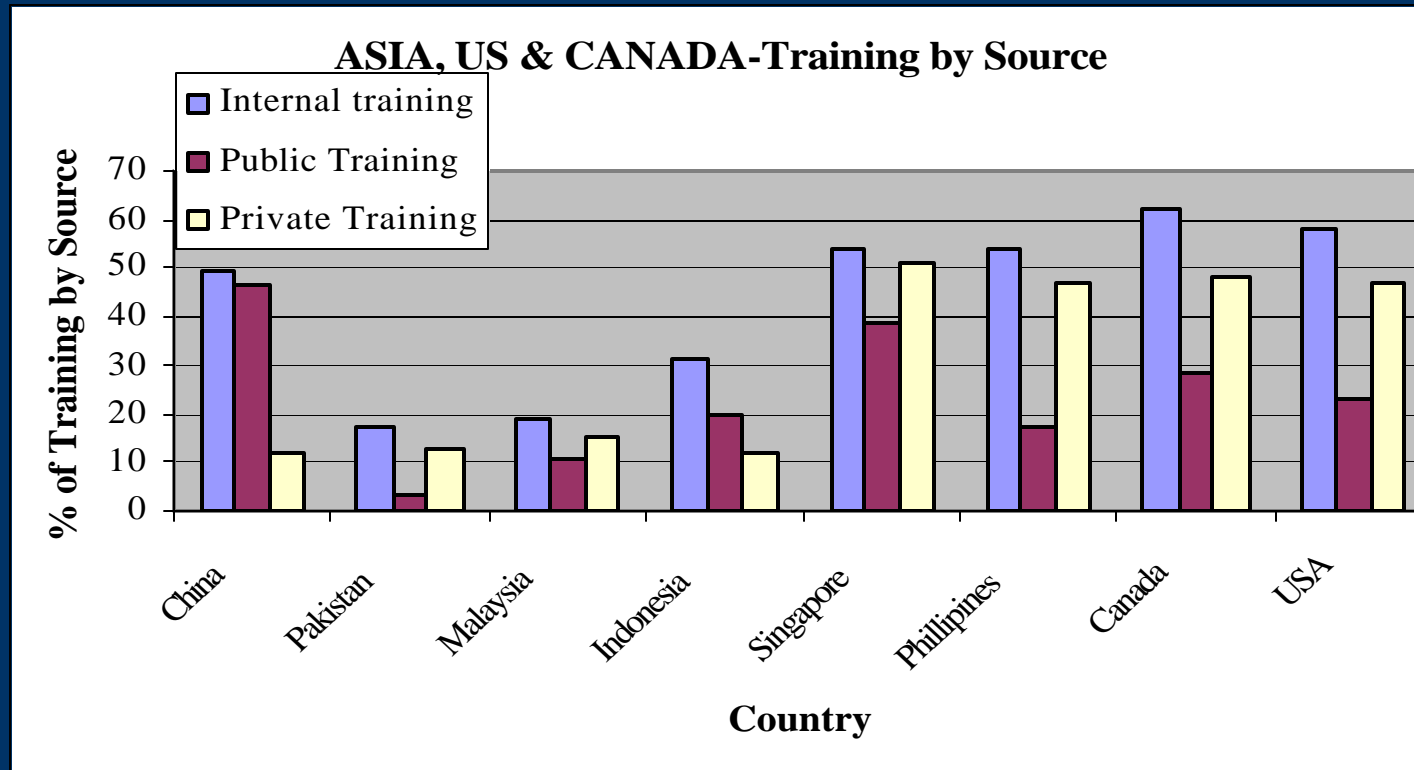
- Informal OJT from supervisors and co-workers
- Formal in-house programs

External Training Providers

- Public VET institutes
- Private training institutes
- Industry associations/industry-run centers
- Buyers and Equipment Suppliers
- Other Firms/partners

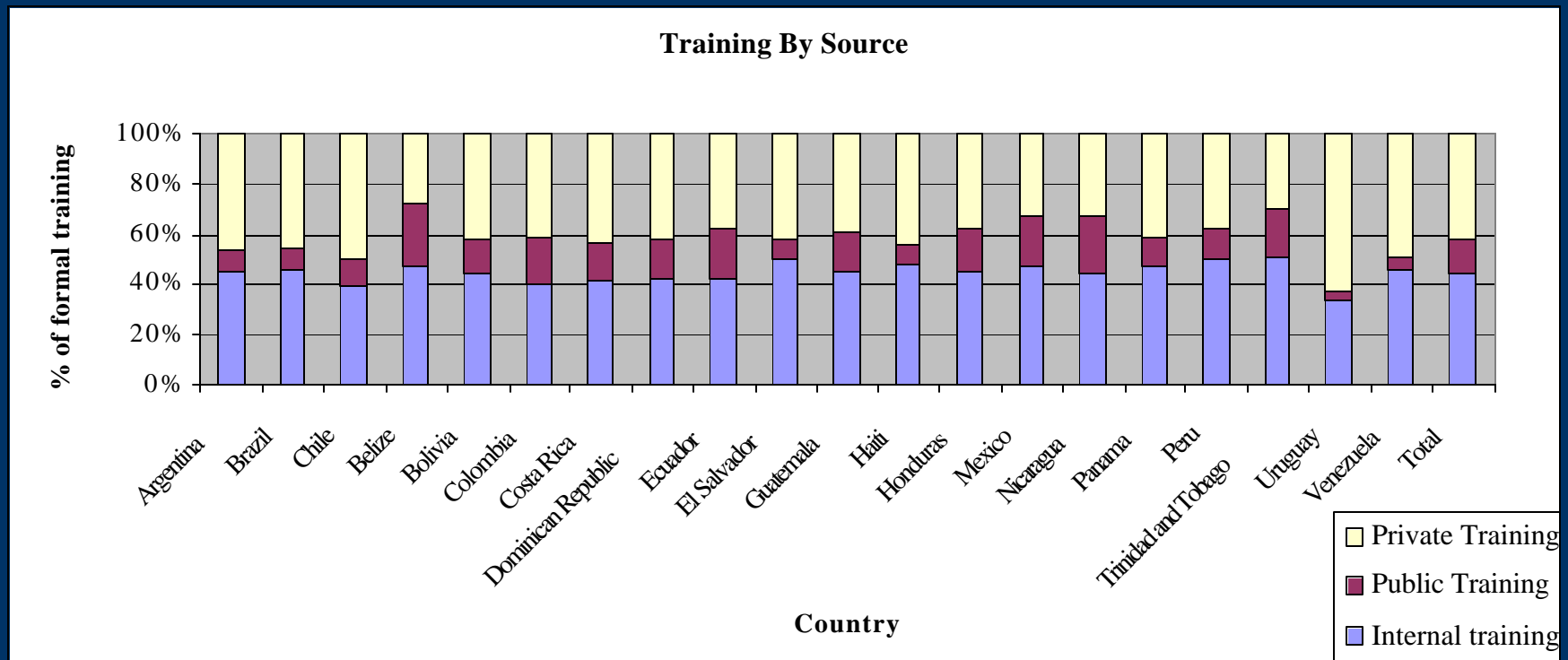
In-house programs, private schools, buyers and suppliers are often more important than public VET institutes as sources of training

Enterprise Training by Source



...Firms in most countries cite in-house training and private institutes as most important sources of formal training
...Exceptions are China and Singapore where greater reliance on public training institutions

Enterprise Training By Source--LAC

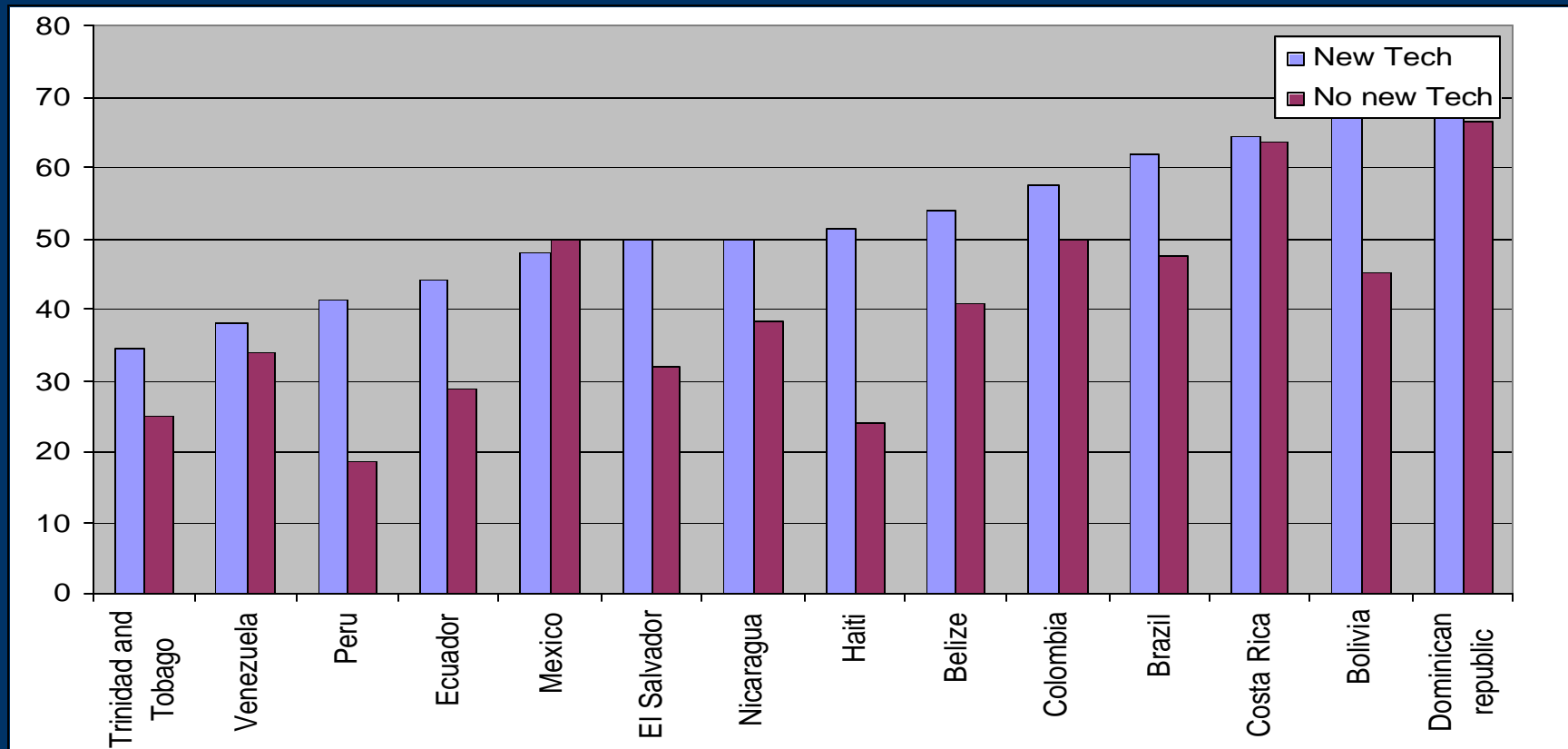


50% of enterprises provide in-house training. Of external providers, public training institutions are not a popular choice—16% of firms use public institutes Source: WBES, 2000

Overview of empirical evidence – 3 technology and trade

- **Technology-training complementarity**
 - new technology is more skill-using so technology adoption is accompanied by increased training
- **Exposure to International Markets**
 - exporting firms are more likely to train to meet exacting product and quality requirements of foreign buyers

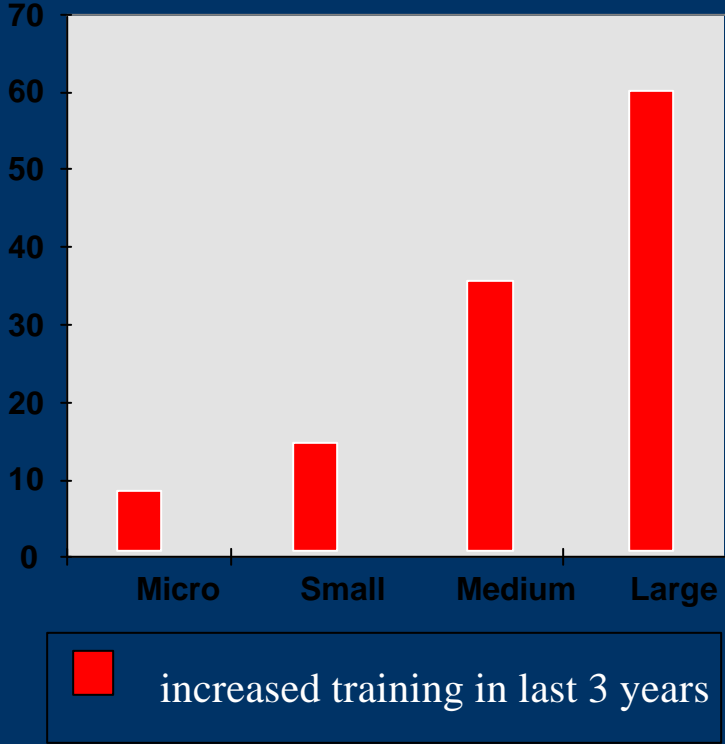
Strong Technology-Training Complementarity



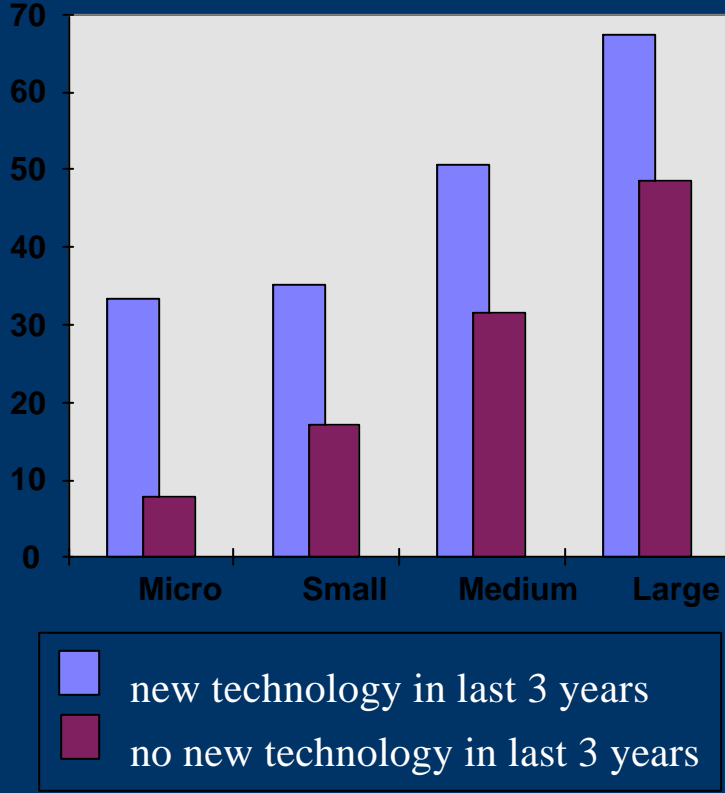
Firms that invested in new technology in last 3 years also increased training over same 3 year time frame...

Training and Technology by Size: Malaysia

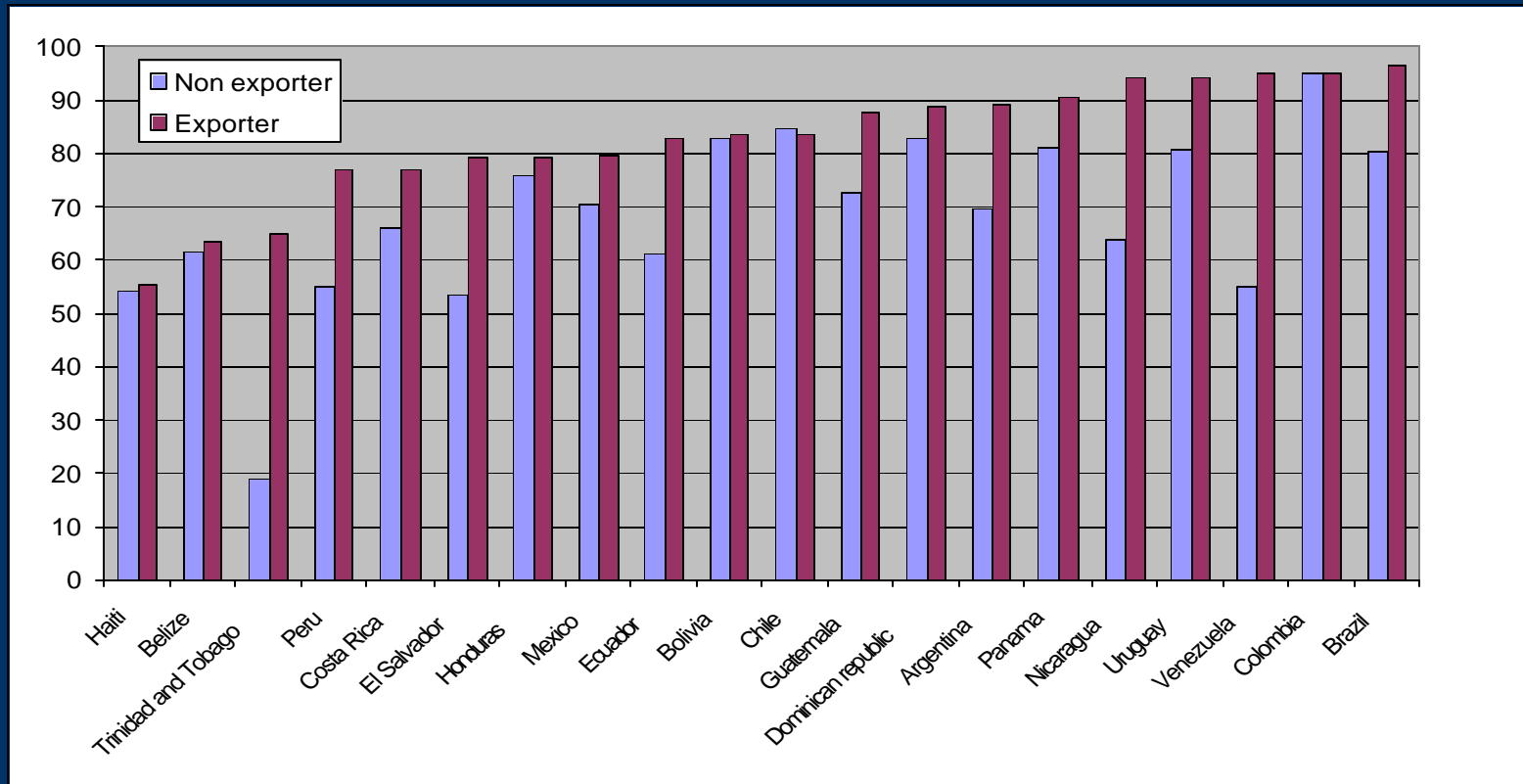
% increasing training



% increasing training by whether new technology

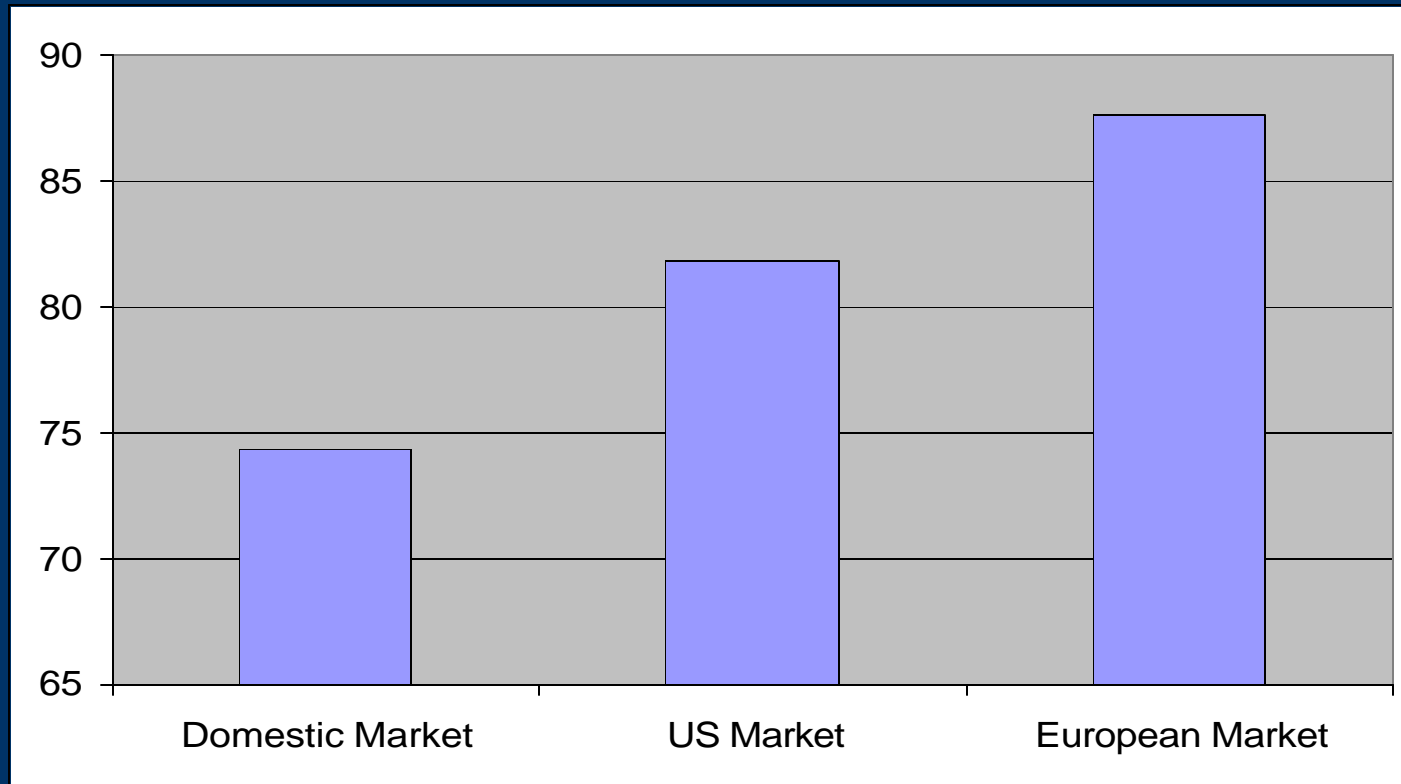


Exposure to International Markets makes skills upgrading imperative



Across 20 LAC countries, firms that export are more likely to provide training..similar findings in East Asia.

Exposure to International Markets and Training



The % of firms providing training is higher when exports are directed to the US and European markets

Overview of Empirical Evidence - 4

The Productivity Effects of Training

Productivity Impact Estimated Using a
Production Function Approach:

$$VA = a.K + b.L + c.Trn$$

VA = value added

K = capital assets

L = labor

Trn = indicator variable for training

C = productivity impact

Estimates of Training Impact

| Country | Productivity Effects of Training (%) |
|------------------|--------------------------------------|
| Indonesia (1992) | 71.1 |
| Colombia (1992) | 26.6 |
| Malaysia (1994) | 28.2 |
| Mexico (1992) | 44.4 |
| Guatemala (1999) | 49.0 |
| Nicaragua (2000) | 56.4 |

Source: Batra (1999, 2000, 2001); Tan and Batra (1995)

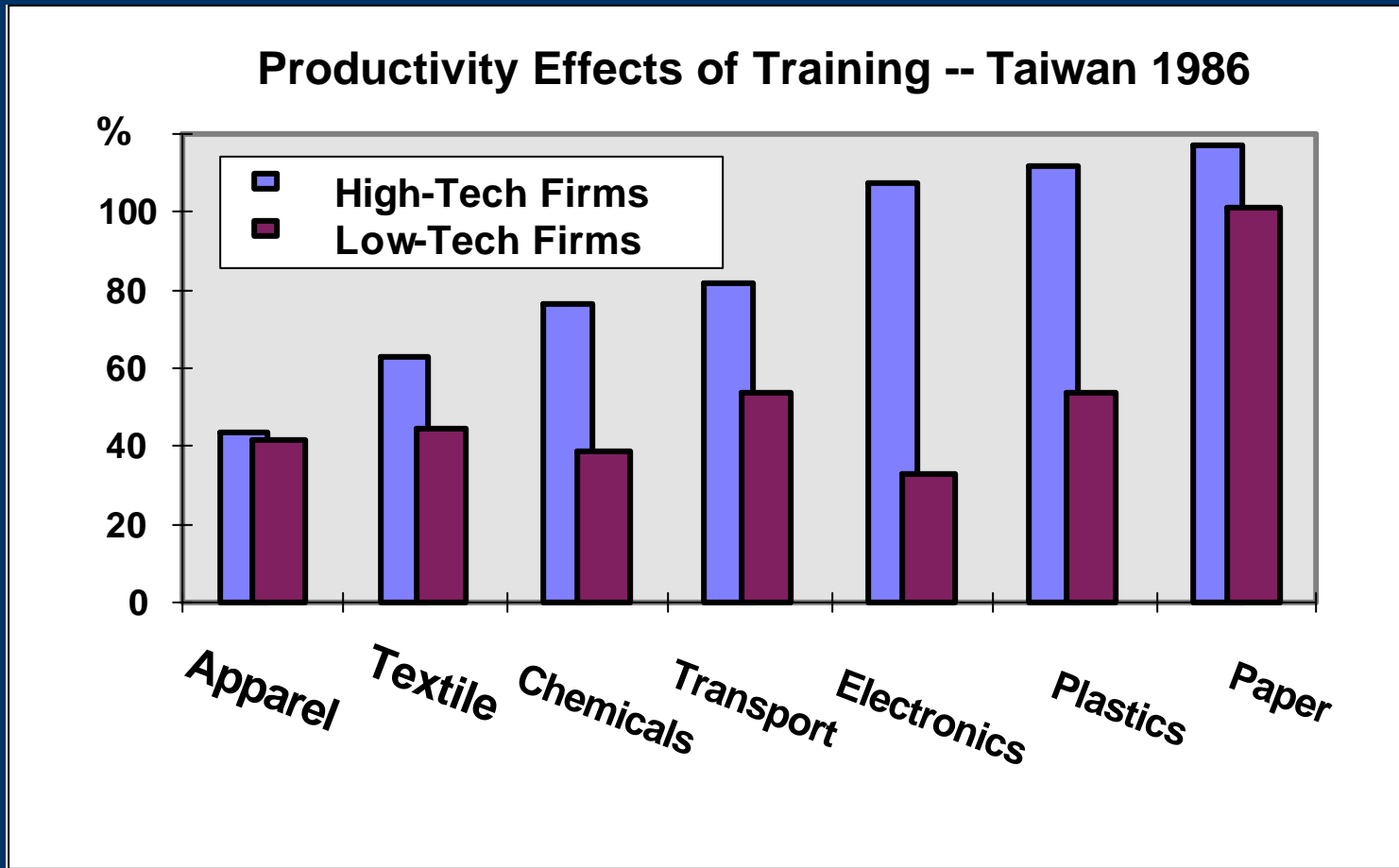
Impact by Skill and Training Source

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 from in-house programs, public VET
- Foreign firms--productivity effects from in-house training & private centers, less from public VET

Weak capability of local firms—need to upgrade in-house training capabilities—and public VET needs to improve training and become more demand-driven.

Taiwan: Training Impact Varies by Technology Level across/within Sectors



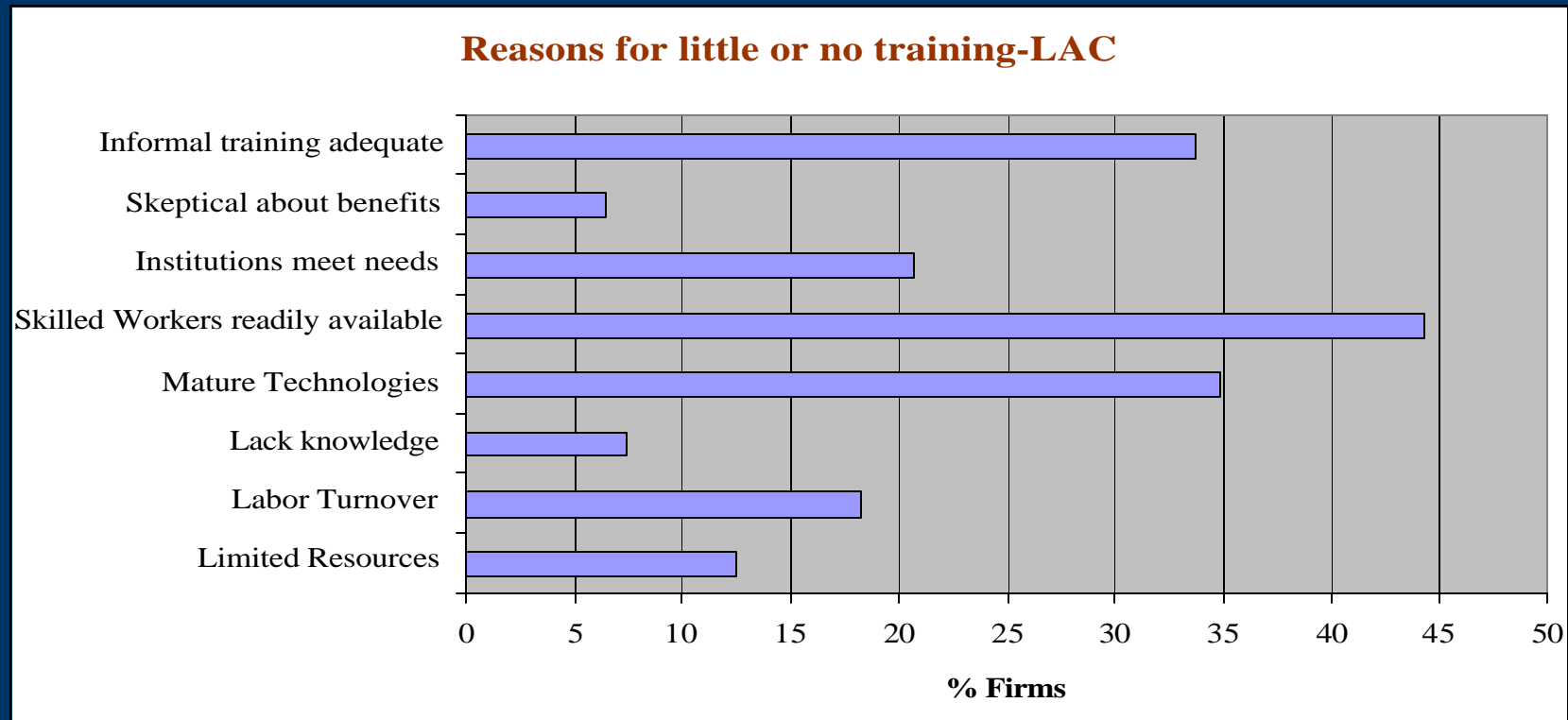
So why don't more firms train?

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

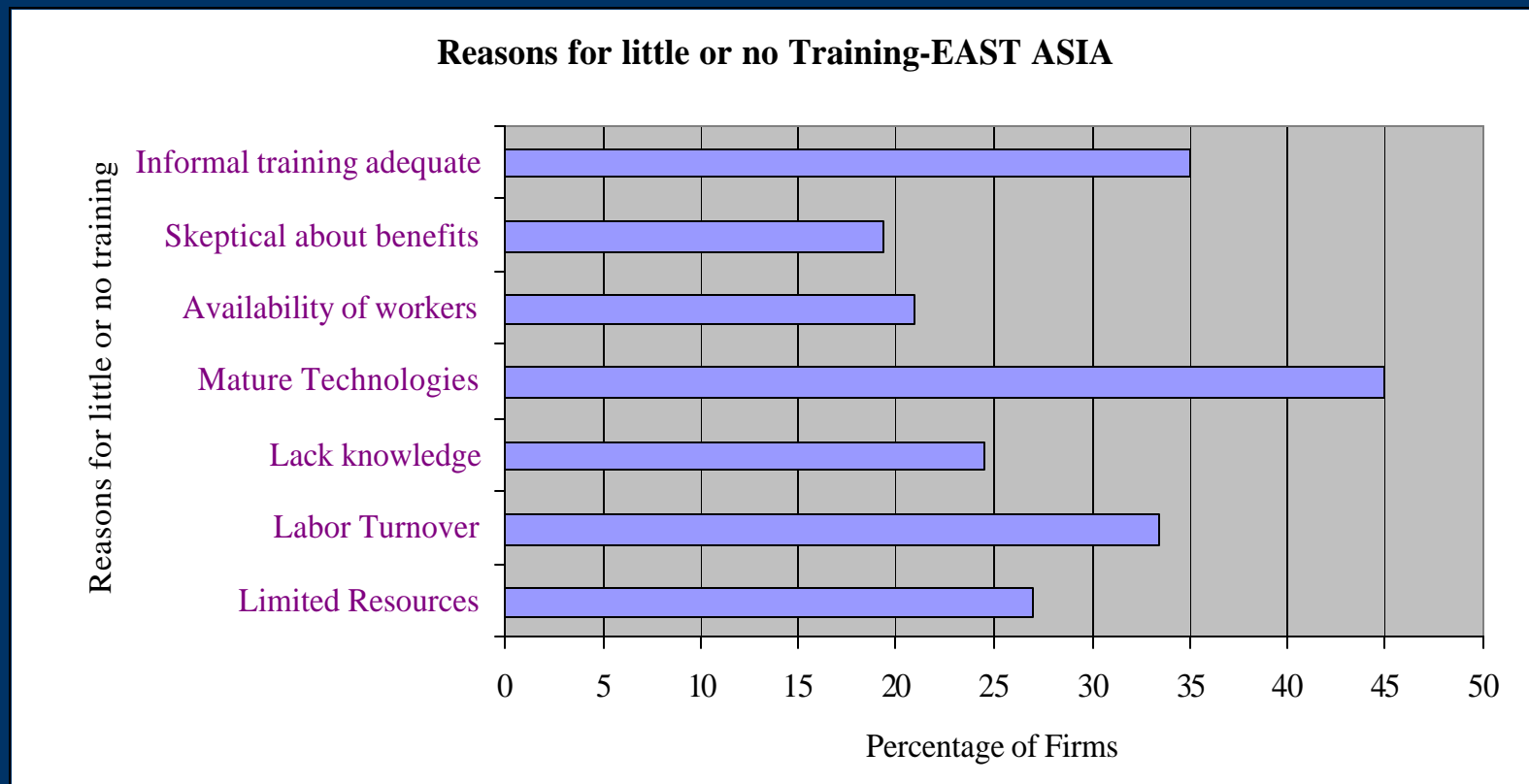
MARKET FAILURES IN TRAINING?

Principal Constraints to Training Identified by Firms Latin America Region Average



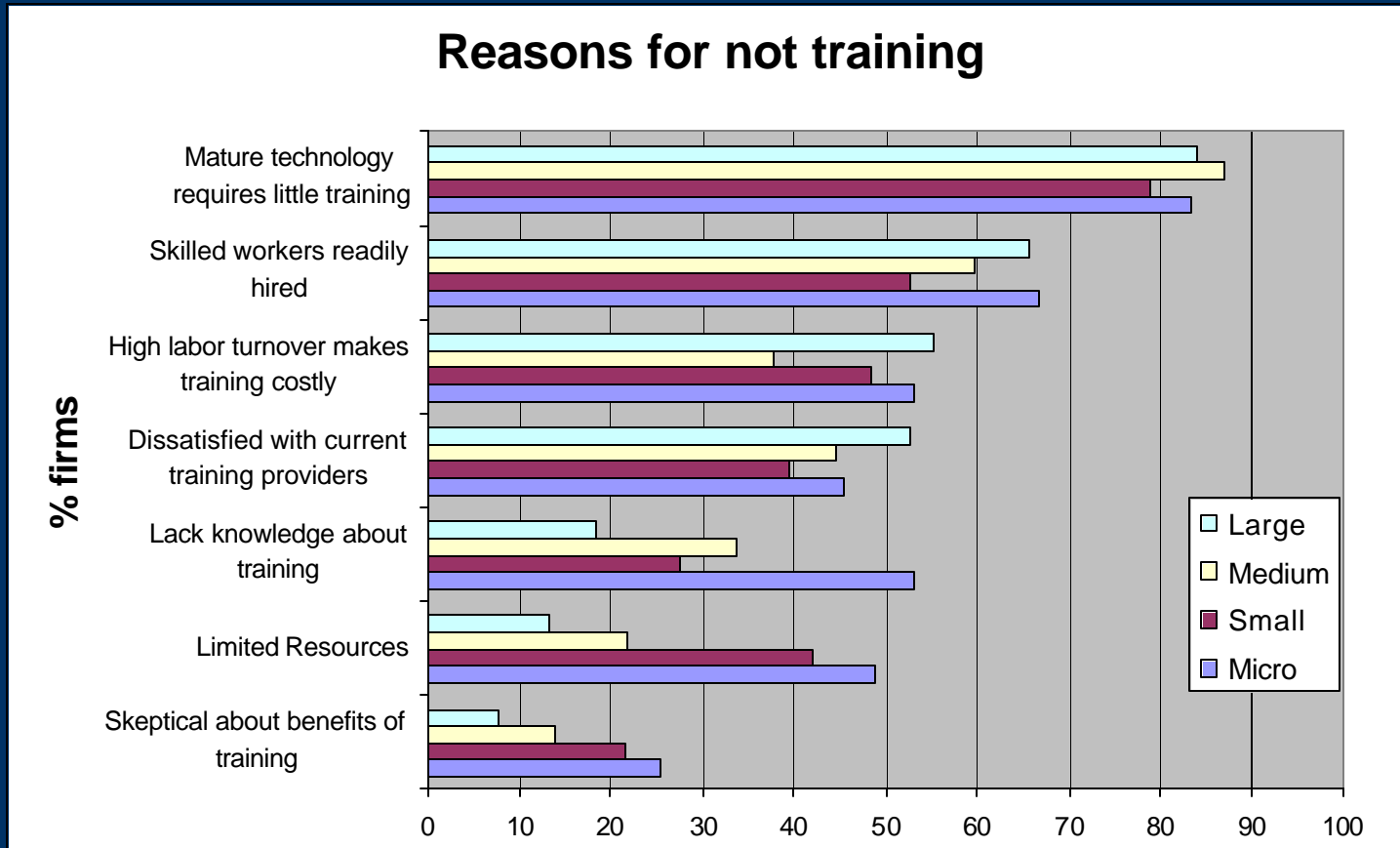
...Skilled workers readily hired from other firms, use of mature technologies, informal training adequate, high labor turnover are the main constraints to training in LAC.

Principal Constraints to Training Identified by Firms East Asia Regional Average



...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

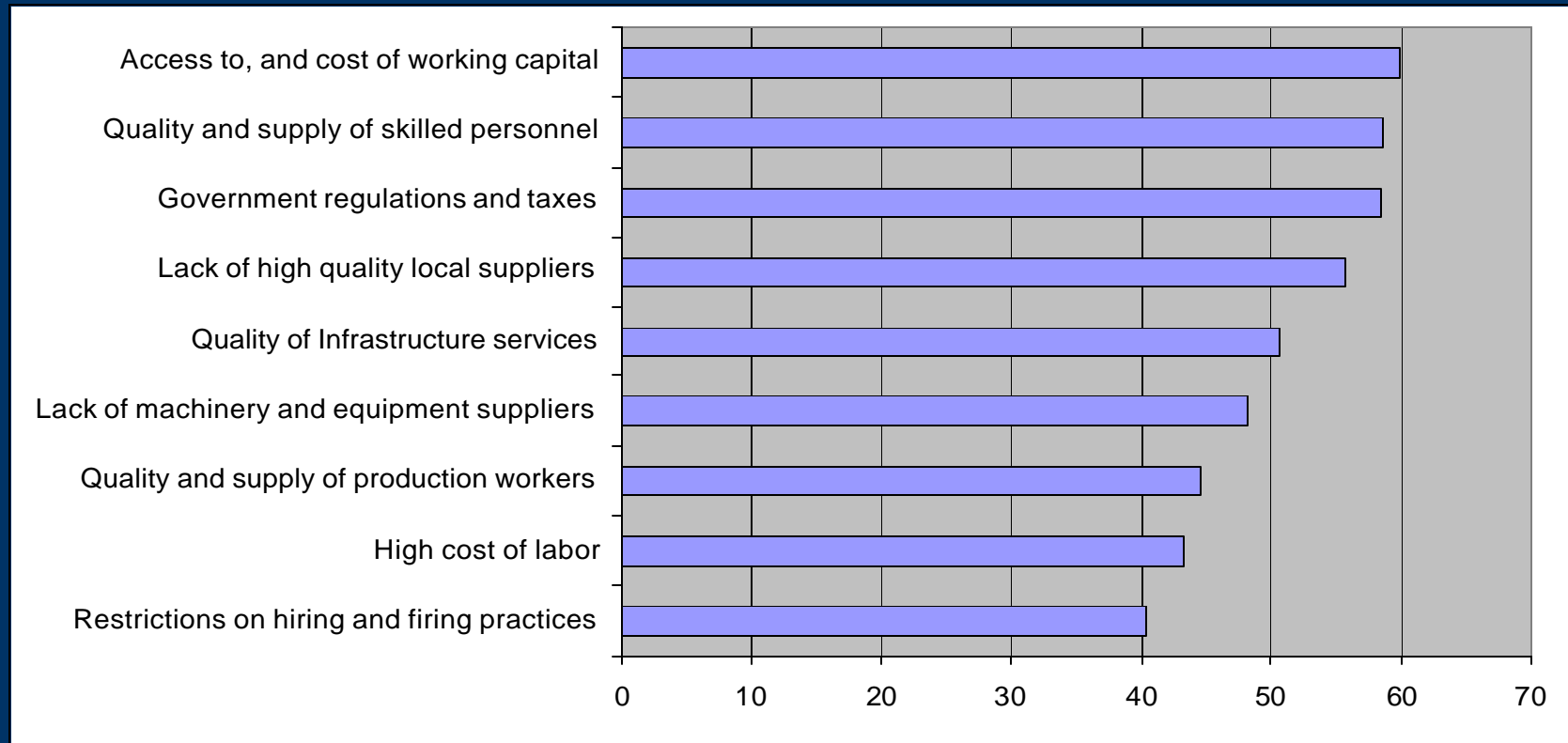
Guatemala: Constraints to Training by Firm Size



...Similar responses as LAC averages. Also dissatisfaction with current public training providers, and lack of knowledge and funding for training most severe in SMEs.

Poor Quality and Supply of Skilled Workers Hurts Competitiveness in World Markets

(Percent Firms ranking obstacle as moderate or major)



Source: WBES, 2000

Regional averages from 17 Latin American countries

SUMMARY

1. Under-investment in training by enterprises, more so in lower income countries, and especially among SMEs
2. Many enterprises do not train despite potentially large productivity gains from formal training
3. They rely on informal on-the-job training but no significant productivity impacts discernible from informal OJT
4. Most enterprises get little training from public VET, especially SMEs. Private training markets, including other firms, are important sources of training
5. Firms with low capabilities usually weak in training as well as technology, marketing, quality

IMPLICATIONS FOR TRAINING POLICY

1. Important information failures, training externalities, and poorly developed capital markets warrant public policy intervention in training
2. Reform public VET institutions to improve quality and supply of training that match skill needs of enterprises
3. Foster and encourage development of private training markets able to supply appropriate training
4. More proactive training policies targeting SMEs most subject to information failures, poor access to funding, and weak training capabilities
5. Better coordination of training and technology policies