

# G20



International  
Labour  
Office

## A Skilled Workforce for Strong, Sustainable and Balanced Growth

A G20 Training Strategy

INTERNATIONAL LABOUR OFFICE  
GENEVA, NOVEMBER 2010

# **A Skilled Workforce for Strong, Sustainable and Balanced Growth**

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**A Skilled Workforce for Strong, Sustainable and Balanced Growth: A G20 Training Strategy**

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## Preface

How many women and men are in employment and how productive they are at work has a lot to do with the available opportunities to acquire and maintain relevant skills. Countries, enterprises and persons all perceive skills development as strategic, and consequently seek to step up investments in skills. In aspiring to realize the potential of skills development, they face common challenges.

In Pittsburgh in September 2009, G20 Leaders called for putting quality jobs at the heart of the recovery, and committed to implementing recovery plans that support decent work, help preserve employment and prioritize job growth. To that effect they welcomed the ILO's Global Jobs Pact and agreed on the importance of building an employment-oriented framework for future economic growth.

Leaders adopted a framework for strong, sustainable and balanced growth as the instrument for their cooperative action. They acknowledged the role of skills development in that framework, stating that "each of our countries will need, through its own national policies, to strengthen the ability of our workers to adapt to changing market demands and to benefit from innovation and investments in new technologies, clean energy, environment, health and infrastructure."

They asked the ILO, in partnership with other organizations, and with employers and workers, to develop a training strategy for their consideration.

The ILO prepared such a strategy which was submitted to, and welcomed by, the Leaders at their Summit in Toronto, in June 2010. In Seoul, in November 2010, Leaders pledged to continue to support national strategies for skills development, building on the G20 Training Strategy.

In preparing this strategy, the ILO worked closely with employers and workers whom it consulted widely. It drew on the *Conclusions on skills for improved productivity, employment growth and development* adopted by the International Labour Conference in June 2008.

The ILO interacted extensively with international, regional and national organizations and institutions. The strategy benefitted from intensive collaboration with and inputs from the OECD. Experts from many international, regional and national agencies generously shared their views, experience and findings; notably from the Asia Development Bank, the Asia-Pacific Economic Cooperation (APEC) Working Group on Human Resource Development, the European Training Foundation, the EU Expert Group on New Skills for New Jobs, UNESCO, the World Bank; as well as the ILO's International Training Centre in Turin and the Inter-American Centre for Knowledge Development in Vocational Training (ILO/Cinterfor). The Inter-Agency Group on Technical and Vocational Education and Training has also been mobilized in the exercise.

An early version of the training strategy was discussed at the G20 Employment and Labour Ministers Meeting in Washington DC in April 2010, who recommended prioritizing education, lifelong learning, job training and skills development strategies linked to growth strategies.

The wide consultations we have carried out, the body of knowledge we have examined, point to a number of critical elements.

The first is broad availability of quality education as a foundation for future training. Education for all, and children in school and not at work, is an essential foundation of future training.

A second is building solid bridges between the world of work and training providers in order to match skills provision to the needs of enterprises. This is often done best at the sectoral level where the direct participation of employers and workers together with government and training providers can ensure the relevance of training.

A third is continuous workplace training and lifelong learning enabling workers and enterprises to adjust to an increasingly rapid pace of change.

Fourth is anticipating and building competencies for future needs. Sustained dialogue between employers and trainers, coordination across government institutions, labour market information, employment services and performance reviews are steps to an early identification of skill needs.

Fifth is ensuring broad access to training opportunities, for women and men, and particularly for those groups facing greater difficulties, in particular youth, lower skilled workers, workers with disabilities, rural communities.

Decent work, a universal aspiration, is the best path to self-advancement of women and men. It underpins the stability of communities and families. It is an integral component of strategies for sustainable growth and development. And skills are pivotal to decent work strategies.

The training strategy for strong, sustainable and balanced growth addresses strategic issues as well as practical arrangements. It provides a platform for further exchange of ideas and experiences among a wide range of institutions, enterprises, experts from all countries. It will strengthen the cooperation among international agencies, and inform the ILO's work.

We are pleased to make this G20 training strategy widely available. I am convinced you will find it useful in guiding your own assessments of the paths leading to more effective and broadly accessible training provision of relevant skills, and ultimately decent work in sustainable enterprises.

Juan Somavia  
Director-General,  
International Labour Office

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## *Key messages*

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Equipping the workforce with the skills required for the jobs of today and those of tomorrow is a strategic concern in the national growth and development outlooks of all G20 countries. Together, G20 leaders have pledged to support robust training strategies to meet the challenges of fostering strong, sustainable and balanced growth in each country and globally.

The globalization of markets is accelerating the diffusion of technology and the pace of innovation. New occupations are emerging and replacing others. Within each occupation, required skills and competencies are evolving, as the knowledge content of production processes and services is rising.

A major challenge in all G20 countries is simultaneously to enhance the responsiveness of education and training systems to these changes in skill requirements and to improve access to training and skills development.

Many G20 countries have used training and retraining in their responses to the employment challenges arising from the global financial crisis of 2008. Lessons learned since that time are being applied more widely.

Ultimately, each country's prosperity depends on how many of its people are in work and how productive they are, which in turn rests on the skills they have and how effectively those skills are used. Skills are a foundation of decent work.

### **A strategic framework for skills development**

The cornerstones of a policy framework for developing a suitably skilled workforce are: broad availability of good-quality education as a foundation for future training; a close matching of skills supply to the needs of enterprises and labour markets; enabling workers and enterprises to adjust to changes in technology and markets; and anticipating and preparing for the skills needs of the future.

When applied successfully, this approach nurtures a virtuous circle in which more and better education and training fuels innovation, investment, economic diversification and competitiveness, as well as social and occupational mobility – and thus the creation of more but also more productive and more rewarding jobs.

Good-quality primary and secondary education, complemented by relevant vocational training and skills development opportunities, prepare future generations for their productive lives, endowing them with the core skills that enable them to continue learning.



Young women and men looking for their first jobs are better prepared for a smooth transition from school to work when they are given adequate vocational education and training opportunities, including in-work apprenticeships and on-the-job experience.

Working women and men periodically need opportunities to update their skills and learn new ones. Lifelong learning for lifelong employability captures the guiding policy principle here.

### **Sustaining robust training policies and systems**

Robust training policies and systems are grounded in the characteristics and institutions of each country. Nevertheless, a number of common building blocks can be identified. A good skills development system will be able to: anticipate skill needs; engage employers and workers in decisions about training provision, including in specific sectors; maintain the quality and relevance of training; make training accessible to all sectors of society; ensure viable and equitable financing mechanisms; and continuously evaluate the economic and social outcomes of training.

To keep training relevant, institutional and financial arrangements must build solid bridges between the world of learning and the world of work. Bringing together business and labour, government and training providers, at the local, industry and national levels, is an effective means of securing the relevance of training to the changing needs of enterprises and labour markets.

Institutions to sustain the involvement of employers and workers and their representative organizations are critical to keeping training relevant and ensuring that training costs and the gains of productivity improvement are shared equitably.

Maintaining a close connection between training policies and employment policies creates an effective bridge between the worlds of learning and of work. Policies to improve skills combined with policies to sustain growth and investment, facilitate job search, and support entry and re-entry into the labour market can lead to more and better jobs.

Many benefits derive from making training and skills opportunities broadly accessible to all women and men. Special measures can help overcome the difficulties some groups face in accessing skills – for example, people with disabilities, members of minority groups, those in need of a second chance.

### **Sharing knowledge and experience**

There is plenty of scope for continuing and deepening exchanges of knowledge and experience among countries on training and skills development policies and systems. It is particularly valuable for countries to share their experiences in dealing with the more difficult challenges of maintaining the relevance of education and training to the world of work, and in moving from policy principles to application.

There is also scope for taking a close look at the interlinkages between skills policies, training systems and development, reviewing how knowledge and experience of training strategies and policies can help low-income countries address their growth and development challenges.

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# Introduction

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In Pittsburgh in 2009 G20 leaders pledged “to support robust training efforts in [their] growth strategies and investments” in the context of a framework for strong, sustainable and balanced growth.

To that end, they called “on the ILO, in partnership with other organizations, to convene its constituents and NGOs to develop a training strategy for [their] consideration”.<sup>1</sup>

The ILO has worked, in cooperation with other organizations, including the Organisation for Economic Co-operation and Development (OECD) and regional training institutions, to develop a training strategy. Close consultations were held with representatives of business and labour, and with skills experts from G20 and other countries.<sup>2</sup>

A preliminary version of the training strategy was submitted to the G20 Employment and Labour Ministers Meeting convened in Washington, DC in April 2010. At their Summit in Toronto, the Leaders welcomed the G20 Training Strategy.

The training strategy has benefited from the viewpoints given by ministers as well as further consultations with workers’ and employers’ representatives and international organizations and experts.

## Investing in workforce skills: a widely shared objective

All G20 countries have identified skills development as a strategic objective. All are stepping up investments in skills. India adopted an ambitious National Skills Development Policy in 2009. South Africa is adjusting training strategies under the newly created Ministry for Higher Education and Training.

The United Nations is committed to the Millennium Development Goal of achieving universal primary education: ensuring that, by 2015, children everywhere, boys

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<sup>1</sup> This document has been prepared with substantial input from the OECD.

<sup>2</sup> Formal consultations were held as follows: *Meeting of Experts on Skills on Global Training Strategy*, Turin, 15–17 March 2010, with participants from governments’, workers’ and employers’ institutions, universities and think tanks; *Upskilling out of the downturn: Global Dialogue Forum on Strategies for Sectoral Training and Employment Security*, Geneva, 29–30 March 2010; *Seguimiento a la “Carta de Brasilia”: Estrategia de Formación G20*, Lima, 4–5 March 2010, organized by ILO/CINTERFOR (Inter-American Centre for Knowledge Development in Vocational Training); special meeting of the Inter-Agency Group on TVET, Geneva, February 2010 (including UNESCO, OECD, the World Bank, the European Training Foundation, and the Asian Development Bank).

and girls alike, are able to complete a full course of primary schooling. UNESCO, in support of the Education for All campaign, recently adopted new guidelines on technical and vocational education and training.

In 2008, Government, Worker and Employer representatives at the International Labour Conference adopted a set of conclusions on skills for improved productivity, employment growth and development (ILO, 2008a).

The OECD has produced several major reports on vocational education and training and on school-to-work transitions (OECD, 2009; OECD, 2010a).

The European Commission has embarked on a New Skills for New Jobs Initiative (EC, 2010).

The World Bank is preparing a new skills strategy geared towards employability and productivity.

## A broad definition of training and skills

Training and skills development is understood in broad terms, covering the full sequence of life stages.

Basic education gives each individual a basis for the development of their potential, laying the foundation for employability.

Initial training provides the core work skills, general knowledge, and industry-based and professional competencies that facilitate the transition from education into the world of work.

Lifelong learning maintains individuals' skills and competencies as work, technology and skill requirements change.

Different countries focus on different elements as they see relative strengths and weaknesses in their own skills development systems, and as they learn more about innovations and experience in other countries.

## Benefits from adequate investment in good-quality education and skills

Skills development enhances both people's capacities to work and their opportunities at work, offering more scope for creativity and satisfaction at work.

The future prosperity of any country depends ultimately on the number of persons in employment and how productive they are at work. A rich literature exists on the links between education, skills, productivity and economic growth.

Estimates for European countries show that a 1 per cent increase in training days leads to a 3 per cent increase in productivity, and that the share of overall productivity growth attributable to training is around 16 per cent (CEDEFOP, 2007).

Available evidence firmly establishes that a combination of good education with training that is of good quality and is relevant to the labour market

- empowers people to develop their full capacities and to seize employment and social opportunities;
- raises productivity, both of workers and of enterprises;

- contributes to boosting future innovation and development;
- encourages both domestic and foreign investment, and thus job growth, lowering unemployment and underemployment;
- leads to higher wages;
- when broadly accessible, expands labour market opportunities and reduces social inequalities.

## Widely agreed guiding principles linking skills and work

Good-quality basic education for all is an agreed goal and an essential prerequisite for further skills development.

Establishing solid bridges between vocational education, training and skills development, and the world of work makes it more likely that workers will learn the “right” skills, namely those required by the evolving demands of labour markets, enterprises and workplaces in different economic sectors and industries.

Effective partnerships between governments, employers’ and workers’ organizations, and training institutions and providers are critical to anchor the world of learning in the world of work.

Broad and continued access to training and skills development opens up the opportunities for and benefits of both initial and lifelong learning to all, enabling women and men of all ages, in both urban and rural areas, to fulfil their aspirations.

Dedicated policies and measures are required to facilitate access to training and skills development by individuals and groups hindered by various barriers, including poverty and low income, ethnic origin, disability and migrant status.

Education and skills policies are more effective when well coordinated with employment, social protection, industrial, investment and trade policies.

By using up-to-date information, those working in education and training can assess the match between the skills they are teaching and those in demand in the workplace.

When that information is put at the disposal of young people and workers by employment and vocational guidance services, it can help them to make better-informed choices about education and training.

## Sustaining relevance to the world of work

Countries share many of the difficulties in ensuring that learning is effective, sustained and relevant to the world of work.

General education budgets account for a large proportion of total government expenditure. Yet educational achievements vary widely both across and within countries. When general education fails in its basic objective of raising the cognitive skills of the population, the economic and social costs can be high. In some countries, possible cuts in spending on education and training in the framework of fiscal consolidation policies could substantially hinder future development. It is all the more important to manage public training resources effectively, given their importance as a key driver of long-term growth.

During the financial crisis begun in 2008, training and education featured as key components in the stimulus packages adopted by many G20 countries. Now, as some of these countries are embarking on fiscal consolidation, it is important to ring-fence education and training budgets. Cutting back on these social expenditures can jeopardize long-term growth perspectives and aggravate rather than alleviate fiscal problems.

The gulf between the world of learning and the world of work can be wide. The former is often classroom-based and academic, while the latter is dominated by the practical demands of production processes, deadlines and workplace organization. Change happens fast in the world of work, driven by innovation and by developments in technology and markets. Keeping up with this pace of change is a continuing challenge for learning institutions. The active participation of employers' and workers' representatives in vocational education and training institutions is essential to bridging this gulf. Crossing the gulf can be particularly challenging for women, people with disabilities, communities in remote rural areas and others without access to good-quality education.

While most countries have seen an unprecedented expansion of their education and skill base over the past decades, there is a persistent gap between the kind of knowledge and skills that are most in demand in the workplace and those that education and training systems continue to provide. The ease with which young women and men enter the labour market is a good indication of how relevant their skills training has been.

Assessing the continued relevance and quality of training institutions and programmes, relative to their cost, is a challenge. Tools and methods, including international comparisons, require further development.

Most importantly, skills by themselves do not automatically lead to more and better jobs. Skills policies must be part of a broad set of policies that are conducive to high rates of growth and investment, including investment in basic education, health care and physical infrastructure, strong growth in good-quality employment, and respect for workers' rights.

## What is in this report

This report is composed of three elements: the reasons why a skills strategy is needed; a conceptual framework for such a strategy; and recommendations for its effective implementation. These correspond to the three parts of the report, which address in turn the why, what and how of equipping the workforce with the skills required for strong, sustainable and balanced growth.

Part I briefly describes selected drivers of longer-term change that challenge national skills development systems and provide the motivation for a commitment to improving them.

Part II provides a conceptual framework for a skills development strategy, with reference to national policy objectives, that is relevant to the diverse realities and needs of individual countries.

Part III assembles the essential building blocks of a robust training strategy as called for by the G20 leaders, with reference to a range of illustrations drawing on national examples.

## *opportunities and challenges for training and skills development*

Global trends, affecting all regions, set the context for education and training today and in the future. A selected number of global drivers of change are considered here: namely, the supply-side challenges of demographic change, educational attainment and commitments to inclusive growth, and the demand-oriented challenges of globalization of markets, technological innovation and climate change.

### Demographic change

Worldwide, the rate of population growth is declining, though it remains high in some countries and regions. Some countries face ageing societies. Others have burgeoning youth populations.

Taken as a whole, the world population is marked by declining fertility and rising life expectancy. The primary consequence of both trends is population ageing. The proportion of the population aged 60 years and over will rise in the more developed regions from 22 per cent in 2010 to 33 per cent in 2050, and in the less developed regions from 9 per cent to 20 per cent.<sup>3</sup>

The population of working age (25–59 years) will decline in the more developed regions between 2010 and 2050 in both absolute and proportional terms, falling from 49 to 41 per cent of the total population. In contrast, the working-age population in the less developed regions will grow slowly as a proportion of the whole, from 43 per cent in 2010 to 46 per cent in 2050.<sup>4</sup>

These trends have three major implications for education, skills and training.

*First*, economic growth will depend even more heavily than today on the productivity of the workforce, complemented by rising labour force participation rates, especially among women and older workers. The challenge of lifelong learning, particularly among ageing but economically active persons, will increase in salience correspondingly. For example, China will experience rapid population ageing in the next few decades and so will have to maintain and upgrade the skills of a growing pool of mature and older workers in addition to making further progress in formal education.

<sup>3</sup> United Nations, *World Population Prospects: The 2008 revision* (New York, Department of Economic and Social Affairs, 2008).

<sup>4</sup> Ibid.

*Second*, in several regions the growing size of the youth cohort will continue to challenge both education and training capacities and job creation rates as more young people enter the world of work. Everywhere, young people with low skill levels are finding it hard to secure jobs.

*Third*, international flows of migrant workers will continue to grow, raising challenges concerning fair access to training and how to fill skill gaps in some countries without creating them in others.

## Educational attainment

Education has been identified as an important determinant of economic growth. Higher levels of educational attainment lead to a more skilled and productive workforce, producing more efficiently a higher standard of goods and services, which in turn forms the basis for faster economic growth and rising living standards.

As progress is made towards the goal of universal primary education – stimulated by the Millennium Development Goal and the Education for All initiative led by UNESCO – demand rises for secondary schooling, including vocational education and training. Countries in all regions and of all development levels seek to ensure that basic education is of sufficiently good quality to prepare students adequately for vocational and further training.<sup>5</sup>

Data from the UNESCO Institute for Statistics, assembled by Barro and Lee, show major progress in educational attainment over time, but also major differences between countries. Average years of schooling for those aged 15–24 years in developing countries rose from 3.15 years in 1950 to over 8.5 years in 2010. Over that same period, average years of schooling for 15–24 year-olds in industrialized countries rose from almost seven years to over ten years. In 2010, the average number of years in school for girls reached 84 per cent of that for boys in developing countries and 98 per cent in advanced countries.<sup>6</sup>

Good-quality basic education is closely correlated to economic growth, although it cannot definitively be stated to follow from it. Such education is a foundation for further skills development in productive employment, both initially and throughout adult life. Moreover, a wide distribution of educational attainment across society is a better indicator of likely future economic growth than a high average level. A country's capacity to pick up new technologies and turn them to economic advantage is greater if its education and training system creates a broad base of adequately educated indi-

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<sup>5</sup> Comparative data on enrolment in education are published by UNESCO. Measurements of the quality of education are also available, generated by internationally comparable tests of educational achievement. Such measures include the International Adult Literacy Survey, conducted by Statistics Canada and the OECD; the PISA scores surveyed by OECD every three years measuring reading, mathematics and science literacy of 15-year-olds; and the Trends in International Mathematics and Science Study, now in its third round (commencing 2003; previous rounds began in 1995 and 1999), covering 49 countries. Beginning in 2011, the OECD Programme for the International Assessment of Adults' Competencies (PIAAC) will build internationally comparable evidence on skills in the adult workforce and how these skills have been used in the workplace.

<sup>6</sup> Robert Barro and Jong-Wha Lee, "A new data set of educational attainment in the world, 1950–2010", Working Paper 15902, National Bureau of Economic Research, April 2010.

**Table 1: Proportion of students attaining basic literacy, based on average test scores in mathematics and science from the beginning of primary to the end of secondary schooling (PISA scale)**

Country	%
Argentina	49.2
Australia	93.8
Brazil	33.8
Canada	94.8
China	93.5
France	92.6
Germany	90.6
India	92.2
Indonesia	46.7
Italy	87.5
Japan	96.7
Korea, Republic of	96.2
Mexico	48.9
Russian Federation	88.4
Saudi Arabia	33.1
South Africa	35.3
Turkey	58.2
United Kingdom	92.9
United States	91.8

Source: OECD, 2010b, table A3.

viduals able to continue learning throughout their careers. Literacy rates are a basic indicator of education coverage and vary widely across G20 countries (table 1). A low literacy rate signals an education system that is not preparing society as a whole for further learning and productive work.

It is increasingly acknowledged that training and skills development, whether in schools or elsewhere, is an essential complement to general education in equipping people to grasp opportunities in the world of work.

## Equity and inclusive growth

G20 countries' commitments to inclusive and balanced growth, and the international community's commitments to a global reduction in poverty, also drive efforts to expand the availability of good education and training.

Women's rising rates of participation in the formal labour market and rising levels of educational attainment both contribute to greater social equality between women and men. The educational performance of women is generally better than that of men. However, women face widespread barriers in seeking to achieve the goal of equality of opportunity and treatment in employment. Gaining new and higher-level skills can both help more women to enter the labour market and contribute to lowering gender disparities in the labour market.



Efforts to combat marginalization in working life are best focused on early education and youth employment. Young people who are not integrated into the labour market at an early age are at high risk of long-term lower wages and employment insecurity, and youth unemployment rates tend to be inversely proportional to level of educational attainment.

In many countries, the transition from school to work is a critical threshold. A successful transition is greatly facilitated by good access to vocational education and training and in-work experience.

Worldwide, 80 per cent of people with disabilities live below the poverty line. Evidence of skills deficits among persons with disabilities is most apparent in countries where quotas for employing disabled people cannot be met because of low education and skill levels.

## Globalization of markets

The defining characteristic of the past 50 years of world economic growth has been the closer integration of markets across regions. This is observed most distinctly in the growth of world trade, foreign direct investment (FDI) and migration.

World trade grew 1.6 times as fast as world GDP between 1950 and 2007. Over the latter part of this period trade increased by 5 per cent annually while GDP grew by only 2.9 per cent. Between 1950–73 and 1974–2007 global FDI as a share of world GDP grew by a factor of five, reaching over 25 per cent in the latter period.<sup>7</sup>

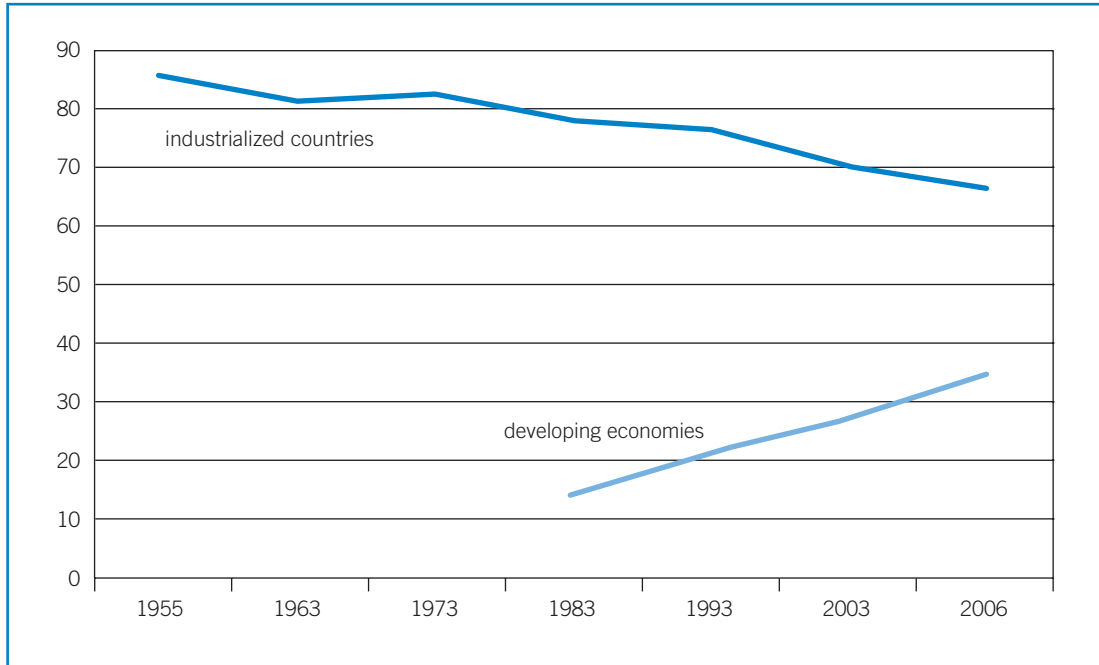
As world trade has grown, so the pattern of exports has changed. The share of industrialized countries in world exports of manufactures has been declining since the 1950s, and more sharply from the 1980s. This decline reflects the increasing specialization of the industrialized countries in services. The correlate is a rising share of developing countries in world manufactures exports to just over a third in 2006, twice the level of 25 years ago (figure 1).

Shifts in the geographical origins and in the composition of trade have major consequences for skills requirements. Economic transformation, for example from agriculture into manufacturing and services, or changes within an economic sector, for example from more labour-intensive manufactures to higher value-added manufactures, change skill requirements. Adjusting the skills of the workforce to these changing requirements, whether in a country, a local area or a single enterprise, is a continuing challenge everywhere.

International movement of labour, from South to North, but also within the South and within the North, is another prominent feature of globalization. The total number of international migrants has grown steadily to reach 214 million in 2010, of which the ILO estimates half are economically active or migrant workers.

The increase in migration within and among countries calls for special arrangements to be made for the education and skills training of immigrants, and for the recognition of the skills they bring with them. It also calls for policies to retain human capital and avoid brain drain. A separate concern is that curtailing the movement of skilled

<sup>7</sup> World Trade Organization, *World Trade Report 2008: Trade in a globalizing world* (Geneva, WTO, 2008).

**Figure 1: Share in world manufactures exports, % (1955–2006)**

Source: World Trade Organization, *World Trade Report 2008: Trade in a globalizing world*. (Geneva, WTO, 2008).

labour will constrain growth and innovation:<sup>8</sup> this issue is receiving increasing attention in countries with ageing societies and projected labour shortages.

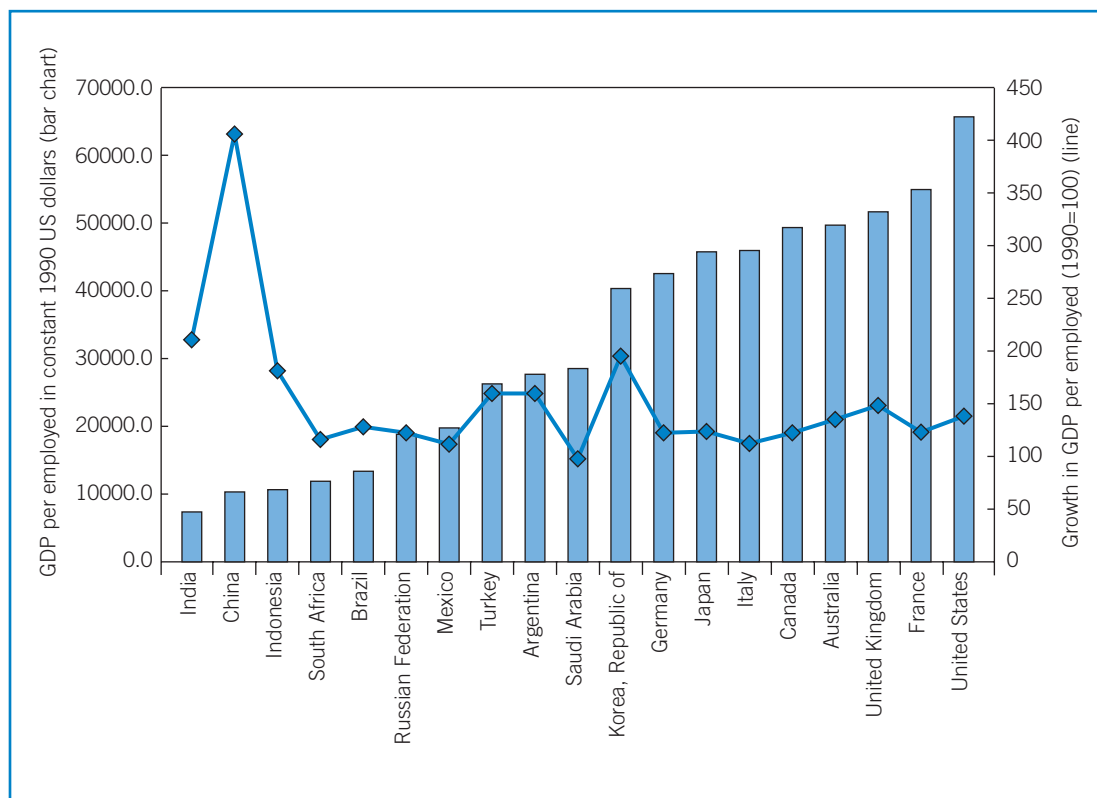
## Technology and innovation

Innovation and technological change are powerful drivers of economic growth. This has been the case in the past, is a salient feature of the world today, and will no doubt continue to be so in the future. What is particularly notable about today's environment is the rapidity with which innovations spread into mass use.

There are few areas of modern life, from health to transport, and few workplaces and production processes, from agriculture to construction, where goods and services alike have not been subject to constant innovation and improvements.

Possibly the most emblematic innovations of recent years are those linked to microprocessing chips. The mobile phone appeared in the early 1980s. The International Telecommunications Union estimates that in 2008 mobile phone and fixed broadband penetration in developing countries had reached the level found in Sweden only a decade earlier. In 2009 an estimated 26 per cent of the world's population (1.7 billion people) were using the Internet.

<sup>8</sup> World Economic Forum, Global Redesign Initiative on Skill Gaps, 2010.

**Figure 2: GDP per person employed, 2008 (constant 1990 US\$ at PPP), and change since 1990**

Source: ILO labour statistics database, *Key indicators of the labour market*, 6th edition (Geneva, ILO, 2009).

These trends are reflected in both output and trade. The value of world trade in information and communication technology (ICT) goods increased from US\$1,000 billion in 1996 to over US\$3,500 billion in 2007. Non-OECD countries were responsible for nearly half the 2007 total, compared to just 15 per cent a decade earlier (OECD, 2008).

Innovation and technology translate into investment in fixed capital and in workforce and entrepreneurial skills which in turn lead to higher productivity. Countries with lower levels of economic development accordingly display lower levels of output per worker. However, these countries also tend to register more rapid increases in output (figure 2).

Rapid innovation will continue to characterize investments as enterprises expand into new products and services. While the pace of change may be faster in emerging economies, the more advanced countries will seek to keep their competitive edge through investment in innovation.

In all countries the implications for skills development are momentous. Many of the jobs that will be generated over the next two decades do not exist today; yet most of the workforce of those years is already in education and training. Even so, the need to upgrade skills applies not only to young people in schools, universities and training institutions, but also to the current generation of workers.

## Climate change and transition to the green economy

Climate change is a major driver of technological change and innovation in the search for measures and policies to mitigate or help adjust to its effects. Sustainable development and the integration of environmental protection into economic and social development objectives are among the most challenging issues on the national and international policy agenda.

The level and structure of employment and skill needs worldwide will be affected both by the direct impact of global warming (particularly in agriculture, fishing, tourism and mining) and by the policies adopted at the local, national and international levels to reduce carbon emissions.

The notion of “green jobs” has become an emblem of a more sustainable economy and society. Jobs in all economic sectors are subject to “greening”, but six sectors have particular salience in this respect: energy supply, especially of renewable energy; construction; transportation; basic industry; agriculture; and forestry. Millions of green jobs already exist worldwide. The report launching the Green Jobs Initiative counted at least 2.3 million in the renewable energy sector alone in just six of the G20 countries.<sup>9</sup> The same report estimated that measures to reduce energy consumption and CO<sub>2</sub> emissions in the residential building sector could generate 3.5 million new jobs by 2050.

Alarming, the lack of relevant skills may turn out to be a bottleneck in the “greening” of economies. There is an urgent need for training in the full complement of skills required across a broad range of jobs so that economies can both continue “greening” and realize the potential growth in employment the process offers.

Lessons from previous experiences of transition suggest that the transition to cleaner energy requires proactive steps to facilitate the adjustment of labour markets, both to maximize opportunities for new jobs and to address the problems associated with potential job losses. Skills development will play a prominent role in both aspects of this endeavour.

Several countries have reported that a “skills gap” already exists between available workers and the needs of green industries. A 2007 survey of Germany’s renewable energy industry concluded that companies are suffering from a shortage of qualified employees, especially in knowledge-intensive occupations. The Confederation of British Industry has likewise expressed concern that sectors going green are struggling to find technical specialists, including designers, engineers and electricians. In the United States, the National Renewable Energy Laboratory has identified a shortage of skills and training as a leading barrier to energy-efficient growth. In Brazil, large biofuel refineries are constrained in their development by a shortage of highly skilled personnel (UNEP, ILO, IOE, ITUC, 2008).

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<sup>9</sup> “Green jobs” are defined as decent work which contributes to the preservation or the restoration of the quality of the environment (Green Jobs Initiative: United Nations Environment Programme (UNEP), ILO, International Organization of Employers (IOE) and International Trade Union Confederation (ITUC), *Green jobs: Towards decent work in a sustainable, low-carbon world* (Geneva, 2008).



## PART II

## A strategic framework ...

### ... to bridge training and the world of work

All countries have good reasons, which inevitably vary according to their respective national circumstances, to refine their skills development strategies to yield better results. Building on rich and diverse country experience, it is possible to articulate a framework of a skills development strategy that can be effective across a broad range of economic and social circumstances.

#### Diverse realities, common and different challenges

Differences in demographics, economic structures and levels of economic development inform different countries' policies for training and skills development.

A key policy challenge confronting *more developed countries* is how to ensure that the skills of both job entrants and existing workers remain relevant throughout their careers. Skills gaps can retard enterprise growth and jeopardize workers' employability. Structural changes in the economy and heightened competition between enterprises reduce the number of available jobs with low skill requirements.

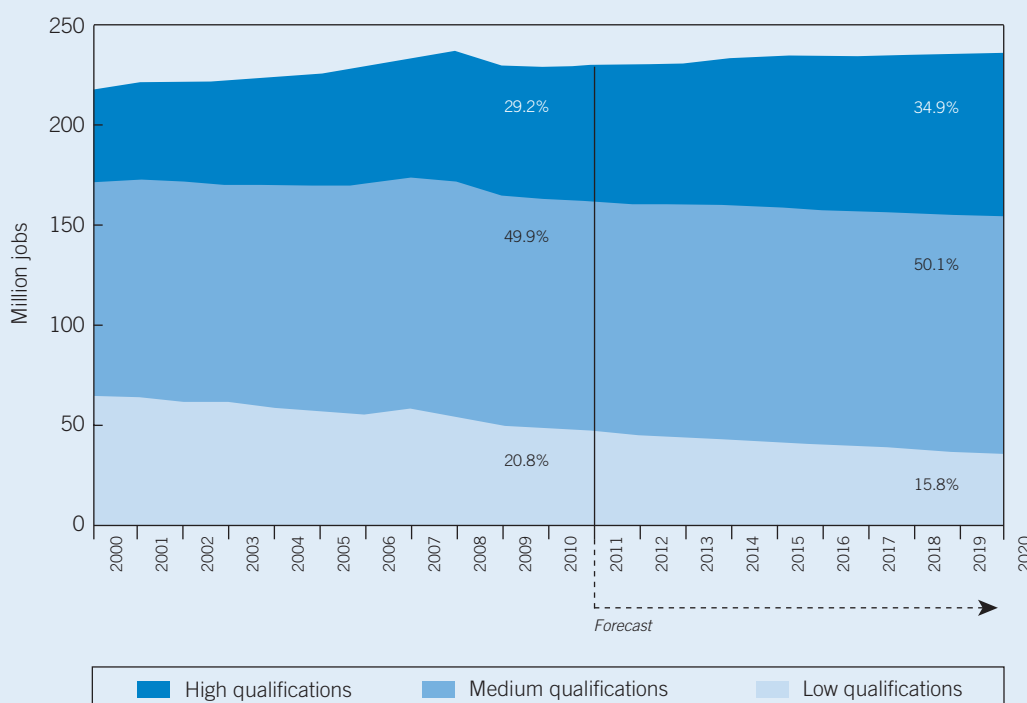
These challenges call for broader access to training at the point of entering the jobs market, improvements in the relevance and quality of that training, and expansion of lifelong learning opportunities, all combined with active labour market policies. A large proportion of the working population requires more and better skills (box 1). In addition to specific technical skills, transversal competencies and 'soft' skills are increasingly important, including the ability to engage and interact effectively with others, build consensus, and provide assistance, direction and leadership as needed. As job and labour mobility increase, the portability of skills and international migration of talent become important issues.

In countries in *Central and Eastern Europe*, efforts to reinvigorate skills development systems have included restructuring education and training systems to align them with the demands of the new market economy, using labour market institutions to mitigate the negative effects of economic restructuring, and targeting training and lifelong learning on increasing the adaptability and mobility of the workforce. Many countries share the experience of becoming both sending and receiving countries in the flow of migrant workers.

A significant characteristic of many countries in Asia and Latin America is the combination of high growth and productivity in some sectors and regions with low productivity and persistent poverty in rural and urban informal economies. Avoid-

### Box 1: Skill requirements in Europe by 2020

Projections for the 27 EU countries, plus Norway and Switzerland, suggest that between 2010 and 2020 some 80 million job opportunities will arise, including almost 7 million additional new jobs. Most of the net employment increase is expected to occur in higher-level occupations. Over the decade, the proportion of people employed in high-qualification jobs is projected to increase from 29 to 35 per cent. The proportion of jobs requiring medium-level qualifications will continue to be about half of total employment, and the proportion of jobs with low qualifications is expected to decline from 21 to 15 per cent.



Source: CEDEFOP, Skills supply and demand in Europe: Medium-term forecast up to 2020, Feb., CEDEFOP, 2010.

ing skills shortages in high-growth sectors requires improved coordination between prospective employers and providers of education and training, increased public provision of training and encouragement of workplace learning. In some countries, such as China and India, the shortage of high-skilled workers may make it hard to sustain high economic growth rates (box 2).

The role of training in promoting the transfer of activities from the informal to the formal economy involves broadening access to basic education, supporting informal means of developing skills, and combining vocational and entrepreneurship training to facilitate the formalization of small enterprises.

**Box 2: Workers' qualifications in China and India: development challenges**

**China** rates just 4 per cent of its workforce as highly qualified. Only 36 per cent of workers have a lower secondary-school qualification. The remaining 60 per cent have little or no skills and are regarded as “elementary workers”; these include some 200 million migrants from rural to urban areas. Four out of five German enterprises in China consider the lack of qualified workers the biggest obstacle to growth and competitiveness.\* However, estimates show that one-third of all secondary vocational education graduates are unable to find appropriate jobs, and about a third of university graduates fail to find work during their first year after graduation.

Key elements of the “Opinion on Further Strengthening Efforts on Highly Skilled Workers Cultivation”, issued by the Government in 2006, include encouraging a broader variety of providers to supply training while also improving curricula and assessment; incentives to employers to hire more highly skilled workers; special remuneration schemes targeting higher-skilled workers; increased training for migrant workers and for business start-ups; and increased investment in training centres' facilities and in the teaching profession.

In **India**, employment growth is almost exclusively concentrated in the informal economy, where more than 90 per cent of India's workers are employed at low levels of productivity and income. Half of the country's population over the age of 25 has had no education and an additional third have at best primary schooling. Four out of five new entrants to the workforce have never had any opportunity for skills training. While enrolment in technical education institutions has increased (from 2.1 million in 2000 to some 3.8 million in 2005), there is a very high drop-out rate in these institutions. There is a huge shortage of teaching faculty in engineering colleges. At the same time, significant skills shortages are reported throughout the formal economy. In the information technology sector alone, the current deficit in engineers is estimated to be around half a million.

In order to address these challenges, India adopted an ambitious National Skills Development Policy in 2009. Its main aim, in the words of the Union Minister for Labour and Employment, is to empower all individuals through improved skills, knowledge and internationally recognized qualifications to give them access to decent employment and to promote inclusive national growth. It is envisaged, among other things, to increase vocational training capacity to 15 million students over the 11th Five Year Plan period (2007-12).

\* Gesellschaft für Technische Zusammenarbeit (GTZ China) 2009.

In the *Arab region*, investment in education and training has been stepped up significantly. However, young people still face difficulties in moving from education into work, while enterprises often have trouble finding enough people with the skills they need to be able to expand or adopt new technologies. Preparing the workforce for the labour market of the future remains a challenge.

In *lower-income developing countries*, mainly in *sub-Saharan Africa* and parts of *Asia*, the vicious circle of low education and skills, low productivity and poverty is only gradually being addressed. Only one-fifth of boys and girls of secondary-school age in sub-Saharan Africa attend school.



Priorities here include increasing access to education and training; improving the quality of apprenticeships; making training in public institutions more relevant to workplace needs by strengthening coordination and partnerships with the private sector; and combining institution-based education and training with enterprise-based learning.

## A common framework for skills development

### Meeting today's and tomorrow's skills needs

International experience shows that countries that have succeeded in linking skills development to gains in productivity, employment and development have targeted skills development policy towards three main objectives:

- matching supply to current demand for skills;
- helping workers and enterprises adjust to change; and
- building and sustaining competencies for future labour market needs.

The first objective is about the relevance and quality of training. Matching the provision of skills with labour market demand requires labour market information systems to generate, analyse and disseminate reliable sectoral and occupational information, and institutions that connect employers with training providers. It is also about equality of opportunity in access to education, training, employment services and employment, in order that the demand for training from all sectors of society is met.

The second objective is about easing the movement of workers and enterprises from declining or low-productivity activities and sectors into expanding and higher-productivity activities and sectors. Learning new skills, upgrading existing ones and lifelong learning can all help workers to maintain their employability and enterprises to adapt and remain competitive.

The third objective calls for a long-term perspective, anticipating the skills that will be needed in the future and engendering a virtuous circle in which more and better education and training fuels innovation, investment, technological change, economic diversification and competitiveness, and thus job growth.

### A holistic approach

At its 97th Session in 2008 the International Labour Conference called for a holistic approach to skills development encompassing the following features:

- (1) continuous and *seamless pathways of learning*, starting with pre-school and primary education that adequately prepares young people for secondary and higher education and vocational training, going on to provide career guidance, labour market information and counselling as young women and men move into the labour market, and offering workers and entrepreneurs opportunities for continuous learning to upgrade their competencies and learn new skills throughout their lives;
- (2) development of *core skills* – including literacy, numeracy, communication skills, teamwork, problem-solving skills and learning ability – which, along with awareness of workers' rights and an understanding of entrepreneurship, are not linked

to performance in specific occupations but form the building blocks for lifelong learning and adaptability to change;

- (3) development of *higher-level skills* – professional, technical and human resource skills – enabling workers to profit from or create opportunities for high-quality and/or high-wage jobs;
- (4) *portability of skills*, based first on core skills, so that workers can apply their existing knowledge and experience to new occupations or industries, and second on systems that codify, standardize, assess and certify skills, so that levels of competence can be easily recognized by social partners in different labour sectors across national, regional or international labour markets; and
- (5) *employability* (for wage work or self-employment), which results from all these factors – a foundation composed of core skills, access to education, availability of training opportunities, motivation, ability to take advantage of opportunities for continuous learning and support in doing so, and recognition of acquired skills.

### A life-cycle perspective

Skills development can fruitfully be viewed from a life-cycle perspective of building, maintaining and improving skills. Policy interventions need to be designed accordingly. The essential stages can be summarized as follows:

- *Children*: building important foundation skills through early childhood and initial education, keeping in mind that the benefits of these investments will be reaped in the longer term.
- *Young people*: consolidating foundation skills and gaining important workplace skills and experience for a successful transition from school to work.
- *Mature and older workers*: maintaining and upgrading existing skills and gaining new skills while also certifying the skills and competencies acquired in the working life.

It is also important to recognize that skills build upon one another, and that acquiring foundation skills in literacy and numeracy, as well as “learning to learn”, are absolutely essential for acquiring further skills and competencies.

Given the inevitable limitations on resources, difficult trade-offs will need to be made between different policy objectives in determining priorities in public investments in skills development.

### Convergence across policies

Skills and employment policies should be viewed together. The full value of one policy set is realized when it supports the objectives of the other.

One of the main challenges of public policy is to foster institutional arrangements through which government departments, employers, workers and training institutions can respond effectively to changing skill and training needs, and indeed play a strategic and forward-looking role in anticipating future needs. For investments in training to yield maximum benefit to workers, enterprises and economies, countries’ capacity for coordination is most important in three areas:

- (1) connecting basic education to technical training, technical training to labour market entry, and labour market entry to workplace and lifelong learning;
- (2) ensuring continuous communication between employers and training providers so that training meets the needs and aspirations of workers and enterprises; and
- (3) integrating skills development policies with other policy areas – not only labour market and social protection policies, but also industrial, investment, trade and technology policies, and regional or local development policies.

Countries use a variety of coordination mechanisms: national inter-ministerial bodies; sector-based bodies bringing together training institutions and providers with employers' and workers' representatives; and decentralized local bodies. These mechanisms involve substantial investments of time and money, and they work when, and only when, all stakeholders can see their own objectives supported by others. For example:

- line ministries responsible for public infrastructure, research and innovation, environmental protection, international competitiveness and regional integration – to name just a few – rely on a skilled workforce;
- employers seek a well-trained workforce capable of further learning so that their enterprises can take advantage of new technologies and adapt to changing market conditions; and
- workers and their trade unions know that time spent acquiring skills leads to better employment and standards of living.

In sum, the effective utilization of skills in the workplace both depends on and contributes to conditions conducive to innovation and enterprise development; effective labour market orientation and mediation services; and well-informed decisions about education and training policies.

## ... of strong training and skills development strategies

Robust training and skills strategies and policies are constructed from a number of building blocks. These include anticipating future skills needs; participation of social partners; sector approaches; labour market information and employment services; training quality and relevance; gender equality; broad access to training; financing training; and assessing policy performance.

### Anticipating future skills needs

Leaders of the G20 stressed in Pittsburgh that “[i]t is no longer sufficient to train workers to meet their specific current needs; we should ensure access to training programs that support lifelong skills development and focus on future market needs”.

It is therefore essential to be able to anticipate skills needs and to align training provision with changing needs in the labour market. This applies to change in the types and levels of skills needed as well as in occupational and technical areas.

Overall, demand is growing for non-routine analytical skills involving creativity, problem-solving, communication, teamwork and entrepreneurship – all skills that help workers to maintain their employability and enterprises their resilience in the face of change. Conversely, demand is decreasing for more routine skills in functions subject to automation, digitization and outsourcing.

A number of methods are used to forecast future skills needs. These include forecasting occupational and skills profiles at various levels of disaggregation; social dialogue; labour market information systems and employment services; and analysis of the performance of training institutions, including tracer studies.

An important element of the European Commission’s “New Skills for New Jobs” initiative is its focus on forecasting future skills needs. The work includes forecasting supply and demand for skills at the EU level to 2020, improving member States’ own forecasting systems, and producing skills needs assessments in 18 sectors. The aim is to use better cooperation with social partners and a common skills language (in terms of educational attainment and job content) to improve matching workers to jobs in current labour markets and preparing them for future jobs. The Commission estimates that providing all citizens with adequate skills will increase GDP by as much as 10 per cent in the long run (EC, 2010).

Experience from various countries provides important lessons on the limits of skills forecasting: crucially, that it is better to focus on providing adaptable core, trans-

versal skills, and especially on building the capacity to learn, than on planning training to meet detailed forecasts of technical skill requirements, because these may change before curricula can adjust. Shorter training courses, which build on solid general technical and core skills, can minimize time lags between the emergence of skill needs and the provision of appropriate training. Quantitative analysis based on labour market information is good, but reliable only when complemented by qualitative information from employers and workers.

Alongside the complex process of anticipating what skills will be needed, it is important to take into account individuals' own educational and career aspirations. Social expectations and stigma attached to different kinds and levels of training, and the quality of the jobs to which they lead, may trump the best supply and demand analysis. Some economies are starting to see unintended consequences of their efforts to raise education rates while others have a balance across types and levels of education, providing high-quality training in non-academic fields and maintaining good remuneration and societal appreciation for related jobs.

### Box 3: Anticipating skill needs and stimulating growth

- **Ireland's** Expert Group on Future Skill Needs (EGFSN) analyses future skill needs, and develops proposals for how to meet them, through a broad membership including business representatives, educationalists, trade unionists and policy-makers. The breadth of participation enables EGFSN to identify changing occupational profiles within sectors and changes in demand for various occupations. EGFSN identified the key elements to be included in a generic skills portfolio for the future: basic or fundamental skills (literacy, numeracy, ICT); people-related skills (e.g. communication, team-working); and conceptual/thinking skills (collecting and organizing information, problem-solving, planning and organizing, learning to learn, innovation and creative skills). They provide advice on how to improve jobseekers' awareness of sectors where there is demand for skills and of the qualifications required.
- The wide replication of **Brazil's** national training institution, SENAI, is a good measure of its success. SENAI is run by an association of industries, funded by a levy on the industrial payroll, and has sibling institutions serving different sectors (e.g. agriculture, small enterprise, the service sector). SENAI's "Prospecting Model" adjusts training provision based on analysis of take-up rates of emerging technologies and new forms of work organization. The model generates estimates of job requirements over a five-year period by drawing on studies of technological and organization prospecting, tracking emerging occupations and monitoring trends in demand for vocational training. However, the proportion of young people able to take advantage of training opportunities is limited by the quality of basic education.
- At the core of the **Republic of Korea's** sustained growth pattern lies a government-led skills development strategy. The rapid progress in closing the productivity gap reflects an economic development strategy based on investment and research and development. Investment in a well-educated and highly skilled workforce was an integral part of encouraging adoption of new technologies. A current challenge is to avert shortages in the more highly skilled vocational occupations by increasing the attractiveness of non-academic skills development paths.

## Participation of social partners

The world of learning and the world of work are separate. One imparts learning; the other produces goods and services. But neither can thrive without the other. The art of successful skills policies is to construct sound bridges that connect the two worlds to serve both.

A strong partnership between government, employers and workers is an essential feature of an effective and enduring bond between the world of learning and the world of work. This involves sound funding arrangements in order to provide the right incentives to all parties to invest in the right skills mix at the right time (box 4). It also involves the participation of employers' and workers' representatives in the design, implementation and evaluation of skills policies. This participation may take a number of institutional forms including national, regional and sectoral councils, boards and committees.

Social dialogue and collective bargaining at the enterprise, sector and/or national levels are highly effective in creating incentives for investment in skills and knowledge. These processes can create a broad commitment to education and training and a learning culture, strengthen support for the reform of training systems, and provide channels for the continuous exchange of information between employers, workers and governments. In addition to promoting skills development, social dialogue and collective bargaining can also be instrumental in ensuring that the benefits of improved productivity are distributed equitably and efficiently.

Employers are important providers of training. Young people entering the labour market acquire both technical skills and insight into the world of work through formal and informal systems of apprenticeship, internship and other types of workplace experience. Employers have a responsibility to provide, and employees a responsibility to pursue, opportunities for lifelong learning, whether on the job or through training providers, to help maintain productivity and employability in the face of change.

Agreements between employers and workers are important means of promoting workplace learning and of ensuring that increased skills lead to higher productivity, benefiting both employers and workers (box 5).

The strategy paper on lifelong learning prepared by employers' representatives for the G20 emphasized the importance of employers' contributions to skills development policies across the following areas: providing training; matching education and training to the needs of the labour market; encouraging and supporting lifelong learning; and maintaining the relevance of education and training through continuous evaluation and system improvements.<sup>10</sup>

Social dialogue also plays a key role in processes to reform technical and vocational education and training (TVET) systems and in shaping national skills development strategies. Dialogue is conducive to successful reform, as a process bringing all actors into alignment with a shared commitment to working towards a common goal.

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<sup>10</sup> IOE and Business and Industry Advisory Committee to the OECD (BIAC), Lifelong learning strategy, paper prepared for G20 meeting, Johannesburg, March 2010.

#### Box 4: Labour market actors and their roles in training

**ILO Recommendation on Human Resources Development**, 2004 (No. 195) identifies shared responsibilities for skills development:

- *Governments* have primary responsibility for education, pre-employment training, core skills, and training the unemployed and people with special needs.
- The *social partners* play a significant role in further training, workplace learning and on-the-job training.
- *Individuals* need to take advantage of education, training and lifelong learning opportunities.

#### Box 5: Examples of social dialogue for skills developments

- In **Germany**, continuing training concerns all partners at the enterprise level and is a subject for collective bargaining. Work councils have legally defined participation rights on vocational training schemes, for example in implementing training schemes at enterprise level, especially when measures taken by employers necessitate skills upgrading, and in consulting with respect to workers' participation in external training centres. The well-known dual system of education in Germany, combining classroom and workplace learning, involves extensive participation by companies.
- Consultative mechanisms on industry skills needs in **Australia** contribute to identification of needs and evaluation of the skills system, as well as certification and accreditation. The National Quality Council ensures industry standards and advises the Government and the Skills and Workforce Development Action Group, composed of ministers at state and federal level. At the state or territory level, industry advisory boards work with training authorities to oversee the regulation, policy, delivery and funding of training, and are supported by industry training advisory boards composed of business and worker representatives. Industry skill councils develop training packages based on skills requirements and occupational outcomes in 11 industry sectors, each covering a group of industries, which work in consultation with business associations.

## Sectoral approaches

A tripartite ILO Global Dialogue Forum on strategies for sectoral training and employment security<sup>11</sup> concluded with the following consensus-based recommendations on how sectoral approaches can be made most effective:

- Base sectoral approaches on close collaboration between the social partners at national and local levels.

<sup>11</sup> ILO, Upskilling out of the downturn: Global Dialogue Forum on Strategies for Sectoral Training and Employment Security, Geneva, 29–30 March 2010.

### Box 6: Skills development in the Netherlands: sectors and social partners

Vocational education in the Netherlands is a shared priority of government, enterprises and workers. The popularity and effectiveness of the Dutch system of vocational education may be attributed in part to the important role played by the social partners in initial training and lifelong learning, both of which are organized largely by industrial sector.

**Initial training** is organized in three levels: lower secondary level, combining general education and elementary vocational education; intermediate level, focusing on labour market qualifications, through a mix of classroom and workplace learning; and tertiary education. Costs borne by employers include student allowances, coaching time by company trainers, training the trainers, guest teaching in schools, perhaps also providing equipment to schools, and contributing to the development of the school curriculum. The apprenticeship system is partly financed by the Government and partly by enterprises, in recognition that the system serves both public and private interests. There are 17 national expert centres for vocational education and business, financed by the Government and organized by sector, e.g. for construction, health care, engineering professions, administrative professions, logistics and transport, and agriculture. The boards of these centres are made up of educators, employers and trade unionists. The centres' tasks typically include advising the Government on the qualification structure and competence profiles for the sector, training company trainers and monitoring changes in skills demand.

**Lifelong learning** is supported through some 100 bipartite sectoral funds for training and development. Most are financed according to collective agreements between social partners in the sector, usually to the tune of between 0.5 and 1.0 per cent of companies' wage bill. The funds are increasingly invested in areas such as research on new skill needs, career guidance information and training materials for the sector. This funding is especially important for small and medium-sized enterprises (SMEs), which normally do not have in-house training professionals.

Key areas of competitiveness and potential long-term growth for the Dutch economy have been identified through a bottom-up process organized by the Innovation Platform, a high-level council chaired by the Prime Minister. The involvement of the sectoral social partners is not limited to a specific part of the system, but starts with initial vocational education and includes lifelong learning and key areas for innovation and competitiveness.

- Use bipartite or tripartite sectoral councils to match sectors' demand for skills with training provision, anticipate future labour market and skill needs, and assess the quality and relevance of training programmes.
- Recognize each stakeholder's roles, rights and responsibilities in promoting a life-long learning approach to meet sectors' skill needs.
- Embed sectoral approaches to skills development within long-term national growth strategies, thus linking (national) top-down and (sectoral) bottom-up training strategies.

Good workforce skills are also a fundamental condition for the emergence of clusters – groups of enterprises that gain performance advantages through their mutual



proximity. Specialized competencies are developed both within and between firms, offering a competitive advantage for the firms within the cluster. A proactive role for governments in establishing linkages with multinational companies to foster the development of clusters, and in supporting cooperation between firms in clusters, can help to stimulate the adoption of technologies and skills upgrading programmes.

## Labour market information and employment services

Labour market information systems generate, update and disseminate information on current and future skill needs. This supply of critical information on an ongoing and timely basis is half the story.

The other half is the transmission mechanisms that make this continuous flow of timely information available to education and training institutions, private market trainers, employers, trade unions, young people and their families, and displaced workers.

Public employment services (PES) have a critical role to play in making information available in the form of career guidance, vocational counselling, and material on access to training and job-matching services. PES help workers and employers make transitions in the labour market through job-matching services, information and access to labour market programmes (on, for example, skills training or retraining, self-employment and starting a business); and they help jobseekers choose the best options to improve their individual employability, through dissemination of reliable labour market information, career guidance and counselling, and a spectrum of tools and techniques to assist in searching for jobs. Many PES also administer unemployment insurance programmes as a means of providing temporary financial support to workers.

Private employment agencies have an increasing role to play in improving labour market functions through job-matching and the provision of advice. Many countries

### Box 7: Employment services

In **Canada**, Human Resources and Skills Development Canada (HRSDC) helps students, workers and employers to anticipate the skills that will be needed in the future. CanLearn is an online post-secondary education resource that provides information about education and training opportunities, tools to assess how well those opportunities match individuals' aspirations, and information on financing education and lifelong learning. The Youth Employment Strategy helps at-risk youth, post-secondary students and graduates acquire the skills and work experience necessary to increase their success in the labour market. In an effort to help employers retain their skilled workers during economic downturns, Canada's Work-Sharing programme provides employment insurance benefits to supplement regular wages for workers on short working weeks.

The National Employment Service (SNE) in **Mexico** operates emergency programmes to help workers and employers facing economic or other hardships. To meet those needs, SNE has diversified, positioning itself as an instrument of employment policy by facilitating more rapid adjustment in the labour market for both workers and enterprises. It has expanded its coverage to include workers at risk of losing jobs, the unemployed and the underemployed.

have improved the regulation of private employment agencies to enable and monitor their compliance with labour standards (including in areas of equal opportunity) and mobilize them to combat human trafficking and increase training services.

## Training quality and relevance

A great deal of effort is required to make sure that skills development systems deliver both the quantity and the quality of training needed. This entails in the first instance an adequate supply of qualified teachers, trainers, directors of training institutions, and master craftspersons to take on apprentices; the provision of opportunities for them to periodically upgrade their own skills; and conditions of work comparable with those in industry so as to attract the most talented staff.

Well-staffed and adequately funded training institutions are essential to skills development strategies and policies. Periodic reviews may be necessary to assess their effectiveness in meeting their goals and their efficiency in using scarce resources.

Existing training infrastructure needs constant innovation to keep up with new technologies and learning methods. Flexibility and agility are vital to ensure that insti-

### Box 8: Improving skills development systems

- In **Spain**, the Government seeks to bring the numbers of students in vocational training closer to the average in other European countries, reduce school drop-out rates and prepare workers for new jobs in emerging sectors. Efforts to increase the demand for training include providing education grants to more young people, improving the supply of training by engaging enterprises and linking training more closely to their needs, and raising social perceptions of vocational training. These and other steps comprise the Government's "road map" towards more rapid reform and increased graduation rates. The Sustainable Economy Law (2009) includes a chapter on professional training aimed at avoiding skills gaps that would slow the transition to a lower-carbon economy as well as at realizing the potential for substantial job growth.
- Skills systems in many **Latin American** countries are anchored in national training institutions whose management structures bring together representatives of ministries of labour and education, employers' and workers' associations, and sectoral and regional bodies. Institutions such as SENAI and its sibling organizations in specific sectors in Brazil are tasked with implementing national human resource development policies and are financed through employer levies and national budgets as laid down in law.
- In **Saudi Arabia**, foreigners comprise just over half the labour force. One objective of the national skills policy has been the so-called "Saudization" of the workforce. Fast-growing sectors such as electronics, ICT, construction, refrigeration and air-conditioning, and tourism are creating new occupations. One of the strategies adopted to attract Saudis into these new occupations and to provide good-quality training has begun with improving the quality of TVET and raising the status of the teaching profession generally, for example by establishing dedicated teacher-training colleges and combining academic preparation, educational theory and practice, and experience in industry for new and existing teachers.

tutions remain able to respond to the evolving challenges posed by dynamic labour markets. Training institutions must have the capacity to periodically adapt curricula and update teachers' and trainers' skills to the changing needs of the world of work.

Good-quality training outcomes further depend on maintaining a high quality of training contents, methods, facilities and materials. Apprenticeships, and more generally the combination of classroom-based and work-based training, produce the best results. Skills standards should be set and tested by involving stakeholders in the process.

Lifelong learning critically depends on a strong integration between education, training and work.

A skills-based qualification system can accommodate multiple pathways through education, and between education and work.

Flexible workplace training and learning arrangements are conducive to development of a broad range of skills. Workplace training allows students not only to learn the technical skills related to a particular job, but also to develop soft skills, such as communication, ICT, teamwork, problem-solving and the ability to learn, that are ever more critical in changing market environments.

## Gender equality

Training is an important means of pursuing the overall goal of equality of opportunity and treatment for women and men in employment and occupation. Opportunities in the labour market are important means for women to achieve greater equality with men; and the more skilled the female workforce is, the wider women's choices in labour markets will be, and the more likely they are to secure equal treatment.

Overcoming the challenges that confront women in gaining access to education and training and in using this training to secure better employment requires the adoption of a life-cycle approach. This includes improving girls' access to basic education; overcoming logistic, economic and cultural barriers to apprenticeships and to secondary and vocational training for young women – especially in non-traditional occupations; taking into account women's home and care responsibilities when scheduling workplace-based learning and entrepreneurship training; and meeting the training needs of women re-entering the labour market and of older women who have not had equal access to opportunities for lifelong learning.

## Broad access to training

Equal access for all to education, vocational training and workplace learning is a fundamental principle of cohesive societies. Constant attention is required to ensure it is applied in reality.

Some groups of people may require more attention than others if they are to benefit from the opportunities to develop their capacities through education and training. These include under-represented groups; minorities; people with disabilities; immigrants; people from particularly disadvantaged communities; people who have been unemployed for long periods; and people caught up in large-scale redundancies as a result of restructuring.

## Youth

Young people out of employment, or with only short spells in employment, having left education too early and with inadequate skills, are everywhere at high risk of economic marginalization and social exclusion. Upgrading their skills is essential in helping them to enter, or return to, the labour market. The more relevant the training to future employment prospects, including workplace training, the better the outcomes.

Young people have been hit particularly hard by the recent economic crisis, which has exacerbated existing structural problems of high levels of youth unemployment and difficulties in entering the labour market in many places. Young people aged 15–24 account for 25 per cent of the global working-age population, yet their share in total unemployment reached 40 per cent during the crisis. The OECD's review of "Jobs for Youth" suggests that improving the skills of young people, and hence their long-term career prospects, requires action on three fronts: (1) do everything possible to prevent students dropping out of school; (2) promote the combination of work and study; and (3) offer every young person a "second chance" at a qualification. The UK's programme to keep young people in education and training and Australia's and France's actions during the economic downturn exemplify this approach (box 9).

Incentives to employ and train young people include wage subsidies and/or sub-minimum-wage provisions, which are often needed to encourage employers to hire apprentices by compensating them for the time spent providing on-the-job training. Sub-minimum wages for youth or recent labour market entrants exist in 12 OECD countries out of 22 with a national minimum wage.

In less developed regions, broader availability of better-quality education is needed to enable young people to acquire core skills and then go on to learn occupational and work skills. Specific policies are necessary to improve training and employment services for disadvantaged young people, especially those who have been removed from child labour, who live in rural areas or whose families work in the informal economy, with a view to helping them enter the formal labour market and improving their long-term employability.

## People with disabilities

Worldwide, four out of five persons with disabilities live below the poverty line. It is a massive loss both to them and to their countries when they are unable to contribute to national development. Public interventions can help to include disabled persons in regular training programmes. On-the-job training and targeted training in transitional work environments or separate centres may be needed by some disabled persons, but these facilities must be well designed and accompanied by appropriate employment services if they are to help people with disabilities to go on to obtain productive mainstream employment.

## Migrant workers

The potential for labour migration to contribute to development objectives in both countries of origin and countries of destination can be explored through a variety of means, including bilateral and multilateral arrangements. Offering equal opportunities

### Box 9: Keeping young people in school and on a path to work

Learning Agreements in the **United Kingdom** aim to raise participation in education and training of 16–17 year-olds without a lower secondary qualification. They comprise two elements:

- The Learning Agreement itself: a negotiated, personalized agreement focusing primarily on the learning and support needs of the young person. The agreement also seeks the engagement and support of employers in helping to re-engage their young employees with learning.
- Financial incentives to encourage employees to take up the Learning Agreement offer. A range of these incentives are being tested, including for example completion bonuses.

The Learning Agreement model aims to reach all 16–17 year-olds in the pilot areas who are in jobs but without accredited training. Priority is given to those who do not hold a lower secondary qualification and to those who are working 16 hours a week or more. All of the pilots were required to enter into a contract with Train to Gain – a programme launched nationwide in 2006 providing employers with free skill brokerage services to identify the skills gaps of their workforce and the best provision and funding available to fill them.

Measures in **Australia** to improve young people's skills while also fighting unemployment emphasize education and training rather than allowing young people to languish on unemployment benefits. Australia's states and territories agreed in April 2009 to bring forward to 2015 the goal of having 90 per cent of under-25 year-olds having completed the equivalent of an upper secondary (ISCED 3) qualification. The federal Government is committed to making participation in education and training the single most important precondition for receiving income support for youth aged 15–20. Employers will be financially encouraged to recruit and retain new apprentices and trainees through a completion payment under the "Securing Apprenticeships" wage subsidy.

Similar targeted measures in **France** were launched in April 2009 as an emergency plan for youth employment with the following aims: (1) facilitate the school-to-work transition by promoting apprenticeships and combined work and training opportunities; (2) promote the transformation of internships into permanent employment contracts; and (3) provide additional training and employment opportunities for young people who are detached from the labour market. In September 2009, these employment measures were reinforced in the broader youth strategy "Acting for Youth", which also covers improving careers guidance in school; preventing 17–18 year-olds from dropping out of school; helping young people to become financially autonomous; and encouraging young people to become better citizens.

A generation of multiservice youth programmes in **Latin America** have combined education, demand-driven job training and internships. Initiated in Chile at the beginning of the 1990s, Jóvenes programmes have been introduced in Argentina, Colombia, the Dominican Republic, Haiti, Panama, Paraguay, Peru, Uruguay and Venezuela. The Chile Joven programme was created as a response to the long-term negative effects of the economic downturn of the previous decade. Subsequent programmes in other Latin American countries were designed to address the problems faced by poorly educated young people from low-income backgrounds trying to enter the labour market. Generally, effects on employment across the Latin American programmes are positive; the largest impact is on improving engagement in formal employment or in employment offering non-wage benefits. Significantly positive effects on employment and earnings for women were found in Peru's Projoven, Panama's ProCaJoven and Colombia's Jóvenes en Acción programmes.

to migrant workers and meeting their training needs, and then avoiding discrimination in education and training for their children, is an issue of growing salience, particularly in countries with ageing populations.

### **Small enterprises, self-employment and the informal economy**

People working in small enterprises and in self-employment, including those in rural areas and in the informal economy, as well as people in irregular work and precarious employment, should also have access to skills development and lifelong learning programmes. “Second chance” programmes, as well as drop-out prevention at an earlier stage, contribute to social inclusion. Vocational guidance and employment services can often be improved to match people with training opportunities and to get trained people into jobs. Specific and targeted policies are required to assist small enterprises in investing in the skills required.

Cooperative solutions, including the pooling of information and support mechanisms, offer a good approach to skills development for small enterprises. Community-based training combined with post-training support in entrepreneurship and access to credit and product markets can foster local enterprises. Pre-training investment in literacy (especially for women), and in participatory planning tools within communities to identify services and products with growth potential, is also required.

Education and skills training form a logical part of a comprehensive approach to facilitating the transition of informal activities to the formal economy. Ways of recognizing skills acquired through informal training and on-the-job experience may help workers secure better jobs. Upgrading the technical quality of informal apprenticeships, paying attention to how this kind of training can open up opportunities in particular for girls in non-traditional occupations, and improving working conditions and health and safety practices can help young people not only acquire skills but ease their way into the formal economy.

### **Not just training, but using that training**

Efforts of all the kinds described above show their worth in greater self-esteem on the part of workers and more productive and versatile workplaces. Training needs to be accompanied by policies and employment services to help keep skills up to date and workers employable. For the potential of education and training to be fully realized, complementary policies are needed to help families balance work and family life, to help keep older workers in productive employment, and to help young people capitalize on their training.

To be effective, then, a skills strategy cannot be developed in isolation but must be embedded in the wider economic and social policy environments. For instance, in nearly all countries there are large “gaps” in training participation between older and younger people and between the less and more educated. Moreover, many individuals already have skills that are unused or underused: this is particularly the case among migrants, women and older workers. Tackling these issues requires a broader approach, going beyond a narrow focus on education and training policies to incorporate other labour market and social policies (e.g. retirement policies, pay-setting arrangements and family-friendly employment policies) that can also play an important role. For

example, reforming early retirement provisions may improve the expected returns from training older workers, and offering more flexible arrangements for combining study and work may make it easier for people subject to time constraints, especially women with young children, to participate in training.

## Financing training

Initial education and training and lifelong learning benefit individuals, employers and society as a whole. Economic principles dictate that the costs for services with public and private benefits should be shared between public and private funding, or else too little training will be provided or taken up. While government is a key investor, enterprise involvement is also needed both to provide a stable and sustained means of financing training and to ensure its relevance. Financing schemes are thus best established through social dialogue, according to good principles set out in the Human Resources Recommendation (see box 4 above). Mechanisms for doing this will vary according to countries' economic and political circumstances and the degree and level of social dialogue established.

Financing skills development is dealt with in different ways across countries, combining a variety of means.

### *Government*

Governments have the responsibility for initial training as part of universal education, and for retraining focused on the unemployed or workers at risk of unemployment during economic crises. National, regional and/or local governments may finance training directly and/or promote co-financing by creating incentives for employers and individuals to invest in training. Incentives may involve subsidizing training through budget allocations to training institutions; reliefs from general revenue; payment of tuition charges and fees; funding for in-service training; vouchers and loans provided to trainees; exemptions from employer payroll levies where training is provided; and grants made available to firms to undertake certain designated forms of training both on and off the job.

### *Employers*

Direct or indirect financing of training by employers is a clear statement of the importance of continuing education and training in maintaining and increasing productivity, competitiveness and versatility. Payroll fees or levies can be effective when combined with effective governance and communication mechanisms to maintain the relevance of training to employers. Employers may be exempted from training levies or charged at a reduced rate in proportion to the training they provide to their employees, whether internally or externally. In other arrangements, employers may provide grants to training institutions, or invite several training providers to compete for training courses financed by one or more employers. Smaller enterprises may come together to arrange training jointly to reap economies of scale within clusters or communities.

### Box 10: Financial incentives for training in Argentina

**Argentina** uses its tax credit regime to target incentives to SMEs to invest in training their workers. Under this regime, SMEs can finance training projects up to the equivalent of 8 per cent of total remuneration. They can also be reimbursed for costs incurred in undertaking skills assessment and certification in addition to actual training – an incentive to boost recognition of skills learned informally or on the job. This feature helps make the programme (begun in 2007) attractive to SMEs, which comprise 70 per cent of beneficiaries.

### *Individuals*

Workers invest time and money in keeping their skills and competencies up to date, taking responsibility for maintaining their employability in the face of economic change. Some schemes involve forgoing income during training in exchange for higher income after completion of training; this may be feasible for some individuals, especially where training costs qualify for tax credits/deductions or where subsidized loans are available for training. However, these schemes are not sufficient to enable workers at low income levels, those with family responsibilities or those in the informal economy to participate in lifelong learning; here employer or public provision of training is necessary.

### Assessing policy performance

Measuring the outcomes of skills development systems is not straightforward. Poor outcomes are more readily spotted, in the form of mismatches, shortages and gaps. Good outcomes are easily lumped into other indicators, for example low unemployment or increased productivity, exports or investment.

Nevertheless, measuring the outcomes of skills systems and policies is essential in order to monitor and improve their effectiveness and relevance. Four key elements of a sound assessment process are:

- quality assurance, based on employers' and trainees' feedback, to capture the labour market outcomes of training: this represents the monitoring of performance that training institutions, students, their families, their prospective employers and taxpayers need most;
- regular and timely labour market information on current demand, broken down by occupation and skills level, including early identification of sectoral trends and of changes in technology and occupations leading to changing skills composition;
- quantitative and qualitative forecasting of future demand for skills;
- channelling of information to training providers, career guidance and employment services to enable them to adapt training provision to changing demand.



## Illustrations of recent training policy applications

### Skills for economic recovery

In response to the global economic crisis, all G20 countries have stepped up investments in training. Measures widely adopted have included additional training combined with reduced working hours and part-time unemployment benefits, skills upgrading for workers changing jobs and initial training for young people entering the labour market.

At its 98th Session in June 2009, the International Labour Conference adopted the Global Jobs Pact to guide governments in pursuing a jobs-led recovery. The Global Jobs Pact acknowledges the key role of training and employment services in both immediate crisis response and longer-term development.

The Global Jobs Pact encouraged countries to invest in training in order to:

- (1) prepare displaced workers for different kinds of jobs expected in the post-crisis recovery;
- (2) use the downtime to invest in upgrading skills of employees, and thus improve both their employability and employers' productivity; and
- (3) target training to avoid skill constraints in implementing stimulus programmes.

Examples of country responses are given in box 11.

#### Box 11: Training to speed recovery in employment

##### (Re-)training displaced workers

The majority of **Canada's** employment activation measures have been devolved to provincial and territorial governments and to community organizations, in order to better meet local needs as well as to avoid duplication of effort across levels of government. Programmes already in use with proven track records were expanded to support workers training for new jobs. For example, the "Second Career" programme in the province of Ontario provides laid-off workers with training in occupations deemed to be in high demand, supporting tuition and living costs for up to two years.

Retraining for displaced workers was also largely decentralized to local government in **Indonesia**. The Ministry of Manpower and Transmigration allocated IDR 300 billion (about US\$ 31.5 million) to upgrade workers' skills and employability, targeting training for jobseekers and migrant workers as well as upgrading the infrastructure of training centres. Those regions with severe unemployment and large numbers of laid-off workers received funding for training and were able to target it to meet local demand. Three elements have enhanced the effectiveness and relevance of the training: partnerships with local business; incorporating entrepreneurship in the training; and the use of mobile training centres to reach laid-off workers who had returned to rural communities.

##### Upgrading employees' skills

Work-sharing programmes, such as in **Germany** and **Canada**, help avert lay-offs during temporary downturns by offering income support to subsidize lost wages when employers opt to reduce working time rather than to reduce their workforce. The income support is typically provided through unem-

### Box 11: Training to speed recovery in employment (continued)

ployment insurance benefits or other social income programmes. Social dialogue to gain agreement on such schemes is essential. In **Germany**, reimbursement of employers' social security contributions increases to 100 per cent if the employer devotes downtime to staff training. In **Canada**, individual training plans range from upgrading skills in current jobs to preparing for promotions and even training for jobs outside the company. Workers remain employed – helping retain aggregate demand in hard-hit communities – and acquire new skills, while employers are able to retain staff and avoid having to train new workers when markets pick up.

In **France**, national and particularly regional government provided generous funding to help enterprises train or retrain workers, often in combination with reduced working hours, but without loss of salary, as an alternative to lay-offs. A Social Investment Fund financed by the State, the European Social Fund (€5 billion) and social partners (€500 million) was set up to finance measures which promote the employment of young people, enable workers made redundant to re-enter the labour market and facilitate access to vocational training.

Crisis-response measures in **Russia** included RUB 36.3 billion from the federal budget to implement regional programmes to upgrade the quality of the workforce by providing vocational training to nearly 150,000 people and on-site training to 85,000 graduates.

#### Integrating training in public investment programmes

In the **United States**, training policies to prevent poverty among low-skilled and low-income workers were one of the main focuses of the American Recovery and Reinvestment Act of 2009. Some US\$4 billion was earmarked in 2009 to expand existing job training programmes and provide grants for training and job placement in high-growth and emerging industry sectors such as renewable energy and health care. US\$150 million was allocated to Pathways Out Of Poverty, which provides grants for job training directed towards the clean energy industry for individuals living below or close to the poverty line. Skills measures accounted for about 0.6 per cent of the total US\$118 billion invested in stimulating activities deemed important for “greening” the economy.

### Skills for green jobs

The goal of cutting carbon emissions poses significant challenges to the world of work. The ILO estimates that employment in carbon-intensive sectors accounts for about 38 per cent of jobs across the world, accounting for some 600 million workers (*World of Work Report 2009*). Also, as with any other structural change, the speed and extent of the transition to a greener economy will be substantially affected by how successfully technical and entrepreneurship skills are matched to new job requirements, how fast new technology spreads and how effective labour market policies are in supporting workers and businesses in making the transition.<sup>12</sup>

<sup>12</sup> For example, simulation analyses estimate that shifting taxes away from labour and onto CO2 emissions could lead to net job gains of 2.6 million in developed countries and over 14 million worldwide (ILO, *World of Work Report 2009: Global jobs crisis and beyond* (Geneva, 2009)).

### Box 12: Skills for green jobs: illustrations of coordinated approaches

- In **Spain**, high oil prices hurt the competitiveness of the automotive industry in Navarre in the 1980s and 1990s. Unemployment in the region soared to 13 per cent in 1993. The regional government, working with industry, promoted wind-generated electricity as an alternative source of employment as much as an alternative source of energy. Since then Navarre, a small region of Spain with a population of just 620,000, has become Europe's sixth largest producer of wind power. The policy mix incorporated environmental and skill measures to respond to an immediate economic crisis through a long-term development strategy. In the current economic and employment downturn, Navarre boasts the lowest unemployment levels of any region in the country. In the Environmental Training Plan of the Autonomous Community of Navarre, begun in 2002, the regional government responded to assessments carried out with regional industry showing that skills gaps were opening up in areas not covered by initial vocational training and were largely company- specific. To meet this need, the regional government and enterprises set up a public training centre for renewable energies.
- In **South Africa**, a public works programme addresses the problem of biodiversity and water security. The Working for Water programme, launched in 1995 and administered through the Department of Water Affairs, works with local communities on jobs and training. It also works in partnership at national and local levels with the Departments of Environmental Affairs, Agriculture, Forestry and Fisheries, and Trade and Industry. Technical training for up to 30,000 people per year targets marginalized groups, including young people (40 per cent) and people with disabilities (5 per cent), and is coupled with training in core skills, life skills, and safety and health issues. Although many jobs created through the public works programme are of short duration, attention is mandated on working conditions, transferable skills, and career paths after exiting the public works programme.
- The objective of **France's** National Plan for Mobilization of Territories and Industries for the Development of Green Jobs and Skills is to support the creation of 600,000 green jobs by 2020. The Mobilization Plan is a collaboration between ministries, regions, training providers, advisory bodies, social partners and employment agencies. Sectoral committees (*comités de filières*) were set up in the 11 sectors considered most promising in terms of green jobs creation. The comprehensive implementation plan begins with identification of relevant professions, definition of training needs, setting up training and qualification pathways, training for jobseekers in occupations suffering shortages, and advocacy for the green growth plan.

Source: ILO: *Skills for green jobs* (Geneva, 2010a), country studies  
[http://www.ilo.org/skills/what/inst/lang--en/WCMS\\_144268/index.htm](http://www.ilo.org/skills/what/inst/lang--en/WCMS_144268/index.htm)

Regulatory reforms and emissions targets will bring about downsizing and restructuring in emissions-intensive industries. On the other hand, employment growth can be expected in renewable energies and activities to support energy efficiency, especially in construction and transportation. What does it take to turn this potential into real jobs? Part of the answer to that question lies in overcoming skills gaps.

Although job growth in low-carbon activities is estimated to offset job losses in high-carbon ones, the skills needed in the new green jobs will not necessarily be the

same as those used in the jobs at risk in other sectors. Retraining is the key to smooth and equitable transition. Transversal skills as well as specific technical ones increase adaptability and occupational mobility.

Skills policies and environmental policies are still often dealt with in isolation from one another. One of the hallmarks of successful deployments of training programmes to speed the transformation to lower-carbon activities and respond to other environmental concerns (box 12) is that they have overcome this policy coordination challenge.



## *Sharing knowledge and experience*

There is wide agreement on the broad principles that shape good training policies and systems; but there are wide disparities in their application and outcomes.

In consequence there are good grounds for facilitating further exchanges of experiences, analysis and viewpoints to address some of the more intractable difficulties faced in shaping good-quality training policies and achieving good outcomes. The database constructed by the ILO Inter-American Centre for Knowledge Development in Vocational Training (ILO/CINTERFOR) provides one example of a successful network of vocational training institutions throughout Latin America that has maintained such an exchange of information for more than 40 years.<sup>13</sup>

### Training and development cooperation

The G20 leaders' commitment to support training efforts extends beyond their own countries. They have also committed themselves to helping other countries undertake effective skills development as a pathway out of poverty and towards more productive and resilient economies.

According to OECD data on official development assistance (ODA) from 2002 to 2008, financial commitments to education from Development Assistance Committee (DAC) countries – bilateral donors – more than doubled over that period, reaching US\$83 billion. The share of total ODA directed to education averaged between 11 and 15 per cent annually. However, of the total funding for education, TVET claimed only 2 per cent on average.

Assistance to education from multilateral donors (development banks and the UN) amounts to about a third of total funding from bilateral donors, reaching around US\$31 billion in 2008, of which TVET receives an even smaller share – 1 per cent on average.

On average, about two-fifths of the ODA destined for TVET targets low-income countries (with three-fifths going to middle-income countries). ODA earmarked for training has increased substantially since 2006, but most of that gain went to middle-income countries.

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<sup>13</sup> For example, see the ILO/CINTERFOR database of good practices in the Americas at: <http://www.cinterfor.org.uy/public/spanish/region/ampro/cinterfor/ifp/g20/index1.htm>.

There is ample scope to build on current development cooperation programmes for skills development. Fruitful avenues could include engaging national institutions in further exchange of experience, in particular in promotion of the training strategy for strong, sustainable and balanced growth; integrating skills into national and sectoral development strategies, in particular through the UN Common Development Framework system; providing capacity-building and financial help to expand the coverage and the quality of education and training available to disadvantaged groups; upgrading the informal apprenticeship systems which are the only means of acquiring skills available to most young people; and building skills into current “aid for trade” initiatives.

Less direct but potentially equally crucial forms of support are the sharing of knowledge and new research. Ministries, as well as academic institutions, continue to work on the intractable problems that call for better diagnostic tools and better understanding of policy experience: for example, keeping young people in school and work; ensuring that education and training lead to improved employability; and positioning learning in relation to work in such a way as to attract investment and stimulate job growth. In addressing these and other imperatives, international organizations play an important role in helping countries to develop and implement skills development policies and in evaluating their effectiveness.<sup>14</sup>

Continuing inter-agency collaboration, particularly between the ILO and the OECD but in conjunction with other key agencies through the Inter-Agency Group on TVET, could produce an analytical compendium on what works in applying the conceptual framework and using the building blocks for effective skills development for strong, sustainable and balanced growth.

## Conclusion

In a nutshell, the building blocks of any skills strategy must be solid foundation skills and stronger links between the worlds of education and work.

This in turn requires good-quality education in childhood; good information on changes in demand for skills; education and training systems that are responsive to structural changes in economy and society; and recognition of skills and competencies, and their greater utilization in the workplace. To be effective, policy initiatives in these areas will also need to be closely linked with economic and social policy agendas.

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<sup>14</sup> For example, see the OECD’s publications on Jobs for youth (forthcoming), Learning for jobs and Skills beyond school (forthcoming) (on post-secondary vocational education and training). The ILO will publish major reports on skills for green jobs (with the European Centre for the Development of Vocational Training (CEDEFOP)) and on the implementation and impact of qualifications frameworks (based on research undertaken with the European Training Foundation (ETF)) in 2010, and on skills and technology in 2011.

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