TECHNICAL REPORT

CAMBODIA'S FUTURE JOBS: LINKING TO THE ECONOMY OF TOMORROW





CAMBODIA'S FUTURE JOBS: LINKING TO THE ECONOMY OF TOMORROW

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Foreword

Jobs have been a fundamental part of Cambodia's transformation to a modernizing, globally integrated middle-income country. The opening of markets to international trade and foreign investment not only changed the structure of Cambodia's economy, but it also had deep implications for jobs, which themselves contributed to the economic development process.

Although Cambodia's current economic model is still delivering new jobs, several emerging mega-trends will alter how external forces shape Cambodia's jobs picture in the future. The growth of the consumer class in the region, shifting trade partners and patterns, and increasing digital technologies in the workplace could threaten further job growth. Or they could offer opportunities.

At the invitation of the Royal Government of Cambodia, the World Bank produced the report *Cambodia's Future Jobs: Linking to the Economy of Tomorrow.* It takes a broad approach by considering the elements of Cambodia's overall development strategy, and identifies policies that could catalyze the creation of more and better jobs within it. The report defines how firms, workers, public and private institutions, and macroeconomic policymakers working together, can create the economy and the jobs of tomorrow. This work is closely aligned with the World Bank Group's FY19-FY23 Country Partnership Framework, which emphasizes boosting private sector development and fostering human development, among other topics. It is also consistent with the policies defined in the Fourth Rectangular Strategy for Growth, Employment, Equity and Efficiency.

The report concludes that good job growth is best spurred by a four-pronged strategy. First, better leverage the foreign sector as a source of jobs through policies that diversify exports and FDI into higher value-added segments of global value chains. Second, increase the quality of jobs in domestically owned firms and household enterprises through policies that support entrepreneurs to create and grow their firms. Third, deepen the linkages between domestic enterprises and the FDI sector. Fourth, build a skills development system that will attract higher-value FDI and increase productivity across the economy while facilitating labor mobility to the highest-value jobs.

We hope that *Cambodia's Future Jobs: Linking to the Economy of Tomorrow* serves to inspire and connect policymakers, the private sector and development partners to create the conditions for Cambodia's firms and workers to thrive in tomorrow's jobs.

Inguna Dobraja Country Manager Cambodia Country Office

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Currency Equivalents

Exchange Rate Effective July 22, 2019 Currency Unit = Cambodian Riels (KHR) USD 1 = KHR 4,081.80

Acronyms and Abbreviations

ASEAN	Association of Southeast Asian Nations	NGO	Non-Governmental Organization
BEED2	Business Environment and	NSSF	National Social Security Fund
	Enterprise and Performance Survey	OECD	Organization for Economic
CAGR	Compound Annual Growth Rate		Co-operation and Development
CAL	Computer Aided Learning	PIM	Public Investment Management
CDC	Council for Development of Cambodia	PISA	Programme for International Student
CIT	Corporate Income Text		Assessment
CSES	Cambodia Socio-Economic Survey	PPP	Purchasing Power Parity
EAP	East Asia Pacific	QIP	Qualified Investment Projects
EBA	Everything But Arms	R&D	Research and Development
EU	European Union	RBF	Results-Based Financing
FDI	Foreign Direct Investment	RCEP	Regional Comprehensive Economic
FTA	Free Trade Agreement		Partnership
GDP	Gross National Product	RGC	Royal Government of Cambodia
GNI	Gross National Income	SABER	Systems Approach for Better
GSP	Generalized System of Preferences		Education Results
GVC	Global Value Chain	SEZ	Special Economic Zone
HHE	Household Enterprise	SME	Small and Medium Enterprise
HHI	Herfendehal Hershman Index	STEM	Science Technology Engineering Math
ICT	Information Communication Technology	TFP	Total Factor Productivity
ILO	International Labor Organization	TIFA	US-Cambodia Trade and Investment
IMF	International Monetary Fund		Framework Agreement
IT	Information Technology	TVET	Technical and Vocational Education
LDC	Least Developed Country	UNTAC	United Nations Transitional Authority
LFP	Labor Force Participation		in Cambodia
MFN	Most Favored Nation	VAT	Value-Added Tax
MOOC	Massive Open Online Course	WDI	World Development Indicator
NEA	National Employment Agency	WTO	World Trade Organization

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CAMBODIA'S FUTURE JOBS: LINKING TO THE ECONOMY OF TOMORROW

Executive Summary

Cambodia has succeeded in implementing an effective FDI-led development strategy. Its 7 percent GDP growth rates have been accompanied by rapidly falling poverty rates. Over 1 million workers are now employed in the garment sector, and the share of jobs in industry continues to grow.

Cambodia's exposure to the global economy combined with the government's outward-looking economic policies have yielded good results. First, by opening its borders to international trade and investment, Cambodia attracted FDI, particularly in the garment sector, because of its low trade barriers, stable government, and relatively hassle-free business practices. Second, the spike in international commodity prices was a boon to a still largely agricultural economy, thus alleviating pressure to make a quick transition out of agriculture. Third, a further reduction of trade costs and the existence of an abundance of highly mobile, low-skilled, and, thus, low-cost, labor provided a further impetus to investments in the garment sector and a continuation of the structural transformation process.

Although Cambodia's current economic model is still delivering good new jobs, its success may be slowing down. The garment sector that has been the main driver of Cambodia's jobs and growth is showing some weaknesses. Job creation is slower than in the same sector in other countries. Its labor productivity has stagnated, and unit labor costs are higher than those in competitor countries, thereby negatively affecting Cambodia's competitiveness. The potential loss of trade preference with the EU and the US in the near term will also impede the country's competitiveness in key export markets. The garment sector has few links with domestically owned small and medium-sized enterprises (SMEs) as it relies less on local sourcing than do garment firms in other countries-such as Vietnam, Turkey or India-or other export-oriented industries in Cambodia. The labor force does not have the skills to attract higher-value FDI, nor do they have the means to acquire those skills.

Moreover, a large share of Cambodia's current jobs may not be of the kind that the country will aspire to create in the future. More than half of all jobs are still in family farming or household enterprises, which are lagging behind the rest of the economy in terms of productivity and growth. Fully 94 percent of jobs are in low-skilled occupations, with managers and professionals accounting for less than 5 percent of all jobs. While wages have increased in recent years, particularly for those near the bottom of the income distribution, more than half of jobs operate outside of the modern economy. Family farming and household enterprises primarily trade amongst themselves, which limits their growth and profits. The economy provides markedly fewer opportunities for women and older workers than it does for men and younger workers.

The current model is further at risk due to several emerging mega-trends that will alter how external forces shape Cambodia's jobs picture in the future. Changing consumption patterns resulting from a growing consumer class within Cambodia and across Asia will change the composition of both domestic and export demand. New trade agreements and technologies will further shift global trade patterns. Automation has the potential to create more, better, and more inclusive jobs, but also to make others disappear. The advent of new technologies means that workers will require a more complex set of skills than in the past.

Cambodia can manage these trends by taking the steps necessary to move into the next stage of FDI-led development: diversification and densification. This would mean pursuing higher-value FDI and fostering links between exporting firms and domestic input-supplying firms. However, this will only be possible if Cambodia lays the foundations by reforming its own policies to attract and retain more, better, and more inclusive jobs.

We propose seven jobs-specific policies that, in conjunction with broader sectoral development strategies, have the potential to generate better jobs in Cambodia in the future. These policies are in alignment with the principles and recommendations of the Royal Government of Cambodia's Rectangular Strategy-Phase IV. We present these seven policy actions in one document to show how they can improve the quality and increase the inclusiveness of Cambodia's jobs. The specific policy recommendations are as follows: *First, diversify exports and FDI into higher value-added value chains or segments of value chains.* Most current jobs are in low-value segments of global value chains (GVCs) in which Cambodia's exports sectors have the lowest median value-added among those of their peer countries. Simplifying processes, providing incentives to foreign investors, and creating quality assurance facilities will encourage the diversification of exports and FDI into higher value-added value chains (or segments of value chains). Signing, finalizing, and enforcing international trade and investment agreements with key trade partners will also be vital to mitigating the risk of losing special access to markets such as the European Union.

Second, streamline procedures and reduce the costs of establishing and expanding SMEs, which have considerable potential to create jobs. It is harder for firms to expand in Cambodia than in other countries. Young firms in Cambodia —defined as those that have been operating for less than five years—create little employment, even though this stage is critical for a firm's growth. Establishing a range of institutions that can support entrepreneurs during the various stages of a firm's development, including ideation, incubation, and acceleration, will help SMEs to grow and create jobs at the various stages of their lifecycles. There is also a need to reduce the costs that they incur in doing business as well as to enhance their access to finance to be able to compete on both the domestic and international markets.

Third, help household enterprises enhance their productivity and create better jobs. Nearly one in five jobs in Cambodia are in household enterprises, and this share is projected to grow as a consequence of more rapid urbanization. Thus, it will be necessary for policymakers to have a much stronger focus on this often-forgotten segment of the economy to enable these very small enterprises to increase their revenues and, hence, to create better jobs. Information technology can help household enterprises to improve their basic business practices and to access broader markets.

Fourth, support the development of links between exporting FDI firms and domestic input-supplying firms. Government policies can provide foreign firms with incentives to source their inputs from local SMEs. At the same time, the government can help SMEs to understand and meet the quality standards of FDI firms and provide them with financing to upgrade their production processes. Fifth, build a skills development system that will attract higher-value FDI and increase productivity across the economy. While a solid education system is the foundation of any future workforce, today's workforce in Cambodia is getting by with only 6.3 years of education on average, while having few opportunities to upgrade their skills. This points to the need for a dual strategy. First, it would be advisable to reform today's education system to help the next generation of workers to acquire the broad range of skills needed to work in a knowledge-intensive economy. Second, policymakers should consider developing a strategy (including incentives) for engaging enterprises in the design, financing, and support of a modernized technical and vocational education and training system (TVET).

Sixth, promote efficient labor mobility and job matching. A mis-match between skills and jobs stifles productivity and frustrates workers' sense of well-being. Helping people to find and acquire the right jobs will reduce these inefficiencies. First, policymakers should systematically produce and disseminate information about jobs inside and outside of Cambodia to help students, jobseekers, education and training institutes, and employers to make skills development choices that are aligned with rapidly evolving market demand. Second, they should continue opening formal international migration channels while supporting programs that encourage circular migration.

Seventh, regain macroeconomic independence and exchange rate flexibility. US dollar fluctuations significantly impact Cambodia's trade and commodities sectors, which are responsible for most of the country's jobs. As Cambodia begins to export to a broader range of countries, macroeconomic and fiscal stability will help shield existing jobs from factors related to the US dollar.

If Cambodia can successfully transition to the next stage of an FDI-driven development strategy, this is likely to produce more and better jobs. Achieving this goal will be a complex challenge and will require strong leadership by a coordinating body tasked with championing the jobs issue and guiding the many actors from different sectors toward a shared future jobs vision. While the world is changing fast, Cambodia still has an opportunity to make this transition and improve the quality of jobs for all of its citizens.

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CHAPTER 1:

An Introduction to Jobs in Cambodia

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1.1 Introduction

Rapid and sustained economic growth has transformed Cambodia into a world leader in poverty reduction and elevated it to lower-middle-income status. The country's GDP grew by an average annual rate of 7.7 percent between 2000 and 2015 (Figure 1.1(a)), which put it among the top 15 economies in the world in terms of economic growth. Its per capita GDP increased fivefold from USD 229 in 1993 to around USD 1,423 in 2017 (based on official numbers). Between 2004 and 2012, poverty incidence under the national poverty line declined from 50.2 percent to 17.7 percent of the population. Notably, the real consumption growth of those in the bottom 40 percent of the income distribution was larger than that of those in the top 60 percent, leading to a decrease in inequality, with the Gini coefficient falling from 32 to 28 between 2008 and 2012 (Figure 1.1(b)).¹





(a) GNI Per Capita and GDP Growth

¹ Cambodia reached lower middle-income status in 2015, though it is still one of the poorest countries in the Southeast Asia region. Despite this progress, the vast majority of the families that rose above the poverty line did so by a small margin, which still leaves them at risk of being negatively affected by an adverse shock.



Cambodia's economy changed significantly during this high-growth period, along with the sectors that drove the country's growth. While 48 percent of GDP growth was attributable to agricultural production in 1995, this had fallen to 5 percent in 2017 (at constant prices). Meanwhile, the services sector and, more notably, the manufacturing sector expanded. Exports of goods and services-mainly garments, rice, and tourism-played a big role in Cambodia's growth, increasing by an average rate of more than 19 percent annually between 1994 and 2015. The end result was a classic picture of an economy's structural transformation out of agricultural production and into manufacturing and services (Figure 1.2). In 1995, agriculture accounted for 44.4 percent of Cambodia's GDP, but by 2017, this contribution had dropped to 19 percent. During the same period, the industrial sector's share of the economy (including construction and manufacturing) increased from 14 percent to 31 percent.

Changes in Cambodia's labor market played a significant role in its strong economic growth and poverty reduction during this transitional period. The

shifts in economic activity were a reflection of the movement of labor from lower- to higher-productivity sectors as the majority of new jobs were created in the more productive sectors due to the big influx of foreign investment as part of Cambodia's integration into the global economy.² Not only did workers move to jobs where productivity was higher, they also vacated low-productivity jobs, thereby increasing productivity in those sectors. While 77.5 percent of Cambodia's jobs were in the agricultural sector in 1995, this had fallen to 40.1 percent by 2017, a similar magnitude of change experienced by Vietnam during the same period. The employment share of the services sector rose from 26.5 percent to 33.0 percent while the share of the industrial sector rose from 15.9 percent to 25.5 percent (Figure 1.3). These shifts were accompanied by an increase in earnings and thus consumption.

The changing nature of the global economy may disrupt Cambodia's structural transformation process in the future. The global economy is becoming increasingly integrated, with more and more countries crowding into global value chains, the number of middle-income consumers growing across the globe, and the sophistication



Source: Data from the World Bank's World Development Indicators.

Figure 1.3:



Sectoral Contribution to Jobs, 2004-2015

Source: World Bank staff estimates based on Cambodia Socioeconomic Surveys (CSES), several years, and ILO employment figures.

² Although the Cambodian economy began to shift towards services and manufacturing in the 1990s, the spike in agricultural prices in the 2000s resulted in a sizeable return of workers to agriculture. When these prices declined again in the late 2000s, labor shifted back to manufacturing and services.

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of production processes and outputs increasing due to both new knowledge and technology. Therefore, simply moving labor from low-skilled agriculture to low-skilled services and manufacturing may not be enough to enable Cambodia to reach middle-income status in the next generation. Instead, the Cambodian economy may need different businesses, different workers, and different jobs to meet these new challenges.

In this report, we posit that adopting policies to increase the quality and inclusiveness of jobs will reinforce existing strategies for greater economic growth by making it easier for that growth to occur. Improving the quality of jobs will drive economic growth and will raise the population's well-being, with quality being defined as a measure of labor productivity, wages and job benefits, and work conditions. Integrating the full working population into the economy in a way that best uses their talents will also help Cambodia achieve its economic and social goals. In this context, this report explores Cambodia's current job structure and recommends some policies aimed at improving the quality and increasing the inclusiveness of jobs, with the final goal of ensuring greater economic growth and prosperity.

The analytical findings of and policy directions presented in this report are intended to contribute to the policymaking process in two ways. First, they focus on jobs. "The Rectangular Strategy for Growth, Employment, Equity and Efficiency: Building the Foundation Toward Realizing the Cambodia Vision 2050 – Phase IV", the Royal Government of Cambodia's newest strategy, is comprehensive by design and addresses a wide range of policy objectives, with most of the strategic sides of the respective strategic rectangles being sector-specific.³ In contrast, this report looks at jobs across all sectors and develops a broad range of policy recommendations that align with the Rectangular Strategy and that collectively are likely to create more, better, and more inclusive jobs. Second, while the government's "National Employment Policy: 2015-2025" provides general direction, this report attempts to provide more detailed jobs policy options based on international evidence and new data analysis that should be considered priorities for improving jobs in Cambodia.

The report has five sections. This Introduction provides the context for the rest of the report. It presents a brief history of jobs in Cambodia, maps out the current jobs picture, and discusses emerging mega-trends that may present new opportunities to upgrade Cambodia's jobs. The following chapters look at different segments of the jobs picture. Chapter 2 describes the recent economic growth in Cambodia and its impact on job creation and productivity, and identifies potential macro-level challenges to job creation and productivity going forward. Chapter 3 identifies the micro-level constraints faced by Cambodia's firms and household enterprises that prevent the private sector from maximizing the creation of more and better jobs. Chapter 4 looks more closely at how Cambodia's export sector has supported jobs and incomes to inform how export diversification and upgrading could create more, better and more inclusive jobs in Cambodia. Chapter 5 focuses on the workers themselves, including skills gaps and mismatches. Migration is another important factor in Cambodia's jobs narrative, but no analysis on this subject is included in this report due to a lack of relevant data. Within each chapter, we identify short- and medium-term policy reforms that have the potential to increase the number and improve the quality of Cambodia's jobs.

Box 1.1: Jobs Definitions

For the purposes of this report, a "job" will be defined as any income-earning activity that is not illegal. Thus, a job may be as simple as the employment of a full-time worker in a factory who is earning a wage or as complex as the range of income-earning activities carried out by a household in various sectors at different times of the year.

A "good" job is a subjective concept that depends on the economic structure, culture, and aspirations of a country, its industry, and its people. In the case of Cambodia at this time, the report will assume that a good job is characterized by high productivity, a wage commensurate with productivity levels, safe work conditions, and job security.

An "inclusive" job can be defined as one that is open to any Cambodian citizen regardless of gender, age, or ability, as well as one that integrates different segments of the economy into a single market.

³ The Rectangular Strategy is depicted as four strategic "rectangles" that encompass four aspects of development: (i) human resources, (ii) economic diversification, (iii) the private sector and job development, and (iv) inclusive and sustainable development. Each "side" of each rectangle is a (generally) sector-specific priority within the respective rectangle. Each side of the rectangle is underpinned by several policies. The four rectangles surround four "environment" concepts, and the core of the model is governance reform. The Human Resource Development strategic rectangle is the priority for Phase IV, which is currently under implementation.

1.2 Cambodia's Labor Market in the Past

Over the past two decades, Cambodia has been able to achieve political stability and economic progress. Cambodia has succeeded in transforming itself from a wartorn country to a peaceful one, and from a centrally planned and ineffective economy to one that is regionally and globally linked and rapidly growing (World Bank 2017). The 1991 Paris Peace Agreement and the democratic elections of 1993 signaled a new phase of state-building. Against the backdrop of strong growth, poverty alleviation, and structural transformation, some big shifts in the economy have defined the evolution of Cambodia's labor market and are reflected in its jobs picture today.

Cambodia grew from 1994-2004 as an open, globally integrated economy

Cambodia maintains a strong commitment to economic openness. The government has adopted a series of reforms aimed at making Cambodia a highly open, market-oriented economy and at fostering private sector development. In 1994, it passed a law that allowed 100 percent foreign-owned investment and provided guarantees against nationalization and price regulation. It has since created a one-stop service office for investors through the Council for the Development of Cambodia (CDC), which has also helped to attract and channel foreign investment. This was accompanied by the enactment of critical regulations related to land, banking, bankruptcy, and company law that made the economic framework more attractive to

private sector investors (World Bank 2017; Kelsall and Heng 2014).

Trade agreements and market access contributed to the entry of garment manufacturers into the Cambodian economy. The United States granted Cambodia most favored nation (MFN) status in 1996, and the following year the country received favorable access to the US market through the Generalized System of Preferences (GSP). In 2001, Cambodia's received preferential access to the European Union market through the enactment of the European Union's Everything-but-Arms (EBA) scheme. Cambodia joined the Association of Southeast Asian Nations (ASEAN) in 1999 and became a member of the World Trade Organization (WTO) in 2004.

Becoming strongly integrated into these global markets was a key feature of Cambodia's development and jobs story during this period. Between 1994 and 2004, its exports grew from less than USD 1 billion to USD 5 billion (Figure 1.4). Cambodia's rapid economic development was also fueled by foreign inflows. Net Foreign Direct Investment (FDI) inflows remained steady during this period, averaging at around USD 200 million per year. FDI to Cambodia came almost exclusively from Asia, and increasingly primarily from China. In response, labor rapidly flowed from agriculture to the emerging manufacturing and services sectors. Approximately 80 percent of all jobs in Cambodia were in agriculture in 1994, whereas this share had declined to 60 percent a decade later. The sector composition of FDI is changing rapidly, shifting from the tradeable sectors such as agriculture and industry to tourism, construction and real estate.

Exports of Goods and Services and Net FDI Inflows, 1991-2016 14 12 Exports (Billion USD) 10 ^{-DI} (Billion USD) 8 6 4 2 Exports 0 0 FDI

Figure 1.4: __

Source: Authors' calculations using data from the World Bank's WDI.

Agricultural employment rose during the 2004-2011 commodity price boom

During the global commodity price boom (2004-2011), agriculture again became the main source of employment creation in Cambodia and made a strong contribution to poverty reduction. Rice and rubber prices peaked in 2008 and 2011, respectively, and have only recently returned to their pre-2008 levels. Between 2007 and 2011, more than 1 million net jobs were created in Cambodia, with 533,000 of them being generated in agriculture as the sector continued to enjoy high commodity prices. The expansion in the amount of land under cultivation and high international food prices benefited both farmers and agriculture workers and lifted 3.3 million Cambodians out of poverty (World Bank 2017).

During this period, agriculture's declining significance in Cambodia's economy was temporarily reversed. By 2004, agriculture's share of GDP had fallen to 29 percent, but higher prices and increased output led this share to rise to 35 percent by 2011 (Figure 1.2).

Structural transformation has resumed from 2011 to the present

After 2011, commodity prices dropped, and agriculture growth slowed down again. In 2012, rice prices started to decline and rubber prices collapsed, having an especially negative impact on farmers who had diversified into industrial crops (Figure 1.5). Declining prices coupled with unfavorable weather events in 2013 and 2015 resulted in a slowdown and stagnation in agricultural GDP. The amount of cultivated land also decreased after 2012. By 2014, agriculture's share of GDP had fallen to pre-2004 levels (Figure 1.2).

The decline in agriculture led to a rural exodus. With the collapse of the agricultural sector, many Cambodians left the countryside to migrate to urban areas or to other countries. Estimates from the Cambodia Socio-Economic Survey (CSES)⁴ indicate that domestic remittances sent to recipient households increased significantly, reflected in the share of rural households who received domestic remittances rising from 11 percent in 2004 to 33 percent in 2014. International migration also increased, with about 7 percent of rural households having a member who was an international immigrant in 2014 (World Bank 2017). International remittances increased when agriculture prices declined and vice versa. Migration and remittances contributed to the continued reduction in poverty during the agriculture slowdown.

FDI inflows picked up during the commodity price boom and have remained stable and high since 2011 even after these prices fell (Figure 1.4). Despite not being a commodity exporter, Cambodia has been among those countries with the highest rates of FDI, reaching an average of 7.9 percent of GDP annually between 2005 and 2015. Large aid inflows (which amounted to 5 percent of GNI in 2014), along with tourism and export receipts, have led to the dollarization of the economy.



Figure 1.5: ____

Trends in Rubber and Rice Prices, and Remittances

Source: World Bank commodity prices database, WDI.

⁴ The CSES has been conducted annually since 2007 by the National Institute of Statistics (NIS) in the Ministry of Planning in Cambodia. The survey collects data on a wide array of indicators related to household demographics, consumption, education, and economic activities. This survey is the primary poverty monitoring and planning tool used by the Royal Government of Cambodia.

Cambodia's continued progress in opening up to global markets supported the resurgence of structural transformation. Cambodia has introduced cross-border trade facilitation improvements in recent years, which resulted in faster export and import procedures. Cambodia was recognized as having the fewest trade restrictions in services of all Southeast Asian countries (Ahsan et al. 2015). Cambodia now ranks in the top 5 percent of economies in the world in terms of merchandise trade (imports plus exports) with 144 percent of GDP in 2015.

As a result, employment growth in recent years has been led by a rise in manufacturing, notably in the garments and construction sectors. Manufacturing accounted for 11 percent of employment in 2009, a share that rose to 17 percent by 2014 due to increases in the share of garment sector employment. Similarly, the share of the construction sector in total employment increased from 3.5 percent to 6.8 percent during the same period, while employment in service sectors increased by almost 4 percent. Although the share of employment in tourism increased prior to 2009, it increased only by 0.6 percent between 2009 and 2014.

Though internal migration enabled this structural transformation, international emigration from Cambodia is exacerbating the country's skills shortage. Nearly 90 percent of internal migrants surveyed in 2011 had moved for jobs (MoP 2012). Nearly 1 million Cambodian citizens are living abroad (Testaverde et al. 2017). Both internal and international migrants tend to have completed more education than non-migrants. Recent estimates suggest that 15 percent of Cambodian tertiary graduates have migrated to OECD countries, contributing a net drain of Cambodia's human capital (Figure 1.6). Most

migration is through informal networks, with half of migrants following earlier migrants from their own communities. This can limit migrant job options and result in poor job matching. While migrants, particularly women, sent home the equivalent of 3 percent of GDP in remittances in 2015 (Roth and Tiberti 2017), it is not clear whether these funds are used to invest in the local economy or whether they simply fund consumption. Furthermore, return migration rates and the employment trends of return migrants are largely unknown.

1.3 Cambodia's Jobs Today

Today, there are more than 8 million jobs in Cambodia. This is a high number of jobs given the size of Cambodia's adult population. Around 80 percent of Cambodian adults aged 15 or higher are working.⁵ In comparison, the global employment rate is 62.3 percent, employment rates in the East Asia Pacific (EAP) region are 62.5 percent, and the expected employment rate for a country with an income level similar to that of Cambodia is 65 percent. In fact, the only EAP countries with similar levels of employment rates are Vietnam and Lao PDR (Figure 1.7).

In this report, we consider two aspects of Cambodian jobs today: job quality and inclusiveness. Measuring job quality can be challenging since different firm owners and workers value different aspects of a job, and survey instruments often do not measure many of these aspects. For example, does a worker prefer the flexibility and freedom of owning his own business or the stability of holding a wage job? Does an employer only value labor productivity or will she place a premium on a stable labor force and good labor relations? We assumed that "better" jobs are characterized

Figure 1.6: _





Source: Beine, Docquier, and Rapoport 2008.

⁵ Labor force participation (LFP) is the share of individuals age 15-64 who worked for at least one hour in the previous seven days or are unemployed. Since unemployment rates are so low in Cambodia, LFP rates and employment rates are nearly identical. See Annex 1.1 for the data sources and definitions of key employment categories.

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as having high labor productivity, high wages, and good work conditions. We used four rough proxies for quality:

- *Type of job*, in terms of ownership and nature of work, where we assumed being an employee in a registered firm is a "better" job than owning one's own micro-enterprise, which we referred to as a "traditional" job.
- Occupation, where we used higher-skilled occupations (such as managers, clerical workers, and professionals) as a proxy for quality jobs as compared to low-skilled occupations.
- Wages where a high-wage job is of a higher quality than a low-wage job.
- *Labor productivity* where we assumed that higher labor productivity is associated with better jobs.

Assessing the inclusiveness of jobs is also a challenge given the lack of relevant available data. However, we were able to explore how job quality differs by gender—which is particularly fascinating given the structure of Cambodia's economy—as well as by age.

1.4 Job Quality: A Review of Job Types, Occupations, Wages, and Labor Productivity

We reviewed the quality of jobs in Cambodia as reflected in the four proxies: job type, occupation, wages, and labor productivity.

Job Type: Most jobs are in traditional forms of work

Two of every three jobs in Cambodia are in traditional **types of work.** More than 3 million workers report their primary job as being on a family farm, while another 1.4 million own a non-farm household enterprise. Non-wage farming is the primary job (Figure 1.8): 48 percent of rural working adults compared to 7 percent of urban working adults. Household enterprise ownership is the primary job for 31 percent of urban working adults compared to 13 percent of rural working adults (Figure 1.9(a)). While men and women have a similar incidence of working on a family farm (37 and 40 percent of working adults), a higher percentage of women are household enterprise owners than men (21 percent of all working adults compared to 14 percent for men). Another 7.5 percent of workers are wage employees on farms, mostly in rural areas. It is notable that the shares of farm and non-farm household enterprise jobs have been steadily declining since 2009, but that farm wage employment has increased slightly during the same period (Figure 1.9(b)).

One in three jobs are wage-paying jobs in the private sector, which has expanded rapidly in recent years. In 2014, 2.6 million workers had private sector wage-paying jobs, up from 1.1 million in 2009 (Figure 1.8 and Annex Table 1.2). This increase has occurred in rural areas (12 percent to 26 percent) as well as urban areas (20 to 38 percent), although private wage jobs are more common in urban areas than in rural areas. They are also more common among men than among women (Figure 1.9).

Figure 1.7: _

Labor Force Participation Rates and GDP per capita, global, 2016 *Cambodian employment rates are higher than those of comparator countries*



Source: Author's estimates using CSES 2007-2015 and the WDI online database.



Distribution of Job Types in Cambodia, 2014



Source: Author's estimates using CSES 2014. The working age population estimate is from UNPOP.

Note: See Annex 1.1 for definitions of the categories. Populations and percentages of jobs are presented next to the labels. The size of the marker represents the size of the population in that category.

Nearly half of all wage-paying jobs in the private sector are in foreign firms. As of 2014, the domestic private sector employed 1.4 million workers, while foreignowned firms employed 1.2 million workers (Figure 1.8). The share of the working-age population involved in the domestic private sector increased from 8 percent in 2009 to 14 percent in 2014.⁶ Wage employment in the foreignowned private sector grew even more spectacularly from 5 percent of all jobs in 2009 to 15 percent in 2014. A higher share of female workers than male workers hold wagepaying jobs in foreign-owned firms (19 percent versus 11 percent), while a higher share of male workers hold jobs in domestically-owned firms (11 percent versus 23 percent).

The quality of wage jobs, as measured by total monthly wage earnings, is higher in foreign-owned firms than in domestically-owned firms. Only 4 percent of wageearners in foreign-owned firms earn less than the 2014 minimum wage level compared with 22 percent of wageearners in the private sector and 48 percent of farm wageearners. Earnings in both the domestic and foreign-owned sectors vary widely, with the middle 50 percent of domestic wage-earners making between PPP\$ 250 and PPP\$ 470 compared to the PPP\$ 300 to PPP\$ 438 earned by the middle 50 percent of wage workers in foreign-owned firms.

Occupation: Most jobs are low quality (proxied by low-skilled occupations), but some workers are moving into slightly better (semi-skilled) jobs

Half of Cambodia's jobs are in agriculture or elementary occupations (51 percent), and can be

considered poor quality jobs (Figure 1.9). These jobs are mainly prevalent in rural areas (62 percent), while these occupations constitute only a small share of jobs in urban areas (15 percent). Women are slightly more engaged in agricultural occupations than men (39 percent of women versus 36 percent of men), but men dominate in elementary occupations (11 percent of women versus 16 percent of men). Recent trends show that these occupations have been declining over time in all locations for both genders (Annex Figure 1.1).

The number of higher quality jobs (semi-skilled occupations)-such as machine operators, garment sector workers, craftsmen and tradesmen, and sales and service workers—has increased in recent years and now constitute 40 percent of all Cambodian jobs. These jobs are more prevalent in urban areas, with sales and services accounting for more than 30 percent of urban jobs. These jobs are also more prevalent among women than men, with more women being employed in sales and services and in the garment sector. This is perhaps not surprising given the highly feminized labor force generally employed in garment factories and in the restaurant and hospitality sector globally. In fact, garment-related occupations in Cambodia have had the largest growth from about 5 percent in 2009 to 11 percent in 2014 (Annex Figure 1.1). Other crafts and related trades also grew from 7 percent to 9.6 percent over the same period as a result of growth in construction sectors.

Jobs in Cambodia are being upgraded in two ways. First, new jobs in semi-skilled occupations are being created as a result of new investments in various sectors. When we analyzed finer occupation categories (up

⁶ There was not enough data to enable us to identify the number of private sector wage workers who are covered by labor legislations and those who are not.

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Figure 1.9: _

Distribution of Jobs by Type

(a) By Worker Type, 2014

A large share of the labor force is involved in traditional forms of work



(b) By Year, 2007-2015

Wage employment in private sector has boomed in recent years



Source: Author's estimates using CSES 2014.

Note: Employment type refers to primary employment. The sample is restricted to the population aged 15-64 who are currently working. Foreign-owned firms were not identifiable in 2007 and 2008.

to a three-digit level), we found that garments and related trades is the fastest growing occupation category (Table 1.1).⁷ The share of employment in this occupation category increased by 1.1 percent per year between 2007 and 2015. Other trades, such as building frames for construction, wood treating, and cabinet making have also increased in numbers in recent years to cater to the growing construction sector. Service occupations such as shopkeepers, waiters, and bartenders that serve a growing urban population with growing incomes are also expanding quickly, although some started at a very low base.

Second, there is a shift towards more productive variations of some of the lowest-quality subsistence occupations. As seen in Table 1.1, although subsistence farming is the fastest declining occupation, the employment shares of laborers in agriculture, forestry, and fisheries have risen during this period, with wage employment in agriculture rising from 0.5 million in 2009 to 0.6 million in 2014. This shows some transition away from subsistence work and towards wage employment within agriculture (Annex Table 1.2 and Annex Table 1.3).⁸ Similarly, a move from sales in the streets to sales in shops shows a transition towards higher value-added salesmanship.

The best jobs—clerical, managerial, professional, and technical occupations—are in short supply and are expanding only slowly. Only 9 percent of all jobs are in these occupations, employing higher shares of men than women (11 percent versus 7 percent), and of urban dwellers rather than rural dwellers (24 percent versus 5 percent). These occupations have expanded to some extent as they represented only 6 percent of jobs in 2009, but this rise was driven more by increases in clerical jobs (which contributed 2 percent of this growth) than by increases in managerial, technical, and professional occupations (contributing 1 percent of growth).

Because of sample size issues, we dropped any occupation category with a less than 0.5 percent employment share during the 2007-2015 period from our analysis. While our analysis using finer occupation categories tends to be noisy because of sample size issues, it is still insightful on the specific types of occupations that are growing and shrinking. Also, comparing these findings with changes in the broader categories (as in Annex Figure 1.1) confirms our overall results.

⁸ The shift is not completely driven by land ownership. Even within households that own farming land, wage work in farming is increasing. In fact, in rural areas, landless households were slightly less likely in recent years to be involved in wage work in farming than they were in the past.

Figure 1.10: __



Agricultural and elementary occupations are predominant, particularly in rural areas



Source: Author's estimates using CSES 2014.

Note: The sample was restricted to the working-age population aged 15-64 who had worked in the previous seven days before the survey. The occupations are those that the respondents indicated were their main job.

Table 1.1:_

Fastest Growing and Declining Occupations, 2007-2015

	Employment Share		Change per veer
	2009	2014	Glialiye per year
Fastest growing occupations			
Garment and related trades workers	4.41%	10.18%	+1.14%
Building frame and related trades workers	0.56%	2.77%	+0.69%
General office clerks	0.85%	2.58%	+0.29%
Agricultural, forestry, and fishery laborers	6.29%	6.93%	+0.16%
Shop salespeople	5.03%	6.05%	+0.14%
Waiters and bartenders	0.26%	0.83%	+0.12%
Motodup and tuktuk drivers	1.16%	1.50%	+0.07%
Transport and storage laborers	0.82%	0.82%	+0.05%
Wood treaters, cabinet-makers, and related trades workers	0.72%	0.93%	+0.05%
Forestry and related workers	0.37%	0.67%	+0.05%
Fastest declining occupations			
Subsistence livestock farmers	10.22%	5.38%	-1.05%
Subsistence crop farmers	25.69%	19.85%	-1.01%
Firewood and water collectors	4.67%	0.59%	-0.88%
Subsistence fishers, hunters, trappers, and gatherers	2.51%	1.91%	-0.25%
Street and market salespeople	4.87%	3.65%	-0.16%
Market gardeners and crop growers	7.55%	6.88%	-0.11%
Food processing and related trades workers	1.60%	1.39%	-0.09%
Fishery workers, hunters, and trappers	1.50%	1.44%	-0.06%
Animal producers	3.58%	3.47%	-0.04%
Street food snack sellers	0.77%	0.69%	-0.04%

Source: Author's estimates using CSES 2009-2015.

Note: Average growth was estimated from a regression of shares (for each year) of occupations that had an employment share of at least 0.5 percent between 2007 and 2015. Each occupation cell is a three-digit occupation code.

Wages have been increasing in recent years

Real wages paid to those in wage-earning jobs were on average above the international poverty line by 2014.⁹ Average real monthly wage earnings were PPP\$ 393 in 2014, a 54 percent increase since 2009. By 2014, the share of jobs paying below the international extreme poverty line of USD 2.00 per day was 1.6 percent, and the share below the dependency adjusted income poverty line of USD 4.22 per day was 7.7 percent. This was down from 9 percent and 25 percent respectively in the year 2009 (Figure 1.11).

Wages in low-quality jobs increased the fastest in the period 2009-2014. Wages at the bottom of the wage

distribution (p=10 and p=25 in Figure 1.11) grew faster than median wages from 2009-2014. At the same time, wages at the top of the wage distribution only grew modestly (p=75 and p=90 in Figure 1.10). Similarly, the gap between the (composition-adjusted) hourly real wages of workers in the agricultural and non-agricultural sectors also narrowed since a modest increase in agricultural wages was greater than the growth in non-agricultural wages. This was also the case for jobs held by the least-skilled workers (Figure 1.12). The wages for jobs held by workers with only a primary education increased faster than those for jobs held by workers with a secondary school education. Nonetheless, the education wage gap remains substantial.

Figure 1.11: _

Evolution of Wages, by wage quintile, and Share of Wages Below the Poverty Line, 2007-2015 Inequality reduced growth in monthly real wage earnings between 2007 and 2015



Source: Author's estimates using CSES 2007-2015.

Note: The "p"s in the legend refer to the percentiles of the wage distribution for each year.

Figure 1.12:

Distribution of Wages in Agriculture and Non-Agricultural Jobs, by worker education The wage gap between agriculture and non-agriculture activities has narrowed in recent years

(a) Primary Education



(b) Secondary Education



Source: World Bank staff calculations using CSES 2004-2014.

9 Monthly wages are recorded in KHR in the CSES, so we converted them to 2014 using the consumer price index and to international PPP\$ using the conversion rate in 2014 of 1597.30 KHR per PPP\$. The USD 4.22 per day threshold that we used is USD 2 per day multiplied by the ratio of the total population to the share of individuals that are employers, employees, or own-account workers. We used the dependency ratio to convert the per-earner wage to the per capita poverty line.

The increase in the wages for the lowest-paid jobs was not likely due to the minimum wage. The minimum wage legislation was put into effect in 1997, mandating a wage floor specifically for the garment and footwear industries. It was initially set at USD 40 per month and was increased eight times between 2007 and 2016, reaching USD 153 by September 2016. Although the nominal minimum wage increased by over 380 percent over 19 years, the real value of the minimum wage was below its 1997 real value until January 2015. While the 20 to 30 percent increase in the minimum wage raised average wages in the garment sector by 2.8 percent, most of these gains were concentrated among higher-paid workers, who experienced wage increases in excess of 4 percent whereas those in the bottom half of the garment

Figure 1.13: _

(b) Impact on Hourly Wages .20 .02 .01 Impact, Percentage Point mpact, Percent of Wage .15 .01 0 .10 -0.1 -0.1 -0.2 .05 -0.2 -0.3 0 -0.3 -0.4 -.05 -8 -6 -4 -2 0 2 4 6 .06 .05 mpact Percentage Point .04 Impact, Percent of Wage 0 .02 0 -.05 -0.2 -.10 -0.4 -0.6 -.15 -8 -6 -4 -2 0 2 4 6 -8 -6 -4 -2 0 2 4 6 Quarters from minimum wage hike Quarters from minimum wage hike 95% Confidence Interval Point estimates

wage distribution gained only 1 to 2 percent from the

minimum wage hike. Furthermore, the hours of low-paid

workers were cut when the minimum wage was increased,

which meant that their total monthly take-home pay stayed

Although the minimum wage is only mandated for the garment and footwear industries, it also affected

employment and wages in jobs in other sectors. Recent minimum wage hikes reduced wage earnings for

those outside the garment sector by about 1.4 percent. At the

household level, total earnings did not increase in response

to the higher mandated minimum wage. Instead, workers

adjusted their working hours and sectors of employment to

maintain the same level of earnings.¹⁰

the same.

(a) Impact on Labor Participation

Impact of Minimum Wage Increase

Source: Adapted from Shrestha (2018).

Note: The plotted estimates are for each quarter with the quarter immediately preceding the change as the omitted category. The orange lines show the average for one to eight quarters before the change and for two to eight quarters after the change. The left plot shows the impact of the minimum wage increase on participation rates in all economic activities, on garment work, and on self-employment activities. The right plot shows its impact on hourly wages in the garment and non-garment wage sectors.

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See Annex 2.1 for a detailed summary of the methodology underlying these findings and a deeper discussion of the findings.

The increases in the minimum wage did not seem to impact labor force participation rates in the long run in either the garment or non-garment sectors. However, there have been some temporary patterns around the time of the minimum wage hikes. Employment in the garment sector increases in the guarters preceding the hike but falls in the two quarters following the wage increase. The availability of temporary workers is what likely allows firms to make these short-lived adjustments. After three quarters have passed, employment rates go back to their pre-change levels. The empirical strategy used for the study factors out all trends in employment patterns to focus just on the effects of minimum wage hikes. As such, such aspects as other sectors, general benefit level increases, or worker flow trends are unlikely to explain the results. However, it is possible that because garment firms employ many migrant and temporary workers, it may be easy for them to make the small adjustments in their labor demand at just about the time of minimum wage increases. However, the data cannot credibly distinguish between permanent and temporary workers, or between migrant and non-migrant workers, and it is therefore unable to test if the impacts are different along these dimensions.

Future minimum wage increases may have a bigger impact than these trends from past years might suggest. First, during the period of our analysis, the minimum wage was lower than the market wage. Even though real per capita income increased drastically between 1997 and 2015 in Cambodia, the level of the real minimum wage remained close to the 1997 level throughout that whole period. Consequently, an overwhelming majority of workers in the garment sector were already earning a wage that was higher than the new minimum wage. If the minimum wage rises faster than wages (and productivity) increase at

the bottom of the garment sector wage distribution, this could reduce employment in the sector. This effect has been found by cross-country studies comparing economies with low minimum wages (relative to the market wage) and those with high minimum wages.¹¹ Second, minimum wage increases may outstrip labor productivity growth. The increased productivity that has been observed in the Cambodian garment sector following minimum wage hikes is likely to have been the result of low-effort adjustments that increasesd in productivity. Firm owners suggest that these productivity increases were the result of employers setting steep performance targets for garment workers. Without significant changes to the production technology, there is a limit to how many future increases in labor productivity will be achievable, so any future minimum wage hikes could then lead to an increase in wages with no increase in productivity. Such wage growth will lower output and reduce labor in the garment sector and make Cambodia less attractive to foreign firms.

Labor productivity increases are not reflected in wages

Long-term labor productivity trends (output per worker) fell in the fastest-expanding occupations but increased in others, thus having a mixed effect on the overall quality of jobs (Figure 1.14). From the perspective of employers, jobs with higher labor productivity are better jobs, while from the perspective of workers, higher labor productivity can push wages up, thus improving the quality of the jobs. Labor productivity in general in Cambodia has been following a downward trend since 2004, although this decline became more gradual in 2010 in the fastest-growing wage-paying



Source: World Bank staff calculations using CSES 2004-2014.

¹¹ See Del Carpio and Pabón (2014) for a review of experiences in East Asia and Cunningham (2007) for a comparison of Latin American countries.

jobs—garments, construction, and real estate. However, productivity has slightly increased in agriculture, which is also slowly expanding, and in "other" industries and services. The productivity gains in agriculture reflect, at least in part, higher yields due to the expansion of land under cultivation, gains in crop yields due to mechanization, higher-quality seeds, greater access to irrigation, and diversification into higher value-added crops including the expansion of rubber, cashews, pepper, and other tree crops (Eliste and Zorya 2015). Nevertheless, there has been no improvement in job quality related to productivity overall.

The combined effect of higher wages and limited productivity growth indicates that job quality has declined as measured by the unit cost of labor. The unit cost of labor measures labor-related costs (mostly wages but also benefits) for each unit of output. From an employer's perspective, a high unit cost per worker is a drain on profits, and thus does not constitute a "good" job. Cambodia's garment sector has the highest unit cost of labor among competitor garment-producing countries (Figure 1.15).

The low skill-level of the labor force may prevent Cambodia's movement to higher quality jobs

Productivity is partly a function of the education level of the workforce, and, despite some progress in the past decades, the level of education of the **Cambodian workforce is quite low.** Only 13.5 percent of the working age population has completed upper secondary education, and only 3.8 percent has had a college or higher level of education. These educational attainment rates are lower than those of other countries with comparable income levels and of other countries in the EAP region (Figure 1.16). Although schooling attainment for the younger cohorts has recently increased, the education level of the older cohorts of the population remains low. The low level of education appears to prevent individuals from accessing higher quality jobs. For instance, individuals with low education outcomes do not tend to hold clerical, managerial, or professional occupations in Cambodia.

Today's education system is not providing students with the fundamental skills that they will need to be competitive in tomorrow's jobs. While Cambodia has made significant progress in terms of increasing access to education, by 2014, only slightly more than 80 percent of primary-school-aged children were attending school (World Vision 2017). The percentage is even lower at the secondary school level, where only Myanmar, Papua New Guinea, and Lao PDR have similar or lower levels of high school completion rates than Cambodia, and only Papua New Guinea has lower college completion rates. However, attending school is not synonymous with acquiring fundamental skills: language, mathematics, and basic reasoning. Between 2010 and 2012. 17 to 35 percent of second graders could identify only a single letter, and 33 to 48 percent could not read a single word in a simple paragraph (USAID 2015).¹² Consistent with this, in 2016, about one-third of sixth graders had "below basic" knowledge of the Khmer language and over half had "below basic" knowledge of mathematics (MoEYS 2017). The quality of schooling is much worse in rural areas than in urban areas.



Figure 1.15: .

Average Unit Labor Costs of Apparel Firms Across Comparator Countries

Source: World Bank Enterprise Surveys.

¹² International evidence has shown that the reading skills of poor readers deteriorate with age as opposed to improving (Stanovich 1986).

Figure 1.16: _

Global Secondary and Tertiary School Completion Rates and GDP Cambodia still lags behind comparator countries in educational attainment

(a) Secondary School Completion Rate



Source: Per capita GDP from the WDI online. Completed education data for 2010 from Barro and Lee (2013). Cambodia data from the 2009 CSES. **Note:** The size of the bubble denotes the population in 2010.

10

11

9

Log (GDP per capita, PPP)

8

6

7

1.5 Inclusive Jobs: Women and Older Workers Have Lower-Quality Jobs

While there was a general lack of data regarding the inclusiveness of jobs in Cambodia, we were able to explore how job quality differs by gender and age.

Gender: Women hold better jobs by some measures, but fare worse than men on many others

Women hold a high share of Cambodia's jobs. About 73 percent of women were working in 2015 compared with 80 percent of men. These rates are higher than women's LFP rates globally (52.6 percent), in the EAP region (54.5 percent), and in countries with a similar level of development (56.7 percent) (Figure 1.17). Vietnam and Lao PDR are the only EAP countries with similarly high levels of female LFP as Cambodia.

The structure of Cambodia's economy provides more good job opportunities to women than in comparator countries. Cambodia has a disproportionately female manufacturing sector that is driven by two engines of economic growth: garment production and tourism. Nearly 23 percent of Cambodian women worked in the manufacturing sector in 2014 compared with 21 percent in Thailand and 19 percent in Vietnam. In contrast, an equal or lower share of Cambodian men worked in manufacturing compared with men in Thailand and Vietnam. Between 2009 and 2014, the share of female employment in manufacturing increased by 7 percent, almost completely due to the growth in garment jobs. These jobs increased from 8.5 percent of female employment in 2009 to 17.3 percent in 2014. The share of women working in the in the hospitality sector increased slightly by 0.4 percent, and in other service sectors their share increased by 2.6 percent during the same period. These changes were slightly smaller than those for men (0.9 and 3.5 percent), arguably due to the large increase in the share of women working in garment manufacturing. However, growth in the construction sector has disproportionately benefitted men.

Women have access to better jobs in the sectors where they dominate. Women fill 65 percent of jobs in the manufacturing sector—a sector where the majority of wage-paying jobs are in garments. They also hold more than 65 percent of the managerial and professional jobs in this sector (Figure 1.18(a)). A similar situation exists in the services and trade sectors where women are over-

Figure 1.17: _

Women's Labor Force Participation and Per Capita GDP in Cambodia and Comparator Countries



Source: Author's estimates using CSES 2007-2015 and the WDI online database.

represented among professionals and among associate professional and semi-skilled jobs. However, the services and trade sectors display a "glass ceiling" since, unlike in the garment sector, women are under-represented among the top jobs (managers). In contrast, only 10 percent of construction jobs are held by women, and women are clustered into the lowest quality jobs in elementary occupations (usually unskilled agriculture, construction, and

transport jobs), though they are over-represented among clerical and sales and service jobs (Figure 1.18(b)).

The labor market rewards highly educated women more than equally well-educated men. Female secondary-school graduates earn 20 percent more for an additional year of education than the workforce average of 9 percent (Figure 1.19).

Figure 1.18: __

Vertical Gender Segregation within Industries



Source: Guvalyugova (2018) based on the CSES 2016.



Figure 1.19: _

Returns to Education by Gender

Source: Author's estimates using CSES 2014.

Note: The sample was restricted to the working-age population aged 15-64 who had worked in wage employment for at least 20 hours in the previous seven days before the survey. The vertical dashed lines indicate completion of the primary, lower-secondary, upper secondary, and college levels. The dependent variable is the logarithm of hourly wages. The regressions control for individual covariates (gender, age, marital status, and household size and composition) and location (rural-urban x region).

Women are performing less well in the labor market according to other measures and are over-represented in traditional forms of work. Nonfarm household enterprises constitute a larger share of employment for women than for men, and this may be because they find the flexibility involved in running a household enterprise particularly attractive. However, women and men are equally likely to own family farms (40 percent).

On average, female wage workers earns only 86 cents for every dollar earned by male workers. The Cambodian average gender wage gap is similar to that in other East Asian economies; for example, in 2014, Vietnamese women earned, on average, 88 cents for every dollar of wages earned by a male worker (Cunningham and Pimhidzai 2018). The gap is due to a number of factors, including women's lower education levels,¹³ householdrelated gender roles,¹⁴ their industries of employment, and their occupations (Figure 1.20). However, even equalizing across these factors still leaves an unexplained gap of 7 cents on the dollar. It is notable that gender wage gaps have fallen faster in female dominated sectors than in male dominated sectors. While the gender wage gap was more or less the same in all sectors in 2011, with women earning 86 cents for every dollar paid to a man, by 2016 the gender wage disparity had improved to 97 cents on the dollar in the manufacturing sector, but had deteriorated to 71 cents on the dollar in construction (Gavalyugova 2018).

Figure 1.20: _



Gender Gap in Hourly Wages

Source: World Bank staff estimates based on the CSES.

- ¹³ The 2016 round of the CSES showed that 46.1 percent of Cambodian women and 63.5 percent of men aged 25 and over had obtained at least a primary education. The available statistics show that, in this respect, Cambodia lags behind other countries in the region. However, more recent generations have higher educational attainment and less of a gender gap. Within the population of recent graduates from the general education system who are between 20 and 30 years old, 75.7 percent of women and 76.6 percent of men had completed at least primary schooling (Gavalyugova 2018).
- Parenthood introduces gender gaps in the labor force. Men and women with no children have a similar likelihood of working in a family-owned household enterprise. However, after the birth of their first child, women's probability of working in a household enterprise increases dramatically and remains 10 percent higher than that of men (which is the size of the overall gap in household enterprise employment). Similarly, while men with no children have higher wages than women with no children, the gap begins to widen when the first child is born and expands rapidly on the birth of the third child (Gavalyugova 2018).

Older adults, rather than young people, face the greatest challenges to accessing good jobs

While the school-to-work transition is a challenge for young people, older workers fare worse in the labor market. Older workers are disproportionately employed in low-productivity family farming or in household enterprises compared with new labor force entrants aged 15 to 24 years old (Figure 1.21). Young workers predominate in both foreign and domestic private sector employment, which often provide higher wages than does owning a farm or non-farm household enterprise, whereas the older population has difficulty transitioning into the fastest growing areas of the economy.¹⁵ Employment in the foreign-owned garment sector is particularly popular among young women, while domestic wage employment remains attractive for young men.

Youth are particularly active in joining the fastgrowing manufacturing and construction sectors (Figure 1.22). Nearly one-third of workers aged 20 to 29 work in these sectors compared to 10 percent of workers aged 45 to 59. This may be because these sectors require

Figure 1.22:

Occupation and Sectoral Composition of Employment by Age A younger labor force is engaged in rising sectors and occupations



(a) Sector Distribution of Employment

CHAPTER 1: AN INTRODUCTION TO JOBS IN CAMBODIA

Figure 1.21: _

Source of Employment, by Age



Source: Authors' estimates using CSES.

skills and manual abilities that older workers have not acquired or can no longer do. Young men are most likely to work in the construction sector, whereas young women tend to work in the garment sector.

(b) Occupation Distribution of Employment



Source: Author's estimates using CSES 2014.

Note: The sample was restricted to the working-age population aged 15 to 64 who had worked in the previous seven days before the survey. The sectors and occupations are defined as the sector of main employment. Point estimates for each age were estimated using a locally linear regression with a bandwidth of one year.

A similar situation exists in Vietnam according to panel employment data for 2012 and 2014. Transition matrices show that youths (aged 16 to 24) have a higher propensity than any other age group to transition into formal sector wage employment, especially into jobs in the FDI sector. In contrast, workers at the other end of the age spectrum did not have a significant rate of transition into these sectors (Cunningham and Pimhidzai 2018).

Workers aged 20 to 29 are more likely than workers aged 45 to 59 to have mid-skilled occupations (46 percent versus 29 percent) as well as highskilled occupations (12 percent versus 9 percent). The difference is particularly stark for women, with only 4.5 percent of older female workers working in highskilled occupations compared to 11 percent of younger female workers. Over half of younger female workers are involved in mid-skilled occupations, including those in garment production, compared to only 28 percent of older female workers. The age differences are less obvious in urban settings as 22 percent of older urban workers work in high-skilled occupations compared to 27 percent of younger female workers. The older urban cohort predominates in managerial positions whereas younger cohorts predominate in clerical occupations (Annex Figure 1.3). This suggests that transitioning into better occupations is particularly difficult for women and for workers in rural areas.

1.6 Cambodia's Future Jobs

Given this context, what will future jobs look like in Cambodia? The future jobs picture will be driven by changing mega-trends taking shape outside of Cambodia that will affect jobs inside Cambodia but also by policy reforms implemented today.

The world is experiencing a number of mega-trends...

We identify four principal trends that are reshaping the global economy and the nature of production that will affect the shape of Cambodia's job picture in the future:

Global consumption patterns are changing due to wealth and urbanization

The Asian and Cambodian consumer class is expanding rapidly alongside higher urbanization, which are shifting consumptions patterns. While Asia is home to some of the richest countries in the world, it is also home to a growing number of middle-income countries. By 2030, more than 90 percent of developing Asian households should have incomes high enough to have money available to spend on excess consumption. In Cambodia, 15 percent of households were classified as being economically secure in 2004, and this proportion had doubled by 2014. **Urbanization may also be re-shaping the preferences of Cambodian consumers.** Twenty percent of Cambodians lived in urban areas in 2015, and this share is expected to increase to 50 percent by 2040 (Baker et al. 2018). Urbanization means households will need to buy food that in the past they may have produced themselves. Urban consumers spend more of their income on services such as communications, transport, restaurants, and banking (rather than food or other basic necessities) than do nonurban consumers. However, perhaps the biggest opportunity for Cambodia is the potential growth in exports to China in response to China's rapid urbanization and consumer growth, particularly in services, aged care services, and education (McKinsey Institute 2016).

This has two implications for Cambodian jobs. First, there will be growing domestic demand for more, and different, goods and services than in the past. Non-poor households purchase more expensive food baskets than poor households do—including non-rice cereals, fruits, and meat—and they expect these goods to meet solid standards of hygiene and food safety. They also buy more non-food products and services (Jamora and Labaste 2015). Second, regional trade patterns will shift to accommodate wealthier and more urban East Asian populations. Both of these trends suggest that there will be an increase in the demand for jobs in higher-value agricultural products, processes products, and service-oriented jobs, especially in urban zones in Cambodia and for regional export.

Trade patterns and global value chains are being re-organized

The re-organization of production globally—and the rapid growth of global value chains (GVCs)-has been an important driver of globalization in recent **decades.** GVCs are a production process in which separate activities are needed to take a product from an idea to the purchaser, and these different processes can take place in several different countries. GVCs have enabled emerging economies to integrate into the global economy faster than in the past, opening up new sources of exports, jobs, and growth. However, the world economy is facing a number of structural shifts that may dramatically change the outlook for GVCs— and thus economic globalization—in the coming years (OECD 2017). First, GVCs are maturing and losing momentum as the potential for the "unbundling of production" into its separate parts in different countries has largely been exhausted. Second, several factors are expected to re-orient production within GVCs as follows: (i) production costs have significantly increased in a number of emerging
economies; (ii) some new players in GVCs have vast and rapidly growing labor forces;¹⁶ (iii) digitization may reorient global production and trade back towards advanced economies; and (iv) robotics, automation, computerized manufacturing, and artificial intelligence may reduce the advantages of siting production in emerging economies with low labor costs. Production may become increasingly concentrated in regional or local hubs closer to end markets, thereby strengthening regional (rather than global) value chains.

These trends will shape Cambodia's future participation in GVCs, which are an important feature of the country's export-oriented growth strategy. First, while in part due to off-shoring and low-value production, China's contribution to global manufacturing value-added and employment is continuing to rise, while increased wages within China are also opening opportunities for other developing countries, including Cambodia (Hallward-Driemeier and Nayyar 2017). Outward FDI by Asian countries, particularly from China, into other developing countries has also became a much more important share of global FDI and could be a source of new FDI to diversify Cambodia's exports. Second, shifts that re-orient production back to advanced economies may not affect Cambodia, which sits on the doorstep of Asia's rising consumer class. However, Cambodia's current export production is largely aimed at the United States and the EU, two countries that are rapidly digitizing and may bring production home. If Cambodia does not find a way to diversify export markets, its future participation in global manufacturing industries may be at risk. This could be exacerbated as Cambodia climbs the income ladder and loses the tariff preferences currently offered by the EU and the United States.

More jobs are being automated

While recent media headlines have villainized technology in the workplace, it has the potential to create more, better, and more inclusive jobs. It is already unlocking current bottlenecks to job creation. For example, the expansion of mobile money systems in Cambodia in recent years has not only helped to create jobs, but has also facilitated the transfer of remittances, increased access to credit, and increased productivity and entrepreneurship. Technology has also improved the quality of a range of jobs by relegating manual tasks to machines and freeing up workers to carry out higher value-added tasks. For example, for those living in remote areas, those with household duties that tie them to their home, or those who are physically unable to leave home, technology can enable them to work from home. Technology will also make jobs more inclusive by giving excluded groups the tools that they need to be integrated into the workforce. For example, household enterprises can use Facebook to interact with a larger client base than if all of their interactions had to be face-to-face.

While automation is not an immediate threat to the Cambodian economy, some jobs will disappear. For instance, the availability of online services for mobile banking, travel bookings, and public services through e-government negatively affects workers in medium-skilled, routine-based occupations, such as tellers and clerical jobs. Other actual and potential jobs may be lost as a result of global firms reshoring (in other words, transferring their overseas business operations back to their home country). Wage increases will speed up the pace of automation as firms displace workers with technology. Cambodian workers' skills will need to be upgraded to align with the factors that drive new jobs growth, or else their jobs may disappear.

Box 1.2: Opportunities for Entrepreneurship and Self-Employment in the Global Digital Economy

China's State Information Center estimates that the recent boom in the country's e-commerce sector has created 10 million jobs in online stores and related services, accounting for about 1.3 percent of the country's employment. In Kenya, the M-Pesa digital payment system has created additional income for more than 80,000 agents. Samasource and Rural Shores link clients in the United States and the United Kingdom with workers in Ghana, Haiti, India, Kenya, and Uganda. Of all of the global online workers on the Upwork freelancing platform, 44 percent are women, many of whom do freelance work because they want to balance work and family life. Moreover, ICT jobs tend to pay well, and each high-tech job generates 4.9 additional jobs in other sectors in the United States.

Source: World Bank (2016)

¹⁶ For example, Myanmar in the East Asia Pacific region is attracting new FDI in the garment sector, and Ethiopia is starting to play a larger role in manufacturing assembly activities in Africa.

The knowledge economy will become increasingly important for jobs

Twenty-first century workers require a more complex set of skills than in the past. There has been a global shift away from manual, routine jobs and into non-routine, knowledge-intensive jobs (Acemoglu and Autor 2010; World Bank 2016). While basic cognitive skills (reading and writing) and technical knowledge in a given field was the recipe for a productive worker in the past, today's employers are looking for a range of skills and knowledge. This is being driven by automation as machines are taking over routine tasks or parts of the production process and also by the increase in demand for high-value products and services driven by the expanding consumer class and global value chains (Box 1.2).

Although Cambodia's job growth has so far been based on low-knowledge jobs, its occupational profile is showing signs of becoming more knowledgeintensive. Even in the short period between 2009 and 2015, there has been a significant increase in knowledgeintensive jobs in Cambodia while growth in manual tasks has been stagnant or negative. Of course, the number of knowledge-intensive jobs is still low, but the trends suggest that this is beginning to change.

...and Cambodia will have to implement significant changes to respond to these trends and guarantee a better jobs future

The challenge faced by policymakers in Cambodia is to develop policies that capitalize on these megatrends to create more and better jobs and stimulate economic growth. Simply maintaining the status quo may result in Cambodia falling behind other countries that are adapting to the new jobs reality, and simply making changes on the margin will only allow Cambodia to keep up with current job creation and upgrading trends. However, if policymakers implement some significant changes now, they can leverage these mega-trends to put Cambodia on a path to greater development and more, better, and more inclusive employment.

To implement these radical changes, Cambodian policymakers will need to make significant new investments to turn Cambodia into a modern and dynamic destination for new and higher-value FDI, and they will need to leverage this FDI to stimulate the growth of the domestic private sector. This would mean tackling key constraints at their root, including: (i) scrapping regulations that have no business or ethical rationale: (ii) strengthening existing GVC-local economy links; (iii) heavily investing in electricity, logistics, banking, and other services that are currently constraints to the business climate; (iv) taking steps to regain exchange rate flexibility and monetary independence to shield jobs from US dollar fluctuations; and (v) rapidly building a demand-driven skills training system that is flexible enough to respond to changing market needs while at the same time reforming the education system to teach students the broad range of skills needed in the 21st century workplace. The government has recently announced new reforms targeting SMEs-including announcing short-term profit tax incentives, customs duty exemptions on select inputs, and the establishment of an SME bank and entrepreneurship fund-but future reforms will need to cut across the sectors of the economy and strengthen their integration.

The rest of this report will explore and define these significant reforms that can propel Cambodia toward a better jobs future. Each chapter explores a different piece of the jobs puzzle—the macroenvironment, private sector jobs and household enterprises, trade, and skills—in order to identify current successes and the opportunities that are in Cambodia's grasp if it chooses to undertake these bold reforms.

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ANNEX 1.1: Data Sources and Definitions

Data Sources

This report uses data from the Cambodia Socio-Economic Survey (CSES) that has been conducted annually since 2007 by the National Institute of Statistics (NIS) in the Ministry of Planning in Cambodia. The CSES collects data on a wide array of indicators related to household demographics, consumption, education, and economic activities, for example. This survey is the primary poverty monitoring and planning tool used by the Royal Government of Cambodia.

Although the survey is conducted annually, the sample size has differed from year to year. Usually, the CSES interviews about 3,500 to 4,000 households each year, but every five years the NIS conducts a "big sample" survey with a sample of about 12,000 households. These big sample surveys were conducted in 2009 and 2014.

In this report, we use annual CSES data from 2007 through 2015 (the latest year for which data are available). Although we used data from all survey years to look at trends, for point estimates we usually only used data from 2009 and 2014 because of their larger sample sizes and the greater precision of the indicators.

Employment Categories

Unless otherwise specified, labor force participation categories in this report are based on the primary economic activity performed by the respondent in the previous seven days before the survey.

Not working: An individual is defined as not working if he/she had not spent even one hour in the previous seven days (before the survey) doing any economic activities. However, they are considered to have been working if they had a regular job but were temporarily not working that week because they were taking a period of time off from work. This also includes those who are traditionally defined as "unemployed," or in other words, those who did not work but were actively looking for work. The share of such unemployed individuals is extremely low in Cambodia, with less than 0.2 percent of the working-age population falling into this category. Hence, we do not analyze this category separately in this report.

Farming: Those workers whose main activity falls under the "Agriculture, forestry, and fishing" categories in the classifications of employment sectors used in the CSES. This includes those who were working as wage workers as well as the self-employed and workers helping out on the family farm.

Public wage employment: The employer of those involved in non-farm wage work is either the government or a stateowned enterprise.

Private wage employment: All non-farm wage employees who are employed by a non-public entity are assumed to be in the private sector. This may include being employed by a foreign enterprise or a non-profit institution as well by a Cambodian private enterprise.

Non-farm enterprise workers: This category consists of workers who are neither in farming nor in wage employment. These workers are self-employed in non-farm sectors and include own-account workers, employers, and unpaid family workers.

Unpaid family workers: These are family members who are making unpaid contributions to the household's economic activities. From 2009 onwards, the manuals for the CSES have explicitly instructed enumerators to classify those who contribute to their own household activities and enterprises without payment or income as self-employed. Previously, these workers, who were mostly women, were classified as "unpaid family workers." For conceptual clarity, this report will classify unpaid family workers as farming or non-farm enterprise workers (self-employed) as appropriate.

Sectors of Employment

The CSES uses four-digit industry codes derived from **ISIC-Rev 4**, a United Nations industry classification system, to classify the industrial sectors of each job. In this chapter, we use the following aggregation:

Garments: This includes the categories of "Manufacture of wearing apparel, except fur" and "Manufacture of footwear." Over 92 percent of this category consists of manufacturing of wearing apparel.

Other manufacturing: This category includes all manufacturing sectors except garments and footwear.

Construction: This category includes the construction of buildings, civil engineering, and specialized constructionrelated activities.

Tourism: This category includes industries related to accommodation, food and beverage service activities, and travel agency and related activities.

Trade: This category includes industries related to the wholesale and retail trade as well as to the repair of motorvehicles and motorcycles.

Other services: This category includes all other non-farm related sectors.

Farming: All agriculture, forestry, and fishing related industries fall in this category.

Occupation Categories

The CSES uses three-digit occupation codes derived from ISCO-08, an occupational classification structure of the International Labour Organization (ILO), to classify each occupation. In this chapter, we use the following categories:

Agriculture: This category includes skilled agricultural, forestry, and fishery workers. Typical occupations in this category in Cambodia include subsistence crop and livestock farmers, market gardeners, and crop growers.

Elementary occupations: These are usually unskilled occupations in agriculture, manufacturing, and the service sector. Occupations typically in this category in Cambodia are laborers in agriculture, construction, and transport. Note that the way in which jobs are coded in Cambodia, it does not include workers in garment factories.

Machine Operators: This category includes plant and machine operators and assemblers, including drivers. Typical occupations are drivers of tutktuks, taxis, and other vehicles including heavy trucks, mobile plant operators, and machine operators in the food, rubber and plastic, and textile industries.

Craft and related trades: This category includes workers who produce foodstuffs, textiles, and other articles by applying their specific skills and knowledge. They typically work with their hands or with hand-powered tools and understand all stages of the production process. Common occupations in this category in Cambodia are building frame workers, food processing workers, wood treaters and cabinet workers, and those in related trades.

Garments and related trades: Although garment workers are officially coded as craft and trades work, jobs in the garments industry in Cambodia tend to be different from the typical work done in other craft-related occupations. For instance, most garment manufacturing in Cambodia is done in a production line, meaning that workers may not be familiar with the entire production process.

Service and sales: This category includes personal services workers, sales workers, and personal care and protective services workers. In Cambodia, common occupations in this category are shop salespersons, street and market salespersons, waiters and bartenders, protective service workers, street food snack sellers, policemen, and hairdressers and beauticians.

Clerical: This category includes general and keyboard clerks, customer services clerks, and numerical and material recording clerks among others. In Cambodia, common clerical occupations include general office clerks, tellers, and client information workers.

Managers, professionals, and technicians: In Cambodia, common occupations in this category include armed forces. school teachers, legislators, finance professionals, and managers in various sectors.

ANNEX 1.2: Additional Figures and Tables

Annex Figure 1.1: _

Garments and construction-related occupations boomed during 2007-2015

(a) Total Labor Force;





(c) Urban Labor Force;





Source: Author's estimates using CSES 2007-2015.

Note: The sample was restricted to the working-age population aged 15-64 who had worked in the previous seven days before the survey. The occupations were defined as the main occupation of employment.

Annex Figure 1.2: ___

Sector Employment and Age, 2014

Younger labor force engaged in the rising sectors

(a) Total Labor Force







(c) Urban Labor Force





Source: Author's estimates using CSES 2014.

Note: The sample was restricted to the working-age population aged 15-64 who had worked in the previous seven days before the survey. The sectors were defined as the main sector of employment. The point estimates for each age were estimated using a locally linear regression with a bandwidth of one year.

Annex Figure 1.3: _

Occupation and age, 2014

(a) Total Labor Force









Source: Author's estimates using CSES 2014.

Note: The sample was restricted to the working-age population aged 15-64 who had worked in the previous seven days before the survey. The sectors were defined as the main sector of employment. The point estimates for each age were estimated using a locally linear regression with bandwidth of one year.

Annex Table 1.1: ____

Profile of the Cambodian Labor Force, 2014

	Labor Force	Employed Employed Labor I			Force Aged 15-64		
	Total	Labor Force	Male	Female	Rural	Urban	
Female	0.514	0.482			0.483	0.480	
	(0.500)	(0.500)			(0.500)	(0.500)	
Age: 15-24	0.336	0.290	0.298	0.282	0.311	0.221	
	(0.472)	(0.454)	(0.457)	(0.450)	(0.463)	(0.415)	
25-34	0.274	0.301	0.304	0.298	0.270	0.404	
	(0.446)	(0.459)	(0.460)	(0.457)	(0.444)	(0.491)	
35-44	0.159	0.175	0.176	0.175	0.174	0.178	
	(0.365)	(0.380)	(0.381)	(0.380)	(0.380)	(0.382)	
45-54	0.143	0.153	0.149	0.157	0.160	0.129	
	(0.350)	(0.360)	(0.356)	(0.364)	(0.367)	(0.335)	
55-64	0.089	0.081	0.073	0.089	0.085	0.068	
	(0.285)	(0.273)	(0.260)	(0.285)	(0.279)	(0.251)	
Education: None	0.159	0.159	0.118	0.204	0.189	0.062	
	(0.366)	(0.366)	(0.322)	(0.403)	(0.391)	(0.241)	
Incomplete Primary	0.287	0.307	0.288	0.328	0.346	0.180	
	(0.452)	(0.461)	(0.453)	(0.470)	(0.476)	(0.384)	
Incomplete Secondary	0.420	0.408	0.441	0.373	0.399	0.440	
	(0.494)	(0.492)	(0.497)	(0.484)	(0.490)	(0.496)	
HS graduate	0.097	0.082	0.100	0.063	0.056	0.168	
	(0.295)	(0.275)	(0.300)	(0.243)	(0.230)	(0.374)	
College or more	0.038	0.043	0.053	0.032	0.010	0.150	
	(0.191)	(0.202)	(0.223)	(0.176)	(0.100)	(0.358)	
Marital status: single	0.358	0.322	0.340	0.304	0.313	0.354	
	(0.480)	(0.467)	(0.474)	(0.460)	(0.464)	(0.478)	
Ethnic minority	0.036	0.034	0.035	0.034	0.038	0.024	
	(0.186)	(0.182)	(0.184)	(0.181)	(0.190)	(0.154)	
Household size	5.141	5.094	5.177	5.004	5.088	5.114	
	(1.889)	(1.881)	(1.856)	(1.902)	(1.862)	(1.942)	
Rural	0.754	0.767	0.766	0.768			
	(0.430)	(0.423)	(0.423)	(0.422)			
Region: East	0.048	0.048	0.048	0.047	0.054	0.029	
	(0.213)	(0.213)	(0.215)	(0.212)	(0.225)	(0.167)	
South-East	0.207	0.209	0.204	0.216	0.252	0.069	
	(0.405)	(0.407)	(0.403)	(0.411)	(0.434)	(0.254)	
South-West	0.175	0.176	0.176	0.176	0.198	0.102	
	(0.380)	(0.381)	(0.380)	(0.381)	(0.399)	(0.303)	
North	0.148	0.151	0.153	0.149	0.171	0.086	
	(0.355)	(0.358)	(0.360)	(0.356)	(0.377)	(0.281)	
North-West	0.159	0.161	0.166	0.155	0.166	0.144	
	(0.366)	(0.367)	(0.372)	(0.362)	(0.372)	(0.351)	
Special Region	0.264	0.255	0.253	0.257	0.159	0.570	
	(0.441)	(0.436)	(0.435)	(0.437)	(0.366)	(0.495)	

Source: Author's estimates using CSES 2014. Note: Standard deviations in parentheses.

Annex Table 1.2:

Employment of the Working-age Population

	Fa	arming	Non-farm \	Nage Work	Non-farm H	H Enterprise	Not	
Year	Wage	Self + Family	Private	Public	Self	Family	Working	
2007	313	3696	1127	334	892	558	1429	
2008	391	3497	1257	365	900	567	1597	
2009	522	3816	1118	340	1218	407	1376	
2010	532	3702	1386	386	1376	406	1218	
2011	571	3923	1604	351	1301	271	1180	
2012	604	3473	1834	393	1389	213	1499	
2013	707	3207	2156	367	1414	103	1655	
2014	602	3082	2588	398	1290	111	1729	
2015	681	2761	2934	412	1348	98	1741	

Source: Source: Author's estimates using CSES 2007-2015. The working-age population estimates are from UNPOP. **Note:** See Annex 1.1 for definitions of the categories.

Annex Table 1.3:

Number of Wage Workers, in thousands

Year	Agriculture	Trade	Services	Construction	Manufacturing
2007	312.5	44.0	766.3	279.9	370.9
2008	391.2	36.8	824.5	261.3	499.7
2009	521.6	37.7	721.5	245.0	453.2
2010	531.5	66.8	881.8	282.2	541.2
2011	570.5	80.5	905.3	269.4	699.5
2012	604.0	72.0	1047.9	357.8	749.2
2013	707.1	86.6	1101.0	459.8	875.8
2014	602.2	110.8	1218.3	540.6	1116.2
2015	680.7	123.9	1383.4	636.2	1202.5

Source: Author's estimates using CSES 2007-2015. The working-age population estimates are from UNPOP. **Note:** Trade includes retail as well as other trades. Services include all other sectors.

Annex Table 1.4: ____

Largest Occupations in 2009 and 2014

2009		2014				
Occupation	Share	Occupation	Share			
Subsistence crop farmers	0.257%	Subsistence crop farmers	0.198%			
Subsistence livestock farmers	0.102%	Garment and related trades workers	0.102%			
Market gardeners and crop growers	0.076%	Agricultural, forestry, fishery labourers	0.069%			
Agricultural, forestry, fishery labourers	0.063%	Market gardeners and crop growers	0.069%			
Shop salespersons	0.050%	Shop salespersons	0.060%			
Street and market salespersons	0.049%	Subsistence livestock farmers	0.054%			
Firewood and water collectors	0.047%	Street and market salespersons	0.036%			
Garment and related trades workers	0.044%	Animal producers	0.035%			
Animal producers	0.036%	Mining and construction labourers	0.031%			
Subsistence fishers, hunters, gatherers	0.025%	Building frame and related trades workers	0.028%			

Source: Author's estimates using CSES 2009 and 2014.

Note: Occupations are three-digit occupation codes. Primary occupations are used to categorize workers.

Annex Table 1.5: ____

Real Wage Earnings, 2007-2015

	Monthly	y Wages, in 201	Percent of Wor	kers Earning Below		
Year	p=25	p=50	Mean	p=75	\$2 per day	\$4.22 per day
2007	131.4	197.1	301.4	307.8	7.4%	23.9%
2008	120.1	187.7	261.8	285.3	9.1%	26.5%
2009	120.9	204.0	256.0	287.2	11.1%	25.4%
2010	145.3	218.0	272.3	303.0	7.0%	20.3%
2011	172.2	240.1	287.4	330.7	3.6%	15.4%
2012	167.3	247.7	293.9	328.0	3.5%	12.5%
2013	195.1	260.1	325.7	390.1	2.9%	9.0%
2014	250.4	325.5	393.7	425.7	1.6%	7.7%
2015	272.1	371.1	411.9	463.9	0.8%	6.6%

Source: Author's estimates using CSES 2007-2015.

Note: Monthly wages were recorded in KHR and were converted to 2014 using the consumer price index and to international PPP\$ using the conversion rate in 2014 of 1597.30 KHR per PPP\$. The \$4.22 per day threshold is \$2 per day multiplied by the ratio of the total population to the share of individuals that are employers, employees, or own-account workers.



CHAPTER 2:

Macroeconomic Policies Conducive for Creating Good Jobs

Dilaka Lathapipat, Sodeth Ly, and Miguel Eduardo Sánchez



2.1 Introduction

Over the past two decades, Cambodia has been one of the fastest growing countries in the world, but its labor productivity has not been as impressive. GDP growth benefitted from considerable additions to the workforce and an increase in working hours, but the contribution of capital and labor quality to growth and labor productivity has been smaller in Cambodia than in Vietnam or Thailand. Thus, while the number of jobs grew and contributed to economic growth, the quality of jobs was not as high as it could have been. In addition, while output per worker in agriculture and services has been rising in Cambodia, it has slightly declined in the garment and construction sectors in recent years.

This chapter looks at the relationship between economic growth and jobs, and proposes a set of macroeconomic policies that will foster strong and stable growth and job creation going forward. We begin by describing the relationship between jobs and economic growth in recent years, focusing on areas of labor contribution to growth. Next, we discuss the need for investments in human and physical capital to improve job quality and increase labor contributions to growth—using a Solow-Swan growth accounting framework to predict how these investments might affect future growth, labor productivity, and employment. Finally, we explore how Cambodia's monetary policy of high dollarization, while significantly contributing to past growth, undermines future job goals.

2.2 Structural Transformation Supported Job Creation in Cambodia

Sustained economic growth has led to job creation across several sectors...

Over the past two decades, Cambodia has enjoyed strong and sustained economic growth and macroeconomic stability. Cambodia ranked sixth in the world in economic growth between 1994 and 2015, with an average annual rate of 7.6 percent. This growth has also been resilient, with the economy expanding at around 4 percent even during the 1997-98 period of the East Asian financial crisis. Although growth was negatively impacted by the 2008-2009 global financial crisis, and decelerated to 0.1 percent in 2009, it quickly rebounded and remained strong at an average of 7.2 percent between 2010 and 2015 (Figure 2.1). Except during those two external crises, inflation has remained in the single digits. Per capita GNI grew at an average rate of 5.4 percent between 1996 and 2015, the year in which Cambodia became a lower-middle-income economy.

Figure 2.1: _

Growth in GNI per capita and GDP, 1994-2016

Cambodia has been a champion in terms of growth and poverty reduction



Source: Official sources and World Bank staff estimates.

Table 2.1:_

Contributions to GDP Growth by Sector

	2004-07	2007-11	2011-15
Agriculture	23.6%	26.5%	5.7%
Industry			
Textile, Apparel, & Footwear	19.6%	26.1%	22.2%
Construction	9.7%	-3.7%	15.7%
Other Industry	5.5%	9.8%	9.0%
Services			
Hotel & Restaurants	6.2%	7.4%	6.4%
Trade	7.2%	11.9%	10.2%
Real Estate & Business	7.5%	-4.1%	10.5%
Other Services	20.7%	25.9%	20.3%
Gross Domestic Product	100.0%	100.0%	100.0%

Source: National Institute of Statistics.

Cambodia's economic growth has been driven by a few sectors: agriculture, apparel manufacturing, tourism, and, more recently, construction (Table 2.1). Exports of goods and services—mainly of garments, rice, and tourism—grew at an average rate of more than 19 percent annually between 1994 and 2015. Agricultural growth accounted for one-quarter of Cambodia's real growth between 2004 and 2011 but plummeted to only 5.7 percent between 2011 and 2015 because of adverse weather conditions and depressed agricultural commodity prices. However, construction and real estate grew rapidly, and, by 2011 to 2015, accounted for one-quarter of GDP growth as the sector was fueled by foreign direct investment (FDI) and rapid credit growth. Textiles, apparel, and footwear accounted for 22.2 percent of total growth in 2011 to 2015, and other industry, including other manufacturing and mining and quarrying, held steady at 9 percent. Supported by sustained growth in tourism and retail and wholesale services, the services sector accounted for almost half of all of Cambodia's GDP growth in the same period.

CAMBODIA'S FUTURE JOBS: LINKING TO THE ECONOMY OF TOMORROW

Jobs growth has been volatile in recent years. During the commodity price boom of 2004-2011, more than 967,000 agricultural jobs were created. However, these were nearly wiped out when commodity prices fell, coupled by a rise in the non-agricultural sectors, out-migration, and some difficult weather events. However, the boom in textiles and garments created more than 600,000 jobs between 2007 and 2015. Hotels and restaurants also picked up post-2007, with more than 230,000 new jobs being created by 2015, while more than 300,000 new jobs were created in construction in just four years (2011 to 2015).

Job growth was driven by different factors in each sector. Construction activity declined in the aftermath of the global financial crisis, but the sector quickly recovered and has been generating a large amount of jobs in recent years. In garments, the European Union's decision in 2010 to simplify the eligibility criteria for Everything But Arms (EBA) beneficiary countries¹ exporting duty-free merchandise (from requiring a double transformation—for example from yarn to textiles to apparel—to just requiring a single transformation—from textiles to apparel). This resulted in a surge in Cambodia's trade with the EU, and led to significant job creation and a shift in the composition of

jobs. The share of agriculture in total employment dropped from 58.3 percent in 2004 to 43.8 percent in 2015, while employment in garments, construction, and real estate each accounted for 11 percent of the total compared to less than 5 percent each a decade earlier. The share held by other manufacturing and services, including retail and trade, remained flat at around 30 percent of total employment.

There are signs that fast-paced job growth may be slowing down, even as GDP growth rates remain impressive. Between 2004 and 2015, more than 2 million jobs were created while 1 million were destroyed, mostly in agriculture. Job growth matched or exceeded the growth of the working age population (aged 15 to 64) from 2004 to 2011, but it fell far short of the growing working age population between 2011 and 2015. During the latter period, the number of adults aged 15 to 64 increased by 778,000, while net number of jobs created was only 260,000 (Table 2.2). A growing share of young adults were choosing to continue in school (as seen in the increase in secondary and tertiary education attainment) while some may have chosen to not enter market work in favor of homecare. Nevertheless, a substantial share entered the labor force.

Table 2.2: _

Net Employment Creation by Sector

Agriculture was the main source of employment creation for a decade, but this trend has recently been reversed

	2004-07	2007-11	2011-15
Agriculture	433,572	533,124	-945,646
Textile, leather, and footwear	16,477	307,737	335,156
Construction	95,047	- 1,190	358,734
Other industry	98,252	-24,162	1,218
Hotel & restaurant	2,710	130,892	132,612
Trade	-3,514	121,663	-6,364
Real estate & professional services	137,944	82,003	109,978
Other services	- 37,345	8,901	274,457
Total net employment creation	743,144	1,158,968	260,145

Source: World Bank staff estimates based in Cambodia Socioeconomic Surveys (CSES), several years, and ILO employment figures.

¹ The EBA scheme gives the 47 least developed countries in the world, including Cambodia, duty-free access to the European Union for exports of all products, except arms and ammunition.

...but economic growth has not contributed much to improved labor productivity

One-third of real economic growth in Cambodia between 1993 and 2015 was attributable to increases in the average number of employed workers. When GDP growth is decomposed, it becomes clear that employment creation made a significant contribution to GDP growth (around 1.8 percentage points) from 1993 until 2011, at which point it strongly dropped off (Figure 2.2.). This was likely due to the strong contraction in agriculture jobs, as discussed above. Hours worked made a much smaller but more consistent contribution to GDP growth, averaging 0.38 percent over the 22-year period. Labor quality, on the other hand, has made modest contributions to GDP growth during the past two decades, with little volatility across years. Only 5 percent of GDP growth can be attributed to labor quality over any of the time periods presented in Figure 2.2. This is not surprising given the low education level of the labor force, as discussed in Chapter 1, and partly underlies Cambodia's low total factor productivity (TFP) and labor productivity.

Capital has been responsible for more than half of Cambodia's GDP growth since 1993. Capital accumulation has been the largest contributor to growth in Cambodia, remaining so in spite of economic volatility. Nonetheless, the levels of capital formation in Cambodia have so far been below those of other East Asian countries.

Figure 2.2: _

Cambodia GDP Growth Decomposition

Employment and working hours contributed to one-third of GDP growth until recent years



Source: World Bank staff calculations using national accounts and other official statistics.

Notes: Average weekly work hours were computed using information from Cambodia Socioeconomic Surveys and the APO Productivity Database 2016.

Figure 2.3: _

Labor Productivity Growth Decomposition

Labor productivity growth has been slower in Cambodia than it was in Vietnam and Thailand because of low capital intensity



Source: World Bank staff calculations using national accounts and other official statistics.

CAMBODIA'S FUTURE JOBS: LINKING TO THE ECONOMY OF TOMORROW

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In general, capital helps to improve the quality of jobs, since it often replaces more inefficient workers and thus increases productivity and improves job quality. However, in some cases, capital replaces workers, which reduces job quality.

TFP growth in Cambodia was especially high during the 1990s and the 2000s as Cambodia started to integrate into the global economy. Changes in TFP are associated with the process of creative destruction, in which less productive firms and outdated processes are replaced by new and more efficient ones and labor flows into more productive sectors. TFP growth, usually faster during a country's early stages of economic development, has been volatile in Cambodia and has slowed down in recent years.

Cambodia's performance in terms of labor productivity looks less impressive.² Between 1993 and 2015, Cambodia's labor productivity grew by 3.6 percent compared to 4.7 percent in Vietnam during the same period and to the 7.1 percent average growth rate in Thailand during its boom years of 1986 to 1996 (Figure 2.3). Capital deepening contributed only 2.1 percent to Cambodia's average productivity growth rate, a significantly lower rate than in Vietnam and Thailand, which suggests that Cambodia has fallen behind in upgrading its production technology. It is nonetheless worth mentioning that the contribution of capital intensity to labor productivity growth has increased significantly in recent years.

Average labor productivity in the various sectors has begun to converge.³ The level of labor productivity in the industry and service sectors in the mid-1990s was respectively around five and four times higher than the level in agriculture. By 2015, agriculture productivity was catching up, and was now only three times lower than in industry and services. This rising agricultural labor productivity stemmed from the expansion of smallholder land and gains in crop yields, partly due to better access to irrigation and crop diversification (Eliste and Zorya 2015). Meanwhile, output per worker in garment manufacturing and construction has slipped below the levels of a decade ago, from before the global financial crisis and the 2009 slowdown in the Cambodian economy (Figure 2.4(a)). The other sectors that have grown significantly over the past decade are other industry, trade and retail, and other services such as travel services, education, or business services (Figure 2.4). It is worth noting that these sectors started from a low level of productivity and are improving as firms and processes are becoming more organized and modern, but that they still have lower productivity levels than the garment industry does.

Figure 2.4: _

Productivity in Agriculture, Industry and Services

Productivity in the garment and construction industries has stagnated in recent years



Source: Author's estimates using CSES 2014.

² This analysis is complementary to our GDP growth decomposition. Labor productivity is defined here as output per working hour, and the analysis focuses on identifying how much of it comes from mechanization and capital intensity, how much has to do with improvements in labor quality, and how much is related to other improvements in TFP such as better managerial practices or the use of new technologies.

³ This chapter discusses productivity from a macroeconomic point of view, drawing from the value added in the national accounts and dividing it by the number of workers in the sector. Other chapters discuss productivity using firm-level data, so results may differ.

Labor productivity growth since 2004 has been mainly the result of improvements within sectors rather than of labor reallocation between sectors. Most of the labor productivity growth between 1999 and 2004 was due to the reallocation of labor from agriculture into the export sectors (garment manufacturing and services) (Figure 2.5). From 2004-2007, as the economy boomed, significant aggregate productivity gains occurred within all sectors primarily as a consequence of different improvements made within each sector rather than of shifts of labor between sectors. There were also few shifts between sectors between 2007 and 2011 as employment was created in agriculture in the context of a prolonged commodity price boom. Only in recent years, as structural change resumed and agriculture started to shed workers, have productivity gains again been driven by the reallocation of labor across sectors complemented by continued within-sector productivity improvements.

2.3 Investments are Needed for **Cambodia to Capitalize on its Demographic Dividend**

Over the next three decades, Cambodia will benefit from a demographic dividend as the dependency ratio keeps falling, which will give the country the opportunity to continue its strong growth trajectory. UN population projections indicate that Cambodia's population will continue to grow at an average compounded rate of 1.06 percent per year between 2015 and 2050, while the working age population (aged between 15 to 64) is projected to grow at a slightly higher rate of around 1.12 percent. Taking population dynamics into account, the pool

of potential workers is expected to expand by more than 135,000 per year on average over the next 35 years. The increase in the potential workforce will not be uniform, and the pool will start to contract around the year 2044. The total dependency ratio is projected to decrease gradually until 2044 and then increase thereafter (Figure 2.6). Hence, the gradual entry of Cambodia's youth into the labor market will continue to be a natural engine for economic growth for the foreseeable future.

However, the contribution of employment to growth will not be as substantial as it has been over the last two decades. From 1994 to 2015, a period in which employment made a positive and significant contribution to GDP growth, the average growth rate in the working age population was 3.15 percent. Over the coming decades, the contribution of employment to growth will be more modest given the projected average growth rate of the working age population of 1.12 percent. Because labor quality does not contribute greatly to labor productivity in Cambodia, in order for the demographic dividend to materialize, Cambodia will have to invest more in its physical and human capital.

Since economic growth is expected to slow in the medium to long term with falling labor force participation, investing in the accumulation of physical and human capital will be increasingly important for boosting productivity and, ultimately, supporting economic growth and job creation. Here, investments in human capital can take the form of policies, such as academic scholarships, to increase the average years of schooling, while investment in physical capital can include policies to promote capital investments.⁴ How much of an effect will such investments have? Departing from



Figure 2.5:

Source: World Bank staff calculation using national accounts and other official statistics.

More detailed discussions about the many types of policies that can be implemented to make strategic investments that contribute to national growth and job creation are made throughout this report, and are summarized in the final policy matrix. The focus of this section is on an analysis of how, broadly speaking, investments in these areas will contribute to national macroeconomic trends.

the growth and labor productivity decomposition discussed above, our analysis in this section aims at offering a forward-looking view of Cambodia's long-term growth and job creation prospects. We used a Solow-Swan growth accounting framework to project future growth drivers that depart from observed historical trends.⁵

To assess how an increase in education can boost TFP, we compare outcomes under the current "business as usual" strategy with those under a modest reform scenario. Under the baseline "business as usual" scenario, the average education level of the workforce is expected to increase by four years by the year 2050. This implies that the percentage of people with no formal education would decline to 3.2 percent by 2050 (compared to 15 percent in 2015). Meanwhile, the percentage of people with an upper secondary education or above would increase to 57 percent by 2050 (compared to just 19.5 percent in 2015) (Figure 2.7). Under a more aggressive education strategy in which we assume that the average number of years of schooling would increase by five years by the year 2050, the percentage of people with no formal education would decline to 2.9 percent by 2050, while 65.5 percent of the population would have at least completed lower secondary education (Figure 2.7). This faster pace of educational attainment may be feasible as policymakers have expand scholarship programs, increase awareness of the importance of educational attainment, and increase access to schools.

Figure 2.6:

Projected Population Growth and Dependency Ratios in Cambodia Cambodia's demographic dividend is expected to last until 2044





Source: United Nations World Population Prospects: 2015 Revision.





Figure 2.7:





Source: World Bank staff calculations based on UN World Population Prospects and CSES.

⁵ In Annex 2.1, we explain the methodology and the assumptions upon which we based our projections under both scenarios.

TFP growth in the reform scenario is projected to be 0.35 percentage points faster than in the baseline scenario. Using statistical methodologies that account for human capital externalities, we estimated that every oneyear increase in the average schooling of the population is associated with a positive effect on TFP growth. Specifically, we estimated that a one-year increase in average schooling would have a 13.5 percent increase in TFP.

To assess how a more aggressive capital investment strategy might affect TFP, we again compared the current scenario to a scenario with greater capital intensity. Under a baseline scenario mostly driven by FDI in the context of low domestic savings, we estimated that the investment share would stabilize at 28.1 percent of GDP by 2030 (Figure 2.8(a)). Under the reform scenario in which policymakers would encourage savings and develop a domestic bond market, capital accumulation would reach 30.7 percent of GDP by 2030.

Under both scenarios, Cambodia's high return to capital is expected in the long run to decline to the level in other countries. Cambodia's rate of return to capital is currently 29 percent, the highest among 10 comparator economies in the region. Under both scenarios, this would steadily decline to around 20 percent by 2050 (Figure 2.8(b)). Returns to investment in machinery, where Cambodia is still lagging significantly behind the comparator countries, are likely to decline

more slowly than the returns to physical infrastructure and construction.

Under the baseline scenario in which human and physical capital remains at current levels, GDP growth can be expected to decline to 5.9 percent by 2040. Under the baseline scenario, there would be a moderate increase in physical capital intensity, with the capital to hourly labor ratio increasing from around 1 in 2014 to 8 by 2050. Aggregate labor productivity, defined as output (real GDP in constant 2005 US dollars) per working hour, would rise from USD 0.57 in 2015 to around USD 3 in 2050 (Figure 2.9(c)). Growth in both output per worker and GDP would slow in the long term (Figure 2.9(e)(f)). Under the baseline scenario, per capita GDP income would reach USD 4,320 by 2050 (in constant 2005 US dollars), up from USD 1,230 in 2017.

Under the reform scenario, GDP growth would be sustained at around 7 percent until 2040. In this case, the capital to labor hour ratio would increase from around 1 in 2014 to more than 10 by 2050, a level similar to that enjoyed by China today. Aggregate labor productivity would rise exponentially, from USD 0.57 in 2015 to USD 4 in 2050 (Figure 2.9(c)). Growth in output per worker would hover around 6 percent until 2040 (Figure 2.9(e)). Under this more optimistic scenario regarding educational attainment, per capita GDP income would reach USD 6,021 by 2050 (in constant 2005 US dollars).

Figure 2.8: _

Estimated Investment, Savings, and Rate of Return to Capital To foster investment, Cambodia will need to boost domestic savings



(a) Investment and Savings

Source: Official sources and World Bank staff calculations.

(b) Rate of Return to Capital



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Figure 2.9: _

Projected Evolution of Key Economic Variables Under Baseline and Reform Scenarios



(b) Total Factor Productivity



(c) Labor Productivity





(f) GDP Growth







Source: World Bank staff calculations.

(e) Output per Worker Growth

These two scenarios highlight the need for Cambodian policymakers to pursue bold reforms to sustain strong growth and quality job creation going forward. Our analysis suggests that Cambodia will need to significantly boost investment in physical and human capital to be able to sustain GDP growth levels at around 7 percent in the long run. Thus, the country's long-term development goals will only be attained if Cambodia is able to increase its capital intensity and employ a large skilled workforce. According to population projections, in order to maintain the current employment rates, Cambodia will have to create 2.2 million net jobs by 2030 and a total of 4.7 million jobs by 2050. Employing a more educated workforce and raising capital that will increase the productivity of labor is expected to increase and sustain economic growth by improving labor quality and increasing TFP.

2.4 The Current Macroeconomic Situation Presents Challenges to Jobs

Cambodia has so far been able to maintain strong growth and macroeconomic stability under dollarization. In the late 1980s and early 1990s, Cambodia relied on domestic banks to finance its public sector deficits, which resulted in high inflation and encouraged the use of other currencies. The arrival of the United Nations Transitional Authority in Cambodia (UNTAC) in 1992 to oversee a United Nations-organized general election in the following year, and the opening-up of Cambodia to foreign aid and investors brought in large inflows of US dollars, which displaced the Khmer riel (KHR) as the primary currency in just a few years. These days, the share of foreign currencies in broad money hovers around 80 percent, and the share of US dollar deposits to total deposits has remained above 90 percent for the past two decades. The Khmer riel is *de facto* softly pegged to the US dollar,⁶ which provides a nominal anchor for economic agents and underpins stable prices. It also discourages the public sector from resorting to domestic financing and printing excess money (World Bank 2015). Dollarization may have shielded Cambodia from suffering a major currency depreciation such as those experienced by Thailand and Malaysia during the 1998 Asian financial crisis.

While eliminating exchange rate risk has been highly beneficial for the Cambodian economy because of its high rate of exports to the United States, the limitations of dollarization have become apparent now that the European Union has become the country's main trading partner. The recent appreciation of the US dollar vis-à-vis the euro and other currencies has negatively impacted Cambodia's garment exports (Figure 2.10) and tourist trade because it has become more expensive for non-American tourists to travel to Cambodia. This is negatively affecting the pace of job creation in these sectors—which are the two primary export sectors and sources of good jobs—as well as the prospects of jobs being created around

Figure 2.10: .



Export Growth to the EU and EUR/USD Exchange Rate US dollar appreciation often results in a decline in Cambodian garment exports to the EU

Source: Official sources and World Bank staff calculations.

⁶ The currency has been fluctuating between KHR 4,000 and 4,100 per US dollar since 2011.

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emerging manufacturing clusters. Unlike in other economies in the region, this has also led to persistent current account deficits in Cambodia, which tend to be driven by demand for imports of consumption goods, including investments in nontradable goods such construction, land, and real estate.

Dollarization has been fueling capital flows and credit into the non-tradable sector, which is risky for macroeconomic stability, especially in the absence of a monetary policy independent of the US dollar.⁷ Following a sharp decline in construction activity in the aftermath of the 2009 global crisis, the amount of credit extended to construction, real estate, and mortgages increased from around 4 percent of GDP in 2010 to an estimated 13 percent of GDP as of 2015, or around 20 percent of total outstanding credit to the private sector. In contrast, loans to the manufacturing sector have flattened since 2013, remaining at around 5 percent of GDP. Thus, this may dim the prospects for expanding the manufacturing of promising products such as electrical appliances and auto parts, which were expected to yield more stable and higher value-added jobs.

In 2016 and 2017, under US dollar appreciation, Cambodia's external competitiveness declined, which created disincentives to invest in tradable goods. As a result, nominal credit growth in construction, real estate, and mortgages and in retail trade and personal lending has been above 30 percent, while growth in manufacturing has stayed at around 7 percent, which has driven continued job growth in construction but also stagnation in manufacturing employment.

The stability of Cambodia's macro economy and the continuation of employment growth are both threatened by this fast credit growth, the associated supply-driven boom in the real estate and construction sectors, and the absence of any effective monetary policy tools (Ahmed et al. 2014; IMF 2017). If the construction and real estate bubble should burst, it would not only reduce employment in those sectors but would also, indirectly, put the sustainability of the financial sector at risk-which would result in an economy-wide slowdown. These risks are aggravated by the fact that dollarization would prevent the effective use of interest rate policy by the government, restrain seigniorage gains from printing money in local currency, and hamper the ability of the Central Bank to be a lender of last resort in the event of a crisis (World Bank 2015).

Gross capital formation, which has traditionally been low in Cambodia, has also been increasingly directed towards construction. Gross capital formation averaged 18 percent of GDP annually between 1993 and 2017 and 20 percent between 2011 and 2017. However, this is still below the average pace of capital accumulation in other fast-growing countries in the region.⁸ Moreover, part of the increase in recent years has been in the construction sector, while the increases in infrastructure and in machinery acquisition have been more modest (Figure 2.11).

Figure 2.11: _

Equipment and Construction in Total Investment in Cambodia Cambodia's investment in equipment has been lower than in peer countries



Source: World Bank staff estimates using data from the Cambodian authorities.

⁷ Because Cambodia's economy is dollarized, it is affected by monetary policy of the United States, leaving Cambodia without all the tools available to conduct its own monetary policy.

⁸ Countries that have grown at high rates for many decades such as Thailand, Malaysia, Korea, Indonesia, and China have maintained high investment rates since the 1970s, and even as late as the period between 1980 and 2010, they averaged rates of 34, 31, 38, 28, and 40 percent of GDP respectively (Kim et al. 2014). The Growth Commission report (Deblock and Haji 2008) recommended that countries should maintain investment rates of at least 25 percent of GDP or more for sustained strong growth based on the example of successful economies.

Cambodia continues to rely heavily on foreign investors and donors to finance capital, which leaves it exposed to the risk of external shocks. The gap between national savings and capital formation has doubled, increasing from an average of 3.4 percent of GDP between 2000 and 2008 to 7 percent of GDP between 2011 and 2016 (Figure 2.12). The country increasingly relies on FDI to cover its current account deficit (around 10 percent of GDP) and continues to depend heavily on donors to finance public infrastructure (5 to 6 percent of GDP). Governmentfinanced investment has accounted for only a modest 2 percent of GDP over the past decade (World Bank 2018). This means that there is a need for policymakers to adopt policies aimed at increasing domestic savings and developing capital markets.

2.5 Macroeconomic Policies for Sustaining Strong Growth and Job Creation

Implementing the right macroeconomic policies will support strong growth and job creation in the medium to long run. Apart from investments in human capital, which will be discussed in other chapters, Cambodia will need to boost public and private investments in physical capital and to adopt and maintain monetary and exchange rate policy stances that are conductive to growth.

(a) Evolution of Investments and Savings

Policy Area 1: Revamp Public Investment Management and Review Tax Incentives

Cambodia has experienced sustained economic growth that has led to job creation without significant improvements to job quality in the form of labor productivity. To compensate for slowing job creation, and to capitalize on the demographic dividend the country can expect to experience until 2044, Cambodia will need to make substantial investments in its human and physical capital to increase labor contributions to sustained economic growth. Policies aimed at enhancing educational attainment and skills will need to become a priority to sustain growth by improving the quality and increasing the productivity of labor. In addition, there is a need to boost capital accumulation by fostering domestic savings and investment, improving public investment management, and streamlining existing tax incentives to encourage companies to acquire and upgrade machinery. To this end, we recommend two policies:

(1) Shift from tax holidays to cost-effective investment incentives to boost machinery acquisition and attract higher value-added production processes. The current incentives that are in place in Cambodia are not achieving national objectives such as supporting innovation, linking the domestic private sector to global value chains, training workers, or focusing on higher value-added sectors. Policymakers should consider moving away from tax holidays and adopting a more targeted incentive system that fosters

Figure 2.12: _

Investment, Savings and Infrastructure in Cambodia Cambodia's savings-investment gap has widened in recent years, and infrastructure gaps persist



(b) Global Competitiveness Report, infrastructure subindices

Source: World Development Indicators (a) and World Economic Forum (2017) (b).

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private investment in machinery and capacity building, which would support economic diversification and higher value-added jobs. The revisiting of the existing Investment Law is already foreseen in the government's Industrial Development Policy. The new incentive might involve the following measures: (i) progressively phasing out corporate income tax (CIT) holidays or at least limiting them to six years; (ii) introducing investment tax credits as an effective way to lower the cost to firms of acquiring machinery and equipment; and (iii) replacing VAT exemptions at customs with import tax credits to plug loopholes. These policy actions can be expected to attract a new generation of FDI associated with higher quality jobs.

(2) Improve public investment and asset management so that Cambodia's public sector can take on more responsibility for building the country's public infrastructure and to depend less on donors, it will first be necessary to improve public investment and asset management. Cambodia currently has enough fiscal space to increase its budget for public infrastructure projects and to compensate for the recent decline in donorfunded capital expenditure (World Bank 2018). However, Cambodia currently depends on its development partners to build infrastructure, with the government only funding small-scale projects. A recent World Bank assessment of public investment management (Minh Le et al. 2018) found that there are no formal guidelines for feasibility studies and project selection for government-funded projects. Moreover, just a handful of ministries have the capacity to build needed infrastructure, and most of them do not seem to have minimum quality standards and implementation manuals in place. Strengthening public investment management (PIM) would not only ensure that such investments are made in high-return projects but also that these projects are implemented more effectively. This would require that the government pass a sub-decree on PIM, develop project selection and implementation manuals, and build capacity within core and line ministries.

Policy Area 2: Increase the Government's Monetary and Exchange Rate Policy Autonomy and Financial Deepening

More fundamentally, Cambodia must increase its monetary and exchange rate flexibility, while preserving macroeconomic stability, to foster balanced growth and employment creation going forward (Box 2.1). High levels of dollarization have led Cambodian policymakers to keep the local currency pegged in order to mitigate exchange rate risk. This has so far resulted in remarkable macroeconomic stability, but during periods of US dollar appreciation, it has also resulted in declining competitiveness in Cambodia's tradable sector (garments and tourism), limiting output and the prospects for further job creation. Though dollarization has fueled a credit boom in the construction sector, this has heightened macro-financial risks in a sector prone to volatility, including in terms of job creation and destruction. We have two policy recommendations in this area:

(1) Re-gain control over exchange rate flexibility and independence of the Government to set monetary policy to shield jobs from US dollar fluctuations. Cambodian policymakers might consider devising a marketbased de-dollarization strategy to progressively take back more autonomy in setting domestic monetary policy. In the short term, they could focus on gradually promoting the use of the local currency. For example they could publicly encourage private sector institutions to pay salaries in Khmer riel, or make efforts to improve financial literacy. In the medium term, policymakers might consider gradually increasing the reserve requirements for deposits in dollars and bringing down the riel benchmark interest rates to promote borrowing in Cambodia's national currency.

(2) Develop a domestic bond market to both encourage domestic savings and to progressively increase exchange rate flexibility to support job creation going forward. Investment in the tradable sector also needs to be fostered as the combination of large capital inflows with limited investment options has led to private investment and credits being channeled into the non-tradable sector, thus fueling the construction and real estate boom. Intervention is justified by the fact that the construction and real estate sectors usually do not create as much employment as the exporting sector does, and that it would also help maintain macro-financial sustainability and prevent bubbles. Developing a domestic debt market (both public and private) and starting to issue sovereign debt would promote domestic and foreign savings. This would scale up investment and the accumulation of capital stock, which, in turn, would help sustain Cambodia's current high economic growth. The development of capital and bond markets would also provide sources of long-term funding for the corporate sector and establish alternative investments to construction and real estate, thus mitigating some of the current macro-financial risks that may put existing jobs in jeopardy.

Box 2.1: The Peru De-Dollarization Experience and its Policy Implications for Cambodia

During its pursuit of de-dollarization since the early 2000s, Peru introduced macroprudential measures such as provisioning requirements for foreign currency loans, higher liquidity requirements for banking liabilities denominated in USD, or reductions in the maximum net open position⁹ in USD—though not all of them may have been equally effective.¹⁰ In recent years, the National Bank of Cambodia has already introduced differentiated reserve and liquidity requirements in USD and KHR; yet dollarization levels have not significantly decreased.

One of the reasons Cambodia has not yet experienced a significant decrease in dollarization levels may have to do with the still limited trust in monetary authorities, a legacy of the instability experienced during the 1980s. One way of building institutional trust and further autonomy would be by articulating a medium-term macroeconomic policy framework and establishing a track record of delivering it. Peru, for instance, introduced an inflation targeting regime that helped reducing the exchange rate pass-through in the presence of dollarization (Armas and Grippa 2005; Leiderman et al. 2006). This was accompanied by a progressive increase in exchange rate flexibility, which enhanced liquidity management and increased the appeal of holding assets and liabilities in local currency, since they were subject to less volatility than those in USD (Ize and Yeyati 2005). For this shift towards inflation targeting to be successful, significant institutional reforms aimed at significantly enhancing the autonomy, data collection ability, technical capacity, transparency, and accountability of the central bank were needed.

Finally, macroprudential measures and a clearer monetary policy framework would need to be complemented by the development of capital markets in local currency. In particular, a domestic bond market with titles denominated in KHR would provide investors with a more diversified set of investment opportunities, increase financing options for both local firms and the government, facilitate hedging against exchange rate swings, and decrease the cost of financing in local currency. In Peru, credit dollarization decreased significantly as private sector bond issuances in local currency increased (Garcia-Escribano 2010).

In sum, macroprudential measures per se may not be sufficient to de-dollarize, if not accompanied by a clear monetary policy framework (e.g. inflation targeting), institutional capacity and confidence building, and development of capital markets in local currency.

¹⁰ See Garcia-Escribano (2010) for mote detail.

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⁹ A company, financial institution, or individual have an open position in foreign currency when the liabilities in that currency exceed the assets, thus carrying foreign exchange risk.

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ANNEX 2.1: Methodology for Economic Growth Projections

(1)

In this annex, we present a brief description of the modelling approach that we used to reach our economic growth projections. Fuller details of the methodology are available upon request from the authors. Our projections in this chapter are derived from the Solow-Swan modelling framework. We assumed that aggregate output Y_t is given by the constant returns to scale Cobb-Douglas technology in two production inputs, the physical capital stock K_t and the (quality-adjusted or effective) labor hours $N_t = \phi_t H_t$ as follows:

$$Y_t = F(K_t, \phi_t H_t) = A_t \phi_t K_t^{\alpha} (\phi_t H_t)^{1-\alpha}$$

where A_t is total factor productivity (TFP), ϕ_t is the estimated level of human capital per unit of labor hour input, H_t is the total hours worked in the economy in year t, and the parameter α is the income share of capital.

We obtained the capital share of income from the APO Productivity Database 2016 by averaging the shares between 2004 and 2014. This turned out to be $\alpha = 0.51$.

Physical Capital Growth Path

We estimated the annual physical capital stock (K) using the perpetual inventory method as follows:

$$K_{t+1} = (1-\delta)K_t + I_t$$

where I_t is the gross fixed capital formation (GFCF) in year t and δ is the assumed capital depreciation rate of 5 percent used in constructing the entire physical capital stock series.

To construct the initial capital stock, we used the following formula:

$$K_0 = \frac{I_0}{1 - (1 - \delta)/(1 + g)}$$

where I_0 is the GFCF in year 0 and g is the steady state growth rate of past investment estimated from the average growth rate of GFCF in the first five years of the data. The variables are all expressed in constant 2005 US dollars using the annual average official exchange rate and the capital deflator. For simplicity, we assumed that there is no government in the economy and hence aggregate savings and gross investment were equal to each other in every period. Hence, we assumed that savings (or gross investment) evolved over time as a fraction S_t of output:

$$S_t = s_t Y_t = I_t = i_t Y_t$$

We denoted the growth in total annual labor hours worked, and the change in human capital per unit of labor hour by $\dot{H}_t/H_t = n_t$ and $\dot{\phi}_t/\phi_t = \gamma_t$ respectively. We then derived the law of motion of the economy, which shows how the stock of capital per unit of effective labor evolves over the forecast horizon, as follows:

$$\dot{k}_t = s_t f(k_t) - (n_t + \delta + \gamma_t) k_t$$

where $k_t = K_t / \phi_t H_t$ and $f(k_t)$ are the capital and output per unit of effective labor respectively, and $\dot{k}_t = \frac{dk_t}{dt}$. We used this law of motion equation to forecast the growth path of the stock of capital per unit of effective labor.

The solution to the above first order differential equation for a Solow-Swan economy under a Cobb-Douglas production technology can be shown to be:

$$k_t = \left[\left(k_0^{1-\alpha} - \frac{sA}{n+\delta+\gamma} \right) e^{-(1-\alpha)(n+\delta+\gamma)t} + \frac{sA}{n+\delta+\gamma} \right]^{\frac{1}{1-\alpha}}$$

However, in our projection, the Cambodian economy will not have constant TFP and savings (investment) rates or constant hours employed and human capital per unit of labor growth rates throughout the forecast horizon. Therefore, we needed a formula for the capital path that would permit such changes to occur. The formula is given by:

$$k_{t+1} = \left[\left(k_t^{1-\alpha} - \frac{s_t A_t}{n_t + \delta + \gamma_t} \right) e^{-(1-\alpha)(n_t + \delta + \gamma_t)} + \frac{s_t A_t}{n_t + \delta + \gamma_t} \right]^{\frac{1}{1-\alpha}}$$

It should be noted that, as long as s_t , A_t , n_t , and γ_t are not all constant, the steady state of the economy will also keep changing.

Human Capital Growth Path

To obtain the predicted employment rates of workers aged 15 and over by age and education group, we estimated group-specific employment-to-population ratios using household survey data and multiplied them by the projected population of that group.¹¹ We accounted for changes in labor skills by forecasting changes in human capital per unit of labor hour input. Specifically, we used data on past educational attainment trends from the Cambodian Socio-Economic Surveys (CSES) from 2007 to 2015 to produce educational attainment probability projections for the Cambodian population in the different age groups.¹²

We computed the growth path of "quality-adjusted" or "effective" labor input N_t and the accompanying human capital per unit of labor \mathcal{O}_t . The level of human capital per unit of labor or the human capital index that we used to compute the historical effective labor input $N_t = \mathcal{O}_t H_t$ from 1993 to 2014 was taken from the Penn World Table, Version 9.0. The projection of Cambodia's human capital index from 2015 to 2050, on the other hand, was constructed in accordance with the approach of Jorgenson et al (1987) as explained in this section.

Specifically, for our five schooling groups and eleven age groups indexed by j, we calculated the growth in effective labor N_t using this formula:

$$\Delta \ln N_t = \sum_j \overline{\omega}_{j,t} \Delta \ln H_{j,t}$$

where the weight $\overline{\omega}_{j,t}$ is the average share of total wage bill for age-education group j over years t-1 and t:

$$\overline{\omega}_{j,t} = \frac{1}{2} \left(\frac{w_{j,t} H_{j,t}}{\sum_{k} w_{k,t} H_{k,t}} + \frac{w_{j,t-1} H_{j,t-1}}{\sum_{k} w_{k,t-1} H_{k,t-1}} \right)$$

We estimated the age-education group wages using CSES 2014 data, and we assumed that the (relative) wages for all five schooling groups and eleven age groups between 2015 and 2050 would remain at their 2014 level. Hence, the likely effects of technological change on relative wages (skill-biased technological change) are not accounted for in our growth projection, which means that it is likely that we have under-estimated the growth in human capital per unit labor and effective labor input.

Identifying Human Capital Externalities

The method that we used in this report to estimate the magnitude of human capital externalities is developed by Ciccone and Peri (2006). In this framework, workers are the only factor of production so total output is equal to aggregate income. Consider the simplest possible case where there are two types of workers – high skilled (*H*) and low skilled (*L*). Normalizing total employment to unity, we have P_H highly-educated workers and $P_L = 1 - P_H$ less-educated workers. Total income is thus given by:

$$Y = (1 - P_H)w_L + P_H w_H$$
(2.1)

where w_L and w_H are the wages of less-educated and better-educated workers respectively. If the employment of better-educated workers produces positive externalities of strength *EXT* on output *Y* (equivalent to the effects on TFP), then their marginal social product $\partial Y / \partial P_H$ exceeds the high-skill wage premium $(w_H - w_L)$ by *EXT*:

$$\frac{\partial Y}{\partial P_H} = EXT + (w_H - w_L)$$
(2.2)

Ciccone and Peri (2006) showed that externalities can be expressed as the earnings-weighted average percentage change in wages in response to the change in the supply of highly educated workers. Taking the log change in the average wage and holding skills composition constant yields:

$$\theta = \frac{\partial}{\partial P_H} \ln \left([1 - \bar{P}_H] w_L + \bar{P}_H w_H \right)$$
(2.3)

where the bars denote that the number of workers in the two skill groups are held constant.

Empirical Methodology for the Constant Composition Approach in Identifying Human Capital Externalities

The empirical counterpart of the expression $\partial \ln ([1 - \bar{P}_H] w_L + \bar{P}_H w_H)$ in equation (2.3) for each province p can be extended to encompass a wider range of schooling and experience groups. The change in the

We assumed that the employment rate for each age-education group in 2016 (our first year of projection) would be equal to the average rate prevailing in 2013, 2014, and 2015. For the employment rates for the years 2017 and beyond, we used the average employment rates computed over the preceding three years as our predicted rates. We computed the total labor supply (in terms of annual working hours) of these employed workers by taking average weekly working hours (47.64 hours per week calculated from CSES 2015) and assumed it was the same for all age-education groups and remained constant throughout the forecast time period, and then multiplied it by 52 weeks per year and by total employment.

We categorized the CSES sample population into five schooling groups and eleven age groups. The schooling categories are: (1) no schooling (NS); (2) primary (PR); (3) lower secondary (LS); (4) upper secondary (US); and (5) post-secondary (PS). The eleven age groups are defined in five-year intervals. We used an ordered probit model to fit the historical patterns of changes in educational attainment trends for every age cohort. We then used the fitted model to predict educational attainment probabilities for each age group up until the year 2050.

log constant composition average (real) wage for province p over the time period of interest, which effectively captures the change in TFP in a province, is given by:

$$\Delta ln(TFP_{p,t1-t0}) = \Delta ln(\widehat{w}_{p,t1-t0}^{t0}) = ln(\widehat{w}_{p,t1}^{t0}) - ln(\widehat{w}_{p,t0})$$
(3.1)

This variable serves as our dependent variable in the regression of the log change in TFP on the change in the average schooling attainment of workers $\Delta S_{p,t1-t0}$ at the provincial level:

$$\Delta \ln(\widehat{w}_{p,t1-t0}^{t0}) = \alpha + controls_p + \alpha^{cc} \Delta S_{p,t1-t0} + u_p$$
(3.2)

where the coefficient α^{cc} is the estimate of the strength of externalities arising from a one-year increase in the average schooling per worker in province p, $controls_p$ is a vector of provincial-level control variables, and u_p is the error term.

Empirical Evidence of Human Capital Externalities from Cambodian Provinces, 2009-2014

Annex Table 2.1 presents the constant composition approach ordinary least squares (OLS) estimates of externalities from average years of schooling (columns (1) and (2)), average years of secondary education (column (3)), and average years of secondary and post-secondary levels per worker estimated simultaneously (columns (4) and (5)). All of the reported standard errors are clustered at the regional level.

The basic specification from equation (3.2) is used in columns (1) and (2), with column (1) including the change in average potential experience over the five-year period and an intercept as controls, while column (2) further controls for regional dummies.¹³ The estimates of the strength of average schooling externalities (or the effect on TFP) range from 0.127 in specification (1) to 0.142 in specification (2), with both being statistically significant at conventional levels.

Annex Box 2.1: Assumptions of the Model

- i. Under the baseline scenario, the average number of years of schooling for the Cambodian working age population is projected to increase by 0.113 year per annum between 2016 and 2050.
- ii. Under the reform scenario, the average number of years of schooling for the Cambodian working age population is projected to increase by 0.139 years per annum between 2016 and 2050.
- iii. From CSES 2007-2015, we calculated that the actual average change in years of schooling per annum was 0.128 years. We refer to this rate as the reference educational attainment growth rate.
- iv. We estimated the historical average TFP growth rate at 1.34 percent (discarding the data from 2009 and 2010 because of the global economic crisis). We refer to this rate as the reference TFP growth rate.
- v. Using the strength of externalities estimate of 13.5 percent for each year's increase in the average schooling of the population, we calculated that the TFP growth rate for the baseline scenario would average 0.205 percent less than the reference TFP growth rate. We estimated the difference in the average annual increase in years of schooling from the reference educational attainment growth rate (0.113-0.128) multiplied by the 13.5 percent strength of externalities, which equaled 0.205 percent.
- vi. A similar calculation yielded an average TFP growth rate for the reform scenario that is 0.149 percentage points higher than the reference TFP growth rate. Therefore, in the reform scenario, TFP growth is projected to be 0.354 percentage points faster than in the baseline scenario.

³ Region 1: Stung Treng, Ratanakiri, and Mondulkiri. Region 2: Kampong Cham, Prey Veng, and Svay Rieng. Region 3: Kampong Speu, Takéo, Kampot, Preah Sihanouk, Koh Kong, and Kep. Region 4: Siem Reap, Oddar Meanchey, Preah Vihear, and Kampong Thom. Region 5: Battambang, Pursat, Banteay Meanchey, and Pailin. Region 6: Kampong Chhnang, Kandal, and the greater municipality of Phnom Penh.

Annex Table 2.1 ___

OLS Estimates of Human Capital Externalities from Average Years of Schooling, Years of Secondary Schooling, and Years of Post-Secondary Schooling at the Provincial Level, 2009-2014

	(1)	(2)	(3)	(4)	(5)
$\Delta \overline{S}$	0.127*	0.142**			
	(0.059)	(0.050)			
$\Delta \overline{S}^{SR}$			0.118	0.117	0.116
			(0.070)	(0.073)	(0.071)
$\Delta \overline{S}^{PS}$				0.033	0.032
				(0.131)	(0.138)
Δ Experience	-0.005	-0.005	0.002	0.003	
	(0.053)	(0.062)	(0.065)	(0.066)	
2.region		-0.174*	-0.233	-0.216	-0.212
		(0.081)	(0.135)	(0.188)	(0.152)
3.region		0.175**	0.167**	0.172*	0.174***
		(0.055)	(0.061)	(0.076)	(0.037)
4.region		0.034	-0.062	-0.046	-0.043
		(0.086)	(0.088)	(0.130)	(0.072)
5.region		0.043***	0.018	0.027	0.027
		(0.006)	(0.022)	(0.051)	(0.047)
6.region		0.096*	0.051	0.057	0.059
		(0.041)	(0.065)	(0.084)	(0.062)
Intercept	0.301***	0.244***	0.331***	0.313**	0.313**
	(0.027)	(0.026)	(0.014)	(0.081)	(0.079)
Observations	24	24	24	24	24
R-squared	0.220	0.361	0.280	0.282	0.282

Source: World Bank staff calculations.

Note: Robust clustered standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Employing the same control variables as in column (2), column (3) shows that the estimated effect on TFP of an additional year of secondary education per worker is on the order of 0.118. However, the estimate is not significantly different from 0 at conventional statistical levels (p-value of 0.151), although it is significant at the 10 percent level under a one-tail test. Column (4) reports estimates of the strength of externalities for both secondary and post-secondary levels estimated simultaneously. The TFP effect of an extra year of secondary education per worker is 0.117 (p-value of 0.169), which is very similar to the estimate that we obtained

from the preceding model. Interestingly, the TFP effect from an additional year of post-secondary schooling per worker is 0.033 and very statistically insignificant (p-value of 0.814). This finding is consistent with the general view that lower levels of education produce more externalities than higher levels in less-developed economies (Jimenez and Patrinos 2008). Column (5) eliminates the always insignificant change in the average potential experience variable. Nevertheless, the estimates of externalities from secondary and post-secondary education levels remain very similar to those shown in column (4).



CHAPTER 3:

Creating More and Better Jobs through Private Sector Development

Johanne Buba and Maheshwor Shrestha



3.1 Introduction

Cambodian jobs are in transition. As shown by the previous chapters, a structural transformation is happening to employment. Jobs in agriculture contracted significantly between 2011 and 2015 while they increased substantially in both the apparel and construction sectors. The potential for accelerating this structural transformation lies in the ability of the private sector to generate more jobs and absorb the labor surplus coming from the agriculture sector. In this chapter, we look specifically at the contribution to job creation made by private sector firms, mostly from a micro perspective.

The boundaries of the "private sector" will be broadly defined in this chapter as any kind of non-public firm and can range from household enterprises to formal and professionally run firms. The private sector is traditionally defined as the pool of formal and private firms operating within a given country that are formally registered with the authorities, are owned by an individual or a group of associates, and provide wage work. However, in a country like Cambodia, most firms are informal and working under the radar and can be described as informal small and medium-sized enterprises (SMEs). They function like a firm and are managed by dedicated business owners but are not formalized. In addition to these SMEs, many households produce and/or sell items to increase their revenues. We consider that households engaged in such income-generating activities differ from the SMEs in that they are not professionally run, referring to them as *household enterprises (HHE)*.

The continuum of business owners can be differentiated by their levels of professionalization, skills, and motivation. From the self-employed worker working from home to the CEO of a large multinational, all are "entrepreneurs." While their contributions to the economy are different, they all contribute to employment.

The objectives of the chapter are to increase our understanding of which firms (as broadly defined in this report) contribute to employment and to propose ways in which they can generate more, better, and more inclusive jobs. First, we focus on the whole private sector, regardless of firm ownership (foreign or domestic), status (registered or not), or business-orientation (managed as a firm or managed as an extension of the household as in household enterprises), and their employees. We describe the contribution of these various firms to the creation of jobs, both in terms of their location and their quality. Firms have significantly increased their contribution to job creation, but conditions of employment in the private sector remain precarious. Very few firms provide their employees with benefits (such as contributions to health care costs or pensions), salary levels vary widely, and many employees report having to work for more than 48 hours per week. The chapter organizes the discussion by separately considering business-oriented firms and nonfarm household enterprises.

Second, we highlight the main challenges faced by the Cambodian economy when it comes to foreign direct investment (FDI). The economy relies heavily for growth and job creation on FDI firms in the apparel sector, which have particularly spurred the development of local economies around industrial parks, clusters, and special economic zones (SEZs). However, the evidence also shows that these firms rarely buy inputs from Cambodian firms, and that their products are not made for the domestic market but rather are directly exported to international markets. We discuss ways to build on this booming FDI apparel sector to develop a domestic private sector. The FDI-dominated garments industry is a labor-intensive sector with low level of investment in machinery and equipment compared to other sectors in Cambodia, and evidence suggests that labor productivity in these firms has not been on par with labor costs, negatively affecting the competitiveness of the sector. Therefore, we also discuss how to ensure that FDI firms remain in the country while increasing workers' salaries and improving the quality of their jobs

Third, we explore domestic firms. Cambodia has a dual economy, with large FDI firms in export-oriented sectors on the one hand and a myriad of micro domestic firms in more traditional sectors like trade and services on the other. These sectors have evolved in different business environments. While FDI firms are eligible for fiscal incentives and access to land (through SEZs), the business environment for micro, small and medium enterprises (MSMEs) in Cambodia is not conducive to growth. Domestic firms face many challenges

including high costs of doing business, limited access to credit, access to only the small domestic market that is already dominated by foreign products, and limited entrepreneurial capacity.

Finally, we turn to household enterprises, which make an important contribution to the Cambodian economy in several ways. Revenues from these enterprises represent a large share of the household's total revenue, they employ family members and, in some cases, outside workers, and they constitute a way to train young people. Household enterprises may be able to play a significant role in absorbing workers shifting away from agriculture or new workers entering the labor market.

We used four datasets in this chapter:

- A 2011 census of all enterprises in Cambodia. Some key variables are missing such as data on skilled versus non-skilled workers, average salary per type of worker, investment, exports, and sourcing of materials. In total, the dataset contains information on 505,134 firms (including self-employed workers).
- A between-censuses economic survey (ICES) conducted in 2014. This used the same questionnaire as was used in the 2011 census with only minor changes. This survey is a combination of a census (for firms with more than 50 employees) and a representative survey (for firms with fewer than 50 employees). In total, the dataset contains 12,178 observations.
- World Bank Enterprise Surveys for various countries, particularly data on the textile and apparel sector. The surveys cover 100 countries with at least one firm operating in this sector with a total of 11,513 observations. We also restricted some of our analysis to countries that are key players in the textile and garment industry (large producers, large exporters, and Cambodia's neighboring countries that are investing in the apparel industry), namely Bangladesh, Ethiopia, India, Myanmar, Pakistan, Turkey, and Vietnam. In total, there are 3,342 observations for these seven countries.
- The Cambodia Socio-Economic Survey (CSES) for 2014 to analyze non-farm household enterprises. This nationally representative survey collects data from 21,000 households, 3,800 of which have a non-farm enterprise. In addition, in February 2018, the report team conducted numerous interviews with firms (including household enterprises) of different sizes and operating in different sectors.

CAMBODIA'S FUTURE JOBS: LINKING TO THE ECONOMY OF TOMORROW

3.2 The Private Sector is an Important Contributor to Job Creation

The private sector represents a large share of jobs. As

shown in Figure 3.1, 40 percent of jobs in Cambodia are in the private sector (either formal or informal)¹ and the workers in these jobs consider them as their main occupation. If we consider non-farm household enterprises (in other words, self-employed workers) as part of the private sector, then the proportion of jobs in the private sector goes up to 57 percent. A large share of jobs are still in farming (38 percent).

Over the past decade, the number of private sector jobs has been a growing. According to various rounds of the CSES, the number of wage jobs in the private sector grew by an annual rate of 12 percent between 2007 and 2015, while self-employment outside farming grew by 5 percent annually. This exceed the rate of growth of the working age population, which increased by 2.2 percent on average over the same time period.

Wage-earning jobs are concentrated in a few regions and sectors

Most of Cambodia's firms are located along two main geographical corridors. The first runs from Cambodia's border with Thailand to Phnom Penh through the Great Lake, and the second goes from Phnom Penh to Sihanoukville, with a high proportion of jobs located in or around the capital city (Figure 3.2 and Figure 3.3). Four main factors explain this spatial distribution: (i) most industries are located in Phnom Penh or within a one-hour distance from the city; (ii) the temples of Angkor, located north of the Great Lake, attract hundreds of thousands of tourists every year (5 million in 2016 according to the Tourism Statistics Report); (iii) Battambang is the second largest city in the country because of its strategic location close to the Great Lake, the rice plains, and the Thai border; and (iv) most imports and exports transit through the port of Sihanoukville (in the south).





Jobs Contributed by the Private Sector

Source: Author's estimates using CSES 2007-2015. The working age population estimate is from UNPOP.

Note: These numbers are computed using current employment, defined as the worker's main activity in the previous seven days. Other types of employment include: public wage work, self-employment in farming, and family members contributing to household enterprises but who are not paid. The wage-earning jobs include wage jobs in firms—regardless of whether they are formal and informal—as well as paid jobs in a household enterprise.

¹ To be formally registered, firms are required to get several licenses and undergo many inspections. To be considered as a formal business, newly created enterprises are required to have received all necessary licenses from a wide range of government agencies. The number of licenses and inspections depends on business's activities, size, and location. These licenses include, for example, a Certificate of Incorporation (Business Registration), a Tourism License, a Food Processing Operating License, Tax Registration for the Paten Tax and VAT Number, a Location Approval License, and Registration for Opening an Enterprise. Besides the high number of procedures, the entrepreneur needs to interact with minimum 4 administrations for the primary licenses and certificates (Ministry of Commerce, General Tax Department, Municipality and the relevant ministry for the business, e.g. Ministry of Tourism) and a minimum two administrations for the other licenses and certificates (Ministry of Labor and Vocational Training and General department of taxation). Depending on the sector in which the business is operating, inspections are required before it can start operating.

Figure 3.2: ____

Number of Firms by District

Figure 3.3: _

Total Jobs by District (quartile, by job density within the district)





Source: Authors' calculations based on the census and ICES.

Note: Data are for 2011 and exclude self-employed workers. "Quartile" is defined by the number of jobs in a district. The "first quartile" are the 25 percent of districts that have the largest number of jobs. "Second quartile" are the 25 percent of districts that have the second-highest number of jobs, and so forth. The red lines indicate the two corridors along which most firms and jobs lie.

Table 3.1: _

Wage Workers in Private Firms (Formal and Informal), by Sector ('000)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Farming	300.7	386.7	507.4	521.1	554.5	560.2	666.4	567.6	662.6
Apparel	250.5	321.1	339.9	421.1	559.0	568.9	683.8	883.2	942.4
Agro-processing	22.0	22.9	23.5	16.1	24.8	41.6	48.9	38.0	37.6
Tourism	36.1	26.5	63.6	92.7	84.3	130.7	149.8	169.5	197.6
Heavy industry	22.7	19.1	28.9	20.0	35.3	36.9	54.3	53.8	73.4
Medium and high tech	0.3	3.1	2.2	0.0	1.3	4.7	14.2	24.6	27.3
Other manufacturing	70.9	133.0	56.7	82.7	77.8	97.0	74.5	113.5	119.2
Commerce	43.8	36.8	36.6	66.8	80.0	72.0	86.6	110.2	123.9
Construction	278.9	260.2	241.9	281.1	268.0	357.8	459.5	539.2	636.2
Mining & utilities	13.8	16.7	19.5	13.5	25.6	60.4	47.1	44.8	42.7
Other services	392.9	421.0	316.8	396.5	463.5	506.7	577.9	639.2	752.1
Total	1,432.5	1,647.1	1,637.1	1,911.6	2,174.1	2,436.9	2,863.2	3,183.5	3,615.0

Source: Author's estimates using CSES 2007-2015.

Note: Agro-processing: manufacturing of food products and beverages. Textile/Apparel: textile, wearing apparel, and leather and related products. Tourism: accommodation and food service activities, travel agencies, tour operators, and creative, arts and entertainment. Heavy industry: coke and refined petroleum products, other non-metallic mineral products, basic metals, and fabricated metal products. Medium and high technology industry: chemicals, basic pharmaceuticals, rubber and plastics, computers, electronic and optical products, electrical equipment, machinery and equipment, motor vehicles, and other transport equipment. Other manufacturing: tobacco products, wood, paper, printing, and reproduction of recorded media, furniture, other manufacturing, and repair and installation of machinery and equipment. Commerce: wholesale and retail trade. Other services: all other services (excluded travel agencies and entertainment).
As a result, wage-earning jobs are not distributed equally across the country. Slightly over a third of wage jobs are located in the Special Region (Phnom Penh and surroundings). The Southern regions accounts for another third, while the rest are distributed across the Northern and Eastern regions, with the Eastern region accounting for only 3 percent of wage jobs (CSES 2014).²

Wage-paying jobs are concentrated in four main economic sectors, namely apparel, services, farming, and construction. The largest sector is the apparel sector (textiles, apparel, and footwear), which employs nearly onethird of the wage workers, or about 1 million people (full time and temporary contracts), followed by services, farming, and construction (Table 3.1). These four sectors account for 80 percent of all private wage-paying jobs.

In terms of the growth of jobs, the apparel sector has flourished since the global economic crisis and continues to grow. Construction jobs grew over the five years between 2011 and 2015, mainly driven by real estate in Phnom Penh and Sihanoukville built in large part to accommodate foreigners who live or do business in the country or who want to invest. However, tourism and agro-processing, which seem promising sectors given the country's natural endowments, represent only a small share of wage employment. A few other sectors have picked up recently, such as equipment and electronics (medium and high technology manufacturing).

During the period 2010-2015, foreign-owned firms accounted for one-third of wage jobs (and 46 percent

of wage jobs in privately owned, non-farm firms). According to the CSES 2015, their presence is concentrated in a few sectors, such as apparel (85 percent of employment in private firms in this sector), agro-processing (about onequarter), and, very recently, medium and high technology (about three-quarters, though the actual number of jobs is very small). In terms of numbers of firms, data from the census and the ICES show that foreign-owned firms (mostly Chinese, Vietnamese, and Korean) are present in the apparel, tourism, wholesale and retail, and mining sectors.

Cambodia has a lower employment-to-growth elasticity than other countries, at both the macro and micro levels. As shown in Figure 3.4, which plots countries' employment to GDP elasticity to their GDP levels, Cambodia stands below the fitted lines for all countries. Cambodia's elasticity is also lower than that of more than half of the other countries in the East Pacific Asia region. The sectoral composition of growth does not seem to be the main factor explaining this low elasticity since Cambodia has grown in sectors that are traditionally known for being labor intensive, like textiles. The results also hold at the micro level. Figure 3.5 plots the average employment elasticity to sales growth against GDP level for all garment firms in each Enterprise Survey that contains a large share of garment firms across a range of countries. Here again, Cambodia appears at the bottom of the distribution with a lower employment elasticity-to-sales growth than other countries at a similar level of economic development. These findings suggest that Cambodian firms could be generating more jobs given the country's level of development as well as the sectoral composition of growth.



Source: Authors' calculations using the World Bank's World Development Indicators.

² The Eastern region is less populous than the rest of the country but lags other regions in terms of the wage employment rate as well. Similarly, the Phnom Penh Special Region leads other regions in terms of wage employment rate.







Source: World Bank Enterprise Surveys (WBES).

Note: Only firms operating in the textile, garments, and leather sectors are included. The sample is comprised of countries where the World Bank Enterprise Survey has been fielded.



Source: Author's estimates using CSES 2007-2015.

Figure 3.7: _

Number of Hours Worked in Main Wage Job, 2014



Source: Author's estimates using CSES 2007-2015.

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Not all jobs in the wage-earning private sector are of equal quality

Not all jobs offer similar wages. Figure 3.6 shows the distribution of wages across all jobs in Cambodia. The orange dotted line indicates the minimum wage as established in the apparel sector. Most of the jobs provide salaries at or around this minimum wage. A quarter of all workers receive a monthly salary below or equal to this minimum wage. The upper tail of the distribution is much more dispersed.

Nor do all jobs offer similar working conditions. The labor law sets the number of working hours at eight hours a day for a maximum of six days or 48 hours a week. However, more than 60 percent of wage workers reported working more than these legal working hours. Some jobs are also more precarious than others. As many as 18 percent of wage workers have not been working for their company for a full year and are categorized as temporary

Figure 3.8: _

Distribution of Monthly Wages by Educational Achievement



(a) Women Monthly Wage Distribution

workers even though they still consider this job as their main occupation.

The wage differences can partly be explained by the differences in skills between workers, as well as by Cambodia's segmented labor market. Figure 3.8 illustrates the distribution of monthly wage earnings of men and women separately by sector and level of education. The wage distribution shifts slightly to the right for higher levels of education, particularly upon completing secondary education (see Chapter 5 for more details). However, the figure also indicates that wage earnings are very dispersed within each level of education and particularly for lower levels of education. For women with less than a primary education, hourly wages are significantly higher in the garment and construction sectors than elsewhere. In fact, hourly wages in the garments sector are no higher for more educated women or for men at any education levels and, in many cases, are statistically lower (see Chapter 5 for more detail).

(b) Men Monthly Wage Distribution

Note: The sample is restricted to education-industry cells with more than 30 observations.

Source: Author's estimates using CSES 2014.

There are a few possible reasons why wages are not equal across sectors for workers with the lowest level of education. First, certain occupations, for example those in construction or garment manufacturing, may require specific skills that take time and effort to acquire and that may not be directly captured by education. Second, some occupations impose non-monetary costs, such as having to work away from home or not having flexibility in terms of hours. Third, some occupations are perceived as being risky, precarious, or hazardous and thus can command a compensating wage. Fourth, mobility barriers may prevent workers from moving to places with a greater concentration of higher-paying jobs.

Because wages may not fully reflect the desirability and/or quality of a job, other dimensions need to be considered. From the qualitative interviews with firms undertaken for this study, we found that the salary for an entry-level job requiring zero or little education is the same across sectors: about USD 100 per month (except for trainees who are paid USD 25 to 45 per month). However, other factors play a role. First, the job may provide other benefits. The garment sector provides workers with allowances for transportation and accommodation, and other sectors, such as hotels, often provide two or three meals a day plus free accommodation. Second, for workers in the tourism sector, for example, service charges (such as tips) can account for a significant amount of their income each month, up to eight times their monthly salary. Third, a job may be considered less desirable because the employer is not reliable in paying wages. Fourth, the opportunity for personal growth within a firm can affect a job desirability. For instance, the tourism industry seems to offer a career path for each low-skilled occupation whereas opportunities for advancement on a production floor are more limited (for example, there is usually only one supervisor for every 15 to 20 workers). Finally, a key factor is the working conditions associated with a job, which seem to be quite difficult in the garment and construction sectors for instance.

Household Enterprises are the source of a substantial share of households' revenues and employment

Household enterprises are ubiquitous, albeit very heterogenous, in Cambodia. This business category encompasses a young entrepreneur starting a high-tech company in Phnom Penh, a tuk-tuk driver in a tourist zone, a tailor in a tiny shop with three sewing machines and two apprentices, and a woman operating a retail shop. Based on the questionnaire provided in the CSES, we define a household enterprise as any "non-farm business or enterprise run by a household" regardless of whether they are entrepreneurs by opportunity or by necessity.³



Figure 3.9: _

Prevalence of Non-farm Household Enterprises in Cambodia

Source: Author's estimates using CSES 2014.

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³ The literature on the nature of entrepreneurship tends to discuss only two types of entrepreneurs (Djankov et al, 2006; Schoar, 2010; De Mel et al. 2010; Bruhn, 2013; and Calderon et al., 2016), but we prefer to talk about a continuum of entrepreneurs.

Household enterprises constitute a large part of jobs picture, particularly in regions of Cambodia where there is a large formal private sector. Overall, 29 percent of the households in the country have a (nonfarm) household enterprise, with 51 percent being in urban areas and 23 percent in rural areas. However, among all household enterprises, over 60 percent are located in rural areas where 80 percent of the population still lives. Households in the eastern provinces (Stung Treng, Ratanakiri, Kratie and Mondulkiri) are the least likely to operate a household business (19 percent) while those in the Special Region (Phnom Penh, Kandal, and Kampong Chhnang) are most likely to do so (40 percent). Households in the other regions are 20 to 30 percent likely to operate a household enterprise. The eastern region contains almost no private sector activity, in terms of either firms or household enterprises. Most household enterprises seem to be located not far from the two main economic corridors, which suggests a link between those household enterprises and economic density potentially led by the larger firms.

Almost half (47 percent) of household enterprises are in retail trade. Retail shops account for almost half of urban enterprises and for two-thirds of the enterprises operated by women. About 14 percent of all household enterprises, and about a fifth of urban enterprises, are in transport and storage. Women hardly ever own household enterprises in this sector. Manufacturing enterprises account for about 14 percent of the enterprises, are slightly more common in rural areas than in urban areas, and are slightly more likely to have a male owner than a female owner. The accommodation and food sectors are the sectors where enterprises are most likely to be female-owned.

Non-farm household enterprises create jobs (both paid and unpaid) through self-employment and the participation of family members. About half of them have at least one other household member involved besides the owner, although this varies by sector. About 60 percent of household enterprises in the retail trade have more than one household member involved compared with only 5 percent of enterprises in the transport and storage sector. Overall, female-owned enterprises are 12 percent more likely to have at least one other household member working in the enterprise than male-owned enterprises. However, in the retail, manufacturing and food sectors, men are more likely than women to have additional household members working in the enterprise. Rural enterprises are slightly more likely than urban enterprises to have other family members involved, except in other trades and accommodation and food sectors. Involving other household members in the enterprise is a way to train younger family

Figure 3.10: _





Number of Working Household Members

Source: Author's estimates using CSES 2014.

Note: These figures depict the number of household members employed in addition to the enterprise owner.

members in conducting the household's trade or the retail operation. During our qualitative interviews, many household enterprises also reported having trained other people from their villages. In some cases, these informal apprenticeships were also a source of revenue for household enterprises as families pay a small fee to them in return for training their child in the business for a couple of months.

Household enterprises can also create jobs for individuals outside of the family, but these numbers are small. According to the CSES, only 6 percent of household enterprises hire external workers.⁴ Enterprises in the service sector, non-retail trades, and manufacturing sector hire the most external workers (over 10 percent). Among household enterprises in retail trade (the most common type of household enterprise), the probability of hiring an external worker is only 4 percent. These numbers are in line with other international experiences.

3.3 Foreign Direct Investment Also Contributes to Domestic Job Creation

While FDI firms have created jobs directly, they have not had the same effect in terms of creating jobs indirectly because they have not built links with local suppliers or purchasers. In the apparel sector where FDI firms predominate, there are very few backward and forward links to the local economy, especially when compared to other countries. In most cases (for example, Ethiopia, Morocco, and Turkey), garment multinationals

contribute to the development of other firms in the country by buying products from local firms or sourcing local products (such as trims, fabric, yarn, and leather). In Cambodia's garment sector, only about 25 percent of inputs and supplies are outsourced locally as compared to 60 percent in Vietnam, 62 percent in Bangladesh, and nearly 100 percent in India. Apparel firms in Cambodia import products from neighboring countries, assemble the garments in Cambodia, and reship the final products to the US and European markets. In addition, "locally sourced" does not necessarily mean "sourced by Cambodian firms" but rather sourced by firms located in Cambodia, which can include those that are internationally owned. This suggests that the locally sourced trims and packaging used by garment FDI firms actually came from foreign-owned firms that operate in Cambodia.

Evidence suggests that there is an increase in the production of unregistered sub-contracting factories. According to an ILO bulletin published in May 2017 (ILO 2017), there is a widening gap between the number of garment firms registered with the National Social Security Fund (NSSF), a database of all garment firms that employ workers, and the number of garment-exporting factories registered with the Ministry of Commerce. The number in the NSSF database exceeded that in the Ministry of Commerce database by 84 in 2014, 106 in 2015, and 244 in 2016. If we assume that the national market represents a tiny share of garment sales, then this difference likely reflects the increasing number of subcontracted garment enterprises selling to exporting garment factories.



Source: World Bank Enterprise Surveys

Note: Apparel includes garment, textiles, and leather.

⁴ Because the questionnaire used in the CSES does not ask how many workers are hired by the enterprise but only their labor costs, we assumed that the household enterprises had hired a worker when we observed a positive wage bill.

Firms can also have an indirect effect in terms of promoting other local activities and household enterprises. Using 2014 data, we tested the assumption that the presence of FDI firms could generate spillover effects in the local economy, using agglomeration effects to proxy the creation of new household enterprises in the same province as FDI firms. As we have already seen, many household enterprises exist in the areas where large number of factories are located.⁵ We found a strong correlation between wage employment in major sectors and the prevalence of household enterprises.⁶ For example, areas with 1 percent more than average employment in garments

were associated with 0.1 percent more households operating a non-farm enterprise. There also exists a correlation between the FDI sectors and type of household enterprises nearby. Higher garment employment was correlated with a higher incidence of household enterprises in the trade and transport sector, whereas higher employment in domestic manufacturing seemed to encourage the creation of household enterprises in retail shops and manufacturing to provide the domestic manufacturing firms with inputs. Similarly, high rates of employment in tourism appeared to promote retail shops and enterprises in the hospitality sector.⁷

Figure 3.12: _

Correlation between Wage Employment Rates and the Number of Non-farm Enterprises



Log (wage employment) in Province x rural/urban

Source: Author's estimates from CSES 2014.

Note: The regression line is weighted by the population of the province x rural/urban cell. The size of the circle represents the population in the cell.

⁵ The same is likely true for SMEs, though we did not test for this relationship in this analysis

- ⁶ The regressions represented in the figure and the top panel of the table are: $\log(W_i) = \alpha + \beta \log(E_i) + \varepsilon_i$ where *i* is the rural/urban areas within each province, *W* is the estimated wage employment, and *E* is the estimated number of households with an enterprise. The relationship was estimated for year 2014. Full regression results are presented in Annex Table 3.3.
- ⁷ Of course, it is also plausible that the correlations are driven by localities with better investment opportunities or other attractive characteristics drawing both wage firms as well as household enterprises. To investigate this, we examined whether the growth in wage jobs in these locations was correlated with growth in household enterprises. The positive correlation remained and was statistically significant for the effect of wage jobs in domestic manufacturing, construction, and tourism.

The cheap and abundant labor force is both a strength and weakness to Cambodia

Cheap labor costs in Cambodia have attracted investments into labor-intensive sectors. China, Vietnam, and other Asian countries have historically produced low-quality and low sophistication products. However, because of rising salaries in these countries, multinational and Asian companies have increasingly been looking for new destinations for labor-intensive industries. Combined with a stable government and incentives for FDI, Cambodia's cheap labor has attracted many assembly firms, predominantly in apparel and, more recently, electronics. The 2016 Investment Motivation Survey in Cambodia asked investors for the top reasons why they were investing in Cambodia, and all of them mentioned the country's low labor costs and labor availability as the main reason, with 42 and 39 percent citing tax incentives and tariff incentives respectively as the second and third reasons.

Apparel firms in Cambodia seem to have fewer fixed assets than other types of firms and so, in principle, could easily move. Figure 3.13 shows the level of fixed assets (land, buildings, and equipment) in firms by sector based on data from the Census and the ICES on firms that reported having an income statement (i.e. formal and relatively large and organized firms). As can be seen in the figure, the garment sector has fewer fixed assets than other sectors do. The potential downside for workers employed in a labor-intensive industry like apparel is that labor is the main production factor and is easily substitutable, whether through mechanization or through relocation of the firm.

Figure 3.13: __





Source: Authors' calculations based on the Census and the ICES.

Note: Self-employed workers are excluded. Only firms reporting an income statement are included.

Box 3.1: Minimum Wage in the Garment Sector

Cambodia has a minimum wage scheme that is only applicable to the garment and footwear sector, the two largest manufacturing exports of the country. The country's minimum wage legislation has been in effect since 1997 and has been revised multiple times since then (see ILO 2016 for a detailed review). The regular minimum wage was set at USD 40 per month in 1997 and had been revised eight times by January 2018 when the monthly minimum wage was set at USD 170. Although the nominal minimum wage has increased by over 380 percent in the past 19 years, the real value of the minimum wage was below its 1997 real value till the change in January 2015.

Besides the minimum wage set by the government, employers in the garment and footwear sector are also required to pay mandatory allowances to their workers. These mandatory allowances include: (i) USD 7 per month for transportation and accommodation; (ii) attendance bonus of USD 10 every month; (iii) USD 0.50 per day for an overtime meal; and (iv) seniority bonus of USD 2 per month in their second and subsequent years of employment.

See Chapter 1 and Shrestha (2018) for further discussion on the impacts of minimum wage hikes during 2008 and 2015.

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The relatively low productivity rates of Cambodian workers counteract the potential benefits of "cheap labor." Low labor costs alone do not attract foreign investors. It is the combination of low labor costs and high labor productivity that attracts them as investors need value for their money. Compared to other countries that have a large garment sector, are exporters of apparel, or are entering international markets, Cambodia offers comparable salaries to other key players, like Bangladesh or Ethiopia (Figure 3.14(a)). In other words, these salaries are quite low by international standards. However, with regard to labor productivity levels, Cambodia has the highest unit labor costs (as a percentage of labor costs per value-added) (Figure 3.14(b)). This suggests that, although Cambodia has relatively low wages, it is the least competitive among the selected comparator countries.8

In recent years, the minimum wage in the garment industry has been increased incrementally and frequently, which has led to an overall increase in wages in garment firms. Because of the workforce's low productivity, FDI firms have not been able to fully compensate for this increase in labor costs by increasing

labor productivity (Box 3.1). This may result in a loss of competitiveness for FDI firms, which may result in bankruptcies and/or offshoring.

The lack of competitiveness in the garment sector, the most important export sector and job provider in **Cambodia, is alarming.** In this mature sector, marginal productivity gains are now costly and time consuming, and firms may find it difficult to change fast enough to cope with the increase in wages or to find ways of staying competitive in the production of low-quality and low-sophistication products. Our interviews with firm managers in the private sector indicated that, in order to adjust to rising costs, some apparel firms have recently closed down. Some garment assembly firms may prefer to relocate to other countries where labor is cheaper. Firms that remain in Cambodia might try various coping mechanisms to compensate for higher labor costs, such as mechanization, optimized industrial processes, or providing more incentives for workers to be more productive. However, given the slow pace of adjustments, it is likely that most firms will not adequately upgrade to higher value-added products to survive in the international market.

Figure 3.14: _

(a) Average Wages

Average Wages and Unit Labor Costs in Apparel Firms



(b) Unit Labor Costs



Source: World Bank Enterprise Surveys Note: Apparel includes garments, textiles, and leather.

Other reasons that explain why investors come to Cambodia are the lack of restrictions on investment for FDIs, Cambodia's trade agreements with the US and European markets, and low (or non-existent) import and export duties for exporting firms.

3.4 The Domestic Private Sector Could Create Many More Jobs, but is Struggling To Do So

Domestic firms have the potential to generate more jobs and reduce inequalities across regions. While domestic firms outnumber FDI firms, they do not contribute as many jobs as foreign-owned firms do. Domestic firms average only eight employees compared with 124 in foreignowned firms. After controlling for other factors like location, sector, and year, foreign firms are still twice the size of domestic firms. Nevertheless, domestic firms are more evenly distributed across provinces (except in the eastern part of the country) while foreign-owned firms are mostly located in Phnom Penh and the surrounding provinces.

Figure 3.15 also indicates that Cambodian firms seem to be adding jobs more slowly than do domestic firms in other countries such as the US, India, Mexico or even Vietnam. For each age category of firms, Cambodian firms are smaller;⁹ most domestic firms in Cambodia are small and remain small.

Cambodia has a lot of young firms, a feature that is currently an untapped potential for job creation. Compared with other developing countries, Cambodia has one of the highest shares of firms under five years old at nearly 60 percent of all firms (Figure 3.16). These firms are already a significant source of jobs, but they find it difficult to grow (see the next section for a discussion of the constraints faced by young firms) or create even more jobs.

Figure 3.15: _



Lifecycle of Firms in Cambodia and Selected Comparator Countries

Source: Author's calculations for Cambodia. Hsieh and Klenow (2014) for India, Mexico, and USA Note: The base of this calculation is firms that have been operating for fewer than five years.

Figure 3.16: __



Share of Young Firms in the Economy

Source: Various Censuses.

9 Based on the lifecycle of firms as described by Hsieh and Klenow (2014) we looked at the average firm's size as the firm ages. We used comparable methodology using cross-sectional data Census and the ICES. This allowed us to compare cohorts' growth between different types of firms and to benchmark Cambodia against other economies. We used three series, one with all firms, another for manufacturing (to compare Cambodia with the US, India, and Mexico), and the third being manufacturing firms with 10 or more employees.

To generate more jobs, domestic firms need to grow their sales. The firm census data suggest that the higher a firm's sales, the greater the number of people it employs (Figure 3.17).¹⁰ This section presents how the investment climate impedes sales growth by domestic firms. It then explores other barriers to sales growth that are faced by domestic firms, ranging from access to inputs to worker skills shortages.

Domestic firms face an investment climate not conducive to sales growth

The main barrier to increased sales by domestic firms-and thus potential job growth-is that the de facto business environment for FDI firms is much better than the environment in which domestic firms have to operate. Cambodia offers attractive incentives such as large tax exemptions and investment guarantees for large investments (above USD 2 million), which are called Qualified Investment Projects (QIP). Most beneficiaries are in the garment, footwear, other manufacturing, infrastructure, agri-business, mining, and other services sectors. In the garment sector, 383 garment factories were given QIP status by the Council for the Development of Cambodia (CDC) between 2010 and 2014. According to data from the Cambodian Investment Board database, the average fixed asset for each garment factory is USD 5.05 million while the average registered capital is USD 1.6 million. This level of investment in setting up a business is much larger than is possible for a typical domestic SME. In addition, FDI firms have easy access to SEZs, which ease the cost of doing business

in Cambodia by providing duty free imports and exports, access to land, and a one-stop-shop for processing the required documentation. According to the CDC, most firms in these SEZs are foreign-owned.

Cambodia's convoluted and restrictive business regulations prevent domestic firms from thriving. On the World Bank's Doing Business Index for 2018, Cambodia ranked 135th out of 190 countries in terms of the ease of doing business in the country. Also, it ranked 183rd and 179th respectively for ease of "starting a business" and "dealing with construction permits." This makes it very difficult for all domestic firms but particularly SMEs not only to grow but simply to function.

A range of other constraints impede sales growth and job creation

Subjective assessments by managers of domestic SMEs report that political instability and the skilllevel of the workforce are the key constraints to growing their sales and their workforce. The World Bank Enterprise Survey interviews with private sector managers in Cambodia showed that both SMEs and large domestic firms perceive their main constraints to sales growth as being political instability and an inadequately educated workforce. There are, however, some notable differences between firms of different sizes. Unlike in most other countries, small firms in Cambodia do not tend to be as concerned about access to finance as large and, to a certain extent, medium-sized firms are. In contrast, large firms are far more concerned about labor regulations (Figure 3.18).



Source: Authors' calculations based on the Census and the ICES.

Output growth rates tend to lead to employment growth rates. Haltiwanger et al. (2016) tested the correlation between lagged variables and concluded that lagged output growth is associated with higher net employment growth in the current period but the reverse relationship (lagged employment growth associated with output growth in the current period) does not hold.

Objective measures suggest a broader set of constraints to sales and employment growth. To put the subjective perceptions reported in Figure 3.18 into context, we use objective measures from the Enterprise Surveys to compare the severity of constraints to sales growth in Cambodia, in its comparator countries, and across different groups of Cambodian firms.¹¹ First, Cambodia fares poorly compared to other countries in getting credit (Figure 3.19(a)). Only 25 percent of Cambodian firms reported having an overdraft facility or a loan from a financial institution, a proportion far below all comparator countries except Myanmar. The problem seems to be accentuated for firms that have been operating for less than five years and for small and large firms. Surprisingly we did not find a "missing middle" as in most countries, wherein mediumsized firms are the underserved segment. However, fewer than 40 percent of medium-sized firms had any access to funding, which is still very low compared to in other comparator countries. The problem appears to be similar for both household enterprises and micro-firms according to CSES data. This is the case even though micro-finance institutions are well developed in Cambodia. In 2014, onethird of household enterprises had an outstanding loan but only 5 percent reported using this loan for their business. Hence, when it comes to borrowing for investment and business, the penetration of micro-loans is very limited.

Second, firms seem to have limited entrepreneurial skills. Business practices within firms are not very sophisticated. For example, most business owners do not separate their personal accounts from their business account or track their expenses and revenues. The Census indicated that, in 2013, almost no micro and small domestic firms had a balance sheet or an income statement. The proportion of firms that had these key documents was slightly higher for medium-sized domestic firms (3.9 percent) and

considerably higher for large domestic firms (64.6 percent). Additionally, there is very little support available for managers of domestic businesses. What little help is available comes from a handful of NGOs that operate at the local and micro level. Unlike in other countries, there is a limited number of consulting firms in Cambodia, and government institutions do not play an active role in providing or funding business development services. Hence, in most parts of the country, entrepreneurs are left to develop their business entirely on their own. However, the private sector is starting to fill the gap. There is currently a surge in small-scale structures in Phnom Penh designed to foster entrepreneurship such as co-working spaces, saving groups, and incubators.

Third, the cost of registering a business, which opens access to new markets and sources of financing, is disproportionately high in Cambodia. Given the high costs involved in formalizing, it is not surprising that only 6 percent of small firms have done so. The costs of registering seem to be higher in Cambodia than in comparator countries, and small firms may not see the advantage of formalizing. However, there is a threshold effect. Above certain levels of sales and employment, it becomes difficult for firms to remain informal. As a result, 64 percent of medium-sized firms and 97 percent of large firms are registered while hardly any micro firms are.

Fourth, the private and public dialogue is underdeveloped. Chambers of Commerce exist in many provinces and cities and could support entrepreneurs in various ways, for example, by providing them with information about government regulations and laws, training programs, and advocacy. However, beyond Phnom Penh and a handful of large cities (like Siem Reap), Chambers of Commerce are poorly structured and organized. They also usually exclude SMEs, which makes it difficult for these firms to raise issues with relevant government officials.

Figure 3.18: .



Biggest Perceived Obstacles to Sales Growth Among Cambodian Firms, by Size

Source: WB Enterprise Surveys.

11 The Enterprise Surveys include subjective questions about managers' perceptions of the investment climate. However, these variables may not be comparable across firms, regions, or countries. In addition, various biases have been shown to affect subjective questions in ways that might affect the reliability of regression coefficients.

Figure 3.19:

Objective Measures of Possible Barriers to Sales Growth

(a) Firms with an Overdraft Facility or a Loan from a Financial Institution



(c) Firms with a Website



(e) Firms Reporting an Inadequately Educated Workforce as a Major or Severe Constraint



(g) Inputs and materials being sourced locally



(b) Firms using a Technology Licensed from a Foreign-Owned Company



(d) Schooling Years of Production Workers



(f) Firms Reporting Labor Regulations as a Major or Severe Constraint





Source: World Bank Enterprise Surveys.

Fifth, entrepreneurs have limited technical capacity to develop or adopt new technologies or to find these technologies abroad. Two facts stand out. First, during our interviews with firm managers, many of them reported having difficulty accessing the know-how on technologies or new business processes. With very few technologies developed in the country, firms need to import most of them. As shown in Figure 3.19(b), more than 15 percent of firms reported using a technology licensed from a foreign-owned company. If this percentage seems low, it is nevertheless higher than in most comparator countries. Older firms in Cambodia seem to have easier access to these technologies than young firms. This may hinder the ability of young firms to innovate and generate in-house knowledge and technologies. Second, Figure 3.19(c) compares the proportions of firms with a website across comparator countries and groups of firms. This is a good indicator of the way in which firms are reaching out to customers. Among all of the countries, Cambodia has the lowest proportion of firms with a website except for Myanmar.

Sixth, domestic and smaller firms have little access

to inputs. Cambodia, Guatemala, and Nicaragua are at the bottom of the distribution of comparator countries when it comes to using inputs that are locally sourced (Figure 3.19(g)). However, there are huge differences between companies of different sizes and between domestic and foreign-owned firms. Foreign firms are not at all integrated in the local economy and import the bulk of their inputs and intermediate materials from abroad. These numbers must be interpreted with caution: foreign firms may directly import from abroad, but it is likely that smaller firms also use imported inputs but bought from local retailers and wholesalers.

Seventh, firms also struggle to have access to a market and hence to be profitable. The national market is very

small (Table 3.2). The Cambodia market is among the smallest in the region with a small population, coupled with a low GDP per capita (at purchasing power parity). Interviews suggest that this national market is also flooded with products from the three large neighboring countries: China, Vietnam and Thailand.

Eighth, Cambodia's workforce is low skilled. A quarter of all Cambodian firms have reported that the inadequately skilled Cambodian workforce is a major or severe constraint, which is more than the percentages in most comparator countries (Figure 3.19(e)). This issue seems to particularly affect medium-sized and large firms and foreign firms.

Domestic firms have also reported having difficulty retaining workers, in particular in the northern provinces. Our interviews with the private sector indicated that domestic firms have to compete for workers with labor markets abroad. We did not have enough data to calculate turnover in domestic firms, but the CSES data showed a large proportion of household members working abroad. For example, 15 percent and 32 percent of wage workers living in households in the north and north-west are employed by a firm abroad, although this share is zero in Phnom Penh and around 2 to 3 percent in the rest of the country. The explanation is not that firms abroad offer better contracts or living conditions, but that they offer higher wages (Figure 3.20).

There are also some specific skills that, according to private sector managers, are rare in the country and thereby limit the growth of the private sector. For instance, manufacturing firms reported that they need more engineers and skilled and managerial staff. The tourism sector reported a lack of Chinese speakers in Cambodia, meaning that hotels are poorly equipped to welcome Chinese tourists who are coming to Cambodia in large numbers.

Figure 3.20: _





Source: Author's estimates from CSES 2014.

	Population (million)	GDP/Capita (PPP)		
Cambodia	15.8	\$2,347		
Vietnam	92.7	\$4,051		
Malaysia	31.2	\$20,426		
Lao	6.8	\$3,945		
Thailand	68.9	\$12,573		
Philippines	103.3	\$5,392		

Table 3.2: Size of Regional Markets

Source: WDI (2017).

3.5 Household Enterprises are An Attractive Alternative to Many

As discussed earlier, household enterprises are an important source of employment in Cambodia and benefit from increased employment in other sectors of the economy. Households may start an enterprise as a flexible means to complement household income from other sources or, for a limited few, as a way towards expanding this into a larger business. In the rest of this section, we examine the characteristics of these enterprises and explore determinants of household enterprise formation and productivity, as well as the determinants of them hiring an external worker—a sign of business expansion.

Household Enterprises offer good economic opportunities for some groups

On average, there is a slight financial advantage to operating a household enterprise over being employed in Cambodia. As illustrated in Figure 3.21, monthly earnings for the average household enterprise (defined as profits for the main person operating the household enterprise) are 11 percent higher than are the average wages for an employee. These differences, which are statistically significant, persist even after controlling for gender and locality, and the results hold in both rural and urban areas. Is this enough to conclude that there are more opportunities available in operating a household enterprise than in working for a wage?

Figure 3.21: _

Earnings for Household Enterprise Workers and Wage Workers



Source: Author's estimates using CSES 2014.

Note: In (a), monthly earnings for household enterprise workers consist of the total profit made by the household enterprise that accrues to the person mainly responsible for the enterprise. In (b), productivity for wage workers consists of monthly wage earnings per hours worked. Productivity for household enterprise workers consists of the share of profits accruing to the worker for every hour worked in the enterprise. Only those whose main occupations are wage work or household enterprise work were used in the estimation. The size of the total sample of household enterprise workers is 3,800 and that of wage earners is 13,200. The top and bottom 0.5 percent of the distribution have been removed to avoid outliers. Dotted lines represent average earnings.

The benefits of working in a household enterprise are not just monetary. Although average hourly earnings are lower in household enterprises than in wage work, there are other benefits that come with operating a household enterprise. For instance, our interviews with household enterprise operators in Cambodia indicated that running a household enterprise gives the operator more flexibility than a wage job, which is particularly appealing to women who have disproportionately more household chores and child care responsibilities. We found that individuals with an infant child in a household, particularly women and those in rural areas, were more likely than those without a child to operate a household enterprise. Presumably, this gave them the opportunity to schedule their own working hours to fit them in around their other household responsibilities.

However, operating a household enterprise involves working more hours than a wage job while facing uncertain success. We found that hourly earnings are 11 percent lower for household business owners than for wage workers, which suggests that the owners are compensating for their lower hourly productivity by working longer hours. Also, there is a wider range of monthly and hourly earnings among household enterprises than among wage workers (Figure 3.21). The lowest earning household enterprises operator is earning much less than the lowest earning wage worker is. For instance, over 37 percent of household enterprise operators make profits that are lower than the garment sector's monthly minimum wage level, whereas only 30 percent of the private sector wage employees do so. This may reflect the greater flexibility that individuals have in operating their household enterprises but may also reflect the higher risks and uncertainty involved in operating an enterprise compared with having a wage job.

The profits from a household enterprise are rarely the only source of revenue for the household, particularly in rural areas. Although 29 percent of Cambodian households have at least one household enterprise, this is rarely the household's only source of employment. Only a third of them (10 percent of all households) have no adult members who are employed outside the household enterprise. The share of households relying solely on household enterprise income is much higher among urban households (20 percent) compared to rural households (8 percent) (Figure 3.22). In urban areas, households typically mix non-farm household enterprises with private wage employment, whereas in rural areas, households mix non-farm enterprise employment with agriculture or wage employment in agriculture.

Figure 3.22:



Composition of Household Employment in Cambodia

Source: Author's estimates from CSES 2014.

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A household enterprise's sector of business, education of the operator, and size of the market are the strongest determinants of their earnings. With regard to the sector of business, we found that household enterprises in the retail trade had higher productivity than those in other sectors. With regard to the education of the operator, each additional year of schooling increases hourly earnings in non-farm enterprises by 3 percent. In rural areas, however, education increases the chance of having a household business but does not significantly increase returns. Another strong determinant is the amount of community wealth in local markets. Operating an enterprise in richer communities translates into higher productivity, suggesting that local demand for the goods and services produced by these household enterprises increases with the wealth of the community in which the enterprise is located.

Education, gender, and location are the three main drivers of job creation in household enterprises. With regard to education, as can be seen in Figure 3.23, if the operator of a household enterprise has a higher education. the probability of their employing a wage worker in the household enterprise increases. One year of additional education increases this probability by 0.5 percentage points (which is about 7 percent of the average probability of hiring a wage worker) after controlling for relevant covariates.¹² With regard to gender, women are about 4 percent less likely than men to hire an outside worker in both rural and urban areas. This gender difference in rural areas is driven by different choices of industries, but in urban areas, it persists even after controlling for industries. With regard to location, urban enterprises are more likely to hire workers than rural enterprises. This holds across all sectors, except transport and storage. Enterprises in wealthier communities tend to have a higher probability of hiring an outside worker than those located in poorer communities, particularly if they are operated by a female owner.



Household Enterprise Owner's Years of Completed Schooling

Source: Author's estimates from CSES 2014.

Note: An enterprise was considered to have hired a worker if they had a positive wage bill in the previous 12 months. The plots do not control for other covariates.

¹² The full regression estimate is shown in Annex Table 2.

Probability of Hiring a Wage Employee

		Gender	of Owner	Locality		
	AII	Male	Female	Urban	Rural	
Sectors:						
Manufacturing	10.4%	13.7%	6.4%	19.6%	8.5%	
Retail trade	3.7%	7.1%	2.5%	5.6%	2.4%	
Other trade	13.7%	14.8%	10.5%	16.7%	12.4%	
Transport & storage	3.7%	3.7%	0.0%	2.1%	5.5%	
Accommodation & food	3.7%	9.2%	2.4%	5.8%	2.1%	
Service	14.2%	9.9%	18.3%	13.2%	14.9%	
Others	11.1%	12.1%	9.0%	10.2%	11.7%	
All	6.3%	8.8%	4.1%	7.2%	5.7%	

Source: Author's estimates using CSES 2014.

Note: An enterprise was considered to have hired a worker if they had a positive wage bill in the previous 12 months.

Household enterprises provide an attractive incomegenerating option for those who are unable to participate in the wider labor market. Being a woman, married, a minority, or having a child in the family increases the chance of operating a household enterprise. Women and ethnic minorities have historically found it difficult to access a wide range of economic opportunities, while being married and having children often limits the flexibility with which anyone can engage productively in the economy. Household enterprises provide these individuals with an option to generate income. In rural areas where economic opportunities are scarce, and in the case of women with household responsibilities, household enterprises provide an opportunity for individuals with higher levels of education to make use of their skills and ability. In urban areas, where economic opportunities abound, more educated individuals tend to choose to move away from household enterprises and towards wage jobs with steadier, and potentially higher. incomes.¹³

Improving the business and economic environment and increasing access to markets may stimulate the creation of household enterprises. Conditional on individual and community characteristics, those living in wealthier communities have a higher probability of operating a household enterprise (see Annex Table 3.3 for the estimation details). This could be a result of these communities having a higher local demand for locally produced goods and

¹³ Based on the Heckman Selection model regressions reported in Annex 3.1.

services than would be the case in poorer communities. Physical remoteness is negatively correlated with households operating enterprises. Having access to credit (for example, having a bank in the village) and having internet access are both correlated with a higher probability of starting and expanding household enterprises, so encouraging the spread of credit services and internet access throughout the country is likely to foster the formation of more household enterprises in Cambodia.

Evidence from impact evaluations in other countries suggests that any intervention by governments, donors, or NGOs designed to support household enterprises tends to result in increasing revenues for the operators (i.e. better jobs for them) rather than in the creation of additional jobs. Self-employed workers or microenterprises usually face a wide range of challenges, but interventions tend to focus only on one or two of these. Our interviews with household enterprise operators in Cambodia suggest that they face the following barriers to growth: (i) a lack of technical skills; (ii) limited access to information and technologies; (iii) a lack of business skills; (iv) a lack of motivation; and (v) limited access to markets for their products because of their inability to compete with Thai or Vietnamese products. Therefore, it will be important to ensure that any future interventions are based on solid evidence of what is needed to help these household enterprises not only to grow but also to create job.

3.6 Policies for More and Better Private Sector Job Creation

In this chapter, we have explored the contribution that the various parts of the private sector make to the employment of Cambodia's workers and have concluded that FDI firms, domestic SMEs, and household enterprises will all be critical to creating more, better, and more inclusive jobs in Cambodia in the future.

Our analysis has shown that Cambodia not only relies heavily on private sector FDI firms for current employment but will also continue to rely on them to create jobs in the long run. While these FDI firms benefit from a conducive business environment in Cambodia, they face increasing challenges when it comes to matching their labor costs with labor productivity.

Meanwhile, domestic firms are hampered in their efforts to increase sales, and thus create jobs, by a range of factors. These include an investment climate that is not favorable to domestic producers, a high cost of doing business, limited entrepreneurial capacity, limited access to and information on technology, limited access to markets (both for imports and exports), and an unskilled and unstable workforce. Policymakers will need to address these constraints to sales growth before it will be possible for most domestic firms to create more jobs.

The non-farm household enterprise sector is often overlooked, but collectively these enterprises have the potential to make a substantial contribution to creating employment and increasing the revenue of Cambodia's households.

In this section, we focus on what policies can support the growth and job creation of these three different segments of the private sector in the future. Specifically, we make three recommendations: (i) continue efforts to attract and accommodate job-friendly FDIs; (ii) create a more conducive business environment for domestic firms; and (iii) development of the necessary ecosystem for non-farm household enterprises.

Policy Area 1: Continue Efforts to Attract Job-Friendly FDI Firms

FDI firms have been attracted to Cambodia by its cheap and abundant workforce. This workforce has primarily attracted labor intensive industries in low-value segments of the garment industry and with low levels of fixed assets. Assembly factories in these industries,

which employ almost 1 million people, have contributed substantially to employment. These industries have also driven the development of a local economy (proxied by the increasing number of household enterprises in these areas). In recent years, there has also been a surge in subcontracting factories, which constitutes a growing domestic private sector in garments, though this is mostly informal.

However, the downside of this FDI industry is that its comparative advantage in low-value segments of the international garment market lies in labor costs, which are rising. The minimum wage has been increased incrementally and frequently which has led to an overall increase in wages in garment firms. Firms have not been able to fully compensate for this increase in labor costs with an increase in labor productivity. This may result in a loss of competitiveness and consequently in bankruptcies and offshoring.

Therefore, we make the following recommendations to continue attracting FDI firms to participate in the Cambodian economy:

(1) *Transition to higher value-added segments of GVCs.* See Chapter 4 for specific recommendations in this area. This transition will need to be carefully and appropriately supported. Existing garment firms will need to have time to adjust by mechanizing, optimizing their industrial processes, or developing higher value-added products.

(2) Increase the skills of the workforce: See Chapter 5. A continuous effort needs to be made to attract more labor-intensive and foreign investment to Cambodia, such as the production of higher value-added garment or leather products or assembly for electronics. However, this will require policymakers to make additional investments in the human capital of the Cambodian population to build the necessary pool of semi-skilled and skilled workers.

(3) Encourage domestic firms to enter the apparel sector. It will be necessary to build a stronger domestic sector in the most labor-intensive segments (apparel, footwear, and electronics) while FDI firms transition into higher value-added products. For example, policymakers could consider giving further support to the small but significant existing pool of sub-contracting apparel factories in the form of technical assistance, financial support, or tax incentives to help them to grow and become more sophisticated. In time, these firms may see the benefits in formalizing their status (as, currently, most of them are informal). This support will enable them to create not only more and better jobs (since these firms

do not currently come under the aegis of the Better Factories).¹⁴ They could also help keep the low value-added segment of the apparel GVC in Cambodia.

Policy Area 2: Create a More Conducive Business Environment for Domestic Firms

There are many young and small domestic firms in Cambodia, but they do not contribute as many jobs as do foreign-owned firms. Since they are much smaller and less dynamic, they do not grow in terms of revenues, profits, and jobs as much as FDI firms or equivalent firms in other countries. However, with the right support and a conducive business environment, they have the potential to generate more jobs nationwide, as recognized in Cambodia's Industrial Development Policy for 2015-2025.

Domestic firms in Cambodia suffer from limited access to finance, poor entrepreneurial skills, a lack of information about up-to-date equipment and potential suppliers, and an absence of supporting structures such as business associations, consulting firms, and support programs. They also face immense pressure from foreign-owned competitors that have lower production costs and larger economies of scale. As a result, they cannot compete in the national or, consequentially, the international market.

Since the main comparative advantage of Cambodia is its cheap and abundant workforce, domestic firms could potentially invest in labor-intensive sectors of the economy. However, even there, domestic firms struggle to hire and retain workers because they cannot afford to offer the same salaries as do the FDI apparel firms in Phnom Penh or in Thailand. Furthermore, during our qualitative interviews with FDI firm managers, it became clear that some FDI firms may provide additional nonfinancial incentives to workers, such as a medical center within the facility.

Therefore, we make the following recommendations for creating a more conducive business environment for domestic firms in the Cambodian economy:

(1) Reduce the costs of doing business for domestic *firms.* To achieve this aim, we recommend: (i) reducing the fees involved in starting a business, considering implementing a flat fee that reflects the cost of the service, and introducing a single platform for business registration by integrating the current registration processes at the Ministry of Commerce, the General Department of Taxation, and the Ministry of Labor; (ii) finalizing the issuing of land titles in the country and developing an integrated online registry system for land that includes ownership and cadaster information; (iii) reviewing the existing case management system in the courts for resolving commercial disputes and considering developing an electronic case management system for judges and lawyers; and (iv) establishing an insolvency administration profession and increasing the capacity of the public and private sector related to insolvency matters.¹⁵

(2) Develop an ecosystem for domestic firms to increase their business skills and knowledge. At the moment, Cambodia's nascent ecosystem for supporting business growth only exists in the Phnom Penh, and it needs to be deepened and extended to the rest of the country (Box 3.2). First, more structured institutions are needed to facilitate a public-private dialogue where private sector companies can raise their concerns and discuss possible solutions. There have been some successful examples of this in other countries. For example, in Vietnam, the Private Sector Forum has helped to eliminate a dual pricing system that was discriminating against foreign-owned companies in favor of domestic firms. Second, the government needs to provide more support for entrepreneurship and innovation, for example through research centers and incubators, which are usually privately run and provide co-working spaces and marketing and other services to entrepreneurs. The public funding provided to these structures could be made conditional upon their results, for example, based on the number of entrepreneurs ready for the next stage of investment in the case of incubators, or the number of new technologies being developed by research institutes. Policymakers could foster the development of privatelyowned consulting firms to provide support to domestic enterprises.¹⁶ The government could also foster the development of a consulting sector by starting a public-

¹⁴ Better Factories was created in 2001 as a partnership between the International Labour Organization (ILO) and the International Finance Corporation (IFC). The program aims at improving working conditions in the garment industry in Cambodia. betterwork.org/where-we-work/cambodia/

¹⁵ See the World Bank (2018) for details.

¹⁶ Impact evaluations carried out in Mexico (Bruhn 2013) and India (Bloom et al. 2013) showed that providing one-to-one and personalized support to firms of a certain size can contribute to job creation.

funded project that would aim to link domestic firms with consulting firms. The project could first provide technical assistance to consulting firms to make sure their service is of a sufficiently high quality. It could then partially subsidize the cost of providing the services to SMEs while advertising the benefits of using a consulting firm around the country. Finally, the government should build a website to provide online resources for entrepreneurs, including some massive open online courses (MOOC), some key documents such as a template for a business plan or a spreadsheet for preparing financial projections, and lists of consulting firms, information centers, and incubators.

(3) Introduce a grant program and fiscal incentives to increase the access of domestic firms to financing.

First, the government should consider setting up a Job Fund to provide domestic firms that have high job creation potential with technical assistance, legal support, and matching grants (see Box 3.3). One aim could be to help several small firms (for example, in agro-processing) to consolidate to more effectively compete on the national (and possibly international) market. Another aim might be to link domestic suppliers with existing and nascent FDIdominated value chains, such as apparel and electronics, particularly existing sub-contracting apparel companies. Second, incubators could play a role in nurturing earlystage startups and in identifying startups that need further financing, which could be provided through the Job Fund. Third, in a more long-term approach, the government could consider lowering the level of investment needed for domestic firms to be eligible for fiscal incentives. As of now, very few domestic firms in Cambodia are able to meet the requirements to be eligible for being a QIP. The fees involved are also guite high and the application process quite burdensome. According to the Investor Motivation Survey carried out by the IFC in 2015, 72 percent of the QIP firms surveyed reported that they had hired a broker or another third party to process their QIP application. It is estimated that it costs about USD 12,000 for firms in the garment and footwear industry and approximately USD 20,000 for those in the other manufacturing sector to process their investment incentives package. This is a clear barrier to the entry of SMEs.

Box 3.2: The Importance of Good Business Practices for Sales Growth and Employment

The productivity and performance of any firm is strongly correlated with the sophistication of its business practices, i.e. financial management, marketing and communication strategies, human resources management, inventory management, etc. Bloom and Van Reenen (2007) collected data on the management practices of 732 medium-sized firms in four high-income countries and showed that good managerial practices are strongly correlated with firm-level productivity and profitability. In a subsequent study (Bloom and Van Reenen 2010), the authors increased their geographical coverage to developing countries. They surveyed 6,000 firms in 17 developing countries, including China, India, and Brazil, and came up with similar results as their findings for developed countries. In a recent paper, McKenzie and Woodruff (2017) investigated whether this conclusion held for micro and small firms operating in developing countries. Looking at seven developing countries, they found that variations in business practices explained as much as the variation in the outcomes of microenterprises as in those of larger enterprises. They also found that good business practices predict higher firm survival rates and faster sales growth.

Some firms are better managed than others, but the question is why. Bloom and Reenen (2010) observed that two factors explain most of the differences between national average management scores: the level of competition in the country and who owns the firm. More intense competition in the segment where the firm operates is positively correlated with the use of better business practices. Moreover, firms that are family-owned and managed by the eldest adult child have worse than average business practice scores. Bloom et al. (2016) complemented these conclusions by analyzing data from over 30,000 US plants and found four main drivers of management practices: product market competition, the country's business environment, learning spillovers, and human capital. These drivers explained 30 to 50 percent of the total variation among firms in their management practices.

Other studies have explored the role played by the entrepreneur's characteristics in explaining variations in management practices. Bertrand and Schoar (2003) studied top executives in 600 firms (including CEOs, CFOs, and Presidents) who had managed at least two firms for three years each during their 30-year sample period (1969 to 1999). The authors found that the individual manager fixed effects (particularly for CEOs) had significant explanatory power over firms' returns on their assets. Adding a fixed effect for the entrepreneur raised the adjusted R-squared from 0.72 to 0.77. These results reflected performance differences that could be explained by the attributes of the entrepreneurs themselves.

(4) Provide more incentives to young people to become

entrepreneurs. Being an entrepreneur is a risky activity, especially in Cambodia where the business environment is quite challenging and the chances of domestic firms succeeding are limited. Because entrepreneurs everywhere need extra support to reduce the risks involved in launching their own businesses, some countries have provided them with some fiscal (and non-fiscal) incentives. For example, France and Germany both offer a continuation of unemployment benefits for a certain period of time while individuals try out their new business ideas. In France, the enactment of this policy resulted in a surge of new firms being created and many unemployed workers going into self-employment (Hombert et al. 2014). Policymakers should consider the best ways to provide such incentives to entrepreneurs in Cambodia, with one possibility being to provide them with a stipend to cover their basic needs for 18 months.

(5) *Make it easier for domestic firms to hire and retain workers.* This might involve developing and strengthening job matching platforms through, among others, the National Employment Agency (see Chapter 5 for recommendations) and subsidizing some of the basic benefits (such as health care coverage and a retirement pension) that are usually provided to workers by their employers. This could be accompanied by an information campaign informing domestic firms about the importance of providing these benefits to workers and informing workers about their legal rights.

Policy Area 3: Develop the Necessary Ecosystem for Non-farm Household Enterprises

Household enterprises represent a large share of economic activity in Cambodia. Twenty-nine percent of the households in the country have a non-farm household enterprise with 1.4 million Cambodians considering their enterprise as their main activity or a complementary activity even when they work in the wage sector. The enterprises discussed in this subsection exist at the subsistence end of the enterprise spectrum. Those with high potential for growth were included in the previous section.

Most household enterprises do not generate wage jobs. Nevertheless, they generate revenues for the business owners and their families who would otherwise be out of the labor market and, hence, they help to reduce poverty. The objective of our recommendations, therefore, is to increase the revenues of these non-farm household enterprises.

Many initiatives (Box 3.4) and impact evaluations around the developing world have shown that interventions focusing on those micro enterprises can enhance the living conditions for the households that operate them (Table 3.4).

Box 3.3: Strengthening the Entrepreneurial Ecosystem—The Jobs Fund in South Africa

Launched in 2011, the Jobs Fund is designed to support job creation in South Africa. One of its windows (enterprise development) aims at fostering jobs through small businesses while building a sustainable ecosystem for firm support. Rather than allocating grants to small businesses, the Fund works supplies funding to existing structures, NGOs or private firms to leverage their existing capacity and scale up their services to small businesses.

One example of an incubator project funded through the Job Fund is the Awethu Project, whose objective was to support 500 entrepreneurs and to create an additional 1,000 jobs (awethuproject.co.za). The target group of this incubator is high-potential entrepreneurs from vulnerable groups. This incubator provides a face-to-face program for 6 months after screening of the business idea. It also developed a mobile application for virtual incubation with training in basic business concepts, business tools and networking.

Other examples of Fund recipients include: the Cape Craft Design Institute that provides support to 24 growth orientated companies in craft (improvement of production processes, certification and quality assurance, research and development into materials etc.); Hot Dog Café, that aims to support young unemployed black South Africans in starting a Hot Dog Café franchise; and Shanduka Black Umbrellas, an incubator for businesses with the potential to grow and generate at least four jobs per incubatee.

The selection of the projects is based on the number of potential jobs being created; the grants are disbursed conditional upon jobs being created. So far, the Fund has supported about 71 projects under this window with an average grant per project of about 2 million USD. As per an independent evaluation, this window created 84 percent of the total jobs generated by the Fund.

Box 3.4: YouWin! In Nigeria: Generating Jobs through a Business Plan Competition that Identifies a Pool of High-Growth Firms

The Youth Enterprise with Innovation in Nigeria (YouWin!) program is a business plan competition for young entrepreneurs launched in 2011 by the Nigerian Ministry of Finance. To be eligible for the program, applicants had to be Nigerian citizens aged 40 or younger and propose, via a concept note, the creation of a new or expansion of an existing business venture within Nigeria. In 2012, the top 6,000 out of 23,888 applicants were selected for a four-day business plan training course. 4,510 business plan applications were received and scored, and the 1,200 most innovative winners were selected to receive prizes averaging USD 50,000 each. The grant was given in four tranches conditional upon a close monitoring.

McKenzie (2017) indicates that the program was able to identify high-growth firms, address their constraint on finance through a grant, and as a result, accelerate the growth of the winners. The author found that conditional on reaching the semi-finalist stage of the business plan competition, there seems to be no good predictor for high-growth firms. The total business plan score indeed does not appear as a significant predictor for any of the success outcomes for new and existing businesses. The selection process was more important than the business plan itself. Indeed, the selection process was quite intense: candidates were asked to fill out a concept note on Excel and register online; complete an in-class training program and submit a very detailed business plan online. As a result, applicants were older and more educated on average.

Three follow-up surveys were done in 2012, 2013 and 2014 which enabled the tracking of results over time. Three years after applying, new firm applicant winners were 37 percentage points more likely than the control group to be operating a business and 23 percentage points more likely to have a firm with 10 or more workers (relative to a control mean of 11 percent), while existing firm winners were 20 percentage points more likely to have survived, and 21 percentage points more likely to have a firm with 10 or more workers (relative to a control mean of 17 percent). The winners are also innovating more and are earning higher sales and profits.

The latest follow-up survey conducted in 2016 finds that the program continues to have significant impacts three years after the last tranche was received, despite the economic crisis in Nigeria.¹⁷ Based on a rigorous impact evaluation, it was possible to attribute jobs to the program: 2,500 in 2012, 6,800 in 2013, 7,000 in 2014 and 4,200 in 2016. Given the program budget, the cost per job is about 2,300 dollars over 5 years.

17 In 2016, Nigeria suffered its worst economic performance in thirty years, driven by a contraction in the oil sector which is the main export and accounts for 70 percent of government revenues.

Table 3.4: _

Interventions Targeting Self-employed Workers and Micro-enterprises

	Possible Barriers	Support	Example	
Capacity/ Information	Cognitive ability - insufficient technical skills	Technical skills training	Blattman et al. (2014) in Ghana	
	Insufficient non-cognitive skills	Life skills training	Graduation programs: Banerjee et al. (2015)	
	Lack of entrepreneurial mindset/ motivation	Personal initiative training Alumni talks	Campos et al. (2017) in Togo. Lafortune et al (2017) in Chile	
	Consulting in the choice of the market	Pre-creation support	None that has been rigorously evaluated	
	Basic business practices	Basic business training (financial literacy, business plan), peer-to-peer and/or mentoring	Drexler et al. (2014) in the Dominican Republic; Lafortune et al. (2017) in Chile; Valdivia (2013) in Peru; and Brooks et al. (2016) in Kenya	
Access to finance	Limited access to finance due to lack of capacity	See above	-	
	Limited access to finance due to friction on the financial markets	Grants and micro-credit	McKenzie and Woodruff (2008) in Mexico; De Mel et al. (2008) in Sri Lanka; and Fafchamps et al. (2011) in Ghana	
Access to market	Coordination failure – asymmetry of information	Information provided (for example, on prices)	None specific to firms	
	Coordination failure – matching frictions	Intermediary to train and carry out quality control	Atkin et al. (2017) in Egypt	

Source: Buba (2018).

Therefore, we make the following recommendations for developing the necessary ecosystem for nonfarm household enterprises:

(1) Generate more knowledge about household enterprises. The available data provides a general description of who these households are but not enough detail to guide policymaking. The data lacks information on employees in household enterprises (their wages, skills, and relationship to the owner), their work conditions, or the number of apprentices working for the enterprise. Furthermore, it provides little information into the aspirations, motivations, and skills of these households, thus yielding little insight into the areas where policy could improve the situation. Therefore, there is a need to generate more information about Cambodia's household enterprises through more in-depth studies. Despite the data limitations, it is clear that household enterprises lack the basic minimum of information and skills needed for doing business, including basic financial management information, basic knowledge on marketing, and technical skills. Therefore, providing them with simple business training should help them to increase their revenues. Another option is to promote innovative IT solutions (such as cell-phone applications and websites) that deliver basic training on these skills and provide a toolkit for better management practices, which could be a cost-effective ways of improving the productivity of these enterprises (Box 3.5). Since household business owners

may lack motivation and self-confidence, these websites could also include online training programs designed to develop an entrepreneurial mindset. Other ways to develop this outlook in household business owners have been tried successfully in other countries, including personal initiative training in Togo, Mexico, and Ghana.

(2) Link household enterprises to markets. Many household enterprises and small firms rely on their personal networks to supply them with inputs. Often, this means contacts in cities (Phnom Penh), and this distance can be a significant barrier to opening or expanding enterprises, particularly in rural and remote areas. For example, small shop-owners in the villages find it costly to travel to the city to buy the limited amount of goods that they need for their individual shops, while large wholesalers in cities find it hard to know what to sock to supply these rural retail shops. Therefore, policymakers should investigate ways (including IT solutions) to help household enterprises to aggregate their demand to make it worthwhile for large suppliers to engage productively with them (Box 3.6).

(3) *Reduce the cost of credit in rural areas.* Households in villages with a bank are more likely to open a non-farm household enterprise than those located in a community without a bank. This suggests that increasing access to credit and reducing the cost of credit can facilitate the creation of household enterprises to meet local demand.

Box 3.5: Using Mobile Phones to Deliver Simplified Financial Advice in the Dominican Republic, India, and the Philippines

Managing the finances of an enterprise, even a household operated micro-enterprise, is a complex task. Several studies around the world have shown that micro- and small-entrepreneurs do not have good financial management practices. Identifying this gap, several training programs around the world have attempted to teach better business practices to these micro-entrepreneurs. Few examples of such programs include, but are not limited to, the International Labor Organization's Start and Improve Your Business program and the International Finance Corporation's Business Edge program. However, only a few evaluations of traditional business training programs and financial education courses have found impacts on better financial behaviors, and even fewer have found impacts on profits and productivity. Even if they did succeed, these programs are too expensive to scale.

Behavioral science provides some insights on why traditional training programs have failed. Microentrepreneurs, particularly the poorer and low-skilled ones, are juggling with multiple tasks in their daily lives. This constrains their cognitive bandwidth and makes it difficult for them to grasp complex concepts, and even more difficult to translate them into practice. Furthermore, because of the strain attending in-person training programs places on their time (and resources), they are unlikely to regularly attend the training making the problem even worse.

Recognizing these problems, ideas42, an organization that uses behavioral science to develop solutions for social issues, along with researchers from MIT and Harvard have designed a training program that delivers management best practices in an easy-to-adopt "rules-of-thumb" (heuristics). They engaged with micro-entrepreneurs in the Dominican Republic for months to distill important financial management practices into lessons that were easy to learn and implement. A rigorous impact evaluation conducted over 2006-2008 found that the adopters of the "rules-of-thumb" were 10 percent more likely to engage in good business practices, even more so than those who received the traditional training program. Better business practices also led to higher revenues, with the effects much larger for entrepreneurs with low-levels of human capital.

Over the past 10 years, the researchers and ideas42 have continued to work on this to improve the training program as well as its delivery. In India and Philippines, they adapted the program to deliver the training through mobile phones, completely replacing the need for expensive classroom-based trainings. The simplified "rules-of-thumb" are delivered through short automated calls in form of a narrative storytelling style using professional voice actors. One important feature of this is that the entrepreneurs could receive these calls at a time convenient for them, making it easier and more convenient for them to absorb the lessons and translate them in practice.

Rigorous evaluation of this scalable solution found that, in both India and Philippines, the training translated into meaningful changes in financial behaviors of the micro-entrepreneurs. For example, about 8 percent more people separated their household and business cash—a key first step in determining business profit. In India, where airtime costs were cheaper, the mobile based training was 67 percent cheaper than a comparable classroom-based financial education program.

Source: ideas42 (2018)

Box 3.6: Key Characteristics of Successful Programs for Integrating Household Enterprises into the Economy

There are many initiatives around the world that aim to help household enterprises integrate into the wider economy. A recent study of these existing initiatives concluded that the essential elements of the successful programs have been: (i) using a participatory methodology; (ii) providing one-on-one coaching and training to the owners of the enterprises; (iii) carefully selecting target households; and (iv) tailoring program outcomes to the specific needs of the target population in order for initiatives to succeed in integrating household enterprises.

Being participatory means involving local leaders and community members in the program's design to increase its effectiveness while also using the existing talents and skills of those in the target group and putting them to effective use. This participatory approach has been used by the NGO Aid to Artisans in its work in developing artisanal value chains. Programs can also become more successful by motivating community members to participate. In Cambodia, the NGO Mlup Baitong launched an ecotourism initiative to support households in selected rural communities to create and operate sustainable tourism activities. The NGO further empowered the community members to use part of the income generated by their ecotourism activities to implement community development projects such as a community water supply system to provide more access to safe drinking water. Elsewhere in the world, the NGO Fonkoze partners strategically with organizations like Zanmi Lasante in Haiti to offer free health care, while Village Enterprise has worked with Marie Stopes and Mercy Corp in Uganda to provide health training and services.

Providing household enterprises with training and mentoring is at least as essential as providing them with productive assets. In its interventions, the NGO TechnoServe puts a higher value on installing managerial capacity than inserting capital into a business that is operating inefficiently. Furthermore, many programs exist to help household enterprises to manage their finances better by providing them with training in how to generate income and savings, how to use their savings to reinvest in their enterprises, and where they can minimize losses and inefficiencies. These programs often, though not always, also provide small loans or seed capital.

One important factor in the success or failure of these interventions is the selection of the beneficiary household enterprises. It is important to choose business owners who have the right motivations and attitude rather than on the basis of their business plan or financial profile alone. The applicants should be participating in the program for the right reasons; in other words, their aspirations should align with the outcome goals of the program in order to avoid high dropout rates and unsuccessful business ventures.

Finally, the effectiveness of these programs is also contingent on tailoring the support to the specific needs of the target population, coordinating with existing interventions, and integrating this program into the country's existing social protection framework. Another important consideration is to identify and develop skills that already exist in the target households and their communities rather than introducing a completely new crop or handicraft that will require more investment and training.

The replicability and relevance of these successful outcomes in other countries can be maximized, according to TechnoServe and CIAT, an agricultural NGO, by dividing target household enterprises into groups—based on commodity, size, or entrepreneurial characteristics—and customizing initiatives for each segment. What is clear is that these interventions have the potential to help household enterprises to overcome market failures and structural gaps and integrate into the economy.

Source: Buba (2018)

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CAMBODIA'S FUTURE JOBS: LINKING TO THE ECONOMY OF TOMORROW

ANNEX 3.1: Household Enterprises (Regressions)

Annex Table 3.1: ___

Determinants of Productivity and Selection into Household Enterprises

	A	AII	Μ	ale	Female		Rural		Urban	
	Prod	Sel	Prod	Sel	Prod	Sel	Prod	Sel	Prod	Sel
Completed education	0.031***	0.012***	0.033***	0.001	0.035***	0.024***	0.016	0.042***	0.051***	-0.027***
Age	0.002	0.102***	-0.022	0.092***	0.032	0.112***	0.009	0.104***	-0.036	0.110***
Age squared	-0.000	-0.001***	0.000	-0.001***	-0.000*	-0.001***	-0.000	-0.001***	0.000	-0.001***
Female	-0.049	0.210***	(0.000)	()	(0.000)	()	-0.076	0.284***	-0.025	0.108**
Household size	0.032*	-0.041*** (0.014)	0.030 (0.029)	-0.019 (0.021)	0.030* (0.017)	-0.064*** (0.019)	0.035*	-0.065*** (0.019)	0.038*	-0.001 (0.020)
Never married	0.106	-0.641***	0.419	-0.687***	-0.128	-0.617***	-0.086	-0.738***	0.421**	-0.489***
Ethnic minority	-0.089	0.302***	-0.120	0.370**	-0.041 (0.141)	0.268**	-0.020	0.264**	-0.261	0.341**
Community wealth index	0.205***	0.178***	0.117	0.179***	0.269***	0.190***	0.158**	0.191***	0.242***	0.147***
Financial penetration	()	1.083***	()	0.990***	()	1.155***	()	1.270***	()	0.861
squared		-1.082***		-0.935 (0.599)		-1.175**		-1.238***		-1.614 (1.169)
Log (dist to district HQ)		-0.033 (0.024)		-0.039 (0.031)		-0.020 (0.033)		-0.034 (0.029)		-0.040 (0.039)
Village has a bank		0.163*** (0.054)		0.129*		0.192**		0.169*		0.121*
Village has internet cafe		0.114** (0.054)		0.116 (0.073)		0.096		-0.032 (0.114)		0.150*** (0.056)
# aged 15-64 in HH		-0.045*** (0.017)		-0.073*** (0.024)		-0.018 (0.022)		-0.029 (0.023)		-0.078*** (0.023)
# aged 0-5 in HH		0.077*** (0.026)		0.027 (0.031)		0.139*** (0.036)		0.097*** (0.032)		0.042 (0.036)
Parameters										
artanh (rho)	-0.429 (0.303)		-0.646 (0.415)		-0.168 (0.212)		-0.456*** (0.164)		-0.663* (0.397)	
log (sigma)	0.142 (0.087)		0.216 (0.161)		0.082** (0.034)		0.139** (0.057)		0.218 (0.144)	
Rural x Region	Yes		Yes		Yes		Yes		Yes	
Observation	16197		8159		8038		9269		6928	

Source: Author's estimates using CSES 2014.

Note: The Heckman selection model was estimated for each subgroup with the productivity and selection equations presented in alternate columns with parameter estimates in the bottom panel. The sample was restricted to the working age population involved primarily in household enterprises and in private wage employment. The productivity of an enterprise worker is the profit per hours worked in the enterprise with the profit split proportional to the hours that the worker put into the enterprise.

Annex Table 3.2: ____

Determinants of Hiring a Wage Employee

	All	Male	Female	Rural	Urban
Completed education	0.005***	0.005**	0.005***	0.005***	0.004**
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Age	0.000	0.003	-0.002	0.001	-0.001
	(0.002)	(0.004)	(0.003)	(0.003)	(0.004)
Age squared	0.000	-0.000	0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Female	-0.042***			-0.044***	-0.039***
	(0.009)			(0.012)	(0.013)
Household size	0.000	-0.006	0.006	0.002	-0.004
	(0.004)	(0.005)	(0.005)	(0.005)	(0.006)
Never married	-0.015	-0.028	-0.001	-0.022	-0.004
	(0.018)	(0.033)	(0.022)	(0.026)	(0.025)
Ethnic minority	-0.002	-0.014	0.008	-0.007	0.001
	(0.019)	(0.030)	(0.017)	(0.024)	(0.033)
Community wealth index	0.013	0.009	0.016**	0.019	0.023
	(0.009)	(0.015)	(0.008)	(0.012)	(0.014)
Financial penetration	-0.066	0.043	-0.153	-0.111	0.078
	(0.088)	(0.140)	(0.095)	(0.104)	(0.175)
squared	0.215	0.058	0.336*	0.253	0.106
	(0.151)	(0.221)	(0.184)	(0.169)	(0.369)
Log(dist to district HQ)	-0.001	0.000	-0.000	-0.001	-0.022*
	(0.006)	(0.011)	(0.006)	(0.007)	(0.012)
Village has a bank	0.015	-0.007	0.033*	0.002	0.006
	(0.016)	(0.026)	(0.018)	(0.023)	(0.023)
Village has an internet café	0.008	0.003	0.014	-0.040*	0.023
	(0.014)	(0.022)	(0.014)	(0.021)	(0.015)
# aged 15-64 in HH	0.000	0.004	-0.003	0.001	0.001
	(0.004)	(0.007)	(0.006)	(0.006)	(0.008)
Dural y Dagion	Voo	Vaa	Vaa	Voo	Voo
	1150	1022	165	162	165
	4100	1923	2221	2040	2102
n-squareu	0.025	0.013	0.024	0.024	0.029

Source: Author's estimates using CSES 2014.

Note: A firm was considered to have hired worker if they had a positive wage bill in the previous 12 months.

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Annex Table 3.3: _

Employment in the Wage Sector and the Number of Households with Enterprises

Sector of HH enterprise :	AII	Trade	Hospitality
log (2014 employment) in:			
Garments & footwear	0.115***	0.108***	0.142
	(0.033)	(0.030)	(0.110)
Non-garment domestic manufacturing	0.422***	0.405***	0.178
	(0.093)	(0.099)	(0.167)
Domestic construction	0.106	-0.005	0.326
	(0.125)	(0.120)	(0.328)
Domestic tourism	0.329***	0.404***	0.542***
	(0.083)	(0.076)	(0.170)
Non-garment foreign owned	0.181*	0.237**	0.118
	(0.104)	(0.099)	(0.232)
Observation	45	45	45
R-squared	0.900	0.903	0.533
5 year change of Log (employment) in:			
Garments & footwear	0.012	0.049	-0.469
	(0.077)	(0.153)	(0.435)
Non-garment domestic manufacturing	0.279***	0.3818**	0.147
	(0.090)	(0.153)	(0.438)
Domestic construction	0.239**	0.294	0.049
	(0.106)	(0.188)	(0.365)
Domestic tourism	0.226**	0.242	0.947***
	(0.097)	(0.153)	(0.250)
Non-garment foreign owned	-0.006	0.018	-0.078
	(0.049)	(0.077)	(0.216)
Year FE	Y	Y	Y
Observation	89	89	89
R-squared	0.275	0.312	0.227
R-squared	0.907	0.868	0.621

Source: Author's estimates using CSES 2014, 2009, and 2004.

Note: The top panel is a cross-sectional regression for year 2014, which regresses the logarithm of household enterprises on the logarithms of wage employment categories. The bottom panel regresses a five-year change in the logarithm of household enterprises on five-year changes on the logarithm of wage employment categories and survey year fixed effects. The changes are between 2004 and 2009 and between 2009 and 2014. For both panels, each observation is a province x rural/urban cell for each year. Regressions are weighted by the population in 2014 in the top panel and the population in 2004 in the bottom panel. Robust standard errors reported in parentheses. *: p < .10. **: p < .05. ***: p < .01.



CHAPTER 4:

Jobs and the Export Sector

Claire H. Hollweg and Anne Ong Lopez



4.1 Introduction

The Royal Government of Cambodia (RGC) has a vision to transform and modernize the country's industrial structure from labor-intensive to skill-driven, which, in large part, will happen though its export sector. As identified in the government's Industrial Development Policy for 2015-2025, the factors that will be crucial to realizing this vision will be: (i) connecting to regional and global value chains; (ii) becoming integrated into regional production networks; and (iii) developing interconnected production clusters to diversify exports.

Labor-intensive export sectors—particularly garments and tourism—have played an important role in Cambodia's growth and wage employment but have remained stagnant in low-value-added activities. Cambodia's export growth—among the fastest in the world—has been driven mostly by garment exports and tourism receipts. However, the country's industrial sector remains weak and narrowly based as reflected by the simple structure of manufacturing and its low level of export sophistication. For example, Cambodia has had limited success in moving up the value chain in garments, with most of its activities in the sector being limited to low-end, low-wage assembly work with little added value. Therefore, there is a long way to go to achieve the RGC's vision.

The factors behind Cambodia's impressive job creation, poverty reduction, and economic growth over the past decade—exports of goods and services in garments, tourism, and agriculture through labor-intensive low-skilled jobs—are unlikely to be the factors that will drive the growth of good jobs in the future. The labor-intensive garment industry is facing rising competition from other low-wage countries in the region, particularly Myanmar, and real wages seem to be rising significantly faster than productivity (see Chapter 3). Garment (and tourism) exports are also under pressure in the context of the recent appreciation of the US dollar given Cambodia's high dollarization and pegged exchange rate (see Chapter 2), raising the prospect of Cambodia losing special access for its exports to important markets such as the European Union. This would further threaten key exporting industries, as well as deterring FDI, and would have immediate and severe negative implications for Cambodia's jobs that are dependent on exports. Other mega-trends—such as the rise of regional competitors vying for higher-valued added spots in regional and global value chains, slowing international trade and maturing global value chains, and the growth of an Asian consumer class—will also reshape Cambodia's job picture (see Chapter 1).

Cambodia's export diversification strategy going forward must strive to create more, better, and more inclusive jobs at the same time finding ways to move the economy into higher-value-added export activities. In this chapter, we look closely at how Cambodia's export sector has supported structural transformation and job creation to discover what export diversification and upgrading as envisioned in the government's Industrial Development Plan could mean in terms of creating more, better, and more inclusive jobs. The need for the economy to make this transition is more immediate given recent EU statements that Cambodia will temporarily lose its preferential trade status until it makes "clear and demonstrable improvements" in its human rights.¹ We will: (i) profile Cambodia's export structure as well as the factors that underpin its current export competitiveness; (ii) measure the labor content of Cambodia's exports, in terms of the jobs and wages that Cambodia's exports currently support and their evolution over time; (iii) assess whether the profile of workers in current export activities and in other light manufacturing sectors into which Cambodia is looking to diversify, as well as any other macroeconomic factors, are constraining the economy from diversifying into modern, higher-quality jobs within global and regional value chains; (iv) explore the importance of services exports (particularly in tourism) for creating jobs; and (v) recommend policies to support export competitiveness in job-friendly sectors.

4.2 How Do Cambodian Exports Support Wages and Jobs?

Export growth can be a powerful way to increase employment and earnings, both directly within exporting firms and indirectly through these firms' demand for goods and services from the domestic economy. The extent to which exports support domestic labor depends on several factors, including the labor intensity of export sectors and the extent to which exporting firms purchase inputs from domestic firms. In this section, we measure the labor sophistication of Cambodia's merchandise exports (how the goods that Cambodia exports are associated with different labor market outcomes) and the labor content of Cambodia's exports (how many wages are supported by exports) and relate these to other indicators of Cambodia's export performance (such as firms' participation in value chains and the extent of their diversification).

The labor content of Cambodian exports is high...

The export sector is responsible for a substantial proportion of the wages paid in Cambodia. In 2014, exports paid USD 2.6 billion in wages, representing about 15 percent of GDP, both directly to workers within the export sector and indirectly to workers employed by domestic input

Box 4.1: Concepts and Measures

The definitions of various concepts and measures used throughout this chapter to describe the relationship between exports and labor outcomes are as follows:

Labor sophistication of exports: This is an indirect measure of the trade-weighted average (labor) outcomes of the exports that appear in Cambodia's export basket, also known as EXPY. The labor outcomes include: value added, wages, skills, physical capital, and human capital. See Annex 4.1 for more detail. The logic behind these measures is that information on labor markets and other characteristics of the economies that intensively export a given product is useful for determining the potential for specializing in certain products exported to certain markets. Based on these observations, it is possible to draw inferences about how export growth and product and regional trade patterns will affect future employment, wages, and the demand for skills in Cambodia.

Labor content of exports: This is a direct measure of the contribution of labor to the value-added of a given sector's exports and the wages paid by the companies within it. The latter can be broken down into direct and indirect wages. The direct wages are the sector's domestic labor value-added as embodied in its own exports. The indirect wages are the sector's domestic labor value-added by inputs to and from other sectors' exports. See Annex 4.2 for more detail.

Labor intensity of exports: This constitutes total wages paid per unit of a sector's exports. It is measured as the labor content of exports of a given sector divided by the sector's gross exports.

¹ On February 11, 2019 the European Commission launched a procedure to temporarily withdraw tariff preferences granted under the Everything But Arms (EBA) arrangement over concerns related to human and labor rights violations.

suppliers (Figure 4.1). This was more than in Nepal, Lao PDR, and Malaysia (2 percent, 8 percent, and 11 percent of GDP respectively), but less than in Thailand (19 percent). Exports in Vietnam contributed a similar amount to GDP as they did in Cambodia (16 percent).

As in its comparator countries, more wages were paid directly for export production than indirectly in Cambodia. In 2014, exports paid USD 1.8 billion in direct wages to workers employed in the exporting sector, and USD 0.8 billion in indirect wages to workers employed

in sectors providing inputs to the exporting sector. In comparison, in Vietnam, exports paid USD 19 billion in direct wages and USD 11 billion in indirect wages.

Cambodia's exports have grown strongly since 1997

(Figure 4.2). In 1991 (the first year of available data), exports of goods and services totaled only USD 0.3 billion, but this had increased to over USD 13 billion by 2016, equivalent to 61 percent of GDP. Net inflows of foreign direct investment (FDI) also grew strongly after 2003, reaching USD 2.3 billion in 2016 or 11.4 percent of GDP.²



Source: Authors' calculations using the LACEX database. Note: Values in constant 2014 prices.

Figure 4.2:

Figure 4.1:

Exports of Goods and Services and Net FDI Inflows, 1991-2016



Source: Authors' calculations using data from World Bank World Development Indicators.

Foreign direct investment (FDI) consists of direct investment equity flows to a given economy. It is the sum of equity capital, reinvestment of earnings, and other capital. FDI net inflows are the net value of inward direct investment made by non-resident investors in the economy. These data are from the World Bank's World Development Indicators. The data on equity flows are based on balance of payments data from the International Monetary Fund (IMF).

Consistent with Cambodia's export performance, the labor content of exports has also grown rapidly since 2004. The compound annual growth rate (CAGR) of the labor content of exports was 9.2 percent between 2004 and 2014, and this was similar to the CAGR of exports (8.2 percent) and the CAGR of the labor content of domestic demand (7.4 percent) over the same time period (Figure 4.3). The growth in the labor content of Cambodia's exports was greater than that in Malaysia, Thailand, Nepal, and Vietnam, but lagged behind that of Lao PDR.

However, Cambodia's labor content of exports remains extremely concentrated and has changed little since **2004.** The labor content of exports is highly concentrated in the apparel sector in Cambodia. Total wages in exports in the apparel sector, for example, were over USD 1.67 billion in 2014 compared with around USD 481 million in 2004 (in real 2014 values) (Figure 4.4). Apparel and textiles accounted for 64 percent of the wages supported by exports in 2014, compared to 61 percent in 2004. The increase was driven primarily by apparel, as Cambodia exports very few textiles

15%

Figure 4.3: _





Note: Values in constant 2014 prices.

Figure 4.4:

Total Labor Value-Added of Cambodian Exports (backward linkages)

(a) Labor Content of Exports, 2004

(b) Labor Content of Exports, 2014



Source: Authors' calculations using the LACEX database.

Note: Values in constant 2014 prices. "nec" stands for "not elsewhere classified."
(see Annex Figure 4.3). The majority of the labor content in this sector was concentrated in direct export production. Leather products such as footwear, handbags, and travel goods accounted for slightly more labor content in 2014 than they did in 2004. In Cambodia, most inputs for these leather products are imported from abroad due to a lack of raw materials in Cambodia itself and then are assembled for export. Other private services and trade and transport services remained top export sectors in terms of wages in Cambodia.

In Vietnam, in contrast, exports diversified into higher-value-added sectors over the same period. In 2004, the four most important sectors for export wages in Vietnam were oil; leather products; chemical, rubber and plastic products; and textiles. By 2014, the four most important sectors for export wages were electronic equipment; chemical, rubber, and plastic products, trade and transport services; and business services.

The fact that only a few export sectors support labor in Cambodia reflects the country's high concentration of exports. Goods exports are concentrated in labor-intensive export activities, namely, apparel and, to a lesser extent, footwear. Between 2000 and 2016, Cambodia's export basket to the world was highly concentrated in apparel, although its share in total exports was gradually decreasing, from 83 percent in 2000 to 61 percent in 2016. The shares of footwear in total exports has remained relatively stagnant, from 8 percent in 2000 to 10 percent in 2016 (Figure 4.5).

Figure 4.5:







Source: Authors' calculations using UNCOMTRADE data from World Integrated Trade Solutions (WITS).

There is some evidence of recent export diversification.

The declining share of apparel in total exports reflects the Cambodian government's commitment to its strategy to diversify the country's export base. The government's Industrial Development Policy for 2015-2025 aims to reduce the export share of footwear and garments to 55 percent of total exports by 2020 and to 50 percent by 2025. The recent decline in the Herfendehal Hershman Index (HHI), a measure of export product concentration, is evidence of progress towards this goal (Figure 4.6). There is also some evidence that exports have been growing in electronics, machinery, and transport equipment since 2011.

Nevertheless, Cambodia has grown on the intensive rather than the extensive margin. Export growth has come from an increase of existing products in established markets (the intensive margin) rather than from either new products to old markets or old products to new markets or both (the extensive margin). An example of export growth on the intensive margin is increasing the sales of teeshirts to the United States. Export growth on the extensive margin has been much weaker and has primarily come from product diversification in established markets rather than introduction of new products in new or established markets (Annex Figure 4.5). One example of Cambodia's export growth on the extensive margin through product diversification in established markets is that it has started selling shoes to the US that had previously only been exported to the EU. This, coupled with the high concentration of exports, confirms that Cambodia's recent export performance continues to support labor in only a few sectors.

Labor intensity is low in Cambodia compared to most of its peer countries. The labor intensity of exports measures the wages paid per 1 US dollar of exports or, when multiplied by 100, the percentage of export value paid as wages. In Cambodia, the labor intensity of exports is less than 20 percent, which is only a little higher than that of Thailand (Figure 4.7). Labor intensity declined in many sectors between 2004 and 2011 but recovered between 2011 and 2014 (Annex Figure 4.7). There was an increase in labor intensity in the apparel sector during both of these periods (Annex Figure 4.11), particularly after 2011, whereas there was a steady decline in labor intensity other manufactures over time. This increase in the apparel sector coincided with increases in the minimum wage after 2013.

Cambodia's labor intensity in apparel, its most important sector, is low for the country's level of development as measured by per capita GDP. Both in 2004 and 2014, Cambodia's labor intensity was lower than in other countries at similar levels of development (Figure 4.8). Nepal has a higher labor intensity in the apparel sector than Cambodia though both countries have similar per capita income levels.



Figure 4.6: _

Herfendehal Hershman Index (HHI) of Product Concentration

Note: The Herfindahl Hershman Index measures levels of product concentration. A higher number reflects greater concentration, a lower number greater diversification.

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Source: Authors' calculations using UNCOMTRADE data from WITS.

Figure 4.7: _



Source: Authors' calculations using the LACEX database.

Figure 4.8:

Labor Intensity in Apparel Exports Across Countries







(b) Apparel Labor Intensity, 2014

Source: Authors' calculations using the LACEX database and World Development Indicators.

Cambodia's labor intensity is also low in other sectors compared to its peers in the region. Its total labor intensity was lower than the level in other comparator countries in the agriculture, forestry, and fisheries sector, in some manufacturing sectors (such as beverages and tobacco, metal, paper, textiles, and wood products) and

in some of the services sector (such as electricity, gas, water, trade and transport, and public services) (Figure 4.9). Furthermore, while apparel was the largest source of wages among all export sectors in Cambodia in 2004, 2007, 2011, and 2014, labor intensity in this sector was lower than in all other peer countries except Vietnam (Box 4.2).

Figure 4.9:

Labor Intensity of Exports across Sectors and Countries, 2014



Total Worker Compensation as Percent of Export Value

Source: Authors' calculations using the LACEX database. Note: "nec" stands for "not elsewhere classified."

Box 4.2: Labor Intensity in Cambodia's Garments Sector

Labor content has increased in the apparel sector, and in terms of wages paid for exports in this sector, Cambodia performs better than its peers. In nominal terms, labor content of exports increased in wearing apparel between 2004 and 2014 by a factor of 6.5. In real terms, it increased by a factor of four. Also, in terms of wages paid in this sector, Cambodia exceeds Thailand, Malaysia, Lao PDR, and Nepal and only lags behind Vietnam (Box Figure 1). However, labor intensity is weaker in this sector in Cambodia than in these comparator countries. In 2014, labor intensity (the labor content of exports as a percentage of total exports) in wearing apparel was second lowest among the comparator countries (with the lowest being in Vietnam) (Box Figure 2). This is indicative of the fact that this sector in Cambodia is characterized by low-value-added activities.



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What are job-friendly and export-friendly sectors? There is a clear trade-off between the export intensity of a sector (measured as the percentage of output that is exported globally) and its labor intensity (measured as the wages paid per unit of export) (Figure 4.10). While a country's export diversification strategy should be based on many factors including the country's comparative advantage in an export sector, the jobs intensity of that export sector can be one consideration. Sectors like oil and gas that have a high export intensity also have a low labor intensity, meaning that few wages are paid per unit of exports. On the other hand, other sectors like trade and transport, construction, and other business services have a higher labor intensity but tend not to have a high export intensity.

...while the labor sophistication of Cambodian exports is low

Overall, Cambodian exports have tended to have a low level of sophistication.³ Comparing trends in the labor sophistication of exports over time, Cambodia had the weakest performance across many measures between 2000 and 2016 compared to its peers. Cambodia's export basket contains products that pay lower wages, have lower valueadded, and employ fewer skilled workers than the products exported by its peer countries (Figure 4.11). Cambodia's exports to the world also have the lowest median valueadded and lower median wages paid, and neither of these labor sophistication (EXPY) measures has changed much over the past decades. While Cambodia's output per employee (productivity) has increased, it still performed worse than all of its peers except Vietnam in recent years. Thailand and Malaysia's exports have more sophistication than Cambodia's across all labor sophistication measures (Figure 4.11).

Figure 4.10: ______ Export Intensity and Labor Intensity Across Sectors, 2014



Source: Authors' calculations using the LACEX database.

Note: atp = air transport. b_t = beverages and tobacco products. c_b = sugar cane and sugar beet. cmn = communication. cmt = meat: cattle, sheep, goats, and horses. cns = construction. coa = coal. crp = chemical, rubber, and plastic products. ctl = cattle, sheep, goats, and horses. ele = electronic equipment. ely = electricity. fmp = metal products. frs = forestry. fsh = fishing. gas = gas. gdt = gas manufacture and distribution. gro = cereal grains not else classified (nec). i_s = ferrous metals. isr = insurance. lea = leather products. lum = wood products. mil = dairy products. mvh = motor vehicles and parts. nfm = metals nec. nmm = mineral products nec. oap = animal products nec. obs = business services nec. orr = crops nec. off = food products nec. off = financial services nec. oil = oil. ome = machinery and equipment nec. off = manufactures nec. omn = minerals nec. omt = meat products nec. osd = oilseed. osg = public administration, defense, health, and education. otn = transport equipment nec. otp = transport nec. p_c = petroleum and coal products. pcr = processed rice. pdr = paddy rice. pfb = plant-based fibers. ppp = paper products and publishing. rmk = raw milk. ros = recreation and other services. sgr = sugar. tex = textiles. trd = trade. v_f = vegetables, fruit, and nuts. vol = vegetable oils and fats. wap = wearing apparel. wht = wheat. wol = wool and silk-worm cocoons. wtp = sea transport. wtr = water. "nec" stands for "not elsewhere classified."

³ Labor sophistication of exports is measured according to methodology devised by Hausmann et al. (2007) and Shirotori et al. (2010) in which six aspects of weighted average values of export labor market outcomes are measured (EXPYs), namely, the median wage, the median value-added per worker, the ratio of skilled to total workers, output per employee, years of schooling, and capital stock per worker.

Figure 4.11: _





(c) Physical Capital per Worker



(d) Median Value Added

(f) Share of Skilled Workers



(e) Median Wage



Source: Author's calculations based on data from UNCOMTRADE, the World Bank's Business Environment and Enterprise Performance Surveys, and Shirotori et al. (2010).

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Figure 4.12: ____

Labor Sophistication of Cambodia's Exports by Destination Market

(a) Output per Employee





(c) Physical Capital per Worker



(d) Median Value Added





Source: Author's calculations based on data from UN COMTRADE, World Bank Business Environment and Enterprise Performance Surveys, and Shirotori et al. (2010).

(f) Share of Skilled Workers

The labor sophistication of Cambodian exports to the world, the US, and the EU27 has remained stagnant. Interestingly, Cambodian exports destined for the East Asia and Pacific region (EAP) are more labor-sophisticated than its exports to the EU and the US, in terms of having higher wages, more value-added, and more human capital (Figure 4.12). This is because Cambodia's export basket to the EAP is more diversified than its export basket to the US and the EU27 (Annex Figure 4.3) and includes goods that have a higher factor content (such as machinery) at higher percentages than the US and EU27 baskets. Cambodia's most important machinery exports to the EAP in 2016 included insulated wire and cable, telephone sets, and electrical transformers and converters. This more diversified and labor sophisticated export basket to the EAP can also explain Cambodia's improving trends in the "skilled workers" measure (in which Cambodia's exports were weaker than those of their peers). Conversely, textiles dominated Cambodia's manufacturing export basket to US and EU27 between 2000 and 2016, which helps to explain why the factor content of exports to these countries remained constant.

Cambodia participates in key global value chains

Cambodia's main export sectors—garments and footwear—are in important global value chains (GVCs).

How Cambodia participates in GVCs is key to how its exports support labor today and in the future in terms of strengthening the links between domestic firms and GVCs and creating opportunities to upgrade into higher value added and more sophisticated products or tasks within the value chain.

Cambodia is located "downstream" in GVCs (in other words close to the final consumer) and is primarily a buyer of foreign inputs. A country can participate in GVCs in two ways. The first is as a buyer of foreign inputs that it then uses to create its own exports. This type of GVC participation can be measured as foreign value-added embodied in Cambodia's exports. The second way is as a seller of inputs for further downstream processing. This type of GVC participation can be measured as domestic valueadded embodied in third countries' exports. In Cambodia, domestic value-added in the exports of third countries (DVAX) increased from 8.4 percent in 2004 to 12 percent in 2011 (Figure 4.13(a)). However, its forward participation remains low compared that of its peers, such as Malaysia (20 percent) and Vietnam (16 percent), meaning that Cambodia supplies few inputs for third country's exports. This reflects Cambodia's "downstream" position in GVCs. The foreign value-added embodied in Cambodia's gross exports (FVAX) is much higher, about 40 percent, but has remained stagnant since 2000 (Figure 4.13(b)). The share of Cambodia's FVAX is almost on a par with or even higher than that of the ASEAN average.

Figure 4.13: _

25%

20%

15%

10%

5%

0%

^Dercent of Third Country Export Value

Cambodia's Integration in GVCs



(b) Foreign Value Added of Gross Exports



Source: Author's calculations based on data from OECD-WTO TiVA database.

200° 2004

Cambodia

Thailand

JODS

World Bank Enterprise Survey data show that imported inputs are used by many Cambodian firms for their exports. In 2016, 46 percent of Cambodian manufacturing firms used imported inputs compared to the average 41 percent of the EAP region. Imported inputs represented 33.8 percent of the country's total inputs on average compared with 25.8 percent of total inputs in the EAP as a whole. This is consistent with Cambodia's typical participation in the value chain, which is primarily in lowvalue-added assembly functions.

Trade agreements are key to Cambodia's participation in GVCs and to continued job creation through the export sector. Cambodia is a party to many regional free trade agreement agreements including the ASEAN Free Trade Area and ASEAN agreements with Australia, New Zealand, India, Japan, China, and Korea. Cambodia also is participating in the 16-member Regional Comprehensive Economic Partnership negotiations. Cambodian exports have preferential access to the US under the Generalized System of Preferences (GSP) and to the EU under the Everything But Arms (EBA) scheme. However, these countries grant this preferential access based on a country's level of economic development, so, as Cambodia continues to climb the development ladder, this access is likely to be withdrawn. In addition, the European Commission has launched a procedure to temporarily withdraw tariff preferences granted under the EBA arrangement over concerns related to serious human and labor rights violations. The US-Cambodia Trade and Investment Framework Agreement (TIFA), signed in 2006, provides a forum for both countries to address any bilateral trade issues and to coordinate on regional and multilateral issues, but it is not a free trade agreement. Given that the US and the EU are two of the most important destinations for Cambodia's apparel exports, it will be crucial to ensure the country's continued preferential access to these markets, for example through bilateral free trade agreements (FTAs). This will be necessary not only for the garment sector, currently Cambodia's main export sector, but also to give firms the opportunity to diversify into other GVC sectors. Also, the EU recently informed the Cambodian government that it will lose preferential trade status unless it makes "clear and demonstrable improvements" to its human rights records. The loss of this status, which exempts Cambodia's exports from tariffs, would have an immediate negative impact on Cambodia's competitiveness in the EU market, which accounts for 40 percent of the country's merchandise exports.

The Comprehensive and Progressive Agreement on Trans-Pacific Partnership is not expected to yield any significant benefits for Cambodia. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), also known as TPP11, is a signed but not-yet-ratified trade agreement between Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam. These 11 countries represent 13.4 percent of global GDP (USD 13.5 trillion), making it one of the world's largest trade agreements. The CPTPP will impact both production and trade structures. In the case of Vietnam, which will be the biggest beneficiary of the agreement, the sectors that will benefit most are food, beverages, and tobacco; apparel and leather; and textiles. Most services sectors are also expected to expand faster as a result of the CPTPP. Increases in output will mostly be driven by higher exports, some of which are expected to redirect trade towards members of the partnership and away from non-members, such as Cambodia, who are expected to lose out. Cambodia's projected income gains under the CPTPP are in the range of -0.42 percent of income (Maliszewska et al. 2018).

Indirect links with exporting firms are nascent

Cambodian exports generally support labor directly through employment in exporting firms rather than indirectly through input purchases from domestic firms. In 2014, the share of direct labor value-added in total labor value-added in Cambodia was 69 percent, whereas indirect labor value-added accounted for only 31 percent (Figure 4.7 and Figure 4.14(a)). The share of direct labor value-added is higher in Cambodia than in any of its peer countries. In Vietnam, for example, the direct share is 63 percent, while in Malaysia and Thailand it is 51 percent and 55 percent respectively.

Between 2004 and 2014, direct wages paid to support exports grew slightly faster than indirect wages to support exports. In that decade, total labor intensity coincided with indirect labor intensity, which declined between 2007 and 2011 before increasing thereafter (Figure 4.14(b)). Indirect labor intensity was around 6 percent in 2007, 4.6 percent in 2011, and 5.6 percent in 2014. Direct labor intensity conversely increased steadily over time. Direct labor intensity was most substantial in apparel, which supports jobs more directly than indirectly. However, other sectors had stronger backward links with the domestic economy, which underscores the importance for Cambodia of diversifying exports to support wages and jobs in a wider variety of sectors. There are surprisingly few forward links across sectors, meaning that exports are not supporting jobs and wages in domestic input-providing sectors. However, there are some exceptions such as exporting companies in the apparel, trade and transport, and agriculture, forestry, and fisheries sectors. In 2014, 51.1 percent of the labor value-added of apparel inputs went to leather, while 18.1 percent went to trade and transport services, and 9.1 percent went to other private services. In the same year, 64.1 percent of the labor value-added of trade and transport inputs went to leather, and 4.5 percent to machinery and other equipment. Also, 31.5 percent of the labor value-

added of agriculture, forestry, and fisheries inputs went to processed foods, 20.7 percent to leather, and 16.2 percent to apparel.

Cambodia's lack of indirect links in the services sector is a challenge because research has shown that, for an economy to be integrated into GVCs, it needs considerable services inputs Between 2004 and 2014, Cambodian services had relatively stable but low indirect labor value-added (around 5 percent) (see Annex Figure 4.6). In general, Cambodia's services sectors tend to support labor more in direct export production than in indirect purchase of inputs (Figure 4.15).

Figure 4.14: _





Source: Authors' calculations using the LACEX database. **Note:** Values in 2014 prices.

Figure 4.15: .





Source: Authors' calculations using the LACEX database. Note: "nec" stands for "not elsewhere classified." Although the percentage of firms exporting indirectly in Cambodia is slightly above the EAP average, the percentage of inputs sourced domestically is far **below that in peer countries.**⁴ Firm-level data from the Word Bank's Enterprise Surveys show that, in 2016, 4.4 percent of Cambodian firms exported indirectly by providing inputs to exporters compared to an EAP average of 3.7 percent. This rate was higher than in all of Cambodia's peer countries except Malaysia (Figure 4.16). However, the percentage of total inputs and supplies sourced domestically was only 20 percent compared to Vietnam, for example, where this share was closer to 60 percent (Figure 4.17).

Firm-level data provide insights on the composition of indirect/domestic linkages. Data on Cambodia from the World Bank Enterprise Survey (WBES) and the Business Environment and Enterprise Performance Survey (BEEPS) show that, in 2016, indirect exporters were mostly small businesses,⁵ even though most workers in Cambodia were employed in large firms (Table 4.1).⁶ Fifty-six percent of indirectly exporting firms were in "other services," followed by 40 percent in manufacturing, and the rest being in construction, wholesale, and transport. Within the manufacturing sector, most indirect exporters were in the garments and food sectors. The surveys also found that indirect exporters were generally domestic-owned, located in the capital (Phnom Penh), and had been in operation for an average of about 14 years.

Figure 4.16:





Source: World Bank Enterprise Surveys, various years.

Figure 4.17: _



Share of Inputs Sourced Domestically

Source: World Bank Enterprise Surveys, various years.

⁴ Among manufacturing firms, 6.9 percent of firms export indirectly.

The fact that there were so few medium-sized firms that were indirectly exporting may be due to constraints preventing small-scale firms from becoming medium-sized 5 firms. Because of the small sample sizes in the two surveys, it is difficult to tell for sure whether this was the case.

This is similar to the case among directly exporting firms, where large firms provide the most jobs.

Cambodia's services exports are important for jobs

Tourism accounts for the majority of Cambodia's services exports, which are an important part of Cambodia's overall export basket. In 2016, services exports accounted for 31 percent of Cambodia's export basket, totaling USD 4 billion. This is a higher share than those in Cambodia's peer

countries except for Nepal, where services exports accounted for 65 percent of the country's total exports. In Vietnam, for example, the share is 6 percent and in Thailand, 24 percent. Travel services represent 76 percent of Cambodia's services exports, and transport services (which includes passenger transport) constituted another 10 percent. Other business services, such as lawyers and accountants, were more important in Malaysia, Nepal, and Thailand (Figure 4.18).

Table 4.1:_

Composition of Indirect Exporters

Distribution of Firms					
Size		Industry			
Small (0-19)	69.72 %	Food	10.74 %		
Medium (20-99) 80.00 %	80.00 %	Garments	23.40 %		
Large (100+)	28.48 %	Leather	2.72 %		
Sectors		Fabricated metal products	3.23 %		
Manufacturing	40.09 %	Construction services	23.97 %		
Retail	3 67 %	Wholesale	18.69 %		
Other services	56 24 %	Retail	3.67 %		
Type of ownership	00.2170	Hotel & restaurant	1.39 %		
Domestic	78 02 %	Transport	12.19 %		
Foreign	21 08 %	Employment share			
Pagian	21.30 /0	Small (0-19)	2.00 %		
Region	70.50.04	Medium (20-99)	0.20 %		
Phnom Penh	70.59 %	Large (100+)	97.90 %		
Plains 11.59 % Mountain 0.19 %		Share of full-time permanent workers who completed secondary school	42.60 %		
Coastal	17.63 %	Average age	13.7 vears		

Source: World Bank Enterprise Survey, Cambodia (2016). Note: Sample size equals 25.

Figure 4.18: _



Composition of Services Exports, 2016

Source: Authors' calculation using data from UNCTADstat.

Exports of tourism are also important for Cambodia's economy, and have strong backward links. According to the World Travel and Tourism Council, travel and tourism to Cambodia's GDP directly contributed 14 percent of GDP in 2016—a higher rate than in comparator countries. That year, this rate was less than 5 percent in Malaysia, Nepal, and Lao, and was 6 percent in Thailand. Beyond this direct economic impact, the travel and tourism industry has a significant indirect impact as, in 2016, its total contribution across all sectors of the economy was 32 percent of GDP—compared with only 20 percent in Thailand and less than 15 percent in all other comparator countries.⁷ Thus, tourism in Cambodia has significant backward links.

The impact of tourism's backward links on jobs in Cambodia is much higher than in its peer countries. In 2014, travel and tourism directly supported 13 percent of total employment, but this increases to 29 percent after accounting for its indirect impact across all other sectors of the economy, and for its contribution to growth (and thus jobs). This was double the employment contribution made by tourism in Cambodia's peer countries. While the total contribution of tourism to employment has stayed relatively constant in these peer countries, it has grown significantly in Cambodia in the last two decades (Figure 4.19). This suggests that the sector is a major generator of employment and that sector-specific targeted policies may be needed.

Cambodia has significant resources for tourism that are diverse and well placed to be a pillar for socioeconomic development as identified by the government. However, Cambodia was ranked low (101st) on the competitiveness list. Although tourist arrivals exhibit a stable pattern of travel through regional hubs in Thailand, Vietnam, and China, there are some worrying trends that could threaten the chances for developing tourism as a central pillar of an inclusive economy. Value captured per tourist has not changed much in the last decade (from USD 585 in 2005 to USD 655 in 2016), low-end businesses have mushroomed, stays remain short with limited repeat visits, and there are signs of overcrowding and degradation of the key assets at the Angkor temples (World Bank 2017). The average expenditure per visitor in 2016 in Cambodia (USD 655) was much lower than it was in Thailand (USD 1,489) or Vietnam (USD 925).

Figure 4.19:



Total Contribution of Tourism to Employment, 1995-2016

Source: World Travel and Tourism Council.

See www.wttc.org/economic-impact/country-analysis/methodology/for the methodology that the World Travel and Tourism Council applied consistently across all countries

Constraints to jobs exist in the broader business environment

The labor productivity of Cambodia's indirect exporters of all sizes is flat, though larger direct exporting firms tend to become more productive (Figure 4.20). This trend of flat productivity across firm sizes for indirect exporters goes against the stylized fact presented in the literature that says larger firms tend to be more productive. This trend may indicate that economies of scale are unattainable, which would also explain why smallscale firms are not growing bigger (see Chapter 3). Given this situation, it will be crucial to identify and dismantle any obstacles (for example, regulatory constraints, a lack of information, or limited management capability) that may be preventing small indirect export firms from becoming more productive as they grow. It also highlights the importance of focusing on increasing productivity at the firm level to increase exports.

Data from the World Bank Enterprise Survey for Cambodia show that direct exporters are more likely to be large and medium-sized firms than non-exporters (Figure 4.21(a)). Workers in the exporting economy also tend to be employed in large firms (Figure 4.21(b)). In the manufacturing sector, firms that export directly (on average) sell more diverse types of products and import more inputs than non-exporting firms.

Figure 4.20: _

Productivity and Firm Size of Exporters versus Non-exporters



(b) Direct Exporters



(c) Indirect Exporters



Source: World Bank Enterprise Survey, Cambodia (2016).

(d) Non-Exporters



Figure 4.21: __

Characteristics of Exporters versus Non-exporters



(a) Firm Distribution

(b) Employment Share



Source: World Bank Enterprise Survey, Cambodia (2016).

Table 4.2: _

Characteristics of Exporters verses Non-Exporters, Manufacturing Sector

	Mean		Mec	Median	
	Exporters	Non- Exporters	Exporters	Non- Exporters	
Share of foreign ownership	47.4%***	11.9%	50%	0%	
Share of firms with at least 50% foreign ownership	52.6%***	11.6%	1%	0%	
Share of firms using imported inputs	78.9%**	52.7%	1%	1%	
Share of goods that are imported	67.8%***	37.7%	100%	15%	
Share of firms importing directly	38.9%*	20.0%	0%	0%	
Share of firms for whom labor regulations are a major or severe obstacle	57.9%***	10.8%	1%	0%	
Share of firms for whom workforce is a major or severe obstacle	42.1%**	20.5%	0%	0%	
Share of firms for whom labor regulations is a top business obstacle	26.3%***	6.3%	0%	0%	

Source: World Bank Enterprise Survey, Cambodia (2016).

Notes: Exporters are defined as those firms that export directly. *Difference in means statistically significant at the 10 percent confidence level. **Difference in means statistically significant at the 1 percent confidence level. The characteristics that are not statistically different between exporters and non-exporters (not shown) are: employees, job growth, whether the establishment is part of a larger firm, multiproduct (which identifies if the share of the most important product in total sales is less than 100 percent), product innovation, process innovation, share of skilled workers, training, and the workforce as a top business obstacle.

Exporters tend to cite an inadequately educated workforce as a top business obstacle more often than non-exporters (Figure 4.22). What factors constraint export competitiveness in Cambodia? According to the World Bank's Enterprise Survey for 2016, exporters reported that the top constraints that they face are: (i) an inadequately educated workforce; (ii) having to compete against unregistered and informal firms whose working practices are different from those of formal enterprises;⁸ and (iii) tax rates. Although non-exporters also face these constraints, the lack of an educated workforce is more problematic for exporters than for non-exporters (with the difference being statistically significant). This concern on the part of direct exporters had increased significantly in 2016 compared to 2007 and 2013.⁹ **Exporters and foreign firms provide more training to their workers than do non-exporters or domestic firms.** A 2012 Employer Skills Needs Survey undertaken in Cambodia by the ILO and National Employment Agency (NEA) gathered information on training by firm ownership (foreign versus Cambodian) and by their main market (international, national, or local). Nearly three-quarters of foreign firms and exporting firms reported providing training to their workers compared to 57 percent of domestic firms and 61 percent of firms that service the national market. This suggests that domestic firms and those that serve the domestic market have the potential to enhance the skills of their workers by providing on-the-job training.

Figure 4.22:



Biggest Obstacles Faced by Exporters and Non-exporters

Source: World Bank Enterprise Survey, Cambodia (2016).

⁸ Given that this is a constraint, it will be necessary to understand precisely what this means in order to develop a tailored solution.

9 Results for 2016 biggest obstacles are similar when looking at perception of top business constraints for exporting and non-exporting firms that are only available in the panel dataset.

4.3 Policies for Fostering a Job-friendly Export Agenda for Cambodia

There is scope for Cambodia to leverage its existing export sector to create more and better jobs. The export sector can continue to be a source of jobs that provide better pay and work conditions than most jobs in the current labor market (see, for example, Bambrilla et al. 2012). In this chapter, we have identified those parts of the export sector that are more conducive to job growth and have argued that adopting policies designed to target these characteristics may lead to higher quantity and quality of jobs in the sector than if the market alone were to drive the transformation. In this section, we identify a variety of policy interventions that would support the creation of more, better, and more inclusive jobs in the competitive export sector, both directly and indirectly, while also taking into consideration the emerging megatrends that were discussed in Chapter 1. These policy interventions involve: (i) encouraging firms to move into higher value-added activities in their current value-chain sectors and to move into entirely new valuechain sectors; (ii) encouraging foreign-owned firms to buy more inputs and services from domestic small and mediumsized enterprises (SMEs); and (iii) encouraging firms to diversify their exports.

These three policy priorities are closely related. All three can be pursued in parallel in terms of both short-term and medium-term actions. Also, all three have a common underpinning, which is discussed in other chapters of this report. For example, skills development and improving the business environment underpin export competitiveness and thus also underpin export diversification, backward links, and the participation of exporters in GVCs.

Policy Area 1: Encouraging Firms to Move Up Existing Value Chains

The first general policy area is to encourage firms to move into higher value-added activities within existing value chains. This will help to create more and better export-based jobs. Given the fact that wages are rising in Cambodia, this will be necessary in order to maintain a competitive edge. Specific policy areas under this heading might involve: (i) attracting foreign investment in new GVC segments and/or sectors; (ii) reducing firms' trade and transportation costs; and (iii) supporting training in the skills needed in the country's export sectors.

(1) Attract foreign investment in new GVC segments or sectors, especially those with spillovers to

domestic producers, will be vital for creating more export jobs. Since not all FDI has spillovers, it will be important to attracting the "right" foreign investors. Therefore, it will be necessary to avoid those that concentrate on low-value-added activities, that retain external control of sourcing, and that employ expatriates in manager and technical positions (Staritz and Frederick 2014). A lack of spillovers can be aggravated by weak domestic absorptive capacity (including a low-skilled labor force, for example), a poor domestic business environment, a lack of adequate support for SMEs, and the absence of a local entrepreneurial support for firms. Instead, the government should consider adopting and implementing an investment strategy aimed at attracting FDI into new productive sectors and activities with a high potential to generate spillovers. As a first step, the government should review and potentially reform its existing investment incentives (World Bank 2018b), for example by progressively phasing out tax holidays and introducing investment tax credits that foster private investment in machinery and worker training. Another part of the strategy should involve streamlining the approval process for receiving these incentives and implementing clear, pre-defined, and objective eligibility criteria and establishing a standard duration for the credits.

(2) Reduce firms' trade and transportation costs and improve logistics to attract investment-and create jobs—in GVC sectors. Governments that facilitate the movement of imports and exports are likely to attract investment and help domestic private firms to participate and compete in the international trading system. Therefore, for Cambodia to attract investment in GVC sectors, it will be necessary to speed up lead-time in supply chains, modernize trade procedures, and develop a logistics infrastructure. Important first steps have been taken, including the establishment of a National Logistics Council and a National Single Window. Although Cambodia has reduced the number of documents required for export and import, it is still a long, costly, and complicated process to comply with all regulatory, documentary, and border requirements to import to and export from the country (World Bank 2018a). Alleviating these constraints will support not only GVC sectors but also domestic exporting firms. The business community should have easy access to and be aware of all regulatory requirements and the different procedural steps required for exporting and importing. Currently, although the requirements are stated in laws and regulations, they often are not well understood by entrepreneurs. Local authorities can help by publishing a user-friendly guide for the most frequently used procedures (World Bank 2018a). Increasing transparency in this way would also reduce the amount of discretion that officials are able to exercise.

A legal framework for electronic government services needs to be put in place. Providing these services for businesses can increase transparency and support the implementation of the new, streamlined procedures, but the legal framework governing electronic transactions has not yet been developed in Cambodia (World Bank 2018a). A few processes can be completed online, but in most cases including the registration of property transactions, construction permits, and approvals to import and export—electronic procedures have not yet replaced the use of paper documents. However, these processes will need to be simplified before these electronic government services are developed.

Various other issues will need to be addressed to facilitate trade in the future. The prevalence of informal payments in the export sector currently increases trade costs in Cambodia (World Bank 2018a). If these payments are fair compensation for the service provided, they should be formalized. With regard to the practicalities of trade, encouraging the appropriate use of technology such as GPS systems would make shipments more secure and cargo transit more efficient (World Bank 2018a). Automating the process of sanitary and phytosanitary certification would ensure the quality of goods being exported, while streamlining customs requirements and clearance for export and import licenses would reduce the time and costs involved in trading across Cambodia's borders.

(3) Upgrade the skills of Cambodian workers to enable them to participate in GVCs that require workers to perform more sophisticated tasks. Skills mismatches are currently a significant constraint on firms operating in Cambodia, and in order to increase productivity and innovation, the skills of the Cambodian labor force will need to be upgraded. This will mean improving their basic education outcomes as well as increasing their specific and practical skills (for example, in ICT, craftsmanship, and language competency). With the right policies, the government will be able to attract more private investment in training institutions, encourage firms to provide their workers with on-the-job training, facilitate training for workers employed by small firms, or foster partnerships among large enterprises to train their workers. Introducing tax incentives for R&D and staff training can also give firms an incentive to provide training. The policies needed to support skills development will be discussed in Chapter 5.

Policy Area 2: Encourage Exporting Firms to Create Links with Small and Medium-sized Domestic Businesses

A second key policy area relates to encouraging exporting firms (including those in tourism) to buy inputs and services from domestic supply firms. These links can be an important way for exports to create jobs indirectly, and the government can foster these links in three main ways: (i) by supporting local supplier development programs; (ii) by providing value chain financing to suppliers, distributors, and retailers; and (iii) helping indirect exporters, particularly SMEs, to increase their productivity and capacity to enable them to participate in global value chains.

(1) Local supplier development programs can help domestic enterprises to become qualified suppliers or subcontractors for FDI firms. However, there is a debate about whether these types of programs would be effective in Cambodia. Cambodia does not have a lot of domestic companies that are active in the FDI-dominant manufacturing sectors, which makes it challenging to realize any supply chain spillovers. The garment value chain is relatively short as the sector needs only a small number of inputs that are produced globally in large quantities and at low cost. A recent World Bank survey has shown that FDI firms in the garments sector in Cambodia have little interest in increasing local sourcing and have little decision-making power about purchasing inputs, where the decisions are made by the lead firms (World Bank 2018a). Therefore, the best chances of realizing spillovers in the garment sector in Cambodia would be for domestic firms to provide services rather than inputs to FDI firms or for new domestic firms to enter the garment sector.

Nevertheless, FDI firms operating in Cambodia are the most obvious market for domestic firms besides the limited domestic market and a viable path to transfer technology. A recent World Bank survey found that Cambodia's SEZs operators have reported that local suppliers are desired by some FDI tenants (World Bank 2018a). This suggests that policymakers should consider creative approaches to developing the capacity of local firms and finding them opportunities to supply FDI firms. **Providing domestic entrepreneurs and SMEs with information and other support can help them to build links with firms in FDI sectors.** There are various ways for policymakers to do this, including compiling a guidebook or database of suppliers with adequate technology and capacity to provide inputs and services for FDI firms and/or providing matching services to coordinate between suppliers and buyers (see Box 4.3). Another way to persuade FDI firms to purchase or source from local SMEs would be to simplify and improve the administration of VAT reimbursement so that firms can get their refunds in a timely manner. As for supporting the development of new entrepreneurs, the forthcoming Entrepreneurship Promotion Fund can be used to help workers who have left employment in foreign firms to start a business to gain access to capital, finance, labor, and land.

Box 4.3: International Experience in Backward Linkages Programs

Inter-sectoral linkages between FDI/lead firms and domestic firms can be the conduit for transferring knowledge, new technology, management skills, marketing techniques that can lead to increased firm productivity. However, establishing linkages is not an automatic process, and different countries have used varying approaches.

Costa Rica launched a three-year pilot project, Provee (CR Provee), in 2001 to strengthen SME linkages with FDI firms. This was co-funded by The Inter-American Development Bank (which provided 60 percent support), Costa Rica's investment promotion agency (CINDE) and the country's export promotion agency (PROCOMER). After the three-year pilot, CR Provee was formally integrated into PROCOMER in 2004. To date, CR Provee focuses on key sectoral components namely: ICT, Electrical Electronics, Metal Mechanics sectors; Medical, Chemical, Pharmaceutical sectors; Agribusiness; and Textile sectors. Among over things, CR Provee addresses market failures related to lack of information and coordination failures, though various support services. These include (1) an Integrated Information System that manages buyer and supplier data, (2) mapping potential suppliers to multinational corporation (MNC)buyers' value chain after identifying MNCs' input and raw material requirements in a value chain, and (3) the identification of business opportunities that SMEs and MNCs can engage in through 'small' projects.

In the Czech Republic, Czechlnvest was created in 1992 to be the country's investment and business development agency. In 2000-2003 during the country's entry to the EU the agency began focusing on creating a strong local supplier network that can meet investor demand for inputs in key sectors. Among other services, Czechlnvest attempts to address coordination failures by organized matchmaking services and related support services, such as (i) supplier forums with/for local suppliers and MNCs; (ii) Meet-the-Buyer events between local suppliers and MNCs, where MNCs can communicate their specific input needs and suppliers can share their product portfolio; and (iii) submission of suitable supplier proposals to potential MNCs buyers.

As part of Malaysia's industrialization strategy, government linkages programs started in 1988 through the Vendor Development Program (VDP), which focused initially in automotive before expanding into electronics by 1992. The program aimed to support local firms to be suppliers to large domestic firms and/or MNCs. There are complementary SME financial support programs to support SMEs attempting to develop linkages that address lack of access to finance. For example, the Small Loans Guarantee Scheme by the Credit Guarantee Corporation Malaysia Berhad (CGC) was created in 1973 to guarantee loans for small businesses which cannot afford collateral. Also, the SME Credit Bureau was established in 2008 and serves as a repository of SME information to facilitate loan access from financial institutions such as banks. Another example is the SME Bank, which works similarly as a commercial bank but is targeted for SMEs. SME Bank also has complementary services, such as business advisory services to support loan approval processes.

Joint ventures between FDI firms and local firms can help to develop the capacity, technology, and skills of the local firms. Box 4.4 gives an example of how Sri Lanka used joint ventures between foreign and local firms in the apparel sector to enable the local firms to upgrade their processes to the level needed for them to provide inputs in GVCs.

(2) Consider providing value chain financing to domestic firms to help them grow and become more competitive. This financing would enable suppliers to obtain financing for their working capital operations at lower costs or distributors and retailers to obtain financing to buy larger orders from local suppliers. Through the recently established SME Bank, policymakers could target value chain financing to SMEs who wish to become suppliers with no requirement that they should already have a relationship with a buyer.

(3) Increasing the productivity of indirect exporters, in particular SMEs, will make it easier for them to be integrated into GVCs. FDI firms often have high quality and productivity standards for their local suppliers, and, as we have shown in this chapter, the productivity of indirect exporters in Cambodia is particularly low. Specific policies that would help to increase the productivity and capacity of these direct exporters and of SMEs more generally as well as removing barriers to growth and formalization were discussed in Chapter 3. Other policies that would increase the productivity of domestic firms might include providing incentives to firms to encourage local work force development, R&D, local sourcing, or activities to help their suppliers to improve their processes and increase their capacity (see Box 4.5).

Box 4.4: The Role Played by Joint Ventures in Upgrading the Sri Lankan Apparel Sector

Joint ventures (JVs) have played a key role in establishing and developing the apparel industry in Sri Lanka. These JVs have taken several different forms. Some have been formed between local manufacturers and the global buyers of their products or, in the case of textiles and sundries, between a global supplier of the textile product and a local firm that supplied them with inputs. Other JVs also included end buyers. These direct relationships, which were a requirement for foreign investors in Sri Lanka, have enabled local firms to increase their capacity and improve their processes and products. This has particularly been evident in the case of intimate apparel products such as lingerie and swimwear, of which Sri Lanka has become a leading global supplier with the support of foreign investors who enabled domestic firms to invest in equipment and human resources.

JVs have helped domestic firms not only to adopt modern technology but also to upgrade their technical and managerial skills. For example, Textured Jersey of the UK sent 10 of its managers to its affiliate Textured Jersey Lanka, to train their local counterparts over three to five years. Furthermore, when Textured Jersey's shares were bought by Pacific Textiles of Hong Kong SAR, China, that company based full-time seconded personnel in Sri Lanka to transfer best practices and technical expertise to Sri Lankan workers. The result was a significant reduction in foreign (mainly Chinese) technical personnel in favor of gualified Sri Lankans.

Not only have JVs between suppliers and buyers in apparel encouraged Sri Lankan suppliers to upgrade their production and skills, but buyers have also encouraged their other textile and sundry suppliers to move to Sri Lanka. For instance, because of the close relationship that MAS Holdings has with Victoria's Secret, Victoria's Secret asked some of their input providers to relocate to Sri Lanka, including the suppliers of various components that go into making bras and panties like lace and pads and also warp knit fabric.

Source: Staritz and Frederick (2014).

Box 4.5: Export Promotion in Jamaica

Despite its small size, Jamaica has managed to outperform other small countries in attracting foreign investment. Jamaica's economy relies on commodity exports (aluminum), tourism, and remittances. It has a narrow production base and weak, underdeveloped infrastructure. However, in 2014, Jamaica attracted almost USD 700 million in FDI, 7 percent more than in 2013 and the largest amount since 2008, and equivalent to 4.28 percent of GDP. The ICT sector has been increasingly important, with foreign investors setting up call centers and, more recently, software development facilities. Jamaica has also diversified its export base, with 73 percent of exports now being in services.

JAMPRO (Jamaica Promotions Corporation, formerly known as Jamaica Trade & Invest) is in charge of both export and investment promotion. In terms of export promotion activities, JAMPRO provides local businesses, particularly SMEs, with a range of technical and advisory support for export readiness and competitiveness. In 2011, it launched the "Export Max: Enterprise Development for Export Growth" program, aimed at providing focused capacity building and market penetration support to a group of Jamaican exporters and export-ready firms. Under the program, a number of services are offered, including company diagnostics and needs assessment, business matchmaking, quality standards development, and mentoring activities. JAMPRO relies on a targeted strategy to increase Jamaican exports, focusing on agro-processing and agriculture, creative industries, manufacturing, energy and mining, ICT, and trade in services. In 2012, JAMPRO received the award for best TPO from a Small Island Developing State, the third time the agency has achieved international recognition since 2004.

JAMPRO is also in charge of investment promotion, offering investors a range of services from information about opportunities in Jamaica, to support in the early stages of establishing a presence within Jamaica, to aftercare services on their investments are operational. Working in partnership with other government agencies, JAMPRO guides investors through the necessary processes and regulatory requirements.

Taking advantage of its position as both and TPO and IPA, JAMPRO has a "Business Linkages Program" seeking to promote links between foreign investors and local suppliers. The program has resulted in over 500 linkages contracts. It also helps in identify joint ventures of financing partners for exporting companies seeking to expand or retool. Finally, JAMPRO also assists SMEs in understanding how they might fit into global value chains.

Indeed, the export development and investment promotion divisions of the organization work closely together to identify inter-departmental opportunities. A Global Business Connect Strategy seeking to increase the value of the country 's global trade and investment relations was launched in 2014. The program seeks to identify Jamaicans and members of diaspora that can act as potential investors and distributors. In 2014, JAMPRO was selected as the winner of UNCTAD's award for excellence in promoting export-oriented FDI.

Source: Gomez-Mera (2016)

Policy Area 3: Encouraging Firms to Diversify Their Exports

Export diversification will be key to improving the jobs and wages available in Cambodia. Policymakers need to find ways to encourage this diversification with a particular focus on jobs-friendly export sectors. There are four policy areas that have the potential to do this: (i) supporting the identification and creation of new export products; (ii) increasing Cambodia's integration with its regional neighbors and other international trading partners; (iii) building the human capital of service providers; and (iv) reducing the regulatory burden on SMEs to make them more competitive. (1) In order to support the emergence of new export products, it will be necessary for policymakers to identify the sector-specific barriers preventing domestic firms from expanding into new products. The next step will then be to provide them with the necessary inputs to enable them to move into new activities and to operate their existing activities more productively. Establishing a public-private dialogue, for example in a business dialogue forum, could help the government to identify the nature of challenges faced by firms. In the medium run, the government should ensure that the country's export promotion efforts are aligned with good international practices (World Bank 2018a). (2) There is scope for exploiting Cambodia's international links to diversify its exports. Export diversification and better labor outcomes will come by diversifying in terms not only of products but also of destinations. For example, the analysis above shows that Cambodia's exports to EAP region are more sophisticated than are its exports to the US or the EU. Therefore, regional trade agreements will be key to increasing Cambodia's market access to these countries as well as enabling the movement of capital and labor. There also appears to be untapped potential for Cambodia to increase services exports with specific countries in the region (World Bank 2015) in such sectors as tourism (World Bank 2017). In the short run, signing, finalizing, and enforcing international trade and investment agreements with Cambodia's key trade partners will help to reinforce its existing markets (World Bank 2018a). These include agreements with the EU and the US to ensure preferential trade treatment once Cambodia graduates from LDC status, as well as supporting the deepening of the ASEAN Economic Community and the Regional Comprehensive Economic Partnership (RCEP) FTA between ASFAN and Asia-Pacific countries.

(3) It will also be important to build the human capital of workers in firms that provide professional services.

The emerging knowledge economy and the rise of an East Asian middle class means that services have the potential to become a larger share of Cambodia's export earnings, both directly and indirectly, as inputs into manufacturing and agricultural production. However, the kind of services

that are increasingly in demand are those that require higher-value skills (rather than those needed for low-skilled assembly for export), including design, R&D, marketing, and after-sale services as well as supporting professions such as accounting and legal services. Unless Cambodia has workers with the necessary skills, its ability to provide these services will be greatly undermined. While Cambodia has one of the most open policies in services in the region as a result of the country's regulatory reform, it still has some restrictions on professionals from other countries filling jobs in Cambodia. Concluding mutual recognition agreements on the free movement of professionals between countries would help to attract foreign professionals with the necessary skills to work for Cambodia's service providers in the near term. However, in the longer term, Cambodia will need to nurture its own service professionals with skills up to international standards in logistics, marketing skills, and, most importantly, management.

(4) Reducing the regulatory burden on SMEs will reduce their operating costs and help them grow and become more competitive. Increased competitiveness is essential not only for export competitiveness but also to enable the development of new export products and markets. Some of the ways in which policies can mitigate the burden on domestic SMEs would be to reduce their electricity costs, increase the ease of doing business by abolishing unnecessary procedures and informal fees including those for opening a business (see Chapter 3), and reducing trade transaction costs (see above).

4.4 References

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ANNEX 4.1: Labor Sophistication of Exports

We examined trends in export sophistication, by export destination, to infer potential implications for labor market outcomes. We constructed six indices or "EXPYs" that measured the following aspects of labor sophistication: (i) median wage; (ii) median value-added per worker; (iii) the ratio of skilled to total workers; (iv) output per employee; (v) years of schooling or human capital; and (vi) capital stock per worker. We benchmarked each measure—over time, across destination markets, and relative to Cambodia's peer countries—to infer the potential implications of export growth on labor market outcomes.

These EXPYs reflect the trade-weighted average labor market outcome of the exports that appear in Cambodia's export basket. The logic behind these measures is that labor market and other characteristics of the economies that intensively export a given product provide information about the implications of specializing in certain products exported to certain markets and determine how export growth will contribute to job creation, wages, and skill mix. Based on these observations, it was possible for us to draw inferences about how product and regional trade patterns can impact employment, wages, and skill demand in Cambodia.

We calculated EXPYs for each of the six labor market outcomes (wages, value-added, skill ratio, output per employee, human capital, and physical capital) in two steps following Hausmann et al (2007). In the first step, we calculated a PRODY value for each product, in other words, the global trade-weighted average labor market outcome covering all of the countries in the world that export the product. Therefore, we calculated a wage PRODY reflecting the average international wage of countries that export the product, a skill PRODY reflecting the average share of skilled workers in countries that export the product, and so on. In the second step, we then weighted the PRODYs in Afghanistan's export basket by the share of each product in Afghanistan's total exports, denoted as EXPY. The formulas are:



where $X_{i,j}$ is exports from country i in sector j, X_i is total exports of i, and Y_i is the labor-market outcome of i. These resulting EXPYs reflect the global average labor market outcome of goods that appear in Afghanistan's export basket. In calculating the PRODYs and EXPYs, we used mirror data from UN Comtrade, the World Bank's Business Environment and Enterprise Performance Surveys, and Shirotori et al (2010).

For each of these labor-related EXPYs for Cambodia, we: (i) looked at how its level had evolved over time since 2000; (ii) considered variations in labor sophistication across different destination markets, comparing the average for all Afghan exports (in other words, destined for the "world") with those destined for the EU28, the US, and South Asia; (iii) made bilateral comparisons of labor sophistication with a range of regional exporters; and (iv) repeated each of these analyses across the entire distribution to see what products were driving the observed differences.

Two caveats are warranted. We measured the PRODYs as the average across all countries across multiple years (in other words, holding them constant). This ensures that changes in the EXPYs reflect changes in the composition of countries' export basket rather than changes in the global average of the labor-related variables. Because the EXPYs are an indirect measure, they may over- or under-estimate the actual factor content of a country's export basket.

(1)

(2)

ANNEX 4.2: Labor Content of Exports

The World Bank's Labor Content of Exports (LACEX) database encompasses information on the contribution of labor to a given country's domestic production and exports measured as employees' compensation (wages) or the number of jobs. The LACEX database was computed by Calì et al. (2016) on the basis of a panel of global input-output tables and other aggregate data spanning intermittent years from 1995 to 2011 from The Global Trade Analysis Project (GTAP) and employment data from the ILO.¹⁰

The input-output tables in the GTAP data set make it possible to exploit a form of social accounting data, a variation on the social accounting matrix (SAM) where incomes are shown in the rows of the SAM and expenditures are shown in the columns (see Hertel, 2013 and McDougal, 2001). The structure of the underlying social accounting data provides a comprehensive and consistent record of national income accounting relationships between different sectors, including intermediate and final demand links. These are then used to construct country-specific measures of the contribution of labor to the value-added contained in a given country's domestic production and exports.¹¹

In this annex, we illustrate how Calì et al (2016) generated the (direct and indirect) value-added associated with each sectorcountry using the panel of global input-output tables from GTAP. The methodology follows Francois et al (2013), which formed the basis for the computation of the compensation of employees. Calì et al. (2016) began by denoting a representation of intermediate and final demands as follows:

$$Y = Z - AZ$$

In equation (1), the term Y denotes a final demand vector, Z denotes a gross output vector, and A denotes a matrix of intermediate use coefficients, which can be calculated using data from input-output tables. Equation (1) therefore defines final output with respect to intermediate input requirements.

The first matrix that Cali calculated was the widely used Leontief inverse matrix, also known as the multiplier matrix M. With some manipulation, Calì et al. (2016) arrived at the Leontief inverse matrix:

$$Z = (I - A)^{-1}Y = MY$$

The multiplier matrix \mathbf{M} measures the inputs contained in a unit of final output. This \mathbf{M} matrix contains both direct and indirect inputs. In particular, if assigning the sector indexes \mathbf{i}, \mathbf{j} to the \mathbf{M} matrix, then a representative element of the \mathbf{M} matrix, *Mij*, gives the direct and indirect inputs (and thus receipts) of sector \mathbf{i} linked to each unit (for example each dollar) of sector \mathbf{j} receipts in the data. This implies real production activities measured by value of output. For our purposes, it provided a way to trace through these income flows, the flow of gross activity (and eventually labor value-added) from intermediate to final goods and services, ostensibly across borders as well as sectors. Because links will vary by industry, each industry will be characterized by different multipliers.

Next, Calì et al (2016) needed to calculate a diagonal matrix that measured the share of labor value-added (compensation of employees) in total gross output, which can be calculated using data from SAMs. To focus on labor value-added rather than gross activity, Calì et al (2016) noted first that, in terms of gross output values Z, some share of this involves labor value-added within each sector. Calì et al (2016) defined \hat{B} as the diagonal matrix indexed over i,j with diagonal elements equal to the compensation of employees' shares of output Z. These shares can be split between types of workers (for example, skilled versus unskilled).

¹⁰ GTAP represents a massive combined effort of international institutions and universities. Over time, the data set has grown to include more countries and more sectors. To maintain backward compatibility, Calì et al. (2016) started with the 1997 structure of regions and sectors and have carried this forward in the more recent iterations of the data set. The GTAP website provides extensive documentation on the underlying data structure, its sources, and the GTAP model structure for each release (www.gtap.org).

¹¹ In the remainder of the paper, we refer interchangeably to total labor value-added content, wages, and compensation to employees.

Calì et al (2016) then used **M** and \hat{B} to provide a breakdown of the flow of labor value-added across activities in the form of the matrix V:

$$V = \hat{B}M \tag{3}$$

Similar to the Leontief inverse matrix itself, the V matrix identifies the inputs of labor value-added in each sector related to a unit of final demand.

Using the V matrix as a multiplier for exports and final outputs, one can obtain the total labor value-added of exports and final outputs respectively. Calì et al (2016) multiplied V by the diagonal matrix \hat{Y} whose non-zero elements are the vector of final demand. The resulting matrix yielded a breakdown of economy-wide labor value-added (both direct and indirect), which is the primary component of gross national product. Similarly, by multiplying V by the diagonal matrix \hat{X} whose non-zero elements are the national export vector, Calì et al (2016) recovered the labor value-added content of exports X (both direct and indirect):

$$G = V\hat{Y} \tag{4}$$

$$H = V\hat{X}$$
(5)

The G matrix and the H matrix thus gave the set of links, both direct and indirect, between value-added across sectors for total domestic demand and export demand respectively.

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ANNEX 4.3: Additional Figures and Tables

When we examined the cumulative distribution of labor measures across the entire range of products that Cambodia exports, we found quality improvements in many export product lines. We plotted cumulative distribution functions across export products rather than just comparing weighted average export labor values. The distributions for 2000 and 2016 showed labor sophistication/quality improvements in both the lower and upper ends of the distribution for median wage, median value-added, capital per worker, and human capital. This implies that most of Cambodia's exports are in products associated with higher wages, value-added, physical capital, and human capital. However, output per employee had already increased in 2000 for products with higher output per employee, but by 2016, output per employee seems to have slightly declined for those products with lower output per employee in 2000. Nonetheless, product lines that employed fewer skilled workers in 2000 seemed to have become slightly more sophisticated by 2016, increasing their exports of goods produced by more skilled workers. Overall, this shows that Cambodia's export product mix is heterogenous and that there are product lines, depending on their location on the labor sophistication distribution, where there is still scope to improve labor quality and increase labor demand.

Across almost all product exports in the distribution, Cambodia's exports to EAP have higher wages, value added, physical capital, and human capital content than their exports to the EU27 and the US. This supports the findings of previous research and adds further evidence of the need for export diversification to products that are more sophisticated in terms of labor content.

Overall, there has been export diversification on some margins driven by markets. Market concentration has increased much faster than product concentration across sectors, and these increases have been driven by the textiles and clothing and footwear sectors. Currently, market concentration levels in Cambodia are similar to the levels in Malaysia, Thailand, and Vietnam.

Annex Figure 4.1: _

Cumulative Distributions of Cambodia's Export Basket to the World, 2000-2016





(c) Physical Capital per Worker



(d) Output per Employee







(f) Human Capital



Source: Author's calculations based on data from UNCOMTRADE, the World Bank's Business Environment and Enterprise Performance Surveys, and Shirotori et al (2010).

Annex Figure 4.2:

Cumulative Distribution of Cambodia's Export Basket to the EU28, EAP, and the US, 2016





(c) Physical Capital per Worker



(d) Output per Employee





(f) Human Capital



Source: Author's calculations based on data from UNCOMTRADE, the World Bank's Business Environment and Enterprise Performance Surveys, and Shirotori et al (2010).

Annex Figure 4.3: _

Share and Value of Cambodia's Total Exports to EU27, China, the US, and EAP



(b) Value of Exports to EU27



(c) Share of Exports to China



(d) Value of Exports to China





(e) Share of Exports to the United States

(f) Value of Exports to the United States

Apparel



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TECHNICAL REPORT

50% 40% 30% 20% 10% 2000 2002 2004 2006 2008 2010 2012 2014 2016 Year Vegetable Products Foodstuffs

(g) Share of Exports to the East Asia Pacific

(h) Value of Exports to the East Asia Pacific



Source: Authors' calculations using UNCOMTRADE data from WITS.

Transport Equipment

Annex Figure 4.4: _

Composition of Cambodia's Export Basket



(b) 2016

Other



Source: Authors' calculations using UNCOMTRADE data from WITS.

Annex Figure 4.5: _

Intensive and Extensive Margins

(a) All Sectors

Increase of existing products** Decrease in existing products** Export extinction of products** Intro of new products* Intro of new products** Intro of existing products* Product diversification**



Intensive and Extensive Margins between 2000 and 2016 New markets (*), Established markets (**)

(b) Textiles and Clothing Sector



Source: Authors' calculations using UNCOMTRADE data from WITS.

Note: The intensive margin measures the selling of the same product to the same market. The extensive margin measures doing something new—by selling a new product to an existing market, an old product to a new market, or both.



Source: Authors' calculations using the LACEX database.

Annex Figure 4.7: _

Labor Intensity of Exports across Sectors and Years



Source: Authors' calculations using the LACEX database.

Annex Figure 4.8: _

Labor Intensity of Exports across Sectors and Countries

(a) Direct Labor Intensity



0

20%

Indirect Worker Compensation as Percent of Export Value

0

40%

30%

0%

10%

Metals Mineral Products Minerals Other Private Services Paper Products, Publishing Processed Foods PubAdmin/Defence/Health/Educat

Textiles

Trade and Transport Services Transport Equipment Wearing Apparel Wood Products

Annex Figure 4.9:

Herfindahl Hershman Market Concentration Index in All Sectors



Source: Authors' calculations using UNCOMTRADE data from WITS.

Annex Figure 4.10: _

Herfindahl Hershman Market Concentration Index in Selected Sectors



(a) Textiles and Clothing

Source: Authors' calculations using UNCOMTRADE data from WITS.



Annex Figure 4.11: __

Labor Intensity of Wearing Apparel Exports, 2004-2014

Source: Authors' calculations using the LACEX database.


CHAPTER 5:

Workforce Skills for More, Better, and More Inclusive Jobs

Maheshwor Shrestha and Une Lee



5.1 Introduction

Cambodia's success in creating more, better, and more inclusive jobs in the future will depend heavily on its ability to increase the skills of its workforce. While FDI and SME growth may yield new job opportunities, they can only be realized if enough adequately skilled workers are available to fill them. Only if a job is filled by someone with the appropriate skills will it yield the highest possible labor productivity, profits, and (potentially) earnings. As noted in previous chapters, labor productivity is not as high in Cambodia as it is in comparator countries, even in low-skilled jobs. As global and regional mega-trends produce jobs that are increasingly knowledge-intensive and technology-based, it is becoming even more important to enhance the skills of the working population.

While the government has made commendable progress in recent decades in increasing educational attainment, Cambodia still has a large stock of low-educated and low-skilled individuals in its workforce. Only the workers in the younger, more educated age cohort have taken advantage of the increased opportunities in the economy's booming sectors because they are more likely than older cohorts to have the skills that are demanded by employers. The government's focus on improving the educational quality and increasing attainment is critical and should be continued, but it will have little effect on today's workers. It is the low skill level of the current workforce that prevents them from getting better jobs, prevents foreign higher-value firms and investors from entering the Cambodian market, and keeps Cambodia trapped in an unskilled, low-level economy. Perhaps even more worrying is the absence of a robust, market-oriented skills development system to address these shortcomings.

In this chapter, we investigate these issues in depth. We start by describing the educational profile of the Cambodian labor force and investigating how the labor market rewards education, the first indicator of skills. We then analyze the skills that employers value in their workers, as well as the formal and informal training they provide to them. Next, we explore the skill and task contents of Cambodia's main occupations, with a particular emphasis on those valued by employers, to discover whether or not the current skill profile of Cambodian workers is aligned with the future of work as shaped by technological change. We go on to analyze discrepancies in labor market returns by gender, decomposing the differences in the wages paid to men and women with different characteristics as well as those paid to men and women with the same characteristics. We conclude by recommending a set of policy actions regarding skills development that will help Cambodia achieve its goal of becoming an upper-middle-income economy in the near future.

5.2 Most Cambodian Workers See Low Economic Benefits from Education

Low education attainment characterizes the labor force, despite recent progress

Cambodia has made good progress in the past decade in educating its labor force. In 2004, a quarter of its working age population had no schooling, and 62 percent had not completed primary school (6 years) (Figure 5.1). By 2014, these shares were down to 16 percent and 45 percent respectively. Average years of schooling increased from 4.4 years to 6.3 years, a rise of 0.18 years of education per year. The annual increase was much higher (0.26 years) for the 20 to 29 age-group. **Despite these advances, educational attainment in Cambodia remains low.** Only 13.5 percent of the working age population has 12 or more years of schooling (high school completion), and only 3.8 percent have a college degree. The educational attainment status of Cambodia is below the level that could be expected given its income level, particularly for high school completion (Figure 5.2). Only Myanmar, Papua New Guinea, and Lao PDR have similar or lower levels of high school completion rates in the region, and only Papua New Guinea has lower college completion rates. In 2010, Cambodia's high school and college completion rates were in the bottom one-fifth in a ranking of all countries globally.

Figure 5.1: _

Educational Attainment of the Working Age Population, 2004 and 2014 There has been a remarkable shift in Cambodia's educational profile over a decade



Source: Author's estimates using CSES 2004 and 2014.

Figure 5.2: _

70%

60% 50%

40% 30%

20% 10% 0%

6

Completion Rate

Secondary and Tertiary Completion Rates and GDP

Cambodia still lags behind comparator countries in educational attainment

10

EAP

11

9

Log (GDP per capita, PPP)

Non–EAP





Source: Per capita GDP from the WDI online. Completed education data for 2010 from Barro and Lee (2013). Cambodia data from the 2009 CSES.

8

The continued low education level of the workforce, in spite of recent improvements in educational attainment, results from the large stock of poorly educated workers and a low flow of slightly more educated (young) individuals into the workforce. Even among the relatively younger cohorts aged 20 to 29, the high school completion rate is only 23 percent, and the college completion rate is only 7 percent. The older cohorts have much lower formal educational attainment rates (Figure 5.3). In order to improve the skills of the Cambodian labor force, it will be necessary to upgrade the skills not only of the current working age labor force but also of students leaving school and entering the labor force. If the current high school completion rates of the younger cohorts (aged 15 to 24) stay at the same level as in 2014, only 19 percent of the working age population will have completed high school by 2030.¹ Even if the high school completion rates of the younger age groups increased at the same rate during the 2004 to 2014 period, only 26 percent of the working age population will have completed high school by 2030.² At this rate, it will take until 2050 for half of the working age population of Cambodia to have completed high school.

The public provision of formal and non-formal training is limited in scope. Only 0.6 percent of the working age population has completed formal Technical and

Vocational Education and Training (TVET).³ The share barely increases to 0.75 percent after including those who have taken non-formal training classes or participated in postliteracy programs. This suggests that the Cambodian TVET system has had little impact in terms of improving the skills of those who have left formal mainstream education—in other words, the bulk of the workforce.

Those with higher levels of education also have better

jobs. The increase in opportunities available in the growing economy has opened up a wider range of occupations to those with higher levels of education. The share of individuals involved in farming and other elementary occupations declines steadily with years of education and drops drastically for those who completed high school (Figure 5.4). Similarly, the shares of machine operator jobs or those in craft and trades gradually increase with education but then drop for those with a high school or higher education. This is consistent with the fact that these occupations are most suitable for mid-skilled individuals. On the other hand, occupations such as clerks, managers, professionals, and technicians are more common among those with a high school or higher level of education. About 47 percent of college graduates work as clerks, and 31 percent as managers, professionals, or technicians. This drastic change in employment pattern upon completion of high school and college holds across genders and locations (Annex Figure 5.2).



Figure 5.3: _

Age and Education Profile of Cambodian Workforce Older cohorts are still largely low-skilled and low-educated

Source: Author's estimates using CSES 2014.

Note: School category coded is based on completed years of schooling. Primary schooling is 6 years, Higher secondary is 12 years, and College is 16 years of schooling.

- ¹ These estimates are based on population projections from UN DESA for each age group and on the current educational attainment levels of the population. This projection assumes that the educational attainment of the younger age groups in the future will be the same as that of the younger age group in 2014.
- ² This projection assumes that the high school completion rate of the 15 to 19 age group increases every year by 0.57 percent and that of the 20 to 24 age group increases every year by 1.73 percent. These rates were the observed rates for these age groups in the 2004 to 2014 period.
- ³ This does not include those who may have completed TVET education and transitioned back into the mainstream education system (to upper secondary schools or universities), but the share of such transitions is likely to be very low.

Figure 5.4: _

Occupation Choices by Years of Schooling

Occupation choices change drastically upon completing high school



Source: Author's estimates using CSES 2014.

Note: Sample restricted to the working age population aged 15 to 64, who had worked in the previous seven days before the survey. The occupation categories are defined for main employment.

Figure 5.5: _

Returns to Education by Years of Schooling

The returns to education are relatively flat across primary and secondary school



Years of Schooling

Source: Author's estimates using CSES 2014.

Note: Sample restricted to the working age population aged 15 to 64 who had worked in wage employment for at least 20 hours the previous seven days before the survey. The vertical dashed lines indicate completion of primary, lower secondary, upper secondary, and college levels. The dependent variable is the logarithm of hourly wages. The regressions control for individual covariates (gender, age, marital status, and household size and composition) and location (rural-urban and regions).

Returns to education in the labor market are low, but increase at higher levels of education

Low levels of education have a very low pay-off in the labor market. Although Cambodia has made progress in the recent decade in terms of educating the labor force, the labor market does not put much value on the skills that are acquired in the initial years of schooling. For instance, an individual with six years of schooling (a complete primary education) only earns 8 percent more than those without any schooling at all, suggesting a return of only 1.4 percent for each of these years of schooling (Figure 5.5). Globally, the average return for each year of primary schooling is 10.6 percent, which is more than 7.5 times higher than the returns for Cambodia (Montenegro and Patrinos 2014). What is even worse is that the subsequent three years of schooling (lower secondary) do not increase wages at all.⁴ The first 11 years of schooling (before completing upper secondary) have an average return of only 1.3 percent for every year of schooling, which is much lower than the average returns of 10.6 percent per year for primary and 7.2 percent per year for secondary in other countries (Montenegro and Patrinos 2014).

Men experience worse returns from schooling than do women with lower levels of education. For men, primary schooling provides a return of 0 to 0.6 percent per year, which is much lower than 1.8 percent per year provided to women. Returns from the first 11 years of schooling are only 1.0 percent per year for men compared with 1.4 percent per year for women. These differences help to narrow the gender gap in hourly wages from 30 percent for the uneducated workforce (with 0 to 10 years of schooling) to 10 percent for the workforce with incomplete secondary schooling (with 11 years of schooling). Although the difference in returns in favor of women has been consistently observed in other countries as well, the levels of the returns in Cambodia are much lower than elsewhere in the world. The global averages for primary returns are 10 percent per year for men and 10.9 percent for women. which are several times higher than those observed in Cambodia (Montenegro and Patrinos 2014).

As seen in Figure 5.5, urban and rural areas have vastly different returns to lower levels of education. In rural areas, returns are low but positive for the first years and start to decline through grade 11. Consequently, the returns to primary schooling are 1.2 percent per year, whereas the returns to the first 11 years of schooling is only 0.5 percent per year. Urban areas experience steadily

increasing returns, at 2.9 percent per year at the primary level and 3.4 percent per year for the first 11 years of schooling. Although the urban returns are much higher and more linear than are rural returns, urban returns for the first 11 years are still lower than are international benchmarks.

However, completing the upper secondary schooling and college has larger payoffs. Individuals who have completed upper secondary schooling earn wages that are 9 percent higher than those earned by workers with 11 years of schooling (Figure 5.5). The returns to completing upper secondary (rather than just completing grade 11) is significantly higher for women (21 percent) than it is for men (3.4 percent) and is higher for those in rural areas (11 percent) than those in urban areas (4.6 percent).

For those who have completed upper secondary schooling, completing college (or even higher) provides a return of 14 percent per year of schooling. These returns are slightly lower in rural areas (11 percent) than in urban areas (14 percent), but are much higher than the returns at lower levels of schooling. Internationally, average returns to a year of tertiary schooling are similar to those in Cambodia, at around 15 percent.⁵ As seen in Figure 5.5, returns are highly convex in terms of years of schooling.

Overall, throughout the years of formal schooling in Cambodia, each additional year provides an average return of 3.6 percent per year, which is much lower than the global average of 10.1 percent. Cambodia's returns, as estimated here, are in the same range as the five countries with the lowest returns among 139 countries around the world, as estimated by Montenegro and Patrinos (2014). As might be expected, the Cambodian yearly returns are much lower in rural areas (2 percent per year) than they are in urban areas (6 percent), and are lower for men (3.2 percent) than they are for women (4.2 percent).

Several factors are responsible for low rates of return to education

Low quality of schooling could be one of the reasons for low returns. In 2016, about one-third of 6th graders had "below basic" knowledge of the Khmer language, and, even worse, over half of the sixth-graders had "below basic" knowledge of mathematics (MoEYS 2017). The quality of education in Cambodia is on a par with lower- and middleincome countries in the region, but significantly lags behind more developed countries in East Asia (Figure 5.6). Perhaps more importantly, the gains that Cambodia has made in

⁴ They have a return of statistical zero.

⁵ Montenegro and Patrinos (2014).

educational attainment are being undercut by the low quality of education. While four-year-old Cambodian children today are expected to complete 9.5 years of school, their learning will be equivalent to only 6.9 years of school because of the poor quality of the schooling that they are likely to receive.⁶ In terms of quality-adjusted years of education, Cambodia is at a significant disadvantage relative to middle-income countries in East Asia. The quality of schooling is much worse in rural areas than in urban areas. The poor quality of basic education may be leading to a situation where only the brightest of students make it to higher levels of schooling. Those with low levels of education leave the schooling system with very low levels of skills.

The skills valued by employers may not be those taught in schools, so acquiring more education does not necessarily increase an employee's value (and thus pay). For example, the rapid growth of the garment, footwear, and apparel industry requires skills such as manual dexterity, the ability to use a sewing machine, punctuality, teamwork, and problem-solving, but it has little use for the curriculum taught in primary and secondary schools. Indeed, employers in various sectors and particularly in the fastest growing occupations, have stated in recent surveys conducted by the National Employment Agency (NEA) that a combination of inter-personal skills

(oral communications, teamwork, and customer service), problem-solving skills (leadership, performing complex tasks, and planning), and technical skills (use of equipment, languages, and IT) are all in high demand yet short supply (Figure 5.7).7

The higher returns for those who have completed upper secondary and beyond could be because of the scarcity of highly educated workers. As seen in Figure 5.4, the highly educated are more likely to become clerks and to perform managerial and technical tasks. If the relative scarcity of workers with requisite skills for these tasks is the main reason for their experiencing higher returns, then those returns can be expected to dwindle as a larger share of the workforce becomes better educated (assuming that the demand for the highly educated does not grow faster than the supply). Indeed, the returns to upper secondary and college education have fallen slightly in recent years (Annex Figure 5.3). It may be necessary to make further quality improvements to higher levels of education to make them more productive and to ensure that they continue to yield high returns even when there is no longer a scarcity of well-educated workers. If the demand for highly skilled workers increases in Cambodia at a pace faster than its supply, then the returns at the top may continue to rise.



Figure 5.6:

Source: Derived from the World Bank Human Capital Index.

Quality adjustments are completed based on harmonized test-scores across countries. For more details, see the World Bank Human Capital Index, www.worldbank.org/ en/publication/human-capital.

The National Employment Agency (NEA) surveys build and expand on previous ILO-NEA employer skills surveys from 2012/13. The NEA's Employer Skills Needs Survey of 2014 surveyed more than 595 registered establishments (with 10 or more employees) in 10 sectors across Cambodia: food and beverages; garments, apparel, and footwear; rubber and plastics; construction; finance and insurance; accommodation; transportation, warehouse, and logistics; human health; education; and ICT. The surveyed firms represented 15 percent of all firms in Cambodia. The survey covered topics such as the characteristics of the selected sectors, their employment structures, the work readiness of first-time jobseekers, recruitment difficulties, skills shortages, skills gaps, workforce training, and business strategies.

Figure 5.7: _

Skill Shortages in the Cambodian Labor Market

By sector

Garment, footwear and apparel	Accommodation	Construction	Food and beverages
 Taking initiative (31.7%) Manual dexterity (27%) Adapting to new equipment/ materials (22.2%) Oral communications (19%) Management responsibilities/ taking lead (14.3%) 	 Team work (44.9%) Oral Communications (38.5%) Customer handling (35.9%) Foreign languages (33.3%) Public speaking/instructing/ training (20.5%) 	 Taking initiative (50%) Team work (33.3%) IT literacy/using IT (27.8%) Advanced IT application/ development (27.8%) Management responsibilities/ taking lead (27%) 	 Oral communications (27.5%) Team work (25%) Customer handling (22.5%) Manual dexterity (20%) Learning new ideas/methods/ concepts (15%)
Rubber and plastics	ICT	Logistics, warehousing and transportation	Finance and insurance
 Public speaking/instructing/ training (25%) Foreign languages (25%) Manual dexterity (25%) IT literacy/using IT (27.8%) Team work (12.5%) 	Customer handling (66.7%) Foreign languages (48.9%) Team work (38.1%) Taking initiative (38.1%) Management responsibilities/ taking lead (28.6%)	 Oral communications (66.7%) Customer handling (52.4%) Foreign languages (52.4%) Solving complex tasks/ problems (47.6%) Management responsibilities/ taking lead (28.6%) 	Customer handling (48.1%) Taking initiative (30.8%) Oral communication (26.9%) Planning and organizing (25%) Advanced IT application/ development (19.2%)

In booming occupations

Plant and machine operators, and assemblers	Craft and related trades workers	Elementary occupations	Technical and associated professionals	
Oral communication (36.6%)	Taking initiative (39.5%)	Oral communication (28.8%)	Oral communications/ customer handling (53.2%)	
Manual dexterity (26.8%)	Team work (31.6%)	Team work (25%)	Solving complex tasks	
Adapting to new equipment/ materials (24.4%)	Manual dexterity (23.7%)	Manual dexterity (15.4%)	Taking initiative (37.1%)	
Taking initiative (17.1%)	Oral communication (21.1%)	Taking initiative (15.4%)	Team work (25.8%)	
Team work (14.6%)	Adapting to new equipment/ materials (24.4%)		Foreign languages (24.2%)	
Cognitive/soft skills (+50%, 3	30-50%, <30%) Manua	l/technical skills (+50%, 30-50%, <30%)		

Source: NEA (2014 and 2015).

The meager returns to lower levels of education can reduce the demand for education. The convex nature of returns lowers the incentives for families to invest in schooling. For instance, if a family cannot afford to educate its children beyond the upper secondary level, then they might choose not to spend any money on their child's schooling at all since they expect to see few benefits from the investment. This suggest that returns to education might also be low in part because there are few job opportunities for workers with lower levels of education, rather than simply because of the low quality of schooling. If this is the case, then the children that do not receive even low levels of schooling will not be able to benefit from any future job opportunities that might materialize from, for example, future government policies and programs—thus reducing the benefits to the economy as a whole from the creation of these new job opportunities. Therefore, improving the quality of the future Cambodian workforce will require incentives guaranteeing that students continue to attend school, in addition to quality improvements of the school system as a whole.

5.3 Workers are poorly equipped to supply the skills that employers demand

One implication of the poor quality of education is that the workers are ill-prepared for the working life ahead of them. Students end their schooling without having gained the appropriate skills to prepare them to participate in the labor market. Figure 5.7 showed the range of skills that employers require but for which they cannot find enough workers who possess them. These skills, both "hard" and "soft," are crucial for both workers and employers to reap the rewards that the labor market can offer.

However, beyond being just a shortcoming of the formal educational and training institutions, this glut of skilled workers also suggests that workers have not been able to acquire those skills in the course of doing their jobs, either through formal training or through on-the-job learning. Indeed, employer surveys suggest that very few employers have formal training arrangements in place for their workers.

Employers value certain skills, many of which are scarce among Cambodian workers

Employers demand a mix of "hard" and "soft" skills. According to a 2013 survey of 222 large enterprises with at least 100 employees (ADB-HRINC-DBLink 2013), foreign language skills are in highest demand, followed by teamwork, problem-solving, managerial skills, and manual dexterity (Figure 5.8).⁸ The exact hard skills that are needed tend to be specific to each occupation, but include technical skills, such as foreign languages, or physical skills, such as manual dexterity. Soft interpersonal and social skills, such as teamwork, some types of problem-solving, and managerial skills, are widely demanded across many different types of jobs.

The scarcity of soft skills affects a wide array of firms across sectors and occupations. For instance, many firms in the construction, finance and insurance, and garment sectors find that "taking initiative" is a skill that is in short supply (Figure 5.7). Similarly, firms in accommodation, construction, food and beverages, and ICT sectors put a high value on teamwork skills, but find workers with these skills hard to come by. Meanwhile, workers with oral communication skills and the ability to deal with customers are in short supply in most major sectors. Four of the top five skills in demand by the ICT sector are soft skills, such as being able to handle customers, work in teams, take initiative, and perform managerial tasks. The same holds true for firms hiring workers for elementary occupations.

However, there is also a great demand for workers with occupation-specific technical skills. Problemsolving is a scarce skill for firms wishing to hire professional workers, while manual dexterity is hard to find among workers in elementary occupations, machine operators, and crafts and related workers. Similarly, firms in construction, finance and insurance, and rubber and plastics find their workers particularly lacking in IT skills.

Figure 5.8: _

Opinions of Large Employers about Which Key Skills Their Workers Lack



Source: ADB-HRINC-DBLink (2013).

⁸ ADB-HRINC-DBLink (2013) conducted a survey of 222 large enterprises (with at least 100 employees) in six regions (Phnom Penh, Siem Reap, Kampot, Battambang, Svay Rieng, and Takeo) and the following sectors: garments and footwear (61 percent); hospitality (22 percent); other manufacturing (4 percent); and other professional services (13 percent). The survey focused on the needs of industry from the perspective of Cambodia's largest employers and identified skills gaps, challenges, and opportunities for TVET education.

If workers are working with a sub-optimal level of skills, it reduces their productivity, thus damaging the firm and even the broader economy. A large share of firms in the NEA survey recognized that a lack of skills could lead to lower worker productivity and hurt business as a result of delays in developing new products and services (49 percent), an increased workload for other workers (38 percent), difficulties in meeting customer service objectives (34 percent), lost business to competitors (31 percent), and difficulties meeting quality standards (28 percent) (NEA 2015). The poor quality of Cambodia's workers may also be making the country less competitive for foreign-owned employers.

Employers rarely provide training to workers

While workers can learn on the job, few formal training opportunities are provided by employers in Cambodia. Only 22 percent of manufacturing firms offer formal training according to the World Bank's 2016 Enterprise Survey for Cambodia. This is low compared to the EAP average of 57 percent, and the lower middle-income country average of 25 percent. Even within those firms that offer training, it is provided to only 44 percent of the workers. Again, this is lower than the 85 percent for EAP countries and 60 percent for lower middle-income countries. Medium-sized firms, with 20-99 employees, are much more likely to offer any training (61 percent) than either small firms (13 percent) or large firms (31 percent). These firms cite difficulties in organizing training or in finding good trainers as the key reasons for not providing more formal training for their employees (NEA 2014, 2015).

The provision of informal training is slightly more common. Over 50 percent of firms provided some form of training, either formal or informal, to their workers (NEA 2014), with 40 percent of the small firms providing training. Although this is lower than the provision by medium-sized firms (61 percent) and large firms (58 percent), the discrepancy is not as stark as with formal training provision.

This pattern is consistent with the literature findings regarding the under-supply of general training by firms. Anticipating that a worker who receives formal training in general skills may wish to leave the firm to obtain higher wages elsewhere, employers do not have an incentive to invest in increasing their productivity. However, because firm-specific training is often not useful in other firms, they do not hesitate to provide such training through either on-the-job opportunities or through informal training (Acemoglu and Pischke 1998). Anecdotal evidence in Cambodia also suggests that firms tend to provide training to their professional and semi-professional staff who have had a longer tenure at the firm rather than to lower-level workers whose turnover rates they assume will be high (ADB-HRINC-DBLink 2013).

5.4 The Tasks Required in Common Cambodian Occupations are Changing

Any occupation consists of multiple tasks that require different skills. Therefore, it is instructive to examine the tasks that are carried out in any given occupation and then identify the skills needed to carry out those tasks, as this can then demonstrate the range of skills that Cambodia's labor force needs to develop. However, most household and labor force surveys, including those available for Cambodia, do not collect data on the nature of tasks performed and the skills used in specific jobs. Instead, it has become common practice when studying these issues to use not only occupation data from a country's labor force or household survey, but also data from the O*Net—an occupation-taskskills database based on the US labor market-to match tasks and skills to country-specific occupations.⁹ Therefore, we also chose to use this methodology to explore the task content of Cambodian jobs.

Since there are hundreds of tasks and skills, it is common to summarize the tasks within each occupation using only two general categories of tasks and three skill types. The two task-types are routine and non-routine tasks.¹⁰ Routine (repetitive) tasks are job activities that involve a series of well-defined steps that could, in theory, be programmed to be performed by a machine. Non-routine tasks require judgment, which can only be provided by a human. The skill types are *cognitive, manual*, or interpersonal. Cognitive skills are mental abilities and knowledge such as mathematics or problem-solving. Manual skills include physical dexterity and strength. Interpersonal skills cover such qualities as teamwork, leadership, and initiative. Each occupation is a combination of a task type and a skill type. For the purposes of this chapter, we used six common task-skill categories as follows: repetitive mental tasks, *repetitive physical* tasks, (non-routine) *analytical* tasks, non-repetitive physical tasks, managerial interpersonal tasks, and social tasks (see Table 5.1 for a brief description of the categories).

⁹ National Center for O*Net Development, www.onetonline.org.

¹⁰ The terminologies used here are adapted from Autor et al. (2003) and have been widely adopted since. Please see Autor (2013) for a review of the methodology and literature related to the task-based approach.

Table 5.1: ____

Definitions of Skill-Task Categories

		Task type				
		Repetitive Tasks	Non-Repetitive Tasks			
		Repetitive Mental Tasks	Analytical Tasks			
	Cognitive (analytical)	<i>Definition:</i> Require individuals to perform repetitive mental tasks with a high degree of accuracy. They are very structured and do not allow workers to determine their own tasks and priorities. <i>Task examples:</i> Typing, data-entry, book-keeping, or checking ledgers. <i>Occupation examples:</i> Clerks, keyboard operators, and tellers.	<i>Definition:</i> Require individuals to analyze and process abstract information and actively use it to solve complex problems. <i>Task examples:</i> Identifying underlying principles, reasons, or facts by breaking down information or data into separate parts. Thinking creatively to develop, design, or create new applications, ideas, systems, or products. Interpreting and using information. <i>Occupation examples:</i> Engineers, doctors, lawyers, and scientists.			
		Repetitive Physical Tasks	Non-Repetitive Physical Tasks			
	Manual	Definition: Require individuals to spend a significant amount of time making repetitive physical motions. Task examples: Operating machines or controlling processes by using direct physical activity or mechanical mechanisms, not including operating vehicles or computers. Occupation examples: Textile workers, metal processers, and plant and machines operators	<i>Definition:</i> Require judgment and physical dexterity to perform certain tasks. <i>Task examples:</i> Maneuvering or navigating tasks by driving and operating mechanized equipment such as forklifts or other vehicles. Using hands and arms to grasp, manipulate, or assemble objects or control mechanized equipment. <i>Occupation examples:</i> Drivers, crews on boats or ships, mining and construction laborers			
Skill-Type			Managerial Interpersonal Tasks			
Skill-Type	Interpersonal		Definition: Require the ability to manage people and relationships. Task examples: Develop and maintain constructive and cooperative working relationships with others. Guiding and directing subordinates by setting performance standards and monitoring their performance. Coaching or helping others to improve their performance. Occupation examples: Managers, managing directors, legislators, and business administrators Social Tasks Definition: Require being aware of others' reactions and understanding why they react as they do. Task examples: Using persuasion and negotiation skills. Adapting to and coordinating with others' actions. Occupation examples: In addition to managerial occupations, occupations such as primary			
			schoolteachers, policemen, sales-people, and public relations			

Note: Skill categories adapted from Acemoglu and Autor (2011).

We created similar task measures in the context of Cambodia (see Box 5.1 for methodological details) and used them to analyze the task content and evolution of Cambodian jobs.

High-order skills are not required for most occupations, but are needed in the fastest growing ones

The most common occupations in Cambodia do not feature tasks that use skills that are in high demand by employers and do not need higher-order analytical and interpersonal skills. Employers in Cambodia have consistently reported a shortage of technical and problemsolving skills among the workforce as well as soft skills such as communication, client engagement, and teamwork skills (Figure 5.7, NEA 2016). However, many of the largest occupations do not tend to use these skills (Figure 5.9). The three largest occupations—subsistence farming, garment manufacturing, and agricultural labor—rank very low in terms of their skills requirements. With regard to basic skills, the farming occupations use some degree of science in their work (presumably related to agriculture), and garment workers use some mathematics (presumably related to measurements and understanding design patterns). Otherwise, these occupations lag behind others in basic comprehension and communication skills, critical thinking and active learning skills, social skills, and problem-solving skills. Furthermore, they do not have much need for communications and team-work in their workplaces. Unsurprisingly, given the task content of these occupations, they need only a negligible amount of higherorder skills (analytical, managerial, and interpersonal) and social skills. These occupations tend to consist mainly of physical tasks and repetitive cognitive (mental) tasks.

Box 5.1: Methodology Used to Create the Task Classification for Cambodian Occupations

Cambodia has no O*NET-like database specifically built using tasks from each of the country's occupations. Therefore, we used the O*NET classification, which assigns scores for each occupation code along a wide array of tasks and skills and match them to the most recent Cambodia Socio-Economic Survey (CSES). We did this conversion in five steps:

- Since the CSES uses occupation codes (NIS OCC codes), which are a slight variation of the ISCO 08 codes, we converted the three-digit Cambodia NIS OCC codes into ISCO 08 four-digit codes. This was done using the mapping provided by the National Institute of Statistics (http://www.stat.go.jp/info/meetings/cambodia/pdf/c8_occup.pdf).
- We then converted the four-digit ISCO 08 codes into six-digit SOC 2010 codes used by the 0*NET database. The methodology for making this conversion came from the US Bureau of Labor Statistics (https://www.bls.gov/soc/ ISCO_SOC_Crosswalk.xls).
- 3. For each of the SOC codes, O*NET provides occupation scores along several dimensions. Acemoglu and Autor (2011) used these dimensions to compute aggregate task scores for each of the occupations. We followed the same algorithm to create the task scores. (The code for this classification is available from the authors' website: https://economics.mit.edu/files/7974).
- 4. In cases where the same Cambodian NIS OCC codes mapped to multiple SOC codes, the scores for the occupation were set as a simple average of the SOC codes that mapped into them.
- 5. The scores were then standardized for each of the Cambodian occupations using the composition of non-subsistence occupations in Cambodia for the year 2009, our base year. In other words, in terms of standard deviations, the scores measure the task intensity of an occupation in 2014/2015 compared to its mean score in 2009.

There are valid concerns about using the O*NET classifications for Cambodia since the same occupations might involve different tasks in Cambodia than in the United States. One major difference between the countries is that the same occupation involves more higher-order tasks in the US than in Cambodia. However, since the scores are standardized within Cambodia, the overall level of difference between the two countries would not matter. What could affect our analysis is that the difference in the task content of occupations between two countries differs drastically by occupations. Even with such differences, the aggregate level of the analysis in this report will minimize the biases due to such errors. In fact, a similar methodology using the US-based O*NET classification has been used to study the labor markets in a wide array of countries, including East Asian economies such as China and Vietnam.

Note: Skill categories adapted from Acemoglu and Autor (2011).





Source: Author's estimates using CSES 2014 and the O*NET database of the skills associated with occupations.

Note: Aggregate task intensity measures follow the classification used in Acemoglu and Autor (2011). Task intensity scores are standardized by the mean and standard distribution of the scores in non-subsistence occupations weighted by the labor share of those occupations in 2009.



Source: Author's estimates using CSES 2014 and the O*NET database of the skills associated with occupations.

Note: Aggregate task intensity measures follow the classification used in Acemoglu and Autor (2011). Task intensity scores are standardized by the mean and standard distribution of the scores in non-subsistence occupations weighted by the labor share of those occupations in 2009.

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Mining and construction laborers also tend to perform mainly physical or repetitive tasks, but they also perform a higher than average amount of analytical tasks. For example, construction laborers have to follow the designs of the buildings on which they are working. They do not need to use many social skills and do not have to interact with others apart from their direct work colleagues and, therefore, have little need of managerial interpersonal tasks or social perceptiveness.

Shopkeepers, the fifth largest occupation, however, have many tasks requiring higher-order skills in addition to basic skills, including process monitoring, social skills, problem-solving, resource management, and communication skills.

Some of the fastest growing occupations are more likely to use higher-order skills. The exceptions, as discussed above, are the fastest growing occupations (garment workers) and agricultural labor. However, the second fastest growing occupation, frame builders, involves tasks that require a high intensity of higher-order analytical and interpersonal skills (Figure 5.10). Analytical skills are needed to interpret or create designs for the frames, while the interpersonal skills are needed to collaborate with or supervise the teams creating the final product. This occupation also involves many non-repetitive physical tasks as it requires great deal of manual dexterity. This pattern also holds for building finishers.

The third fastest growing occupation, general clerks, uses a mix of higher-order analytical and repetitive mental tasks. Basic reading, writing, and numeracy skills are integral parts of their occupation, and they also use a fair amount of problem solving, critical thinking, and active learning skills. Bank tellers also tend to perform repetitive mental tasks as well as some higher-order managerial and interpersonal tasks stemming from the need to engage and build relationships with clients.

Service sector occupations, such as waiters, bartenders, and drivers, have to engage with clients and tend to require social perceptiveness in their jobs. Other social skills such as coordination and service orientation are also extensively used in these occupations.

Having completed more education, particularly high school and college, helps individuals perform occupations with a higher intensity of analytical and managerial interpersonal tasks. The manual task content of occupations, both repetitive physical and non-repetitive physical, decrease with the level of education of the workers in those occupations (Figure 5.11, Annex Table 5.6). As with the returns to schooling, the repetitive physical and nonrepetitive physical task content of occupations falls drastically upon high-school completion and college graduation (Annex Table 5.6). The opposite happens with analytical, managerial interpersonal, and socially perceptive skills, with these tasks increasing steadily with education and then jumping up drastically with high-school and college completion. The repetitive mental task content jumps up only for college graduates, while completing lower levels of education causes less dramatic rises. In addition to yielding higher earnings (as discussed in an earlier section), education, particularly completing high school and college, enables individuals to be selected for occupations that use higher-order skills such as analytical, managerial, and interpersonal tasks. It suggests that education helps individuals take on occupations that require analytical and interpersonal tasks rather than manual tasks, even though the wage returns to schooling are very low.

Figure 5.11: _

Task Intensity, by education level



There is a strong correlation between educational attainment and task content

Source: Author's estimates using CSES 2014 and the O*NET database of the skills associated with occupations.

Note: Task intensity measures follow the classification used in Acemoglu and Autor (2011). Task intensity scores are standardized by the mean and standard distribution of the scores in non-subsistence occupations weighted by the labor share of those occupations in 2009.

Female-dominated occupations are more intense in social tasks and less intense in all other task categories. As seen in the previous section, there is a large gender difference in terms of broad occupation categories. This difference also seeps down to the tasks performed by women within those occupations (Annex Table 5.6). Women in Cambodia tend to be employed in occupations that use more interpersonal skills such as social perceptiveness, persuasion, and coordination but fewer analytical, managerial, and physical tasks than their equally educated male peers.

Rural occupations are more intense in physical tasks and less intense in mental, analytical, and interpersonal tasks. The difference arises partly because of the prominence of subsistence farming occupations in rural areas. These occupations do not require many skills beyond performing physical tasks. However, these subsistence occupations do not completely explain the difference between rural and urban areas. Agriculture still occupies a sizable share of non-subsistence occupations in rural areas, and opportunities in manufacturing sectors outside garments, which uses only a limited set of skills, are not common. In a similar vein, the northern provinces, where farming is widespread, also have similar task content as rural areas (Annex Table 5.6).

Conditional on education, older workers still sort into occupations that are less intense in physical and analytical tasks, and into occupations that are more intense in interpersonal tasks. One of the issues in the Cambodian labor market is the low education level of the older population. However, conditional on education levels, we found that the tasks assigned to older people were different from those assigned to younger ones (Figure 5.12 and Annex Table 5.6). For instance, the intensity of physical tasks (both repetitive and non-repetitive) fell with age, which could suggest a lower level of ability or a preference against having to carry out physically demanding tasks as a worker ages. At the same time, the intensities of both managerial interpersonal and socially perceptive tasks increased with age, suggesting that older workers tend to go into jobs that involve managerial as well as social skills. However, the intensities of repetitive mental and analytical tasks also fell with age, particularly for the oldest segments of the labor force. This could suggest that, even conditional on education level, the older cohorts of workers do not have the same level of analytical skills as their younger peers and sort into occupations that use these skills less intensely as they age.

Both analytical and repetitive mental tasks have become increasingly common in Cambodia's occupational mix in recent years. Compared to the distribution of occupations in 2009, occupations in 2014 have become more intense in all types of aggregate task measures except non-repetitive physical tasks. This is because of the decline of activities associated with farming (even non-subsistence occupations) and the rise of manufacturing, particularly in the garment industry. The intensity of analytical and repetitive mental tasks in Cambodian occupations dramatically increased by over 13 to 18 percent of a standard deviation just in the five years between 2009 and 2014. The intensity of repetitive physical tasks increased by 7 percent of a standard deviation, and the intensity of managerial and interpersonal tasks also increased slightly by 2 to 4 percent of a standard deviation (Figure 5.13).

Figure 5.12: _







Source: Author's estimates using CSES 2014 and the O*NET database of the skills associated with occupations.

Note: Task intensity measures follow the classification used in Acemoglu and Autor (2011). Task intensity scores are standardized by the mean and standard distribution of the scores in non-subsistence occupations weighted by the labor share of those occupations in 2009. The sample is restricted to those who had worked for at least 20 hours in the previous week before the survey. Both age and the task intensity measures are residualized with the same set of controls as in Table 1.



Source: Author's estimates using CSES 2009-2015 and the 0*NET database of the skills associated with occupations.

Note: Aggregate task intensity measures follow the classification used in Acemoglu and Autor (2011). Task intensity scores are standardized by the mean and standard distribution of the scores in non-subsistence occupations weighted by the labor share of those occupations in 2009. The sample is restricted to non-subsistence occupations in all years.

Automation of routine tasks could restrict job growth in fast-growing sectors

As seen above, the fastest growing occupations in Cambodia are mostly in the garment sector and involve manufacturing either in or for foreign-own enterprises. One of the reasons that the number of these jobs has exploded in Cambodia is the low cost of the labor needed to perform the repetitive physical and the repetitive mental tasks associated with the garment production line. The routine nature of these tasks means that in theory they could be done by computers or machines. Rising labor costs in Cambodia and the falling costs of automation may lead foreign firms to consider automation as an increasingly attractive option. Until recently, non-repetitive physical tasks were difficult to automate, but that is slowly changing with advances in machine learning and artificial intelligence.

On the other hand, interpersonal and social tasks have proven to be much harder to automate (Autor 2015). With technological advances changing the nature of modern work across the board, skills that prepare individuals to conduct higher-order analytical, managerial, and social tasks are, and will be, increasingly valued by the labor market. Indeed, studies in the US have found that the labor market increasingly rewards social skills, which are in increasing demand (Deming 2017). Employers all over the world, including those in Cambodia, report that they need workers with social and other soft skills but find it difficult to find many (Figure 5.7 and Figure 5.8).

Other booming employment sectors in non-textile manufacturing and services focus on non-routine tasks as well. Non-garment manufacturing jobs in Cambodia involve non-routine analytical and non-routine physical tasks intensively in addition to more routine tasks. Jobs in construction require not only technical skills, but also social skills, which can be developed by working in teams or by managing such teams. Similarly, jobs in trade and tourism require interpersonal and social skills as they involve interacting with clients and customers. Skills gained from manufacturing jobs may be limited to the specific trade in question, but the skills developed from the interpersonal tasks, specifically socio-emotional and communication skills, can be adapted to other jobs as well. These skills are unlikely to be adversely affected by technological progress in the workplace.

Moreover, recent advances in artificial intelligence have dramatically extended the range of tasks that can be automated (Brynjolfsson and McAfee 2014). Even a few years ago, tasks requiring manual dexterity, such as driving a car or sewing a tee-shirt, were thought to be immune to automation. However, these tasks are already within the reach of the most modern technology.¹¹ Although technology has not yet managed to fully automate the production of more complex textiles, with the rapid expansion in the field of artificial intelligence, this could happen in the not-so-distant future.

¹¹ For instance, SoftWear, a US-based company, intends to produce tee-shirts using its automated robots and sell them at prices on a par with even the lowest wage countries within the next year (Emont 2018).

Such technological advances are likely to take place in the developed economies and not necessarily in countries like Cambodia where front-line production occurs. Consistent with this trend, some advanced countries are already "re-shoring" tasks that were previously outsourced to other countries. This has several implications for Cambodia:

- Cambodia cannot solely rely on the low cost of labor to attract jobs from abroad in the garment sector. Although the entire production process in all sorts of garments produced in Cambodia may not be fully automated soon, the growth in garment-related jobs in unlikely to increase at the same pace as it has done in the recent past. This means that new entrants to the Cambodian labor market will need to find work outside the garment industry, which is likely to require a different set of skills.
- In general, the range of manufacturing jobs that could be located in Cambodia is shrinking as a result of a restructuring of many global value chains. Indeed, as automation begins eliminating repetitive and manual tasks and related jobs, countries higher up the value chain may stop outsourcing these tasks to countries that are just entering the sector (Maloney and Molina 2016). Automation could also make it less likely for unskilled workers in agriculture to find higher paying jobs in low-skilled manufacturing. Rodrik (2016) argues that the gains that countries can make from increased industrialization in the future will be more limited than has been the case historically. For instance, Cambodians are unlikely to be able to benefit from future outsourced jobs in the automotive and electronics industries as was the case for Korea, Taiwan, and China, because these two industries are now heavily robotized. Cambodia will need to attract higherend products (for example, designer garments) or move higher up in the value chain where most innovations happen. Both of these changes will require the labor force to have a different skill profile than it currently has.
- In the worst-case scenario, where advances in technology restructure global value chains in garment production, there could be declining

employment in the garment sector itself in Cambodia. While the garment sector has provided high wages and incomes for a large segment of the society, it has imparted only a limited set of skills to the workforce. It would be difficult to integrate these workers into other parts of the economy as their skills would not easily be transferrable to other large sectors in the Cambodian economy.¹²

5.5 A Gender Wage Gap Exists in the Cambodian Labor Market

If labor markets are not inclusive, then having the right set of skills may not be sufficient for the excluded workers to reap the rewards from the labor market. One such dimension of exclusion is gender. In this section, we examine the gender gap in the wage labor market to assess the extent of the pay gap and the role of played by skills and other characteristics in filling the gap.

Existing gender disparities in wages suggest that women may not be able to take full advantage of available economic opportunities. On average, a female wage worker in Cambodia earns only 86 cents for every dollar of wages made by male workers (Table 5.2).¹³ This difference might arise from the fact that female wage workers have different attributes than do male workers. Alternatively, these differences might be the result of the labor market treating male and female wage workers with the same attributes differently or even of factors that the data just cannot measure.¹⁴

Background characteristics explain only 27.9 percent of the observed gender wage gap. If women had the same level of education as their male counterparts, the wage gap would narrow by 2.6 percentage points so that women would earn 89.4 cents for every dollar earned by a man (Table 5.2). If women had the same attributes as male workers in terms of demographics and location in addition to education, then the wage gap would fall by only 4.3 percentage points. In other words, women with the same education and demographic background as male workers still make only 89 cents for every dollar earned by these men.

¹² Although some of the skills needed for garment manufacturing could be partially transferred to other manufacturing sectors, those sectors are small. The entire nongarment manufacturing sector employs only 4 percent of female workers, whereas the garment sector alone employs 17 percent of female workers.

¹³ The total wage gap of 0.154 log points translates to a female-to-male wage ratio of (-0.154) = 0.857.

¹⁴ In this analysis, we used the Blinder-Oaxaca decomposition to split the gender wage gap into components that can be explained by the differences in attributes and components that are not explained by the attributes alone. This decomposition separates the average difference in (log) wages into two components as follows: $\Delta \overline{y} = \beta \ \Delta \overline{X} + \Delta \beta \overline{X}_{r}$ where the first component represents the difference due to differences in covariates (or endowments), and the second component is due to differences in how the market values the same characteristics differently for men and for women, also capturing factors that are not enumerated in the data (such as actual years of employment and differential preferences for work). The second component is often referred to as the unexplained gender gap.

Barriers also exist that prevent women from accessing certain occupations and industries, explaining a large share of the remaining gender pay gap. Women are more likely than men to be employed as wage workers in the garments and trade and tourism sectors and are less likely to be employed as wage workers in all other sectors (except farming), including the public sector. Similarly, women are more likely to be in craft and trades occupations and less likely to be in the "other occupations" category (except in sales and service occupations). In other words, women are often involved in occupations and sectors that are low paying. When comparing wages of men and women within the same industries and occupations, the pay gap lowers by 3.4 percentage points to 89.4 cents to every male dollar

(second column, Table 5.2). This is indicative of the existence of barriers preventing women from working in higher paying sectors and occupations, even when they have the same level of education and other background characteristics as men.

Furthermore, even within the broad occupation categories, women are more likely to perform tasks that require fewer cognitive skills and are less likely to perform tasks that are physically more intensive. Adjusting for the differences in tasks required in their jobs as well as for occupation and industry categories further lowers the gender pay gap by 4.6 percentage points (third column, Table 5.2).

Table 5.2:

Decomposition of the Gender Gap in Wage Work, 2014

	Basic Specification		Full Spec	Full Specifcation		Full + Tasks	
	Gap (log points)	Percent of gap explained	Gap (log points)	Percent of gap explained	Gap (log points)	Percent of gap explained	
Education Variables	0.026***	16.9	0.022***	14.3	0.023***	14.9	
	(0.004)		(0.003)		(0.003)		
Demographic Variables	0.014***	9.1	0.013***	8.4	0.013***	8.4	
	(0.002)		(0.002)		(0.002)		
Location	0.003	1.9	0.003	1.9	0.003	1.9	
	(0.002)		(0.002)		(0.002)		
Industry + Occupation			0.034***	22.1	0.017	11.0	
Categories			(0.008)		(0.013)		
Task content variables					0.029**	18.8	
					(0.012)		
Aggregate summary:							
Total Explained	0.043***	27.9	0.073***	47.4	0.086***	55.8	
	(0.005)		(0.010)		(0.010)		
Unexplained gap	0.111***	72.1	0.081***	52.6	0.068***	44.2	
	(0.010)		(0.013)		(0.013)		
Total gap	0.154***	100.0	0.154***	100.0	0.154***	100.0	
	(0.011)		(0.011)		(0.011)		

Source: Author's estimates using CSES 2014.

Notes: Oaxaca-Blinder decomposition of the wage gap. Education variables include years of schooling as well as completed levels of education. Demographic variables include age, age-squared, household size, marital status, and ethnic minority. Location variables are provinces and rural/urban location. Occupation and industry include broad categories, and task content variables are measures of various skills required by the occupation. The sample is restricted to those with wage employment as main activity and those who worked for at least 20 hours in the previous week before the survey. The wage gap is measured in terms of the logarithm of hourly wages. Standard errors are reported in parentheses. *: p<0.1. **: p<0.5. ***: p<0.01.

Nevertheless, differences in worker characteristics and occupation choices cannot explain half of the gender pay gap. In other words, if female wage workers had the same education, demographics, location, industry, and occupation as male wage workers and performed similar tasks within their occupations, they would still earn only 93 cents for every dollar of male wages. This is an improvement over the raw female to male wage ratio of 86 cents per dollar, but still only cuts the gap in half. The rest of the gap remains unexplained.

The gender gap is sensitive to economic fluctuations.

The raw gender gap rose steadily from 2008 to 2011 following the global financial crisis and the movement of labor towards agriculture (earnings are not reported in the wage data) and started to decline after 2012 (Figure 5.14). At its worst, in 2011, the raw gender gap was equivalent to a female wage of only 78 cents for every dollar of the male wage. Between 2009 and 2014, the raw gap in wages fell slightly, driven by urban areas. Women's earnings for every male wage dollar went up from 82 cents to 86 cents nationwide, and

rose from 74 cents to 80 cents in urban areas. However, the unexplained gap, a measure of factors that could not be measured by our data but do affect how men and women are remunerated, did not change dramatically between 2009 and 2014. Such factors include differential preferences for types of remuneration (for example, wages versus social benefits, as discussed in Chowdhury et al. 2018), gender norms that affect job types, women's intermittent work due to childbearing, and employers' preferences for male or female workers. The unexplained wage gap, after accounting for covariates and occupation choices, barely fell from 0.09 log points to 0.08 log points. Since the total wage gap fell faster than the unexplained wage gap, the share of the total gap that remains unexplained has in fact increased in recent years. This suggests that, during economically difficult times, women disproportionately bear the brunt in the form of lower wages. Not only does the labor market favor male characteristics (as measured by the explained difference), but during such times, the market value of men's characteristics compared to that of women's characteristics (as measured by the unexplained difference) also rises.

Figure 5.14: _

Decomposition of the Gender Wage Gap, 2007-2015 The gender wage gap widens during difficult economic periods.



Source: Author's estimates using CSES 2007-2015.

Note: Oaxaca-Blinder decomposition of the wage gap. Adjustments for basic covariates include the variables in the first column of Annex Table 5.6. Adjustments for occupation and industry choices include the same set of variables as in the second column of Annex Table 5.6. The sample is restricted to those with wage employment as their main activity and those who worked for at least 20 hours in the previous week before the survey. The wage gap is measured in terms of the logarithm of hourly wages.

5.6 Policies to Improve the Skills of Cambodian Workers

Cambodia needs to dramatically increase the skill level of both its current and future workforce. This implies a need for policymakers to adopt a two-pronged strategy. The first prong would be to make broad and deep investments in providing today's children and youth with high quality basic and secondary education, which will yield long-term returns in the form of an educated and skilled workforce. The second prong would be to invest in practical, applied retraining for today's adult workers.

Most of the jobs of today and tomorrow will require workers to have both technical or vocational skills and soft skills. As has been discussed in this chapter, Cambodian jobs are becoming more skill-intensive and are increasingly requiring a mix of soft and hard skills. In particular, the fastest growing jobs are moving toward requiring semi-skilled workers. The skills appropriate for these jobs are not acquired in university. Instead, the training provided by market-oriented technical and vocational institutions along with intensive, on-the-job learning opportunities are the best way to train workers to qualify for and be productive in these jobs. Clearly, university is, and will continue to be, important for training the professional and managerial classes, but even in high-income countries, semi-skilled jobs are prevalent.

Mega-trends are constantly and rapidly changing the nature of jobs and worker skills need to change with them. This points to the need to enable Cambodian workers to develop a broad range of skills, to learn to learn, and to have access to skill upgrading opportunities across a 40 (plus) year worklife. The old model of learning while young and then working needs to be replaced with a model of building a strong foundation in youth, then constantly upgrading throughout one's work life.

These findings underscore the need for the modernization of Cambodia's skill development system. The system will need to do more for more people for a longer period of time than a traditional school-based system does. While Cambodia is well on its way to improving education quality through multiple strategies, plans, and

laws, the policies presented in this section are particularly relevant to the current and changing nature of jobs.

Policy Area 1: Modernize What and How People Learn from Pre-school Through Retirement

(1) Develop and reform pedagogical systems to provide the range of skills valued by the labor market, including cognitive, socio-emotional, and digital **literacy skills.** Jobs will increasingly require a mix of higher-level skills, which the current school system does not provide.¹⁵ While it is crucial to enhance the relevance of the knowledge-based curriculum and improve the learning of such material¹⁶—as is well documented in the *Education Strategic Plan 2014-2018*—there is a growing consensus that the classroom can also be used to teach a range of nonacademic skills. Emerging pedagogical methods that rely on student-based, experiential learning allow students to use a range of socio-emotional and cognitive skills while learning the knowledge that schools typically focus on. The methods for teaching these skills will differ by the age of the student and context. For example, play is an effective technique for young children in pre-school settings, pedagogical methods that require teamwork and other socio-emotional skills are effective for school-aged children, while TVET institutions teach socio-behavioral skills that are needed on the job¹⁷ (see table 5.3).

(2) Use technology to deliver individualized levels of instruction to improve student learning.¹⁸ Computerassisted learning interventions that use technology to provide individual-level instruction have proven to be extremely effective at improving learning outcomes at the primary and post-primary levels.¹⁹ An effective computer-aided learning (CAL) system can tailor the level of instruction to each individual student and proceed at the pace at which each student learns best. This kind of technological change in the classrooms will not displace teachers but, on the contrary, will vastly increase their productivity by enabling them to target their teaching to the level and pace of the individual students. The role of the teacher will change from being an active instructor to an enabler of student learning. Therefore, policymakers should incentivize and/or facilitate the development

¹⁹ See Kremer et al. (2013) for a review and Muralidharan et al. (2017), Barrow et al. (2009), and Banerjee et al. (2007) for specific examples and discussions.

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¹⁵ The National Employment Policy 2015-2025 of Cambodia has also made the expansion and enhancement of soft skills provision as one of its key objectives.

¹⁶ For a detailed discussion of strategies to improve teaching, see Crawford et al. (2018). For a detailed analysis of Cambodia's education system and its results, see National Education for All Committee (2015).

¹⁷ See Cunningham et al. (2016) and Guerra et al. (2014) for examples and evidence of the impact of different interventions throughout the lifecycle.

¹⁸ Rigorous evaluations around the world have shown that interventions that only provide hardware support (such as computers or laptops) at home or at school do not improve student learning, and those that allow students to review grade-appropriate content have only a modest impact. See Bulman and Fairlie (2016) for a recent review.

of CAL systems suitable for the Cambodian context and find ways to make them widely available in schools. Virtual learning can also substantially reduce the cost and increase the effectiveness of TVET where part of the curriculum is learning to manipulate new technologies. Also, 3-D technologies can virtually replicate modern machines used in various industries, thus providing students with a virtual "hands-on" experience. Such technologies are still rare but are more cost-effective than purchasing actual machinery.

Technology can also open opportunities for formal or informal self-directed learning. Massive Online Open Courses (MOOCs) provide instruction on a range of courses given by a range of instructors from the best universities. Many of these courses are low-cost or cost-free, only requiring the user to have good internet connection, language skills (usually English), and a willingness to learn.

Similarly, technology can be used to improve the quality of teachers and instruction at scale. A vast amount of high-quality resources exists online, but teachers may not know of the existence of this content. Helping teachers to find such high-quality content and adapt it for their own teaching needs can be a cost-effective means of improving teacher quality and student learning (Jackson and Makarin 2018).

(3) Develop assessment mechanisms to monitor student learning at various levels and in various subjects. To improve the quality of education, policymakers will need more information about the academic performance of students at various education levels to measure whether their policies are effective. There are already national assessment systems in place in Cambodia for students in grades 9 and 12 in mathematics and language, and the Ministry of Education, Youth, and Sport (MoEYS) is preparing to implement the Programme for International Student Assessment (PISA) examinations. Testing Cambodian students from an earlier age than at present will make it possible to identify any problems with student learning from early on. Furthermore, the government is currently developing and implementing a skills assessment and certification system in Cambodia, which will yield information on the technical skills possessed by students and workers.

(4) Integrate and coordinate between a larger number of actors in the skills development process. The days when students stopped learning as soon as they left school are over. Instead, people continue to learn throughout their lifetimes in a number of ways: (i) through formal institutions, such as schools and well-designed programs (such as the Skills Bridging Program); (ii) less formal programs such as learning on the job, in an apprenticeship, or through short programs; and (ii) very informally through the influences around them (Table 5.3). In the future, it will be important for learning at all of these levels to be recognized and coordinated. This highlights the need to expand two policy reforms that are already underway. First, it will be necessary to expand the certification system so that people who have learned skills through any means can acquire certification. Second, the Cambodia Qualifications Framework will need to be adapted to enable, for example, TVET learners to transition into higher education or for learning through MOOCs to be credited course-work for gualifications.

Table 5.3:

Туре	Certificate	Learning "provider" by stage of lifecycle						
Formal	Certificate	ECD/Primary school	Secondary school	Higher education				
	(qualifications recognition)		Second chance education (Skills Bridging Program)					
			Vocational, technical, p	professional training				
			Apprenticeships					
Non-formal	Non-formal certificate	Youth and adult literacy programs	On-the-job training, professional develop					
			Up-skilling and re-skilling short courses					
Informal	No award		Self-directed, family-directed					
		Learning in the workplace, family, local comm						
		Incidental learning by reading, listening to the radio, etc.						

A Broad Set of Actors for Lifelong Learning

Source: Adapted from World Bank (2017b).

Policy Area 2: Ensure Workers Have Access to Skills Development Throughout their Working Lives

(1) Provide additional incentives to students to encourage them to continue acquiring skills. Since the returns to the first 10 years of school are very low, it might be a rational response under the current economic environment for students to drop out of school at earlier levels. However, as jobs become more sophisticated, an under-educated workforce will constraint the creation of better jobs. Thus, policymakers could consider expanding the cash transfers that are conditional on secondary school completion as this is likely to be a high-return investment of public resources.

Policymakers should also consider providing greater support to the Skills Bridging Program in order to open TVET and higher education to the many people who did not complete secondary school. Many countries are currently experimenting with incentives, such as individual learning accounts, to encourage early school leavers to upgrade their skills. For example, Singapore's SkillsFutureCredit aims to encourage skills development at different stages in life by providing an opening credit of SGD 500 to all Singaporeans aged 25 years old and older (World Bank 2017b).This credit has no expiration date and can only be used for accredited skills courses. Since women tend to have lower educational attainment than men and because they have fewer opportunities to enter higher paying jobs, additional incentives could be offered to women.

(2) Tailor adult learning to the working population by expanding and co-financing technical short courses. Working adults face time constraints (because they need to work) and have immediate earnings needs (they need to provide for their families) that leave little time for learning new skills. However, they will be in great need of upgrading their skills as the nature of jobs continues to change. To serve the adult working population, the skills sector will need to offer more short, practical, and modular skills development courses. For example, an older worker might enroll in a short course to learn Excel to help her to manage her small business better or in a short course on electronic repair to become qualified to take on a supervisor position in the electronic assembly plant where she works.

Policymakers can play several roles in expanding and improving the system. First, they can identify the market-demanded skills for which the private sector is not providing training and then incentivize the private and public sectors to provide such courses. Second, they can provide incentives to the private sector and learning institutions for the development

of a website for both workers and firms containing information about short-term training courses including information and feedback on the quality of the short courses.

Policy Area 3: Prioritize Employer Engagement and the Results Focus of TVET Reforms

(1) Enhance the quality, access, governance, and public-private partnerships of the TVET system. The National Policy on Technical and Vocational Education and Training provides a comprehensive list of policy interventions to improve the current TVET system. Given the low skill level of Cambodia's current workers and the long time that it takes for the education system to upgrade the labor force, the TVET sector will need to play an increasingly important role in the future. However, as reported in the National Policy, the current system has many shortcomings, and the most fundamental elements of an effective TVET system are missing. A significant number of policy actions are needed to enable the system to upgrade the skills of the current workforce to meet the needs of the jobs market of the near future. The immediate challenge is structuring the reforms so that short-term changes can be made while longer-term systematic reforms are being undertaken to produce a results-based, market-responsive TVET system.

(2) Carry out a systems assessment of the current TVET system. While a systems assessment of the TVET system was carried out in 2008 and formed the basis of the National Policy, it did not identify priority areas where reform was most needed or international best practices to consider when addressing these issues, and it did not quantify the depth of the problems to help set benchmarks against which to monitor the effectiveness of reforms. Therefore, in order to prioritize and sequence the reforms, we propose that the Ministry of Labor and Vocational Training (MLVT) carry out a new systems assessment using the World Bank's Systems Approach for Better Education Results (SABER) tool. SABER allows for a systematic assessment and benchmarking of a country's policy intent (policies, laws, regulations, and the practices of ministries and relevant government agencies in technical and vocational training) and the implementation of policies by public and private TVET providers (their characteristics, actions, values, and outcomes). The tool has been used in more than 35 developed and developing countries to identify the shortcominas, both system-wide and within institutions, in order to inform policy (see Figure 5.15 for an example of SABER results). This assessment can also be used to assess institutions under the purview of other ministries and private sector training programs.

Figure 5.15: _

Sample Workforce Development SABER Results



(3) Develop policies to encourage enterprises to play a bigger role in skills development. Strategy 3 of the National Strategy for TVET defines policy actions to foster public-private partnerships. The challenge will be to set up incentives and processes to ensure that these partnerships can play a meaningful role. There are four ways in which private firms can become more engaged in the provision of skills development and training with the support of the public sector.

(a) Provide workers with skills development opportunities. Firms already provide the majority of nonformal skills development through on-the-job learning, but they tend to provide less formal training than their workers need. Various policies have been adopted in other countries to increase the amount of training provided by firms. First, several countries have imposed training levies on firms with the money going into a central public fund that is used to finance the provision of training. In the case of Malaysia, firms now seem more willing to send their workers to training courses in order to reap the benefits of the mandatory payment. Second, in some cases, firms may not realize that their workers need training. Several OECD countries have financed firm or industry-wide training needs assessments to identify the skills that are lacking in the workforce that the firms need to fill (World Bank 2017a). Third, firms may not know how to structure learning opportunities such as apprenticeships. Several countries have provided technical support to firms to help them to structure and implement their apprenticeship programs to lower their costs and increase the quality of the experience for learners. Firms may need to receive additional incentives to train hard-to-employ workers. For example, a program in Jordan gave "employment vouchers" to young women who had graduated from college as a way to subsidize their wages and benefits in firms that temporarily hired these new

labor market entrants. The vouchers successfully opened up on-the-job learning opportunities to the young women even though they did not lead to most of them being employed long term (Groh et al. 2012).

(b) Engage with the education and training institutions.

The public sector can help to engage employers and training institutions in a common conversation to find solutions. For example, Australia's publicly financed Skills Service Organisations, works with industry associations and the training sector to identify what skills are in demands and how they can be learned. In Malaysia, industry associations are also involved in identifying skill needs through sectoral training committees. Korea's SME training consortiums are groups of SMEs in the same sector and region who come together to identify training needs and available providers. Policymakers provide incentives to the SMEs in the form of tax rebates to allow their workers to participate in training as well as subsidizing training providers.

(c) Finance their own and public/private skills *development services.* Firms can finance the training of their workers in two different ways. First, they can pay institutions to provide training to their workers. For example, enterprise and training institutions in Cambodia have recently come together to jointly design and implement the pilot Cambodia Skills Development Fund with a heavy subsidy from the public sector. Careful monitoring of the pilot will be important since this program design has had mixed results in other countries. Second, firms can provide in-kind support to training institutions by donating old machinery for students to practice on, allowing their staff to give guest lectures in training institutions, allowing training instructors access to the factory floor to enable them to upgrade their own technical skills, and allowing their staff to take courses during their working day.

(d) Advocate for broader policies. Firms can also use their platform to lobby policymakers for greater transparency and information about skills providers, for financial assistance for students, and social policies to enable workers to take time off work for skills development or to alleviate the costs to workers of changing jobs.

Lay the groundwork for the introduction of resultsbased financing for TVET. The National Policy for TVET contains various policy statements about results-based financing (RBF), but these will need to be brought together into a cohesive policy. The key elements of the system should include: (i) an information system that brings together outcome information (job placements, post-graduation salaries, and employer satisfaction for each field of study) for each institution as collected by tracer studies and employer surveys, processed using simple statistical software packages, and shared through communications materials and websites; (ii) clear and transparent requirements for institutional accreditation to make it easier for institutions to comply with basic standards of safety and competence; and (iii) contracting and procurement processes that allow for public financing of private institutions.

Policy Area 4: Develop Labor Market Intelligence

(1) Facilitate the job search process by providing labor market information to students, workers, firms, TVET institutions, and policymakers. Poor job search methods lead to an allocative inefficiency and lower quality jobs. The analysis in this chapter did not cover the topic of job search because of data limitations. However, the job search situation in Cambodia is likely to be similar to that in other countries in the region where job searches are largely carried out through informal networks, leading to an inefficient allocation of workers to jobs and thus to lower labor productivity and poorer quality jobs than if matches were more efficient. Students, workers, firms, TVET institutions, and policymakers are not able to easily access the kind of information that they need to make informed decisions about jobs and skills development. Learning throughout one's working life requires workers to take control of their own skill development process. While the process of transitioning from school to higher education is well understood, planning a career path that involves constant skills upgrading is much more difficult to map. The National Institute of Statistics' annual report on the Socio-Economic Survey is rich in statistics but is not the most accessible way to present this information to Cambodian students or workers (who may not have an adequate understanding of statistics) who need to make decisions about their skills development

(2) Provide incentives to private sector job services to extend their reach to include employers of lowskilled workers. A vibrant private sector has emerged to create job boards, but few of them undertake the laborintensive task of engaging with employers of low-skilled workers. Initiatives in other countries have shown that it is feasible to persuade employers of low-skilled labor to use online job matching services. For example, Kenya's Duma Works (www.dumaworks.com) is a mobile social network that enables informal workers to find jobs through friends of friends. Souktel (www.souktel.com), an international tech company specializing in emerging markets, uses text messaging to reach a wider clientele than just internet users. Informal employers can post vacancies via text without having to go through an extensive registration process. In July 2011, Souktel surveyed their clients in Palestine and found that 84 percent of job seekers reported a 92 percent reduction in the time that they spent on job hunting compared to using traditional job search methods. Meanwhile, Palestinian employers reported a 50 percent or greater reduction in the costs and time spent on hiring workers. TaskRabbit (www.taskrabbit.com) takes many forms in different countries, but the basic premise is that it posts requests from people who need workers to carry out short-term tasks such as moving and packing or home repairs and other manual tasks, and the workers receive a ranking by anyone who has employed them. This may be a model for a centralized vacancy information service for lowskilled workers driven by the job seekers themselves rather than by employers' needs.

(3) Support the National Employment Agency to become the knowledge hub for jobs and job searches in Cambodia. The NEA is already developing tools to be a knowledge hub for jobs in Cambodia by disseminating labor market information for jobseekers. The NEA's "Cambodia Jobs Outlook" (financed by the Swedish Aid Agency SIDA) publishes information on the jobs available in today's labor market, based on data collected by the NEA. Cambodia could learn lessons from Korea, which has developed job forecasting models and a national website for sharing and analyzing information on job openings and labor market trends. One vision for Cambodia is to build a knowledge hub similar to interactive labor market intelligence websites that guide users toward jobs and skill development paths, such as Canada's system. For the NEA to play the key role in the development of this information hub, it will need to scale up from small pilots funded by donors to having a secure budget that will allow for it to expand its programs, engage new technologies and technical experts to improve its data collection methods, and maintain an interactive and updated job search website that is compatible with the private sector's job vacancy and search tools.

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ANNEX 5.1: Additional Figures and Tables

Annex Figure 5.1: _

Occupation and Age of Cambodia's Labor Force, 2014

(a) All Labor Force





(b) Female Labor Force



c) Rural Labor Force

(d) Urban Labor Force

Source: Author's estimates using CSES 2014 data.

Note: Sample restricted to the working age population aged 15-64 who had worked in the previous seven days before the survey. The sectors are defined for sector of main employment. Point estimates for each age estimated using locally linear regression with bandwidth of 1 year.

Annex Figure 5.2: _

Occupation and Education by Sub-group, 2014

(a) Male Workers



(b) Female Workers



(c) Rural Workers 100% Percent of Rural Labour Force 80% 60% 40% 20% 0% 0 2 3 5 6 7 1 4 8 9 10 11 HS+ Col+ Years of School

(d) Urban Workers

Source: Author's estimates using CSES 2014 data.

Note: Sample restricted to the working age population aged 15-64 who had worked in the previous seven days before the survey. The occupation categories are defined for main employment.

^{100%} Percent of Urban Labour Force Agriculture and elementary 80% Machine operators 60% Craft and trades Service and sales 40% Clerical 20% Manager, professionals, technical 0% 2 0 1 3 4 5 6 7 8 9 10 11 HS+ Col+ Years of School

Annex Figure 5.3: _

Returns to Education in Wage Jobs, 2007-2015









Urban



Rural



Source: Author's estimates using CSES 2007-2015.

Note: Sample restricted to the working age population, aged 15-64 who had worked in wage employment for at least 20 hours in the previous seven days before the survey. The vertical dashed lines indicate completion of primary, lower secondary, upper secondary, and college levels. The dependent variable is the logarithm of hourly wages. The regressions control for individual covariates (gender, age, marital status, and household size and composition) and location (rural-urban and region).

2014

Annex Table 5.1:

Profile of the Cambodian Labor Force, 2014

	Full Johor	werking Johan	Labor Force aged 15-64 and working				
	force	force	Male	Female	Rural	Urban	
Female	0.514	0.482			0.483	0.480	
	(0.500)	(0.500)			(0.500)	(0.500)	
Age: 15-24	0.336	0.290	0.298	0.282	0.311	0.221	
	(0.472)	(0.454)	(0.457)	(0.450)	(0.463)	(0.415)	
25-34	0.274	0.301	0.304	0.298	0.270	0.404	
	(0.446)	(0.459)	(0.460)	(0.457)	(0.444)	(0.491)	
35-44	0.159	0.175	0.176	0.175	0.174	0.178	
	(0.365)	(0.380)	(0.381)	(0.380)	(0.380)	(0.382)	
45-54	0.143	0.153	0.149	0.157	0.160	0.129	
	(0.350)	(0.360)	(0.356)	(0.364)	(0.367)	(0.335)	
55-64	0.089	0.081	0.073	0.089	0.085	0.068	
	(0.285)	(0.273)	(0.260)	(0.285)	(0.279)	(0.251)	
Education: None	0.159	0.159	0.118	0.204	0.189	0.062	
	(0.366)	(0.366)	(0.322)	(0.403)	(0.391)	(0.241)	
Incomplete Primary	0.287	0.307	0.288	0.328	0.346	0.180	
	(0.452)	(0.461)	(0.453)	(0.470)	(0.476)	(0.384)	
Incomplete Secondary	0.420	0.408	0.441	0.373	0.399	0.440	
	(0.494)	(0.492)	(0.497)	(0.484)	(0.490)	(0.496)	
HS graduate	0.097	0.082	0.100	0.063	0.056	0.168	
	(0.295)	(0.275)	(0.300)	(0.243)	(0.230)	(0.374)	
College or more	0.038	0.043	0.053	0.032	0.010	0.150	
	(0.191)	(0.202)	(0.223)	(0.176)	(0.100)	(0.358)	
Marital status: single	0.358	0.322	0.340	0.304	0.313	0.354	
	(0.480)	(0.467)	(0.474)	(0.460)	(0.464)	(0.478)	
Ethnic minority	0.036	0.034	0.035	0.034	0.038	0.024	
	(0.186)	(0.182)	(0.184)	(0.181)	(0.190)	(0.154)	
Household size	5.141	5.094	5.177	5.004	5.088	5.114	
	(1.889)	(1.881)	(1.856)	(1.902)	(1.862)	(1.942)	
Rural	0.754	0.767	0.766	0.768			
	(0.430)	(0.423)	(0.423)	(0.422)			
Region: East	0.048	0.048	0.048	0.047	0.054	0.029	
	(0.213)	(0.213)	(0.215)	(0.212)	(0.225)	(0.167)	
South-East	0.207	0.209	0.204	0.216	0.252	0.069	
	(0.405)	(0.407)	(0.403)	(0.411)	(0.434)	(0.254)	
South-West	0.175	0.176	0.176	0.176	0.198	0.102	
	(0.380)	(0.381)	(0.380)	(0.381)	(0.399)	(0.303)	
North	0.148	0.151	0.153	0.149	0.171	0.086	
	(0.355)	(0.358)	(0.360)	(0.356)	(0.377)	(0.281)	
North-West	0.159	0.161	0.166	0.155	0.166	0.144	
	(0.366)	(0.367)	(0.372)	(0.362)	(0.372)	(0.351)	
Special Region	0.264	0.255	0.253	0.257	0.159	0.570	
	(0.441)	(0.436)	(0.435)	(0.437)	(0.366)	(0.495)	

Source: Author's estimates using CSES 2014. **Note:** Standard deviations in parentheses.

CAMBODIA'S FUTURE JOBS: LINKING TO THE ECONOMY OF TOMORROW

Annex Table 5.2: ___

Employment of the Working Age Population, thousands

	Wa	ige				Not	Family
Year	Private	Public	Farming	Non Farm Ent	Family help	working	Farming
2007	1127	334	2024	889	2542	1433	4566
2008	1257	365	2061	896	2394	1601	4455
2009	1118	340	2981	1202	1754	1400	4736
2010	1386	386	3148	1368	1488	1231	4635
2011	1604	351	3555	1300	1209	1181	4764
2012	1834	393	3578	1386	712	1502	4290
2013	2156	367	3646	1412	371	1656	4017
2014	2588	398	3336	1281	455	1742	3791
2015	2934	412	3238	1340	302	1749	3540

Source: Author's estimates using CSES 2007-2015. Working age population estimate from UNPOP.

Annex Table 5.3: ___

Number of Wage Workers, thousands

Year	Agriculture	Trade	Services	Construction	Manufacturing
2007	312.5	44.0	766.3	279.9	370.9
2008	391.2	36.8	824.5	261.3	499.7
2009	521.6	37.7	721.5	245.0	453.2
2010	531.5	66.8	881.8	282.2	541.2
2011	570.5	80.5	905.3	269.4	699.5
2012	604.0	72.0	1047.9	357.8	749.2
2013	707.1	86.6	1101.0	459.8	875.8
2014	602.2	110.8	1218.3	540.6	1116.2
2015	680.7	123.9	1383.4	636.2	1202.5

Source: Author's estimates using CSES 2007-2015. Working age population estimate from UNPOP. **Note:** Trade includes retail as well as other trades. Services include all other sectors.

Annex Table 5.4: ____

Largest Occupations, 2009 and 2014

2009		2014		
cupation	Share	Occupation		
bsistence crop farmers	0.257%	Subsistence crop farmers		
osistence livestock farmers	0.102%	Garment and related trades workers		
et gardeners and crop growers	0.076%	Agricultural, forestry, fishery labourers		
ultural, forestry, fishery labourers	0.063%	Market gardeners and crop growers		
salespersons	0.050%	Shop salespersons		
and market salespersons	0.049%	Subsistence livestock farmers		
ood and water collectors	0.047%	Street and market salespersons		
nent and related trades workers	0.044%	Animal producers		
al producers	0.036%	Mining and construction labourers		
sistence fishers, hunters, gatherers	0.025%	Building frame and related trades workers		

Source: Author's estimates using CSES 2009 and 2014.

Note: Occupations are 3-digit occupation codes. Primary occupation is used to categorize workers.

Annex Table 5.5: ___

Real Wage Earnings, 2007-2015

	Month	lly Wages, in 20	onal \$	Percent of Worke	rs who Earn Below	
Year	p=25	p=50	Mean	p=75	\$2 per day	\$4.22 per day
2007	112.6	187.7	283.2	300.3	0.121%	0.284%
2008	112.6	180.2	252.1	277.8	0.118%	0.291%
2009	113.4	188.9	245.4	272.1	0.143%	0.285%
2010	145.3	218.0	267.0	294.3	0.089%	0.224%
2011	155.0	226.0	277.9	322.4	0.060%	0.183%
2012	167.3	241.0	289.6	321.3	0.043%	0.138%
2013	195.1	260.1	322.2	390.1	0.032%	0.098%
2014	250.4	325.5	389.6	425.7	0.018%	0.085%
2015	266.0	371.1	411.2	463.9	0.009%	0.070%

Source: Author's estimates using CSES 2007-2015.

Note: Monthly wages were recorded in KHR, were converted to 2014 prices using consumer price index, and were converted to international PPP \$ using the conversion rate in 2014 of 1597.30 KHR per PPP\$. The \$4.22 per day threshold is \$2 per day multiplied by the ratio of the total population to the share of individuals that are employees, employees, or own-account workers.

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Annex Table 5.6: __

Determinants of Task Content of Jobs, 2014

	Analytical (1)	Managerial interpersonal (2)	Repetitive mental (3)	Repetitive physical (4)	Non-rep. physical (5)	Social (6)
Schooling: No-schooli	ng omitted					
Some schooling	0.112***	0.108***	0.029*	-0.099***	-0.146***	0.101***
	(0.030)	(0.024)	(0.016)	(0.016)	(0.016)	(0.018)
Primary complete	0.271***	0.241***	0.066***	-0.200***	-0.275***	0.214***
	(0.035)	(0.029)	(0.019)	(0.019)	(0.019)	(0.023)
L. Sec. complete	0.422***	0.384***	0.084***	-0.329***	-0.404***	0.359***
	(0.040)	(0.035)	(0.025)	(0.025)	(0.024)	(0.029)
U. Sec. complete	0.803***	0.813***	0.047	-0.798***	-0.899***	0.805***
	(0.050)	(0.049)	(0.044)	(0.039)	(0.036)	(0.043)
College complete	1.049***	0.718***	0.462***	-1.130***	-1.472***	0.887***
	(0.057)	(0.053)	(0.039)	(0.036)	(0.039)	(0.040)
Female	-0.185***	-0.089***	-0.146***	-0.187***	-0.396***	0.058***
	(0.016)	(0.016)	(0.012)	(0.011)	(0.012)	(0.013)
Aae	-0.514***	-0.507***	-0.084***	0.356***	0.372***	-0.397***
0	(0.037)	(0.038)	(0.027)	(0.032)	(0.030)	(0.034)
Age-squared (/100)	0.010**	0.013***	-0.003	-0.016***	-0.008***	0.011***
	(0.005)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Rural	-0.016***	-0.010*	-0.006*	0.008**	0.002	-0.001
	(0.006)	(0.005)	(0.003)	(0.003)	(0.003)	(0.004)
Design Dhasen Death (without				
Fact		0.027	_0 107***	0 083*	0 200***	0 083
Last	-0.210 (0.104)	(0.085)	(0.042)	(0.050)	(0.054)	(0.057)
South-East	-0.136**	-0.027	-0.105***	0.080**	0 133***	-0.003
ooutin-Last	-0.150	(0.027	(0.020)	(0.035)	(0.034)	(0,030)
South-West	-0 158***	-0.074	-0.076**	0.005	0.014	-0.045
300til-West	(0.050)	-0.074	-0.070	(0.030)	(0.038)	-0.043
North	-0.187***	0.027	-0.202***	-0.040	0.000)	0.080*
North	(0.067)	(0.057)	(0 033)	(0,038)	(0 037)	(0, 0.000)
North-West	-0 157***	0.084	-0.168***	0.000	0.163***	0.068*
	(0.058)	(0.051)	(0.032)	(0.039)	(0.039)	(0.041)

Source: Author's estimates using CSES 2014 and O*NET database on skills associated with occupation.

Notes: The dependent variables are the standardized scores of the tasks indicated in the column heading. The task intensity measures follow the classification used in Acemoglu and Autor (2011). Task intensity scores are standardized by the mean and standard distribution of the scores in non-subsistence occupations weighted by the labor share of those occupations in 2009. The sample is restricted to those who worked for at least 20 hours in the previous week before the survey. Omitted controls include marital status, household size, and ethnicity. Standard errors, clustered at the PSU level, are reported in parentheses. * p<0.1. ** p<0.05. *** p<0.01.



CHAPTER 6:

Policy for Future Jobs Consistent with Cambodia's Vision 2050

Wendy Cunningham and Claire H. Hollweg



6.1 Introduction

Although the current growth model in Cambodia is still delivering new and good jobs, it may be slowing down. Several factors are reducing the returns from Stage I global integration (entering global production networks), the stage in which Cambodia is located (see Box 6.1). These factors include weak employment growth, partly driven by low productivity and high unit labor costs as well as a low-skilled labor force, weak links between the FDI sector and the rest of the economy (where most of the jobs are), and the concentration of exports in sectors of low sophistication. For Cambodia, this implies that, to improve the quality and inclusiveness of its jobs, it will need to move up to Stage II of global integration: attracting higher value-added FDI and involving more local firms in the production network.

Box 6.1: The Stages of Global Integration for Development and Jobs

Global value chains (GVCs) and the flows of foreign direct investment associated with them can provide developing countries with an opportunity for economic development and higher quality and inclusive jobs. However, becoming integrating into GVCs is not a one-off event but rather a cumulative, multi-stage, deliberate process.

Stage I: Entering global production networks. This involves leveraging the country's comparative advantage to attract foreign investors. This usually means offering: (i) abundant, low-skilled labor; (ii) a friendly business climate for tangible and intangible assets; (iii) few regulatory or restrictive measures on trade and investments; and (iv) a stable regulatory and political environment to attract multinational corporations that will provide low value-added jobs in GVCs.

Stage II: Attracting higher value-added FDI and increasing domestic densification. Countries can expand and strengthen their participation in GVCs by becoming competitive in higher-value-added products, tasks, and sectors. Densification—engaging more local actors in the production network—is also desirable at this stage. Not only will this help domestic private firms benefit from doing business with multinational corporations, but it will also give them an opportunity to learn and to increase their productivity-led growth. In order for an economy to move into this stage, it needs a labor force with relevant skills, absorptive capacity, and strong links between domestic firms and GVCs.

Stage III: Sustainability. Once an economy is at this stage, the domestic sector is sufficiently robust that it does not depend on the presence of FDI firms. In fact, as China has shown, domestic firms may have become the lead companies in GVCs. However, in order to sustain the GVC-centric approach to development, policymakers need to pay keen attention to the macroeconomic, social, and environmental sustainability of the economy's global integration.

Source: Taglioni and Winkler (2016)

While current trends predict a somewhat benign jobs picture, emerging mega-trends present Cambodia with new and better job opportunities provided that policies are put in place to take advantage of those trends. This chapter proposes policies aligned along four strategic areas for leveraging mega-trends to create better jobs: (i) getting more benefits out of FDI, (ii) aligning domestic policies with the goal of creating more, better, and more inclusive jobs: (iii) strengthening linkages between the export and domestic sectors; and (iv) building the skills and competitiveness of the Cambodian labor force. These two goals are inter-related. The key to upgrading Cambodia's jobs is to move to Stage II of global integration, which will involve attracting higher-value FDI, supporting links between exporting firms and input-supplying firms, and ensuring a transition for workers. Doing so will require policymakers to adopt policies designed to attract higher-quality foreign investment, to build the competitiveness of domestically owned businesses, and to upgrade and expand the skills of Cambodia's workers.

Seven sets of policies can help firms, workers, and foreign investors overcome the constraints that are currently preventing the creation of higher-value FDI jobs and FDI spillovers into jobs in the domestic economy. In the previous chapters, we identified the key challenges to upgrading Cambodia's jobs along with areas where policy intervention would be helpful. In this chapter, we set out the policies that we identified to overcome these challenges. These policies were selected based on existing analytical work within Cambodia as well as other countries' experiences in overcoming similar challenge, and are shown in Figure 6.1.

We also chose these policies because each meets the criteria of being impactful, feasible, sustainable, and measurable. *Impactful* policies are those that have a direct and significant effect on the challenge that they are designed to alleviate. Policies should be feasible both in terms of the country having enough capacity to implement the new policies but also in terms of there being enough fiscal space and political support to implement them. *Sustainable* policies are those that not only support sustainable development but also can be sustainably implemented by the government with no outside support and with no threat of being reversed. Finally, policies should be *measurable* to ensure that their impact can be monitored over time.

These policies overlap with all four rectangles in Phase IV of the Government of Cambodia's "The Rectangular Strategy for Growth, Employment, Equity, and Efficiency: Building the Foundation Toward Realizing the Cambodia Vision 2050." as well as with the "environment" and the "core" policies. The discussion in this chapter maps the policy options in this document to those in Phase IV of the Rectangular Strategy and also identifies the government agencies that could take the lead in each policy area.

Figure 6.1: __

Seven Policies for More and Better Jobs



Source: Authors.
6.2 Seven Sets of Policies for More, Better, and More Inclusive Jobs

1. Diversify Exports and FDI into Higher Value-added Value Chains (or Segments of Value Chains)

Diversifying Cambodia's export basket to include more higher-value activities could attract more productive jobs that pay higher wages. In order to encourage the creation of better jobs, policymakers will need to focus on policies to attract jobs-friendly FDI (from global or emerging regional markets) and to move the economy into higher value-added value chains (or segments of value chains), including services for export. Specifically, they will need to reduce the costs of imports and exports, which can be done in several ways including: (i) modernizing procedures in trade facilitation; (ii) developing logistics infrastructure; (iii) simplifying border processes; (iv) providing new types of incentives that target specific investments; and (v) creating quality assurance facilities. Policymakers also need to explore ways to maintain Cambodia's preferential access to key markets for its new labor-intensive exports, especially as the end-dates of the US and European preferential access treaties draw nearer.

In the short run, the following policy directions should be prioritized:

- Shifting away from tax holidays towards streamlined incentives aimed at attracting private investment in machinery, such as tax credits on capital investment and technological transfers. These incentives will help firms upgrade their production processes, thereby increasing investment in the domestic economy and increasing labor productivity.
- Reviewing and streamlining customs requirements and the clearance process for export and import licenses. This will help to save time and reduce costs for traders, thus making Cambodia's exports more competitive in global markets.
- Signing, finalizing, and enforcing international trade and investment agreements with Cambodia's key trade partners to diversify across destinations as well as products. Securing preferential market access will help diversification.

In the medium term, policymakers should focus on:

- Introducing super tax deductions for R&D and staff training to incentivize firms to undertake these activities. These investments will not only yield returns for investors, but they are also expected to generate spillovers to the domestic economy through knowledge and technological transfers.
- Automating the process of sanitary and phytosanitary certification while fostering more use of IT. By meeting global certification standards, Cambodia will not only ensure the high quality of agricultural goods but will also support agricultural exports to feed expanding regional and urban populations.

New analytical work is needed to identify the bottlenecks to expanding Cambodia's export and FDI base. This could include exploring models for economic diversification from the point of view of trade diversification and GVC participation, including in the garments and tourism sectors (Box 6.2). It will be particularly important to identify the current workforce constraints and skills needed in the future since these investments take time to mature. Any policies aimed at fostering Cambodia's transition into such global value chains as those in the garments and hospitality sectors, which tend to be important for female employment, should also support inclusive jobs.

The policies that we identified for diversifying exports and FDI into higher value-added value chains correspond to the Overarching Environment within Phase IV of the Rectangular Strategy. The main implementing agencies would be the Ministry of Economy and Finance, the Council for the Development of Cambodia, the Ministry of Commerce, the Ministry of Agriculture, Forestry and Fisheries, and the General Department of Agriculture.

2. Streamline Procedures and Reduce the Costs of Establishing and Expanding SMEs

Firm sales are generally required to grow for firms to hire new workers. This points to the need for a set of policies directed toward enhancing firm profitability, which is then expected to have spillovers on job creation. A range of policies can support the creation of new firms and their expansion. Four sets of policies that are particularly important for creating more jobs and better jobs (in terms of reduced labor turnover) are identified.

Box 6.2: Policies to Move Up the Value Chain in Cambodia's Tourism Sector

Although the tourism sector in Cambodia generates good jobs and has significant spillover effects on and links to the domestic economy, its jobs potential is not being fully realized. The sector generates jobs and opportunities along its value chain, including in the primary sector, where most of the Cambodia's poor are engaged (World Bank 2017). Tourism can be a way to develop jobs in regions where opportunities for industrial development are often limited. However, in spite of Cambodia being home to some of the more archeologically valuable sites in the world, its tourism sector is generally low-value and with weak or only informal links to the domestic economy. While it creates many jobs, they are of a lower quality and are less inclusive than the tourist sector has the potential to create.

The World Bank has identified the following recommendations for supporting the continued development of Cambodia's tourism sector (see World Bank 2017):

- **Improve infrastructure and connectivity within Cambodia.** Growing urbanization and tourism mean that the country needs to have better infrastructure and transportation in place to accommodate the needs of locals and tourists, curb potential traffic issues, and build resilience of the sector.
- Develop new tourism markets, products, and services. For example, policymakers could look into encouraging the development of specific segments of the tourism value chains, including protected area tourism, domestic tourism, and business and events tourism. It will also be important to improve management of these tourism destinations if these markets are to be tapped.
- Help producers and providers of food, crafts, and other local goods and services to access tourism value chains. This might include supporting enterprises to make Cambodian-made products that meet market demand or establishing associations among farmers and food processors to supply domestically produced foods to hotels. This would help to increase the overall benefit of tourism to featured destinations.
- Expand and upgrade the skills of local workers, while strengthening public-private partnerships to provide tourism-related training. This might include fostering public-private partnerships between Government and training providers to provide and increase access to quality training for youth and women from poor communities to acquire the relevant skills and knowledge for the tourism industry, thus maximizing their potential employability. Greater collaboration among local workers, farmers, small and medium-sized enterprises, and tourism-related associations will also help expand and upgrade skills.

First, reduce the cost of doing business for domestic firms. The policies from the Cambodia Investment Climate Assessment Report that are particularly important for job growth include:

- Reducing business registration costs and simplify procedures by: (i) reviewing and reducing the fees for starting a business and consider implementing a flat fee that reflects the cost of service and (ii) introducing a single platform for business registration by integrating the incorporation process with registration at the MoC, General Department of Taxation and Ministry of Labor;
- Enhancing the quality of land administration by finalizing the issuing of land titles in the country and developing an integrated online registry system for land, including ownership and cadaster information;

- Improving commercial dispute resolution by reviewing the existing case management system at the courts and considering the development of an electronic case management system for judges and lawyers; and
- Facilitating the implementation of the insolvency legal framework by establishing the insolvency administration profession and improving the capacity of the public and private sector related to insolvency matters.

Second, develop an ecosystem for domestic firms to increase business skills and knowledge. To deepen Phnom Penh's nascent ecosystem and broaden it to the rest of the country, the government should prioritize:

 Instituting formal processes to encourage public and private dialogue (PPD) for the private sector to raise their concerns and discuss possible solutions; and Providing more public support to entrepreneurship and innovation structures, including incubators, tech hubs, and research institutes. Funding to these structures could be made conditional upon results.

Third, increase access to finance through a grant program and fiscal incentives. This includes:

- Financing a Jobs Fund to support different segments of firms with high job potential through technical assistance and matching grants for three windows: (a) the consolidation of fragmented activities/small-sized firms so that they can compete in national (and possibly international) markets (such as agro-processing firms); (b) increased support to potential domestic suppliers of existing and nascent FDI-dominated value chains, such as apparel and electronics; and (c) domestic investment projects with a high potential for job creation; and
- In a more long-term approach, considering lowering the size of the investment determining the eligibility of domestic firms for fiscal incentives, as these requirements are a potential barrier to entry for SMEs.

Fourth, increase the ability of domestic firms to hire and retain workers by:

- Developing and strengthening intermediation mechanisms (job matching platforms and the National Employment Agency, see below); and
- Subsidizing some of the basic benefits (such as health care coverage and a retirement pension) that are usually provided to workers by their employers. This could be accompanied by an information campaign educating domestic firms about the importance of providing these benefits to workers and increasing worker awareness of their legal rights.

The policies that we identified to streamline business procedures and reduce the costs of establishing and expanding SMEs correspond to Rectangle III (Private Sector and Job Development) Side 2 (Promoting SMEs and Entrepreneurship) within Phase IV of the Rectangular Strategy. The main implementing agencies would be the Ministry of Economy and Finance, the Ministry of Industry and Handicrafts, the Ministry of Commerce, and the Ministry of Labor and Vocational Training.

3. Support Household Enterprises to Enhance Their Productivity

Not only are household enterprises a significant source of job creation—a phenomenon that is likely to

increase with urbanization—they also employ many vulnerable workers. Since only 6 percent of household enterprises hire workers from outside the household, policies aimed at fostering the growth of household enterprises should focus on upgrading job quality (productivity or incomes) rather than expanding the number of jobs that they provide. As older workers are more likely than younger workers to be employed in household enterprises, improving iob quality would increase the inclusivity of Cambodia's jobs, since older workers tend to have lower participation in good jobs than young workers. While little is known about the nature of these jobs-which underscores the urgent need for more research in this area-we have developed some policy recommendations based on the analysis in this report, recent data analysis of household enterprises in Vietnam (Pasquier-Doumer et al. 2017), and lessons from policy interventions in other countries designed to support household enterprises.

First, more research must be completed to understand the nature of household enterprises in Cambodia and how to best support them. Only a few countries have collected data on household enterprises, and these data have revealed that these enterprises have very different motivations, aspirations, and challenges than do firms that are driven by a profit motive and that are not an extension of the household. Since the number of household enterprises is likely to grow as Cambodia urbanizes and becomes wealthier, it is crucial to understand this sector better.

Second, it will be important to "professionalize" household enterprise owners so that they have the tools to run their enterprises as a business rather than as an offshoot of their households.

In the short run, policymakers can:

- Provide training in basic accounting and marketing practices to household enterprises to help them make sound financial decisions and to expand their production. While experience in other countries has shown that such training programs improve business practices, the evidence is weaker about their effect on profitability, probably because of the short duration of such programs in other countries.
- Match younger firms with more established firms that can mentor them and help them to upgrade their skills. A study of how mentoring affected Kenyan microenterprises showed that participating enterprises saw their profits increase (Brooks et al. 2016). Other mentoring programs have successfully been implemented in the United States and India.

In the medium term, the government might consider:

• Creating a one-stop online shop to provide household enterprises with information and technical assistance, including basic training programs. This would reduce the transaction costs involving business upgrading and create a virtual community of household enterprises.

Third, policymakers should foster the use of IT solutions to expand household enterprises' access to markets. Many household enterprises rely on their personal network to supply inputs. Data from Vietnam showed that more than 80 percent of household enterprise inputs were purchased from other household enterprises (Pasquier-Doumer et al. 2017). This can be a significant barrier to efficient operations, particularly in rural and remote areas where there are fewer and more limited informal networks available. To use the hypothetical example of a retail shop, large wholesalers in cities find it very costly to collect information about demand from retail shops in rural villages and similarly the owners of these village shops find it costly to travel to the cities to purchase limited amount of goods that they need for their small shops. So, they each buy from and sell to those closest to them, usually at higher prices and for goods of lower quality than if they had full information across all locations. IT can overcome this problem by aggregating demand from rural and remote areas and make it worthwhile for large suppliers, or other intermediaries, to engage productively with small-scale household enterprises.

To assist household enterprises in accessing markets, policymakers can:

- Support the development and use of IT solutions to improve the business and management practices of low-skilled, small-scale producers. Some household enterprises in Cambodia are already using technology to reach new customers, such as PassApp or Facebook. Targeted apps to reach customers and new apps for business management are already being used in other countries. However, the evidence of their impact on business and management practices is still weak.
- Expand ICT infrastructure to ensure nationwide access.

The policies that we identified to help household enterprises to enhance their productivity correspond to Sides 1 and 3 of Rectangle II (Economic Diversification) within Phase IV of the Rectangular Strategy. The main implementing agencies would be the Ministry of Posts and Telecommunications and the Ministry of Commerce.

4. Support the Development of Links between FDI Firms and Domestic Inputsupplying Firms

Strengthening links between exporting FDI firms and domestic SMEs can be a new way to foster SME expansion, technology transfer, and the creation of indirect export jobs. Cambodian exporters source very few of their inputs locally. Experience in other countries, such as Thailand, Malaysia, and China, has shown that these backward links can be a rich source of new good jobs.

However, these connections often do not emerge naturally. Most of Cambodia's domestic producers do not meet the quality standards and/or productivity levels to qualify to supply FDI exporters. In surveys, FDI firms have cited a lack of industry-ready suppliers and of both technical and soft skills as the main barriers to buying from domestic input producers in Cambodia (World Bank 2018). Therefore, foreign investors do not actively seek out domestic suppliers. Also, the absorptive capacity of these local suppliers is weak, so they do not benefit from GVC spillovers in knowledge and technology.

The right policies can help build links between exporting firms and domestic input-supplying firms. These policies include:

- Developing a database or directory of potential suppliers that have adequate technology and capacity to partner with multinational FDI firms to overcome information failures;
- Establishing local supplier development programs to help domestic enterprises to become qualified suppliers or subcontractors for FDI firms;
- Simplifying and improving the administration of VAT reimbursement to ensure that exporting firms can receive refunds in a timely manner;
- Requiring the Cambodia Investment Board to find out from existing investors: (i) what constraints and challenges they face in sourcing their inputs locally; (ii) what their future investment and expansion plans are; and (iii) whether and how they would benefit from the relocation of international suppliers to Cambodia (World Bank 2018); and
- Strengthening the domestic absorptive capacity of the local private sector and workforce and supporting and promoting entrepreneurship and SMEs as well as workforce development (these policies are discussed elsewhere but are relevant here).

The policies that we identified for strengthening links between FDI firms and domestic inputsupplying firms correspond to Sides 2 and 4 of Rectangle III (the Promotion of Private Sector Development and Employment) as well as the Overarching Environment of Phase IV of the Rectangular Strategy. The main implementing agencies would be the Ministry of Economy and Finance, the Council for the Development of Cambodia, the Ministry of Commerce, and the Ministry of Industry and Handicrafts.

5. Build a Skills Development System that Will Attract Higher-value FDI and Increase Productivity across the Economy

Cambodia's lack of a strong skills development system presents policymakers with a chance to build a system geared towards 21st century jobs that will increase the skills level of the workforce, the returns to education, and productivity levels throughout the economy. There are two elements to building such a system. First, the education system needs to provide students with a strong foundation in a range of knowledge, behavioral, and digital literacy skills. Second, the technical and vocational training (TVET) system should be agile, flexible, and marketresponsive so that workers can regularly upgrade their skills throughout their working lives to keep pace with evolving technology and the knowledge economy. Building this skills development system is such a massive undertaking—as highlighted in the government's Education Strategic Plan 2014-2018 and the TVET Strategy: 2016-2021—that in this report we only discuss the policies for making the education and training system more responsive to the labor market.

We have identified seven policy priorities:

 Incorporate digital literacy, socio-behavioral skills (creativity, innovation, interpersonal, teamwork, and leadership), and higher-order cognitive skills (mathematics, logic, critical thinking, complex problem solving, reasoning) into the school curriculum with cumulative learning throughout a student's primary and secondary school career. Experiences in a range of countries have shown the viability of teaching these additional skills in the classroom without imposing undue burdens on instructors.¹

- Expand innovative models for increasing secondary school completion rates, such as the bridge program, access to computer-aided learning, and incentives to encourage households to invest in schooling.
- Provide incentives for women to continue in secondary and post-secondary education, particularly in the STEM fields. Data show that women attaining higher levels of education and being employed in specific sectors and occupations are key to reducing the gender wage gap and expanding employment options for women.
- Introduce results-based financing (RBF) for TVET institutions with good results being defined as the successful integration of students in the job market, as well as expanding the provision of short courses (those that are short and flexible and that teach practical skills in high demand) to serve the working adult population.
- Incentivize the enterprise sector to play a larger and more structured role in providing, guiding, and advocating for a demand-driven skills development system. This would involve: (i) co-funding skills development programs in partnership with the enterprise sector with the financing being contingent on graduation, job placement, and job promotion outcomes; (ii) subsidizing infrastructure and technology for training centers within special economic zones (SEZs) to take advantage of economies of scale (similar to the Penang Institute in Malaysia); and (iii) developing incentive mechanisms to systematize the dialogue and cooperation between employers and skills program providers. Additionally, creating a standardized testing and certification framework for skills, combined with incentives based on results, can encourage private providers of skills training to play an active role.
- Collect and disseminate user-friendly information to students, jobseekers, education and training institutes, and employers to enable them to make skills development choices that are aligned with market demand. This will require collecting, analyzing, and disseminating information on emerging jobs and associated wages, the skills that are in greatest demand, and the quality of skills development programs as measured by job placement rates.

See Cunningham et al. (2016) and Guerra et al. (2014) for a review of methods for teaching socio-behavioral skills in pre-school, primary, secondary, and postsecondary schools. Additional analytical work is urgently needed, as well. First, carrying out a systems assessment will give the Ministry of Labor and Vocational Training the tools to prioritize the long list of policy reforms, identify international best practices that could be considered in the design of the proposed skills development system, and set a baseline and an M&E system to monitor the effectiveness of reforms. In addition, future analytical work will need to be done to assess employer-driven training programs in Cambodia and elsewhere in the world.

The policies that we identified for implementing a skills development system that will attract highervalue FDI and increase productivity across the economy correspond to Sides 1 and 2 of Rectangle I (Human Development) as well as Side 1 of Rectangle III (the Promotion of Private Sector Development and Employment) within Phase IV of the Rectangular Strategy. The main implementing agencies would be the Ministry of Labor and Vocational Training and the Ministry of Education, Youth, and Sports.

6. Promote Efficient Labor Mobility and Job Matching

To enhance the allocative efficiency of labor, workers need information and support to find and access the best possible jobs for their skill sets. In Cambodia, workers usually find jobs through personal contacts, whether the job is in their locality or in another country. While this is a common practice, if workers have access to information about job vacancies, occupations, and skills needs, then they can find more appropriate jobs—especially if they are also provided with support in applying for those jobs.

Policymakers can enhance job matching in Cambodia by:

- Expanding and deepening the operations of the National Employment Agency (NEA) to collect more and more timely data on job vacancies, develop outreach programs to populations that tend to use informal job search mechanisms, and expand the information used by and the role of job counselors to guide jobseekers in the job search process; and
- Investing in hardware and software for the labor market information system managed by the NEA.

To support more meaningful job searches and safer international migration and to safeguard the human

rights of migrants, the Cambodian government should continue its negotiation of bilateral migration agreements. However, given that most migrants do not use these formal channels, the government could also:

- Link Cambodia's labor market information system to the labor market information systems in countries offering better jobs;
- Support pre-departure training services for workers searching for work abroad, online resources for potential or actual migrants, and incentives and processes to facilitate the repatriation and re-integration of these workers into Cambodia's labor market; and
- Include sufficient questions on internal and international migration in the next Census to inform the development of policies to support workers in going abroad to boost their skills and earnings and add questions to the Cambodia Socio-economic Survey to track jobs-related migration patterns.

The proposed policies are aligned with side 1 of Rectangle III (Private Sector and Job Development). The key actions focus on "providing work orientation training and expanding job recruitment and advertising services; as well as streamlining labor market information both inside and outside the country in order to increase employment opportunity in an equitable manner and reduce risky work migration." It also aims to strengthen the governance of migrants' work, with the aim of improving the quality jobs and migration experiences, as well as to support returning migrant workers to invest in their home communities.

7. Regain Macroeconomic Independence and Exchange Rate Flexibility

Cambodia should take steps to re-gain exchange rate flexibility and monetary policy independence to shield jobs from fluctuations in the US dollar and other macroeconomic risks. Cambodian policymakers could consider developing a market-based de-dollarization strategy to progressively regain policy autonomy. The development of a domestic bond market would also help both to foster domestic savings and to progressively increase exchange rate flexibility to support job creation going forward. Policymakers also need to encourage private investment and credits to invest in the tradable sector instead of construction and real estate, sectors that are prone to instability and have fewer good job opportunities. than the exporting sector. This points to a range of macroeconomic and fiscal policies to support job-creating industries. Policymakers can:

- Institute a campaign to publicly recognize private sector institutions that pay salaries in Khmer riel. This shortterm action would support the use of local currency.
- Adopt and gradually implement a larger market-based de-dollarization strategy by: (i) gradually increasing reserve requirements for deposits in dollars and (ii) bringing down the riel benchmark interest rates to promote borrowing in the national currency.
- Develop a domestic debt market (both public and private) and starting to issue sovereign debt to mobilize domestic and foreign savings. This will help to increase investment and capital stock accumulation to sustain high economic growth. It would also help the corporate sector to access sources of long-term funding and establish alternatives to investing in construction and real estate to mitigate some of the current macro-financial risks.
- Strengthen the public Investment management framework to foster capital formation and introduce investment tax credits for the acquisition of machinery and equipment.

6.3 Policy Implementation

The policies that we identified for macroeconomic and exchange rate management correspond to the Overarching Environment of Phase IV of the Rectangular Strategy. The main implementing agencies would be the National Bank of Cambodia and the Ministry of Economy and Finance. Perhaps the biggest challenge for the implementation of these policy areas is in coordinating the reforms across the government, yet these proposed policies must be coordinated to ensure that they collectively result in the creation of more, better, and more inclusive jobs. The fact that the policies presented in this report cut across all aspects of Phase IV of the Rectangular Strategy demonstrates the complexity of the jobs agenda while highlighting the risk that some crucial jobs policies might not be implemented or be implemented in a coordinated manner.

To ensure that these agency-specific actions are sufficiently coordinated. the government can undertake two processes. First, policymakers could mobilize stakeholder support for a Jobs Strategy. This strategy would: (i) identify the strategic jobs goals that are vet not defined in Phase IV of the "Rectangular Strategy; (ii) specify those sectoral policies from the Rectangular Strategy that are also crucial for creating more, better, and more inclusive jobs; and (iii) set up a system for monitoring of jobs-specific policy actions across the many different ministries, agencies, and other stakeholders involved in implementing the strategy. Second, they could appoint a Jobs Champion with the leadership skills to oversee the reform across the entire government. As noted in Phase IV of the Rectangular Strategy, inter-institutional or ministerial coordination is an important key to the successful implementation of the Rectangular Strategy and will be similarly crucial to the successful implementation of the Jobs Strategy. This can be achieved by creating a coordinating body that will both guide and hold accountable all government and private sector actors involved in the drive to create more, better, and more inclusive jobs for Cambodia's future growth and prosperity.

Box 6.3: Policy Implications for Inclusive Jobs

The report proposes analysis and policy recommendations for better and inclusive jobs. Indeed, "inclusiveness" is streamlined through the policy recommendations. However, it is useful to explicitly identify how these jobs may improve the inclusiveness of future jobs.

First, diversifying the export and FDI sector will benefit women and young workers. Women are the employee of choice in FDI and exporting firms today (Policy Area #1). Countries with more diversified exports and FDI-sectors also see a high share of women working in industries related to electronics, food processing, and service exports. However, for Policy Area #1 to truly work for women, the government can make particular efforts to attract the kinds of exporting industries that tend to employ women. Further, these workers tend to be young, so this policy will provide new jobs for young workers.

Support to improving the productivity of household enterprises (Policy Area #3) will disproportionately benefit the poor, women, and older workers. Productivity enhancing mechanisms that can be easily accessed from home, such through technology will be particularly beneficial to women, who tend to need to combine home and work duties, and to people with disabilities who may be mobility constrained. Further, efforts to link domestic (including household) enterprises with FDI (Policy Area #4) can benefit these small producers.

While a skills development system will benefit everyone (Policy Area #5), women, older workers, and the poor will particularly gain. Women still have lower levels of education than their male counterparts so there is a basic need to level the playing field across genders. The expansion and enhanced quality (measured as relevance) of TVET services will be crucial since the majority of today's workforce does not have the skills needed today, let alone in the future. At the same time, younger workers will need to develop a broad set of skills to lead Cambodia into Industrial Revolution 4.0.

Young people, the unemployed, and those trying to climb the career ladder will benefit from an expanded labor market information system and an even stronger National Employment Service (Policy Area #6). These services will permit them to better prepare for, and find, the best jobs for their skills and interests. On a related note, improved information and processes for migration may provide better work experiences for young men and women (who tend to migrate) and may draw them home again.

Finally, Policy Area #7 on macroeconomic independence and exchange rate flexibility will be particularly beneficial to young women, who are over-represented in export-oriented jobs.

Additional actions can be undertaken to support women, youth, older, low-skilled, and rural workers. These additional policies should co-exist with the seven policy areas defined in this report to meet the goal of more inclusive jobs.

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