United Nations
Educational, Scientific and
Cultural Organization

EFA GMR EDUCATION FOR ALL GLOBAL MONITORING REPORT

2012/ED/EFA/MRT/PI/04

Background paper prepared for the
Education for All Global Monitoring Report 2012

Youth and skills: Putting education to work

The Role of Skills Development in Overcoming Social Disadvantage

Arvil V. Adams

2012

The Role of Skills Development in Overcoming Social Disadvantage

Arvil V. Adams[1]

Introduction

The present note is written to inform planning for UNESCO's 2012 Global Monitoring Report, the annual report that assesses progress toward the six goals of Education for All established at the World Education Forum in Dakar in 2000. The Report aims to inform and influence education and aid policy through an authoritative, evidence-based review of progress and a balanced analysis of critical challenges facing countries.

The Report will focus for the first time in 2012 on the topic of skills development in overcoming social disadvantage.[2] It goes beyond skills acquired in formal education to examine the impact and lessons from other sources of skills that prepare youth and adults for the world of work ranging from informal learning on the job, apprenticeship and enterprise-based training, to learning off the job in government and non-governmental training institutions.

The objective of the note is to highlight themes among current policies supporting skills development and identify policy gaps that need to be filled. It is expected to extract lessons learned from past policy interventions and country experience and help frame new ways of thinking about policy so that the Report makes a distinctive contribution to the field of youth and adult education.

Three questions are addressed:

1. What is known about the successes and failures of vocational and wider training programs in reaching socially disadvantaged groups?
2. What are the features of skills programs that succeed or fail to generate opportunities for employment and higher incomes?
3. And what are the central reform currents and governance challenges that the Report will need to consider?

The note is organized in three sections. Section 1 begins by exploring what we mean by the term skills development and how we can measure and monitor this activity. Section 2 provides an overview of what we know from evaluation about different sources of skills development and their impact on the employment and earnings of the socially disadvantaged, highlighting successful and unsuccessful practices. Section 3 reflects on reform trends and challenges in reaching the socially disadvantaged with skills and the policy gaps that need to be filled.

---

[1] The author is former Senior Advisor for Social Protection, the World Bank, and co-author of the World Bank's 1991 Policy Paper on Technical and Vocational Education and Training. He is currently an international consultant on employment and training issues.

[2] Goal 3 of the Education for All goals is ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programs.

I. The concept and measurement of skills development

A growing number of countries have achieved the goal of universal primary education and others are moving closer to this goal and building a pipeline of young people who expect to pursue further education and training to improve their chances for employment and higher earnings.[3] Among adults already employed or seeking work, demand continues to grow for skills that enable them to keep up with structural changes in the economy brought about by urbanization, technological change, and shifting patterns of consumer demand.

When referring to the preparation of youth and adults for employment, a subtle shift in language occurs. The discussion shifts from talking about education to instead talking about skills. The term skills development is used to describe a wider array of institutions and activities influencing employment and earnings. Access to secondary and tertiary education becomes important as does access to technical and vocational education. Beyond, attention extends to informal learning on the job, structured apprenticeships and other enterprise-based training, along with government and non-governmental training programs.

Skills development is a much broader concept involving a larger, more diverse provider community, and as a result, this development is more difficult to monitor. This will be a challenge as the Report strives to measure skills attainment and its accessibility for the socially disadvantaged. It is not as simple as counting net enrolment rates or years of formal schooling attained. Skills acquired at later stages of the lifecycle after completing formal education come from a variety of sources that are more difficult to track and measure in quantity and quality terms.

The variance in competencies sought by employers and the diverse sources with which they are produced makes it more difficult to assess marginalization in skills.[4] Whereas marginalization in education is measured in years of formal schooling, marginalization in skills has no uniform indicator. Those who do not have access to vocational or technical education, for example, may alternatively have access to skills through apprenticeships and other enterprise-based training, or through training centers operated outside formal education by government and non-governmental bodies, both for profit and non-profit.

The UNESCO Institute for Statistics is the lead UN agency for education statistics. It measures forms of education that lead to the labor market and these data could be used to construct an index of access to skills development that is comparable across countries.[5] However, an examination of these statistics shows distinct regional patterns for how vocational skills are acquired. Technical and vocational education plays a larger role in Europe and Oceana, for example, than in North America. In Denmark and the Netherlands over a quarter of secondary students are enrolled in technical and vocational

[3] UNESCO (2010)

[4] Skills consist of cognitive, non-cognitive, and technical skills. Cognitive skills are the basic mental abilities we use to think, study, and learn. They are the tools with which technical and life skills are acquired. Non-cognitive skills in turn refer to personality traits and behaviors. These skills are often under-valued in terms of their impact on employment and earnings and under-measured. See Bowles and Gintis (2002), Heckman and Rubenstein (2001), Heckman and Krueger (2004) and Heckman, Stixrud, and Urzua (2006).

[5] UNESCO Institute for Statistics (2007)

education. In the U.K., this percentage rises to over half of secondary students. In Australia, it is over 40 percent, but in Canada the percentage drops to under 5 percent.

This pattern does not imply there is a greater marginalization of skills in countries like Canada that have a low percentage of secondary enrolments in technical and vocational education. In these countries, skills are often being acquired in other ways, including tertiary education. One of the trends noted in UNESCO data is the tendency of countries to push vocational specialization later in the curriculum of formal education.[6] Thus, with rising access to general education taking place, vocational and technical education is being pushed later in the curriculum from lower to upper secondary and upper secondary to tertiary education.[7]

A country like Ghana reports less than one percent of its secondary enrolments in technical and vocational education. In Kenya, the figure is two percent. Yet, both countries have much larger numbers engaged in traditional apprenticeships. These are largely private contracts between a master craftsman and a parent or student whereby the master craftsman agrees to provide training for a fixed period of time to the student in exchange for labor and small fees. In Ghana, it is estimated that 80 to 90 percent of all basic skills training comes from traditional apprenticeships.[8] Other than specialized labor force surveys carried out from time to time, there are few statistics on traditional apprenticeships to be used in capturing this form of skills development.

Employers are active trainers, but not all employers train and those who do, do not train all workers. Comparable statistics on enterprise training are difficult to find. The World Bank periodically conducts an Investment Climate Assessment survey (ICA) in countries to identify constraints to growth. Over 100 countries have participated in one or more of these surveys. Skills are one of a number of possible constraints to growth. The survey asks questions about whether an enterprise trains and the characteristics of those trained. The ICA surveys show strong regional variation in enterprise training with nearly two out of three employers training in East Asia and less than one of five training in the Middle East and North Africa.[9] In a country like China, nearly 90 percent of employers report training, whereas in India the percentage drops to under 20 percent.[10]

The measurement of skills development in non-formal training offered by technical ministries and non-governmental bodies has its own complexity. These programs vary in duration, quality, and level of skills offered. There are short-term training programs of several weeks or months operating alongside longer-term training programs of several years. It is not only necessary to know whether an individual has participated in a non-formal training program, but its duration as well. Ideally, if all completers of these programs took certification exams, one could assess the quality and level of skills attained, but not all trainees take these exams and if they did, the standards on which they are based are not necessarily comparable across time and space.

[6] Adams (2007)
[7] This trend also reflects a growing awareness that having a good general education lays a foundation for future training and capacity for developing vocational skills. ICA surveys show a strong correlation between formal education of the workforce and access to enterprise training.
[8] Johanson and Adams (2004), Palmer (2007), Adams, *et. al.* (2008), World Bank (2008)
[9] Tan (2005)
[10] Tan, et. al. (2007), Adams (2010)

Putting all this together, skills development in contrast to education promises to be a difficult concept to monitor and compare among countries. The measurement of formal education and enrolments in technical and vocational education at secondary and tertiary levels can be done as a proxy for skills, but this captures only a part of the larger skills development picture and may actually distort the picture in some cases where other sources of skills are substituted for formal education. It is difficult to create an indicator to capture equitable access to all possible sources of skills development that prepare youth and adults for employment. The Report will need to give attention to this issue and the question of how to measure access to skills development.[11]

II. The impact of skills on employment and earnings

Much of the literature on skills has focused on general education and its extension, technical and vocational education. Attention is also given to other forms of skills development ranging from apprenticeships and enterprise training to skills development taking place outside the workplace in non-formal training provided by government and non-governmental bodies. This literature examines the impact of different forms of skills development on employment and earnings with the expectation that skills make it easier for individuals to find work on leaving schools and become more productive and trainable once in the labor force. A considerable literature has surfaced around technical and vocational education and other forms of skills development beyond formal education.[12]

When examined in the late 1980s as the World Bank was preparing its policy paper on lending for technical and vocational education, the evidence suggested that this form of education improved employment of the disadvantaged only when secondary enrolment ratios were high and unemployment low, but few developing countries met these conditions.[13] There was considerable criticism of this education and its low quality and relevance to market needs. The literature reviewed since the World Bank completed its policy study in the early 1990s provides a more positive assessment for vocational and technical education. Careful evaluations, mostly in advanced countries, controlling for unobserved personal characteristics, show that vocational studies under the right conditions can produce positive rates of return favorable to those of general education.

The evidence shows that technical and vocational education is more effective when focused on skills closely linked to market demand. This has encouraged a reform movement away from supply-driven training systems to ones more closely connected to markets. Ziderman and Neuman (1999) show that the payoff in Israel to technical and vocational education is higher where graduates are placed in jobs

[11] The World Bank's Human Development Department is launching a research program on Measuring Skills and Knowledge for Greater Growth and Competitiveness to begin October 2010. The proposed research program has two objectives: First, it will develop harmonized instruments to (i) assess the distribution of cognitive, non-cognitive, and technical skills in the labor force of middle and low income countries and the demand for these skills by employers, (ii) assess their impact on labor market outcomes, and (iii) analyze the extent of skills mismatches in these countries. Second, it will support projects from qualified teams to adapt and implement the surveys in selected countries, analyze the results, and identify policy interventions that countries can consider to step up the supply of skills to improve employability and productivity.

[12] See, for example, surveys of the literature by Ryan (2001) and Adams (2007)

[13] World Bank (1991), Middleton, Ziderman, Adams (1993)

that use the skills they have acquired. For the socially disadvantaged, this education and other sources of skills are more effective where they build on a foundation of good quality basic education. This finding emphasizes the importance of EFA and retaining youth in a setting where they can obtain a good quality basic education, and for those who leave early without this foundation, it points to the value of providing second chances for basic education and investing in literacy for adults.[14]

The 2008 global recession has significant implications for jobs growth and employment opportunities for the disadvantaged. The presence of jobs and the widening of access to education and training have combined to help improve employment opportunities for all**.** In developing countries that have experienced growth and expanded access to post-primary education like South Korea, China, and Mozambique, the demand for technical and vocational education has increased, but countries where job growth has been limited, the demand for this education has been weak. The conclusion to be drawn from this pattern is that where access exists to technical and vocational education and jobs are being created, the socially disadvantaged are likely to benefit. Restoring conditions of growth in the global economy and sustaining the expansion of access to skills are essential steps for those who seek to improve their welfare through employment.

The positive influence of economic growth and access to technical and vocational education is revealed in the experience of China. China opened its economy to reforms in 1979 and has sustained an annual rate of GDP growth of over 9 percent sufficient to lift more than 500 million out of poverty in a country of over 1.3 million.[15] The net primary enrolment ratio reached 97.4 percent in 1990 and climbed to 99.5 percent in 2007. Gross enrolment ratios for secondary education rose from under 40 percent in 1985 to 77 percent by 2007. China set a target of 50 percent of secondary enrollments in technical and vocational education. Patrinos, Ridao-Cano, and Sakellariou (2006) estimated returns to education in China using household data from 2000. Separate estimates were constructed for different income percentiles and types of education. These estimates in Table 1 show higher returns to a technical and vocational secondary education in the lower income percentiles than those in upper income percentiles confirming the positive impact of this education on low income households.

Table 1: Marginal Returns by Education Level and by Earning Quartile

	OLS	Q10	Q25	Q50	Q75	Q90
Primary	21	3.7	14.6	22.7	25.5	-6.1
Lower Secondary	4.4*	1.9	1.5	3.0*	1.9	15.2
Upper Sec General (vs. primary)	8.4**	4.4	4.9*	11.0**	6.9*	12.1
Secondary Vocational (vs. primary)	9.5**	9.9	9.6**	10.1**	7.9**	10.1
Tertiary (vs. secondary general)	9.8**	18.3*	14.3**	8.4**	8.0**	7.0*

Source: Analysis of the Chinese Household Family Health Survey, 2000 in Patrinos, Ridao-Cano, and Sakellariou (2006)

Providing higher level skills can pay benefits where an economy is producing jobs that demand these skills. Bishop and Maine (2005) analyzed longitudinal data from a national follow-up survey of U.S. high school students between 1988 and 1992. They found no economic benefit for introductory lower level vocational courses, but benefits were found for advanced vocational courses. Students taking advanced courses spent more time in employment, got better jobs, and earned more when compared with those who took only academic courses or a combination of academic and personal interest courses. The

[14] World Bank (2007)
[15] Adams (2009), 17 p.

estimated benefit-cost ratio for advanced courses was high with the results attributed to rising demand for higher level skills, improvements in the quality of provision, and schools having become more proactive in outreach to employers.

Special programs providing skills and other support services have been successful in improving employment outcomes for disadvantaged youths. In Latin America, the Joven (Youth) programs have produced positive economic returns for disadvantaged youth.[16] Similar findings are available for the Job Corps in the U.S. Both sets of program have been rigorously evaluated. The Joven programs are found in countries like Argentina, Chile, Columbia, Dominican Republic, Peru , Honduras, and others. These programs combine training and work experience for youth 16 to 29 years of age, but also instruction in life skills, transportation, health care, books and materials, and clothes, and in some cases, child care to reach young women. Life skills help youth make more informed decisions about education, health, personal finances, and conflict resolution. In Argentina, young women 21 years of age and older experienced a 10 percent increase in the probability of employment measured against a control group. In Chile, the increase was 21 percent, and in Peru it was 7.5 percent.

In the U.S., the Job Corps is a well known and rigorously evaluated program for disadvantaged youth. The program takes youth out of their disadvantaged surroundings and places them in a residential center where they receive training and other support services. Like the Joven programs, the Job Corps provides a wide range of social services including health screening, transportation assistance, and job counseling. The program is costly ranging from $13,000 to $15,000 per participant, substantially more than that estimated for the Joven programs which range from $700 in Peru to $2,000 in Argentina. Evaluated through random assignment, the Job Corps shows positive earnings impacts, but with the effect diminishing after four years. The benefits are insufficient to cover the substantial cost of the program for younger participants, but are favorable for older participants 20 to 24 years of age who are more motivated, disciplined, and likely to complete the program.

Vocational education and training can help widen the opportunities for young women. Women tend to enroll in traditional business trades like secretarial and clerical studies, beauty care, sewing and fashion design, and handicrafts, while men are overwhelmingly clustered in fields of study like motor-vehicle mechanics, electricity, carpentry and woodworking, masonry, and other technical and craft fields. Women are reluctant to enroll in courses where employment is traditionally male-dominated, and when they do, they often face discrimination in the labor market. To tackle this issue, actions on the demand side of the labor market through anti-discrimination measures are more likely to encourage women to enter non-traditional fields of study. There are exceptions to this, however, in newer occupational specializations such as information technology where employment has not yet had time to form gender-specific patterns. Here access to technical and vocational skills for young women can make a difference to their employment opportunities.

The involvement of employers in the design and delivery of training contributes to better outcomes for all, including the disadvantaged. The engagement of employers in non-formal training and in technical and vocational schools shows evidence of improving the relevance of the skills offered and employment outcomes. Betcherman, Olivas, and Dar (2004) reviewed 49 studies of non-formal training for the unemployed in advanced, developing, and transitional economies. They found these programs often had positive impacts on future employment of participants with the impact on earnings being less favorable. Where the training took place was important. Training in the workplace showed positive

[16] World Bank (2007)

effects on employment, while classroom training tended not to have positive impacts on either employment or earnings. Training programs that had employer sponsorship and were offered in enterprises were found to perform better.

An example of where employers have worked successfully with secondary technical schools is found in Egypt.[17] Beginning with a pilot in 1994, Egypt adapted the German dual system to its secondary technical schools with support from German Technical Cooperation (GTZ). The pilot was labeled the Mubarak Kohl Initiative – Dual System (MKI-DS) and was subsequently targeted to students from low income families. Students spent two days each week in school learning theory and four days in a factory where they acquired practical skills. By comparison, students in traditional secondary technical schools spent six full days in school for theory and practice. Employers participating in the program helped set occupational standards, design curricula, provide practical training, and assess student performance. On completion, MKI-DS students received a secondary education degree and a certificate of experience from the private sector.

A tracer study conducted in 2009 for the MKI-DS program found that 85% of students completing the program were offered full-time jobs by their employers. While experimental evaluation techniques were not used in the study, students and teachers in the program asserted that placement and earnings rates of the program for completers were substantially higher than those of the traditional technical secondary schools. The cost of technical education was reduced as practical training took place in the workplace on actual production equipment. Employers showed support by mobilizing additional financial funding for schools and providing students with a training stipend. In 2007, the Ministry of Education institutionalized the program as an option for secondary education. While Germany continues its own reforms of the dual system, Egypt demonstrates the benefits of applying the principles of the dual system in a developing country.[18]

Another illustration of positive outcomes for school-based skills development is found in Mexico's National Technical Professional School (CONALEP). This is the largest secondary technical education system in the country serving low-income students in upper-secondary schools. The program first established in 1978 went through a number of reforms in the1990s. The number of professions it offered was reduced from 146 to 29 by 1997. It was one of the first to introduce a modular-competency-based approach to instruction in Mexico. An evaluation showed positive results for low-income youths when measured against a carefully constructed control group. CONALEP graduates realized earnings 22 percent higher than the control group. It took longer to find a job, but graduates were more likely to find a job they had been trained for. Factors accounting for the success of the program included its strong connection with local industry, its use of industry-experienced instructors, and its autonomous structure and decentralized operation.[19]

A small number of vocational courses in a secondary education program does not widen options for employment. The addition of a small number of vocational courses to a secondary education curriculum in the 1960s and 70s was expected to provide more options for students. Students could continue to higher education with their schooling, but also have some basic understanding of an

[17] Adams (forthcoming)

[18] The principles included splitting the responsibility for training between schools and employers, the willingness of employers to train beyond the specific skill needs of the firm, and agreement on curricula and workplace standards on the part of schools and firms. See Tremblay and Le Bot (2000)

[19] Lopez-Acevedo (2004)

occupational skill to improve their chances for employment. A distinctive feature of this diversified secondary education was that the vocational subject matter took only a small portion of total curriculum time, typically one-tenth to one-fifth. Psacharopoulos and Loxely (1985) first argued against this concept with evidence from Tanzania and Columbia. Lauglo and Maclean (2005) in a review of vocationalization of secondary education in Kenya, Ghana, and Mozambique conclude there was little payoff in terms of employment to this education. The payoff was more likely to come when vocational courses consumed a major share of the curriculum and provided real skills connected to market opportunities.

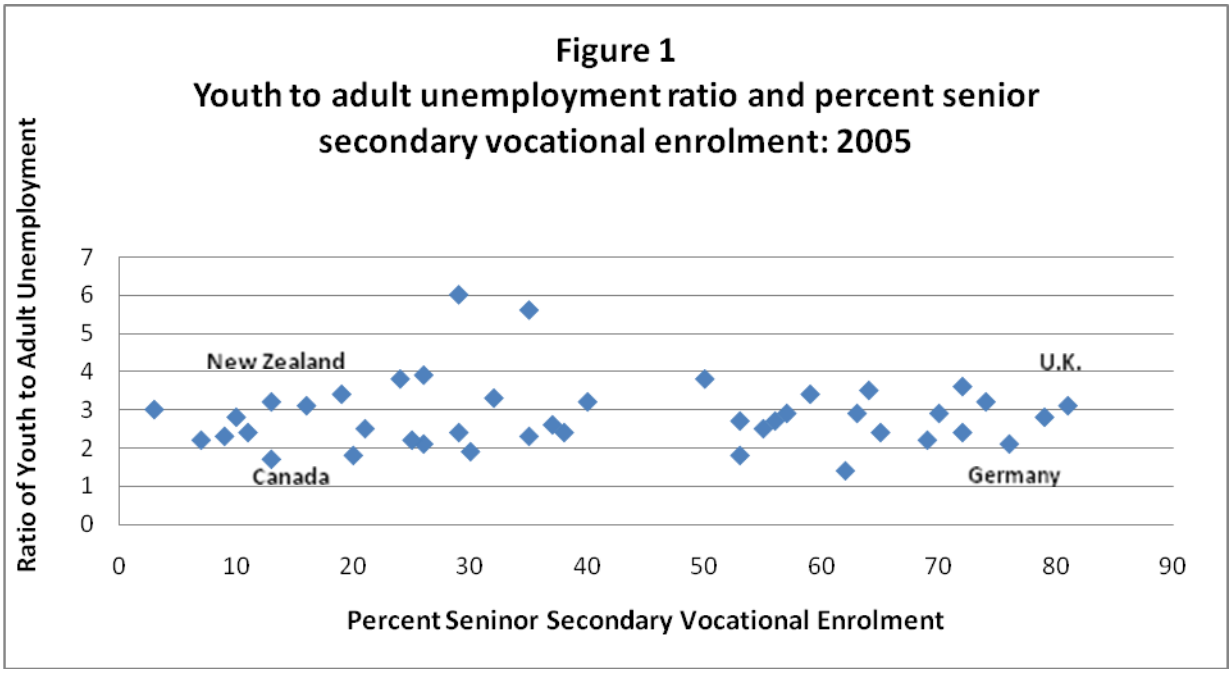
Apprenticeships can also be an effective means for providing skills alongside schools. Though not focused solely on the disadvantaged, a comparison of outcomes for formal apprenticeship with those pursuing the same qualifications in vocational and technical schools in France, the U.K., and the U.S. found apprenticeships associated with selective improvements in early labor market experience.[20] In France, apprentices compared with those in schools spent more time in employment, but realized lower pay at the end of five years. In the U.K. apprentices experienced both higher employment and pay, but only for males. Strong pay effects were also found in the U.S. for young adult males compared with those pursuing tertiary studies. Where gender was concerned, apprenticeships achieved less for women in terms of entry rates and occupational access. These studies did not look at the impact of apprenticeships for women in newer occupations where traditional gender patterns of employment were not yet formed. Apprenticeships were found to outperform participation in non-formal training programs.

Traditional apprenticeships, mentioned earlier, and held by many disadvantaged youths in developing countries have not been subjected to rigorous evaluation with control and treatment groups like those of formal apprenticeships. These apprenticeships are mainly offered by employers in the informal sector and cater to individuals who lack the educational requirements for formal training. Criticism of these apprenticeships centers on their gender bias, screening out of the poorest households, perpetuation of traditional technologies, and lack of standards for quality assurance. Steps recommended to improve their outcomes include providing literacy and basic education content to apprentices and master craftsmen, upgrading the technical skills and pedagogy of master craftsmen, and including traditional apprenticeships in skills certification programs[21]. In Ghana, Monk, Sandefur, and Teal (2008) found that traditional apprenticeships increased the earnings of those without formal education by 50 percent. This return declined as education increased.

Vocational education and training offers no guarantee as a solution to youth unemployment. A number of countries have set targets for the share of students enrolled in secondary vocational and technical education on the premise this will improve the integration of youth into the labor market. China, for example, has a target of 50 percent and Indonesia a target of 70 percent. Figure 1 plots the youth to adult unemployment ratio against the share of youth in a vocational secondary school in a number of OECD countries.[22] Youth unemployment rates are typically two to three times those of adult rates. While providing an incentive to stay in school, an increase in the share of secondary enrolments in vocational and technical education shows no correlation with the subsequent integration of youth into the labor market as reflected by the ratio of youth to adult unemployment rates.

[20] Ryan (2001)
[21] Johanson and Adams (2004)
[22] For youth to adult unemployment ratios see http://data.un.org/Data.aspx?d=MDG&f=seriesRowID%3A673 at UNdata and for the share of secondary enrolments in vocational and technical education see UNICEF (2007)

If vocational enrolments were successful in preparing youth for employment, we would expect to see an inverse relationship between the share enrolled in secondary vocational education and the ratio of youth to adult unemployment. Figure 1 shows that countries like Germany with its dual system have enrolled nearly 65 percent of students in vocational secondary schools and kept the ratio of youth to adult unemployment near one, but a country like the U.K with a similar share enrolled in vocational schools shows no apparent benefit with a ratio of youth to adult unemployment that is over three. By the same token, on the other end of the enrolment spectrum a country like Canada enrolls less than 5 percent of secondary students in vocational schools and it manages to keep the ratio at 2.5, while New Zealand with 12 percent of its students in a vocational secondary school has a ratio of 4.0.



High rates of youth unemployment often come with the assumption that the unemployment is due to a lack of relevant skills, making training a preferred option for public intervention. A host of other factors, however, from a lack of jobs growth, the high cost of labor tied to labor legislation, and unrealistic wage expectations may lie behind the observed unemployment. Training is not always the most cost-effective intervention in this case. It may be a necessary condition, but not a sufficient one. Labor market programs offering a wide array of services from counseling and job search assistance to remedial education and direct job creation may represent more cost-effective interventions. The Joven programs described above are examples of programs that contain a wider array of services than training alone to reach disadvantaged and unemployed youth.

Even when employment is not improved, the option to pursue a technical or vocational pathway in secondary education can lead to higher retention and educational attainment. Students who elect not to continue their schooling in an academic curriculum may choose to stay in school beyond the compulsory schooling age when a vocational option is available. Bishop and Mane (2005) summarize evidence of this from OECD countries and report that a 10 percentage point increase in the share of

upper secondary students in vocational and pre-vocational programs is associated with a 2.6 percentage point increase in the high school graduation rate and a 1.9 percentage point increase in the proportion of 15-19 year olds in school. They suggest that one of the possible reasons for higher school attendance in Northern Europe than in Canada, the U.S., Spain, and Portugal is the lower share of students in vocational programs in these four countries.

III. Reform trends and challenges

This review highlights many of the conditions under which skills development in its various forms is likely to payoff while also suggesting limits to what can be expected from the experience. Some of the themes that run through this review stress the importance of economic growth and job creation to realizing the benefits of skills development, the need for emphasis on good quality basic education for all as a foundation for later skills development, the importance of bringing the demand side of the labor market together with the supply side to ensure the quality and relevance of skills created by all providers, and in attempting to reach disadvantaged populations, the need to look beyond skills to other support services that may be needed and may be more cost-effective.

The need for attention to skills development continues to grow, particularly in low-income countries that are striving to make the transition to middle-income status. In a country like Kenya, for example, beginning with the number who do not enter or complete a primary education, adding those who are unable to pursue a secondary education, and those who do not complete a secondary education, there are 800,000 youth each year who leave school before they reach the legal employment age of 18 years with few skills to offer from their limited formal education.[23] Estimates of enrolment in technical and vocational education number 76,000 or barely one out of ten are able to find places in schools to acquire skills. Those who are unable to find places in a technical and vocational program have to develop skills through other non-formal sources.

In an effort by countries like Kenya to improve accessibility to good quality skills that are responsive to market needs and that serve national goals for growth and poverty reduction, countries globally have engaged in a wide range of reforms that address the fragmentation of skills provision and the need for good governance frameworks; the roles to be played by public and private sectors and the importance of public expenditure management; the need for market institutions providing labor market information for decision making, quality assurance in the provision of education and training, and articulation and skills portability in a framework of lifelong learning; and finally, what happens in the classroom and workshops to ensure the quality and relevance of what is taught.

Governance reforms

Within government, ministries of education, labor, youth and sports, agriculture, health, defense, industry, and others operate schools and training centers with their own budgets and systems of accountability. Add to this the diversity of non-governmental provision with many private proprietary providers and the challenge for integration of this system and focusing it on national development objectives is obvious. For public provision, this diversity ensures the delivery of services to various target groups, but it also risks inefficiencies in spending. One of the challenges for the 2012 Report will

[23] Johanson and Adams (2004)

be capturing just how much public expenditure takes place on skills development, not to mention households and businesses, and what the output is of this spending.

Countries have struggled with the need to integrate spending and policy development for education and training and have introduced reforms creating National Training Authorities or similarly named bodies to coordinate and govern skills development.[24] These bodies have ranged from advisory to executive in nature. They have been placed in key ministries responsible for skills development and outside ministries as parastatals. The balance of their membership varies, but usually includes a combination of government, business, and labor representation. Their responsibilities are diverse ranging from policy development and budgetary review to market development providing labor market information, quality assurance, and regulation. The Report will benefit from a review of these bodies and identification of effective models.

Finance reforms

Many of the reforms for managing public expenditure have focused on new instruments for financing education and training that shift spending control from the supply to the demand side of market, from inputs to outputs and the results obtained. The Report will want to examine these financing reforms. While mobilizing more financing for skills development is a concern of all governments, how money is spent can be even more important.[25] Spending in many cases focuses on inputs, starting with the number of classrooms built or refurbished, equipment bought, instructors hired and trained, and classes offered. Budgets are created based on plans for these inputs to education and training. Yet, buying the inputs does not guarantee marketable skills will be produced. Incentives have to be put in place to encourage public providers to deliver education and training of good quality that is responsive to market demand. These incentives already exist for private providers who must meet a market test for their services, but need to be replicated for public provision. Several reforms have attempted to do this.

Performance-based budgeting (PBB) has been used in countries like India, Indonesia, and the U.S. to shift the focus of public service delivery away from budgeting for inputs to budgeting for outcomes. The objective of PBB is to make the budget process more policy-oriented by presenting information on the intended policy objectives, methods, and their cost. Rather than combining inputs and their cost in a budget, PBB calls for agreement first on the results to be achieved, e.g. reaching disadvantaged youth, the share of students who can pass national certification exams, the share of students who can find work, or raising the percentage of program completers. These results are called key performance indicators and the budgeting process focuses on strategies to achieve these objectives and the activities to produce the results. In Chile today, every program identifies its clients, outputs, performance indicators and goals with evaluations conducted linked to the budget cycle.[26]

Rather than finance schools and training institutes, governments can elect to provide financing to the end user, usually in the form of a voucher, and allow the user to shop for training services. The rationale is that the user is better equipped to make decisions on the choice of providers and services needed by

[24] Johanson and Adams (2004)
[25] Ziderman (2003); Adams (2010a)
[26] See "Performance management – the Chilean experience," posted by Theo Thomas to the International Monetary Fund's Public Financial Management Blog at http://blog-pfm.imf.org/pfmblog/2008/12/performance-man.html#more

the market. By placing purchasing power in the user's hands, especially the poor, competition by service providers is expected to provide the user with more choices at a lower cost. Spending may be restricted to certain providers and classes of services and targeted to disadvantaged groups such as youths, displaced workers, rural migrants, or households in poverty. Countries like Australia, Canada, Chile, China, Denmark, France, Germany, the U.K., and the U.S have used vouchers for education and training services.[27] Vouchers are not found to work in all cases. Where information on quality of skills development is unavailable, where there are insufficient providers to compete, and where there is collusion among providers vouchers do not have their desired effect.

Training Funds are also a popular financing tool used by countries to encourage enterprises to train, but also to buy training services competitively on the open market from public and private providers for target groups.[28] Singapore and Malaysia are two countries that offer examples of well-run Training Funds that have been particularly effective in encouraging small firms to train. Financing for Funds often comes from a tax on employer payrolls of 1 to 2 percent, funds from government's budget provided by general taxation, and in some developing countries from donors and financing agencies like the World Bank. The Fund in turn buys training services for target groups using competitive procedures or levy-grant arrangements where it disburses funds to enterprises to carryout approved training programs. In Brazil, employer tax proceeds flow directly to a national training service administered by employers (SENAI). In South Africa, 27 Sector Education and Training Authorities (SETAs) administer a levy-grant scheme providing employers with financing for training.

Market reforms

Markets work best where producers and consumers have information about the prices and availability of the products produced and where these markets are open to competition. In a market for skills development, employers often play a dual role as a producer of skills and as a consumer. Labor also plays a dual role in producing skills with other inputs provided by employers, schools, and training centers, and as an intermediate consumer of the product. As a consumer, labor is making decisions about what skills they want to acquire and how they will go about producing the skills. These decisions require information about the jobs available with different skills and their earnings. Where there are information failures and the absence of competition markets tend to work inefficiently.

Market reforms for skills often receive less attention than those concerned with what happens inside schools and training centers, a hypothesis the Report might usefully examine. Among the market institutions influencing the efficiency with which markets for skills work are those that provide information about jobs and skills in growing demand, the skill competencies required by different jobs, where and how the skills can be acquired, and the quality of skills produced by different suppliers. Among the institutions meeting these needs are those producing labor market information, career counseling, occupational standards setting, skills testing and certification, accreditation of providers, and qualification frameworks that provide recognition of past learning and assess the equivalency of learning acquired from different sources.

[27] See, for example, Bruttel (2005); Gasskov, Vladamir (2000); West, Sparkers, Balabanov, and Elson-Rogers (2000); Finkelstein and Grubb.(2000); Carnoy and. McEwan (2001)
[28] Dar, Canagarajah, Murphy (2003), Johanson and Adams (2004), Johanson (2009)

The Report can provide useful information as a guide to governments seeking to develop and strengthen the market institutions surrounding skills development and their performance. The reform of occupational standard setting, for example, in many countries has enlarged the role of employers in the process to ensure greater market relevancy of the skills produced. This information has in turn guided curriculum development and instructor training. For information on the quality of suppliers, the reform of accreditation systems has balanced attention given to inputs to education and training with attention to the program outputs, e.g. completion rates, placement rates of graduates in employment, the percentage of graduates able to pass skills certification exams. This has improved information available on the quality of suppliers, especially private provision which is often unavailable. Strengthening testing and certification systems has in turn given the market more information about the skills acquired in education and training to be used in hiring decisions and wage setting.

One of the more challenging reforms has come from efforts to integrate education and training markets, promote the portability of skills in regional labor markets, and encourage labor mobility. The advent of national qualification frameworks has attempted to build consensus around the content of skill standards, assess past learning from different provider sources, and equate learning from different sources empowering labor to pursue further education and training. Conceptually, this institution is powerful in that it provides the framework for lifelong learning, it promotes competition among different providers of the same skills, and it enables groups that have been discriminated against in access to formal schooling and training to get credit for informal learning. This reform is spreading world-wide, but with limited knowledge of its labor market impact and costs.[29]

School reforms

Schools and training centers providing technical and vocational education in developing countries are the subject of frequent criticism. Critics cite in stylized fashion the disconnect of skills produced in these institutions with what employers are seeking, curricula and instructional materials that are outdated, instructors that lack industry experience and knowledge of modern methods of production and instruction, managers who fail to focus on results, and facilities and equipment that are outdated and fail to reflect the modern workplace. School reforms typically address these issues with initiatives to link schools and training centers more closely with industry, update curricula and instructional materials, train instructors, strengthen management, and update facilities and equipment.

Several trends stand out currently in technical and vocational education in response to some of these issues.[30] As already mentioned earlier, improvements in access to general education at primary and secondary levels are taking place and pushing vocational content later in the curriculum as perhaps it should be to take advantage of the foundation basic education provides for acquiring skills for the workplace. Pre-vocational education previously offered in lower secondary education is disappearing as more opportunities arise for access to general secondary education.[31] Most technical and vocational education is now being offered at the upper secondary level. In middle and upper income countries, it is moving into the first two years of tertiary education.

[29] Johanson and Adams (2004)
[30] For a review of these trends, see Adams (2007)
[31] UNESCO Institute for Statistics (2007)

The opening of horizontal and vertical pathways to further education is addressing what many have called the "dead-end" image of technical and vocational education for the disadvantaged. Children formerly channeled into technical and vocational streams as early as the age of 12 were frequently unable to pursue higher education for lack of articulation in the academic and vocational streams. Many countries in Latin America have introduced articulation reforms, as have those in other regions. In Tunisia, for example, top vocational students can continue to university studies. The same is true in China. In Europe, Denmark has gradually opened up higher education to technical education graduates. In the U.S., two-year community colleges with high vocational content are by design a stepping stone to the labor market or continuation toward a university degree.

Some OECD countries have developed double-qualification pathways that provide qualifications for work and later education. Steps are being taken to increase the permeability between different programs that allow young people to keep their options open for as long as possible. Austria and Norway have developed double-qualification pathways, and in both countries, participation rates in technical and vocational education are rising. Singapore offers horizontal pathways between academic and vocational education for young people whose learning interests change as well as vertical pathways for this as they progress from secondary to tertiary. Similar transfers between apprenticeship and higher education are appearing in Europe to increase learning options and promote lifelong learning.[32]

Another reform that promotes mobility in education and opens pathways to further education is the blending of academic and vocational curricula. Wilson (2005) asserts that one of the effects of globalization has been the increasing convergence between academic and vocational education. The integration of these two streams is broadening the choices for students and reaching the widest possible range of young people. This approach, its cost, and impact on student choices, further education, and work, would benefit from a comparison with the double-qualifications approach in the Report. Reforms to strengthen the connection of school and work are also evident as a means to improving quality and relevance of technical and vocational education. Examples include Career Academies in the U.S., the dual system in Germany and nearby countries, and adding work experience to the secondary curriculum in Sweden and Australia.[33]

To improve the relevance of skills developed to employment and mobilize additional resources for training, schools have attempted to strengthen their link to local industry. Reforms with this objective have included establishing industry advisory committee and governing boards with membership from local industry. Other steps taken with this purpose have included engaging industry in sharing equipment with schools, providing internships for students, and even short-term attachments for instructors. In turn, industry representatives have been sought out to participate in setting competency standards and certification of students against these standards. By building stronger linkages with industry, schools hope to improve the relevance of the skills they offer and the placement of students. They also strive to mobilize additional resources from industry to expand access and improve the quality of training offered.

Curriculum reforms have also been introduced to improve quality and learning and open opportunities for lifelong learning. The introduction of a modular competency-based training (CBT) approach in countries like Australia, Mexico, Singapore, and South Korea has helped shift attention from schooling inputs to outcomes and promotes greater accountability. Outcomes are defined in terms of

[32] Ryan, Gospel, and Lewis (2007)
[33] Adams (2007)

competencies established with advice from industry. Schools and training centers are measured by their success in helping students attain these competencies. The modularity of the curriculum provides a more flexible training system aiding lifelong learning. The CBT curriculum accommodates new entrants to the labor market and workers seeking to upgrade their skills. It provides just-in-time training allowing workers the flexibility to enter and acquire skills required by the introduction of new technologies and changing labor market requirements.[34] Other curriculum reforms have included the introduction of soft skills for communication, problem solving, working in teams, and conflict resolution.

Curriculum reforms have often been accompanied by pedagogical reforms that shift instruction from a teacher-centered to a learner-center mode that empowers students for lifelong learning. The rapid pace of technological change is forcing workers to reinvent their skills repeatedly over their working lives. A learner-centered instructional mode changes the teacher's role in the classroom and workshop to that of a facilitator of learning rather than a lecturer or dispenser of knowledge. By teaching students how to learn and providing them with the research tools for this, it enables students to acquire new knowledge when needed. Countries like Argentina, Australia, Mexico, Singapore, and South Korea are examples of countries that have experience with this. This rather lengthy list of school reforms has been part of initiatives to connect schools with industry, improve the quality and relevance of what is taught, and develop workers that are ready for the knowledge economy.

Reforming the role of governments in skills development

Ziderman (1990) provided economic guidelines for defining the role of government in the financing and provision of skills.[35] The case for government intervention in skills development can be built on grounds of (i) external benefits to skills that are not captured in market prices; (ii) market imperfections that distort the benefits and costs of skills development; (iii) weak private training capacity; and (iv) inequitable access to good quality skills training. The preferred intervention in each of these cases is through government financing for skills development to remedy the failure of markets to respond with private skills training. Government financing, for example, could be used to encourage private provision in rural markets underserved by private provision, but also for reaching the disadvantaged for whom there is limited private incentive to invest and perhaps the presence of capital and information market failures limiting options for skills investments.

While these are sound economic arguments for defining the role of government in the provision and financing of training, the reality is that government provision is found in all countries and it is unlikely the case will be made forcefully enough to withdraw government provision. In this situation, the second-best case has to be ensuring that government provision operates under the same set of prices and incentives as the non-government sector so that its outcomes approximate those of a competitive market and do not crowd out private provision. This debate detracts from a more powerful argument for government intervention in skills development. This argument refers to the role of government in developing and strengthening the market institutions needed to ensure the efficient operation of markets for education and training. It is unlikely the private sector will invest in many of these institutions as public goods providing labor market information, quality assurance, regulation, and policy development, and the case is strong for government leadership in these cases.

[34] Adams (2010)
[35] See also, Middleton, Ziderman, Adams (1993), p. 116

The private sector has its own roles to play in provision and financing of skills. There are circumstances, however, where the private sector is not effectively carrying out these roles for reasons of market failures and possible policy distortions. The Report can usefully focus on two of these cases for future policy development.

The first involves the provision of skills for the informal sector. Many of the disadvantaged are employed in this sector. The World Bank's Investment Climate Assessment (ICA) enterprise surveys in more than 100 countries show that micro and small firms, typical of those in the informal sector, do not train workers in the same proportion as medium and large-sized firms. By the same token, public providers tend to ignore training for those in small firms. There are ample reasons for this related to (i) the potentially higher cost of small scale training, (ii) the lost production due to time away from work in a small firm, (iii) the absence of training officers in small firms who know how to do training needs assessments and design training programs, (iv) the cost and difficulty of multi-skill training needed by those in the informal sector performing more than one function in the firm, and finally, (v) the lack of cash flow and capital.[36]

The second case involves the need for systematic measurement and monitoring of skills development taking place in enterprises. There is a tendency of government, and perhaps others, to think of skills development as only taking place in schools and training centers when much larger investments in skills are being made by households and businesses in the firm. The aforementioned ICA surveys clearly identify the large amounts of training taking place in enterprises.[37] It is unlikely that the Report will be able to fully account for all the skills development taking place in enterprises, and if the Report is left to focus solely on skills development taking place in schools and training centers, it will miss an important segment of the market providing skills. Most important, it will neglect the under-provision of skills in this segment of the market to disadvantaged workers.

[36] Adams (2008)
[37] Tan (2007); Adams 2009, Johanson and Adams (2004)

References

Arvil V. Adams. forthcoming. *The Mubarak Kohl Initiative Dual System in Egypt: An assessment of its impact on the school to work transition.* Eschborn, Germany, German Technical Cooperation, 39 p.

_____. 2010. "A Policy Note on Skills Development for Guangdong Province China," in *Reducing Inequality of Shared Growth in China: Strategy and Policy Options for Guangdong Province*, Washington, D.C., World Bank, 342 p.

_____. 2009. *Economic Growth, Spatial Income Inequality, and the Role of Education and Training in China*. Report No. 29. South Asia Human Development Sector, Washington, D.C., World Bank, 33 p.

_____. 2008. "A Framework for the Study of Skills Development in the Informal Sector of Sub-Saharan Africa." Washington, D.C., World Bank, 34 p.

_____. 2007. *The Role of Youth Skills Development in the Transition to Work: A Global Review*. Report HDNCY No. 5, Children & Youth Department, Washington, D.C., World Bank, 50 p.

Adams, Arvil V. Harold Coulombe, Quentin Wodon, Setareh Razmara. 2008. "Education, Employment, and Earnings in Ghana," in Vol. II, World Bank, *Ghana: Job Creation and Skills Development.* Report No. 40328 –GH, Vols. I and II, Washington, D.C. World Bank, 1-18 p.

Bishop, John H. and Ferran Mane. 2005. "Economic Returns to Vocational Courses in U.S. High Schools," in Jon Lauglo and Rupert Maclean (ed.) *Vocationalisation of Secondary Education Revisited*. Netherlands, Springer, 329-362 p.

Bruttel, Oliver. 2005. "Delivering active labour market policy through vouchers: experiences with training vouchers in Germany," *International Review of Administrative Sciences,* Vol. 71(3), 391-404

Carnoy, Martin and Patrick J. McEwan. 2001. "Privatization through vouchers in developing countries: the cases of Chile and Columbia," in Henry M. Levin (ed.). *Privatizing Education: Can the marketplace deliver choice, efficiency, equity, and social cohesion?.* Cambridge, MA, Westview Press, 373 p.

Dar, Amit, Sudharshan Canagarajah, Paud Murphy. 2003. "Training Levies: Rationale and Evidence from Evaluations." Washington, D.C., World Bank

Finkelstein, Neal D. and W. Norton Grubb. 2000. "Making sense of education and training markets: lessons from England," *American Educational Research Journal.* Vol. 37(3), 601-631

Gasskov, Vladamir. 2000. *Managing Vocational Training Systems: a handbook for senior adminsitrators.* Geneva, International Labour Organization, 278 p.

Haan, Hans Christian. 2001. *Training for Work in the Informal Sector: Fresh Evidence from Eastern and Southern Africa,* Turin, Italy, International Training Center, Intenational Labour Organisation,

Haan, Hans Christian and Nicholas Serriere. 2001. *Training for Work in the Informal Sector: Fresh Evidence from West and Central Africa,* Turin, Italy, International Training Center, International Labour Organisation.

Heckman, J. J. and Y. Rubinstein. 2001. "The Importance of Noncognitive Skills: Lessons from the GED Testing Program." *American Economic Review* 91(2), 145-149.

Heckman, James J. and Alan B. Krueger. 2004. *Inequality in America: What Role for Human Capital Policies?* Cambridge, MA, MIT Press, 384 p.

Heckman, J. J., J. Stixrud and S. Urzua. 2006. "The Effects of Cognitive and Noncognitive Abilities on Labor Market Outcomes and Social Behavior." Journal of Labor Economics 24(3): 411-482.

Johanson, Richard. 2009. "A Review of National Training Funds," a paper prepared for HDNSP, Washington, D.C., World Bank, 274 p.

Johanson, Richard and Arvil V. Adams. 2004. *Skills Development in Sub-Saharan Africa.* Washington, D.C., World Bank, 245 p.

Lauglo, John and Rupert Maclean (eds,). 2005. *Vocationalisation of Secondary Education Revisited*. Netherlands, Springer, 376 p.

Lopez-Acevedo, Gladys. 2004. "A Duration Analysis of CONALEP," WPS3327, Washington, D.C., World Bank, 27 p.

Middleton, John, Adrian Ziderman, Arvil V. Adams. 1993. *Skills for Productivity: Vocational Education and Training in Developing Countries.* New York: Oxford University Press, 353 p.

Monk, Courtney, Justin Sandefur, and Francis Teal. 2008. "Does doing an apprenticeship payoff? Evidence from Ghana," Paper No. 288, Oxford, Centre for the Study of African Economies, 37 p.

Palmer, Robert. 2007. *Ghana's Renewed Focus on Skills Development and Growth: Policy and Research Challenges,* paper to the 9th Oxford International Conference on Education and Development, Going for Growth?, 11-13 September 2007, Oxford, New College

Patrinos, Harry, Cris Ridao-Cano, and Christos Sakellariou. 2006. "Accounting for Heterogeneity in the Returns to Education: Evidence from 16 East Asian and Latin American Countries." Policy Research Working Paper 4040, Washington, D.C., World Bank.

Psacharopoulos, George and William Loxley. 1985. *Diversified Secondary Education and Development Evidence from Columbia and Tanzania*. Baltimore, John Hopkins University Press, 243 p.

Ryan, Paul. 2001. "The School-to-Work Transition: a Cross-National Perspective," *Journal of Economic Literature*, Vol. XXXIX, 34-92 p.

Ryan, Paul, Howard Gospel, and Paul Lewis. 2007. "Large Employers and Apprenticeship Training in the U.K.," *British Journal of Industrial Relations, Vol. 45*, *127-153 p.*

Tan, Hong. 2005. "In-service Skills Upgrading and Training Policy: Global and Regional Perspectives," a paper presented at the Job Creation and Skills Development Conference, Cairo, the World Bank.

Tan, Hong, Yevgeniya Savchenko, Vladimir Gimpelson, Rostslav Kapelyushnikov, Ann Lukyanova. 2007. "Skills Shortages and Training in Russian Enterprises," IZA DP No. 2751, Bonn, Institute for the Study of Labor, 51 p.

Tremblay, Diane-Gabrielle and Irene Le Bot. 2000. "The German Dual Apprenticeship system: an analysis of its evolution and present challenges," Training Matters Working Paper Series No. 2000-05, North York, Ontario, Centre for Research on Work and Society York University.

UNESCO. 2010. *Reaching the marginalized: Education for All Global Monitoring Report 2010*. Paris, Oxford University Press, 510 p.

UNESCO Institute for Statistics. 2007. *Participation in Formal TVET Worldwide – An Initial Statistical Study,* Bonn, UNESCO-UNEVOC, 124 p.

West, Anne, Jo Sparkers, Todor Balabanov, and Sarah Elson-Rogers. 2000. *Demand-side financing: a focus on vouchers in post-compulsory education and training: discussion and case studies*. CEDEFOP dossier. Thessaloniki: CEDEFOP, 76 p.

Wilson, David. 2005. "Promise and Performance in Vocationalised Secondary Education: has the baby been thrown out with the bath water?" in Jon Lauglo and Rupert Maclean (ed.), *Vocationalisation of Secondary Education Revisited*, Netherlands, Springer, 71-92 p.

World Bank. 2008. *Ghana: Job Creation and Skills Development.* Report No. 40328 –GH, Vols. I and II, Washington, D.C. World Bank.

_____. 2007. *World Development Report 2007: Development and the Next Generation.* Washington, D.C., World Bank, 317 p.

_____. 1991. *A Policy Paper on Technical and Vocational Education and Training*. Washington, D.C. World Bank..

Ziderman, Adrian and Soshana Neuman. 1999. "Vocational Education in Israel: Wage Effects of the VocED Occupational Match," *Journal of Human Resources 34(2), 407-420 p.*

Ziderman, Adrian, *Financing Vocational Training in Sub-Saharan Africa*. 2003. Africa Region Human Development Series. Washington, D.C., World Bank, 187 p.

_____. 1990. "Financing Skills for Development: An Evolving Role for the Public Sector," in *Technical and Vocational Education and Training: Proceedings of the Regional Seminars on Technical and Vocational Education and Training,* Manila, Philippines, Asian Development Bank