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CONCLUSION

Meeting the Upgrading Challenge: DYNAMIC WORKFORCES FOR DIVERSIFIED ECONOMIES

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“Skills for Upgrading: Workforce Development and Global Value Chains in Developing Countries”

This research project examines workforce development strategies in developing countries in the context of the shifting upgrading dynamics of global value chains. Funded by RTI International and carried out by Duke CGGC, this research addresses policymakers, donors and development practitioners to improve our understanding of how workforce development strategies can enhance the upgrading efforts and competitiveness of developing countries in global industries.

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Meeting the Upgrading Challenge: Dynamic Workforces for Diversified Economies

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I. Introduction

This final chapter summarizes the findings of the “Skills for Upgrading: Workforce Development and Global Value Chain Upgrading in Developing Countries” research project funded by RTI International and carried out by the Duke University Center on Globalization, Governance & Competitiveness (Duke CGGC). This research project examines workforce development strategies in developing countries in the context of shifting upgrading dynamics of global value chain (GVCs). Little research has been published on workforce development in GVCs and there is no widely accepted methodology for understanding its role in upgrading. While value chain practice has been widely adopted in recent years for enterprise and industry development, GVC upgrading has been discussed without fully unpacking how human capital and knowledge support the shift to higher value-added activities. The firm has been largely treated as a “black box” with little attention paid to the process of skills acquisition or how knowledge transferred through the chain is assimilated by individual actors (Morrison et al., 2008; Ramirez & Rainbird, 2010).

To address this knowledge gap, we have examined the role of workforce development in GVC upgrading in four global industries: fruit and vegetables, apparel, offshore services and tourism. We find that workforce development initiatives facilitated upgrading both within the GVCs themselves, such as intra-firm training and learning from buyers, and also via the local institutional educational frameworks in which the chains are embedded, such as national education and training systems. Our research shows that formal local educational institutions are not well aligned with the skills required by GVCs. These dynamic chains demand “upgradeable” individuals who can learn in a rapid and effective manner, yet local institutions are not adequately prepared to future-proof the workforce in this way. As a result, complex local arrangements are emerging in developing countries to support skills upgrading, encompassing a broad range of stakeholders both within and beyond the chain. These stakeholders include private firms, public and private institutions in education, governments, non-governmental organizations (NGOs), industry associations and international donors.¹

¹ It should be noted that while the project examines which workforce development initiatives were employed to facilitate upgrading, impact assessments and evaluations of the effectiveness of individual training programs were not conducted. The inclusion of a program should not be considered an endorsement of its success.

This paper is structured as followed: First, we outline the GVC methodology we have followed to examine workforce development in developing countries. Second, we present our key findings in four thematic areas: upgrading, workforce skills, institutions and stakeholders, and global standards. Finally, we offer a list of recommendations regarding workforce development strategies for donors and development practitioners to enhance the upgrading efforts and competitiveness of developing countries in global industries.

II. Global Value Chains and Workforce Development

A. Global Value Chain Analysis

The evolution of GVCs in sectors as diverse as agricultural commodities, apparel, tourism and business service outsourcing has significant implications in terms of global trade, production and employment, and how developing country firms, producers and workers are integrated in the global economy. By gaining access to developed country markets, participation in GVCs offers emerging countries an opportunity to add value to their local industries. For many countries, especially low-income nations, the ability to effectively insert themselves into GVCs is vital for their development, generating more and better jobs, and reducing unemployment and poverty levels. Understanding how GVCs operate and how developing countries can participate in them has thus become an important issue for development practitioners. In this section, we provide a brief introduction to GVC analysis.

Global value chains, by nature, are highly dynamic and globally competitive, with participation generally governed by powerful **lead firms**. “The manner in which these firms exercise their power determines how financial, material and human resources are allocated and flow within a chain” (Gereffi, 1994, p. 97), in addition to being the central factor for the generation, transfer and diffusion of knowledge leading to innovation (Humphrey & Schmitz, 2002, p. 1018).² Firms participating in the chain face increasing pressure to improve efficiency from both lead firms and a growing number of competitors around the world. “For producers to maintain or increase incomes in face of this pressure, they must either increase the skill content of their activities and/or move into market niches which have entry barriers and are therefore insulated to some extent from these pressures” (Humphrey & Schmitz, 2002, p. 1018). In the GVC literature, this movement to higher value activities in order to increase the benefits (e.g., security, profits, value-added, capabilities) from participating in global production is referred to as

² In the GVC literature, this is referred to as “chain governance”. The governance structure of a chain is identified by the ability of one or more stakeholders to determine, control and/or coordinate the activities of other actors in the chain. The firms that set these parameters are known as “lead firms” and they help determine participation in the chain as well as how value is distributed within the chain (Frederick & Gereffi, 2009).

economic upgrading (Gereffi, 2005, p. 171). Economic upgrading is often an imperative for enterprise competitiveness and even for industry survival.

Within the GVC framework, several forms of upgrading have been identified. These include: *product upgrading*, or moving into more sophisticated product lines; *process upgrading*, which transforms inputs into outputs more efficiently by reorganizing the production system or introducing superior technology; and *functional upgrading*, which entails acquiring new functions (or abandoning existing ones) to increase the overall skill content of the activities.³ These upgrading patterns differ by both industry and country, based on the input-output structure of the value chain and the institutional context of each country. Product-based sectors often follow linear upgrading and countries must gain expertise in one segment of the value chain before upgrading into the next segment. Service industries usually present multiple upgrading trajectories that can occur in parallel. Importantly, both upgrading and downgrading can occur in an industry, as firms opt to improve their performance at a lower value segment rather than pursue more complex or capital-intensive functions within the value chain.

Given their prominence in global markets, lead firms in GVCs have been fundamental in shaping how industries in developing economies are organized to respond to global demand and how they upgrade. Lead firms often dictate the exact characteristics of what is to be produced and how it must be produced. This interaction between the lead firm and local suppliers supports learning due to a large flow of information between actors that can stimulate upgrading in developing countries (Gereffi, 1999). Today, lead firms rely increasingly on **global standards** to reduce the complexities of these transactions as they place new demands on the value chain. These standards establish the rules for information exchange, shape firm behavior and ensure quality in GVCs. They enable the codification of both product and process specifications to ensure that a wide range of global suppliers can consistently deliver end products that meet the quality requirements of developed-country markets. They are industry-specific and constantly evolving. Failure to comply with these standards can result in exclusion from the GVC.

International standards have become a major determinant of market access (Kaplinsky, 2010; Lee et al., 2010). Global standards have pushed developing countries to direct their industries into product and process upgrading.⁴ However, knowing the standard and adopting the protocol is often neither straightforward nor immediately possible for all actors in an industry. In developing the capacity to meet standards, many producers must enhance their efficiency and systematically increase productivity (Altenburg, 2006).⁵ An adequately prepared workforce is thus required to absorb and adapt this

³ In addition to the three upgrading processes mentioned above, firms can also undergo *chain or inter-sectoral upgrading*, where firms move into new but often related industries.

⁴ Meeting standards does not automatically result in upgrading, but rather standards provide firms with all of the tools required to achieve this outcome (Kaplinsky, 2010).

⁵ For example, it may require them to reorganize their plants or production lines, change inventory practices or incorporate new machinery.

information and apply it commercially. However, many developing countries do not possess the needed people and local institutions to do this.

With appropriate institutional and workforce capabilities, developing country firms can become highly competent suppliers within GVCs and provide a strong rationale for global lead firms to outsource in order to gain access to complementary competencies (Gereffi et al., 2005). Through customized and complex exchanges between the two actors, lead firms leverage competent suppliers for additional innovation and product differentiation. This can result in functional upgrading into higher value activities (Kaplinsky & Morris, 2001).⁶ Our study has sought to identify the conditions under which the upgrading of workforce skills and institutional capabilities can be facilitated in developing countries.

B. Workforce Development

Participation in global value chains heightens the sense of urgency with which developing countries must confront the shortcomings in their workforce development systems or lose the opportunity to integrate effectively and gainfully into the global economy. In this section, we clarify our understanding of workforce development as a concept then highlight several of the challenges that developing countries currently face in meeting the demands placed on them by GVCs.

We define workforce development as the process by which a territory's initial endowment of human capital is converted via multiple channels—education, training and relevant services such as labor market intermediation, exchange and information—into a source of competitive advantage for firms and industries in the territory. In practice, workforce development refers to a dizzying array of education and training practices including, but not limited to: general basic education and secondary education, vocational education, higher education and lifelong learning, as well as pre-employment training, off- and on-the-job training, apprenticeship training, formal and informal training and entrepreneurship training (Creticos et al., 2009). Training may be funded by various entities: government, business, labor unions, professional associations or individuals. The main providers of training include: 1) Formal public and private vocational training and technical schools, community colleges and universities; 2) non-formal institutions, including private firms and non-governmental organizations; and 3) informal education through on-the-job training and firm-based training (McPherson & Fawcett, 2009).

⁶ In cases where lead buyers are particularly strong, these firms may inhibit or slow functional upgrading of a supplier into the highest value added segments should it become capable of providing functions that the buyer considers core competencies (Altenburg, 2006; Humphrey & Schmitz, 2002).

Core Challenges of Matching Skills and Jobs

According to the current U.S. Agency for International Development (USAID) Education Strategy (2011, p. 13), “An effective workforce development strategy must include demand-driven systems that offer a wide range of education, training and information for skills development and creation of a new mindset for work.” Yet effective matching of skills and jobs is challenging even for advanced industrial economies; thus it should not be surprising that for developing countries—especially those with large populations of unemployed or underemployed youth—it is particularly complicated. While there is general consensus that tailoring workforce development needs to industry requirements is essential for developing countries, this has been particularly difficult for these nations to implement for multiple reasons, including lack of resources, poor information channels, institutional challenges and political will.

First, as Creticos et al. (2009, p. 11) explain, “ In addition to having to expend substantial resources to achieve universal basic levels with respect to literacy and numeracy, [developing-country governments] must also prepare the workforce to take on an array of jobs that are tied to the current and *projected* absorptive capacity of the economy. The challenge is in getting the answer on projected absorptive capacity right since jobs do not yet exist because the businesses that create these jobs also don’t exist.” This challenge is often beyond the economic resources and capabilities of developing countries. By mapping out some of the varied upgrading trajectories in global value chains, GVC analysis can provide guidance for developing countries regarding future workforce needs and highlight the main workforce development initiatives that developed and developing countries have taken to achieve this upgrading. Scarce resources can thus be focused more effectively to target future skills needs.

Second, there are information challenges that impede consensus among experts regarding how developing country governments and education systems can deliver relevant skills. Successful industry-focused workforce development initiatives in developed countries have not been translated into broader policy prescriptions. For example, private sector employment agencies such as Manpower Inc., and most U.S. and European states, community colleges and other education institutions, cultivate intense, direct employer engagement for the purpose of identifying skills in high demand. Some U.S. states have even experimented with linking educational budgets to programming that is oriented toward high-demand occupations. Yet, eager to avoid reversion to centralized “manpower planning,” more conservative advisors continue to advocate that developing countries should primarily rely on labor market signals (i.e., changing wages and unfilled vacancies) to determine workforce development priorities (Crouch, 2009). While this strategy may be sufficient in industries oriented to the local market, they are not adequate in highly competitive GVCs, where countries actively court global firms and a less proactive approach to workforce development has the potential to result in exclusion from the chain.

A third challenge is that many developing-country technical and vocational education and training (TVET) systems often have a strong constituency that favors training through traditional public sector institutions, despite the rise of non-formal and NGO-led training and the prevalence of informal education. Many of these institutions have adopted the rhetoric of demand-driven workforce development, including industry advisory boards, soft-skills training and lifelong learning. Yet institutionally, they have been unable to restructure their approach to ensure the provision of actual demand-driven training. They typically remain focused on institutional (input-driven) quality standards related to accreditation (curriculum, teacher qualifications, standards for physical infrastructure and equipment), rather than labor market relevance. Succinctly put, “Little funding for vocational secondary education has led to obsolescence and low quality of the system. Under these traditional systems, there have been few links with the private sector, and little emphasis on ‘demand-driven’ skills” (McPherson & Fawcett, 2009). When developing countries engage in GVCs, this problem is magnified. These chains require demand-driven skills that are determined at the global level by powerful lead firms who dictate industry norms and standards.

III. Methodology

Despite the crucial contributions workers make in labor-intensive global industries, the role of workforce development in the expansion of GVCs across developing countries has not received adequate attention (Ramirez & Rainbird, 2010). In the last few years, however, GVC researchers have begun to prioritize labor issues (see, for example, (Posthuma & Nathan, 2010)). In particular, social upgrading has gained significance, that is, the impact of global production and trade on the social conditions of workers in developing countries (Barrientos et al., 2010). The goal of our “Skills for Upgrading” project has been to complement this approach by exploring how the conditions of workforce development within developing economies can be brought into closer alignment with the upgrading requirements of global industries, using the experience of countries that have successfully upgraded in GVCs as a guide.

We selected four key global industries for this study: fruit and vegetables, apparel, offshore services and tourism. These industries are important drivers for economic development, poverty reduction and growth for developing countries for several reasons.⁷ First, these industries are accessible because there are relatively low barriers to entry in terms of capital investments, technology and skills. Second, they are labor-intensive industries that provide significant employment opportunities for developing countries. Tourism generates an estimated 235 million jobs globally, which is equivalent to approximately 8% of total global employment (ILO, 2010). Apparel provides more than 25 million jobs in low- to mid-

⁷ In order to select the industries for this study, leading development agencies, including the World Bank, the International Labor Organization and USAID, were approached and queried about their priority economic sectors.

income economies, in particular providing job opportunities for vulnerable sectors of the labor force including females and ethnic communities (Dicken, 2007). The fruit and vegetables sector has shown tremendous employment potential both pre- and post-harvest, although precise job numbers are typically available only for specific regions and countries (Joshi et al., 2004; World Bank, 2009), while offshore services have created a demand for new and relatively high-skill service jobs in developing countries and accounted for approximately 4.1 million jobs in 2009 (McKinsey Global Institute, 2009).

In order to identify emerging trends in workforce development, the research was carried out in three main steps: (1) initially we mapped the structure of the GVC for each industry in terms of its principal activities, value adding stages and lead firms; (2) we identified and analyzed individual developing countries that varied in their level of upgrading within each industry in order to show the main challenges at entry, middle and high levels of upgrading; and (3) we carried out a comparative analysis of the key lessons regarding the role of workforce development in developing country upgrading. These analytical steps thus allow us to illustrate how these global industries operate, what upgrading requirements and opportunities are available for developing countries and they provide a context to evaluate how workforce development components may contribute to or hinder the industry's success.

The countries selected for analysis vary in terms of global region as well as levels of economic development:

Table 1. Global Value Chains and Countries Selected for Analysis, by Upgrading Stage

Global Value Chain	Upgrading Stage of Countries		
	Entry	Mid-level	Advanced
Fruit and Vegetables	Jordan, Honduras	Morocco, Kenya	Chile
Apparel	Lesotho, Nicaragua	Bangladesh, Sri Lanka	Turkey
Offshore Services	Philippines, Spanish speaking Central American and Caribbean countries	Chile	India
Tourism		Vietnam, Jordan	Costa Rica

Source: See sectoral chapters in this volume

Analyzing the economic upgrading experience for each country in our study required that we reconstruct their upgrading trajectories from their entry into each industry until the present, focusing on the interactions between key institutions, stakeholders and their linkages with lead firms. For each of the upgrading trajectories identified in the country analysis, the corresponding workforce development initiatives and practices were explored to provide examples of how the upgrading requirements set by lead firms in the global industry were met or not in practice.

IV. Linking Workforce Development with GVC Upgrading: Key Findings

Global value chains are dynamic and offer numerous opportunities for developing countries to enter and achieve industry upgrading. The potential for upgrading, however, is often limited rather than enhanced by national education systems in emerging nations that are notably detached from GVC workforce requirements. International competitiveness today requires “upgradable” individuals who can quickly adapt to the changing demands of the global markets, yet national education systems are not adequately preparing the workforce for this. Primary and secondary education should provide basic skills that are essential to fast and efficient continued learning. Specific technical, vocational and professional education should be directly linked to existing skill requirements, while at the same time having dynamic and flexible enough curricula, programs, staffing and financing to identify and respond to the current and future requirements of GVC upgrading. In our research, we observe a number of workforce development responses in emerging nations to address the resulting skills gaps. These responses are driven by a complex mix of institutions working individually or in partnerships to prepare a workforce that can compete in the global economy.

Below, we present our main findings concerning the relationship between GVC economic upgrading and workforce development in developing countries. These findings draw from the case experience in each of the four industry studies and they highlight emerging trends for successful workforce development strategies. We believe the four global industries and approximately 20 countries that we cover in this study are a good starting point to derive some meaningful lessons, but clearly solid generalizations will require more extensive research on these topics. We summarize our findings according to three features of workforce development that are most impacted by GVC upgrading: workforce skills, stakeholders and institutions and the role of global standards.

Workforce Skills

Appropriate worker skills are essential to industry upgrading. In all of the industries analyzed, diverse background conditions shape the need for upgrading and participation in GVCs. For example, adequate climatic conditions are essential in the fruit and vegetables industry, trade agreements play a central role in the apparel sector and an attractive location is critical to tourism. However, in all of these GVCs, improving worker skills is a common requirement for entering and upgrading. A skilled workforce is an essential competitive asset for industry upgrading. This is particularly important in the fruit and vegetable industry, where human capital has been identified as the only *controllable* factor in the industry (Lopez, 2010). Chile, for example, adopted workforce development strategies for upgrading at the end of the 1990s, and today it not only exports fresh fruit and vegetables, but also processes 50% of production before export.

The focus of workforce development must reflect both local needs and those of the global economy.

Previously, the workforce development paradigm highlighted demand-driven training defined by the needs of local firms. Today, demand is driven by global lead firms or actors who establish new standards, protocols, products, processes, etc., requiring both local and international suppliers to comply. In both the apparel and the fruit and vegetable sectors, lead firms dictate industry norms not only with respect to product characteristics and quality, but also production processes. Apparel manufacturers, for example, are regularly audited by all of their major buyers such as The Gap and Liz Claiborne, and they evaluate production standards, labor codes of conduct and environmental impact, as well as productivity and quality assessment. Failure to meet these standards can result in loss of contracts and access to key markets.

A new and evolving set of workforce skills is needed to participate in GVCs. Insertion in GVCs requires a new set of skills beyond those necessary to operate in the local economy. These new skills must keep pace with continuous and rapid change, new quality and safety protocols and more sophisticated products and services. Workers must now possess both basic abilities and interpersonal skills, such as literacy and numeracy, ability to find information, identify and define problems, work well with others and be eager to acquire new abilities. For example, traceability requirements in fresh produce markets require farmers to read and write in order to track all farm activities, from pesticide application to the number of trees pruned. Due to the dynamic nature of global industries, lifelong learning is mandatory in order to participate and upgrade in GVCs. This is particularly important in industries with a high reliance on technology, such as offshore services, where information technology is changing at an extremely rapid rate.

Required skills and workforce development needs vary substantially by stage within industry-specific upgrading trajectories. In many cases, product and process upgrading may involve upgrading the skills of the existing workforce through on-the-job training, short-term courses and specific certifications, while upgrading into higher value segments of the value chain can require workers with an entirely different set of skills and education. In process and product upgrading, most workers can be trained in-house, while specialized personnel require formal education to lead upgrading effectively. The introduction of information technology (IT) into the tourism industry is a key example; while front office employees could be trained on the basics of computerized reservation systems, specialized IT professionals were required to determine which programs should be used and how they would be implemented. In the case of functional upgrading, completely new skills must be found in the labor market. These employees must have acquired the necessary skills from the formal educational sector or previous experience. Upgrading from business processing outsourcing (BPO) to knowledge process

outsourcing (KPO) activities in the offshore services industry, for example, requires more sophisticated analytical staff, who must have an undergraduate or graduate degree in business administration.

Workers need “soft skills” in today’s world of work. Workers lacking interpersonal skills related to teamwork and effective communication face limitations in how they perform daily activities, and how they process information from managers during on-the-job training activities. Our study shows that all industries demand employees with better non-technical skills and “upgradable” potential. These characteristics include leadership, teamwork, communication and conflict management skills, which can substantially increase productivity and adaptability in the changing global environment. Employers often prefer to hire workers with a willingness to learn, who can absorb and process new information and are quick to follow instructions. This is one of the main constraints to upgrading the skills of an existing workforce and thus successfully achieving upgrading. To circumvent these problems, firms in offshore services in the Philippines, India and the Caribbean have focused on hiring staff for the BPO segment with a broad set of skills acquired at the university level, rather than recruiting based on technical skills.

In developing countries, managerial skills for GVCs are in short supply. One of the main problems of today’s GVCs is a shortage of effective managers. Good managers affect industry productivity and have an important impact on workers’ skill development. Managers are usually in charge of on-the-job training activities, a widely used training method to address workforce needs. When good managers are lacking, performance suffers and firms have difficulty complying with global requirements. In the apparel sector in Lesotho, foreign managers in Taiwanese-owned factories do not speak the local language and are incapable of communicating and training workers. By contrast, firms under South African management where managers have similar cultural and language backgrounds have acquired skills more rapidly through on-the-job training.

Upgrading in GVCs requires more and better professionals and technicians in bottleneck positions. The labor component of every upgrading stage across all industries includes both a critical mass of workers and well-educated professionals with specific expertise. These professionals are often in short supply in developing countries, creating bottlenecks for future activities. At the same time, their preparation is seen as “low volume, high cost,” making it more difficult for training institutions to respond effectively. Best practice indicates that leveraging international expertise – either through study abroad scholarships, as Chile did for offshore services, or through hiring foreign consultants, as Turkey did when upgrading into design in the apparel industry – can help supply the required professionals in the short term, giving educational institutions time to develop programming to meet the escalating demand for highly qualified and experienced technical and professional labor.

Stakeholders and Institutions

Local education systems currently do not provide skills required by GVCs. In each of the industries studied, the private sector reported a mismatch between the skills provided by educational institutions and their workforce needs. This is particularly notable for public education institutions. Today, these gaps typically are filled by other institutions, which increases the comparative cost of labor in developing countries and can affect their competitiveness and ability to achieve upgrading. In the hotel sector in Costa Rica, large multinational hotel chains with growing operations in the country had to set up their own internal training programs since the National Training Institute (Instituto Nacional de Aprendizaje or INA), the only educational institution offering programs, was limited to basic hospitality services. As the industry continued to upgrade, the private sector successfully lobbied the INA to change and expand their curriculum to meet the needs of the industry.

Technical training institutions and universities should coordinate more closely with industry stakeholders. Formal communication channels between private sector and educational institutions (public and private) are weak or nonexistent in many developing countries. This makes it difficult for graduates to develop the skills required for employment in GVCs. Educational institutions are generally more successful when they have a high degree of interaction with industry stakeholders. Industry coordination and collaboration have proven effective in aligning skills training to relevant needs. For example, India's success in the offshore services industry is to a large degree the result of the private sector actively taking a role in workforce development. In some cases, such as the leading Indian companies Infosys and Wipro, firms created in-house universities to teach students the specific skills required, while in others, the private sector engaged with existing educational institutions to provide new courses for the curriculum and internship programs to ensure that students have practical experience by the time they graduate and enter the workforce.

New actors can provide the skills required by GVCs. Traditional skill providers have been replaced or assisted in filling today's skill gaps. These new actors include individual firms, industry associations, special government programs and NGOs. In Costa Rica and Jordan, professional associations in the tourism sector provide their members training in areas such as language skills and management. In the fruit and vegetable sector, several NGOs in developing countries provide skills training to farmers to meet standards and compete at the global level. In other cases, the government has played a central role to promote specific forms of skills upgrading. For example, to support the growth of the offshore services industry, the Chilean government established and funded a series of English-language programs, increasing the labor supply of English-speaking agents. In particular, partnerships established between stakeholders have proven to be successful in meeting the skills needs of the GVCs, such as in Sri Lanka,

where the apparel industry association, JAAF, partnered with the government and individual firms to develop a comprehensive skills manual, “Competency and Beyond”, incorporating the competencies required for all positions in the apparel GVC.

Private sector intermediaries can facilitate upgrading and workforce development. A united voice for industry needs has been a catalyst for improving worker skills. Trade associations, often in partnership with other stakeholders, have begun to establish job profiles, competencies and best workforce development practices to meet global standards. The creation of AGROCAP in 1999 by the Chilean fruit and vegetable export association (ASOEX), which acts as an intermediary between private firms and education and training institutions, allowed the sector to rapidly assess workforce development needs, tailor training programs and disseminate best practices for the industry.

Public-private partnerships have emerged as an efficient and effective method for workforce development. Workforce development best practices are the result of a sound organization among the private sector, industry associations, educational institutions and government. These partnerships allow each stakeholder to contribute its best resources to create successful workforce development practices. Notable cases from our studies include the regional skills certification initiatives undertaken for the tourism industry in the Caribbean and amongst the ASEAN countries, and public-private councils in Chile in the offshore services and fruit and vegetable sectors, which provide a forum for information exchange and collaborative initiatives.

Global Standards

Global standards define the upgrading requirements for the local workforce. Lead firms have become very influential in establishing standards for GVCs due to their power to restrict access to high-value markets. Local producers must comply with these standards or find alternative buyers. In response, we observed the private sector in developing countries undertaking workforce development initiatives according to global standards. In Kenya’s horticulture sector, workforce development training is increasingly focused around Kenya GAP, the locally certified equivalent of the widely adopted private standard, GlobalGAP. Training to adopt these good agricultural practices is now targeted both at exporters and at farmers supplying the local market. In addition, one large exporter, Homegrown, has also adopted pro-gender initiatives in line with codes of conduct established by lead buyers, and provides workshops in discrimination and sexual harassment for supervisors and managerial staff.

Multi-stakeholder partnerships in developing countries coalesce in response to global standards. On-the-job training has been widely employed to rapidly upgrade worker skills according to global requirements. Industry associations, such as JAAF in Sri Lanka’s apparel sector, ASOEX in Chile’s fruit

and vegetable industry, and ACOPROT in Costa Rica, have defined the skills needed to comply with global standards, and they have partnered with educational institutions to modify curricula content to align it with global standards. In certain cases, such as Chile, they have also collaborated with the government to finance training programs to provide the required worker skills. In several countries, governments have proactively assisted the private sector to meet global standards to avoid expulsion from GVCs, while in the least developed countries, such as Kenya, NGOs have been an effective actor in the absence of active industry associations or government involvement.

National certification of skills can be a powerful tool for GVC labor markets in developing countries. We observe successful outcomes for worker skill certifications where industry associations, government and educational institutions work together. Success is particularly notable where skills are aligned with international standards requirements. Both skill level and portability are increased for certified workers. Competency certifications reduce transaction costs related to recruitment and selection and facilitate labor mobility. This helps foster the establishment of a competitive labor market, based on skill level rather than contacts or perceptions of skills, based on factors such as gender. The Chilean National Skills Certification program has been applied to 15 different industries, including the fruit and vegetables sector. These certifications are valid for a period of three years, underscoring the fact that the requirements of GVCs change rapidly, and thus workforce development must be approached from a lifelong learning perspective.

V. Recommendations

Our research indicates that global demand-driven workforce development, which actively involves private sector actors, can be an efficient instrument to achieve economic upgrading in global industries. The following policy recommendations are specifically related to needed improvements in workforce development practice to cope with a world in which GVC participation structures economic opportunity, and to gain advantage in traded sectors.⁸ Overall, policies must focus on upgrading the skills both in the current and future labor force. In the short to medium term, they must identify and resolve gaps in current workforce skills at all required skill levels, and in the long term addressing these needs directly through the education system. Due to the dynamic nature of the global economy, one must keep in mind the concept of lifelong learning because new gaps will emerge over time as industries evolve.

⁸ Demand-driven workforce development assumes previous analysis of which industries a country can successfully enter or compete in; where in the value chain a country/region is positioned; and potential upgrading trajectories in the short and long term.

Recommendations for Workforce Development Policy and Practice:

Establish opportunities for dialogue, information sharing and collaboration regarding workforce development, both domestically and internationally, between different stakeholders to drive GVC upgrading:

- **Support Upgrading-Focused Industry Dialogue:** Promote and support industry and/or trade associations that bring together firms in the private sector specifically to identify potential gaps in skills and to determine workforce development needs for proposed GVC upgrading.
- **Create International (South-South) Alliances:** Establish or enhance forums for information sharing between industry and/or trade associations from different developing countries regarding job profiles, competencies and best workforce development practices to meet global standards at various levels of upgrading.
- **Promote Awareness of Global Standards and Requirements in Sector Skills Councils:** Create councils/forums that bring together educational institutions and the private sector to facilitate the flow of information between the sectors focused on curriculum improvement to ensure that skills training meets global industry needs and standards.

Globalize national and regional skills standards:

- **Create Venues for Multi-Sector Collaboration:** Create venues for government, educational/training institutions and private sector to collaborate in the alignment of national skills standards and certifications with global industry expectations and standards.
- **Align National/Regional Frameworks with Best Practice Certifications:** Develop a national/regional certification of skills system based on global industry needs and in alignment with other successful certification systems around the world. This can be facilitated by donors that have successfully helped to establish qualifications frameworks and skills certifications in other countries.
- **Certify Skills Obtained in Formal and Informal Training:** Pursue a dual approach to certifications: 1) embed certifications in the formal education and training framework; and 2) provide certification for existing workforce based on assessment of previously obtained skills and experience.
- **Work to Globalize Innovative Skills Certifications:** Where developing countries, alone or in regional groupings, are “first to market” with skills certifications, work to establish these as the *de facto* regional, or even global, standards to create competitive advantage in working with GVCs.

Establish or restructure frameworks for regulation and accreditation in the training and education sector:

- **Identify and Address Gaps:** Help existing TVET institutions and universities identify and remedy gaps with respect to their capacity to meet the skills needed for participation in GVCs.
- **Incorporate Awareness of Global Industry Requirements into National Accreditation:** Convene government, educational/training institutions and private sector representatives to determine appropriate quality and content criteria for accreditation of education/training institutions that are aligned with global industry expectations and standards. Global industry dynamics require periodic updating and auditing of these accreditation standards.
- **Provide Incentives for Accreditation:** Incentivize accreditation of institutions through policy instruments such as training tax incentives to the private sector for engaging accredited organizations.

Formalize communication channels between educational institutions and the private sector:

- **Engage Employers around Upgrading:** Develop or enhance formal channels of communication with the private sector regarding the skills to be incorporated into the curriculum (e.g., program-level advisory boards), with an explicit focus on present and medium term (1-3 year) upgrading plans and related human resource requirements.
- **Promote Business Engagement in the Classroom:** Create or enhance opportunities for private sector representatives to participate in classroom settings, for example, as visiting lecturers or adjunct teachers.
- **Support Career Counseling and Development:** Promote establishment of career counseling and development functions within technical schools and universities or external intermediaries that facilitate internships and job placement. Continue to professionalize the career counseling function.

Embed GVC upgrading priorities in the local education system for sustainable long term growth:

These policies measures are designed to prepare the national labor force for future participation in GVCs.

- **Basic Education:** Improve primary and secondary basic education (literacy, numeracy, etc.)
- **Soft Skills:** Improve primary and secondary education in soft/interpersonal skills (leadership, teamwork, communication, problem solving, etc.).
- **Business School Curricula:** Encourage awareness of and development of managerial skills for global GVCs in technical schools/universities.

- **Training for Bottlenecks:** Create special funds to establish or strengthen technical/university offerings that provide high cost/low volume training to address skill bottlenecks, for example, through establishment of minors or concentrations in unusual skill areas.
- **Improve Labor Market Information and Graduate Tracking:** Improve data collection regarding numbers, skills and wage evolution of graduates of TVET institutions, universities and certifications relevant to GVCs to facilitate career decision-making and enhance investment promotion efforts.

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