Workforce Development in Developing Countries:
A Framework for Benchmarking

Under the World Bank’s Initiative on System Assessment and Benchmarking for Education Results (SABER)

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Abstract

Equipping the workforce with job-relevant skills is a continuing challenge in most developing and emerging economies. While the pool of educated labor has been rising over time as a result of past investments in education and training, there is growing evidence of persistent mismatches in skills demand and supply. Many countries thus find themselves in a paradoxical situation where graduates are unable to find jobs commensurate with their education and training while employers complain of skills shortages and mismatches. Often, employers also bemoan deficiencies in “soft skills” (e.g., problem-solving, communication, effectiveness in team work, etc.) in the workforce, skills that are considered essential for business productivity in today’s inter-connected and technologically-driven global economy. More broadly, skills constraints are making it difficult for countries to innovate and move into more lucrative areas of economic activity. Unable to integrate into and ascend the value chain in global production networks, they are stuck in a low-skills trap and achieve, at best, only moderate rates of economic growth and poverty reduction. The persistence of these problems and their growing importance over time suggest that workforce development in most low- and middle-income countries is not functioning as well as might be desired.

In order to support its engagement with partner countries with regard to skills development, the World Bank recently started a project on Benchmarking Workforce Development (WfD) under its broader initiative on System Assessment and Benchmarking for Education Results (SABER) which was launched to implement its newly-released Education Sector Strategy 2020. Consistent with the aims of SABER, the Benchmarking WfD project seeks to create a diagnostic tool for assessing the policy and institutional factors that influence how well a workforce development system is meeting skills demanded by employers and the workplace in light of global good practices in enhancing the impact of skills development on economic progress. The tool is also expected to help identify promising actions to achieve better results. Three functional dimensions of policies and institutions are considered in the project: (a) strategic framework; (b) system oversight; and (c) service delivery. The paper provides a conceptual framework for the benchmarking tool and proposes a systematic approach and use of common terminology to inform data collection and analysis. The results are expected to strengthen the analytical basis for dialogue on policies to advance workforce in the World Bank’s partner countries.
Introduction

1. Many developing and emerging economies have invested in education and training and have made good progress in expanding coverage at all levels. They are also paying more attention to learning outcomes, to the broader array of skills beyond academic achievement, and to technical and vocational education and training.¹ Yet, a growing pool of better educated labor has not always produced the expected results. Indeed, many countries find themselves in a paradox where large numbers of graduates are unable to find jobs commensurate with their education and training while employers complain of skills shortages and mismatches. Viewed from a longer-term perspective, an added disappointment is that these countries, especially the poorest ones, continue to find it difficult to diversify their economies and acquire the business and technological capabilities required to produce and sell more sophisticated goods and services. Skills constraints are part of the problem, suggesting that the system for workforce development in most countries is not functioning as well as might be desired.²

2. This paper articulates a framework and approach to support the World Bank’s assistance to its partner countries with regard to the challenges of workforce development.³ The broader concept is the World Bank’s Skills toward Employability and Productivity (STEP)⁴ framework which sets forth a holistic model encompassing five components for human development to support economic and social progress: (a) starting right in early childhood; (b) laying a strong foundation in basic and secondary education; (c) building and upgrading job-relevant skills; (d) fostering innovation and entrepreneurship; and (e) matching skills demand and supply. Workforce development focuses on—but is not strictly limited to—the third of these five components. The project is being implemented under a World Bank initiative known as System Assessment and Benchmarking for Education Results (SABER);⁵ and shares the initiative’s goals of creating diagnostic tools for assessing how well a given education and training system is performing in light of global good practice and what might be done to obtain better results. As in SABER, the project’s objective is to inform policy dialogue and the design of country-level programmatic interventions for possible support by the World Bank and other donor partners.

3. The rest of the paper is organized into six sections. The first clarifies two terms used throughout this paper: workforce development (WfD) and benchmarking. The second section

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¹ One reflection of the increasing focus on learning outcomes is the prevalence of international projects to measure learning outcomes. Examples include Trends in International Mathematics and Science Study (TIMSS), Program for International Student Assessment (PISA), and Programme for the International Assessment of Adult Competencies (PIAAC).

² A recent review of the problems associated with workforce development through technical and vocational education and training can be found in Asian Development Bank (2009).

³ The World Bank’s partner countries refer to low- and middle-income countries as well as fragile states.

⁴ For more details on the STEP framework, see World Bank 2010a.

elaborates on the purpose and intended audience of the project; and its relation to other skills-related work at the World Bank. The next four sections present the paper’s substantive core: the conceptual framework, key propositions on the link between policies and outcomes in workforce development, the analytical strategy for data collection; and the design of the data collection instrument. The penultimate section explains our implementation plan and expected outcomes. The last section concludes the paper.

Clarifying the Terminology

4. WfD and benchmarking are used in different ways in public policy dialogue. Below we clarify our use of these terms in the SABER-WfD project.

5. **Workforce Development** has become a topic of growing interest in recent years, reflecting the concern among a wide range of researchers and policy makers about the implications for skills development arising from five major factors: globalization, technology, the role of knowledge and innovation in the “new economy,” political change, and demographic shifts (Jacobs and Hawley 2008). Although the term raises issues at the level of individuals, organizations and societies, we use it in this paper to refer to the challenges faced by a national, regional, provincial or sector-based system in responding to two expectations:

   a. **Enabling individuals** to acquire the knowledge, practical skills and attitudes for gainful employment or improved work performance in a particular trade or occupation; and

   b. **Providing employers** with an effective means to communicate and meet their demand for skills.⁶

6. With regard to the first expectation, it is clear that job-relevant skills are acquired through diverse pathways: some are established in early childhood education (e.g., language skills) and reinforced through subsequent general schooling at the primary and secondary levels (e.g., literacy and numeracy); others rely on pre-employment vocational training at the secondary and post-secondary levels; and still others through apprenticeships, on-the-job training via formal and non-formal arrangements and informal learning. An evaluation of workforce development thus requires a comprehensive assessment of the entire education and training system and its effectiveness with regard to the skills of both the future pipeline of workers and that of incumbent workers. Such a comprehensive approach is beyond the remit of the present project. We focus more specifically on those parts of the system with an explicit mission to equip people

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⁶ This dual expectation is shared by the U.S. National Governors Association which notes that to develop the skilled and knowledgeable workforce required for economic competitiveness in the global economy, “state workforce and education systems are designed to provide the skilled workers employers need to thrive and the education and training individuals need to prosper in today's labor market.” See [http://www.nga.org/portal/site/nga/menuitem.4096192acba1c8899cdceeb501010a0/?vgnextoid=eff09286d9de1010VgnVCM1000001a01010aRCRD](http://www.nga.org/portal/site/nga/menuitem.4096192acba1c8899cdceeb501010a0/?vgnextoid=eff09286d9de1010VgnVCM1000001a01010aRCRD) (accessed on May 8, 2011).
with skills to get a job and earn a living in the not-too-distant future; and on the segment of the workforce filling mid-level positions typically requiring skills acquired through training in secondary or post-secondary non-university programs (e.g., skilled craftsmen, technicians, production supervisors, etc.)

7. The second expectation of workforce development puts the spotlight on employers as users of skills. As such, their involvement in WfD is essential to ensure a responsive system for skills supply. In a well-functioning WfD system, employers are able to meet their demand for skills and compete successfully in product and services markets while individuals are able to acquire the knowledge and skills to prosper in the labor market. Such a system can help boost economic productivity and growth; creating and maintaining its performance is thus a key concern of policymakers pursuing skills-intensive strategies for economic development.

8. **Benchmarking** gained prominence in 1979 when it was systematically implemented by Xerox Corporation in response to the erosion of its market share of the photocopier business as a result of competition from Japanese manufacturers (Camp 1989). The practice revealed critical insights that helped Xerox improve its manufacturing design and production efficiency, and lower its costs, thereby enabling it to regain its competitive edge. The concept and practice of benchmarking have since become widespread as a well-regarded and versatile tool for evaluating organizational and institutional performance (Dattakumar and Jagadeesh 2003).

9. Often used as a continuous process for enhancing outcomes, benchmarking now finds wide application in the public and private sectors throughout the developed world. An organization that embarks on benchmarking assesses various aspects of its processes in relation to those of leading organizations, usually from a peer group defined for the purposes at hand. The exercise poses such questions as the following for self-examination: (a) how do we compare to others in the same business; (b) how good do we want to be; (c) who is doing it the best; (d) how do they do it; (e) how can we learn from and adapt what they do to suit our circumstances and needs; and (f) how can we excel and become a standard of performance for others to aspire to? The process allows an organization to develop plans for adapting specific best practices to improve its own performance.

10. For our purpose, national or sub-national systems of WfD rather than companies are the relevant units of analysis. Conceptually, the foregoing questions relating to the benchmarking

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7 Tertiary education involving university-level training typically supplies workers with advanced technical and research skills that are essential for advancing the development of knowledge-intensive economic sectors. It is the focus of a separate domain in the SABER project and is therefore treated more fully there.

8 See, for example, [http://www.well.com/user/benchmar/germany/Germany.html](http://www.well.com/user/benchmar/germany/Germany.html) (accessed on November 9, 2011).

9 Adapted from Alstete (1995).

10 See O’Lawrence (2007) for an application of the benchmarking approach to a system for skills development in the state of California in the U.S. Although the approach may be used to evaluate specific programs for skills development (e.g., adult worker retraining and re-employment schemes, formal industry-based apprenticeship
of companies remain relevant when considering systems of WfD. Many countries are interested in knowing how well their policies and institutions compare to those in nations with more effective systems for workforce development. To systematize the comparison, we develop performance metrics for key aspects of WfD policies and institutions and define the corresponding stages of development based, whenever possible, on the experiences of nations with successful WfD systems. Where data are scarce, the benchmarks are based on a review of the relevant literature and on the logic of practical progression as a system improves. Finally, it is important to emphasize that the purpose of benchmarking is not to rank countries but to create a common frame of reference for policy discussion and to facilitate self-diagnosis as a basis for improvement.

**Purpose, Audience and Relation to Other Skills-Related Work**

11. Benchmarking WfD is practiced in some European countries\(^{11}\) and in the United States,\(^{12}\) where the approach finds acceptance in both the private and public sectors. It has evolved, in some settings, into a routine for monitoring the performance of the system and fostering its continued development. Among developing and emerging economies, the practice appears to be more limited, reflecting such constraints as: (a) the challenges of coordinating the exercise in fragmented systems with multiple players; (b) the limited capacity in staffing and funding to collect and analyze the data needed to maintain a benchmarking system; and (c) the cost of identifying similar schemes, programs and organizations in other nations that represent good practice in WfD. Political realities and financial constraints may also discourage governments from benchmarking their WfD systems, particularly if the exercise merely points out the flaws and performance shortfalls without giving realistic and concrete guidance on actions for improvement.

12. The purpose of the SABER-WfD benchmarking project is to overcome some of these impediments. An important objective is to narrow knowledge gaps regarding the design of effective policies for workforce development. For this purpose, the project develops a diagnostic tool for systematic collection of information on the current status of a country’s policies, processes and institutions for workforce development. The resulting data can then be used to evaluate its practices in light of global benchmarks, thus providing a basis for reflection and dialogue on potential reforms. Used as part of a collaborative effort, the diagnostic tool and associated knowledge assets can help engage the relevant stakeholders in workforce development while at the same time deepening knowledge about the strengths and weaknesses of the system. The process can also be expected to enlarge national capacity for policy analysis and

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\(^{12}\)See, for example, [http://www.workforce.mo.gov/About%20DWD.html](http://www.workforce.mo.gov/About%20DWD.html) (accessed on November 9, 2011).
foster common understanding of, if not always consensus on, the country’s challenges with regard to WfD.13

13. The SABER-WfD project complements other skills-related work at the World Bank aimed at closing knowledge gaps that impede policy dialogue. Two areas of work are worth highlighting. One pertains to the measurement of skills gaps and mismatches. Recent studies have pointed to the inadequacy of common indicators such as educational attainment and related details on fields of study, type of training, etc. (e.g., Hanushek and Wößmann 2006; World Bank 2011a).14 These indicators also neglect the “soft” skills valued by employers (e.g., di Gropello et al. 2011a and 2011b) and rewarded by market forces (e.g., Heckman et al. 2006). To narrow the measurement gap, the World Bank is currently implementing a multi-country project known as the Skills for Employment and Productivity (STEP) Skills Measurement Study.15

14. The second broad area pertains to the evidence for a more results-oriented approach to policies and investments in skills development. Promoting the welfare of individuals through skills development is the focus of many initiatives by governments, international donors and by private entities. But definitive knowledge about what does and does not work in different settings is limited (e.g., Betcherman et al. 2004 and 2007). To fill this knowledge gap, the World Bank has been expanding its portfolio of impact evaluation with the support of partners in order to narrow the evidence gap.16 On a more limited and selective basis, the World Bank has also fostered South-South exchange, including through study visits that enable policy makers in partner countries to gain first-hand exposure to and engage in dialogue and exchange with their peers in other countries..

Conceptual Framework

15. Key elements of the conceptual framework for the SABER-WfD project appear in figure 1. The framework recognizes that achieving coherence in WfD policies requires a simultaneous consideration of the demand for skills as well as the supply. A well-functioning WfD system with a high degree of coherence between skills demand and supply achieves faster economic growth by: (a) improving trainees’ employability; (b) supplying the workers needed by firms to improve productivity, product quality and competitiveness; and (c) enabling firms and entrepreneurs to expand their technological capability and move up the value chain where profit

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13 The proposed benchmarking approach complements the World Bank’s MILES framework which is used by some to evaluate employment issues through five lenses: Macroeconomic conditions, Investment climate and infrastructure; Labor market regulation and institutions; Education and skills development; and Social protection, where the underlined letters are used to form the acronym MILES (see Banerji et al. 2008).

14 While useful, these indicators are insufficient for policy development, given their generally weak link to individuals’ labor market outcomes and to countries’ rate of economic growth.

15 Results from the study are expected in 2013.

16 For more information on ongoing evaluations of skills-related initiatives, see www.worldbank.org/sief (accessed on November 9, 2011).
margins are often more attractive. Where this match is poor, slower growth and the associated problems of joblessness and underemployment, brain drain and technological stagnation or laggardness are an ever-present prospect.

Figure 1: Conceptual Framework for Workforce Development

Source: authors’ construction.

16. In developed countries, the economic crisis of 2008 and its aftermath have increased the urgency of addressing WfD issues (see, for example, OECD 2010a). In less developed countries, skills to increase the employability of youth and to help accelerate overall growth also feature regularly in both national and international dialogue (see, for example, World Bank 2010b and World Bank 2010c). Below we elaborate on the main components of the framework relating to skills demand and supply and to the linkages between these two parts of a WfD system.

17. The demand for skills. The government’s economic policies set the overall context for skills demand in multiple ways. Wage policies and related legislation, for example, influence the flexibility of the labor market, the hiring practices of firms and the aggregate demand for labor and its distribution between formal and informal sectors. Tax policies affect firm and worker behavior, including their incentives to train. The spending policies of governments often have a

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17 In Mexico, for example, Levy (2008) notes that the government requires firms to provide health insurance, pensions, and other social benefits directly to salaried workers, whereas non-salaried workers get these services through government pension and insurance programs. The difference in policy effectively puts a tax on salaried workers but offers a subsidy to their peers in the informal arrangements. Levy estimates that salaried benefits in Mexico are 30-35 percent less than their actual value to workers; and that the gap is sufficiently large to keep workers in low productivity work in the informal sector, thus slowing overall economic growth.
significant impact on skills demand. Large infrastructure investments, for example, create a demand for various construction, engineering and specialized skills. In some countries, governments also make strategic investments to nurture or grow selected sectors and these may call for new skills beyond what is available in the current labor pool (see, for example, UKCES 2009). In countries where the government takes a proactive approach to economic management, its policies may also affect firms’ business strategies and the incentives for innovation and adoption of new technologies. These forces in turn shape the demand for skills that may be required for technology absorption and advancement.

18. Forward-looking policies must obviously take into account global trends and practices and evaluate their implications for the local economy. Demographic changes, globalization and technological advances, urbanization, and climate change are some of the key influences on the dynamics of skills demand. The world’s population is aging as a result of declining fertility and rising life expectancy. In developed economies, the trend is already translating into a growing demand for health and personal care services and for related skilled workers, often imported from abroad, required to provide these services. In less developed economies, the share of younger workers—many of them new entrants to the labor force and often in the midst of starting their families—is increasing rapidly. They represent both a pool of potential employees and a market for consumer goods and services and the associated demand for skilled workers to produce and sell these products. In most countries, however, the potential has yet to translate into tangible results in the form of jobs and sustainable income growth.

19. Globalization and technology, particularly in information and communication, are an even more obvious influence on the demand for skills. Firms everywhere face increasing pressures to innovate and diversify into newer and more lucrative markets, as profit margins in traditional industries are squeezed by intense global competition and the shortening of product shelf life. Among the more dynamic firms that compete in export markets, skills bottlenecks are a chronic complaint, even in countries with highly educated workforces. Rapid urbanization, a trend that some countries actively promote in order to foster dynamic clusters of economic activity, is also ratcheting up the demand for talent and skilled workers, including service workers to build and maintain lively and livable urban spaces. In some settings, the lure of overseas jobs has fueled the demand for skills, encouraging potential migrants to obtain training to improve their prospects abroad. Climate change is yet another global trend with important

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18 In developed economies, 33 percent of the population in 2050 is projected to be at least 60 years old, compared with just 22 percent in 2010. In developing economies, the corresponding percentages are 20 percent and 9 percent. Africa has the youngest population, but even there, the share of the population at least 60 years of age is projected to rise from 5 percent in 2010 to 11 percent by 2050 (UN 2009).

19 At the same time, older workers in developed economies are finding it necessary to postpone their retirement and seek new skills in an effort to remain employable and productive. As a result the concept of life-long learning has gained growing relevance in public policy debates.

20 See, for example, data from the World Bank’s Enterprise Surveys posted at http://enterprisesurveys.org.
implications for skills demand. As countries scale up mitigation or coping responses, they will require workers skilled in a wide range of “green” technologies.

20. These global trends combine with conditions in a particular sector or a locality to shape the demand for specific skills. In the United States, for example, a 2009 survey of manufacturing businesses found emerging skills shortages in three sectors (aerospace and defense; life sciences and medical devices, and energy and resources) and highlighted bottlenecks for skilled production workers and for scientists and engineers (DMIO 2009). In Europe, WfD policies are being informed by detailed analyses by the European Center for the Development of Vocational Training for the 27 countries of the European Union. In India, the boom in information technology (IT) and IT-Enabled Services is increasing the demand for technicians—estimated at 500,000 a year—as well as for English language skills (Sudan et al. 2010). One careful study shows that each new call center raises enrollments in English-language schools in the center’s vicinity by nearly six percent (Oster 2010).

21. The demand for quality skills. A large number of surveys confirm that employers value not just a worker’s ability to perform specific technical tasks, but also his or her possession of “soft” skills or behaviors (Ferrier et al. 2003a; UKCES 2009). In the United States, manufacturers have consistently ranked highly skilled and flexible workers as one of two top drivers of performance (the other is new product innovation). In the Philippines and Indonesia, employer surveys conducted in 2008 revealed a high demand for three “soft” skills for managers and production staff alike: problem-solving, leadership, and communication skills. In Vietnam, the top behavior prioritized by employers in a 2009 survey was punctuality. In the same survey, employers also valued workers’ practical and technical knowledge more highly than theoretical knowledge. The importance placed on “soft” skills is not surprising, given the nature of work in today’s modern economy.

22. An increasingly integrated global economy with intense competition, a growing body of scientific and technological knowledge and improved access to knowledge via digital communication are reinforcing the demand for skills that go beyond simple book learning and/or the competence to execute only specific tasks. The ability to solve problems, to learn new skills and to adapt to new conditions, all of which requires a solid foundation in literacy and numeracy, are especially valuable in contexts of rapidly evolving business conditions. In settings where

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21 According to CEDEFOP (2010), projections for 2020 suggest a net loss of some 2.5 million jobs in the primary sector (mainly agriculture) and 2.0 million in traditional manufacturing, balanced against gains of some 7.0 million jobs in business and other services, 3.4 million in distribution, transport, hotels and catering, and 1.0 million in education, health and other non-marketed services. Demand is expected to rise for highly- or medium-skilled workers, while it will shrink for workers in clerical services, crafts and related trades and agriculture.

22 See DMIO 2009.

23 Because of the importance of these cognitive skills, the World Bank recently embarked on the STEP Skills Measurement project which involves administering tests to adults ages 15-64 as part of the effort to document the
most school leavers must find their livelihood in the informal sector, having the flexibility, entrepreneurship and initiative to find work must also be added to the list of core skills that young people will require for a successful transition from school to work (e.g., Adams 2007).

23. **The supply of skills.** The technical and vocational education and training (TVET) system is often perceived as the main source of workforce skills development. This is understandable as public TVET institutions often host major government-financed programs for formal skills training. However, in many countries, other sources of training exist, including private TVET institutions and employer-based training programs. In middle- to high-income nations, and in particular in large industrialized nations such as the U.S., Germany and Japan, the main suppliers of middle- to higher-level skills training are the employers themselves. Because firm-based training activities and programs are fragmented across the sector, often unpublicized outside the firms, and typically paid for by the firms themselves, their national contribution to WfD is not always well-understood or recognized.

24. A wide range of programs in fact offers opportunities for skills training in most countries. They include formal, non-formal and informal programs, each of which may require different levels of prior educational attainment and may operate under different institutional homes, typically though not exclusively, the ministries of education and of labor. While both formal and non-formal TVET refer to structured programs, they often fall under the mandate of different parent ministries. **Formal programs** usually take place in the education system and end with formal certification or accreditation of qualifications; **non-formal programs** often occur outside the education system (hosted by such ministries as labor, social welfare, industry, etc.), in or outside the workplace, and may or may not lead to an accredited qualification. Where granted, the qualification may not relate to the certification system hosted by the education ministry. **Informal TVET** comprises unorganized and unstructured learning that is often not the responsibility of any agency at all; they often occur in the workplace, for example, when a junior worker learns the ropes simply by working alongside or watching more experienced colleagues. Despite their informality, these arrangements can be a significant source of learning for tacit skills; their prevalence often depends on firms’ workplace practices and organizational culture.

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24 It is useful to note that the acronym TVET represent the first letter of four words with specific meanings: “technical” and “vocational” typically refer, respectively, to technician-level and craftsmen-level programs; “education” refers to exposure to the world of work and preparation for further studies in technical and vocational fields; and “training” refers to preparation for entry into, or upgrading in, specific occupations or clusters of occupations.

25 Non-formal TVET should not be confused with TVET programs that are intended to equip trainees for jobs in the informal sector of the economy.
25. To add to the complexity, the system for skills provision may also include such programs as: (a) formal, industry-based apprenticeships, usually for training in advanced skills; (b) training partnerships involving organized labor and firms, often with formal curricula taught by training providers; (c) technical training for and within the military; and (d) special needs training (i.e., skills training for select populations, such as prisoners, persons with disabilities, and the disadvantaged).

26. In all TVET systems, government policies influence to varying degrees the way the system is organized, governed and financed and how skills attainment is certified and recognized. They therefore affect the efficiency of service provision, the effectiveness of the system in meeting training objectives, the quality and relevance of skills that it produces, and the accessibility of training opportunities, particularly among disadvantaged population groups. They also shape the incentives for both training providers and learners and influence the aggregate supply of skills and its diversity by level and specialization.

27. The impact of policies on the role of employers in WfD planning and implementation—at both the strategic and operational levels—is a particularly important consideration. In the best systems, policies are in place to encourage training providers to view employers, both public and private, as critical partners. Such TVET systems are demand-driven in that providers’ decisions about skills supply typically respond directly to the skills demand of employers. On the other hand, when employers’ needs are not taken into account, training programs often fail to produce the types and levels of skills and numbers of workers actually needed by employers. These kinds of programs are referred to as being supply-driven.

28. **Alignment of skills supply and demand.** A key challenge in all WfD systems is to ensure a good match between skills demand and supply. Where the match is good significant benefits can accrue in the form of a more productive workforce, higher rates of employment and labor utilization, progress in the fight against poverty, and for the economy as a whole, tangible movement up the value chain of economic activity (e.g., Ferrier et al. 2003b). The alternative scenario is that of a weak system delivering a poor match between skills demand and supply. In such systems, the risks include high unemployment and underemployment, often coexisting with chronic skills gaps felt by employers, emigration of skilled workers, and an economy showing few signs of diversifying and upgrading of its technological capabilities.

29. In reality, skills misalignment is a common problem in most countries. Numerous surveys of employers consistently reveal concerns about skills constraints on business performance and about the lack of certain types of skills among employees (e.g., de Gropello et al. 2011a and 2011b). These problems stem to a large extent from what economists describe as market and government failures. Below we elaborate on an analytical strategy to benchmark the
policies that governments might use to overcome such flaws and enhance outcomes in workforce development.

**Linking Policies to System Performance**

30. We shall focus on actions by government to promote a closer connection between skills demand and supply. This emphasis does not mean that the government is the most important actor among those with a role in WfD. Rather it is intended to facilitate an evaluation of how the government can be more effective, whether acting directly or through the intermediation of other actors, in advancing workforce development. Below we begin by elaborating on three broad areas of potential weaknesses in policies and related institutions and processes; we then state three hypotheses to guide our analytical strategy.

**Impediments to Better Outcomes**

31. Economic theory about market and government failures identifies several conceptual obstacles to a well-functioning WfD system. In their comprehensive review, Almeida *et al.* (2012 forthcoming), for example, discuss failures stemming from: (a) imperfections in capital markets which prevent individuals and firms from borrowing for training investments; (b) limited information, uncertainty and myopia which distort the actions of individuals and firms with regard to training investments; (c) coordination failures arising from weak linkages among key stakeholders (e.g., employers and training providers); and (d) labor market imperfections (e.g., firms demand sub-optimal levels of training for their workers for fear of losing their trained workers to competitors).

32. Theoretical considerations alone are insufficient, however, for designing policies to improve the system’s performance. Also needed is a deeper understanding of the specific policies that matter and the circumstances under which they matter. The evidence on this score is, unfortunately, sparse at present, particularly as it pertains to the experiences of developing and emerging economies. We can nonetheless begin to contribute to the dialogue by systematically documenting existing policies and benchmarking them against practices in systems that have made significant progress over time. This approach is a characteristic feature of the overall SABER initiative. Its application in multiple countries can create a systematic database to shed light on the topic, thus helping to narrow gaps in our knowledge about effective policies.

33. Our data collection effort in the SABER-WfD study focuses on policies in three areas that we believe are particularly relevant as impediments to better outcomes in workforce development: governance, finance, and information. We briefly elaborate on them below to set the stage for discussing the design of our instrument.
34. **Governance.** Workforce development is a complex policy arena. It involves multiple stakeholders at different levels of decision-making whose goals, roles and responsibilities may overlap or be in conflict (e.g., ADB 2010). At least four sets of stakeholders can be discerned: (a) public officials representing different ministries and levels of authority; (b) employers in their role (individually and through their trade associations) as a source of jobs, of market intelligence, expertise and advice to inform the training curricula, and possibly also of gifts and advocacy to support training programs; (c) training providers (again individually and corporately) who offer pre-employment, on-the-job and targeted training services, networking among trainees, and a pool of potential recruits for employers; and (d) individuals who have dual roles, as trainees and as incumbent or future workers (who may be represented through unions), whether working for others or in self-employment. In this complex environment, appropriate governance arrangements can help clarify roles, responsibilities and accountabilities among the stakeholders and enhance the quality of key relationships among them.

35. **Finance.** All WfD systems depend on adequate and well-deployed resources, financial and non-financial, to function effectively. Funding arrangements, both in terms of how money is mobilized and how it is allocated, shape incentives and therefore the choices made by individuals, training providers as well as employers and firms in their capacity as users of skills. Key design choices include: (a) the aggregate level and pattern of distribution in budget allocations; (b) the criteria for deciding on funding allocations, and on recipients’ access to and continuation of funding; and (c) diversity in the sources mobilized to support investments in WfD. Funding arrangements can exert an influence through channels on both the demand- and supply-sides and thus have the potential to help narrow gaps in skills supply and demand. In-kind resources, such as employers’ contribution of machinery or staff time for training purposes, are often difficult to document but their presence is an important indicator of engagement with a key group of stakeholders.

36. **Information.** Reliable and timely information provide signals that condition the behaviors of key actors on both the demand and supply sides in the market for skills. Useful information include the following: the skills gaps faced by employers; the menu and quality of training options and their costs; the employment and earnings of the graduates of training programs; and the trustworthiness of the formal certification of skills attained. The availability of such information can help influence the decisions of both individuals and training providers and align them to the demand for skills in the labor market. However, if an important economic goal of the country is to grow and upgrade into new and emerging areas of economic activity that require new technological, managerial and operational capabilities, passive information flows alone may not suffice to minimize skills gaps and mismatches. In such settings proactive coordination to bring the behaviors of the relevant parties into closer alignment with the areas of emerging skills demand may be appropriate.
Hypotheses on Improving WfD Outcomes

37. Improving the performance of the WfD system is akin to moving up the rungs of a ladder. For example, four rungs on the ladder corresponding to poor, modest, good or great outcomes may be characterized as follows:

- **Poor outcomes:**
  - Few employers value the WfD system; and
  - Interest in hiring graduates from the system is low.

- **Modest outcomes:**
  - System produces some useful outputs;
  - Trainees and employers are generally dissatisfied; and
  - Access to training is limited and quality of skills imparted is poor.

- **Good outcomes:**
  - System trains large numbers;
  - Most trainees and employers are satisfied with the system;
  - Some scope exists for continuous learning and skills upgrading; and
  - System trails in skills for innovation and technology upgrading.

- **Great outcomes:**
  - System makes a difference and enjoys employers’ and trainees’ confidence;
  - Employers participate actively to provide feedback;
  - Graduates secure gainful employment;
  - System encourages continuous learning and skills upgrading; and
  - System adapts quickly to new economic conditions and opportunities.

38. The challenge for policy makers is to situate their WfD system in the continuum of outcomes and to determine a context-appropriate strategy for progressing to the next rung of performance. Their task is arduous given our current incomplete knowledge about effective policies. An important objective of the SABER-WfD initiative is therefore to help narrow this knowledge gap by accumulating and analyzing the evidence in this regard. To guide our data collection effort and analytical strategy we proceed by proposing three hypotheses on the links between policies and the performance of the WfD system.

39. **Hypothesis 1.** We contend that well-functioning WfD systems require mutually reinforcing policies that simultaneously address weaknesses in governance, finance and information. Policy gaps in any of these areas yield subpar outcomes across countries in a consistent and similar way. Accordingly, examining WfD policies in countries that have improved the performance of their WfD systems will provide insight into priorities for reform and suggest strategies for plugging the most damaging gaps at a given level of system development.
40. **Hypothesis 2**: We suggest that good policies alone are insufficient to improve WfD outcomes. Effective institutions for implementation and efficient feedback mechanisms are also critical in a dynamic reform agenda that delivers results. These features combine to create a virtuous cycle of informed policy design, follow-up action and self-correcting adjustments that can help minimize skills gaps and mismatches in a timely fashion. Sub-optimal outcomes stem, on the other hand, from any or all of the following: weak or incomplete policy design, lack of attention to implementation or disjointed feedback mechanisms.

41. **Hypothesis 3**. We assert that a “learn-to-do and do-to-learn” approach is essential in the search for better outcomes in workforce development. It minimizes what some writers have referred to as the risk of “borrowing” policies that may have worked in one context and applying it in another with little adaptation or consideration of local conditions (e.g., Allais 2011). The approach reinforces the notion that, in a field of still evolving knowledge, successful reforms will require intentional learning by national policy makers through systematic efforts to build domestic capacity for policy design and implementation.

42. The three hypotheses influence our approach to data collection and analysis. In particular, we document for each participating country the existence of policies that target the various market or government failures discussed above with regard to governance, finance and information. We also seek information on policy implementation, feedback mechanisms and intentional learning in the process of policy reform. Through carefully crafted questions that are answered by choosing from a list of closed options, we compile the data required to benchmark the policies for WfD against pre-specified rubrics.

**Data for Benchmarking WfD Policies**

43. We present below the overall structure of the dataset, elaborate on its contents and summarize its key features.

**Overall Structure of the Dataset**

44. We first identify three functional dimensions of policy choices that are likely to matter for WfD in most developing and emerging economies. We then specify, for each dimension, a set of three policy goals that relate broadly to the issues of governance, finance and information. Each of these goals is further defined by a set of policy actions that give the policy goals a more specific and tangible meaning.

45. **Three functional dimensions of policy choices**. These dimensions relate to: (a) the strategic framework which sets the direction and authorizing environment for WfD; (b) the oversight arrangements which guide the functioning of the system; and (c) the service delivery
system through which outcomes on the ground are achieved (figure 2). The quality of the strategic framework depends on the role that WfD is expected and enabled to play in fostering the economic success of individuals, businesses and the country as a whole. The resulting authorizing environment sets the stage for oversight institutions and mechanisms that govern the efforts of the parties involved—policy makers, employers, training providers, trainees—so as to foster alignment with desired WfD goals. In turn, the oversight arrangements define the operational context for training provision by public and private providers. The outcomes that these service providers achieve in equipping trainees with skills for employment and productivity provide the feedback that closes the policy-making loop. In essence, the tool is about characterizing a holistic system for WfD in terms of the workings of two markets: “the [labor] market in which employers and individuals trade work for wages [or earnings]; and the training market in which individuals obtain training [and therefore acquire skills] from training providers” (Karmel 2011).

Figure 2: Functional Dimensions of WfD Policies

Figure 3: Policy Goals for Each Functional Dimension

\[\text{Strategy: Aligning to national economic goals}\]

\[\text{Oversight: Governing to achieve desired goals}\]

\[\text{Delivery: Managing for tangible results}\]

a/ The figure represents the policy goals through the use of single-word labels, with each row corresponding to the concepts of governance, finance and information respectively. The next section of the paper explains more fully what lies behind these labels. Source: authors’ construction.

46. **Drilling down to the policy goals and policy actions.** For each functional dimension of policy choices discussed above, we specify three policy goals relating, respectively, to

\[\text{Strategy:}\]

- **Direction**
- **Priorities**
- **Coordination**

\[\text{Oversight:}\]

- **Pathways**
- **Resources**
- **Standards**

\[\text{Delivery:}\]

- **Content**
- **Incentives**
- **Outcomes**

\[\text{26 The functional dimensions of policies in the figure 2 bears some resemblance to the threefold challenge that the UKCES (2009) believes the United Kingdom faces in its attempt to create a better, more responsive, demand-led and effective WfD system. The three challenges are: (a) ‘a ‘policy gap’, where a stronger emphasis on the ‘demand’ side is required to bring about better balance to the policy agenda’; (b) ‘a ‘measurement gap’, where developing a more appropriate suite of ‘success measures’ for the system would help better align policy with the 2020 Ambition, and policy with delivery’; and (c) ‘a ‘policy to practice gap’, where delivery and arrangements on the ground do not always fulfill the ambition of the policy promise.”}\]
governance, finance and information. In total, nine policy goals are identified that are likely to be relevant across a wide range of developing and emerging economies (figure 3). In addition, for each policy goal, we define a set of three policy actions to add to clarity to the practical meaning of each goal. Because of space constraints the full list of 27 policy actions is not shown here but in Annex table 1.

47. The foregoing structure provides a snapshot of the type of policy data that our tool seeks to collect. While the material may be organized differently and while some overlap among the policy goals and actions is unavoidable because of linkages among them, the approach satisfies the desire for a parsimonious yet meaningful tool for our purpose in the SABER-WfD initiative. Below we develop the ideas in greater detail and elaborate on their links to the questions that are included in our data collection instrument.

Dimension 1: Strategic Framework

48. WfD is not an end in itself but an input toward broader goals—of boosting employability and productivity; of relieving skills constraints on business development and growth; and of advancing overall economic growth and social well-being. Its multi-dimensional nature poses complex challenges and tradeoffs. For example, when policy makers refer to skills for growth, they are typically concerned about skills that can help the economy diversify, innovate and upgrade its technological capability. However, because these skills pertain, by and large, to formal sector jobs they may be irrelevant to the majority of workers in developing countries who earn their living in the informal sector.

49. A second source of complexity is that all jobs call for a combination of skills. Bloom’s (1976) classic taxonomy makes a distinction among cognitive, affective and psychomotor skills. Development of these skills typically involves different periods of gestation; the sequencing and timing of investments also depends on the specific skills required in different jobs. Some skills (e.g., basic literacy and numeracy) entail sustained effort from relatively young ages (e.g., through early childhood education and general basic education); others call for specific programs that meet employers’ more immediate needs. On a fundamental level, WfD strategies entail trade-offs between short- and longer-term objectives, often because resources are

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27 Cognitive skills refer to a person’s grasp of academic disciplines such as English, mathematics as well as various pure and applied sciences, history, etc. Affective refer to his or her perceptions about work, concept of self and others, and attitude toward timeliness, accuracy, quality and performance. Psychomotor skills refer to possession of skills required to perform the tasks or duties involved in an occupation, job or business (e.g., operating a lathe, preparing architectural plans, installing equipment, etc.). The Dictionary of Occupational Titles (DOT) in the U.S. makes a distinction among jobs according to the degree of involvement with Data, People and Things (see http://www.oalj.dol.gov/PUBLIC/DOT/REFERENCES/DOTAPPB.HTM (accessed on October 10, 2011). The O*NET’s Content Model which replaced the DOT in 1998 continues to emphasize the multi-faceted skills requirements of jobs (for more information, see http://www.onetcenter.org/content.html (accessed on October 10, 2011).
limited and because of differences in the pattern of costs and benefits across investments in skills development.

50. A third reason for the complexity of WfD is that outcomes depend on the actions of multiple stakeholders, including individuals, employers, training providers, and government officials (often from several ministries or agencies). Asymmetric access to credit, imperfect or incomplete information, misalignment of incentives and weak cooperation among these actors are some of the obstacles that can lead to sub-optimal outcomes in WfD.28

51. These complex objectives and challenges of WfD lead us to emphasize the following policy goals under the functional dimension relating to strategy: (a) alignment of the direction for WfD to the country’s goals for economic growth and poverty reduction, (b) prioritization of a demand-led approach to WfD, and (c) facilitation of critical coordination among the actors at the apex level of decision-making. Bringing together these elements requires visionary leadership based on an understanding of and conviction about the role and nature of WfD in national development. It also calls for clarity regarding both the short- and longer-run implications for policy development and investments; and for effectiveness in aligning the effort of diverse stakeholders toward the country’s strategic goals for WfD.

52. **Policy Goal 1: Clarifying the direction for WfD.** Advocacy for WfD by national leaders provides the public support to legitimize it as a priority for economic development and to ensure that it receives due attention in policy dialogue and plans for implementation. To be credible, advocacy needs to be based on realistic and accurate assessment of the priorities for WfD in light of the country’s economic prospects. To achieve impact, the assessment must be followed by policies and practices that promote and sustain coherence between the demand for and the supply of skills. Thus, to flesh out the goal of bringing clarity to the strategic direction for WfD we identify the following policy actions:

a. Advocate for WfD as a priority for economic development;
b. Evaluate economic prospects and its implications for skills; and
c. Develop polices to align skills demand and supply.

53. In reviewing the pattern of economic growth over the past few decades, the Commission for Growth and Development (2008) has emphasized the importance of “leaders who are committed to achieving growth and who can take advantage of opportunities from the global economy.”29 In the area of workforce development to support growth, East Asia’s fastest growing economies over the past 50 years, viz. South Korea, Taiwan (China), and Singapore

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28 See Almeida et al. (forthcoming 2012) for an elaboration of various market and government failures that can lead to sub-optimal outcomes in workforce development.
provide the clearest examples of the role of leaders in shaping the skills agenda. These nations have built a strong foundation in basic skills through general education for all and now consistently appear among the top-performing nations in international tests of student learning (OECD 2010b; Mourshed et al. 2010). At the same time, they have also developed training systems that effectively equip workers with job-relevant skills to expand their own technological capabilities (e.g., Ashton et al. 2002; Green et al. 1999; Kuruvilla et al. 2002). The increasing sophistication of the exports from these countries is one sign of success. In Korea, for example, electronic, electrical and other high-technology products made up nearly 40 percent of the country’s exports in 2006, up from less than 5 percent in 1980 (Yusuf and Nabeshima 2010).

54. **Policy Goal 2: Prioritizing a demand-led approach to WfD.** A key principle is to recognize the role and influence of employers, firms and individuals in determining the demand for skills.30 Because these stakeholders are the ultimate end-users of skills, a demand-led approach to WfD at all levels of decision-making is essential to minimize potential mismatches between skills supply and demand. For the same reason, translating the ambition of skills-led economic development will typically require policies to intensify employers’ and firms’ demand for more and better skills to help raise productivity. Because skill sets take time to develop, policies often produce results only after a lag. The discrepancy in timeframe suggests that monitoring the pipeline of skills against emerging and changing trends in demand and taking steps to avert serious skills imbalances and mismatches are highly critical in setting strategic priorities in WfD. Taking the foregoing considerations into account, we associate the following policy actions with the goal of prioritizing a demand-led approach to WfD:

a. Ensure active engagement of employers and industry in developing WfD policies;
b. Strengthen firms’ demand for skills to improve productivity; and
c. Address critical challenges in the future supply of skills.

55. Country conditions influence the specific ways in which governments set strategic priorities for WfD. To illustrate, in 1996 Costa Rica prioritized the introduction of new courses in technical training and new curricula as part of its eventually successful bid to attract Intel, a global computer chip manufacturer, to set up the firm’s newest plant in the country (Spar 1998; World Bank/MIGA 2006).31 In subsequent years, the country continued to align its education and training programs to meet the needs of employers in the information technology industry.32

30 The role of individuals matters not only as potential employees but also as own-account workers. The latter are especially important in settings where most job opportunities are in self-employment or in family businesses.
31 The Technological Institute of Costa Rica (ITCR) introduced a one-year certificate program (for high school graduates), and a one-year associate degree and English language training programs. The technical courses focused on new fields such as semiconductor manufacturing and microelectronics, and later also included, materials science (Spar1998; World Bank/MIGA. 2006).
32 These demand-responsive efforts included, for example, the following: (a) new technical programs and enhanced curricula at the country’s leading educational institutions—the Technological Institute of Costa Rica (ITCR), the University of Costa Rica (UCR) and the National Training Institute (INA), especially during 1999-2003; (b) an
The IT industry is today a major part of the economy, accounting for nearly 19 percent of exports in 2009, compared with just 4 percent in 1997. Mexico’s Integral Quality and Modernization (CIMO) program exemplifies an effort by the government to foster skills upgrading among firms. In Korea, the introduction in 2010 of a high-profile government initiative involving “meister” high schools exemplifies an effort to address emerging shortages of technicians for the country’s priority sectors (e.g., electricity, media, logistics, shipbuilding, IT, automotive, etc.).

56. **Policy Goal 3: Strengthening critical coordination to realize WfD objectives.** A key challenge in WfD is that it is by nature complex in terms of the activities and their timing, involving an intricate web of stakeholders with diverse interests, roles and responsibilities. Ensuring that the combined effort of these partners is consistent with the country’s key priorities for WfD is therefore an important goal of strategic coordination. Such coordination typically requires leadership at a sufficiently high level to overcome impediments to cross-sector or cross-ministerial cooperation that are often impossible to resolve among peers with similar levels of decision-making authority. Fundamentally, the core issues pertain to the “interactions among institutions, processes and traditions that determine how power is exercised, how decisions are taken on issues of public and often private concern, and how citizens and other stakeholders have their say” (Abrams et al. 2003). An arrangement that clarifies roles and responsibilities and fosters communication among the relevant WfD stakeholders sets the stage for coherent and well-coordinated actions by these players (e.g., ADB 2009). Thus, for the goal of strengthening critical coordination, we identify the following policy actions:

a. Ensure coherence of key strategic WfD priorities;
b. Institutionalize the structure of WfD roles and responsibilities; and
c. Facilitate communication and interaction among all WfD stakeholders.

57. Strategic coordination is particularly relevant for major initiatives in WfD that are breaking new ground, that involve new or non-traditional partners, and that possibly also introduces new operational procedures. Such coordination at both the strategic and operational levels can help avoid duplication—or worse, misalignment or conflict—of effort and ensure that

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34 For more information about CIMO, see Tan et al. 2004.
35 These shortages stem from the preference of young Koreans and their families for studies at the universities. To increase the attraction of a non-university route to the labor market, the “meister” high schools follow new curricula that explicitly cultivate “21st century skills.” A personal visit in May 2011 by two of this paper’s authors to Sudo Electric High School in Seoul, one of the first “meister” schools that the country’s President inaugurated in March 2010, found the following practices: (a) using a student-centered pedagogy; (b) including training on personality development; (c) offering students opportunities for study abroad; (d) using English for teaching whenever the teachers are able to do so; and (e) ensuring strong linkages with specific employers.
the most critical initiatives receive the necessary moral and material support for experimentation, consolidation and maturation. Ireland’s experience with the establishment of new regional technical colleges (RTCs) beginning in the late 1960s is an example of coordinated effort to supply mid-level technicians for the country’s emerging industries (O’Hare 2008). The Indian government’s decision to create several new bodies in a three-tiered governance arrangement for WFD—the National Council for Skills Development, chaired by the Prime Minister; the National Skill Development Coordination Board, chaired by the deputy chairman of the Planning Commission; and the National Skill Development Corporation, headed by an eminent private sector industrialist—exemplifies a more recent effort at strategic coordination at the highest level of government.

**Dimension 2: System Oversight**

58. The second functional dimension of WFD policy choices is primarily concerned with the design of systemic “rules of the game” to help realize the ambition of growth-promoting WFD envisioned in the strategic framework. To make our task manageable, we focus on components of the WFD system that relate to skills development for mid-level rather than highly specialized professionals and managers. Skills acquisition at this level occurs mainly through pre-employment training at the secondary and post-secondary levels and on-the-job training, whether in formal, non-formal or informal arrangements, including apprenticeships. The main objective of oversight is to facilitate efficient and effective skills acquisition by individuals to improve their employability and productivity so that employers are able to meet their demand for skilled workers in a timely manner. The expected result is the minimization of mismatches in skills supply and demand, thereby enhancing the contribution of WFD to economic growth and social progress.

59. If the markets for skills functioned perfectly there would be a limited role for oversight. Individuals would have access at no cost to accurate and timely information about the types of skills in demand; they would know where and how to get trained; they could easily mobilize the funds needed to pay for the training; and once trained, they would be able to signal to potential employers the skills that they possess. Likewise, employers would have reliable and timely information about the skills of prospective and incumbent employees; they would be able to make accurate choices among possible training options for their workers; and they would face no constraints in organizing or purchasing training. Training providers, on their part, would be fully

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36 O’Hare (2008) elaborates that the Ireland Development Authority (renamed since 1994 as the Industrial Development Agency (Ireland)), in its effort to convince foreign businessmen to invest in the country, used a portfolio of incentives to encourage a greater output of skilled technicians throughout Ireland, while simultaneously involving the leaders and staff of the training institutions to participate actively in its promotional efforts (e.g., by attending functions where foreign businessmen were gathered, and travelling to events in potential investor countries).

aware of the skills that are in demand and could tailor their programs accordingly; and they would have the information to create efficient pathways for skills acquisition for their clients, for example, through articulation agreements with providers that offer complementary services.

60. This scenario is unrealistic and highly unlikely in practice, however. Information is costly to generate and to acquire, and it may not be complete, relevant, accurate or timely (e.g., Woods and O’Leary 2007). Individual firms often cannot spare the time to codify their skills requirements, particularly if they are small or operate in a fast-changing business climate. Other distortions may arise from individuals succumbing to the temptation to overstate their knowledge and skills in order to land a desirable job or a promotion. Likewise training providers may be motivated to mask the quality of their program offerings in the interest of attracting and retaining their clientele. Inadequate information aside, financial constraints may also prevent those who can benefit from training from making the investment, thus leading to sub-optimal investments in WfD.

61. The considerations above motivate us to specify the following three policy goals for the oversight dimension of our analytical construct, broadly addressing issues of governance, finance and information: (a) diversifying the pathways for skills acquisition so as to encourage life-long learning as a basis for adapting to evolving labor market conditions and keeping up with technology in the workplace; (b) ensuring efficiency and equity in funding WfD investments, thus fostering the system’s long-term financial sustainability; and (c) assuring relevant and reliable standards for quality in service provision and skills acquisition, thus creating more efficient signals in the market for skills.

62. **Policy Goal 4: Diversifying the pathways for skills acquisition.** The underlying aim here is to keep the skills of the workforce up to date and adapted to changing economic conditions and opportunities. The emergence of new occupations and skills, and the rapid transformation of existing ones, the explosion in knowledge and technology, the shift to an information society, the introduction of new ways to organize the workplace in an increasingly integrated economy and an aging society are some of the main reasons that make lifelong learning an imperative today (e.g., Kiley and Cannon 2000).

63. However, lifelong learning, even for the motivated, may be haphazard or even impractical if few pathways for skills acquisition exist beyond the initial level of education and areas of training that a young person started out with. The absence of a qualifications framework and of routine procedures for the recognition of prior learning presents an added impediment. Individuals without the formal credentials for admission into their chosen training programs are assumed to have no relevant skills and must thus start their training at a more basic level than necessary. The result is to prolong training time and increase costs for some prospective trainees, which may in turn discourage them from embarking on plans to learn new skills or
build on existing ones. Finally, given that labor market conditions are always evolving, it is important that all available options for gaining more and better skills, particularly those funded publicly, remain responsive and sensitive to emerging trends and opportunities for employment. Thus, the ability to adjust or terminate programs that no longer fit the bill or to add new ones is a hallmark of effective oversight. Taking the foregoing considerations into account, we associate with the goal of diversifying the pathways for skills acquisition the following policy actions:

a. Foster articulation across levels of instruction and types of programs;
b. Promote life-long learning with recognition of prior learning;
c. Set policies and procedures for the renewal of publicly-funded programs.

64. In a well-articulated system for WfD, students can transfer from course to course, progress to higher levels of training or gain access to programs in other fields (MacKenzie and Plovere 2009). Good examples of articulation arrangements can be found in the U.S. where many community colleges adopt such practices as: (a) give students credit for work experience in industry; (b) collaborate with high schools to offer preparatory courses so that students may fulfill the prerequisites for full-time enrollment in a community college; and (c) enter into agreements with universities and other colleges, most often within their respective states, to provide students with the option to continue on to college- or university-level programs once they have proven themselves in a community college program.38 In some countries, a national qualifications framework provides the scaffolding for defining pathways for lifelong learning and skills acquisition. As Hanf and Hippach-Schneider (2005) explain, the framework essentially “takes all of a country's formally recognized qualifications and arranges them in a clearly defined structure. … [Qualifications are] understood as sets of certified or documented skills, with no regard given to the respective learning path.”

65. Interest in national qualifications frameworks has grown in recent years and more than 100 countries worldwide are now reportedly at various stages of building their own.39 A review by Allais (2010) of the experiences in 16 countries cautions against overly ambitious expectations of such frameworks, however. Success requires significant resources and patient work by skilled personnel over many years—conditions that are often absent in developing and emerging economies. In addition to fostering articulation and the mapping of qualifications, countries have also found it necessary to exercise oversight of program offerings as well, particularly in publicly-funded institutions, to minimize what ADB (2009) notes is a ubiquitous tendency to repeat courses year after year without regard to labor market conditions. Insisting on

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38 For example, the community colleges in the states of Virginia and Maryland have such agreements with their respective state colleges and universities.
39 Part of the interest stems from employers in countries that employ foreign workers. For these employers, the qualifications framework in the sending countries is a tool for gauging the quality of potential recruits from these countries. Another source of interest stems from the growing demand for intercollegiate credit transfers and articulations across programs and institutions.
industry involvement in decisions about program offerings is an increasingly popular method for providing oversight of the content of publicly-funded training programs.

66. **Policy Goal 5: Ensuring efficiency and equity in funding for WfD.** The underlying design challenge here is to influence WfD catalytically through the government’s role in funding WfD, ensuring efficient and effective use of the available funds, and in fostering partnerships that can multiply the resources, pecuniary and otherwise, that are available to encourage and support investment in WfD by individuals and employers. Governments fund WfD in part to counteract possible sub-optimal levels of investment arising from such problems as credit constraints (e.g., those faced by students from poor families), myopia on the part of prospective trainees and firms, incomplete information, or other imperfections in the market for training. Because funding for WfD is required on a continuing basis while public budgets are often limited and subjected to intense competition from other competing projects, a clear strategy for sustaining support for WfD, one that benefits from continuous assessment and adjustment, can help ensure that the funding is stable, sustainable and sufficient to achieve the most important goals at reasonable cost. Such a strategy would recognize that besides public budget allocations, resources for WfD may also come from fees paid by trainees or their sponsors, and contributions by private entities, non-governmental organizations, local communities and/or external donors. Some of the contribution may materialize in the form of in-kind donations that constitute essential inputs for effective training programs, including, for example, equipment and the services of experienced skilled workers. In light of the foregoing considerations, we choose the following policy actions to flesh out the goal of ensuring efficiency and equity in funding WfD investments:

   a. Articulate a strategy for funding WfD;
   b. Allocate public funds for WfD to achieve results with efficiency; and
   c. Foster partnership between WfD authority(s) and stakeholders.

67. Funding is a ubiquitous concern in WfD systems (e.g., Wolf and Erdle 2009). In poorly-funded systems, providers are hard pressed to satisfy the expectations of employers who in turn distance themselves from the providers; the result is to reinforce providers’ tendency toward supply-driven program offerings which further undermines their ability to respond to employers’ needs. These conditions reduce the potential for productive partnerships in WfD. Many systems in developing and emerging economies fall victim to this vicious circle because governments simply do not have enough resources to prioritize TVET when other parts of the education system, such as primary and secondary schooling, are also poorly funded (e.g., Atchoarena 2002; Dunbar 2011). Support for TVET is moreover often weakened by the fact that most students come from poorer families that typically lack the political clout to influence budget allocations, as well as by the general perception of TVET as a “second-class” route to the labor market with doubtful impact in equipping students with job-relevant skills.
68. Some countries have nonetheless successfully tackled some of these problems. In Switzerland, for example, TVET tracks at the secondary level offer excellent programs and pathways to tertiary level courses which attract a sufficiently meaningful share of the country’s top students to overcome public bias against such programs (OECD 2010a; FOPET 2010). In Singapore, sizable investments in a high quality TVET system over the years, coupled with sustained attention to the employability of graduates, have lowered social resistance to the TVET programs that the less academically inclined students enter after ten years of general schooling (Law 2008).

69. With regard to funding for the training of incumbent workers, a common arrangement involves collecting a tax or levy from firms, often in relation to the size of the payroll, and using the proceeds to reimburse firms that train (Johanson 2009). Some observers cite Malaysia and Korea as examples of successful schemes (e.g., Tan 2001; Lee 2009). As for allocating funding to achieve results, having transparent and explicit allocation criteria and ensuring that the criteria themselves are reviewed and adjusted in light of experience, are a sine qua non of good oversight of WfD resources. Accordingly, some recent World Bank operations that support TVET, for example in Pakistan and India, seek to foster these practices. Regarding partnerships, the relationship between Costa Rica’s training institutions and Intel mentioned earlier exemplifies arrangements that have been sustained over time because they generate benefits for the firm, participating training institutions and trainees.

70. **Policy Goal 6: Assuring relevant and reliable standards for quality in WfD.** The underlying issue is trust in the services offered by training providers and in the skills acquired by individuals. Providers are keen to assure potential clients of the quality of their programs and to market their services, particularly when these are offered on a fee-for-service basis. Obtaining accreditation from a recognized authority is an efficient way to do so. The process involves an authorized accrediting body certifying, typically on a term-limited and renewable basis, that the training provider has met externally-established standards for excellence or quality in service delivery (Vlăsceanu et al., 2007). Standards for skills acquisition are a related but separate aspect of quality assurance. Often codified in the form of a credential or qualification, they provide benchmarks for testing and certifying the knowledge and competencies of the graduates of training programs. Established standards help training providers clarify expectations about learning outcomes and competencies; they benefit trainees by providing an easy way to advertise their skills to potential employers; and if reliable, the standards also assist employers in

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expediting the early stages of recruitment. In light of the foregoing ideas, we associate with the goal of assuring standards the following policy actions:

a. Specify accreditation standards for training providers;
b. Strengthen skills testing and certification; and
c. Assure the credibility of accreditation and of skills certification.

71. Countries face a variety of challenges with regard to quality assurance and standards in WfD. In recent years, the rapid expansion of enrollments at all levels of education and training in many developing and emerging economies has over-burdened their public institutions and stimulated an explosive growth of non-state providers (e.g., King and Palmer 2010). The diversity in options for WfD investments is a positive development, but in the absence of adequate standards or regulation it could also mean a proliferation of sub-standard programs (e.g., Atchoarena 2002; Dunbar 2011). Specifying minimum standards is one way to weed out the worst operators while allowing others to reach for a higher bar, if desired, for example, by obtaining accreditation with internationally-recognized bodies—such as the International Standards Organization (ISO). 41

72. Experience with standards for skills certification is highly diverse as well. Ganzglass et al. (2011) stress the importance of several factors, including stakeholder involvement in setting standards, benchmarking of the standards to employers’ requirements, and reliable processes for validating the standards and for assessing learning. The system adopted by the National Institute for Metalworking Skills in the U.S. is an example of the application of these principles. 42 In less developed nations, where the informal sector dominates the economy, the testing and certifying of skills present special challenges, in part because many skills are acquired through traditional apprenticeships and standards are often tacit and probably uneven across practitioners (Atchoarena 2003; de Largentaye 2009; Janjua and Naveed 2009). Nonetheless, in the Indian government’s nationwide Modular Employable Scheme, launched in 2010, a key feature is to codify the standards for skills acquisition and certification for a wide spectrum of jobs, many of them in the informal sector. 43

**Dimension 3: Service Delivery**

73. This functional dimension of policy choices shifts our focus from the strategic and systemic to the operational. It addresses implementation challenges in WfD that stand between a country’s ambition for WfD to support economic development and what materializes in reality.

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41 Singh and Sareen (2006) note the rising popularity of ISO 9000 certification among Indian educational institutions.
Training providers, both government and non-state, are the main channels through which the country’s strategic and systemic policies are translated into operational applications. Thus, we disaggregate this policy dimension into the following three policy goals: (a) fostering relevant curricula content in training programs; (b) designing incentives to promote excellence in training provision; and (c) enhancing accountability for results in WfD, notably through appropriate monitoring and evaluation arrangements.

74. **Policy Goal 7: Fostering relevant content in training programs.** Because a key objective in WfD is to equip graduates with job-relevant skills, the content of training programs warrants close attention. In order to offer market-relevant programs, training providers require access to reliable sources of information about current and emerging skills demand. Employers and industry associations are one source of such information. However, in the absence of systematic arrangements it may be difficult and probably too costly for individual training providers to gather the desired information. Another source of information, particularly in relation to future skills needs, is research institutions. Because the mission of such institutions places them at the forefront of developing, adapting and introducing products and services that are new to the country or region, their activities can offer useful insights into the future demand for skills. Besides the linkages at the group level, each training provider can also benefit from close ties with the specific employers or industry that they serve. Such ties are an important source of inputs and guidance on ways that an individual provider can improve the market relevance of its program offerings.

75. Important as the curriculum is, it is insufficient by itself to ensure effective training provision; needed too are skilled instructors and administrators as well as appropriate facilities, equipment and materials. Each provider must be able to attract the number, types and quality of staff required to deliver the expected services within its budget constraints. Because good TVET teachers are highly sought after by industry for their technical skills, training providers are often hard pressed to satisfy employers’ demand for skills unless they are able to find creative solutions to their staffing constraints. Training providers must also have access to the facilities, equipment and instructional materials required for implementing their training programs. These items in the WfD system are the next most costly after teachers; their costs per instructional hour per trainee are often several times as high as those in academic programs at comparable levels of instruction. In modern WfD systems, the challenge of providing trainees with experience in handling actual production equipment is sometimes met through the use of competency-based modular curricula that include on-the-job training as part of the program. While attractive, this option is often difficult to organize in low-income settings.

76. Taking into account the foregoing considerations, we choose the following policy actions to define the goal of fostering relevant content in training programs:
a. Strengthen linkages among training institutions, industry and research institutions; 
b. Integrate industry inputs into the design of training programs; and  
c. Enhance competence of WiD administrators and instructors.

77. The relationship between the Korea University of Technology and Education (KUT) and Samsung exemplifies all three facets of the delivery of highly relevant training content in a high-tech industry. KUT hosts the Employee Vocational Education Program (EVEP) which offers short courses to Samsung’s own workers as well as those from the firm’s sub-contractors. KUT provides the premises, and the teaching and administrative staff. Samsung, for its part, leads in defining the course curricula, provides the equipment and lends in-house experts to co-teach the courses. The collaboration benefits all parties. Samsung gains from having sub-contractors that can meet its product specification and quality standards; its sub-contractors gain from being able to retain or expand their business with the company. Most importantly, the university gains from the opportunity to involve its faculty in organizing and teaching the courses. This involvement enhances the competence of its administrators and instructors in the design and delivery of industry-relevant training programs.

78. Linkages of this nature are not confined to the industrial sector or to new and emerging industries. In China, the Beijing Agricultural School (BAS), for instance, has established linkages with “industry” in the form of farmers and village communities to disseminate the fruits of agro-technology research in the agricultural sector and upgrade the technological competencies of farmers—the incumbent workers—through formal and non-formal training programs (UNESCO 2002). The collaboration has resulted in a diversification of agricultural and animal husbandry products, higher yields and higher incomes for the farmers and villages. BAS’s faculty benefit from their hands-on interactions with the farmers and villagers, for instance, through problem-solving and developing new managerial practices to meet the needs of their trainees. The school itself has benefitted through the broadening of its curriculum that has become more responsive to the needs of the rural population while its infrastructure has been strengthened through the establishment of experimental facilities in the form of test fields, animal management technique testing grounds and rural mechanics services.

79. **Policy Goal 8: Incentivizing excellence in training provision.** Training providers play a key role in equipping individuals with skills for employment and productivity. The incentives they face are therefore an essential link in the results chain in workforce development. Where providers must compete for a share of the training market they are more likely to customize program offerings to meet individuals’ and firms’ demand for training. This responsiveness in training provision is critical given the nature of employers’ demand for skills in today’s highly competitive economic environment. Globalization and technological advances, in particular, have produced conditions for substantial churning in the labor market as new jobs replace

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44 This information is based on a personal visit to KUT in May 2011 by two of the authors of this paper.
existing ones and create a continuous demand for fresh skills. Because this demand is impossible to predict with a high degree of precision, the responsiveness of the WfD system depends not on top-down planning but on having a diversity of providers that are appropriately motivated to meet the demand for skills (e.g., Booth and Snower 1996).

80. Financial viability is a powerful incentive that conditions the behavior of many non-state training providers. Providers that depend largely on the fees paid by individuals or firms (typically on behalf of their employees) have strong incentives to explore the specific skills required by employers and to tailor their training programs accordingly. By working closely with employers and developing a reputation for responsive and effective training these providers can improve the attractiveness of their services, thereby assuring the commercial viability of their business. A downside of the profit motive, however, is that it may drive providers to cut corners as a cost-saving measure or hide serious flaws in their operations that are difficult for a poorly-informed public to detect. In some countries, weak regulation of standards in a context of rapid expansion has led to a proliferation of private sector providers, many of them offering sub-standard services (e.g., Atchoarena 2002).

81. Relying on state providers is no panacea, however, for the problems of poor quality services. In many developing and emerging economies, constraints in public funding typically limit the scope of publicly-provided training programs. Moreover, state provision suffers from a catalogue of common deficiencies that include excessive centralization of management, limited scope for initiative and flexibility at the level of individual institutions, outdated curricula, inadequate infrastructure, poorly-trained staff and tenuous or non-existent links with employers (e.g., Dunbar 2011, ADB 2009). The combination of weak incentives and low capacity imply that providers will, at best, be slow in addressing employers’ demand for skills and, at worst, completely unresponsive.

82. In light of the foregoing considerations, we propose the following policy actions for the goal of providing incentives to foster excellence in training provision:

   a. Promote diversity in training provision;
   b. Incentivize private providers to meet WfD standards; and
   c. Motivate public training institutions to respond to the demand for skills.

83. With regard to diversity in training provision, Kenya’s large scale voucher program for workers in the informal sector (also known as the “Jua Kali” sector) is an example of an intervention that increased competition and stimulated the provision of training tailored to the unique needs of informal sector workers (Johanson and Adams 2004). More recently in 2008, another experiment with vouchers in Kenya offers suggestive evidence that institutions that enrolled voucher winners were more likely to expand their course offerings compared to
institutions which did not enroll any voucher recipients (Hicks et al. 2011). In Australia, the government of the state of Victoria introduced a user-driven funding model that it argues would “drive greater competition (thereby achieving increased accountability, accessibility and quality) and respond more effectively to changing labour market needs.” (Skills Victoria 2011).

84. To reinforce the benefits of competition in training provision, it is important to ensure that private providers satisfy some minimum standards for quality. The Singapore Accreditation Council, for example, encourages providers to seek accreditation in order to assure potential clients of the quality of the services being offered.45 Linking access to public funding to accreditation status is one way to minimize the proliferation of low-quality programs while promoting diversity in the training market. For providers in the public sector, the more important challenge is to improve their responsiveness to employers’ demand for skills. A common approach is to stipulate the inclusion of industry or employer representatives on the boards of training institutions. In the U. S., for example, Lindburg (2009) notes that most of California’s community colleges have institutionalized advisory boards to which they turn for guidance and inputs to ensure that course offerings are relevant to industry needs. Among developing countries, the practice is spreading although evidence on its impact is still unclear; Mozambique and Pakistan are two examples where boards are being set up under ongoing World Bank-financed operations.

85. **Policy Goal 9: Enhancing accountability for results in WfD.** Systematic monitoring and evaluation of skills development policies and programs and their impact on outcomes are a hallmark of strong WfD systems. This function gives policy makers and other interested parties valuable information about the current status of WfD and its alignment with the country’s economic development strategy. It also enables overseers of the system to keep track of the activities and progress of training providers. Appropriately designed, it can also help to separate promising options from dead-ends for improving WfD, thereby enriching the analytical basis for policy dialogue and reform. Monitoring and evaluation are thus essential tools for ensuring that the country’s current WfD policies and institutions are in fact delivering the expected outcomes.

86. Three aspects of monitoring and evaluation warrant special attention. The first is the pervasiveness of the culture and practice of collecting, sharing and analyzing data to discern trends in skills demand and supply, and emerging challenges in gaps and mismatches. In developing and emerging economies, data on WfD and related issues are often limited in quality, scope, timeliness and accessibility. Educational attainment and self-reported literacy are frequently the only measures of the supply of “skills” that are available to inform policy analysis and dialogue. For a few countries, scores on international cognitive tests provide additional insights. These data are useful but insufficient in light of recent research and feedback from

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employers about skills mismatches and the importance of cognitive skills (as opposed to educational attainment alone) as well as non-cognitive skills for workplace success in the 21st century (e.g., di Gropello et al. 2011a and 2011b).

87. A second aspect of monitoring and evaluation that is relevant from the perspective of the overseers of the WfD system is the reporting required of training providers. Trainees’ employment, earnings and retention by their employers are the key measures of the success of training programs. Once this principle is understood, the focus of monitoring and evaluation can be more clearly defined and targeted. While training programs may have several monitoring requirements the evaluator will be most interested in how cost-effective they are in equipping trainees to satisfy the needs of the employers. By requiring providers to report on their operations and outcomes, the overseers of the WfD system would create a centralized database for tracking activities in the system as a whole. This can also provide the comparative data that individual providers can use to evaluate their own performance.

88. Finally, monitoring and evaluation also play a critical role in helping to identify promising innovations in WfD. This function is essential for keeping up with changes in skills demand and new ideas in training methodology. While the innovations may relate to any aspect of the system (e.g., finance, governance and administration), their common goal is to boost the system’s performance, either at the systemic or institutional levels. Adapting from the model in Mulgan and Albury (2003), the process of innovation typically passes through four phases: (a) generating possibilities through the stimulation and support of new ideas; (b) incubating and prototyping to develop and test the most promising of the new ideas; (c) replicating and scaling up the best (i.e., most cost-effective and most relevant to the local context) among the tested ideas in a timely and sustainable manner; and (d) distilling and codifying lessons to institutionalize knowledge and foster a culture of continuous learning and improvement.

89. The foregoing considerations suggest that the goal of enhancing accountability may be advanced through policy actions that:

   a. Strengthen WfD monitoring and evaluation;
   b. Specify reporting requirements by training institutions; and
   c. Increase the focus on outcomes, efficiency and innovation in service delivery.

90. Efforts to strengthen the monitoring and evaluation function in WfD systems are being made in many countries. A recent example is the collection of new, internationally comparable data on workforce skills by the member countries of the Organization for Economic Co-Operation and Development (OECD) under the Programme for the International Assessment of Adult Competencies (PIAAC) which aims to provide a new source of information about the quality of skills in the adult population and the link between skills and employment and
productivity (Schleicher 2008). A similar effort by the World Bank known as the Skills toward Employment and Productivity (STEP) Measurement Study is underway to support the collection of similar data by national teams in some 13 low- and middle-income countries. Korea is an example of a country where policy makers have access to a compilation of comprehensive and up-to-date data from surveys and other sources to inform policy design (e.g., KRIVET 2007)).

In terms of reporting requirements, WfD systems such as Singapore’s follow the good practice of requiring public sector training providers to issue annual reports as an arrangement for accountability. With regard to strengthening the focus on outcomes, efficiency and innovation, a welcome trend is the growing practice of rigorous impact evaluation in the field of skills development, including in the setting of developing and emerging economies. Recent examples include evaluations of youth training programs in several Latin American countries (e.g., Ibarraran and Shady 2009) and of programs targeted at adolescent girls in countries around the world.

**Summary of the functional dimensions and related policy goals**

In summary, the dataset for our benchmarking exercise has an analytical structure that recognizes three broad functional dimensions of policy choices for workforce development: strategy, oversight and service delivery. For each functional dimension, it highlights policy goals and related policy actions that address market and government failures in governance, finance and information. Figure 4 recapitulates the policy goals explained above while Annex table 1 provides details on the policy actions.

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Design of the Data Collection Instrument

92. Our data collection instrument (DCI) poses, for each of the policy actions listed above, a set of questions on the corresponding aspect of the WfD system. In general, the questions seek answers on the existence of policies and their scope; as well as evidence on policy implementation and feedback loops to inform policy adjustments and improvements.

93. The instrument is similar to other surveys in some ways but also differs from them in important aspects. Like other surveys, the SABER-WfD DCI has an intentionally parsimonious design in order to manage the costs and timeliness of data collection. Because the data are meant for benchmarking, the DCI emphasizes the collection of diagnostic rather than comprehensive data about WfD policies and institutions. Unlike most other surveys, the “respondent” is not a person but a country and its system of WfD. Thus, the data must be gathered indirectly, typically from documents and credible informants. Most of the data are, moreover, qualitative rather than quantitative in nature, which presents challenges of precision and objectivity in data collection. We discuss below the approach taken to address these multiple concerns.

94. **Data for benchmarking.** Following the practice in the World Bank’s overall SABER initiative, WfD policies are benchmarked to four stages of development: latent, emerging, established and advanced. The options for answering questions in the data collection instrument
are thus designed to help locate policies in relation to these four stages. Given the qualitative nature of the data being collected, we begin with a generic rubric (see figure 5) and adapt the scale to the data collected by the instrument for each of the 27 policy actions identified in our framework.

**Figure 5: Generic Rubrics for Benchmarking WfD Policies**

Source: authors’ construction.

95. To illustrate, consider the functional dimension relating to strategy. One of the three policy goals focuses on clarifying the direction for workforce development. This goal is itself disaggregated into three policy actions, one of which relates to advocacy for workforce development in line with national goals for economic growth and poverty reduction. The DCI poses two questions on this action: (a) the type of leadership that advocates for WfD; and (b) the prioritization of WfD in the country’s agenda for economic development. The answers are used to benchmark the policy action according to the following rubric:

- **Latent**: WfD is not prioritized; it does not enjoy the advocacy of visible champions;
- **Emerging**: Political and other leaders recognize the importance of WfD for economic development; steps are being taken to develop relevant policies for skills development and to build institutional capacity for policy implementation;
- **Established**: Political and other key leaders in industry and the administration provide sustained support for WfD; the institutional arrangements have been established and WfD priorities are being implemented; and
• **Advanced**: WfD is fully integrated into national policies and strategies, reflecting a holistic approach to WfD; 48 the institutional arrangements for implementation are fully functional and capable of continuous self-evaluation and improvement.

96. The rubrics for the other 26 policy actions in our tool appear in Annex table A2. Where the questionnaire relating to a particular policy action contains several questions, the answers are aggregated by putting more weight on praxis than on concepts or plans that exist on paper. 49 By assigning a value of 1 for a latent level of policy development, 2 for an emerging level, 3 for an established level, and 4 for an advanced level, we can create scores for all 27 policy actions for which the SABER-WfD data collection instrument gathers data. Taking advantage of the nested structure of our analytical approach, we compute the scores for the nine policy goals from the scores for the corresponding policy actions; the calculation simply involves averaging the scores for the three policy actions associated with each policy goal. Likewise, the scores for the functional dimensions are a simple average of the scores for the relevant policy goals.

97. **Balance between diagnostic and comprehensive data.** The idiosyncrasy and complexity of WfD systems present challenges for the design of the DCI. Because the data are intended for benchmarking WfD systems across countries, all the questions in the instrument offer the data collector a fixed menu of answers from which to choose as well as the option to provide additional information that may be taken into account, as appropriate, in scoring the choices made from the fixed menu. This feature helps to avoid the loss of potentially important country-specific information while minimizing the difficulty of processing data from a fully open-ended questionnaire design.

98. A more difficult challenge relates to the complexity of WfD systems. This complexity comes to the fore in the context of questions in the DCI relating to the operational aspects of WfD system. WfD systems typically involve multiple authorities, often with complementary as well as overlapping responsibilities. The training programs that are available may target clients at different levels of instruction, and training providers are likely to serve a diversity of employers from different sectors of the economy. In large countries, the WfD system may be highly differentiated across regions. In light of this complexity, the temptation is to collect comprehensive data on all aspects of the system. However, such a strategy requires substantial time, effort and resources, and may in fact exceed the data required for our benchmarking needs.

48 A holistic approach is one that ensures systemic coherence by addressing multiple dimensions of skills development, including: (a) aligning skills training to employers’ needs and national investment priorities; (b) building strong foundational skills through early childhood development and general education; and (c) meeting the needs of vulnerable populations (e.g., informal sector, traditional agriculture, etc.). It also recognizes that interventions often require different time frames to achieve their impact.

49 Details on our weighting procedure are available from the authors upon request.
As a practical strategy, we proceed on the assumption that the WfD system may be benchmarked based on the functioning of its most salient or dominant components. It puts all systems in the best possible light, thus removing some of the ambiguity inherent in the benchmarking exercise. Unless a single WfD authority oversees both pre-employment and in-service training, the DCI requests information about the ministries most likely to be involved in oversight and service delivery functions; in most cases, the ministry of education and the ministry of labor as the key WfD authorities. To take into account country specificities, the DCI includes an option for the data collector to include other ministries should these play an important role in the system. The DCI also requests information separately for two levels of instruction: secondary and post-secondary (non-university). For a few questions in the DCI, meaningful answers are possible only in relation to particular economic sectors (e.g., regarding the linkages between training provision and industry) or occupations (e.g., the organization of skills testing). In such cases, the DCI requests information for the two most dominant or fastest growing sectors or occupations. For large countries, data collection through the DCI is more feasible and meaningful at the sub-national level rather than for the country as a whole.

Data on the de jure and the de facto situation. In line with its intended purpose, the DCI contains many questions about WFD policies, processes and institutions. However, the responses to the questions may reflect the de jure situation rather than the reality on the ground, thus compromising the validity of the benchmarking results. For example, many low-income countries have well-written plans to make WfD a key asset for economic development and some even report plans for sophisticated funding systems for WfD (e.g. vouchers for individuals to pay for skills development). Yet, for a variety of reasons, including weak capacity and lack of resources, the plans are often not implemented. In such situations, it would be inappropriate to benchmark the system based entirely on the intended policies rather than on actual practice. The difficulty, however, is that a full-fledged data collection effort to verify implementation of the stated plans and policies would cost too much and consume too much time.

To strike a balance, we adopt the strategy of adding a few more questions under each topic of inquiry in the DCI to find out if the most important plans, policies or programs among those listed, typically no more than the top two, have been evaluated for impact, and if the recommendations from the evaluations have led to follow up actions. The information clearly does not fully capture the de facto situation and it is certainly no substitute for a more comprehensive documentation of the status of policy implementation. The approach nonetheless provides sufficient information to make it possible to situate the policy action being benchmarked in relation to the four stages of development used in our benchmarking exercise.

Implementation and Expected Outputs

The SABER-WfD benchmarking project is best viewed as an exploratory effort by the World Bank and its development partners to systematize and share cross-country knowledge
about effective policies and practices. Thus, a spirit of caution and openness to learning accompanies the implementation of the data collection instrument described above. Our hope is that this learning by doing approach would provide a basis for refining both the survey instrument and the process of data collection. As more data are accumulated, the project should help deepen our knowledge about the links between policies and approaches and their impact on outcomes in WfD. This knowledge would in turn inform dialogue about reform priorities to advance WfD in low- and middle-income countries.

103. **An implementation plan with four phases.** The four chronologically-sequenced phases are: (a) creation of a data collection instrument; (b) testing of the data collection instrument in a first cohort of countries; (c) data analysis and production of benchmarking results for use in preparing a SABER-WfD barometer report for each country; and (d) distillation of lessons to improve the analytical strategy, the data collection instrument and the protocol for data collection and analysis. These resources would facilitate efficient application of the SABER-WfD approach in other countries.

104. As of this writing, the first phase has been completed following consultations with key experts from around the world. The second and third phases are ongoing in the following countries: Chile, Ireland, Korea, Singapore and Uganda. In response to requests from various quarters, preliminary work through desk studies has been started in a number of countries in East Asia, the Middle East, and Europe and Central Asia. In some of them (e.g., Malaysia and Vietnam) the plan is to follow the same protocols for data collection as in the first group of countries and to prepare the relevant SABER-WfD barometer reports.

105. **Key processes.** Work on the first cohort of countries has proceeded smoothly. The experience informs the approach envisaged for other countries that express an interest in the SABER-WfD benchmarking study. The first step is to clarify the assignment of responsibility for data collection. Typically, a seasoned principal investigator would perform this task by relying on documentary evidence as well as credible informants. As the data are gathered, the investigator may organize work-in-progress discussions with World Bank staff and others for the purpose of enhancing the completeness and reliability of the data. Following completion of data collection the data will be processed based on standard scoring rules in order to generate benchmarking scores that place the policy actions, policy goals and functional dimensions on the four-point rubric developed for the SABER-WfD study. Upon validation of the benchmarking

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50 The formal consultations include: (a) a July 2010 meeting with World Bank staff involved in skills-related operations and analytical work; (b) an October 2010 consultation with a 16-person external advisory group comprising of seasoned TVET leaders from around the world; and (c) a January 2011 workshop with World Bank retirees with significant experience and expertise in the field of skills development and policy dialogue in developing countries. The interlocutors represent the perspectives of academics, practitioners and development specialists and bring together knowledge and expertise covering a wide range of country perspectives. Feedback from the group has helped to refine all dimensions of the data collection instrument.

51 This interest would typically be conveyed via the World Bank’s task team leader for the country.
results through consultation with national counterparts and other interested and knowledgeable parties, the principal investigator would prepare a SABER-WfD Barometer Report to summarize the findings. The report would serve as a resource for the ongoing dialogue among the national team and its development partners regarding WfD policy priorities and reform.

106. Over time, as the SABER-WfD benchmarking study expands to include more countries, a systematic cross-country database on WfD policies and institutions would emerge. This resource could provide insights for refining the three hypotheses presented earlier in the paper. At the same time, sufficient experience would have accumulated to provide a basis for assessing the relevance and usefulness of the benchmarking approach in supporting dialogue on policies to advance WfD in developing and emerging economies. Such a review could also provide guidance on improving the technical resources associated with the SABER-WfD study, including the conceptual framework, the design of the data collection instrument and the protocols for data collection, coding and analysis.

107. Expected outputs. The experimental nature of the SABER-WfD project makes it difficult to be precise about its expected outputs. However, the following can be envisaged: (a) a validated and field-tested data collection instrument and rubrics for benchmarking policies for WfD; (b) codified procedures and templates to guide data collection and processing; (c) SABER-WfD Barometer Reports for the first cohort of countries; and (d) a network of WfD practitioners within the World Bank and in partner organizations and countries that are equipped to implement the benchmarking tool and process.

Conclusion

108. In the quest for economic growth, many countries see workforce development, often in the form of technical and vocational education and training, as an essential investment. However, TVET has continued to pose daunting challenges because it is expensive and has often failed the test of meeting employers’ skills requirements. Although the mismatch between what the system supplies and what employers demand has many causes, some of them beyond the control of training programs, policy makers are keen to learn from the experiences of countries that have made progress in equipping trainees with job-relevant and productivity-enhancing skills. Some of them have turned to the World Bank, among others, for assistance in mobilizing this knowledge to inform efforts to improve the effectiveness of their workforce development system. This paper is a response to this growing interest among the Bank’s partner countries. The work is admittedly experimental at this stage. It has involved the articulation of a conceptual framework and an analytical strategy as well as the creation of a new data collection instrument and its application in a first cohort of countries. It is hoped that the experience would yield a tested and updated tool that policy makers and their development partners can add to their toolkit for improving policies and practices to achieve better outcomes in workforce development.
# Annex Table 1:
## Functional Dimensions, Policy Goals and Policy Actions in the SABER-WfD Framework

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Policy goal</th>
<th>Policy Actions</th>
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| **Dimension 1: Strategic Framework** | 1: Direction | 1. Advocate for WfD as a priority for economic development  
2. Evaluate economic prospects and its implications for skills  
3. Develop policies to align skills demand and supply |
| | 2: Priorities | 4. Engage employers and industry in developing WfD policies  
5. Strengthen firms’ demand for skills to improve productivity  
6. Address critical challenges in the future supply of skills |
| | 3: Coordination | 7. Ensure coherence of key strategic WfD priorities  
8. Institutionalize WfD roles and responsibilities  
9. Facilitate interaction among all WfD stakeholders |
| **Dimension 2: System Oversight** | 4: Pathways | 10. Foster articulation across levels of instruction and types of programs  
11. Promote life-long learning with recognition of prior learning  
12. Set policies and procedures for the renewal of publicly-funded programs |
| | 5: Resources | 13. Articulate a strategy for funding WfD  
14. Allocate public funds for WfD to achieve results with efficiency  
15. Foster partnership between WfD authority(s) and stakeholders |
| | 6: Standards | 16. Specify accreditation standards for training providers  
17. Strengthen skills testing and certification  
18. Assure the credibility of accreditation and of skills certification |
| **Dimension 3: Service Delivery** | 7: Content | 19. Strengthen training-industry-research linkages  
20. Integrate industry inputs into the design of training programs  
21. Enhance competence of WfD administrators and instructors |
| | 8: Incentives | 22. Promote diversity in training provision  
23. Incentivize private providers to meet WfD standards  
24. Motivate public training institutions to respond to the demand for skills |
| | 9: Outcomes | 25. Strengthen the WfD monitoring and evaluation system  
26. Specify reporting requirements by training institutions  
27. Increase focus on outcomes, efficiency and innovation in service delivery |

Source: authors’ construction.
Annex Table A2
Rubrics for Benchmarking WfD Policies and Institutions
(Under preparation)
References


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