The implications of the Central American Free Trade Agreement for Skills Supply and Demand in Central American Countries

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Executive Summary

Competitiveness, poverty and skills

This report examines the implications for industrial skills of the imminent Central American Free Trade Agreement (CAFTA) between five Central American countries and the United States of America. The five Central American countries of Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua are characterized by low levels of economic performance, high levels of poverty, periods of economic and political instability and environmental shock. Their rankings in various measures of economic competitiveness is poor, although there is variation between the countries with Costa Rica and El Salvador having stronger measures of economic competitiveness than the other, especially in the levels of technology transfer.

Growth in total factor productivity over the past four decades has been weak, and this poor performance compares with the performances of the East Asian countries that have come from behind to greatly out perform the Central and Latin American economies over this period. This has meant that Central American countries have high levels of wage poverty, and in the context of relatively low levels of unemployment wage poverty is the principal factor in the high levels of poverty across these countries.

The recent economic performance of Central America is mixed. Following a period of stagnation and negative growth in the 1980s the five economies all experienced growth in the 1990s. This was in spite of the impact of Hurricane Mitch, which caused major destruction especially in Honduras. Inflation levels are high, although the long-term trend is downwards. Possibly the most restrictive factor is the high costs and limited access to finance and credit.

Central American countries with the partial exception of Costa Rica have poor levels of education. The educational profiles of the countries are below those of Latin America, and there are high levels of illiteracy. The levels of completion of schooling amongst poor sections of the population are low and there are major problems with the quality of school and tertiary education. Central American countries have scored low results on the international education tests in which they have participated.

A low percentage of students complete secondary education, and there is an imbalance between rates of participation in tertiary and secondary education. The ratio of the population with tertiary education compared with secondary education in Central America is higher than the same ration for more advanced countries such as Singapore. This is indicative of the weak base of secondary education in Central America. The average years of schooling are increasing across the region, but at a slower rate than in the East Asian countries, and there remains a large element of the workforce with very low levels of education.

There is evidence of increasing returns from education for the most highly education, and this is a trend that is common to the Latin American region. This suggests a rising demand for the most highly skilled labor, but a weak demand for intermediate skills. Therefore, there is a limited contribution of education and training to productivity in Central America, and Total Factor Productivity (TFP) is low.

Central American economic development, trade and the implications of CAFTA

There has been a shift in all five countries of employment and GDP share to the service sectors. Nevertheless manufacturing retains a significant share in all countries. Exports in all countries are a high percentage of GDP and this has increased over the past 16 years. The USA is the major trading partner. Foreign Direct Investment (FDI) in all five countries multiplied over the 1990s decade, and although there have been falls in the levels of FDI in Latin America over the past few years, there is some indication that the Central American countries have maintained their levels. These trends may be associated with the sustained program of trade liberalization that has taken place in the region. Central American countries now have the most liberal trade regimes amongst Latin American, and the broader Latin American region also has greatly reduced trade barriers over the past decade.

Central American countries all face investment constraints. These constraints are related to the histories of political and economic instability, and the low levels of liquidity in the economies. In particular credit is difficult access and is expensive with high real interest rates. Long-term loans are especially difficult to secure for the private sector.

The potential advantages of CAFTA for Central American countries are generally seen as new export market opportunities and the growth in FDI. The evidence indicates that Mexico has made substantial gains from the North American Free Trade Agreement (NAFTA). However, it would be unrealistic to expect the same level of gains for the Central American countries from CAFTA. There is some evidence that the private sector in Central American countries has benefited from recent trade liberalization, but more needs to be done to inform employers of the opportunities that are created through the agreements. The full potential benefits of CAFTA will only be realised is factor conditions, including the levels of human capital, are improved.

The implications for skills development

There is evidence of the poor supply of industrial skills in Central America from numerous sources. In particular the traditional structures and operations of the public training systems and institutions have been subject to a considerable amount of criticism. Based upon a private sector payroll levy, these systems are based historically on the Latin American model of training systems, which now are seen to have several major weaknesses.

The Investment Environment Survey was carried out in 2003, and produced approximately 450 returns from each of three of the five countries: Guatemala, Honduras and Nicaragua. The Survey reveals a weak private sector demand for training in these countries. Less than half of the firms surveyed across the three countries provide training to their employees and the percentages are especially low in small and domestically owned and orientated firms. Low skilled workers have few opportunities for training. Within those firms that do provide training only a minority of workers receive training. Thus most workers in the private sector in the three countries do not receive training on an annual basis. Even skilled workers who are more likely to receive training than unskilled workers cannot expect to receive training on a regular basis.

The survey reveals that more firms provide internal raining than use external training. Less skilled workers are more likely to receive internal rather than internal training. This is despite the fact that most private sector firms do meet the payroll levy that is collected by the public training institutes. This means that a large number of firms that pay the levy receive no benefits from it.

There is a market failure in training across the three countries. The level of demand is low, and most employers are content to gain their workforce skills through informal means 'on-the-job'. This suggest low levels of technology investment by firms, and very low levels of product and process innovation. The private sector continues to rely upon mature capital stocks and low labour costs in order to compete in domestic and international markets. A continuation of this approach under CAFTA will exacerbate wage poverty and will fail to exploit new market opportunities.

At the same time there are clear problems in the supply of training. The firms that pay for them through the payroll levies mostly do not use the public training institutes. There are problems with the relevance, quality, and timing and means of delivery training. A private training market has failed to develop in these countries and they tend to lack the infrastructure of training standards, and accreditation and certification systems. The survey verifies the importance of firm based training, which receives little support from the formal training system.

CAFTA and skills development

If CAFTA is to be fully exploited Central American countries will need to raise the levels and quality of human capital. The key relationship will be that between technology transfer and human capital, and public policy and interventions should be designed to support and exploit this relationship. CAFTA brings the potential for higher levels of FDI, and governments need to consider how these investments can be supported through education and training.

Broadly the recommended policy directions and initiatives are the following:

- Strengthen the educational base of the workforce. This involves both the school system and tertiary education, and especially the universities.

- Reform of the publicly supported training systems. Measures that typically need to be addressed are:
  - Broadening of the training supply, including expanding private training provision.
  - Financing arrangements should encourage provider responsiveness to industry demand.
  - Separate the governance and management of the training system of the levy funded from the public training institutes.
  - Private sector participation in the management of the system.
  - Development of skill standards, accreditation and certification systems
  .
- Removal of barriers to private sector investment.

- Introduction of incentives for private sector investment in technology and training.

- Introduction of incentives for individual investment in training.

- The provision of information and support for the private sector so that employers are aware of the implications of CAFTA and are more ready and able to exploit the opportunities that are created. .

Part 1: Education and training and economic performance in Central America

1.1 Competitiveness, poverty and skills

The five Central Americans countries of Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua have recent histories of political instability (except Costa Rica) and environmental and external economic shock. Under these conditions for small economies it is not surprising that their economic performances have been poor. De Ferranti et al (2003) have noted that over the 50 year period to 2000 the per capita income for Latin American countries fell behind those of OECD nations by a factor of 40%. During the same period and especially during the latter half of the period the economic performance of East Asian nations have vastly outstripped those of Latin American nations. Within Latin America most of the Central American countries have performed poorly.

The economic performance of the five Central American ranges from moderate to very poor. The Gross National Income (GNI) per capita for the five nations ranges from $4,100 for Costa Rica to $1,750 for Honduras in 2002, and $370 for Nicaragua in 1998 (World Bank, World Development Indicators).

Table 1: Central American Competitiveness Rankings, 2003.

Country	2003 ranking	Public Institutions Index	Technology index	Growth compete-tiveness	Innovation	Technology transfer	Macro economic environment
Costa Rica	51	49	46	51	61	8	63
El Salvador	48	40	67	48	67	34	48
Guatemala	89	87	79	89	79	54	85
Honduras	90	99	87	94	77	71	88
Nicaragua	94	78	85	90	81	57	100
No of countries ranked	102	102	102	102	102	77	102

Source: Global Competitiveness Report, 2003, online
http://www.weforum.org/pdf/Gcr/GCR_2003_2004/GCI_Chapter.pdf

Table 1 provides seven sets of rankings for the five countries taken from the Global Competitiveness Report. The data indicate a separation between the performances for Costa Rica and El Salvador on the one hand, and Guatemala, Honduras and Nicaragua on the other. In general the countries rank from the middle to the very low levels, with technology transfer in Costa Rica as the only high ranking performance. Three of the economies are ranked in the bottom 15% of all countries for competitiveness, and there is a high level of consistency across most of the other measures.

The highest rankings are in the area of technology transfer, and this is of potential significance for CAFTA. Costa Rica and to a lesser extent El Salvador have recent histories of high levels of technology transfer, which if sustained should provide the basis for productivity increases if matched by improvements in other factor inputs. The broad economic data for Central America (table 2) indicate low total factor productivity (TFP) over the past four decades. With the exception of the 1970s the East Asian 'tiger' economies have strongly outpaced the Latin

American countries in TFP. TFP growth has a compound impact and the gaps between the two regions have led to an enormous change in the relative TFP and economic performance of the two regions over this period. These changes also are significant in the context of global technological and economic changes, with the growing emphasis upon human capital and labour productivity and the relationship between human capital and technology transfer. Table 2 also indicates that Central American countries have had lower TFP growth than the Latin American average over the three decades from 1960 to 1989. This explains their low relative GDP per capita levels. Over the last decade (1990-99) TFP growth for four of the Central American countries has been above the Latin American average. Over this period political stability has increased in Central America, and trade liberalization has advanced across all of Latin America, but especially in Central America. Honduras is the exception to these trends. However, this country suffered more than others from the considerable damage of Hurricane Mitch.

De Ferranti et al (2003) argue that it is the interaction between technology and skills that largely explains the differences in productivity and income across countries, and in particular the poor performance of Latin American economies over the past half century. The potential positive impact of CAFTA is most likely to be upon (FDI). High and potentially higher levels of FDI have the capacity to contribute towards higher levels of technology transfer, which is relatively strong in several of the countries.

Table 2: Growth in Total Factor Productivity

	1960-69	**1970-79**	**1980-89**	**1990-99**
Costa Rica	0.73	0.29	-1.13	1.80
El Salvador	1.05	-0.82	-3.92	1.05
Guatemala	1.55	1.56	-1.39	1.66
Honduras	0.89	1.46	-0.96	-1.24
Nicaragua	1.66	-3.53	-3.53	0.22
Latin America	1.50	1.15	-0.93	0.45
East Asian tigers	1.79	1.03	2.18	1.42
OECD	1.92	1.10	0.88	0.94

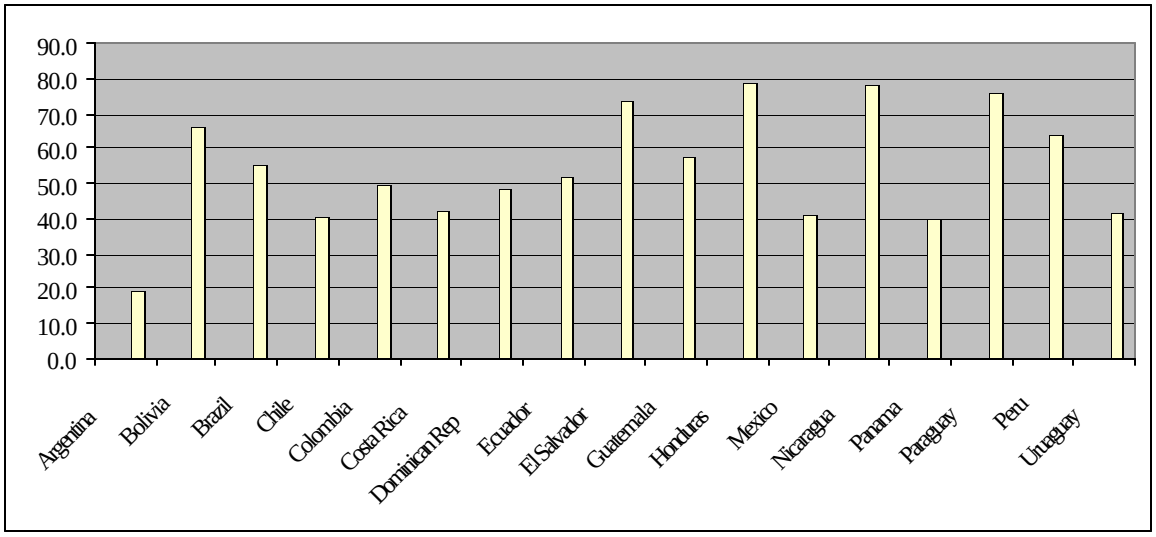
Source: De Ferranti, 2003

Technology transfer has increased in most nations over the past decade. However, there is evidence that this is occurring at a relatively fast rate in Latin America, and that at least some of the Central American countries are sharing in this growth. It is likely that the relative openness of Latin American countries to trade has contributed towards technology transfer, and Central American nations are well placed with low current levels of protection. CAFTA has the potential to further enhance this. However, as De Ferranti (2003) and others (such as IDB, 2001) point out, the potential for both FDI and technology transfer to improve TFP is highly dependent upon other factor conditions, including institutional conditions in countries. If De Ferranti et al's premise is accepted skills formation and application are central to the potential of CAFTA to contribute towards economic growth and poverty alleviation in the five countries.

The TFP performance of Latin America over the past four decades has been poor, and contrasts with the performance of the East Asian 'tiger economies', which also had to recover from the economic shock of the latter 1990s. As De Ferranti et al (2003) point out it is the performance of the respective regions in TFP over this period that explains their current relative economic standings. Within Latin American Central American countries mostly have performed more poorly. As well the countries have *"low indicators of innovation: low patenting of U.S. low domestic patenting; low spending on R & D as a share of GDP and a small number of*

researchers in relation to the workforce. Moreover, all the countries in the region have a small fraction of R & D financed by the private sector. (Rodriguez-Clare, 2003, p13). Long periods of instability must account for these performances in some of the five countries.

Figure1: Percentage with poverty wage, 15-64, urban areas, (1998-99)*



Source: IDB, 2003
* Dominican Rep. – 1996.

There are high levels of poverty in Central America, as indicated by the GNI per capita levels, and there is evidence that low labour productivity has contributed towards this poverty. Figure 1 indicates the percentage of 15-64 year olds in employment with poverty wages. Three Central American countries (El Salvador, Honduras and Guatemala) have levels of over 50% and the other two have levels of over 40%. The percentage of wage poverty in Costa Rica and El Salvador is high despite their higher relative GNI per capita. If it is assumed that wages reflect the value added provided by labour, then productivity is relatively low in these countries, as it is in most of Latin America. With relatively low levels of formal unemployment in Central America wage poverty is the major cause of general poverty.

1.2 Recent economic performance

The recent economic performance of Central America is mixed. Annual GDP growth rates have been moderate, as indicated in table 3. However, over the same perio d there has been a relatively large growth in the labour force through population increases and higher levels of participation of women. Increased female participation is indicative of the existence of high levels of poverty, including wage poverty. Typical also for poor nations Nicaragua, Honduras and Guatemala have the lowest average population ages amongst Latin American countries, and Costa Rica and El Salvador have relatively young populations.

Table 3: Economic performance of Central American Countries, various measures, 1995 - 2002

	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Real GDP Growth, 1995-99	3.4	3.0	3.6	2.7	4.5
Inflation 2001-2	10.2	2.8	7.6	10.0	9.9
Current account balance 2001	-5.5	-1.3 (2002)	-4.5 (2000)	-4.9	-25.7
Real interest rates (1999)	5.4	4.5	9.9	9.8	9.9

GDP growth was severely restricted by Hurricane Mitch in 1999, and this is indicative of the exposure of Central American countries to external shocks. As small economies, with small geographic areas, and with an historic concentration upon commodity exports the five nations also are vulnerable to the economic cycles and volatility that has plagued Latin America. Trade and other forms of economic integration with the more stable and larger economies of North America therefore have obvious attractions.

Inflation if relatively high in most of the countries. However, it has not been at the run away levels experienced by some other developing countries and the inflation trend for the subregion over the past decade has been downward. Trade integration and the possibility of other forms of economic union with North American countries (including the possibility of monetary union in some countries) also would be conducive to greater price stability.

All five countries have current account deficits, with very high levels in Nicaragua. Once again, however, there have been a decrease in these deficits and an increase in trade across the decade, and the prospect of increased rates of FDI through CAFTA arguably could improve the situation.

Possibly the most restrictive feature of the economies are the high real interest rates. The rates of around 10% in the three weakest economies are highly restrictive for technology investment that typically has been identified as a key ingredient for competitive economies.

Table 4: Employment distribution by economic sector

Country	Year	Agric., Hunting, Forestry & Fishing	Mining & Quarr-ying	Manufa-cturing	Elec. Gas & Water supply	Const-ruction	Wholesale & Retail Trade & Hotels and Rest.	Tran., Storag e	Fin. Insurance Real Estate & Business Services	Commun ity, Social and Pers. Services
Costa Rica	1991	23.2	0.2	20.0	1.1	6.3	16.1	4.3	3.7	25.1
	2000	19.2	0.2	15.2	0.8	6.7	21.3	5.6	4.8	26.2
El Salvador	1995	24.6	0.0	19.9	0.4	6.8	22.9	4.4	3.2	17.7
	1999	20.2	0.0	19.2	0.4	6.0	25.3	4.7	4.0	20.3
Guatemala	1998	36.6	0.2	17.5	0.4	5.6	20.4	2.9	2.3	14.0
Honduras	1992	36.2	0.4	15.2	0.5	4.5	17.1	3.3	1.9	20.9
	1999	32.9	0.2	17.2	0.4	5.5	21.2	2.7	2.4	17.7

Source: IDB, 2003, table 33

Table 4 provides data on the employment distribution across industry sectors for four of the countries. The countries show trends of relative declines in employment in primary industries and an increase in service industries. Employment in manufacturing is relatively low, although these levels are not as low as many other nations with similar levels of GNI per capita. The patterns of sector employment and the trends in them suggest the need for a relatively strong educational base. All of the countries have growing absolute and relative levels of employment in the service sectors, which are above or approaching 50% of all employment. Primary employment accounts for below a third of the workforce in all countries, except Guatemala, and is falling in all countries. Furthermore technological changes across most sectors are increasing the demand for the educational base of the workforce.

1.3 Education and skills

Several reports have been critical of the level and quality of the educational base of the Latin American countries (De Ferranti, 2003; PREAL, 2001). In a period when all developed nations and many developing nations have increased their participation rates in secondary schooling Latin American nations have fallen behind, with secondary completion rates averaging less than 50%. These compare with rates of more than 80% in many OECD and East Asian countries. Several countries have large percentages of their populations that do not complete primary schooling. Most of the Central American countries are located at the lower end of the scale in school enrolments and completions, as indicated in table 5, and the there is a high concentration of low completion rates amongst low income populations in these countries.

Table 5: Education enrolment and completion rates, 1997

Country	25-59 year olds primary completion	25-29 year olds secondary completion	Tertiary enrolments
Costa Rica	86	30	33
El Salvador	47	27	18
Guatemala		15	8
Honduras	64	18	11
Nicaragua	60	17	12

Source: PREAL, 2001.

The patterns of and trend in industry employment across Central American countries and the trends in technological change and adoption common to most countries, and especially the relatively open Central American countries suggest the need for a skills and educational base that is beyond those that are being provided by the education system. The average completion rates for Central American countries, excluding Costa Rica are less than 60%, and amongst the lowest income decile is below 30% and below 5% for secondary education.

Table 6: Illiteracy rates.

Country	**1998**	**2002**
Costa Rica	5	4
El Salvador	22	20
Guatemala	33	30
Honduras	26	22
Nicaragua	34	33

Source: World Development Indicators, online

Educational participation also has a historical legacy. Levels of illiteracy are indicated in table 6. Although they have fallen over a four-year period they still average over 20%, and over 25% when Costa Rica is excluded. There also is evidence of poor quality in the delivery and standards

of schooling. Most Latin American countries have not participated in the major international comparative studies of educational standards (TIMSS – Third International Mathematics and Science Study, and PISA – Project of International Student Assessment). The main comparative measure is the UNESCO – OREAL test (1997) on language and mathematics for third and fourth graders, which provides four sets of results. The only Central American country for which data is available from this test was Honduras (Costa Rica participated but the data has not be authorised for use). With the exception of Cuba, which achieved results that were 30% higher than the next country (Argentina), the results were relatively even across the remaining 12 countries. However, Honduras scored the lowest results on two and the second lowest result on the other two measures. All the results for Cuba are 50% higher.

Table 7: TIMSS-PIRLS and PISA comparisons, selected countries 1999

	TIMSS 7th grade maths	**TIMSS 8th grade science**	**PIRLS reading achievement, 4th grade, 2001**	**PISA Performance in mathematical & scientific literacy**
Singapore	643	568	528	-
Japan	605	550	542	557
Canada	527	533	544	533
USA	500	515	-	493
Colombia	354	-	422	-
Argentina	-	-	420	-
Brazil	-	-	-	334

Source: Beaton et al table 1.1. OECD, 2002, figure 3.2

Comparisons with countries outside of Latin America can be gained by examining the results in the TIMSS - PIRLS and PISA studies of Argentina, Brazil, and Columbia the only Latin American countries that participated in one or more of these studies. A selection of results is shown in table 7. The results for the Latin American countries are generally poor. With the exception of Peru all of these countries achieved better results than Honduras in the UNESCO-OREAL test. It can be concluded, therefore, that standards in literacy and mathematics in primary school in Honduras is very low. When cross referenced against data on levels of illiteracy and the completion of primary education for the five Central American countries, it can be concluded that the education standards within primary schooling also are very low. Similar comparative results can be drawn from the OECD (2000) adult literacy survey of 1994-98, where Chile achieved lower results than all of the OECD countries.

Numerous studies have shown the cumulative impact of poor standards, and especially poor literacy standards within the middle primary years. Students who have low literacy skills by years 3 and 4 typically fail to advance rapidly, leave school early and have a high risk of illiteracy. Low standards in early and mid primary schooling typically translate into low levels of primary school completion and secondary enrolments and completion rates. These patterns are evident in Central America. Moreover, the high levels of income decile variation in participation and completion rates suggest that outcomes are influenced as much by relative wealth and income as by achievement and merit. With only 20% of the cohort completing secondary education in four of the countries the foundation for entry into tertiary education is likely to be low. The majority of students who complete secondary education in all five countries enter tertiary education, and this rate is as high as 90%. Under these circumstances the educational standards of students entering tertiary education is likely to be low, as entry is upon the basis of income rather than talent or performance.

With the exception of Honduras public expenditure as a percentage of GDP on education is below 3% for all Central American countries (PREAL, 2001), although this is mainly due to relatively low levels of government revenue. However, unlike some South American countries Central America countries have not developed strong private school sectors. Private schools are given no government subsidies, and the high fees that cannot be accessed by most of the population.

There also is some evidence of poor quality of instruction, lack of accountability and low confidence in education in a number of Latin American countries. For example, employers in Honduras have complained that schools and teachers are not held accountable for the quality and rigor of the school programs, and that the school system fails to reflect ethics of responsibility, accountability and work. Thus students fail to develop work ethics and generic employability schools that numerous international surveys indicate are highly valued by employers (World Bank, 2004). The centralized structures of the school systems prevent adequate monitoring mechanisms for the performance of students and teachers, and there are few incentives for schools and teachers within these systems to raise the quality of their performance (Duryea and Pages, 2002). As a consequence Alvarez et al (1999) have commented that *"the vast majority of Latin American schools provide neither a mechanism for reducing income inequalities nor a vehicle for social mobility. On the contrary, the region's education systems operate in a kind of dysfunctional equilibrium that perpetuates, rather than alleviates, persistent poverty and inequality."* (4)

Table 8: Educational Composition of the Workforce

Country	Year	No School	Primary Incomplete	Primary Complete	Secondary Incomplete	Secondary Complete	Any tertiary	Average years of schooling 25 year olds
Costa Rica	1991	3.8	18.5	34.7	16.8	14.1	12.1	6.9
	2000	3.4	14.7	34.7	18.1	12.9	16.3	
El Salvador	1995	18.1	29.1	12.5	19.7	11.6	9.0	4.9
	1999	14.4	26.9	11.8	20.5	14.0	12.4	
Guatemala	1998	27.8	32.1	16.2	12.0	7.0	4.9	
Honduras	1992	16.6	30.3	28.4	7.4	12.7	4.6	4.7
	1999	15.8	28.9	29.0	11.8	9.0	5.6	
Nicaragua	1993	24.2	27.8	15.2	17.5	9.5	5.7	4.7
	2001	19.3	27.6	14.1	19.9	11.4	7.7	

Sources: IDB, 2003; PREAL, 2001

De Ferranti et al (2003) et al have argued that the patterns of educational expansion in many Latin American countries have not been conducive to the development of skills foundations that are needed for technologically advanced economies. Unlike the East Asian countries that expanded their education systems from the primary levels upwards, many Latin American countries have had slow top down upgrading of their systems. The ratio of workers with secondary education to those with tertiary education has shifted markedly in favour of tertiary educated workers. These changes are reflected in table 8, and in the case of Costa Rica workers with tertiary education now exceed those with secondary education. This is not a result of the expansion of tertiary education upon a base of majority participation in secondary education, as in Canada and the USA. Rather they are built upon secondary completion rates of less than 25%.

The data in table 8 emphasise the top heavy or elitist nature of Central American education systems. The data drawn from household surveys are for the entire workforce. However, the

trend data reflect the top-heavy aspects to an even greater extent. Given the recent levels of tertiary education enrolments it can be expected that the ratio of tertiary to secondary educated workers will continue to increase, and that the inflow of secondary level educated workers into the workforce is less than 10% in all five countries. Although many developed nations now have more tertiary than secondary educated people entering the workforce, these nations went through a stage of rapid expansion of secondary education and their tertiary education expansion is built upon large secondary systems, which mostly are of high quality, partially because of competitive tertiary and labour market entry factors. By contrast the low participation and low quality secondary education, and a tertiary education system accessed mainly through economic advantage are not the best foundations for the human capital that is needed for the technology transfer and its utilisation that are required in these economies.

Table 9: Trends in the educational composition of the workforce, 15-64 year olds, Costa Rica, Honduras, Nicaragua.

Country	Early 90's	Share of the labor force			Average years of education
		No schooling to primary complete	Secondary incomplete to secondary complete	More than completed secondary	
Costa Rica	1993	53.74	30.83	14.34	7.78
Honduras	1992	75.29	20.12	4.59	5.54
Nicaragua	1993	67.21	27.06	5.73	5.21
Costa Rica	1998	50.33	31.27	17.79	8.14
Honduras	1999	73.63	20.80	5.56	5.61
Nicaragua	2001	60.94	31.35	7.72	5.86

Source: IDB, 2003, table 73

The educational trends of the workforce are shown more strongly for three Central American countries in table 9. Costa Rica, Honduras and Nicaragua have each increased the percentage of their workforces with educational levels above secondary education by 20% or more over periods of 5 to 8 years. The level of 17.79% tertiary completion achieved by Costa Rica is well above the level of 10.6% achieved by Singapore, yet Singapore's average years of schooling of 8.1 is above the average years of schooling of 6.0 for Costa Rica. Nicaragua's tertiary completion rate of 7.72% is above Malaysia's 7.5%. Yet their respective years of schooling are 4.4 and 7.9.

Table 10: Mincerian Returns to Secondary and Tertiary Education, 15-65 year olds, urban areas

	Year	Secondary	Tertiary
Costa Rica	1991	10.7	15.9
	2000	10.0	15.6
El Salvador	1995	8.3	18.3
	1999	8.6	21.6
Guatemala	1998	10.7	14.6
Honduras	1992	14.1	16.0
	1999	nr	11.0
Nicaragua	1993	8.1	14.6
	2001	11.9	18.5

Source: IDB, 2003, table 80.

When these comparisons are combined with the evidence of the relative standards in primary and secondary education, the relative weakness of the secondary education platform in Central America is emphasised. De Farranti et al's (2003) argument that the social ingredient in closing the 'productivity gap' in Latin America is the building higher levels and quality of participation and outcomes of secondary education is supported by the OECD's (2001) study of economic regions. It also is supported by the Inter-American Development Bank's (2001) report on 'Competitiveness in the Latin American Region'. The report argues that the number one priority should be to universalize secondary education through a mixture of supply and demand incentives.

The weaknesses in education in Central American countries are on both the demand and supply side, and in the interaction between the school system and the labour market. In general the low levels of participation and completion in schooling are a result of student withdrawal under conditions of poor supply quality and perceived opportunity costs. The patterns and trends in relative rates of return for secondary and tertiary education across the five countries as indicated in table 10 are not different to those across most OECD countries (OECD, 2003). In recent years relative rates of returns for tertiary education, and especially university degrees has increased despite the increased percentage of the workforce holding these qualifications. There is some evidence that these relative rates of return are stabilising, as the law of diminishing returns must begin to apply in nations like the USA where over 50% of school leavers now enter tertiary education.

These trends are against the predictions of credentials inflation made two or more decades ago (see Dore, 1976; Collins, 1978), and suggest changed factor conditions within companies, industries and markets. In short they support de Farranti et al's (2003) argument that technological changes have enhanced the value of high level and generic skills in the production process, and that this has affected both developed and developing economies.

The rise in the percentage of workers with tertiary education and their relative economic returns in OECD nations have changed the relativities of workers with secondary levels of education. This accounts for the decline in their relative rates of return, as they are competing with larger percentages of the workforce with tertiary education. This relationship, however, is not so obvious in Latin and Central American nations where the percentage of the labour force with

tertiary education is still below 10% in most countries and the combined percentage of workers with secondary or tertiary education is below 40% in most countries.

These trends suggest relatively weak industry demand in Central American countries, except at the elite levels. This weak demand is related to low levels of capital investment and the use of mature technological capital stocks, which in turn is related to the difficulties industries face in gaining access to investment financing. It also is related to perceptions of low levels of confidence in the school system and the quality of its graduates, which probably has been decreasing over recent decades.

On the supply side, the quality of schooling contributes to perceptions of poor returns and high opportunity costs. The strongest returns are mainly reserved for the economic elites who are able to access tertiary education. In turn public policy has exacerbated this with high levels of government investment in tertiary education, within total government and education budgets that are greatly restricted. Honduras and Guatemala extract less than 3% cost recovery from their universities, and so there is little pressure for universities to raise demand through improving the quality of their services. Public subsidies typically are monopolised by the public universities, and so private tertiary institutions that could broaden access to tertiary education and thus raise demand for secondary education have not evolved.

As Duryea and Pages (2002) note the factors behind levels of labor productivity are not well understood, and simple equations between levels of education and labor productivity levels, let alone TFP levels need to be challenged. Education has been supply led in most nations, and there is no reason to regard Latin American countries as exceptions. Arguably the phenomenon of recent increased returns to tertiary education is indicative of major changes in the relationship between the industrial application of technologies and skills over recent decades. However, as the Latin American countries exemplify, this does not necessarily lead to increased levels of TFP, which over the period 1980 – 1989 were negative.

The role of national education levels in TFD and industrial competitiveness needs to factor in demand. Low levels of participation are associated with high levels of poverty. Only the well off are able to make the long-term investments. Typically poorer sections of the community have less educational success and are unable to stay on or see little benefit in staying on in education. Typically also of very poor countries, the levels of unemployment are higher for the groups with higher levels of education, Higher income groups are unlikely to enter the informal labour market, and are able to delay employment until they find a suitable position.

Table 11: Rates of unemployment by educational level, 15-19 year olds, various years

Country	Year	No school	Primary incomplete	Primary complete	Secondary incomplete	Secondary complete	Any tertiary
Costa Rica	1991	10.2	7.4	7.2	7.3	5.0	2.9
	2000	nr	8.3	6.9	6.7	4.7	2.0
El Salvador	1995	4.0	5.3	4.5	6.9	8.5	4.8
	1999	2.9	3.8	4.1	6.7	7.5	5.2
Guatemala	1998	1.5	1.7	1.9	3.7	5.7	2.1
Honduras	1992	2.3	4.1	3.9	5.0	4.6	2.3
	1999	2.2	3.5	5.5	6.0	4.8	4.4
Nicaragua	1993	16.6	16.1	18.2	15.0	12.4	14.0
	2001	nr	3.0	5.1	6.2	5.6	6.0

Source: IDB, 2003, table 12

Table 11 provides data on levels of unemployment for six categories of workers by educational levels across the five countries. These data indicate low levels of unemployment amongst sections of the population with low levels of education for four of the five countries, with Costa Rica being the exception. This is consistent with other data related to recent productivity performances (table 2), levels of wage poverty (figure 1), and overall levels of participation in education. They suggest that these sections of the population are in poverty traps, and are located in low wage and informal employment with little chace of mobility into higher income occupations. Furthermore, relative levels of unemployment have moved against tertiary and secondary educated workers in El Salvador and Honduras and over the 1990s. Costa Rica is the only country that has patterns of unemployment related to education levels that are consistent with the typical patterns in OECD countries.

These trends would be greater if migration is factored into the data. All of the Central American nations have had significant levels of immigration, with the exception of Costa Rica, and there is a high concentration of both the working age and higher educated amongst these migrants. Net migration for the period from the region 1995 –99 was over 2% per thousand in Guatemala and Honduras and over 4% in El Salvador(IDB, 2003). In 2000 approximately 58,500 people migrated to the USA (IDB, 2003)

The economic incentives for staying on in schooling that apply in developed and transitional economies are not of the same order in Central America. The employment returns for secondary education are weak, and tertiary education is economically out of reach for the poorer sections of the community. This all contributes to a weak educational culture. At the same time, the poor quality of schooling, and the lack of accountability and rigour weaken the intrinsic attributes of schooling, which can be quite strong in building educational cultures in developing nations in Asia and even parts of Africa. For example, as Alvarez et al (1999) note, poor students aged 15-19 in Guatemala are likely to have lower school attainment than poor students in Zimbabwe, despite the fact that Zimbabwe is ranked lower on the UN Human Development Index.

Countries that are attempting to increase levels of educational participation essentially are attempting to encourage individuals to invest both their time (or opportunity costs of work) and finances. There is an obvious interaction between individual and industry demand for education, and policy responses are likely to move beyond the historical concentration upon supply side mechanisms to exploit market behaviours in a period of greater diversity and dynamism. So it is not simply a matter of increasing investment in education, which is extremely difficult for Central

American government budgets, and arguably will not be effective without major institutional reforms to address quality and accountability.

It is the case that countries with more equal distributions of educational outcomes have lower levels of poverty. This applies to both OECD and Latin American Studies. However, given that there are positive returns to secondary schooling across all of the countries there are other factors that discourage poor students from staying on in school. The main factor is poverty itself and the short-term opportunity costs that schooling requires. As well, returns are only relativities and the equation that links increases in the national education base to increases in absolute levels of return through increased labor productivity is much more complex. As Duryea and Pages (2002) conclude educational reform needs to be complemented with other reforms that will enhance the economic and institutional environment for productivity growth.

1.4 Implications for skills development

It is widely accepted that the foundation for industry skills development and labor productivity is the educational base of the workforce. Although there are debates over human capital theory Barro (2001) has made the following observations:

> *With respect to education, growth is positively related to the starting level of average years of school attainment of adult males at the secondary and higher levels. Since workers with this educational background would be complementary with new technologies, the results suggest an important role for the diffusion of technology in the development process. Growth is insignificantly related to years of school attainment of females at the secondary and higher levels. This result suggests that highly educated women are not well utilized in the labor markets of many countries. Growth is insignificantly related to male schooling at the primary level. However, this level of schooling is a prerequisite for secondary schooling and would therefore affect growth through this channel. Education of women at the primary level stimulates economic growth indirectly by inducing a lower fertility rate.*
>
> *Data on students' scores on internationally comparable examinations in science, mathematics, and reading were used to measure the quality of schooling. Scores on science tests have a particularly strong positive relation with economic growth. Given the quality of education, as represented by the test scores, the quantity of schooling—measured by average years of attainment of adult males at the secondary and higher levels—is still positively related to subsequent growth. However, the effect of school quality is quantitatively much more important. (Barro 2001)*

These conclusions lead to the centrality of the link between technology transfer and diffusion, and human resource development. It is unlikely that companies will pay higher wages for more qualified workers and invest in training for workers in the absence of technology investment and production and product innovations.

Numerous studies indicate that training is more likely to be undertaken by people who have higher levels of qualification. Educational attainment promotes both individual investment in continuing formal learning and relative levels of company investment in training. It is not clear whether better educated workers promote company investment in training, but it is highly likely that the absence of educated workers acts as a deterrent to training investment. At the very least worker demand for training will be greater with a more highly educated workforce.

The idea of lifelong learning has emanated predominantly from the European Union and the OECD. The nations within these organisations typically have high levels of educational attainment and distribution amongst their populations. The concept has less applicability to countries with the opposite characteristics and high levels of poverty, including wage poverty.

Nevertheless, the case for an increase in the educational base and higher levels of distribution of education across the populations of Central American countries is strong. This is essentially because the educational base is a primary condition for technological transfer and utilization and industrial innovation that are required for increases in TFP. One essential characteristic of increased TFP is increased worker skills and labor productivity.

Section 2: Central American economic development, trade and the implications of CAFTA

2.1 Trade and economies

The industrial structures of the five Central American economies are similar. They have strong historical bases in agricultural production and relatively weak manufacturing sectors.

Table 12: Trends in economic sector share of GDP.

		Agriculture		Industry		Services	
		1985	Up to2001	1985	Up to 2001	1985	Up to 2001
Costa Rica	**GDP 1985, 2001**	21.8	9.1	33.4	28.6	44.8	62.3
	Employment 1985, 1998	27.3	19.7	21	23.2		*57.1*
Guatemala	**GDP1985, 2001**	25.9	22.6	19.7	19.7	54.5	57.7
	Employment 1992	30.2	26.1	19.1	21.5		*52.4*
Honduras	**GDP1985, 2001**	21.9	16.2	24.0	31.9	54.2	51.9
	Employment, 1990	50.1	35.1	25.9	22		*42.9*
Nicaragua	**GDP1985 1998**	23.7	32.4	35.0	22.1	41.3	45.5
	Employment, 1990, 1999	39.3	42.4	12.9 (1990)	15 (1999)		*42.6*
El Salvador	**GDP 1985, 2000**	26.9	10.1	23.4	30.2	49.7	59.6
	Employment 1985, 1998	34.1	25.1	21.4	24.6		*50.3*

Source: Unpublished World Bank Data, EUROSTAT

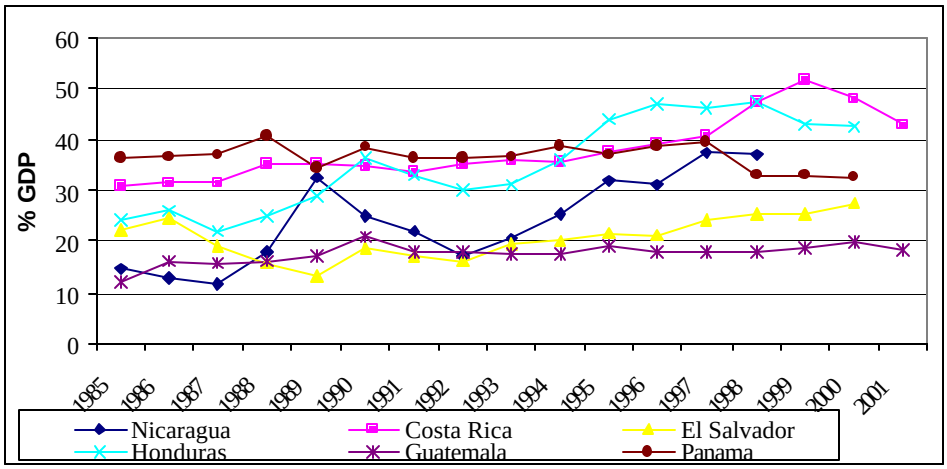
Table 12 indicates the trends in the share of the three industry sectors of GDP and employment over various years towards 2001. With the exception of Nicaragua all countries have experienced a fall in the agricultural share of GDP and employment, a relative stability in industry share of both GDP and employment, and a rise in GDP and employment share in services.

These patterns are similar to those of most other countries, including developed countries, where the service sector has grown both in output and employment at the expense of output and especially employment in agriculture. In the cases of Honduras and to a lesser extent Guatemala the fall in employment share is greater than in GDP share, and this suggests improved levels of productivity. On the other hand the trend in Costa Rica is the reverse of this, although higher comparative rates of TFP and GDP growth over the period (see tables 2 and 3) would help to explain this trend.

The figures show that industry remains a significant contributor to GDP in all countries with shares of 20-32%, and in two countries this share has actually gown. However, against the trend in other countries and especially developed countries, the ratios of employment share to GDP share of industry in three countries (Cost Rica, Guatemala and Nicaragua) has increased. In developed countries this ratio has decreased dramatically with the introduction of new

technologies and rapid increases in labor productivity (OECD, 2003b). These data suggest, therefore, that industry in Central America has mostly failed to invest in new technologies, and has met price and cost pressures through low wages and under investment in capital in favour of the continued use of the mature stock. Thus labor and total factor productivity have not improved, as confirmed in table 2, and the improved economic performance of the countries over the past half decade is probably related to the greater political stability, albeit mitigated by the shock of Hurricane Mitch.

Figure 2: Exports as a % of GDP, 1985 – 2001.



Source: World Bank, unpublished data.

On the other hand there have been some recent positive developments. Trade tripled over the 1990s, and exports as a percentage of GDP have grown in all five countries over the period, as shown in figure 2. The most open economies are Costa Rica and Honduras, where exports account for more than 40% of GDP. While all countries continue to run current account deficits, the levels are not large (except for Nicaragua) and have not increased over the decade. All countries in the 1990s reduced and standardized their external tariffs and have moved towards a common external tariff, and overall trade levels grew from US$10.45 billion to US$31,72 billion from 1990 to 1999 (INCA, 2001). The common external tariff covers 95% of subregional trade. Traditional commodities (coffee, fruits, sugar) continue to account for more than 60% of exports. However, there has been a degree of diversification into the maquila industries and other light manufacturing.

These developments are connected to the USA market. Over the 1990s the percentage of exports from the subregion to the USA increased greatly to about 45% of all exports. In 2003 total exports with the USA were US$19,408 million, and all countries except Costa Rica had a surplus of exports over imports from the USA of $1,342 million

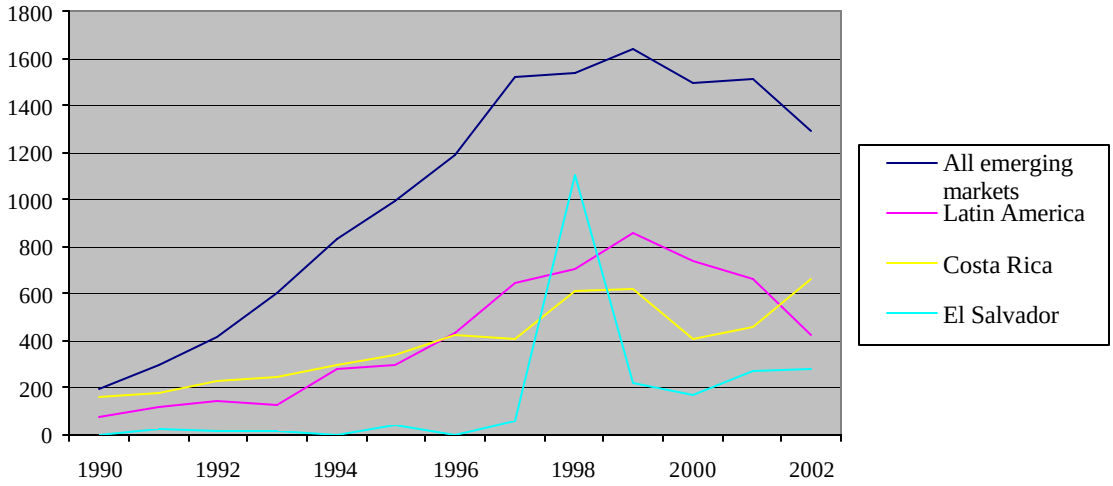
Table 13: Private capital flows, FDI, bank & trade based lending, 1990 and 1999.

	Net private capital flow		**Foreign Direct Investment**		**Bank & trade -related lending**	
	1990	**1999**	**1990**	**1999**	**1990**	**1999**
Costa Rica	23	924	163	669	-99	-28
El Salvador	8	360	2	231	6	-21
Guatemala	44	98	48	155	7	-26
Honduras	76	251	44	230	32	21
Guatemala	20	382	0	300	20	82

Source: World Bank, online data

FDI in Latin and Central America grew during the 1990s, and amounted to $6.5 billion for the period 1990-98, and now constitutes by far the largest component of countries net capital flows. Table 13 includes the change in FDI from 1990 to 1999 in each of the Central American countries, and this growth is associated with similar growth in net private capital flows. However, bank trade-related lending remains weak in all countries and negative in three. This endorses the centrality of FDI for capital investment and especially export-oriented investments.

Figure 3: FDI in Emerging Market Countries, 1990 – 2002*



* Figures for all emerging market and Latin American countries are in 100,000 millions, and figures for Costa Rica and El Salvador are in millions.
Source; World Bank, 2003.

FDI has grown rapidly in emerging market economies (Latin America, Asia, East and Central Asia, Middle East and Africa) over the past decade, as indicated in table 3. The growth from the early 1990s was rapid and exponential, but has moved into a decline over the past three years. All of this decline is accounted for by the decline in FDI in Latin American countries where levels have almost halved over the three-year period. Costa Rica and El Salvador have moved slightly against these trends. However, account needs to be taken of the privatization based FDIs, and the overall levels of FDI in Central America have not been strong in recent years. Nevertheless Costa Rica, El Salvador, Guatemala and Honduras have all diversified their FDIs, particularly into light manufacturing. The decline in FDI in Latin America is partially accounted for the by the instability in financial markets in some of the major South American countries, notably Argentina. Lederman et al (2002) have concluded that it is unlikely that the redirection of FDI into Mexico because of NAFTA has been a major clause of this decline.

Sanches-Paramo and Scady, 2002) have observed that *"it seems likely that technological changes that account for the rising wage of skilled workers in OECD countries, in particular the United States, were transmitted through trade, and helped determine the evolution of relative wages in Latin America"* p13). The relationship between technology and skills therefore is central to issues of productivity and reduced wage poverty, and it does seem that trade has an important role to play.

2.2 Trade within the region

The Central American countries have been the most open to trade of Latin American countries in recent year. They have diversified and increasingly diversified export bases, and the region has strong linkages with world commodity markets. Imports plus exports now equal more than 100% of GDP in Costa Rica, 50% for Guatemala and levels in between these two for the other countries.

Table14: Average Tariffs, 1989, 1994, 1999

	1989	1994	1999
Costa Rica	16.4	11.2	3.3
El Salvador	16.0	10.1	5.7
Guatemala	16.0	10.8	7.6
Honduras	8.0	9.7 (1995)	8.1
Nicaragua	8.0 (1990)	17.4	10.9
Argentina	45.7	10.9	11.0
Brazil	17.0	10.0	9.0
Chile	15.1	11.0	10.0
Mexico	13.1	13.0	10.1

Source: Lederman et al, 2002

Table 14 indicates the decline in tariff levels for the five countries compared with the four largest Latin American countries. By 1999 with the exception of Nicaragua they were the lowest in the region, and have declined more rapidly in the latter 1990s than the levels in other Latin American countries. As well the use of non-tariff protectionist barriers have declined in Latin America. Once again they have declined to a greater extent in Central America (Lederman et al, 2002)

These trends are related to the high levels of activity in the broader American, Latin American, and Central American regions for trade integration and agreement. Apart from NAFTA there has been the Caribbean Basin Initiative, a de facto trend towards monetary integration of the US dollar in Central America, and a partial formal integration in El Salvador, and the common tariff initiative in Central America. As well there has been a large number of unilateral trade initiatives (table 6, appendix 1), many of which have helped to liberalize trade.

Table 15: Non-tariff barriers and index of foreign investment barriers, selected countries.

	Non-tariff barrier levels, 1995-98	Index of foreign investment barriers, 2000
High income countries	-	2.1
Developing countries	-	3.1
Latin America	-	2.2
Costa Rica	6.2	2.0
El Salvador	5.2	1.0
Guatemala	-	3.0
Honduras	-	3.0
Nicaragua	-	2.0
Argentina	3.1	2.0
Brazil	21.6	3.0
Chile	5.2	2.0

Source: De Ferranti, 2003, tables 6.5, 6.6.

Table 15 provides measures of non-tariff barriers to trade and investment in a selection of countries. Although levels of non-tariff barriers are higher than in most developed countries,

levels in Costa Rica and El Salvador compare favourably with those in other developed and the major South American countries. In a similar manner although the indexes of investment barriers for Central American countries are higher than the levels for high-income countries, they are below those for most developing countries. However, the levels for Guatemala and Honduras are higher than the Latin American average.

Table 16 Exports to the USA

	All exports	Exports to the USA
Cost Rica	5,486, 608	2,692.161 (49%)
El Salvador	1,341,270`	318.475 (24%)
Guatemala	2,699,078	971,386 (36%)
Honduras	1,077,531	597,130 (55%)
Nicaragua	629,301	238,206 (38%)

Source: INTAL. Trade statistics: DAINTAL 2.0

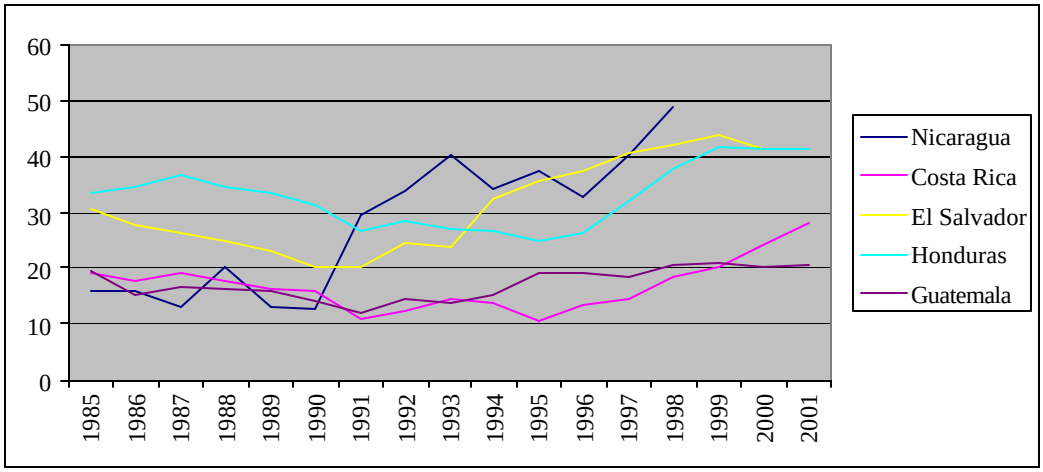
Table 16 compares exports to the USA with overall export for the five countries. All countries have increased their exports to the USA, and this trend is largely responsible for the diversification of the export industries. Lederman et al (2002) have concluded that Mexico is the clear winner in US markets following trade liberalization, but that *'Columbia, Chile and Central American countries (excluding Panama) also fared well.'* (p284).

2.3 Investment constraints

As indicated in table 1 Central American countries continue to rank towards the bottom of the scale on a number of key criteria for international economic competitiveness. De Ferranti et al (2003) argue that this is related to the failure of Latin American countries to achieve technology transfer in their industries, and this in turn is related to the low levels of human capital across the region. However, capital investment also is related to the availability and cost of credit. This in turn is influenced by macroeconomic stability, including inflation, political stability and openness, and efficiency and stability of financial infrastructures. All of these elements have been weak in Central America, and have been exacerbated by the small size of the countries and the proneness of their economies to external shocks, such as Hurricane Mitch, which raise credit risk costs. There are obvious attractions in forms of financial and monetary integration with the USA for these countries.

Access to and the cost of credit are the major constraints to business expansion in Central America. Credit is constrained by a combination of high interest rates that are a combination of high inflation and high real interest rates. These combined rates typically are as high as 20% or more (see table 2), and compare with combined rates well below 10% in most OECD countries, and real interest rates of below 2% in the U.S.A. These rates are related to the relative levels of domestic capital formation and savings, the availability of external credit, and risk factors associated with macro economic stability, political stability, and economic and environmental shock.

Figure 4: Domestic credit to the private sector ($ millions)*



* These data refer to financial resources provided to the private sector, such as through loans, purchases of non-equity securities, and trade credits and other accounts receivable that establish a claim for repayment. For some countries these claims include credit to public enterprises.
Source: World Bank, unpublished data

Figure 4 indicates the levels of domestic credit for the five countries since 1985. After a period of stagnation or decline levels have begun to grow in most of the five countries in the latter 1990s. Nevertheless constraints in the availability of and access to credit continue for most countries. Tables 1 to 5 in appendix 1 indicate responses of firms from the World Business Environment Survey to a series of questions about the availability of finance and credit. Consistent with the above trends firms in Costa Rica and El Salvador feel that they face fewer financial constraints than firms in the Guatemala and Honduras. Firms in Nicaragua also indicate lower levels of constraint, however this may be associated with low demand for finance, which is consistent with the major relative decline in the industry sector, as indicated in table 12. The sample of firms from each of the five countries is not large. However, the trends are relatively consistent across the five countries and across each of the five sets of constraints: lack of money to lend, access to foreign banks, access to non-bank equity, access to credit, and long term loans. The fact that an average of 68% of firms across the five countries indicated constraints in gaining long-term loans is consistent with histories of macroeconomic and political instability.

Table 17: Barriers to investment, Guatemala and Honduras - % of employers citing, by firm size.

	All firms		Micro		Small		Medium		Larg
	Guab	Hon	Gua	Hon	Gua	Hon	Gua	Hon	Gua
Corruption	62.7	63	66.5	67	66.4	67	58.1	68	48.3
Cost of Finances	59.0	60	62.4	63	61.0	66	59.5	72	43.1
Economic & regulatory policy uncertainty	57.0	47	56.1	42	58.2	53	55.4	53	58.6
Access to financing	53.4	51	57.8	57	58.2	60	45.9	53	37.9
Availability of financing	50.3	49	53.8	50	54.1	59	48.0	51	32.8
Macroeconomic instability	47.7	51	50.9	53	52,1	56	39.2	60	37.9
Anti-competitive or informal practices	46.1	47	48.0	36	47.3	49	50.0	47	32.8
Crime and violence: theft, disorder, kidnapping	36.6	61	43.4	57	37.7	59	32.4	57	19.0
Electricity	35.5	37	28.3	34	33.6	32	47.3	44	46.6
Tax rates	33.5	36	29.5	36	29.5	37	43.2	46	43.1
Efficiency of the legal system, conflict resolution	33.0	22	25.4	13	32.9	20	43.2	31	43.1
Access to land	16.9	13	15.5	20	19.9	10	16.2	17	13.8
Tax administration	16.4	23	10.4	24	13.7	24	31.1	30	22.4
Skills and education of available workers	**16.2**	**27**	**10.4**	**21**	**19.2**	**26**	**23.0**	**31**	**17.2**
Telecommunications	12.6	14	11.0	16	8.9	18	20.3	21	17.2
Property rights &/or the enforcement of contracts	12.4	18	13.3	9	8.9	9	21.6	15	6.9
Transport	11.3	8	6.9	7	9.6	4	17.6	13	20.7
Customs regulations	9.5	11	4.0	10	13.0	9	13.5	16	12.1
Business licensing and operating permits	9.5		6.4		7.5		17.6		13.8
Labor regulations	7.3	14	5.2	11	7.5	12	10.8	19	8.6

Source: Investment Environment Survey

Table 17 provides results for Guatemala and Honduras from the Investment Environment Survey conducted in 2003 (see below). It indicates the percentage of employers that nominated each of a series of barriers to investment. The barriers are significant and are a mixture of social and financial environmental and institutional and infrastructure factors. The major barriers across both countries, followed by the availability and access to finance, and political/policy and economic instability. CAFTA should provide some opportunities to reduce these barriers. It could help to achieve greater political and policy stability, which may in turn help to reduce corruption. If it can facilitate greater FDI then increased liquidity may follow through the increased investments and wider sources of finance.

It is clear from this survey that there are interactive factors in creating the barriers to finance. Corruption and crime are related to poverty, which in turn is related to economic instability. Political instability weakens the factor conditions for investment. Therefore, the impact of CAFTA needs to be viewed on a broad basis. The lack of skills and education of the workforce is not seen as one of the major barriers to investment, although large firms have cited this more frequently than small firms. However, Central American industries and firms are mostly operating from low skills bases, or equilibrium, of which one of the major features is low demand for skills. Therefore, policies that are designed to address the skills base of the Central American labor forces need to address both supply and demand. To do this industry investment strategies are central, as this is the major driver of skills demand in increasingly globalized economies. Incentives for investment include the availability of skilled and educated labor.

2.4 Impact of CAFTA

The high levels of trade liberalization of Central American countries and the high degree of trade integration with the USA suggest that CAFTA is unlikely to have dramatic impacts upon the five countries. Opposition to CAFTA is based upon its potential impact upon agricultural industries,

while support is based upon its potential to enhance FDIs, and possibly increase monetary stability and credit availability and costs.

All of the five countries except Honduras have Trade Restriction Quotas (TRQ) for agricultural products, which presumably are to be the subject of CAFTA negotiations. US export trade and subsidy programs are concentrated in a range of agricultural products that could have implications for Central American agricultural producers if combined with relaxation or elimination of the TRQs. Sensitive products across the Central American countries include maize, sugar, pork, poultry, dairy products, beef, beans, tobacco, and rice. Conversely the impact of CAFTA on some US TRQs for agricultural products has the potential to expand exports for some of the five countries in areas such as sugar, beef and dairy products, and especially fruits and vegetables (Hathaway, 2003). However, the recent US-Australia free trade agreement has excluded sugar and retained some restrictions on beef.

Most of the planning for CAFTA within the five countries has concentrated upon the regulatory and administrative infrastructures. However, countries seem to be aware of the fact that 'trade liberalization alone is not enough', and at least some of the countries have addressed domestic their institutional capacities.

- Costa Rica has adopted a strategy of linking trade and investment that has driven trade liberalization. It has identified two main goals – first, the generation of an optimal business climate, and an increase in flows of domestic and foreign investment, and second to increase linkages between foreign investment and the domestic productive sector. For CAFTA three areas of action have been located: rural development, improvement in the business environment and investment climate, and maximization of the benefits for small and medium enterprises. Under the second area it has cited the country's physical infrastructure and *quality improvement in education.*

- Guatemala has noted that *'Human Capital is the most valuable investment for a country",* and has identified *"investment in human capital building oriented to reap fully the benefits of US_CAFTA"* as being urgently needed. (Ministry of Economics of Guatemala (2003. p 29).

- El Salvador notes that it has *"made significant investments in improving our training systems but more could be done"* (p 14). In order to strengthen human resources it has proposed the establishment of a Scholarship Fund for Salvadoran students studying in US universities, and training for general and specialized English courses in all industries and commercial sectors (Government of El Salvador, 2003).

- Honduras has proposed *"the creation of the National Training System to order and focus the dispersed efforts of many institutions that deal with educating the productive sector resources"* (Government of Honduras, 2003, p25).

- Nicaragua has concentrated upon operational programs for the adoption of CAFTA. However, a major component of these programs is the *'raising civil society awareness'* (Republic of Nicaragua, 2002).

Hathaway (2003) notes the ability of countries to adjust to trade liberalization depends upon a number of factors, including "*..the general health of the economy, especially of its labor markets.*

In countries where displaced farm workers can find alternative employment easily the adjustment process will be less difficult." (p61).

Free trade agreements and lessons from NAFTA

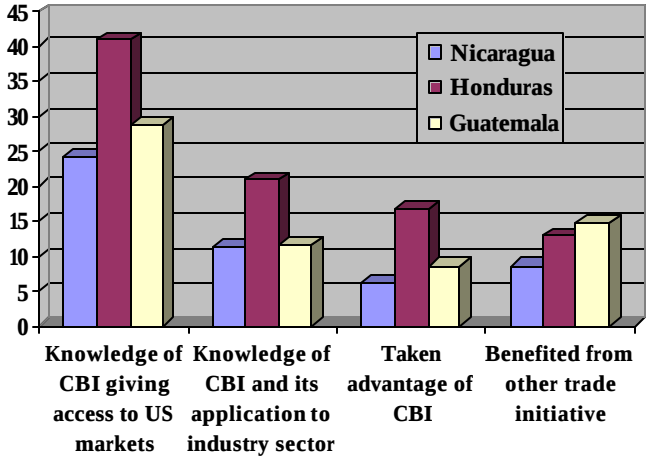
A vigorous debate exists across nations about the benefits and costs of free trade agreements. As discussed above Latin America to a substantial extent and Central America to a considerable extent have liberalized trade through a range of regional, sub regional and bi-lateral agreements over the past two decades. Marquez and Pages (1997) in examining Latin America and the Caribbean have concluded that trade reforms have had *"a negative, albeit small, effect on employment growth"* (p18). On the other hand Rodriguez-Clare (2003) has concluded that trade liberalization and increased competition will lead to increased innovation in a number of industries in Central American countries. There also is some evidence that FTAA can strengthen democracy and political stability by increasing public and private sector dialogue and integration.

The North American Free Trade Agreement (NAFTA) provides the most obvious test of the potential impact of CAFTA. There is evidence that Mexico has benefited substantially from NAFTA. Lederman et al (2003) have concluded that the *"treaty has helped Mexico get closer to the levels of development of its NAFTA partners. The research suggests, for example, that Mexico's global exports would have been 25% lower without NAFTA, and foreign direct investment (FDI) would have been about 40% less without NAFTA. Also the amount of time required for Mexico's manufacturers to adopt U.S. technological innovations was cut in half. Trade can probably take some credit for moderate declines in poverty, and has likely had positive impacts on the number and quality of jobs."* (pv) López-Córdova and Mesuita Mesquita (2002) also conclude that the *"bottom line seems to be that both Brazil and Mexico reaped important productivity gains from integration"* (p18).

However, it seems unlikely that CAFTA will have the full impact upon Central American countries that NAFTA has had upon Mexico. At a direct level Mexico's border with the USA has provided advantages especially for FDI and technology flows that exploited the low wages. As well as Lopez-Cordova (2001) points out the preferential access through FTAAs for maquila type products can be expected to diminish as these industries decline in North America. Furthermore, Mexico unlike the Central American countries had high levels of protection prior to NAFTA.

The potential advantages of CAFTA for Central American countries are generally seen as new export market opportunities and the growth in FDI. Taylor (2002) has concluded that the ability of Central American economies to *"respond to new market opportunities depends critically on their access to markets not only for cash crops, but also for other goods and services…. Because of this, lowering transition costs of raising productivity in other production activities may be critical to facilitate adjustment to trade and market reforms and ensure gains from trade for those engaged in cash crop production."* (p22) Lederman et al (2002) conclude that for Central American countries a *"long-term trade agreement, in lieu of temporary unilateral preferences granted by the US, would guarantee access to the US market and preference margins, thus attracting more foreign direct investment and providing a further boost to exports as long as the quality of domestic institutions does not deteriorate and as long as macroeconomic stability is maintained."* (p36) As confirmed by the Business Environment Survey FDI is commonly associated with higher levels of labor and total factor productivity. Therefore, the capacity of Central American nations to raise levels of labor productivity will influence their capacities to exploit the opportunities of CAFTA.

Figure 5: Employers knowledge of the Caribbean Basin Initiative, its implication for their industry sector, who have taken advantage of the CBI, and benefited from other trade initiatives.



As numerous analysts have commented, free trade agreements alone will not lead to the economic benefits that their designers anticipate. They need corresponding and subsequent institutional reforms and initiatives to be taken by the private sector. The recent Investment Environment Survey conducted in Guatemala, Honduras and Nicaragua included some questions on trade liberalization initiatives. The most significant regional initiative has been the Caribbean Basin Initiative (CBI). Employers from the samples of firms (about 450 per country) were asked whether they knew of the CBI, its implications for their industry sector, and had taken advantage of it. The results are shown in figure 5.

It can be seen that only a minority of employers know of the CBI, and fewer still know of the application to their industry sector. On the other hand the number that have taken advantage of the initiative could be regarded as reasonably high, especially in Honduras, and especially as only a minority of emp loyers had heard of it. As well, a moderate number of employers also indicated that they had benefited from other trade initiatives. These initiatives have been multiple, and the response of employers across the three countries to each of these initiatives is shown in appendix 1.

These results suggest that preparation for and follow up to CAFTA will be important. It will be important for the private sector to know about CAFTA and its potential application to their industry sectors. They also should be supported to investigate how the components of CAFTA can be exploited by their sectors and their firms. Ignorance of CAFTA and its potential impact will severely limit its potential benefits.

Section 3: The implications for skills development.

3.1 The environment for skills development

Sanchez-Paramo and Norbert (2003) have concluded that *"trade appears to be an important transmission mechanism. Increases in the demand for the most skilled workers took place at a time when countries in Latin America considerably increased the penetration of imports, including imports of capital goods."* Consistent with the conclusions of De Ferranti (2003) they note that there has been an increase in the relative wages of educated workers that is associated with an increase in the demand for the most skilled workers by firms. They also conclude that *"It seems likely that some of the technological changes that account for the rising wage of skilled workers in OECD countries, in particular the United States, were transmitted through trade, and helped determine the evolution of relative wages in Latin America."* (p13)

In their study of the impact of NAFTA Lederman et al (2003) have noted the opportunities that can be created through Free Trade Area Agreements (FTAA), but that significant policy and institutional reforms will be necessary in most countries to seize these opportunities. *"In particular, the reforms will need to focus on reducing macroeconomic instability, improving the investment climate and the institutional framework, and putting in place an education and innovation system capable of fostering technological advancement and productivity growth."* (v) In a similar manner Iglesias (2000) concluded that successful economic integration needs a firm foundation or deepening structural reform and the eliminating tariffs is not enough.

3.2 Levels of human capital availability

As discussed in section 1, the levels of human capital that are available in Latin America are poor. Between 18% and 60% of the labor force across the five countries have no schooling or incomplete schooling (table 3), and four of the countries have illiteracy rates of 20% or more.. De Farranti et al (2003) point out that Latin American countries that once had populations with higher levels of education than those of East Asian nations have fallen behind these countries over the past 50 years. They have argued that the low levels and quality of secondary education is the key human resource weakness, and that Latin American countries mostly have followed inappropriate education policies by expanding higher education in the absence of a strong secondary education foundation. The capacity of the education and training systems in Central American countries to meet the human resource needs, and in particular to contribute to a more positive business environment has been criticised in all five countries, and especially in Honduras, Guatemala and Nicaragua.

Table 18: Business views on the quality of education.

	Very good	2	3	4	5	Very bad	Total
Costa Rica	9	45	38	3	3	0	98
	9.2%	45.9%	38.8%	3.1%	3.1%	.0%	100.0%
El Salvador	2	19	32	23	13	7	96
	2.1%	19.8%	33.3%	24.0%	13.5%	7.3%	100.0%
Guatemala	1	12	31	23	25	8	100
	1.0%	12.0%	31.0%	23.0%	25.0%	8.0%	100.0%
Honduras	4	12	28	21	13	8	86
	4.7%	14.0%	32.6%	24.4%	15.1%	9.3%	100.0%
Nicaragua	1	20	20	18	14	20	93
	1.1%	21.5%	21.5%	19.4%	15.1%	21.5%	100.0%

Total	17	108	149	88	68	43	473
	3.6%	22.8%	31.5%	18.6%	14.4%	9.1%	100.0%

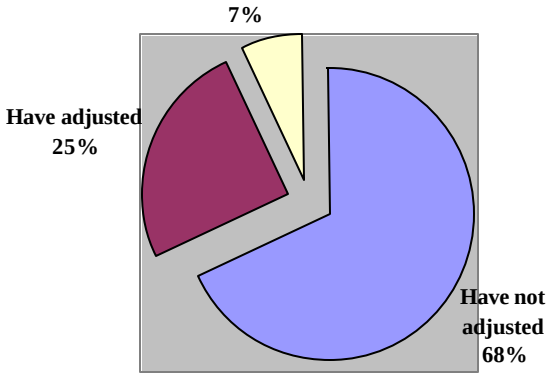
Source: WBES, 2000

Table 18 provides view of firms on the quality of education from each of the five countries in the World Business Environment Survey. Fifty percent or more of firms in Honduras, Guatemala and Nicaragua have recorded negative views of the quality of education. Only the results for Costa Rica are relatively positive.

All of the five countries have adopted forms of the 'Latin American model' of payroll tax based industry training levies, administered by a state run training institution. This model has been reformed in Costa Rica and El Salvador, and more recently in Guatemala. The model is generally regarded as obsolescent and while it has played an important role in building up the facilities for vocational training, it and its legacy are mostly regarded as contributing towards ineffective vocational training systems. The weaknesses in the model typically include the following:

- The levy is mismanaged. Collection rates can be poor, and low proportions of the levy are used for the delivery of training programs.
- The levy is used to fund inefficient public training providers that deliver programs of poor quality that are not in areas or in delivery modes that are needed by private sector firms.
- There is a serious conflict of interest in the public training provider both collecting and being the main user of the training levy.
- Industry does not play a strong leadership role in these systems.
- The levy-based systems do not encourage the development of a robust training market that includes private training providers.
- The systems are not responsive to demand and therefore do not encourage a demand for private sector training.

Figure 6: Opinions of employers of high tech. Companies on whether national training programs have adjusted to industry needs, Costa Rica, 2001



Source: CINDE-PROCOMER, 2001

Table 19 Employers views on training and training policy, Costa Rica

	Agriculture	Industry	Services
There is a training policy	17%	15%	37%
There is not a training policy	83%	85%	63%
Training is an essential investment	59%	54%	70%
Training contributes to profits	31%	31%	27%
Training does not pay off	10%	15%	3%

Source: CINDE-PROCOMER, 2001

Of the five Central American countries Costa Rica has the strongest educational base, and the best economic performance, especially in technology transfer. It also has invested in a number of reforms of its vocational training system. Therefore, given the greater technological advancement of sections of Costa Rican industries, compared to the other four Central American countries, the attitude of employers across the three economic sectors to training might be regarded as advanced signals if economic growth is to be achieved across the region. However, as indicated in figure 6 two thirds of high tech companies believe that national training programs in Costa Rica have not adjusted to industry training needs. Table 19 provides views of employers on various aspects of training policy. The views are relatively positive towards training, although most firms do not have training policies, and while most believe that training is an essential investment, only a small percentage of employers believe that it contributes to profits. It is possible that similar results would be even weaker in the other four countries.

Table 20: Various measures of human capital availability and development

	Availability of management education in first class business schools (out of 10)	Extent of staff training (out of ten)	Human development index	Professional & technical workers as % of labor force
Costa Rica	5.40	4.30	0.82	5.19
Nicaragua	4.10	3.00	0.64	-
El Salvador	3.10	3.60	0.70	0.19

Source: World Bank

Table 20 provides four measures of human capital availability for Costa Rica, Nicaragua and El Salvador. The data indicate relatively weak levels, especially for staff training. They suggest that these countries, with the partial exception of Costa Rica have weak institutional infrastructures for human development. In particular the percentages of professional and technical workers are very low. Most managers are not able to access first class business schools, and most staff do not receive any training. The human development index is a basic measure, and with the exception of Costa Rica the levels are poor.

3.3 Analysis of Investment Environment Survey – Guatemala, Honduras, Nicaragua

This section draws from the Investment Environment Survey (IAS) that was conducted in 2003 in a number of countries, including Guatemala, Honduras and Nicaragua and achieved approximately 450 completed surveys of firms in each of the three countries. The survey for

Central American countries contained a special module on employer training. Questions covered on formal training and in house training provider by firms. Formal training includes universities, public training institutions, private training institutions, and vocational public schools.

BACKGROUND INFORMATION ON FIRMS IN CENTRAL AMERICA BASED ON EMPLOYER SURVEY

Table 21: Industry sector, by country (%)

	Guatemala		Honduras		Nicaragua	
	No.	Percentage	No.	Percentage	No.	Percentage
Industry sector						
Manufacturing	111	24.4	83	18.4	61	13.5
Beverage	12	2.6	21	4.7	15	3.3
Chemical	32	7.0	19	4.2	34	7.5
Food	82	18.0	95	21.1	54	11.9
Furniture	41	9.0	82	18.2	63	13.9
Leather	4	0.9	0	0.0	10	2.2
Rubber/plastics	23	5.1	14	3.1	10	2.2
Mining	39	8.6	48	10.7	60	13.3
Textiles	24	5.3	16	3.6	14	3.1
Tobacco	0	0.0	11	2.4	13	2.9
Timber	16	3.5	31	6.9	43	9.5
Metal	39	8.6	30	6.7	45	10.0
Footwear	8	1.8	0	0.0	27	6.0
Commerce	20	4.4	0	0.0	0	0.0
Paper	4	0.9	0	0.0	3	0.7
Total	455	100.0	450	100.0	452	100.0

Table 21 provides numbers and percentages of firms from different industry sectors. The percentages do not equate with the percentages of employment distribution shown in table 4 or the industrial sectors in table 12, as there is a heavier emphasis upon firms in the industrial sector. As shown there is a large number of manufacturing firms in the survey, so that the survey concentrates upon private sector firms that tend to be more exposed to international competition.

Table 22: Size of firm, by country (%)

	Guatemala	Honduras	Nicaragua
Number of employees			
1-10	25.3	34.7	45.6
11-20	20.7	21.3	21.0
21-50	21.3	15.3	17.0
51-250	22.0	15.8	12.6
251+	10.8	12.9	3.8
Total	100.0	100.0	100.0

Table 22 provides a breakdown of the number of firms in five categories of size. In most countries firm size has an impact upon training and the demand for human resources. Typically larger firms are more likely to both provide training to their workers and to demand training from public training providers. They also are more likely to have worker profiles with higher levels of

formal education and training. Where training levies exist larger firms are more likely to pay the levy. These behaviours are associated with the greater tendency for larger firms to invest in technology, and their greater capacity for technology transfer through their greater comparative access to finance, export markets and international firms. Hence they are more likely to be avenues for FDI, and in many cases they represent FDI.

On the other hand employment growth typically is concentrated amongst smaller firms in both developed and developing countries (OECD, 2003b, IDB, 2001). This is partially due to the more rapid increase in labor productivity in large firms associated with technological investment. However, small and medium size firms have shown capacities for innovation in both product development and production methods. In some OECD countries medium size firms, especially when located as industry clusters have shown the capacity for high levels of product and process innovation, technology adoption and transfer, and skills development through labour exchange and networks. Typically these 'innovative clusters' are built upon strong foundations of high levels of education of their workforces (OECD, 2002). It is unrealistic to expect that innovative clusters will develop in Central America. However, if GDP per capita growth id to be achieved and poverty is to be reduced, these economies will need to build the small and medium size firms, not just the large firms. This means that these firms will need to participate in technology transfer and increase their demand for skilled labor.

Table 23: Average proportion of employees, by category and country

	Guatemala	Honduras	Nicaragua
Category of employee			
Managers	13.6	13.2	13.4
Professionals	4.8	4.0	4.7
Skilled workers	27.7	36.4	36.8
Unskilled workers	43.8	37.1	33.4
Non-production workers	10.0	9.3	11.7

Table 23 provides details of the employment category of the firms. The employment categories are similar across the three countries, the exception being Guatemala, which has a high percentage of unskilled workers. As the IDB (2001) points out, Latin America – including the Central American countries – does not have a high stock of unskilled workers. This is important, as the directions for economic competitiveness need to include increased labour productivity, which includes increased skill levels.

Table 24: Market orientation, by country (%)

	Guatemala	Honduras	Nicaragua
Domestic or export sales in 2002			
Domestic market only	63.7	62.2	72.1
Domestic and export	30.1	22.4	23.9
Export only	6.2	15.3	4.0
Total	100.0	100.0	100.0

Approximately a third of firms across the three countries are oriented towards export markets. Only a small percentage of firms are export only firms. By international standards these levels are not very low, however, the small size and relative poverty of the economies means it is unlikely that many domestic export oriented companies have developed. The percentage of export only firms is highest in Honduras, and is probably due to the establishment of a number of maquila and other light manufacturing firms, including a number during the recent period of trade liberalization.

Table 25: Locus of ownership, by country (%)

	Guatemala	Honduras	Nicaragua
Locus of ownership			
Domestic private	89.9	84.0	86.9
Foreign (at least some)	10.1	16.0	11.3
Government	0.0	0.0	1.8
Total	100.0	100.0	100.0

The profiles of domestic and foreign ownership are consistent with these patterns. Honduras has the highest percentage of firms that have at least some foreign ownership. Consistent with international patterns it is likely that many of these firms have the highest export sales. Foreign owed firms typically have higher levels of training investment than domestic owned firms. This is related to their size, their higher levels of technology capital investment, and their greater export market orientation.

PROVISION OF TRAINING

Firm demand for training

Figure 7: Employers offering formal training (internal or external), by country (%)

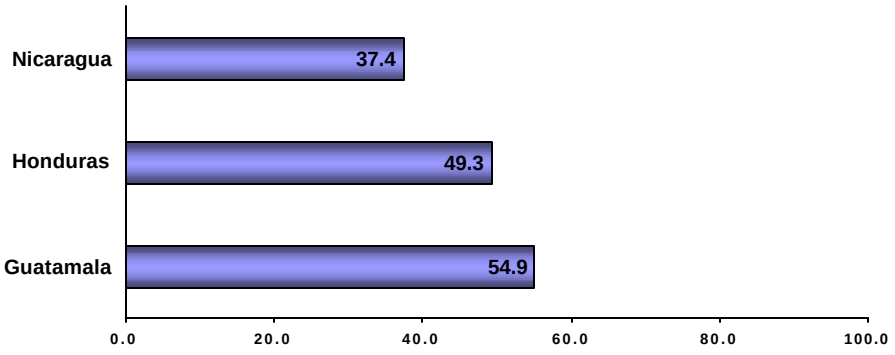
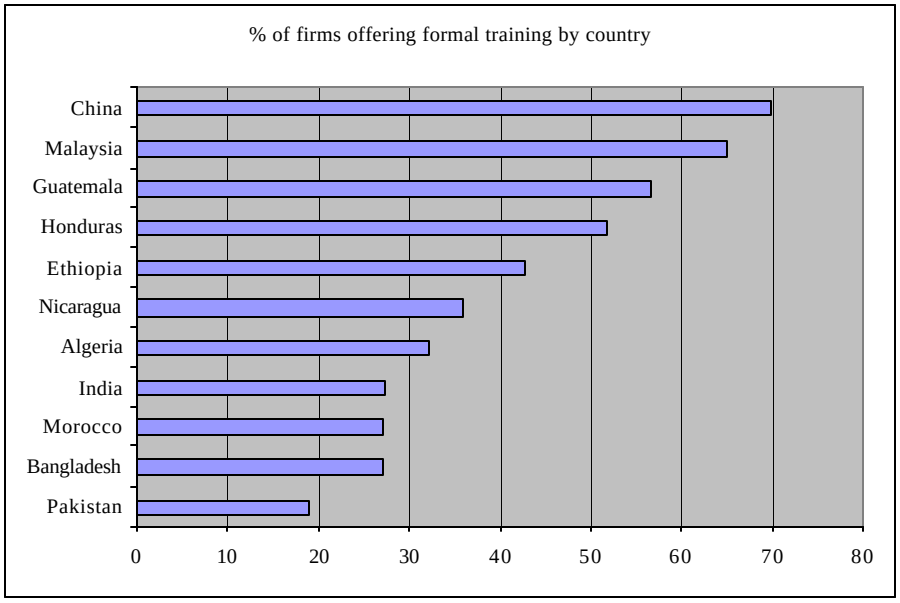
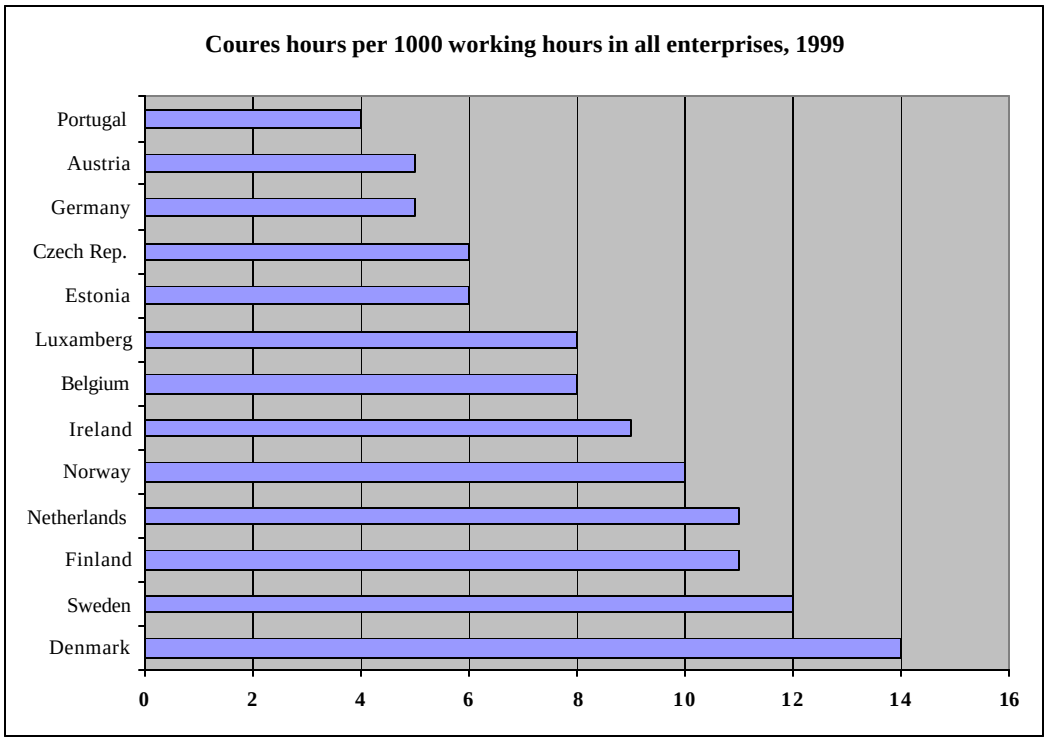


Figure 8



Source: IES

Figure 9:



Source: Nestler and Kailis, 2003

Figures 7, 8 and 9 give comparisons of formal training provided by firms across different countries. Figure 6 drawn from the IAS indicates the number of employers that offer some form of formal training to their workers in the three Central American countries. The levels for Guatemala and Honduras are in the region of 50%+, which might appear to be relatively high.

Compared to levels for some other developing countries, as indicated in figure 7, this is the case – although the level for Nicaragua is relatively poor. Given the comparative economic and industry profiles and the educational profiles of Costa Rica and El Salvador it is likely that the percentage of firms that provide some formal training is higher in these two countries. However, a number of the countries that are included figure 8 have very poor institutional infrastructures, and it is not surprising that the levels of formal training are low.

Furthermore, the data in figures 7 and 8 is not especially revealing. It is possible that a high proportion of firms that provide training do so for only a small percentage of their workers. Figure 9 provides data on the number of course hours provided by firms for each 1000 hours of working hours for a number of European countries. The amount of formal training ranges from approximately 3.5 days per worker per year in Denmark to approximately 1 day per year in Portugal. These levels would be higher than those in Central American countries, and they are related to higher levels of technology use and investment, higher levels of firm based R & D, and greater pressure to improve labour productivity, and in some countries, especially the social partnership countries of Northern Europe, the existence of collective industrial agreements that include opportunities for workers for formal training.

A general assessment might be that the number of firms providing formal training in the three Central American countries is relatively weak, but that given the economic contexts and the histories of the institutional arrangements for education and training these levels provide some basis for building stronger cultures of industry level training. If links can be made between training and practices designed to meet the challenges and opportunities of CAFTA there may be a foundation to expand firm based training.

The reasons for the weak levels of training are likely to be the low educational base of the workforce, the low levels of capital investment and technology transfer of industries and old capital stocks, weak infrastructure, low profit margins and reliance upon short cycle returns given the cost of credit, and the state of the training market. It is of interest that Guatemala has the highest percentage of unskilled workers in firms, yet it has the highest levels of training offered by firms. Of the three countries it is the only one to have made substantial reforms in its training system, and this may be one factor behind these higher levels. On the other hand, it has a larger number of medium size firms, which would also contribute to more firms offering training. Guatemala also has the highest levels of exports, which is another factor that would be conducive to training.

Table 26: Employers offering formal training (internal or external), by number of employees and country (%)

	Guatemala	Honduras	Nicaragua
Number of employees			
1-10	37.4	24.4	24.3
11-20	46.8	49.0	33.7
21-50	54.6	56.5	46.8
51-250	69.0	66.2	68.4
251+	83.7	87.9	70.6
Total	54.9	49.3	37.4

Table 26 provides breakdowns of the percentage of employers that offer formal training, both internal and external, by the number of employees in their firms. Consistent with international trends there is a consistent increase in the percentage as the number of employees increase. This increase in the first instance is a statistical phenomenon as the probability of a firm providing some training to one or more workers must grow with the increased number of workers. Typically, however, large firms have higher technological bases, higher levels of technology transfer, and higher levels of R & D. They also are more likely to be foreign owner, or part of a international chain. They also tend to have the financial base and the credit access to make longer-term investments, including investments in human capital. For example, larger firms typically recruit workers with higher levels of education, and invest more in the searching and selection processes, and recruit from wider geographical areas than smaller firms (Grubb, 1999). All of these factors increase the likelihood of firms investing in training for their workers.

Given the base factors in the three countries, of the levels of education, capital investment, infrastructure, and the market orientation of firms, it is not surprising that only 24% to 37% of firms offer formal training. This compares with an overall average of around 50% for small – medium firms (11-50). However, a large percentage of medium to large forms (51-250+) provide no training. Amongst large firms 16.3% in Guatemala, 12.1% in Honduras, and 29.4% in Guatemala provide no training. This implies that these firms have virtually no technology transfer, and see no productivity benefit in investing in training: the cost of the training will not be met through productivity increases, especially in the short run. In a globally competitive environment, of which trade liberalization is both a symptom and a conduit, a failure to invest in increased productivity is a major problem for economies. The alternative approach is to compete on the basis of wage costs and face a continuing cycle of lower wages, increased wage poverty, low levels of economic growth, and the attendant social problems. Large firms need to play the lead role in this investment, otherwise the capacity for technology and skills transfer through firms and into the smaller firms will be weak. The proposition that medium to large domestically owned firms have low levels of training provision is supported by the relatively high levels of provision amongst large firms in Honduras, the country with the highest levels of foreign ownership of firms. On the other hand, relatively low levels of provision amongst micro to medium firms may indicate a weak overall training market in this country.

Table 27: Employers offering formal training (internal or external), by industry sector and country (%)

	Guatemala	Honduras	Nicaragua
Type of industry			
Manufacturing	53.0	66.3	35.9
Food/beverage	62.8	48.3	56.5
Chemical	68.8	78.9	64.7
Furniture	51.2	39.0	30.2
Rubber/plastics/leather	48.1	71.4	30.0
Mining	35.9	31.3	33.3
Textiles/footwear	50.0	56.3	26.8
Timber	68.8	41.9	18.6
Metal	41.0	40.0	35.6
Retail	85.0		
Tobacco		45.5	38.5
Total	54.9	49.3	37.4

Table 27 shows the percentage of employers that offer some training by industry sector. The figures are inconsistent across the countries. This may be due to patterns of firm size ownership. For example, the higher incidences of training in the manufacturing industries in Guatemala and Honduras compared with that of Nicaragua may be related to the respective size and degree of foreign ownership of firms. The maquila industries do not have high levels of training provision, and the high levels of investment in the chemical industry are probably indicative of high levels of foreign ownership and technology transfer.

Table 28: Employers offering formal training (internal or external), by market type and country (%)

	Guatemala	Honduras	Nicaragua
Domestic or foreign market			
Domestic market only	49.0	39.3	35.6
Domestic and export	64.2	60.4	40.7
Export only	71.4	73.9	50.0
Total	54.9	49.3	37.4

The proposition that incidences of training across industries are related to firm ownership and market orientation is strengthened by the data in table 28. The patterns of training provision by the market orientation of firms that are consistent with international experience. Export oriented firms in all three countries are more likely to offer formal training than firms that are oriented towards the domestic market. Hence industries with strong export orientations are more likely to have higher levels of training. This suggests that if CAFTA can increase export opportunities for Central American countries the levels of training should increase, or that if firms are to exploit these opportunities the levels of training will need to increase in order to support the higher levels of productivity that typically are needed for export markets. However, the table shows that a large percentage of domestic and export and export only oriented firms offer no training. This suggests that up to 40% of these firms are not investing in labour productivity, and in the context of trade liberalization their only option will be to lower labour costs through low wages. Once again, the higher levels for export only firms in Honduras may indicate the impact of foreign owner firms.

Table 29 Employers offering formal training (internal or external), by locus of ownership and country (%)

	Guatemala	Honduras	Nicaragua
Locus of ownership			
Domestic private	53.3	44.8	33.0
Foreign	62.6	73.6	62.7
Government	na	na	62.5
Total	54.9	49.3	37.4

This is confirmed in table 29, which indicates the percentage of foreign and domestic firms that offer formal training. The levels for foreign owned firmed is highest for all three countries, and this is consistent with the experiences of other countries. The level is highest for Honduras,

although the overall levels are highest for Guatemala. This is despite the fact that Honduras has a higher percentage of foreign owned firms. This suggests either that the Honduran firms are concentrated in industries with a higher propensity to train, or that they are larger firms, or that the disincentives for domestic firms to train are high in Honduras, but do not impact so strongly on foreign firms. Domestic firms in Nicaragua also would appear to have major disincentives to train, as the difference between the provision of training by domestic and foreign and foreign firms is greatest in this country.

Table 30: Reasons given by employers for not offering formal training (%)

Reasons for not offering training	Guatemala	Honduras	Nicaragua
New workers become proficient in the job through learning by doing	75.6	73.5	69.4
In-house informal training is enough	60.0	56.6	64.1
We lack knowledge about training techniques and training programs	20.0	22.6	14.2
Training is not affordable due to my firm's limited resources	33.2	34.5	39.1
Skilled workers can be readily hired from other firms	35.1	28.8	30.6
Skills that workers learn in school are adequate to our needs	17.6	15.9	14.2
We are sceptical about the benefits of training	8.3	6.6	7.1
Training is costly because of high labor turnover	20.0	23.5	14.2

The incidence of reasons given by employers for not offering training are indicated in table 30. It is of interest that very few employers in any of the countries indicated that they are sceptical about the benefits of training. Few also felt that the skills that workers gain in schools are adequate to their needs. There also are only moderate levels of 'poaching' workers from other firms, which has frequently been regarded as a major disincentive for training in some other countries (e.g. Finegold and Soskice, 1988). It is encouraging that only about one in three employers cite labour turnover as a reason for not offering training, and this compares with about one in three that have indicated they can recruit skilled labour from other firms. Thus labour mobility on balance has some positive aspects fore employers. Given the centrality of work based training and human capital formation 'on-the-job' a moderate degree of labour turnover is important for the diffusion of skills. Lack of knowledge of training techniques and programs also has been cited by only an average of less than one in five employers across the three countries. Of more significance is the cost of training in the context of the resources of the firm, although less than 40% of employers cited this reason.

Reasons cited by a majority of employers in each of the countries are their preference to allow workers to learn skills on the job, and through informal means. Hence there is a major weakness in the demand for training from the private sector. The provision of skills through learning by doing and informal means is only possible where new skills or the upgrade of skills is not necessary in a firm. The fact that almost three quarters of employers indicated that workers become proficient through learning by doing and three in five indicated that shills are gained through informal means suggest that there is a lack of investment in new technology that requires training. A reliance upon mature capital stocks means that firms and workers are not the recipients of technology transfer, which when combined with increased worker skills provide the foundation for increases in productivity. It also suggests a low level of product or production innovation across most firms. Central American countries have high levels of external trade, and the principal benefits of CAFTA are unlikely to be realised through improved market access, as

there is a reciprocal increase in import competition within domestic markets. The key benefit should be FDI and the subsequent increases in technology transfer, both of which will also be enhanced by the contribution that CAFTA could make to economic and political stability.

These results, therefore, tend to confirm these propositions. That is they confirm the need for external stimulus for skills demand through trade. However, relying upon CAFTA alone to do this is insufficient, as the current attitude of employers to training and their skills needs is unlikely to be changed by CAFTA alone. The opportunities from CAFTA are essentially twofold: more open market opportunities in the USA stimulate firms to exploit these opportunities, and in more open markets labour productivity cannot be ignored; and closer economic integration should enhance the levels of FDI and help to alleviate the chronic problems of financial liquidity and credit availability and costs. Both of these will need to be met with efforts to improve human capital and labor productivity.

As De Ferranti et al (2003) point out, there is strong evidence for a rising demand for skilled labour in Latin America. This however is an elite phenomenon, and does not have the proportions of the broad increases in demand for educated labour that are occurring in the USA and some other OECD countries. The phenomenon of the impact of globalization on labour markets identified over a decade ago by Reich (1991) of an expansion of highly skilled and well paid jobs and an expansion of very low skilled and mainly contingent employment jobs (part-time, casual, short-term and informal jobs) and a contraction of the middle level skills jobs is taking place across most regions of the world. The rising demand and rising rates of return for tertiary educated labour in Latin America identified by De Ferranti et al (2003) is one example of this. There are differences however in the balance between the sizes of the high and low skilled employment. 'Successful' nations have been able to achieve a high proportion of high skilled employment through strong education systems, high levels of investment and technology transfer, and high levels of TFP. The greater mobility, including international mobility of educated labour has enhanced the factor conditions for these countries, and wakened them for the poorer countries. Central American countries are no exception, with emigrants to the USA being mainly of working age and better educated than national averages (IDB, 2003).

It is possible that the demand for highly educated labour is increasing in Central American countries, although the data on rates of return in table 10 is equivocal. Some (e.g. IDB, 2001; De Farranti et al 2003) argue that the fundamental problems are that the weak educational base of the work forces of Latin America provide no foundation for systematic skills upgrades. The responses of the employers from the three countries tend to back this conclusion, as they suggest that there is little urgency on the part of employers to increase the skill levels of their workforces. That is, there is a substantial demand side weakness in the training markets in these countries, and the relevance of CAFTA is that it has the potential to stimulate greater demand.

Nevertheless, it also is important to look at the supply of training in these countries. Apart from anything else, firms pay a training levy in each of the countries, and given the problems with liquidity and credit that are indicated in the World Business Environment Survey, this may have a significant impact upon the demand for training.

Training Supply

Figure 10 Internal training provided in 2002, by country (%)

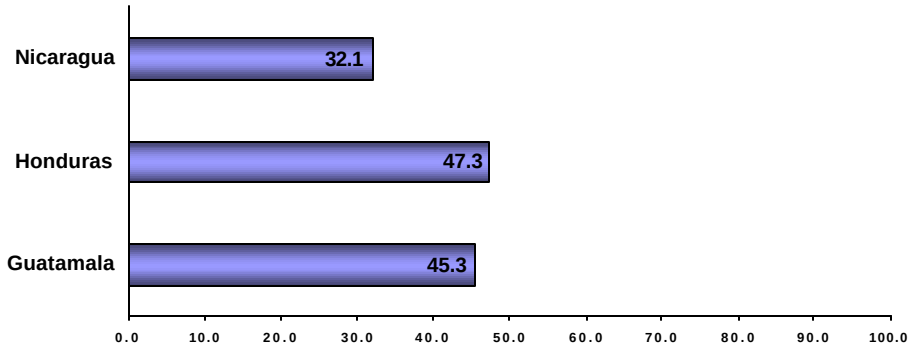


Table 31 Internal training provided in 2002, by number of employees and country (%)

	Guatemala	Honduras	Nicaragua
Number of employees			
1-10	29.6	28.2	17.5
11-20	36.2	41.7	34.7
21-50	46.4	49.3	37.7
51-250	58.0	64.8	57.9
251+	71.4	84.5	82.4
Total	45.3	47.3	32.1

Table 32 Internal training provided in 2002, by industry sector and country (%)

	Guatemala	Honduras	Nicaragua
Type of industry			
Manufacturing	45.2	59.0	35.9
Food/beverage	52.1	48.3	46.4
Chemical	59.4	68.4	58.8
Furniture	43.9	37.8	20.6
Rubber/plastics/leather	44.4	92.9	30.0
Mining	25.6	22.9	26.7
Textiles/footwear	31.3	68.8	19.5
Tobacco		54.5	53.8
Timber	68.8	32.3	16.3
Metal	33.3	43.3	28.9
Retail	60.0		
Manufacturing	45.3	47.3	32.1

Details of internal (within firm) training are indicated in figure 9 and tables 31 and 32. Although Guatemala has higher overall levels of training, Honduras has higher levels of internal training. Consistent with international trends the larger firms in each country are more likely to provide

training than the smaller. Once again, however, the levels for the large firms are comparatively low, and are consistent with the low levels indicated in table 26. Low levels of internal training are consistent with low levels of technology transfer and internal distribution. The relative importance of internal training for economies has grown in recent decades. Some developed countries like the USA and Denmark have low levels of external training, but high levels of internal firm based training. Skill diffusion across industries is achieved through moderate levels of labour mobility and production supply chains between companies.

The patterns across industry sectors also are inconsistent and it is difficult to draw any strong conclusions from them, except that industries that might have new opportunities from CAFTA, such as manufacturing and textiles/footwear have low levels of training. These industries are more open to international competition than most others, and tend to have higher levels of export sales. If firms in these industries do not raise their levels of productivity they will be competing on wage prices with countries such as the Philippines and Bangladesh that have even lower levels of wages than the Central American countries.

Table 33 Number of employees receiving internal training, by country (%)

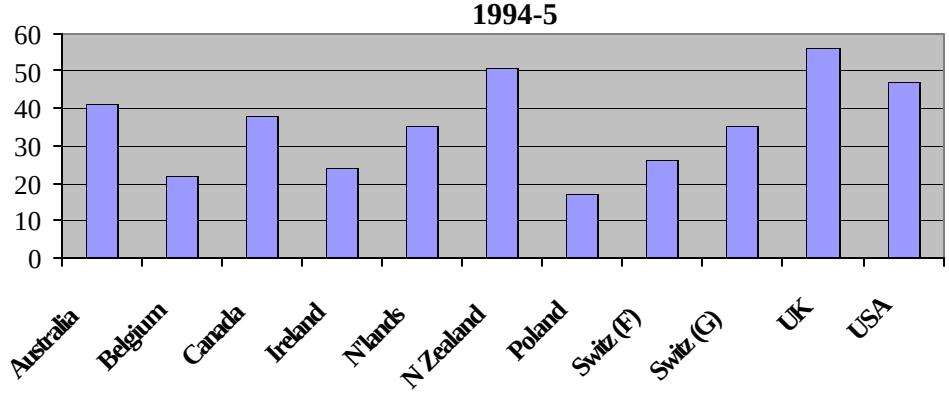
	Guatemala	Honduras	Nicaragua
Percentage of employees			
1-10%	5.3	7.3	4.0
11-20%	9.0	6.0	6.2
21-30%	7.7	5.8	4.2
31-50%	7.5	10.2	6.6
51-80%	7.3	6.7	4.9
81+%	8.6	11.3	6.0
Total	45.3	47.3	31.9

It is the case of course that employers may offer training to only a limited percentage of their employees. Table 33 indicates that of the employers that do offer training (which is less than 20%) 50% of less offer it to 50% or less of their employees. The weighted averages for the estimated percentage of employees in all firms that receive internal training in each of the countries, therefore are as follows:

Guatemala 18.5%
Honduras 21.25%
Nicaragua 13.45%

Thus an average of less than one in five employees receives internal training, or on average an employee can expect to receive some internal training about every 5 years. These levels compare with those of some of the OCED countries as shown in figure10 below. They are well below the levels for the more advanced countries, although comparable with those of some countries such as Poland and Belgium.

Figure 11: Participation in job-related education and training, 1994-5



Source: OECD, 2000.

Table 34 Average number of employees receiving internal training, by category of employee and country (%)

	Guatemala	Honduras	Nicaragua
Category of employee			
Managers	23.7	30.8	31.1
Professionals	26.5	27.1	34.9
Skilled workers	50.6	54.5	54.1
Unskilled workers	46.0	35.2	33.8
Non-production workers	27.8	22.4	20.5

The highest concentration of internal training is amongst skilled employees. This is consistent with international trends, and reinforces the proposition that the education and skill levels of workers at the entry level are important for both technology transfer and on-going skills formation. The levels for managers and professionals are lower, but given the higher probability of their accessing external training this is understandable.

Much of the international literature indicates that the most effective forms of training are firm based. They are more cost effective, relate directly to the production needs of the enterprise, and are the most effective in relation to workers learning styles and capacities. Furthermore, few providers in few countries are able to maintain inventories of the most advanced technologies that are used by internationally competitive firms. Frequently in developing countries vocational training colleges have been given advanced technology, mainly by donor countries. However, in most cases this technology has rapidly become obsolescent and has proven difficult to maintain in working order. Given these conclusions the levels for skilled and operator level workers remain low. When these data are combined with the incidences of firms that offer training less than a third of skilled workers across the three countries receives internal training. This is clearly related to the continued use of mature capital stocks. A failure to renew technologies in more open trading markets will put pressure on wages, leading to the migration of skilled labour or extension of wage poverty.

Table 35 Average number of weeks of internal training, by category of employee and country

	Guatemala	Honduras	Nicaragua
Category of employee			
Managers	1.0	1.4	1.7
Professionals	0.6	1.1	1.5
Skilled workers	2.4	3.3	2.5
Unskilled workers	1.8	1.4	2.1
Non-production workers	0.5	0.9	0.8

On the other hand the data in table 35 indicate that skilled workers that do receive internal training receive between 2.4 and 3.3 weeks of this training. By international standards these levels are quite high, and they can be compared with the levels for European countries that are shown in figure. When the these levels are discounted by the weighted averages for the percentage of workers that receive training in each country the number of days per work extends from .1 of a week for non-production workers in Nicaragua to .7 of a week for skilled workers in Honduras. So some workers in these Central American countries are receiving levels of internal training comparable to the average levels for workers in the highest scoring European countries (Denmark, Sweden, Finland, and Netherlands).

This suggests that internal training in Honduras is relatively elitist: It is concentrate in a small percentage of firms that concentrate both the training and the amount of time in a small percentage of workers. This is consistent with De Farranti et al's (2003) analysis of trends in Latin America, and reinforces the importance of the foundation skills levels for firms and economies and for forms of technology transfer that will promote firm level training for workers.

As indicated in table 8. the percentages of the workforces of the two countries that have completed secondary and tertiary education are as follows:

	Secondary	Tertiary
Guatemala (1998)	12.0	7.0
Honduras (1999)	7.4	12.7
Nicaragua (2001)	11.4	7.7

It can be assumed, therefore, that the percentage of skilled workers in firms is relatively low. If this is the case, it reinforces the arguments put by De Ferranti (2003) the IDB (2001) and Scarpetta (2003) that a combination of educational upgrade and its interface with technological adoption and transfer is the key to the reduction of poverty and an increase in TFP in these countries. Given the relatively large size of the formal economy and workforce (compared to many developing nations in Africa and Asia), and modest levels of formal unemployment wage poverty is a major contributor to overall levels of poverty. Therefore, efforts to increase labour productivity in the formal industry sector should be a key objective. CAFTA should be exploited for these purposes.

Figure 12 External training provided in 2002, by country (%)

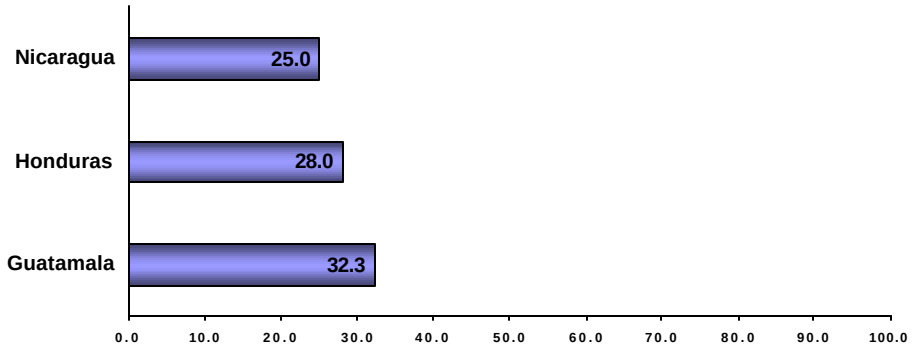


Table 36 External training provided in 2002, by number of employees and country (%)

	Guatemala	Honduras	Nicaragua
Number of employees			
1-10	18.3	7.7	11.7
11-20	26.6	24.0	20.0
21-50	28.9	31.9	32.5
51-250	47.0	50.7	57.9
251+	53.1	56.9	70.6
Total	32.3	28.0	25.0

As shown in figure 12, a minority of firms in the three countries uses external training. It is to be expected that this use will be lower than the use of internal training, and most countries have higher levels of internal to external training. It also is to be expected that larger firms will be more likely to utilize external training (table 36). This is a factor of size, and larger firms also are more likely to access services offered through the private training market, especially industry associations and chambers of commerce as they are more likely to be members of these organizations. Large firms also are more likely to have the internal flexibility to release workers to attend training programs.

On the other hand smaller firms are less likely to have the facilities, production time, and skills and knowledge basis to offer internal training, and therefore are more likely to rely upon external training. Given this the levels for small firms are very low, and it is the case that most micro and small firms in the three countries offer no training for all of their workers.

It also is important to consider the quality and types of external training that are available. High quality training that is relevant to the needs of firms and is delivered at the times and locations when and where firms need has the capacity to stimulate further demand for internal and external training. For example, the CIMO program in Mexico incorporates training into programs that are designed to support individual firm development. The best external training will complement internal training.

Table 37 External training provided in 2002, by industry sector and country (%)

	Guatemala	Honduras	Nicaragua
Type of industry			
Manufacturing	24.3	38.6	10.9
Food/beverage	43.6	31.9	47.8
Chemical	50.0	47.4	47.1
Furniture	26.8	17.1	14.3
Rubber/plastics/leather	40.7	42.9	20.0
Mining	15.4	12.5	21.7
Textiles/footwear	25.0	50.0	14.6
Tobacco		18.2	30.8
Timber	43.8	19.4	20.9
Metal	20.5	20.0	26.7
Retail	55.0		
Total	32.3	28.0	25.0

The patterns of industry sector provision of external training shown in table 37. These patterns are fairly consistent with the patterns for internal training shown in table 36. Given this, it might be postulated that there is a significant weakness in the demand for training across firms in the three countries. Once again, industries that are in the best position to exploit external markets and that are most open to external competition, such as manufacturing, textiles/footwear and furniture have low usages of external training. Also given that most firms in these sectors are likely to be medium to large in size, most are likely to be paying the payroll levy but receive no training provision in return.

Table 38 Number of employees receiving external training, by country (%)

	Guatemala	Honduras	Nicaragua
Percentage of employees			
1-10	14.1	14.4	10.4
11-20	6.6	7.3	7.1
21-30	2.9	2.0	2.7
31+	8.8	3.8	4.4
Total	32.3	27.6	24.6

The proposition that external training is relatively elitist is supported by the data in table 38. Most firms provide external training to less than 20% of their workers, and the weighted averages of the percentage of workers in each of the countries that receive external training are as follows:

Guatemala - 8.1%%
Honduras – 4.8%
Nicaragua - 4.1%

Thus an average of 6% of workers across the three countries receives external training. This means that a worker can expect to receive external training about once every 17 years. The reality of course is the training is confined to a small group of workers, and most never receive any external training.

Table 39 Average proportion of employees receiving external training, by category of employee and country

	Guatemala	Honduras	Nicaragua
Category of employee			
Managers	30.9	39.5	28.3
Professionals	26.4	29.9	25.4
Skilled workers	21.1	25.5	26.0
Unskilled workers	14.9	7.9	8.2
Non-production workers	14.7	7.9	9.7

The reasons for these very low figures are indicated in table 39 that shows the concentrations of external training. External training is concentrated upon managers and professionals. Because the relative number of these employees, plus the relative number of skilled workers are low, the overall number of workers that receive external training is low. Thus a picture begins to emerge of a formal training sector in each of the countries that services a very low percentage of workers in the private sector. This is especially the case in Honduras and Nicaragua, where the percentages are below 5%. Furthermore, only 7% of skilled workers across the three countries can expect to receive any external training, and this again demonstrates a continuing industry dependency upon mature capital stocks, including those industries that are most exposed to external competition.

Table 40 Average number of weeks of external training, by category of employee and country

	Guatemala	Honduras	Nicaragua
Category of employee			
Managers	1.6	1.2	1.8
Professionals	1.2	0.7	1.2
Skilled workers	1.1	0.9	3.1
Unskilled workers	2.2	0.3	0.8
Non-production workers	0.5	0.2	2.3

The average number of weeks per of training for each category of employee are indicated in table 40. These levels are lower than for the length of internal training, and the concentration shifts to managers and professions, with unskilled workers in Guatemala and non-production workers in Nicaragua being aberrations to the pattern. These average numbers of weeks are not especially low, as it is a significant cost for employers to release workers for long period of external training. The weakness is the low percentage of workers that undertake this training.

Table 41 Agency providing external training, by country (%)

	Guatemala	Honduras	Nicaragua
Agency			
University	12.2	12.1	23.9
Public training institute	39.5	37.1	27.4
Technical/vocational public school	12.9	21.8	32.7

Private training school	42.2	43.5	37.2
Partner firms	29.3	26.6	22.1
Other	11.0	12.7	18.6

All three of the countries have adopted the Latin American model of payroll based training levies that are then used to support the public training institutes. The funds from these levies are not used exclusively by these institutes, however a large percentage of them are directed towards the maintenance of the institutes and the delivery of their programs. This provision is complemented with those of universities, public technical or vocational secondary schools, private training schools – including those run by NGOs, and programs run by partner firms. Training that is delivered by industry associations and chambers of commerce would fit into the categories of private training schools of partner firms.

Table 41 provides percentages of firms that utilize each of these providers of training. The highest percentages are for private training providers that are not recipients of the levy funds (except in Guatemala where some recent reforms have begun to open up the training market), although it is likely that longer programs are provided by the public training institutes. Typically the public institutes provide longer courses and as a consequence this tends to limit their flexibility. On the other hand they also tend to provide programs that are most capital and human resource intensive, such as engineering training. Nevertheless in the context of the training levies the percentage of firms that are using their services is low, and it can be concluded that the majority of firms that pay the levy receive no benefit from it.

QUALITY OF TRAINING

Figure 13 Perceived adequacy of external training provision for meeting firms' training needs, by country (%)

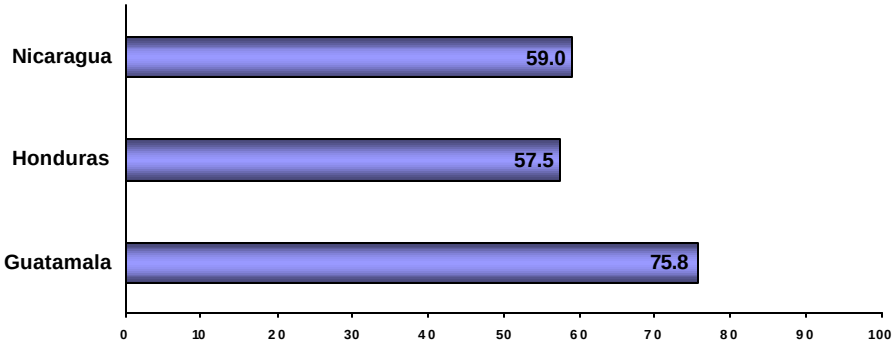


Table 42 Perceived adequacy of external training provision for meeting firms' training needs, by size of firm and country (%)

	Guatemala	Honduras	Nicaragua
Number of employees			
1-10	74.8	57.4	57.6
11-20	74.5	61.1	58.1

21-50	73.2	69.1	57.1
51-250	82.0	49.3	62.5
251+	73.5	48.3	76.5
Total	75.8	57.5	59.0

Figure 13 and table 42 provide some indications of the views of employers on the adequacy of the training provision for their needs. Although the perceptions of adequacy are relatively high, they are difficult to interpret. Given the conclusions reached in various reports on public training providers in Guatemala and Honduras (e.g. CIEN, 1999 for Guatemala, and Corrales (2003) and Santos (1999) for Honduras) it is surprising that such large percentages of employers indicated that the training was adequate. This suggests, therefore, that there is a weak demand for training, and that most employers that used the training felt that it was adequate. It should be remembered that only a very small percentage of employees received external training. Furthermore less than a third of the incidences of external training are with the public training institutes, although some other providers, especially NGOs are the recepients of some training levy funding via the public institutes. Therefore, it is possible that the relatively high levels are mainly an expresson of adequacy with some sections of the training supply. It also is the case that there have been some recent reforms within the vocational training system in Guatemala, and it is of interest that more employers have recorded that training is adequate for their needs in Guatemala than in the other two countries.

Table 43 Reasons why external training is inadequate for meeting firms' needs (%)

Reasons why external training is inadequate	Guatemala	Honduras	Nicaragua
Lack of relevance of training programs offered to the company's work	69.1	74.6	76.8
Lack of skilled technical personnel from agencies to train our workers	52.7	55.7	53.7
Poor Availability of training facilities	57.3	42.7	35.6
Lack of private agencies of training	16.4	20.5	19.8
Lack of accredited agencies of training	13.6	15.1	13.6
High cost of training	29.1	28.1	39
Other	14.5	19.5	10.7

The reasons given by employers for the inadequacy of training that are shown in table 43 are consistent with the findings of other studies (CIEN, 1999; Santos, 1999; Corrales, 2003). The main criticism of public training provision has been that it is frequently not relevant to the company's work. Given the nature of the public training providers with the large size but small number of their centers it also is not surprising that a high percentage should cite the poor availability of facilities. Training should be available without costs for firms, given the existence of the training levy. Nevertheless about a third of employers have cited costs as a problem, and it can be assumed that these employers have accessed or attempted to access the private training market where course fees are charged. .

These data combined with the data on the number of employees that receive exernal training indicate a very weak demand for external training in the three countries, especially Honduras and Nicaragua. The causes of this are not clear, but on the basis of these data and other studies they are likely to include problems on both the demand and supply side of the training market, the

weak educational base of the countries, and the constraints on capital investment and technology transfer.

Table 44 Effectiveness of public training institutes in meeting firms' needs (%)

Level of effectiveness	Guatemala	Honduras	Nicaragua
Very ineffective	10.8	8.4	10.0
Ineffective	8.1	17.3	15.9
Somewhat ineffective	10.5	12.4	11.1
Somewhat effective	25.9	37.1	33.6
Effective	32.7	18.9	25.1
Very effective	10.5	5.8	4.3

Table 44 provides more direct evidence of the perceptions of employers about the public training institutes (INTECAP in Guatemala, INFOP in Honduras and INATEC in Nicaragua). The results are spread relatively evenly across the six point rating scale. With about 60% of employers recording between somewhat effective and very effective. Once again the results are difficult to assess, especially as several country based reports have been highly critical of these organizations. For example, it is difficult to place an investment value on 'somewhat effective' especially as the real delivery of purchase costs to the firms are hidden through the training levy.

FINANCIAL SUPPORT FOR TRAINING AND USE OF SERVICES

Figure 14 Number of firms contributing to INTECAP et al or equivalent, by country (%)

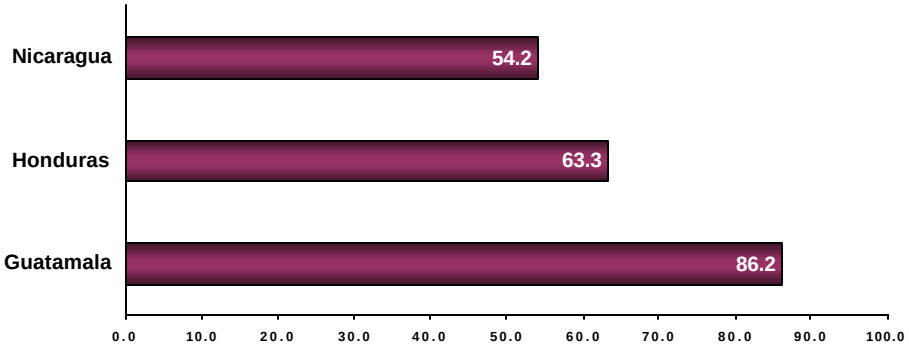


Table 45 Contribution to INTECAP et al or equivalent, by size of firm and country (%)

	Guatemala	Honduras	Nicaragua
Number of employees			
1-10	59.1	32.1	32.5
11-20	91.5	56.3	55.8
21-50	94.8	82.6	72.7
51-250	98.0	94.4	91.2

251+	98.0	98.3	100.0
Total	86.2	63.3	54.2

Training levies are applied to all firms with more than a certain number of employees (usually about 5). Figure 14 gives the percentages of employers that indicated that they pay the levy. The compliance levels are not high at first glance. However, because micro firms are not required to pay the levy the compliance rates are high for Guatemala and moderate for firms with 21 or more employees in Honduras and Guatemala. This means that most firms that pay the levy do not receive any direct benefits from it.

Levy schemes outside of the Latin American model, especially those in some of the European countries such as France and Denmark are designed to encourage firms to invest in training in the context of a perceived failure of demand within the training market. Schemes include levies that are collected only if the firm does not offer training, and matching grants that supplement firm based training or firm investments in training. The evidence from the survey suggests that the training levies in the three countries are not effective in inciting firms to invest in training. First more firms invest in internal training, which is not subsidised, than external training, which may be subsidised if it is provided by the public training institute or a provider that is supported by the public training institute. Second, most firms do not invest in any form of training despite the fact that a majority pay the levy. For example, comparisons of the percentages of firms with 21 – 50 employees that offer training and use external training, and the percentages that pay the levy across the three countries are as follows:

	Guatemala	Honduras	Nicaragua
Offer training	54.6	56.5	46.8
Pay the levy	94.8	82.6	72.7
Use external training	28.9	31.9	32.5
Use the public training provider services	28.9	21.7	15.6

Under these circumstances a large portion of the private sector is likely to regard the levy as simply another tax that reduces their profit margins and their liquidity, and which acts as a disincentive to make capital investments – both technology and skills or human capital.
This conclusion is supported by a third aspect. As indicated in table 43 the principal reasons for employers not offering training are that they do not feel that they need it, as informal on-the-job training suffices in most cases. Low technological investment and transfer will lower the demand for skills. In this context the levy schemes are probably exacerbating the training market failure in these countries. Most firms that pay the levy don't use the training that is provided. Given that they already devote a percentage of their payroll to training from which there is no return they probably are reluctant to devote further resources, especially to external training.

Figure 15 Number of firms that use INTECAP (et al) services, by country (%)

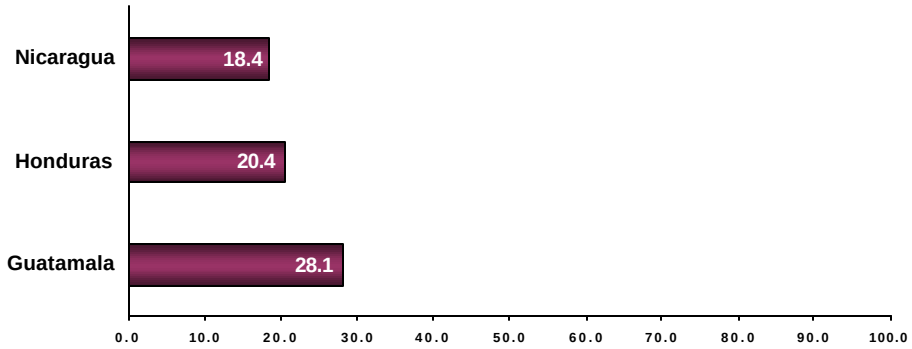


Table 46 Number of firms that use INFOP (et al) services, size of firm and country (%)

	Guatemala	Honduras	Nicaragua
Number of employees			
1-10	13.0	5.1	5.8
11-20	24.5	20.8	11.6
21-50	28.9	21.7	26.0
51-250	41.0	38.0	49.1
251+	42.9	37.9	70.6
Total	28.1	20.4	18.4

The gap between the proportion of firms that pay the levy on the one hand and offer training and use external training is even greater when data on the use by firms of the services of the public training providers is considered. Table 51 provide these data. In the case Guatemala public training provision is limited to INTECAP, which does not distribute levy funds to other providers. INFOP in Honduras and INTECAP in Guatemala both distribute some of the levy funds that they collect to networks of other providers (for example, the CADHER and other networks in Honduras). These data show that a minority of all sizes of firms in the three country, with the exceptions of large firms in Nicaragua, use these services.

Table 47 Number of firms that use CADHER (et al) services, by size of firm and country (%)

	Guatemala	Honduras	Nicaragua
Number of employees			
1-10	4.3	1.3	4.9
11-20	2.1	5.2	9.5
21-50	7.2		23.4
51-250	10.0	7.0	43.9
251+	18.4	3.4	70.6
Total	7.3	3.1	16.4

Firms also are able to use the training programs provided by networks of other providers. In some cases these providers are supported in part by funds from the training level. Table 47 provides data on the percentage of firms by size that utilize these services. As indicated in almost all cases only a small minority of use the services, and this contributes to a picture of under utilization of public training provision by firms that are paying for it through the payroll levies.

3.4 Analysis of the surveys

The picture that emerges from the Investment Environment Surveys is that of a relatively weak training investment across the three countries, and a relative complacency on the part of employers about the place of skills in the future of their companies. It seems that most employers acknowledge that training and skills are important, but most believe that they can be gained through informal means. This suggests that the central problem is a perception on the part of most employers that they will not need to increase their labour productivity and TFP in the future. This is a major weakness in the context of trade liberalization that challenges the approach to achieving competitive advantage through low wage costs. The major advantage of trade liberalization – the increased potential for FDI - requires initiatives on the part of employers to increase the incentives for FDI. Technology transfer requires a corresponding investment in human capital.

The Latin American model of training and its legacy in the three countries that the Survey interrogates has been subject to a considerable amount of criticism in recent years. It is seen as leading to low quality of and relevance in public training provision, a barrier to growth of a training market, and as a disincentive for employers to invest in training (Schady et al, 2001). The 'model' also has delayed the introduction of accreditation and certification systems that are necessary for the development of a training market. The demand for training is related to the recognition of skills and knowledge by employers. In the absence of mechanisms that can guarantee the quality of public certificates it is unlikely that employers will have trust in training systems and their outcomes. However, the survey shows that improving the level of training in these countries will require more than reforming this model and the public training institutions.

The survey shows that the private sector is the chief source of training in these three countries. Private sector and individual demand for external training is weak, and this is only partially related to the weaknesses in the public supply of training. Therefore, while the reform of the public training providers is important, public policy needs also to concentrate upon strengthening firm based training.

Various reports (IDB, 2001; De Ferranti et al, 2003) warn against increasing public funding for vocational training, and stress the priority should be given to strengthening the coverage and quality of general education. There also is a need to increase private sector and individual investment in and demand for training, and an increase in firm based training should be a common objective. Furthermore, evidence from Central American and other regions indicates that a high educational base will enhance both individual demand for an investment in training, and private sector investment in training.

Export oriented, foreign owned or trans national, and high tech companies are most likely to invest in and demand training. These firms also have higher levels of R & D, and product and process innovation. Hence public policies that encourage technology investment and transfer are likely to lead to firm based behaviors that invest in and utilize higher levels of human capital. That is they should raise firm based demand for skilled labour, thus raising individual investment in training, and firm based investment in training. The supply of human capital and the training supply that can deliver and improve human capital then becomes an important factor condition for technology investment and transfer.

Most developed nations are looking more towards individual investment in on-going or 'continuing' education and training. This is associated with the idea of 'lifelong learning', as well as signs that employer or firm investment in training, especially formal training, has not increased in recent years and may well decrease in the future. This stagnation of employer investment in

training is related to the diminishing sizes of firms, a higher proportion of workers in service industries that traditionally have not had a lot of formal training, increased levels of worker mobility between firms, and the rapid changes in technology that many providers are unable to keep pace with.

Individuals on the other hand face higher levels of contingent employment, greater mobility between jobs and occupations, and higher rates of return for high-level qualifications. Therefore, the growing disincentives for employers to invest in skills development are matched by growing incentives for individual investment. Typically individuals invest in their skills when they have high levels of initial education, can afford to make what is a long-term investment, and when they seen returns to this investment. Individual investment in training in Central America is made difficult by the low levels of initial education and the high levels of wage poverty. This means that in the medium term at least strategies to increase individual investment should concentrate upon the better educated and the better paid. However, it also is important to build the general education foundation and to avoid any expansion of wage poverty.

Section 4: CAFTA and skills development

4.1 The opportunity of CAFTA

CAFTA has the potential to offer greater access for Central American economies to US markets. However, it brings the challenges of greater competition in domestic markets from US products. CAFTA also brings the potential of greater FDI, and its potential for technology transfer to the five countries. The knowledge transfer benefits of FDI, the capacity for product and process innovations that exploit market opportunities, and productivity improvements that are required to compete in liberalized markets are all enhanced by higher stocks of human capital. This involves three challenges of increasing the supply of educated and skilled workers through the education system, increasing firm based investment in training, and increasing individual investment in on going education and training.

Latin American countries have been investing in their young because of the high percentage of young people in the population. However, as Duryea and Székely (1998) show this concentration is shifting towards post 19 year olds. They argue that these countries have a 'window of opportunity' to increase their national educational profiles, before they reach period of aging populations that characterise OECD countries. However, with the exception of Costa Rica this 'window' is a relatively long one for Central American countries as they have younger populations than most other Latin American countries. Hence any major shift in emphasis towards adult education would be premature, and the priority for investments in general education and raising the levels of distribution and quality of secondary education are especially relevant for Central American countries.

The challenge for Central American countries, therefore, is to both expand and reform school education in order to meet both current and likely increases in private sectoral demand for educated labor, and to increase the skill and competency levels of current employees. This suggests both reforms to the public institutions of education and training, and means of stimulating firm based investment and individual investment in human capital development.

4.2 The investment climate and human resource development

The broad World Bank (De Ferranti et al, 2003) analysis of the relationship between education, skills and technology in Latin America is clearly applicable to the Central American nations. The major characteristics of the countries, and especially Guatemala, Honduras and Nicaragua, in comparison to the rest of Latin America, is that they are small, have lower levels of education and economic performance, higher levels of poverty, histories of macro-economic instability, political instability and environmental shock. However, political stability has been the recent condition and one factor in this achievement probably is the recent initiatives for trade liberalization.

The growing trade profiles of the five countries is a major asset, and with the advent of CAFTA the importance of institutional structures that are conductive to FDI and an increase in human capital stocks are critical to both improve the factor conditions for FDI and exploit its potential for greater technology transfer. In the emerging knowledge economy, the key ingredients are the distribution and quality of the general education base and the relationship between base or general knowledge and skills and the skills demand at the workplace. Workplace based skills demand is related to technology investment and transfer.

The Investment Climate Survey in Guatemala, Honduras and Nicaragua demonstrates a relative equilibrium exists between the demand and supply of human capital. Most employers are able to meet their skill needs through informal learning, and this is likely to be the case only when the

skill needs are low. A low skills equilibrium includes a mutual reinforcing set of conditions that include low and mature technology use, low priced and low quality products, low skilled workforces, low labor productivity, low wages, and low investments in training. This equilibrium is maintained through low prices, which depend upon low wages, and frequently through protective barriers or market closure. It also is conditioned by a weak investment climate where employers do not invest in new technology, and where the private sector is oriented towards short-term returns to their capital. These characteristics are typical of the investment climate in Central American countries, which also face difficulties in the price and availability of finance and credit. Trade liberalization only alters one of the factors that help to maintain this equilibrium – increased technology investment through FDI. The capacity of countries and countries to respond to this change is dependant upon the relationship between technology investment and transfer and human capital improvement. If skilled labor is not available technology investment and transfer are unlikely to occur.

The key opportunity of CAFTA is on the demand side, in that it has the potential to increase the demand for skills through technology transfer. The capacity for the school systems to respond to new demand or prospective new demands is difficult to judge. However, one policy question is whether countries should invest in technical and vocational schools and courses at the school level. On the whole the vocational secondary schools in Central America have a poor reputation. They have poor status, and suffer from low quality and standards (e.g. see FIAS, 2004 for Honduras). There are exceptions, such as the technical schools in Costa Rica that are well regarded by employers (Rodriguez-Clare, 2003). However, it would be unwise to concentrate on investing in these schools at the expense of firm or work based training. Most of the recent literature on the 'knowledge economy' has stresssed the imprtance of general education, especially in the context where firms are building their own stocks of knowledge. Traditionally vocational education and training has been ocupationally based. The decline of occupational labor markets is one feature of the globalized economies.

This does not mean that vocational education and training is outmoded and non longer relevant to the new industries and industry structures. As well, the Central American economies are poor and developing and cannot be expected to generate the same type and levels of demand for advanced skills as do the advanced economies. Trade liberalization means that Central American industries and firms are now competing with firms in the advanced economies. Their current advantage is that of low labour costs. However, if they are to achieve the objective of poverty reduction wages will need to rise in the future, and unless labour skills and productivity are increased they will not be able to compete with higher wage costs. While this does not mean the obsolescence of vocational education and training, it does question the investment in technical and vocational education at the secondary school level. It is likely that employers in Central America prefer to recruit graduates from the general rather than the vocational high schools (FIAS, 2004). This is because the general high schools have a higher status and are seen as having the most capable students. Rather the priority in vocational training should be on training within and for the private sector. This suggests that the Central American countries should examine the viability and productivity of the secondary vocational schools, with their habitual problems of a lack of staff with upn to date skills and industry experience, and redirect the investments into general education and private sector training.

4.3 National capacities for skills formation and training market failure

The evidence from the Investment Climate Survey indicates that in three of the five countries firms under invest in training, and that the public training institutions make a minimal contribution towards human capital formation for the respective workforces. On the basis of the

general education and economic profiles for Costa Rica and El Salvador, and some other evidence on employers' views of training and education (table figure 6, tables 18 and 19) these characteristics also apply to these countries, albeit to a lesser extent.

Table 48 Ways to improve effectiveness of training institutes (%)

Ways to improve effectiveness	Guatemala	Honduras	Nicaragua
Update courses on work practices and/or machinery currently used in firms	51.1	66.7	54.1
Include practices/internships in firms as part of the training	18.0	20.4	26.1
Better and more specialized staff to train our workers	37.7	48.7	46.4
Increase the number of institutions that provide training courses	35.5	31.1	27.3
Offer internal (in–house) training for the firm that requires it	35.5	29.3	28.9
Improve the continuity of the courses related to a specific topic/sector	13.4	16.2	18.6
Increase the offer of sector specific training courses	26.8	25.1	24.5
Promote monitoring/follow up of the training in the firm	25.2	14.8	21.4
Increase their resources and facilities to better train (and more) participants	17.0	11.2	14.7
Increase schedule flexibility to take the courses	23.6	19.2	16.3

Firms in Guatemala, Honduras and Nicaragua were asked to nominate means of improving institutional training, and the results are shown in table 48. The most frequently cited is the need to update courses to make them relevant to industry-based practices. Overall, these results suggest that the distance of the training providers from the needs, production and work practices, and timing of the private sector is the major reason for the low use of the external training. This suggests that measures to improve public training provision need to concentrate upon:

- The relevance of courses. Courses need to be based upon current and future industry practices, and be in areas that are most in demand from industry. This will require mechanisms, such as standards or competency based approaches, to ensure that link the courses to private sector practices. It also means that the public training providers need to respond to the demands of the private sector, rather than simply supply courses that they have always delivered.
- Quality of courses. Systems such as accreditation and certification systems that give some guarantee of the quality and standard of courses should be introduced. As well, there is a need to ensure that the trainers have the up to date knowledge and skills to deliver the training that the private sector needs. One means of doing this is to use skilled workers from the private sector to deliver some of the training.
- Flexibility of delivery. Training needs to be delivered to the private sector when and where they need it. This means that supply needs to be diversified, and there should be a greater emphasis upon delivering training in the workplace.

As has been stressed, the major opportunities for skills training in Central America are through firm based training. Delivery is usually cheaper, and the training is more relevant to the private sector needs. It also has the potential to increase private sector commitment to training. Therefore, means of increasing firm based training should be investigated. On the one hand this means reducing the disincentives for private sector training, and on the other increasing incentives for training. Mechanisms such as matching grants schemes, especially when linked to technology

investments and innovations, should be investigated. Other incentives through tax policies and labour market regulations should be investigated (Márquez, 2002).

For CAFTA the key question is how to link training policies and initiatives to the investment by the private sector in technology. Technology investment both increases the level of firm investment in training and the demand for skills. The considerable literature on vocational training in Latin America has provided a comprehensive critique of historical and current practices. There is a general consensus of the priority of building the general education base. There also is a consensus that the training supply needs to be broadened especially by building private training providers, that training needs to be better linked to private sector needs, and that means of strengthening the quality of courses and qualifications need to be established.

A consideration of the impact of CAFTA, however, points to three key points:

- The critical supply side issue for human capital is the distribution and quality of the educational base that is delivered by the school system. The quality of the tertiary education supply is predicated upon the strength and quality of the general education base.
- Beyond the school system human capital development in the private sector will occur mainly at the workplace; and
- Linking training with technology investment and transfer is mutually productive for private sector competitiveness and human capital growth.

So while the broad approaches to reforms and innovations in vocational training should be continued, the potential benefits of CAFTA may best be exploited through other public policy areas, including taxation, investment strategies and incentives, and training policies that are designed to provide incentives for technology investments. They might also be complemented with policies that are designed to distribute the skills developments that come with and follow technology transfer. This requires some consideration of how the training and skills gains of high tech., export oriented, trans national and large firms can be distributed to the small and medium size firms that have lower skills bases, lower levels of productivity, and lower levels of investment in training. An examination of the supply chains for larger companies might reveal some opportunities for the distribution of skills through public (or levy) subsidized training.

The IDB (2003) in its analysis of Latin American labour markets has concluded that:

> *"To integrate competitively into the world economy requires a sustained increase in labor productivity that can only result from better educational attainment by the population at large and a higher level of the supply of and demand for skills. Training policies cannot be viewed in a vacuum: their effectiveness and success depends on a number of policies that structure the incentives of firms and workers to respectively demand and supply skills."* (p132-33)

Critiques of training systems and policies in Latin America have in the main concentrated upon the weakness of the supply side, and the most radical reforms have concentrated upon building a more diversified and responsive supply of training. These strategies also are applicable to Central America, where most of the countries have inherited outmoded public training institutes and systems. However, the Investment Environment Survey reveals two critical features of vocational training. First, it is located predominantly in internal firm based training. Second, there is a serious demand side weakness in vocational training.

The Latin American model, with its training levy, was based upon the premise of market failure in vocational training. However, it is clear that the model has not solved this failure, and possibly

has exacerbated it. The regulatory model, therefore, has its limitations. Furthermore, the model is not related to strategies for economic and enterprise development that are related to capital investment and technology transfer, which are now recognised as being critical to labor productivity and TFP.

The Latin American model also addresses only half of the demand side issue. Lack of demand is related to both employers and workers. Workers need to invest time in training, and frequently money for course fees. This will not happen in the absence of clear benefits that result from the training. For workers who are poor the returns to training need to be relatively short term. They will not and cannot afford to make major investments for the long term. As Duryea and Pages (2002) note the expansion of education *"should be complemented with policies addressed to make all workers more productive."* (p32) Therefore, means of securing workers 'investment in the opportunities provided by CAFTA' should be explored.

The opportunities of CAFTA are that it potentially creates incentives for market access and expansion, but within liberal competitive rather than regulatory or protectionist modes. It has the potential to create incentives for investments that will expand productivity and innovation. Therefore, policy regimes in Central American economies need to look towards expanding the incentives for firms and individuals to investment in training through tax and regulatory regimes, and other actions.

4.4 Policy interventions

Although the five Central American have common economic and social characteristics, and they form a clearly identifiable and partially integrated region, there are differences between them. Therefore, policy interventions designed to achieve a more robust market for skills and skills development will need to vary across these countries. Costa Rica, El Salvador and Guatemala all have implemented reforms in vocational training over the past decade, and especially in Guatemala there has been insufficient time to access the impact of these reforms. Therefore, policy interventions need to be proposed with some caution.

This study has not been an evaluation of the public training institutions or of the supply of labor skills to the private sector such as those that have been undertaken or sponsored by the World Bank in Honduras (FIAS) and Guatemala. Rather it has concentrated upon the investment climate and considered the potential impact of CAFTA upon this climate and the implications for skills development in these countries. This report has stressed that policy responses to the investment climate and training market failure in Central America need to be multi faceted. They should cover the climate for and the demand for and supply of training, and they should address three elements of the training market: publicly supported and managed training provision, private sector provision of and demand for training, and individual demand for and investment in training. Elements of a strategy, therefore, would include the following:

- Strengthen the educational base of the workforce. The approach recommended by the World Bank (De Ferranti, 2003) and the IDB (2001) of strengthening the quality of and participation in general education, and especially secondary education is supported by this analysis. The critical weaknesses that have been located across Latin American countries are most intense for the Central American countries. There is a need, certainly in some of the five countries, for policy interventions to address the quality of secondary schools and to achieve higher levels of participation, especially amongst the poor. The quality of tuition also needs to be improved in order to lift the standards of learning and build private sector confidence in education and public certificates. The quality of and access to higher

education also needs to be addressed. Support for private tertiary institutions should be considered, and there is a need in some countries for measures to ensure that the quality of tertiary education qualifications is audited so that the private sector can have confidence in the capabilities of graduates. The example of the Escuela Agricola Panamericana in Honduras shows that high quality tertiary education institutions can be developed and maintained even in very poor countries.

- Reform of the publicly supported training systems. The Latin American model, which continues to exist in some form in most of the five countries, was established to address market failure in training. Evidence from some of these countries as well as evidence from other countries indicates that the model as it continues to operate exacerbates market failure. Reforms typically include the following:
    - Broaden the training supply. Robust training markets need to include a strong private sector and/or not for profit element. This requires that these providers should have access to public funds that are available.
    - Financing arrangements should encourage provider responsiveness to industry demand. Various approaches have been implemented in other countries, including Latin American countries, and their applicability to Central American countries should be examined.
    - The location of the governance and management of the training system in the levy-funded public training institutes involves a major conflict of interest. Public training institutes should be subject to competition from other providers, and the terms of this competition should be those of a level playing field.
    - Private sector participation in the management of the system. Some of the Central American countries have undertaken reforms that give the private sector central roles in the policy formation and management of the training systems. The other countries should follow these examples.
    - Development of skill standards, accreditation and certification. For the private sector to have confidence in provider based vocational training it is essential that the relevance and quality of this training is guaranteed through transparent systems for the development and private sector endorsement of standards, and a robust system for the accreditation of providers and a certification system.

- Removal of barriers to private sector investment. The payroll levy for training as it operates in some of the countries is a disincentive for many firms to invest in training. Most training is undertaken in the workplace. Yet this is not recognised or rewarded through the training levy systems. Firms that already pay for training that is of no use to them are reluctant to pay more. The levy systems need to be reformed so that they do not act as disincentives.

- Introduction of incentives for private sector investment in technology and training. Mechanisms such as matching grants schemes have been implemented successfully in other countries. The link between technology and training is critical to increases in productivity and tax and regulatory structures should be examined in order to maximise the incentives for firms to invest. For example, some of the levy funds that are gathered through the payroll tax could be made available for training programs for firms that have invested in new technology.

- Introduction of incentives for individual investment in training. While Central American countries remain poor levels of private investment in continuing education and training

will remain low. Nevertheless the rising returns for educated workers are increasing the capacity for private investment. Tax structures should be examined in order to create incentives for individuals to invest.

- Information and support. Finally there is a need to assist the private sector in responding to the opportunities created by CAFTA with the provision of information about the Agreement and its implications for new markets and investment, and to provide support for responding to the new opportunities. Once again consideration should be given to the provision of support for firms that wish to invest to exploit market opportunities. This support should include the provision of training or resources for training, and every effort should be made to link training with technology investments and market opportunities.

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Appendices

Appendix 1

Table 1: Finance Constraint-lack money to lend: number of firms ranking low to high.

	Low	2	3	High	Total
Costa Rica	27	27	23	18	95
El Salvador	54	15	11	16	96
Guatemala	10	12	20	60	102
Honduras	20	26	19	15	80
Nicaragua	32	18	17	22	89

Table 2:Finance Constraint- access to foreign banks: number of firms ranking low to high

	Low	2	3	High	Totals
Costa Rica	43	19	21	12	95
El Salvador	39	15	13	20	87
Guatemala	24	24	24	27	99
Honduras	26	21	8	11	66
Nicaragua	39	19	9	19	86

Table 3: Finance Constraint-access to non-bank equity: number of firms ranking low to high

	Low	2	3	High	Total
Costa Rica	35	25	17	11	88
El Salvador	35	19	13	19	86
Guatemala	22	15	30	21	88
Honduras	24	27	13	6	70
Nicaragua	28	31	17	9	85

Table 4: Finance Constraint-credit: number of firms ranking low to high

	Low	2	3	High	Total
Costa Rica	26	19	33	12	90
El Salvador	28	19	18	29	94
Guatemala	19	15	31	34	99
Honduras	19	24	21	12	76
Nicaragua	31	23	16	16	86

Table 5: Financial constraint—long-term loans: number of firms ranking low to high

	1	2	3	4	Total
Costa Rica	19	17	28	31	95
El Salvador	26	17	22	32	97
Guatemala	8	13	30	51	102
Honduras	12	9	18	51	90
Nicaragua	14	14	25	39	92

Source: World Business Environment Survey

Table 6: Trade initiative from which firm has benefited, by country (%)

Trade initiative	Guatemala	Honduras	Nicaragua
TLC de C.A.	6.6	3.6	3.8
TLC con México	4.2	1.3	1.5
Iniciativa del caribe	0.2	0.4	0.4
Zona libre		0.7	0.4
Estados Unidos		0.4	0.2
Acuerdo con El Salvador			0.2
Con Aduanas		0.7	0.4
T L C general			0.9
TLC con Panamá	0.4		0.4
TLC con Rep. Domunicana	1.3		0.4
CAFTA			0.4
Ley de FOB devoluciones			0.2
República Dominicana		0.2	0.2
Introducción de las zonas francas			0.2
lica	0.2		
tlc con república canadá	0.2		
exportación de madera.	0.4		
tlc sin especificar	0.7		
reducción aranceles producto mexicano	0.2		
tratado para maquilas	0.7		
sistema general de preferencia	0.7		
ley de exportación maderera	0.2		
union adunanera centro americana	0.2		
tlc con chile	0.2		
eua-guatemala	0.2		
SGP		0.2	
CBI		0.2	
ALCA		0.2	
LCCA		0.2	
Importanción de vidrio		0.2	
TLC con Colombia		0.7	
Unificacion aranceles		0.2	
Régimen de exportación		0.4	
Régimen de importación temporal C.A		0.4	
Acuerdo con Nicaragua		0.4	
TLC sin especificar		2.9	
CVTPA (Imp. telas a USA)		0.2	
Establecimiento de la corte		0.2	