

Report No: ACS20664

# Nepal

## Understanding the labor market decisions and outcomes of Nepal's young adults

August 2017

GSP06

SOUTH ASIA



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## **ACKNOWLEDGEMENT**

This report was prepared by the World Bank Social Protection & Jobs team for Nepal led by Jasmine Rajbhandary (Senior Social Protection Specialist) and Dhushyanth Raju (Lead Economist). Jyoti Maya Pandey (Social Protection Specialist) led the policy review; Anastasiya Denisova (Economist) and Laurent Loic Yves Bossavie (Social Protection Economist) led the analysis on labor migration; and Scott Abrahams (Consultant) led the work on youth perceptions and attitudes under the leadership of Dhushyanth Raju. Rajshree Karki (Program Assistant) provided the invaluable administrative support. The report was prepared under the overall guidance of Pablo Gottret (Practice Manager, Social Protection and Jobs, South Asia).

The report has benefited from the helpful comments and advice from the peer reviewers, David Newhouse (Senior Economist) and Johannes Koettl (Senior Economist) as well as inputs from colleagues from other practices including Sailesh Tiwari (Senior Economist) and Sangeeta Goyal (Senior Economist), and of course the overall guidance from Takuya Kamata (Country Manager, World Bank Nepal).

The report benefited from feedback on issues and findings from officials from Ministry of Finance National Planning Commission, Ministry of Labor and Employment, Department of Foreign Employment, Ministry of Youth and Sports.

Finally, the report benefited from insights from participants from government, donor agencies, NGOs, academics, and civil society who participated in the consultations.

## OVERVIEW

### Introduction

Promoting early labor market success of workers has increasingly become an important economic and social development aim internationally, as exemplified by the 2030 United Nations (UN) Sustainable Development Goals related to youth employment. Many low-income countries, including Nepal, are in the middle of a youth bulge in their demographic structure. In addition, today's youth in Nepal are, on average, more educated than past generations. These developments present real opportunities for the country.

Nepal also faces risks from failing to provide sufficient, appropriate employment which is productive and remunerative to youth. International evidence suggests that the labor market challenges and behaviors of youth differ in important ways from those of the overall adult population. For example, the youth labor market outcomes are more likely to be hurt or youth are more likely to migrate out when local economic conditions are weak or deteriorate. Youth face additional barriers to labor market integration due to their relative lack of labor market experience and access to social, financial, and physical capital to establish and run their own income-generating activities. Youth's exposure to weak labor market conditions—even if the conditions are short lived—can lead to long-lasting, adverse labor market and economic outcomes over their working lives.

The Nepal government sees addressing the social and economic challenges and leveraging the social and economic prospects of youth as critical for the country's economic development and growth. Agricultural output and income and human capital development feature as critical development areas in the National Planning Commission's 14th Periodic Plan, in which the challenges of and prospects for youth are considered central. Supporting and leveraging the economic prospects of youth is also prioritized in issue and policy documents of relevant government ministries such as the Ministry of Youth and Sports, the Ministry of Labor and Employment, and the Ministry of Agricultural Development. Two illustrative documents are the government's Youth Vision 2025 and National Youth Policy. The same perspectives regarding the relationship between youth labor and livelihoods and the country's economic development are shared widely in the development research and practice community in Nepal.

Systematic, policy-oriented empirical research on labor and livelihoods in Nepal is limited, however. Dedicated examinations of the labor market behavior of young adults are rarer still. The literature tends to be composed of sociological studies of Nepal's labor history, intertwined with the country's social and political history; labor market statistical profiles and survey reports; and qualitative and empirical studies of external labor migration by Nepalese, its determinants, and its effects. These studies suggest the relatively distinct nature and evolution of Nepal's labor market. However, apart from a few exceptions, existing studies are largely non-empirical, weak in statistical rigor, and/or biased in terms of data representativeness and coverage of labor market aspects and issues.

### *Country background*

Nepal is a landlocked country situated between China and India. It is composed of three main ecological regions which run east to west: mountains, hills, and lowlands. The country's population was enumerated at 26.5 million in 2011, with an annualized population growth rate of 1.35 percent between 2001 and 2011. Four-fifths of the population resides in rural areas. Agriculture and services are the mainstays of the economy. Industry is predominately agro-processing.

Nepal is classified by the World Bank as a low-income country, with an estimated GDP per capita of US\$682 in 2016, and real annual GDP growth rates generally running between three and six percent over the last decade.<sup>1,2</sup> The poverty rate measured using the World Bank's US\$1.25/day/person line declined from 68 percent in 1995/96 to 58.1 percent in 2003/04 to 24.8 percent in 2010/11.<sup>3</sup> Across those same years, the income-based Gini coefficient rose from 0.34 to 0.41 and then declined to 0.33.

Nepal is also classified by the UN as a medium human development country, ranked 144 out of 188 countries in the Human Development Index (HDI) for 2015, with a life expectancy of 70 years, mean years of schooling of 4.1, and expected years of schooling for a child at entry into school of 12.2. The country's 2015 HDI value is higher than for least-developed countries, but

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<sup>1</sup> 2015 and 2016 were relatively exceptional years, with growth rates of 0.4% and 7.5%, respectively.

<sup>2</sup> The Nepal government documents a positive but inelastic relationship between employment growth and GDP growth over the last decade.

<sup>3</sup> Unofficial poverty estimates based on data from the national Nepal Annual Household Survey rounds from 2013/14 and 2014/15 indicate that poverty rates have continued to fall.

lower than for South Asia. While the country's HDI value has increased by roughly 150 percent from 1990 to 2015, its ranking has changed little. When the country's 2015 HDI value is adjusted for inequality in human development outcomes, it falls value by 27 percent—roughly in line with the declines in the HDI values for least-developed countries and South Asia when the same adjustment is made.

Over the last two decades, the health and growth of Nepal's economy and underlying markets have been adversely affected to varying degrees by violent civil conflict (between 1996 and 2006); political instability and deadlock (over the 2000s); a major, damaging earthquake (in 2015); and an import disruption (in 2015).

### ***Report objectives***

This report aims to fill a few, well-defined knowledge gaps in the understanding of the labor market behaviors of Nepal's youth, examining both the internal labor market and external labor migration. In so doing, the report aims to draw insights and implications for public policy and practice in relation to improving the labor market prospects of youth. This includes serving as a basis for thinking through the contours and directions of a possible World Bank operational engagement in the youth employment space.

In the report, youth is defined as 16–34 year olds. The definition largely overlaps with Nepal's Ministry of Youth's definition (15-40 year olds), is consistent with the “extended youth” definition applied in other research internationally, and is appropriate given that sizeable shares (24 percent and 17 percent) of men and women in the 15–24 age group are still attending education institutions and, hence, out of the labor force. Due to issues around child labor, the minimum age for defining of young adults in this labor context is 16 years.

In terms of approach, the report analyzes data from four main sources of credible data on labor supply in Nepal: the 2008 Nepal Labor Force Survey, the 2003-04 and 2010-11 Nepal Living Standards Surveys, and the 2013 School-to-Work Transition Survey.<sup>4</sup> These data are supplemented by administrative data on employment permits from the Department of Foreign Employment. The report also synthesizes existing literature, and brings in additional published statistics as relevant.

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<sup>4</sup> While the classification of areas as urban or rural has been adjusted over time in Nepal, the report's analysis of rural-urban differences in labor market indicators uses the urban-rural indicator provided in the data source as a given.

Data are analyzed applying statistical methods that are standard in economics. A key limitation of the report is that labor demand is not analyzed, such as by using enterprise survey data. The available enterprise surveys suffer from issues regarding coverage and representativeness, not uncommon to such surveys in developing countries.

### ***Main chapters***

The report is comprised of five main chapters. Key findings from the chapters are summarized here. Chapter 2, titled *Labor Laws and Policies from a Youth Perspective*, examines Nepal's labor laws and policies from a youth perspective, based mainly on a review of official documents and a small number of review studies of labor regulation. While describing labor laws and policies that cover workers irrespective of age, the chapter highlights labor laws and policies, or provisions within them, that specifically aim to promote the labor interests and outcomes of youth.

The chapter documents that Nepal's labor laws and policies have largely failed to influence the decisions and outcomes of youth and other workers because of poor implementation, stemming from weak government commitment and capacity. With the primary exception of civil and armed services recruitment rules, labor laws tend not to have youth-related provisions. Government policies on domestic employment, foreign employment, and training however tend to focus on or prioritize youth. The policies set ambitious targets but frequently fail to matter because specific organizational arrangements, operational plans, and resources do not follow.

The two labor policy areas that appear to have the strongest influence on youth labor decisions and outcomes are foreign employment and training. Notwithstanding, there are design and implementation shortcomings with laws and policies related to foreign employment and training that may constrain how much youth benefit, such as issues in the quality and relevance of the training supplied, and fraudulent or exploitative practices of private recruitment agencies engaged in foreign employment. Information on any issues with public employment recruitment is absent.

The government has approved a new Labor Act and a Social Security Act in July 2017. The two legislations aim to improve industrial relations and provide social security to workers. Whether these laws, when enacted, will potentially influence the labor decisions and outcomes of youth and other workers will again depend on how well they are implemented.

Chapter 3, titled *A Profile of Youth in the Domestic Labor Market*, examines how youth fare in the domestic labor market, based on national household sample survey data. The chapter finds that youth unemployment and time-related underemployment rates, whether based on standard or relaxed definitions, tend to be low. The main determining factor appears to be the unavailability of individuals for (more) work. The main self-reported reasons for unavailability are school attendance and, in the case of women, engagement in noneconomic activities. However, the reported reasons may be proximate, concealing a more extensive underlying labor demand problem. Telltale signs are the nontrivial shares of women and men that are neither attending school nor employed, and the nontrivial shares of female and male workers that are employed much less than fulltime hours.

Trends indicate two major shifts in labor patterns for youth in general. First is the increasing share of youth that is attending school, which indicates more years of formal schooling and, thus, later entry into the labor market. Second is the declining share of workers in self-employment in agriculture and the increasing share of workers in self- and wage-employment in non-agriculture, a transition that more pronounced for youth than for non-youth.

The chapter also finds three major shifts in labor patterns for rural youth only: (1) a declining employment rate for women, (2) declining average hours worked by female and male workers, and (3) increasing real hourly earnings for rural male wage workers in agriculture, with relatively little or no real gain in earnings for other types of wage workers. Plausible explanations for the patterns are (1) a high outmigration rate of rural male youth for employment elsewhere, (2) a large inflow of remittances from labor migrants to rural households, and (3) the cessation of the armed civil conflict in 2006 which allowed rural residents to reengage in previously-disrupted economic and development activities more in line with traditional divisions and intensities of labor.

The labor earnings trends are corroborated by annual wage data which shows that, while agricultural workers have experienced the largest real gains in wages, salaried workers have essentially not experienced any real gains in salaries. Given that salaried workers tend to be more educated than wage workers, labor earnings returns to education appear to be declining over time. The combination of potentially declining labor earnings returns to education and increasing education attainment in the labor force suggests that the increase in the demand for educated

workers is deficient relative to the increase in the supply of these workers. The problem may be more acute in urban areas given their higher shares of more educated workers.

Compared to non-youth, youth have higher education attainment levels, lower rural employment rates, higher unemployment rates, and larger shares in wage-employment in non-agriculture. These patterns are consistent with what general labor market theory predicts, specifically, that youth can face frictions when they transition from formal education to the labor market, and that non-youth can observe higher earnings due to longer labor market experience and job tenure (even if partly offset by the higher levels of education attainment among youth). Thus, the patterns do not necessarily signal that youth face labor market disadvantages that may persist over their working lives.

Chapter 4, titled *Worker Perceptions and Attitudes*, examines the explanations offered and views held by youth workers about their current labor market conditions and outcomes, and future labor market prospects, based on data from a labor-related national household sample survey of youth.

With respect to employed workers, the chapter documents that most found employment by either joining their family's income-generating activity or asking friends or family for assistance. Only a minority of workers formally applied for employment, and a negligible share used public employment service centers as part of their employment search. Employment search length tended to be short: the majority of workers found employment in less than three months. In rural areas, more educated workers and workers that obtained wage employment with written contracts were more likely to have longer employment searches. The majority of workers felt that their qualifications were relevant, but a sizeable minority felt that additional education or training was needed.

Most employed workers reported that the main difficulty they experienced in finding employment was either insufficient employment opportunities or insufficient qualifications. In rural areas, wage workers were more likely to report insufficient employment opportunities, whereas unpaid family workers were more likely to report insufficient qualifications. Although workers tended to work full-time, a large share of workers desired additional hours of work, particularly agricultural workers.

The majority of workers were dissatisfied with their employment, a higher rate than for their counterparts in other selected developing countries. Wage workers with written contracts

were less likely to be dissatisfied with their employment than other types of workers. The vast majority of workers, including wage workers, did not feel that their employment was insecure. Regardless, a large share of workers desired to change employment, mainly to find employment that had better wages or working conditions, or better matched their qualifications.

With respect to unemployed workers, they had longer employment searches, were more likely to refuse employment offers, and were more likely to formally apply for employment than employed workers. Unemployed workers that refused employment offers mainly did so because of low wage offers, but urban unemployed workers also tended to care about other aspects such as the match between their qualifications and the employment offer, and the convenience of the employment location. Rural unemployed workers were particularly open to moving to Kathmandu or another country for employment. Like employed workers, most unemployed workers reported that the main difficulty they experience in finding employment was either insufficient employment opportunities or insufficient qualifications. Furthermore, unemployed workers in Nepal were more likely to report insufficient employment opportunities than their counterparts in other selected developing countries. Within Nepal, more educated unemployed workers were more likely to report insufficient employment opportunities.

For both employed and unemployed workers, region of residence matters at times for worker perceptions of the labor market. Insufficient qualifications appear to be more of an issue in Kathmandu, whereas insufficient employment opportunities appear to be more of an issue in the hills.

The evidence suggests that employment creation is a critical issue, particularly the creation of good formal wage employment, which are desired by youth workers. Insufficient qualifications also appear to be an issue, for example for workers in Kathmandu valley. It is however possible that insufficient employment opportunities create the impression in workers that insufficient qualifications are the binding constraint if employers select workers for highly-demanded, scarce formal wage employment based on worker qualifications (that is, education mainly serves as a screening mechanism). The chapter posits that unemployed workers may have difficulty finding employment because they are more disadvantaged compared to employed workers in terms of the quality of the family and friend networks they can tap into to look for employment, or their family's position in terms of having an income-generating activity they could join.

Chapter 5, titled *Youth Labor Migration*, examines the patterns, correlates, and effects of labor migration by Nepalese youth, based on national household sample survey data, and government administrative data on migrants to external destinations other than India (referred to in Nepal as *foreign employment workers*). The extent of youth labor migration is such that it deserves attention within the broader discussion of youth employment for Nepal. Labor migration within Nepal and to India is unregulated. Foreign employment is regulated through agreements between Nepal and the destination country, and characterized by fixed-term contracts for specific types of employment at destination. Selection and placement of foreign employment workers is undertaken by private recruitment agencies based in Nepal. The Department of Foreign Employment (DOFE) maintains documentation on foreign employment workers and provides each worker traveling legally with an employment (or exit) permit prior to departure.

The chapter finds that current youth labor migration is extensive in Nepal, and is male dominated. Thirty percent of male youth are labor migrants, compared to five percent for female youth. Eighty-seven percent of youth labor migrants were male. Male youth labor migration rates were highest from three regions in Nepal: rural Terai, rural hills, and mountains. Most female youth migrants moved internally, whereas most male youth migrants moved externally. Irrespective of gender, most youth migrants appear to be wage-employed, particularly when they moved externally, and engaged in services. Labor migrants that moved internally or to India tended to obtain information on employment at destination through informal channels such as from friends or relatives, whereas labor migrants that moved to other external destinations tended to obtain information on employment at destination from recruitment or employment agencies. These patterns are consistent with existing evidence.

With respect to the determinants of youth labor migration, female youth that are more educated or come from richer households tend to migrate for labor, suggesting positive selection in the migration decision. In contrast, male youth that are less educated tend to migrate for labor, and household economic status does not appear to have an influence, suggesting negative or neutral selection in the migration decision. Male youth tend to migrate from more agricultural communities, especially if they are landless or smallholders, indicating that the state and structure of the home economy serve as a push factor. Male youth that are more educated tend to migrate internally. Male youth from richer households tend to migrate internally or to external destinations other than India. The evidence suggests negative selection in the decision to migrate for labor to

India, presumably facilitated by low costs of migrating to India, and positive selection in the decision to migrate internally, suggesting that the domestic urban labor market is more attractive to male youth with more human capital and wherewithal.

Administrative data indicate that foreign employment workers primarily go to four countries: Malaysia, Qatar, Saudi Arabia, and the United Arab Emirates. Foreign employment outflow appears to be mainly influenced by economic and other forces in destination countries, rather than in Nepal. The 2015 earthquake in Nepal appears to have had negative effect on agency-based foreign employment outflow (mostly new foreign employment workers), but not individual foreign employment outflow (mostly renewing foreign employment workers). The institutional arrangements in Nepal guiding the foreign employment process are seen to suffer from implementation problems. Seeking and securing foreign employment appears to suffer from market inefficiencies due to asymmetric information that may raise the costs of migration, and expose the worker to potential fraud and exploitation.

Male youth labor migration appears to have negative effects on the likelihood of employment and hours worked for both female and male youth in migrant households, although the effects are not consistently significant. Male youth labor migration has significant positive effects on school enrollment and years of education for children in migrant households, and the effects appear to be mediated through remittances.

Returning home is common among male youth labor migrants, particularly for those that migrated to India, which is consistent with the view that migrants to India engage in circular or seasonal migration, enabled by the low costs of migrating to India. Comparing labor outcomes at home between youth labor migrants that have returned and youth non-migrants, those that have returned from external destinations other than India appear to have poorer labor outcomes, perhaps due to weak home labor market integration. The results suggest that these returning migrants may face constraints in effectively reintegrating into the domestic labor market, or that they have chosen not to effectively integrate because they plan on migrating again in the near future.

Training is one of the main ways that the Nepal government intervenes in the labor market. Chapter 6, titled *Labor Skill Training*, examines formal off-the-job training by youth, based on national household survey data. Formal off-the-job training is defined as training through short training courses, or through vocational education tracks that confer a Technical School Leaving Certificate (TSLC) or a technical diploma. The chapter finds that, in 2008, the proportion of youth

that received training was 10 percent, which is relatively high among South Asian countries. In 2013, six percent of youth obtained training through TSLC or technical diploma programs at some point, a substantial increase from around one percent in 2008. In addition, in 2013, 10 percent of youth obtained on-the-job training over the preceding year.

Training rates are higher for youth than non-youth, for urban than rural residents, and for individuals that have obtained at least a School Leaving Certificate. Gender differences in training rates are small, whereas differences between regions in Nepal are large. The most popular fields for female training recipients are basic computing and dressmaking/tailoring, whereas it is basic computing for male recipients. Short training predominates. The median length of training is three months for rural recipients and six months for urban recipients.

Training recipients are on average older, more educated, and come from wealthier households, and are more likely to be attending school and come from traditionally-advantaged ethnic/caste communities. Urban training recipients are also less likely to come from the Terai and more likely to come from Kathmandu valley and the hills. Those that obtained training in basic computing appear to be more advantaged in terms of education, wealth, and caste/ethnic affiliation than those that obtained training in other fields.

In general, for women, training is associated with higher likelihoods of employment, wage work, and nonfarm work. Whether or not training effects for women are significant varies by selected sociodemographic and training subgroups, namely schooling status, education attainment, rural versus urban residence, short training versus TSLC/technical diploma programs, and basic computing versus other fields. For men, training does not appear to be associated with the examined employment margins. In addition, whether or not training effects are significant varies little by the examined sociodemographic and training subgroups. In general, the chapter does not find effects on wage earnings for either gender, positing that the general absence of effects on earnings indicates that skills (by themselves) may not be the binding constraint to labor market success for disadvantaged individuals. It may (additionally) be the lack of financial and physical capital for income-generating activities.

Interest in training is high: 40 percent of youth express interest in obtaining training. Interest is particularly high in areas outside of Kathmandu valley. For those interested in training, dressmaking/tailoring and basic computing had the most interest among women, whereas men were most interested in basic computing. Other fields with significant interest include farming and

livestock management and hairdressing/beautician services for women, and farming and livestock management, manufacturing and repair, and driving for men. In contrast to patterns for training receipt, training interest is higher among younger and less wealthy individuals. Training interest is also higher among those that have already obtained training, and by those already employed. Those already trained tend to be interested in training in the same field, which may signal demand for upskilling. Unemployed workers tend to view their education as relevant but inadequate, and view higher education and training through TSLC/diploma programs, training in computing, and on-the-job apprenticeships as useful for obtaining work.

### ***Directions for policy, program and research actions***

The report findings suggest the need to orient public policy and program initiatives along certain directions as follows.

*Develop a national employment strategy.* Government proclamations and policies regarding enhancing opportunities for youth has not translated into effective action. Efforts also appear to be disjointed and incomplete. A departure from the current state-of-affairs that may yield benefits could be for the government to formulate a comprehensive, pragmatic national employment strategy. Desirable design features in such a strategy include (1) a scope that is cross-sectoral; (2) well-defined objectives; indicators; interventions; financial, human, and technical resources; and powers, roles, responsibilities for and coordination between different actors (government agencies, but also relevant private and NGO actors); (3) a coherent, parsimonious mix of interventions that are tailored to address the labor market constraints of different target subgroups and provide greater support to those groups that are traditionally disadvantaged; and (4) a focus on enabling implementation and performance

*Support the labor market integration of rural-urban labor migrants and returning international labor migrants:* Strategies are needed to help rural-urban migrants and returning international migrants integrate into the labor market in a way that is more effective and efficient. While rural-urban migration is important, there is however much less formalized effort by the government to support prospective migrants from rural areas to efficiently and effectively find employment in Kathmandu and other urban areas. These migrants find jobs through informal personal networks and chance breaks. In addition, there is much less formal support by the government to assist returning international migrants to integrate into Nepal's labor market in such

a way that it produces significant private labor returns to the migrant but also positive labor market spillovers (employment creation for other individuals). Evidence also suggests a higher propensity of returning migrants to engage in agriculture in the high-outmigration regions than non-migrants. Returning migrants may then be an important target group for government initiatives to modernize agriculture.

*Improve the orientation and efficacy of labor skill training.* Strategies are needed to widen and enhance the potential labor market gains from skill training, and to strengthen training quality and relevance offered by providers. Evidence suggests strong demand for skill upgrading. For example, those already employed—specifically, employed women in all sectors and employed men in agriculture—express a higher desire for training. Past training recipients express a higher desire for further training in the same trades. In addition, relatively poorer households and households in regions outside of Kathmandu valley express a higher desire for training. In line with this evidence, strategies are needed to better match training supply to demand.

*Equalize opportunities of the labor market.* The available evidence suggests that socioeconomically excluded groups, such as in terms of caste, ethnicity or gender, are systematically overrepresented in employment with low earnings. The poorer labor market experiences and prospects of such groups originate in part from their lower endowments entering the labor market, in terms of social, financial, physical, and human capital. They also may also be systematically discriminated against in the labor market, irrespective of their levels of various forms of capital. While targeting programs or providing additional program benefits to marginalized groups is one possible remedial action, there may be large payoffs to ensuring that any social and psychological barriers that such groups face in participating in programs are minimized.

*Establish a single labor market information system and provide a full set of labor market intermediation services.* In terms of more specific actions, which are related more to the above suggested directions than directly to the report findings, it may be beneficial to establish a single, comprehensive labor market information system, and offer a full set of labor market intermediation services to workers and employers. The labor market information system would need to gather and maintain valid, relevant information on job seekers, employed workers (self- and wage-employed), employers (public and private; domestic and international), and vacancies. The development of a such a system may require the consolidation of any current piecemeal initiatives. A full set of

intermediate services are needed for job seekers across the country to obtain customized information and assistance to help them obtain appropriate wage employment, within and outside Nepal; the same for employers seeking workers. A public-private partnership may be a promising modality for implementing these two initiatives.

On a cautionary note, expectations regarding what active labor market policies such as training, job search assistance, and wage subsidies can greatly exceed what they typically have delivered, as indicated by the body of rigorous evaluative evidence from both developed and developing countries. Growing evidence suggests that initiatives that promote private sector development, and help workers move across labor markets (for example, in terms of sector or location), may produce large payoffs. Infrastructure development across the country may also be critical for stimulating the evolution, and vitality, of the domestic labor market, and raising labor productivity and earnings.

The report findings also point to several directions for further data collection and research. The chapters indicate, for example, that more data and research are needed on the evolution of female labor force participation in rural areas; the employment search and worker-employment match process; labor productivity; worker preferences over employment, measured more rigorously such as through preference elicitation experiments; the gains and costs of internal and external migration for Nepalese workers; the structure, functioning, and performance of the foreign-employment recruitment market in Nepal; the structure, functioning, and performance of the labor skill training market, including on-the-job training; and the market interplay between the public and private employment sectors.

## **LABOR LAWS AND POLICIES FROM A YOUTH PERSPECTIVE**

### **Introduction**

Nepal has several laws and policies that aim to regulate the labor market. These laws and policies mainly focus on employment in private enterprises of at least ten workers (such employment is treated as formal private employment), public employment, and temporary contract-based private employment of Nepalese workers in selected international destinations under labor agreements (referred to as foreign employment).

Do labor laws and policies shape youth labor decisions and outcomes? This chapter reviews the various labor laws and policies from a youth perspective, based mainly on a review of official documents, in combination with a small number of review studies of labor regulation in the country. While describing labor laws and policies that cover workers irrespective of age, the chapter highlights labor laws and policies, or provisions within them, that specifically aim to promote the labor interests and outcomes of youth.

Most labor laws do not have provisions specifically related to youth. The areas where laws particularly affect youth are public employment, where entry is generally restricted to those below age 35, and foreign employment which is dominated by youth. Motivated by growing concerns over the large extent and low-skilled nature of foreign employment by youth, the government has recently introduced policies that aspire to promote domestic employment and higher-skilled foreign employment for youth. Youth policies, however, have a focus on jobs and employment.

Arguably with the exception of public and foreign employment rules, labor laws and policies are poorly enforced or implemented and thus have little bearing on the labor decisions and outcomes of workers in general. Implementation failures are considered to arise from a lack of government commitment and capacity. The problem is however not unique to labor regulations but afflicts public policy and action in general. In addition to policies, the government has administered labor projects, mainly in labor skill training, supported by donors with the aim of influencing the labor outcomes of youth and older workers. These projects tend to be piecemeal and small in scale.

The remainder of the chapter is organized as follows. Section 2 discusses the adoption and application of international labor standards by the Nepal government. Section 3 discusses labor laws and youth related policies. Section 4 discusses the government's economic plans and their coverage of youth employment issues. Section 5 discusses donor-supported labor projects. Section 6 concludes.

### *International labor standards*

International labor standards, specifically conventions and recommendations, developed by the International Labor Organization (ILO) aim to promote opportunities for women and men to obtain decent and productive work in conditions of freedom, equity, security, and dignity. The Nepal government has ratified all but one of the eight fundamental conventions. The exception is Convention 87 on Freedom of Association and the Protection of the Right to Organize.<sup>1</sup> In addition, the government has ratified one out of the four ILO governance conventions, and three out of the 177 ILO technical conventions. Ratification of a convention signifies that the government has committed to applying the convention in practice, and regularly reporting to the ILO on the application of the convention, with technical assistance from the ILO if needed.

Government application of the conventions in national law and practice often falls short. For example, the government ratified fundamental Convention 182 on the Worst Forms of Child Labor in 1997, and passed relevant legislation including the Child Labor (Prohibition and Regulation) Act in 2000.<sup>2</sup> Nepal Living Standards Survey III 2010/11 showed the incidence of child labor at 27.6% (CBS and ILO 2012). The initial National Master Plan on Child Labor (2004–14) was reviewed in 2010. Following the review, the National Master Plan on the Elimination of Child Labor in Nepal (2011–20) was drafted but was not approved by the government. The plan aimed to eliminate the worst forms of child labor by 2016, and all forms of child labor by 2020.

Likewise, the government ratified fundamental Convention 29 on Forced or Compulsory Labor in 2002 and fundamental Convention 105 on the Abolition of Forced Labor in 2007, and passed the Bonded Labor (prohibition) Act in 2002. The Act contains provisions for the freedom of kamaiyas (a form of traditional bonded labor), penalties for employers who use bonded labor, and rehabilitative measures for freed kamaiyas, and prescribes the formation of district-level Freed Bonded Laborer Rehabilitation and Monitoring Committees in relevant districts.<sup>3</sup> The haliya bonded labor system was prohibited in 2008. However, many of the traditional bonded labor systems continue to exist.

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<sup>1</sup> The government has not ratified Convention 87 because of concerns that the convention will allow the police and military forces to unionize.

<sup>2</sup> Based on the 2014/15 Annual Household Survey, 32% of children ages 5-14 were employed in economic activities (Government of Nepal 2016)

<sup>3</sup> Other forms include kamlari, haliya, deuki, haruwa and charuwa, bhunde, badi and balighare (Sijapati, Limbu, and Khadka 2011).

The 2015 constitution of Nepal guarantees fundamental rights and duties related to labor such as the right to employment, the right to proper work practices and social security, and the right to form labor unions and associations. The constitution also has provisions against discrimination and forced and bonded labor, specifying them as acts punishable by law. It also calls for the rehabilitation of kamaiya, kamlari, haruwa, charuwa, haliya, by providing them with land and livelihoods.

### ***Labor and youth policies***

#### **Labor**

The Labor Act of 1992 is the main legislation that regulates employment. It applies to private enterprises with ten or more workers, and specifies rules regarding (1) employment and job security, (2) working hours, (3) pay, (4) benefits, and (5) occupational health and safety, among others.

The Labor Act mandates that all positions be advertised prior to appointing workers, and that appointment letters be provided to selected workers. Upon hiring, a worker is placed on probation and to be appointed permanently after one year of continuous service if considered to demonstrate efficiency, sincerity and discipline.<sup>4</sup> The government's Labor Office needs to be notified of any appointments. Dismissal regulations in Nepal are considered to be among the most stringent in the world for permanent staff. Nepal is among 33 countries including India and Sri Lanka (out of 187 countries) where not only prior notice but also prior approval of the government is required for dismissal (World Bank 2016). The only acceptable grounds for dismissal are misconduct and redundancy. Poor worker performance cannot be grounds for dismissal. Severance pay is one of the most generous. Severance pay in Nepal equals 42.9 weeks of salary for workers with 10 years of job tenure compared to the average of 24 weeks in low income countries (World Bank 2017).

Effective labor market regulations strike a balance between incentivizing firms to create jobs and protecting workers. Nepal's labor regulations, similar to that of other low income countries in South Asia, are criticized for being stringent and more protective of the jobs than workers (World Bank 2012). However, labor regulations are not reported to be a major obstacle to doing business in Nepal according to the 2013 Nepal Enterprise Survey (World Bank 2013a). Only 2.7 percent of the employers in Nepal see labor regulations as a significant obstacle to firm operation, compared to 11.2 percent of firms in India (World Bank 2014a).

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<sup>4</sup>One year of "continuous service" is defined as 240 days of work in a twelve-month period.

Private enterprises in Nepal report political instability as the main obstacle, followed by inadequate electric power availability and access to finance. Among 15 types of obstacles to doing business, labor regulations ranked 12<sup>th</sup> in Nepal. In comparison, labor regulations ranked 6<sup>th</sup> in the list of obstacles to doing business in India, and 14<sup>th</sup> in Bangladesh (World Bank 2013b, World Bank 2014a).

While labor market regulations may not be the major constraints to job growth, they are seen to have failed in protecting the workers because of their limited coverage, as they only apply to firms with ten or more employees; and non-compliance (World Bank 2012). Jobs are not always advertised, working hours not fixed, and minimum wages not enforced. Pay, benefits, and working conditions for workers are generally poor, and worker absenteeism and tardiness are widespread and acute (Sijapati 2014). Employers experience frequent crippling industrial strikes, in addition to other disruptions such as political instability and electric power shortages. In 2013, labor issues such as trade union action (much of it led by labor unions affiliated with political parties), civil unrest or employee absenteeism were considered to have led to an estimated loss in productive activity of 21 days (World Bank 2014b).

Low government capacity is considered to be a binding constraint to the effective implementation of the provisions of the Labor Act. For example, the safety and health provisions of the Act are to be enforced by factory inspectors. While the Department of Labor has provisions for 10 factory inspectors to be placed in the 10 labor offices across the country, there were only five in FY2015-16. The budget speech for FY2016-17 noted mandatory factory inspections and plans to mobilize the needed number of inspectors. The ILO recommends 1 labor inspector for 40,000 workers in less-developed countries, which would imply the need for over 60 labor inspectors to cover wage workers in Nepal.<sup>5</sup> The Act also has provisions for labor officers who are to be responsible for liaising between workers and employers to promote the rights and interests of workers. The government has not appointed any labor officers to date. Labor regulations often do not take into account the enforcement capacities. Stringent labor regulations coupled with weak enforcement capacities tends to mean poor compliance. As regulations become costlier to implement, firms seek to circumvent it (World Bank 2012, Sapkal 2015). A recent study has also shown stringency of labor regulations to be negatively correlated with enforcement; more stringent the law, the weaker the enforcement (Ronconi and Kanbur 2016).

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<sup>5</sup> The number of wage workers ages 16 and above was estimated using the 2010-11 Nepal Living Standards Survey.

Low enforcement capacity is not unique to Nepal in South Asia. Factory inspection regime in Bangladesh is similarly plagued by acute shortage of inspectors, limited resources and ineffective inspection services which has meant that even core labor standards are not met (Chaudhary 2017). Enforcement is weakened by complexity of the regulations (India), collusion between employers and inspectors (India and Pakistan) and inadequate dispute resolution mechanisms (India, Pakistan and Sri Lanka) (World Bank 2012).

To improve labor market outcomes, the government of Nepal certainly needs to strengthen its enforcement capacity. It could also benefit from relaxing the labor laws while strengthening worker protection by improving social security and active labor market programs as recommended for developing countries with similarly stringent regulations but poor enforcement and compliance (World Bank 2012).

Following the Labor Act, the government introduced the Labor Policy in 1999. This policy has been updated twice, first as the National Labor and Employment Policy (NLEP) in 2005 and second as the National Employment Policy (NEP) in 2015. The 2005 NLEP focused on promoting labor standards such as eliminating forced labor, child labor, and discrimination; establishing a social security system; increasing the efficiency of labor; investing in skills; and creating a business-friendly environment. The 2015 NEP focuses on coordination across sectors including agriculture, energy and tourism for employment creation; skill training suited to the labor market demand; regulation of foreign employment; development and use of a labor market information system; and prioritization of youth-focused employment creation.

However, the policies are neither evidence-based nor backed by resources for effective implementation. Actual coordination across sectoral policies and government agencies for employment creation is poor or absent, and there has been little investment in developing a labor market information system. Under the Department of Labor, there are 14 employment information centers across the country with the mandate to manage labor market information, maintain a register of unemployed workers, and match unemployed workers with job vacancies. The centers are barely functional because of limited resources, but also because employers do not provide information on job vacancies.

Despite prominent mention in the policy documents, the state of public employment policies and services including career counseling, job-search and job-matching support, and labor market information is similarly poor in many low-income countries (ILO 2015). Large proportion of young people in Nepal, Bangladesh, Cambodia, Vietnam find their jobs through personal connections (Ibid.).

A new labor bill and a social security bill, that had been under protracted discussion in the government since 2012, have been endorsed by the parliament in July 2017. The new Labor Act allows the employers more flexible hiring and dismissal rules.

The Social Security Act seeks to provide contributory social security to workers, including the self-employed, in both formal and informal sectors. The Act governs the establishment of the Social Security Fund (SSF) which will implement the following schemes: (1) medical treatment and health security, (2) maternal security, (3) accident security, (4) disability security, (5) old age security, (6) dependent family security, (7) unemployment assistance, and (8) others as defined by the Fund. The Act requires employers to enlist their existing workers in the Fund within six months and new workers within three months of the Act being effective. The Act authorizes the Fund to take actions against the employers that either do not enlist their workers or do not pay the contributions into the Fund. The rate of contribution by the worker and the employer is to be recommended by a committee formed by the Act. The self-employed and informal sector workers can be part of the social security schemes. In the case of self-employed and informal sector workers, the government will contribute specified amount to the Fund based on the workers' contribution. The Fund will operate as a revolving fund, funded by contributions from the workers and employers, the mandatory one percent tax on the salary of all formal sector workers levied beginning in FY2011-12, grant from the government, and other donors and income from its investments.

The recently approved Acts are expected to improve industrial relations.

## Trade unions

Trade unions are governed by the Trade Union Act of 1992 (amended in 1999). The Act mandates that unions have to be registered with the government, and that a worker can be a member of only one enterprise-level trade union at a time. To qualify for registration, an enterprise-level trade union must have at least 25 percent of the workers in the enterprise as members. Registration of an association of trade unions requires membership of at least 50 enterprise-level trade unions, whereas registration of a federation of trade unions requires membership of at least 10 trade union associations. Civil service employees can form trade unions, but army and police are not allowed to unionize.

The Trade Union Act calls for trade unions to work to improve working conditions for workers, establish good relations between workers and enterprise management, and support worker discipline and productivity in the enterprise. The objectives of the trade union associations and federations, as stated in the Trade Union Act, are to disseminate information

beneficial to workers, establish relations with international institutions for the benefit of workers, advise the government in the design of labor policies, and negotiate with the government and take other steps to protect and promote the rights and interests of workers (Sijapati 2014). The Trade Union Act does not have any provisions specific to youth workers.

The history of trade union activity is linked with the history of political movements in Nepal. The first trade union, the National Trade Union Congress (NTUC), was established by the Nepalese Congress Party in 1947. The Communist Party of Nepal founded its trade union wing in the 1950s, later renamed the General Federation of the Nepalese Trade Unions (GEFONT) and the Maoist-affiliated All Nepal Trade Union Federation (ANTUF) gained legal status after 2006. In terms of membership, ANTUF is the largest trade union with over 600,000 members (Sijapati 2014). GEFONT and NTUC both claim memberships of over 400,000 workers.<sup>6</sup> The Joint Trade Union Coordination Center is the umbrella body of trade unions, composed of the above three unions and others.

Documentation on the role of trade unions in promoting the rights and interests of youth workers is unavailable. According to 2013 School to Work Transition Survey (SWTS) data, 12% of employed youth workers (19% of wage-employed youth workers) were trade union members. Common responses provided by workers in the SWTS as to why they did not join trade unions indicated the lack of awareness, interest, and limited trade union activity.

## Public employment

The civil service is governed by the Civil Service Act of 1993 (fourth amendment in 2015) and Civil Service Regulations. The Public Service Commission (PSC) is responsible for civil service recruitment. The Ministry of General Administration is responsible for civil service personnel and human resource management, including placement, development, promotion, transfer, retirement/post-retirement services, and recording/information system. Public health workers are recruited through the PSC, whereas public school teachers are recruited through a separate teaching service commission.

The second amendment of the Civil Service Act in 2007 has provisions that promote inclusion. Of the vacancies to be filled through open competition (as opposed to internal competition and promotion), 45% is reserved for specific groups. Out of the reserved positions 33% are reserved for women, 27% for Adivasi/Janajati, 5% for Madhesi, 9% for Dalit, 5% for those with a physical disability, and 4% for people from backward areas. The number of

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<sup>6</sup> <https://www.gefont.org/GG2303390.html> & [http://ntuc.org.np/?page\\_id=46](http://ntuc.org.np/?page_id=46) (Last accessed on January 5, 2016).

vacancies per quota category are announced when the vacancies are published. For example, if there are 20 vacancies, 9 vacancies are to be reserved for specific groups. Of the nine vacancies, three vacancies are to be reserved for women, two vacancies each for Adivasi/Janajati and Madhesi, and one vacancy each for Dalit and those with a physical disability. At least 13 vacancies have to be open for a vacancy to be reserved for people from backward areas. Applicants can be eligible under more than one category. Table 1 reports the number of vacancies, applicants, and candidates recommended for appointment by the PSC for vacancies in FY2013–14 and FY2014–15.

Civil service candidates have to be above age 18 for non-gazetted and classless posts and above age 21 for gazetted posts. Men have to be below age 35 and women and those with disabilities have to be below age 40. The probation period is set at six months for women and one year for men. The retirement age is set at age 58 for both sexes.

Quotas are set for recruitment into the Nepal Police and Nepal Army. Of the positions to be filled through open competition (as opposed to internal competition or promotion), 45% are reserved for women, Dalits, those with physical disabilities, Madheshi, indigenous peoples, and people from backward areas. Candidates for the police and army have to be above age 18, except in case of police peons where those above age 16 are eligible.

Civil servants, army, and police who have served at least 20 years receive a pension upon retirement. Those who have served at least five years but less than 20 years receive gratuities that are set as a function of their years of employment. In addition to pension or gratuities, the government matches the employee contribution of 10% of salary deposited in the Employee Provident Fund (EPF).

While there are age bars for entry into public service and quotas for various groups, Nepal does not have recruitment quotas for the young similar to that of Republic of Korea or Sri Lanka (ILO 2015). In the Republic of Korea, public institutions and public enterprises will aim to recruit unemployed youth so that they represent at least three percent of the total employees per year (Ibid.).

Based on EPF membership figures for FY2014-15 (EPF, Annual Report 2071-72), the civil service employed 93,000 individuals, the army 101,000 individuals, and the police 103,000 individuals. Public teaching employed 91,000 (community and institutional) teachers, and public enterprises employed 112,000 individuals. In sum, public employment comprised of 500,000 individuals. According to 2013 SWTS data, 7% of employed youth workers were engaged in public employment.

Public employment appears to be a highly attractive option for youth workers. Also based on SWTS data, 52% of unemployed youth workers indicated that they preferred public employment. In FY2013–14 and FY2014–15, the number of applicants for public employment vacancies exceeded one-hundred fold (see Table 1).

## Foreign employment

Labor migration from Nepal on fixed-term contracts to international destinations other than India (referred to as foreign employment) is a major phenomenon.<sup>7</sup> As one indication of current scale, in FY2014-15, over 520,000 foreign employment permits were issued by the government, an average of around 1,400 per day according to the Department of Foreign Employment (DOFE) (DOFE Annual Report 2070-71). Foreign employment is dominated by youth: according to 2010-11 Nepal Living Standards Survey data, 75% of household absentees engaged in foreign employment were between ages 16-34.

The Foreign Employment Act of 1985 was the first legislation on foreign employment, and focused on regulating and controlling migration for foreign employment. Recognizing the inexorability of the phenomenon, the Foreign Employment Act was amended in 2007 to focus on promoting the rights and interests of foreign employment workers. The changes in the Act aim to facilitate the foreign employment process for workers, make foreign employment safe, and provide workers with relevant labor skills.

The 2007 Act makes it compulsory for workers to undergo orientation from a government-recognized institution prior to departing for foreign employment. The Act also mandated the establishment of the Foreign Employment Welfare Fund, the Foreign Employment Promotion Board (FEPB), the Department of Foreign Employment (DOFE), and the Foreign Employment Tribunal (FET).

The Welfare Fund was established to provide social security benefits to foreign employment workers. It raises funds from payments by foreign employment workers, interest accrued from deposited funds, and license fees. The fund is managed by FEPB which is responsible for providing pre-departure information to workers and managing grievances of workers in relation to injuries and fatalities in particular. The fund is to be used to provide training to workers, provide employment-oriented programs to returning workers, repatriate

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<sup>7</sup> Migration of Nepalese to India is not regulated. The only legal framework that governs the movement of people across the Nepal-India border is the 1950 Treaty of Peace and Friendship. The treaty seeks to strengthen the historical ties between Nepal and India and to maintain peace and harmony between the two countries. The Treaty allows for free movement of people across the border while providing Nepalese in India the same privileges as Indian citizens with regards to employment and ownership of property.

stranded workers, bring back unattended deceased workers, and provide compensation to the families of deceased workers.

DOFE is responsible for regulating foreign employment by licensing private recruitment agencies, approving applications submitted by private recruitment agencies for contracting workers, issuing foreign employment permits to workers and managing grievances from migrant workers. It has an investigations office that receives complaints made by workers against private recruitment agencies and agents, conducts investigations and imposes penalties, and registers more serious cases with the FET. The FET is responsible for resolving more serious and criminal cases under the Foreign Employment Act which fall outside the jurisdiction of DOFE.

In addition, the Foreign Employment Act requires Nepalese embassies in countries with more than 5,000 foreign employment workers to have a labor attaché. The labor attaché in the country is responsible for overseeing the rights and interests of foreign employment workers there.

The Foreign Employment Policy adopted in 2012, aims to further promote skill acquisition of workers to meet the skill-related demands of foreign labor markets and ensure that foreign employment is safe with a focus on all stages of migration: pre-employment, pre-departure, departure, on the job, and reintegration into the Nepalese labor market. The Policy also aims to address the concerns of female migrants in the migration cycle, and to mobilize remittances for investments in human development and productive activities.

Despite what is commonly perceived to be a broad Foreign Employment Act and Foreign Employment Policy, the process of foreign employment is considered to be poorly governed. Government regulation of private recruitment agencies and individual recruitment agents, the major domestic players engaged in the process of foreign employment, is weak. Common violations by private recruitment intermediaries include misrepresentation of the nature of the job and remuneration, overcharging of fees, and failure to provide workers with receipts and contracts (Paoletti et al. 2014). Workers' access to justice is limited due to their lack of awareness of redressal mechanisms, recruitment agencies' reliance on unregulated individual recruitment agents, lack of documentation, limited capacity of the responsible government agencies, and the centralization of the activities of the responsible government agencies in Kathmandu (ibid). For workers, access to information about foreign employment options and grievance redressal mechanisms is often controlled by private recruitment intermediaries (Helvetas 2013). In addition, the DOFE has conflicting mandates as it is

responsible for both, licensing the recruitment agencies and issuing employment permits, and investigating the recruitment agencies upon complaints from the workers.

DOFE and FTE are considered to lack funds and staff to effectively perform their regulatory responsibilities. For example, DOFE does not have adequate staff to effectively review complaints from workers (Paoletti et al. 2014). In FY2015-16, according to its progress report, DOFE had six investigation officers to review 2,172 cases filed that year, of which only 520 were resolved during the year.

DOFE is also responsible for regulating access to specific countries for foreign employment. Currently, the DOFE has listed 110 countries as recognized destinations for foreign employment through private recruitment agencies. At times, the government has imposed foreign employment bans in certain countries, and additional restrictions on women going for domestic work citing concerns regarding worker exploitation or security, but in a manner that appears ad hoc and reactive.

## Youth

The government began to recognize youth as an important target group for public policy and action after the end of the Maoist insurgency in 2006 (World Bank 2013c). The creation of the Ministry of Youth and Employment (MOYS) in 2008, the launch of the Youth and Small Entrepreneur Self-Employment Fund (YSEF) in 2009, and the adoption of the National Youth Policy (NYP) in 2010 (updated in 2015) provide a basis for promoting youth labor interests.

Targeting unemployed individuals ages 18-50, YSEF provides collateral-free, low-interest loans of up to NPR 200,000, to serve as start-up capital for self-employment. YSEF also offers training on commercial farming, livestock management, agro- and forestry-based businesses, and traditional trades. YSEF prioritizes youth from conflict-affected communities, ethnic groups engaged in traditional trades, Dalits, and indigenous groups.

Defining youth as ages 16-40, the 2015 NYP identifies three priority groups of youth: (1) women; (2) indigenous Janajati and Madheshi; and (3) special priority groups—conflict-affected, at risk/vulnerable youth, those with disabilities, marginalized, endangered, minorities, Dalits, Muslims and those from Karnali and backward regions. It places importance on employment through skill and entrepreneurship training, access to finance, commercialization of agriculture, and domestic employment creation.

The government has also introduced a Youth Vision 2025. The Vision has five pillars: (1) quality and professional education; (2) employment, entrepreneurship, and skill development; (3) youth health and social security; (4) mobilization, participation, and

leadership development; and (5) sports and entertainment. Each pillar is accompanied by a set of goals and indicators with ambitious targets for 2020 and 2025.

With respect to the Vision pillar for employment and skill development, the government aims to reduce the daily number of departing foreign employment workers to 750 by 2020 and 375 by 2025. Concurrently, by 2025, the government aims to increase the percentage of foreign employment workers that are skilled to 50% and that are semi-skilled to another 50%. Also by 2025, the government aims to create 325,000 wage jobs and 120,000 jobs in self-employment activities for youth. District Youth Committees under the National Youth Council, established by the 2015 National Youth Council Act, are expected to support the implementation of the Youth Vision activities. Such ambitious targets which are not grounded in any analysis of demand for Nepali workers abroad, and without a clear implementation plan will likely mean that the policy fails to influence the labor market outcomes of youth.

### Labor skill training

Labor skill training is a key objective of the government as reflected in different major policy documents. Technical and vocational education and training (TVET) in Nepal is offered by both public and private training institutes. Constituted in 1989, the Council for Technical Education and Vocational Training (CTEVT) is the autonomous apex body for TVET, mandated with technical, regulatory, and provision functions through its constituent public training institutes and affiliated private training institutes. In addition, several government ministries, such as the Ministry of Commerce and Industries and Ministry of Labor and Employment, also administer formal and informal training programs.

The TVET Policy of 2012 aims to (1) expand the provision of training and make training accessible to all, (2) adjust training programs as needed to make provided skills relevant for the domestic labor market and foreign employment, (3) use the skills of returning foreign employment workers in the domestic labor market, and (4) promote training for prospective foreign employment workers. CTEVT also has a strategic plan for 2014-18 which seeks to support the implementation of the 2012 policy. Equitable access to skills training and better matching the TVET skills to the demand in the labor market is a common intervention identified in TVET and employment policies in many countries (ILO 2015).

The government's Youth Vision sets specific targets on training. By 2025, the government aims to increase the percentage of people who receive formal technical education to 25% by 2025 (from 5% today), and increase the budget allocated to TVET to 15% by 2025 (from 2% to 3% today). The government also aims to increase its annual provision of short-

term training to 200,000 workers by 2025 (from 70,000 today), and provide training to prospective foreign employment workers. The Youth Vision however makes no reference to the 2012 TVET policy or CTEVT's strategic plan.

At present, key problems in TVET raised in project documents of international aid agencies include inequitable access, poor quality, and low market relevance of supplied training. The government recognizes in its policy documents the need to better match the provision of training to the skills demanded in the domestic labor market and by foreign employers. To better coordinate the provision of training across the various public and private providers, the Youth Vision envisages the implementation of a 'one- door policy'.

### ***Implementation***

The policy and institutional framework for youth and employment is considered to be adequate. However, policy implementation falls short. One major factor is the lack of resources and capacity in responsible government ministries, among which the Ministry of Labor and Employment (MOLE) and the Ministry of Youth and Sports (MOYS) are key. Despite the rhetoric on youth employment, there has been little change in government commitment and action.

MOYS is a relatively new ministry, established in 2008. The ministry's mandate covers youth awareness and mobilization, skills training, research on issues related to youth and sports, organization of sports events, and capacity development of relevant government agencies. The ministry's main programs are the National Sports Council, the Sports Development Program, and the National Youth Mobilization Program (NYMP). Under the NYMP, youth information centers have been set up in every district. The primary objectives of the centers are to provide information and work on issues of youth capacity development, entrepreneurship and employment, awareness about drug addiction and HIV/AIDS.

MOLE was established in its current form in 2012. It evolved from the Ministry of Labor and Social Welfare, established in 1981, to Ministry of Labor, established in 1995, to the Ministry of Labor and Transport Management, established in 2000. The ministry's mandate covers, among other things, formulation, implementation, and monitoring of labor and employment policies; collection and analysis of labor data; promotion of the welfare of workers; relations between workers and employers; employment services; coordination among relevant stakeholders on employment creation; skill training; regulation of trade unions and labor agencies; provision of worker social security benefits; and foreign employment by Nepalese workers and employment permits for foreign workers in Nepal.

MOYS and MOLE have small budgets. In FY2014-15, MOLE's budget was less than 0.2% and MOYS' budget was about 0.3% of the total public budget (Ministry of Finance, Red Book 2015d).<sup>8</sup> Of the budget allocated to MOYS in FY2016-17, about 70% is assigned to the National Sports Council, leaving scant resources for all other programs.

Although MOYS is responsible for overall coordination of implementation of policies and programs for youth, many of these policies and programs fall under the purview of other ministries such as MOLE or the Ministry of Education. There is no specific budget allocated by the government for implementation of policies and programs. Policies and programs are meant to be implemented under the regular budgets of relevant ministries but not explicitly assigned as such, thus causing confusion and lack of ownership and accountability.

Similarly, the National Employment and Foreign Employment policies are cross-cutting policies to be adopted and implemented by various government ministries to promote employment, with MOLE responsible for overall coordination and monitoring and evaluation. However, there are no specific targets or budget identified in these policies.

### *National development plans*

The government has prepared 14 periodic plans in the last six decades. The National Planning Commission recently approved the three-year 14<sup>th</sup> plan for the period FY2016/17–2018/19. According to the 14<sup>th</sup> plan, the government aims to make Nepal graduate from Least Developed Country status by 2022, achieve the 2030 United Nations Sustainable Development Goals, and become a middle-income country by 2030.

On labor and employment, the 14<sup>th</sup> plan sets an ambitious target of creating 400,000 jobs a year. The government aims to achieve this target by creating a business environment conducive to employment creation, expanding training opportunities, and improving worker-employer relations. Industry, tourism and agriculture are identified as the main sectors for job creation. In terms of specific initiatives, the Plan proposes to develop a labor management information system, gradually consolidate the various skill training centers, establish one training center in each federal province, and establish an integrated fund for investing in TVET (consistent with CTEVT's strategic plan). The Plan also proposes to extend social protection by registering informal workers and providing work accident insurance to all workers. As the

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<sup>8</sup> In comparison, in India, the Ministry of Labor and Employment was allocated 0.27% of the total budget in 2015–16 (see: <http://indiabudget.nic.in/vol1.asp>). In Bhutan, the Ministry of Labor and Human Resources was allocated 0.84% of the total budget in 2014-15 (see: <http://www.mof.gov.bt/wp-content/uploads/2014/07/BudgetReport2016-17-ENG.pdf>). These ministries have similar portfolios to Nepal's MOLE.

new constitution of Nepal enshrines the right to employment, the paper proposes to guarantee 100 days of employment for each household below the poverty line defined by the Ministry of Cooperatives and Poverty Alleviation.

On foreign employment, the Plan proposes to better monitor foreign employment, keep records of returning foreign employment workers, sign bilateral labor agreements with more countries, and make arrangements to allow only workers with skill test certificates to undertake foreign employment.

With respect to youth, the Plan envisages making youth more competent, entrepreneurial, and self-reliant through technical education and skill training. It proposes to improve the performance of youth information centers and the Youth and Small Entrepreneur Self-Employment Fund under the Ministry of Finance.

### ***Donor engagement***

International donors have mainly provided financial and technical support for short-term training for wage- and self-employment, as well as capacity building of the TVET system. Other labor areas have received relatively little support.

The major donor-funded training projects include the Asian Development Bank's (ADB) Skills for Employment Project (SEP) from 2006 to 2012 and Skills Development Project (SDP) from 2013 to 2018, and the World Bank's Enhanced Vocational Education and Training (EVENT) Project from 2011 to 2016. ADB's SEP and SDP have focused on increasing access to quality skills training through support to the provision of skills training and strengthening CTEVT's capacity. SEP trained over 59,000 individuals, of whom 50% were women and 25% were Dalits, and SDP aims to provide basic-level short-term training courses for 45,000 people, and mid-level training courses for 1,000 people.

The World Bank's EVENT project aimed to expand the supply of skilled labor by increasing access to quality training, and by strengthening the TVET system. It provided short-term training to over 58,000 individuals and supported certification of skills acquired previously. The project targeted disadvantaged youth, mainly the poor, women, Dalit, Janajati, individuals from other marginalized communities, and individuals with disabilities.

The United Kingdom Department for International Development, the Swiss Agency for Development and Cooperation (SDC), and the World Bank, in partnership with the government, supported the Employment Fund between 2007 and 2016. Implemented by HELVETAS Swiss Intercooperation, an international NGO, the Fund offered short-term training and support to establish microenterprises. The latter included (1) support for business

planning, (2) financial literacy training, (3) on-the-job training and exposure visits, (4) support for enterprise registration, (5) provision of a starter kit of occupation related tools worth up to NPR 8,000 after the enterprise is operational, and (6) support to access financial services. The Fund targeted unemployed youth ages 18-40, and prioritized poor women from disadvantaged groups.

The donor-funded projects also supported the institutional development of TVET institutions, particularly CTEVT. ADB's two projects supported the review of training curricula, and provided training to CTEVT personnel in management, instructional skills, and curriculum development. In addition, SDP is supporting the development of mid-level training programs in construction, manufacturing, and services, the refurbishment of selected TVET institutions, and strengthening the regulatory capacity of CTEVT. SDP also aims to support the establishment of a TVET fund, a key proposal in the TVET Policy, and the establishment of a TVET Sector Development Unit under the Ministry of Education which will be responsible for overall coordination of the TVET sector. The World Bank's EVENT project supported capacity building of CTEVT in planning, management, quality assurance, review of curricula, and training of trainers and master trainers. The project also supported the National Skills Testing Board by reviewing skill testing materials and training assessors.

Support in labor areas other than training comprises of small, piecemeal initiatives. The ILO has provided support for strengthening the institutional capacity of the Social Security Fund and the design of social security schemes under the Fund; five of the 14 Employment Information Centers under the Department of Labor; capacity building of major trade unions (through a project that closed in 2015); and the drafting of the new labor bill and the Social Security bill, as well as national employment policies. The United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) supported the government in the drafting of the Foreign Employment Act. Initiated in 2011, SDC's Safer Migration Project aims to promote safer foreign employment by seeking to prevent fraud and exploitation in the process of seeking, securing, and engaging in foreign employment through providing information and legal and psychosocial support. The project is implemented by the government in nine districts and by HELVETAS Swiss Inter-cooperation in ten districts.

### ***Conclusion***

Nepal's labor laws and policies have largely failed to influence the decisions and outcomes of youth and other workers because of poor implementation, stemming from weak government commitment and capacity. With the primary exception of civil and armed services

recruitment rules, labor laws tend not to have youth-related provisions. Government policies on domestic employment, foreign employment, and training however tend to focus on or prioritize youth. The policies set ambitious targets but frequently fail to matter because they are not based on evidence, and specific organizational arrangements, operational plans, and resources do not follow.

The two labor policy areas that appear to have the strongest influence on youth labor decisions and outcomes are foreign employment, and training. Notwithstanding, there are design and implementation shortcomings with laws and policies related to foreign employment and training that may constrain how much youth benefit, such as issues in the quality and relevance of training supply and fraudulent or exploitative practices of private recruitment agencies engaged in foreign employment. Information on any issues with public employment recruitment is absent.

Two major pieces of legislation, the labor bill and the social security bill, have just been approved by the government. They aim to improve industrial relations and ensure social security to workers. Whether these laws will potentially influence the labor decisions and outcomes of youth and other workers will again depend on how well they are implemented.

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## Tables and Figures

**Table 1. Number of vacancies, applicants and candidates recommended for appointment for open competition**

	Fiscal Year 2013-14			Ratio of applicants to vacancies	Fiscal Year 2014-15	
	Vacancies	Applicants	Recommended for appt.		Vacancies	Applicants
	(1)	(2)	(3)	(4)	(5)	(6)
Total	5,219	560,915	107	4,621	5,614	599,668
Open to all	2,845			2,767	3,030	
Reserved for:						
All specific groups	2,374	229,649	97	1,854	2,584	274,831
Women	771	103,033	134	626	873	146,247
Adivasi/Janajati	631	56,343	89	509	681	57,345
Madhesi	545	44,897	82	384	562	44,515
Dalit	216	12,015	56	173	245	10,720
Physically disabled	120	4,941	41	91	124	4,147
Backward areas	91	8,420	93	71	99	11,857

Notes: Some vacancies remain unfulfilled due to lack of applications or lack of suitable candidates. Statistics obtained from Public Service Commission, 2071-72

## A PROFILE OF YOUTH IN THE DOMESTIC LABOR MARKET

### Introduction

How do youth fare in the domestic labor market? As a first step in examining this question, this chapter constructs a domestic labor profile for youth, where youth is broadly defined to be individuals in the 16–34 age group. Existing labor profiles for Nepal tend to examine all working-age individuals, disaggregating some labor statistics for youth and other age groups. This profile goes farther by investigating (1) youth labor statistics additionally disaggregated by gender and location (urban versus rural), as well as finer youth cohorts (16–24 and 25–34 age groups); (2) the association of various youth labor indicators with an extensive set of potentially-relevant individual, household, and community characteristics; and (3) youth wage earnings in greater depth.

The labor profile is mainly cross-sectional, using data from the 2010–11 Nepal Living Standards Survey (NLSS). This multi-topic survey is representative at the country, urban/rural, and regional levels. Using an earlier round of the same survey, we also examine time trends in labor statistics between 2003–04 and 2010–11.

The main questions we ask for youth in this chapter are:

- (1) What are the levels of unemployment, and what explains observed levels?
- (2) What are the patterns and correlates of school attendance and employment activity status, sector and type of employment, hours worked, and wage earnings?
- (3) How have patterns in activity status, sector and type of employment, hours worked, and wage earnings evolved over time?
- (4) What are the levels of time-based underemployment, and what explains observed levels?
- (5) How do labor and education statistics compare between youth and older individuals (nonyouth)?

Contrary to the commonly-made claim in the country, we find that youth unemployment and time-related underemployment rates, based on either standard or relaxed definitions, tend to be low, consistent with rates typically found in other low-income settings. The main determining factor appears to be unavailability of individuals for (more) work, and self-reported reasons for

unavailability predominately comprise of school attendance and, in the case of women, engagement in noneconomic activities.

The individual's school attendance and employment activity status mainly differs by youth cohort and gender. Women are more likely to be neither attending school nor employed than men, and the younger cohort is more likely to be attending school than the older cohort. Factors that tend to have the largest effects on activity status are age, marital status, engagement in noneconomic activities, and education attainment. The worker's type of employment mainly differs by gender and location. Urban workers are more likely to be engaged in nonagricultural employment and wage employment than rural workers, and women are more likely to be engaged in agricultural employment and self-employment than men. Factors that tend to have the largest effects on the type of employment are age, education attainment, and the region of residence.

For both women and men, median hours worked tend to be higher for wage- than self-employed workers, for the older than the younger cohort, and for urban than rural workers. Regressions explain more of the variation in hours worked for men than women. The factors that tend to have the largest effects on hours worked are age, marital status, current school attendance, type of employment, and region of residence. For both women and men, median hourly earnings for wage-employed workers tend to be higher for nonagricultural than agricultural workers, for urban than rural workers, and for the older than the younger cohort. Regressions explain the same extent of variation in earnings for women and men. The factors that tend to have the largest effects on wage earnings are education attainment and region of residence.

In terms of trends between 2003–04 and 2010–11, the shares attending school have increased, indicating rising education attainment. Workers are shifting out of agriculture and into nonagriculture. Hours worked, and the employment rate in the case of women, are declining in rural areas. Real gains in earnings are largest for rural male workers that are wage-employed in agriculture.

Finally, the older youth cohort, a group that have mostly completed their education, have higher levels of education attainment, lower rural employment rates, higher unemployment rates, and larger shares in wage-employment in nonagriculture than nonyouth.

The results suggest strong dynamics in local rural labor markets. Rising real agricultural wages presumably reflect falling labor supply rather than rising labor productivity. An important source of declining labor supply is the substantial outmigration of male youth from rural areas

(discussed in other chapters in this volume). The results suggest weaker dynamics in urban labor markets. However, an expanding supply of more-educated youth along with subdued real gains in wage earnings indicate the lack of sufficient (growth in) demand for educated workers. In light of this, a two-pronged public policy agenda seems appropriate to pursue: raising rural labor productivity, and strengthening urban labor demand for more-educated workers.

The rest of the chapter is organized as follows. Section 2 presents the data and sample, and the basic structure of the analysis. Section 3 presents the full set of results. Section 4 concludes by discussing implications of the main results for research and policy.

### *Data, sample, and structure of analysis*

#### Data and sample

*Data:* We mainly use data from the 2010–11 Nepal Living Standards Survey, a multi-topic household sample survey, used as the official source of data for estimating household consumption expenditures and consumption-based poverty. The NLSS is representative at the national level, as well as for the country's twelve regions. The original sample was 7,200 households from 600 primary sampling units (PSUs), where a PSU was either a ward, a sub-ward, or a cluster of wards in a Village Development Committee (VDC), depending on whether sufficient households were present to draw the required household sample per PSU for the survey. Out of this total sample, 1,200 households from 100 PSUs were drawn from the previous NLSS round (the 2003–04 NLSS) to form a panel sample, and 6000 households from 500 PSUs were drawn to form a new cross-section. See Government of Nepal (2011) for survey design details. We use the cross-sectional sample for our analysis, for which 5,988 households from 599 PSUs were successfully interviewed.

The labor module in the survey captured data that allow us to construct all the main labor market indicators using standard definitions, such as on engagement in economic and noneconomic activities, hours worked in the last week, availability for employment or for more work hours, active search for employment or for more work hours, the type of employment (self-employed in agriculture, wage-employed in agriculture, self-employed in nonagriculture, and wage-employed in nonagriculture), occupation based on standard occupation codes, and cash and in-kind earnings for wage-employed workers.

We also examine the evolution of labor outcomes since 2003–04, using data from the cross-sectional sample of the 2003–04 NLSS. The original cross-sectional sample for the 2003–04 NLSS was 4,008 households from 334 PSUs, and the survey successfully interviewed 3,912 households from 326 PSUs. See Government of Nepal (2004) for survey details.

*Advantages of the NLSS:* Since the 2010–11 NLSS, the government has conducted household sample surveys annually starting from 2012–13, called the Nepal Annual Household Surveys (NAHS). The primary aim of the NAHS's are to gather consumption expenditure and employment data regularly. While the data from the NAHS's are representative for the country, and for rural and urban areas, the sample sizes are smaller than for the 2010–11 NLSS. For example, the original sample size for the 2014–15 NAHS was 4,500 households from 300 PSUs (compared to 6,000 households from 500 PSUs for the cross-sectional sample of the 2010–11 NLSS). Data other than on consumption and labor are especially limited in the NAHS. Understanding the correlates of various labor outcomes is a key aim of the paper, and we can construct a more extensive set of potentially-relevant individual, household, and community covariates using the NLSS than the NAHS's. In addition, the larger sample size for the NLSS provides us with higher statistical power for detecting correlates in regressions for specific population subgroups (such as female youth).

NAHS reports compare labor statistics across the survey years, and with labor statistics from the 2010–11 NLSS. The statistics are comparable across years, within the full span of the overlapping confidence intervals for any two statistics we compare over time (Government of Nepal 2016). Thus, given the stability of the broad labor market structure over the period with these surveys, using data from 2010–11 does not appear to be a significant disadvantage, at least not one that exceeds the noted advantages of the NLSS.

Labor force surveys are also another source of information. The Nepal Labor Force Survey (NLFS) has a larger set of labor questions and household sample size than the 2010–11 NLSS, but the last one was administered in 2008. Apart from being more recent, the 2010–11 NLSS has more extensive data on potentially-relevant covariates than the 2008 NLFS.

*Samples:* In our analysis, youth is defined to be those ages 16–34, and nonyouth to be those ages 35–54. We also break down youth into two cohorts: ages 16–24 and 25–34. We mainly examine all youth, or those that are employed. We often break down these groups by gender, youth cohort (ages 16–24, 25–34) and location (rural, urban). Depending on the subgroup, in the 2010–

11 NLSS, the sample size ranges from 451 to 1,540 observations for youth, and from 238 to 1,047 observations for employed youth; and in the 2003–04 NLSS, the sample size ranges from 647 to 1,777 observations for youth, and from 283 to 793 observations for employed youth.

## Structure of the analysis

Using the 2010–11 NLSS data, we construct univariate statistics for key labor indicators, and examine associations in bivariate and multiple-regression analysis. We also combine 2003–04 and 2010–11 NLSS data to examine time trends in key labor indicators. All estimates are adjusted for survey sampling weights.

The full set of analysis is broken down by gender. The subset of univariate and bivariate analysis is also broken down by location and youth cohort. Employed workers can work in more than one employment activity. In such cases, we fixed the employment activity with the most hours worked in the reference week to be the main employment activity.

We estimate regressions for activity status, type of main employment, log hours worked, and log hourly wage earnings. In all the regressions we estimate, we examine the association between the outcome of interest and potentially-relevant individual, household, and community covariates. Individual covariates comprise of age (in quadratic form); whether the individual is ever married, has a disability or chronic illness, suffered from an illness or injury in the last month, is engaged in noneconomic activities, and is currently attending school; and education attainment levels, specifically whether the individual completed some secondary education (grades 6–10), only passed the *School Leaving Certificate* (SLC), or completed at least higher-secondary education (grade 12 or higher) (the omitted category is primary education [up to grade 5] or no schooling).<sup>1</sup> In addition, for the hours and earning regressions, we include indicators for the sector and type of main employment.

Household covariates comprise of household size, whether the household is poor (based on per-capita household consumption expenditure data), and the household's caste/ethnicity (the reference category is *Brahmin/Chettri*). Individuals that are Brahmin/Chettri, *Terai middle caste*, or *Newar* are considered to be traditionally advantaged in Nepalese society, whereas individuals

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<sup>1</sup> The SLC is offered based on passing a standardized exam offered to grade-10 students annually by the SLC Exam Board of the Nepal government. The student's SLC scores and pass status matter for further education within Nepal.

that are *Dalit* and *Janajati* are considered to be traditionally disadvantaged (UK DFID and World Bank 2006).<sup>2</sup>

Community covariates comprise of log time between the community and the nearest paved road, whether the community experienced a natural disaster in the last five years, whether it is easier or more difficult to find employment than five years ago (the reference category is no change in difficulty), whether the community experienced a net increase, a net decrease, or movement of people without a net change in number over the last five years (the reference category is no movement of people), and whether the community has active user groups or associations (such as related to farming, water, forestry, women, or credit). We also include indicators for five regions, namely *rural hills*, *urban hills*, *rural Terai*, *urban Terai*, and *mountains* (the reference region is *Kathmandu valley*). Mountains are rural, and Kathmandu valley is urban.

For the categorical outcome variables, we estimate multinomial logit regressions, and transform the estimated coefficients into average marginal effects, which we report. For the continuous outcome variables, we estimate ordinary least squares (OLS) regressions, and report the estimated coefficients (which are same as the average marginal effects). Before estimation, the continuous outcome variables are trimmed at the 1<sup>st</sup> and 99<sup>th</sup> percentiles to eliminate outliers. Inference is based on heteroscedasticity-robust standard errors, clustered at the PSU level to account for potential correlation in outcomes within the PSU.

Although we include a large number of covariates in the regressions, we do not find signs of severe multicollinearity. As a first test, we examine variance inflation factors (VIFs) after the OLS regression estimations and find that, apart from age which was included in quadratic form, and two regions (rural hills, rural Terai) which had VIFs between three and four, the rest of the covariates had VIFs between one and three. As a second test, estimated standard errors in the regressions were stable when we arbitrarily added or removed covariates.

## ***Results***

### Unemployment

Public officials and commentators in Nepal widely perceive that unemployment, specifically youth unemployment, is an acute problem in the country. Many view the large outflow

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<sup>2</sup> In all regressions, we omit those in caste/ethnicity categories *Muslim* or *other (unspecified)* due to small sample sizes.

of Nepalese workers to international destinations as *due* to a high level of domestic unemployment, or alternatively that the level of domestic unemployment would be substantially higher absent the high outflow.

In most low-income countries, open unemployment exists but represents a small share of the labor force irrespective of whether labor migration to other countries is a major phenomenon. Consistent with this generally-observed international pattern, the level of youth unemployment does not stand out for Nepal. Based on the standard definition of unemployment—that is, the individual is not working, available for work, and actively searching for work, all in the reference week—youth unemployment rates range from 1% to 5%, depending on the gender and youth cohort (see Table 1). Although the age groups do not perfectly match up, these statistics are comparable to unemployment rates of 2% to 7% for youth cohorts within the 15–34 age group reported in the 2014–15 NAHS report (Government of Nepal 2016).

Discouraged individuals—defined as those that are not working, available for work, but not actively looking for work—are excluded from the calculation of the unemployment rate. Table 1 also reports unemployment rates where we relax the active search condition, thereby bringing discouraged individuals into the calculation. Doing this raises unemployment rates by 2 to 5 percentage points (pp.), depending on the gender and youth cohort. The highest estimated unemployment rate based on the relaxed definition is 9%, which we find for men in the 16–24 age group.

What explains the observed levels of youth unemployment in Nepal? One way to answer this question is to examine the shares of individuals in the different conditions that define unemployment: not working (which we further break down by school attendance status given that schooling is a major activity of youth), available to work, and actively searched for work. Panel B in Table 1 reports the shares of individuals under the various conditions.

Large shares of individuals are not working. For those in the 16–24 age group, 60% of women and 50% of men are not working. However, as expected, sizeable shares of these individuals are attending school. For those in the 25–34 age group, 47% of women and 21% of men are not working. The larger shares of women than men that are not working are consistent with the documented gender division of roles within and outside of the labor market.

Among those that are not working, the shares that report that they are available to work are small. For example, in the 25–34 age group, 4% of such women and 10% of such men report that

they are available to work. Among those that are not working and available to work, the shares that are actively searching for work are large. For example, in the 25–34 age group, 38% of such women and 59% of such men report that they searched for work. Thus, the evidence suggests that unavailability for work is driving the observed levels of youth unemployment.

For individuals that are not working and unavailable for work, the survey asked the reason they are unavailable. Figure 1 shows the distribution of self-reported reasons for unavailability. As expected, for women, the majority report that the reason is that they are either attending school or engaged in noneconomic activities. Notwithstanding, 18% of those in the 16–24 age group and 23% of those in the 25–34 age group report reasons that were categorized as “other” by the survey implementer. For men in the 16–24 age group, 78% report attending school as the reason. For men in the 25–34 age group, the reasons are more varied: 26% report disability or illness; 12% report other labor market related reasons, namely the lack of employment opportunities, waiting to hear back from an employment inquiry, or waiting to start an accepted employment offer; 9% report that the reason is off-season; and 29% report other, unspecified reasons.<sup>3</sup>

Given the low unemployment rates, we do not examine the correlates of unemployment. Instead, in Appendix Table A1, we present statistics on the composition of those that are unemployed.

## Employment

*Employment status:* Figure 2 shows labor force participation and employment rates. Given that the shares that are unemployed are low, we focus on employment rates. There are sharp differences in patterns by gender, and youth cohort. Women have lower employment rates than men. For example, for the 25-34 age group, rural women have an employment rate of 55%, compared to 77% for men. In the 16-24 age group, urban residents have lower employment rates than rural residents, driven by school attendance as we will show. For example, rural women in that age group have an employment rate of 43%, compared to 29% for their urban counterparts.

*School attendance and employment status:* Figure 3 shows the distribution of individuals by combinations of school attendance and employment status. There are sharp differences in patterns by gender, and by youth cohort. In the 16–24 age group, most are attending school,

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<sup>3</sup> Some of the reasons reported by individuals indicate that unavailability for work is conflated with the lack of search.

regardless of whether they are employed, although the shares that are attending school are smaller for women than men. In addition, the shares attending school are larger in urban than in rural areas.

In the 25–34 age group, most men are employed only (73% of rural men and 75% of urban men). However, 13% of urban men and 22% of rural men are neither attending school nor working. The shares of women that are working only or neither attending school nor working are roughly comparable. For example, 53% of rural women are working only, whereas 45% are neither attending school nor working. Irrespective of school attendance or employment status, the majority of men and especially women are engaged in noneconomic activities. As Tables 10 and 11 show, among those in the 25–34 age group, over 90% of women and 60% of men are engaged in noneconomic activities.<sup>4</sup>

Table 2 reports regression results for schooling and employment activity status. The reference category for the regression results is those that are neither attending school nor working. Current school attendance status and education attainment are expected to be strongly associated. Holding age constant, and assuming that grade repetition rates do not differ by school attendance status, those attending school are expected to have higher education attainment. Consistent with expectations, for both women and men, relative to neither attending school nor working, those with at least some secondary education are more likely to be attending school, and less likely to be working only.

Relative to neither attending school nor working, for both women and men, younger individuals are more likely to be attending school, older individuals are more likely to be working; those that are married are less likely to be attending school (and, for men only, those that are married are more likely to be working); those that have a recent injury or illness are less likely to be working; and those that are Newar instead of Brahmin or Chettri are less likely to be attending school only, and more likely to be working. Relative to neither attending school nor working, women that are engaged in noneconomic activities are less likely to be attending school only, and more likely to be working (although engagement in noneconomic activities does not appear to be associated with school attendance or employment for men); those that reside in communities with active user groups are more likely to be working; and those that reside in urban Terai instead of Kathmandu valley are more likely to be attending school only, and less likely to be working,

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<sup>4</sup> Average hours in noneconomic activities in the reference week is much lower for men than women (7–8 hours versus 28 hours).

whereas those that reside in the mountains instead of Kathmandu valley are less likely to be attending school only, and more likely to be working.

*Sector and type of employment:* Figure 4 shows the distribution of employed youth by sector and type of main employment activity. There are sharp differences in patterns between urban and rural workers, and by gender. In urban areas, the majority of female and male workers are employed in nonagricultural activities. While the shares that are wage-employed in agriculture are negligible, the shares that are self-employed in agriculture are nontrivial, especially for female workers. For example, 20% of female workers in the 25–34 age group are self-employed in agriculture. Within nonagriculture, compared to female workers, male workers are more likely to be wage-employed than self-employed.

In rural areas, the majority of female workers are self-employed in agriculture. Compared to female workers, male workers are more likely to be employed in nonagricultural activities. In addition, within nonagriculture, male workers are more likely to be wage-employed than self-employed, whereas the reverse pattern holds for female workers.

The NLSS also asked a question to workers on their occupation, which allows us to examine break down the nonagricultural sector into industry (which includes agroprocessing and construction) and services (which includes transportation). Appendix Figure A1 shows the distribution of workers using the slightly more refined measure of sector and type of employment. The main additional finding is that male workers are more likely to be engaged in industry than female workers.

Table 3 reports regression results for the correlates of sector (originally defined) and type of main employment. Those that are wage-employed in agriculture are omitted from the regressions because of small sample sizes. The reference category for the regression results is those that are self-employed in agriculture.

In terms of the likelihood of wage-employment in nonagriculture relative to self-employment in agriculture, for both women and men, those that are engaged in noneconomic activities; come from a larger household; or reside in a community that is remote, experienced a natural disaster in the recent past, or in a region other than Kathmandu valley are more likely to be wage-employed in nonagriculture. On the other hand, those that are older, have completed at least higher-secondary education, are Dalit, or reside in a community where it is harder to find work than in the recent past are more likely to be wage-employed in nonagriculture. In addition, for

women only, those that are married or have a recent illness or injury are also more likely to be wage-employed in agriculture. For men only, those that are attending school are less likely to be wage-employed in nonagriculture, whereas those that come from a poor household are more likely to be wage-employed in nonagriculture.

In terms of the likelihood of self-employment in nonagriculture relative to self-employment in agriculture, for both women and men, those that had completed at least some secondary education were more likely to be self-employed in nonagriculture, whereas those that come from a poor household or reside in a more remote community are more likely to be self-employed in nonagriculture. Women that reside in any region outside of Kathmandu valley and men that reside in the hills instead of Kathmandu valley are less likely to be self-employed in nonagriculture. In addition, for women only, those that are Terai middle caste or Janajati instead of Brahmin/Chettri, or reside in a community with a net decrease in population in the recent past are more likely to be self-employed in nonagriculture. For men only, those that are the head of household, are Newar, or reside in a community with a net increase in population in the recent past are more likely to be self-employed in nonagriculture.

*Hours worked:* Table 4 reports median hours worked in the reference week in the worker's main employment activity (Panel A), and all employment activities (Panel B). Median hours worked is not reported for urban workers that are mainly wage-employed in agriculture due to small sample sizes. Median hours worked tend to be higher for wage-employed than self-employed workers. Median hours worked for women that are self-employed in nonagriculture and for men that are self-employed in general are lower for the 16–24 age group than the 25–34 age group. Compared to rural workers, median hours worked for urban workers are either similar or higher. These patterns hold for both genders, and for hours worked in the main employment activity or all employment activities.

Table 5 reports regression results for the correlates of log hours worked by the worker in all employment activities. Although not reported, the regression results for log hours worked in the main employment activity are qualitatively similar.<sup>5</sup>

The regressions for men appear to explain a larger share of the variation in hours worked than for women (30% versus 14%). In terms of factors significantly associated with hours worked for both genders, those that are attending school work less hours (21% less hours for women, and

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<sup>5</sup> Results available upon request.

19% less hours for men). Relative to Kathmandu valley, women that reside in the rural hills, Terai, and mountains work less hours (ranging from 16% to 26% less hours across these regions) and men that reside in rural Terai work 12% less hours. Consistent with the bivariate patterns noted previously, relative to those that are self-employed in agriculture, those in other types of employment work more hours (between 25% to 58% more hours for women, and between 36% to 68% more hours for men, depending on the type of employment). Factors such as engagement in noneconomic activities, household poverty status, caste/ethnicity, and the level of difficulty of finding work compared to recent past in the community do not appear to be associated with hours worked.

Some other factors are significantly associated with hours worked for one gender but not the other. For women only, those that are married work 11% less hours, those that are head of household work 10% less hours; and those that have only passed the SLC work 12% less hours than those with primary education or less. In addition, those that reside in a community with active user groups work 11% more hours. For men, hours worked increase with age (14% for an additional year). In addition, those that suffer from a disability or chronic illness work 16% less hours, and those that reside in a community with a net increase in population in the recent past, or reside in a community that experienced a natural disaster in the recent past both work 11% less hours.

*Time-related underemployment:* Table 6 reports time-related underemployment rates. We define underemployment in the standard way, based on hours worked by the worker, whether the worker is available for more work, and whether the worker actively searched for more work, all in the reference week. We also relax the standard definition by excluding the active search condition, to allow for the possibility that the worker may be discouraged from searching. The denominator for all rates is those employed.

Underemployment rates based on either standard or relaxed definitions are low. Depending on the gender and the youth cohort, standard underemployment rates range from 2% to 7% for working 35 hours or less, and range from 2% to 4% for working 15 hours or less. When we relax the definition, underemployment rates increase by 2 to 6 pp., depending on the hours worked range ( $\leq 35$  hours or  $\leq 15$  hours), gender, and youth cohort.

Analogous to the investigation for unemployment in Section 3.A, we examine which of the conditions in the definition of underemployment (hours worked, availability for more work, or

actively searched for more work) matters more in determining the levels of underemployment. Panel B in Table 6 reports the shares of employed workers under the various conditions. Sizeable shares of employed workers worked less than full time. Depending on the gender and youth cohort, the shares of workers that worked 16–35 hours range from 20% to 35%, and the shares that worked 15 hours or less range from 11% to 27%.

The shares that report that they are available for more work range from 11% to 44%, depending on the hours-worked range, gender, and youth cohort. Conditional on availability for more work, the shares that report that they actively searched for more work range from 25% to 55%, depending on the hours-worked range, gender, and youth cohort. As we found for unemployment, unavailability for more work is driving the observed levels of underemployment.

For those that worked less than 40 hours and report that they are unavailable for more work in the reference week, the survey asked the reason for their unavailability. Figure 5 shows the distribution of self-reported reasons for those that worked 35 hours or less. Similar to what we found when we examined the reasons for unavailability for those not working, among those in the 16–24 age group, the main reason for unavailability is that they are attending school (43% of women and 64% of men). For women, engagement in noneconomic activities is one of the main reasons (reported by 33% of those in the 16–24 age group, and 67% of those in the 25–34 age group).

For men in the 25–34 age group, the reasons are more varied: 22% report that the reason is off-season, 25% report that they have adequate work, 13% report other, unspecified reasons. Twelve percent report an employment-related constraint, such as lack of business funds or supplies, lack of sales, machinery breakdown, or strikes.

Given the low underemployment rates, we do not examine the correlates of underemployment. Instead, in Appendix Table A1, we present statistics on the composition of those that are underemployed.

*Wage earnings:* Table 7 reports median hourly earnings in the worker’s main wage-employment activity (Panel A) and all wage-employment activities (Panel B). Median hourly earnings are not reported for urban workers that are mainly wage-employed in agriculture due to small sample sizes. Median labor earnings are higher for nonagricultural than agricultural workers; they are either similar or higher for urban than rural workers; and they are higher for the 25–34 age group than the 16–24 age group. The patterns are consistent with how we expect the levels of

education attainment, labor market experience, and cost of living—all potential determinants of earnings— will vary between subgroups. The patterns hold for both the main wage-employment activity and all wage-employment activities.

Table 8 reports regression results for log hourly earnings in all wage-employment activities held by worker. While some workers that are mainly self-employed also engage in wage-employment activities, the regressions are restricted to workers that are mainly wage-employed. Although not reported, the regression results for log hourly earnings in the main wage-employment activity are qualitatively similar.<sup>6</sup>

The share of variation in earnings explained by both the female and male regressions is around 20%. In terms of factors that are significantly associated with earnings for both genders, we find that higher levels of education are associated with higher earnings. For women, the effect emerges when they have completed some secondary education, whereas men, the effect emerges when they have at least higher-secondary education. Relative to primary education or less, women with some secondary education earn 21% more, and both women and men with at least higher-secondary education earn about 50% more. Workers in regions outside of Kathmandu valley earn less. In terms of significant effects, those from rural hills, and rural and urban Terai earn less (between 36% to 53% less in earnings for women, and between 19% to 24% less in earnings for men, depending on the region).

Some factors are significantly associated with earnings for only one of the genders. For men, those that are ever-married earn 14% more, and those that are wage-employed in nonagriculture earn 18% more. Earnings are positively associated with time from the household's home to the nearest paved road, indicating that the supply of male wage labor may be tighter in more remote communities. Those that have a disability or chronic illness earn 24% more, and earnings are decreasing with household size (3% less in earnings for each additional household member). The directions of these effects were unexpected. Additional urban- and rural-specific regressions indicate that the disability effect appears for rural residents, and the household size effect appears for urban residents. For women, those that are head of household earn 21% more, and those that reside in a community with a net increase in population earn 27% more, suggesting that they benefit from a more dynamic labor market.

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<sup>6</sup> Results available upon request.

Factors such as age, recent illness or injury, current school attendance, caste/ethnicity, household poverty status, experience with a natural disaster in the recent past in the community, the level of difficulty finding employment compared to five years back in the community, and active user groups in the community all do not appear to be associated with earnings. These patterns hold for both women and men.

### Time trends in labor patterns

How have labor patterns evolved over time for youth? Figure 5 shows how the distribution of women by activity (Panel A), labor force (Panel B), and type of main employment (Panel C) status have evolved between 2003–04 and 2010–11. Figure 6 shows analogous information for men.

In terms of activity status, for the 16–24 age group, the shares that are attending school have risen markedly, whereas the shares that are employed have declined. This pattern of change is qualitatively similar for both genders. The shares of rural female youth that are neither employed nor attending school have risen. The increase is especially large for the 25–34 age group in percentage-point terms (from 16% in 2003–04 to 45% in 2010–11). This pattern of change is not observed for rural male youth.

In terms of labor force status, the shares of rural youth working 36 or more hours in the reference week (that is, full-time work) have declined. This pattern of change holds for both youth cohorts, and for both genders. Labor force status patterns for urban youth are more stable over time.

In terms of employment type status, the shares that are self-employed in agriculture have decreased whereas the shares that are wage- or self-employed in nonagriculture have increased. This pattern of change holds for both urban and rural areas, for both youth cohorts, and for both genders. The pattern of change is however more pronounced for female youth than male youth in percentage-point terms.

Table 9 reports how median real hourly earnings in the worker's main wage employment activity have evolved between 2003–04 and 2010–11. We do not report how median earnings have evolved for urban workers that are mainly wage-employed in agriculture given the small sample sizes for the subgroup. For female youth, those in the 16–24 age group that are mainly wage-employed in nonagriculture in urban areas observed a gain in median earnings of 24%. In contrast,

counterparts in rural areas observed a decline in median earnings of –36%. Changes in median earnings for other subgroups are negligible, ranging between –5 to 5%.

For male youth, those that are mainly wage-employed in agriculture in rural areas observed the largest gains in median earnings (21% for the 16–24 age group, and 50% for the 25–34 age group). Changes in median earnings for those that are mainly wage-employed in nonagriculture were negligible, ranging between –10% and 5%.

Large gains in agricultural wages are also reflected in salary and wage data gathered by the Nepal government through its annual Economic Surveys. Figure 7 shows the evolution of nominal salary, wage, and agricultural wage indices, as well as the urban consumer price index, between 2004–05 and 2015–16. The salary index reflects salaries for public and private sector workers, and the wage index reflects wages for construction, agricultural, and industrial workers. Comparing the nominal trend in wages and salaries to the trend in consumer prices, we find that agricultural wages saw the largest real gains over the period, whereas salaries saw little real gain.

### Youth versus nonyouth labor outcomes

How do average labor outcomes compare between youth and nonyouth? Tables 10 reports average female labor and other outcomes for the two youth cohorts, and nonyouth. Table 11 reports analogous information for male labor and other outcomes. Given that large shares of those in the 16-24 age group are attending school, we compare outcomes between those in the 25-34 age group and nonyouth. School attendance rates for the 25-34 age group are low, in the single digits for most subgroups.

For those in the 25–34 age group, education levels are higher, measured in terms of shares that currently attend school, ever attended school, or passed the SLC; rural shares engaged in economic activities (that is, rural employment-to-population ratios) are smaller; unemployment rates are higher; and the shares that are wage-employed in nonagriculture are larger, all relative to nonyouth. These patterns hold for both genders. In addition, for urban men, median hourly earnings are lower for those in the 25–34 age group than nonyouth.

### *Conclusion*

The findings suggest areas and directions for both policy and research orientation. Youth unemployment and time-related underemployment rates, whether based on standard or relaxed

definitions, tend to be low. The main determining factor appears to be unavailability of individuals for (more) work. The main self-reported reasons for unavailability are school attendance and, in the case of women, engagement in noneconomic activities. However, the reported reasons may be proximate, concealing a more extensive underlying labor demand problem. Signals of this possibility are the nontrivial shares of women and men that are neither attending school nor working, and the nontrivial shares of female and male workers that are working much less than fulltime hours.

Time trends indicate two major shifts in labor patterns for youth in general. First is the increasing shares of youth that are attending school, which indicates more years of formal schooling and, thus, later entry into the labor market. Second is the declining shares of workers in self-employment in agriculture and increasing shares of workers in self- and wage-employment in nonagriculture, a transition that is stronger for youth than for nonyouth.

In addition, we find three major shifts in labor patterns for rural youth only: (1) declining employment rates for women, (2) declining average hours worked by female and male workers, and (3) increasing real hourly earnings for rural male wage workers in agriculture, with relatively little or no real gain in earnings for other types of wage workers. Plausible explanations for the patterns are (1) high outmigration rates of rural male youth for employment elsewhere, (2) high inflow rates of remittances from labor migrants to rural households, and (3) the cessation of the armed conflict in 2006 which allowed rural residents to reengage in previously-disrupted economic and development activities more in line with traditional divisions and intensities of labor. The effects of male youth labor outmigration and remittances on the labor outcomes of youth household members are explored in a separate chapter in this volume.

The earnings trends are corroborated by annual wage data which shows that, while agricultural workers have experienced the largest real gains in wages, salaried workers have experienced essentially no real gains in salaries. Given that salaried workers tend to be more educated than wage workers, labor earnings returns to education appear to be declining over time. The combination of potentially declining labor earnings returns to education and increasing education attainment in the labor force suggests that the increase in the demand for educated workers is deficient relative to the increase in the supply of these workers. The problem may be more acute in urban areas given the higher shares of more educated workers in these areas.

Compared to nonyouth, youth (specifically those in the 25–34 age group, who had mostly completed their education) have higher education attainment levels, lower rural employment rates, higher unemployment rates, and larger shares in wage-employment in nonagriculture. These patterns are consistent with what general labor market theory predicts, specifically, that youth can face frictions when they transition from formal education to the labor market, and that nonyouth can observe higher earnings due to longer labor market experience and job tenure (even if partly offset by the higher levels of education attainment among youth). Thus, the patterns do not necessarily signal that youth face labor market disadvantages that may persist over their working lives. The open question is the extent to which youth, who are much more educated on average than nonyouth, are likely to find the right employment match at least in terms of maximizing their private returns, in comparison to nonyouth when they themselves were youth.

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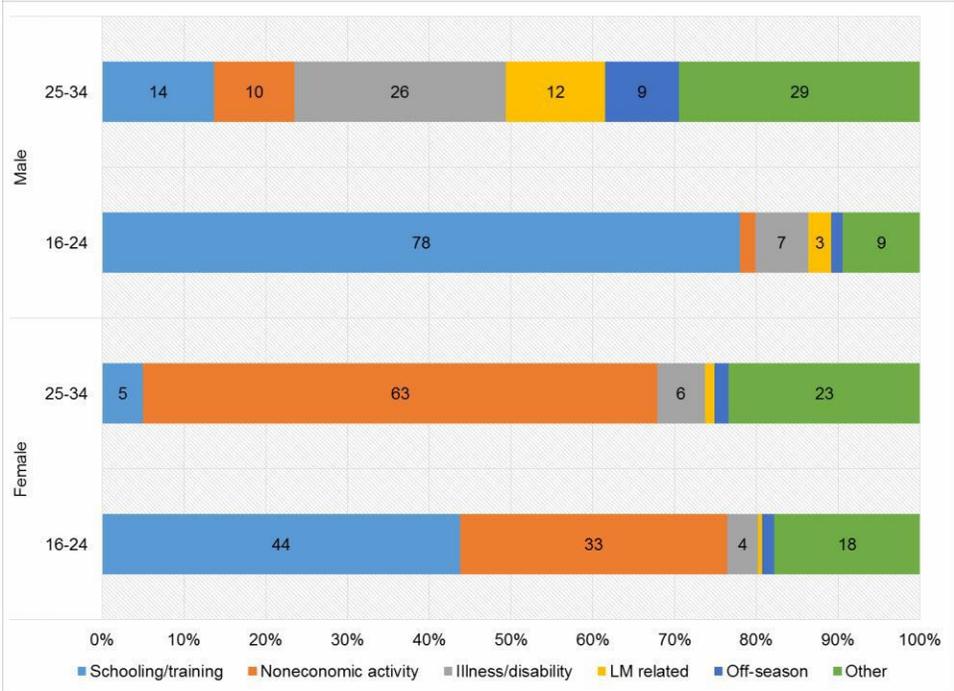
## Tables and Figures

Table 1. Unemployment

	Female		Male	
	16–24 (1)	25–34 (2)	16–24 (3)	25–34 (4)
	<i>A. Rates</i>			
Unemployment rate	2%	1%	5%	3%
Unemployment rate (relaxed def.)	7%	4%	9%	5%
	<i>B. Decomposition of unemployment conditions</i>			
(A) Not employed, attending school	26%	2%	36%	1%
(B) Not employed, not attending school	34%	45%	14%	20%
(C) Of (A) and (B), available to work	5%	4%	10%	19%
(D) Of (C), actively searched for work	32%	38%	51%	59%

*Note:* Estimates are adjusted for sampling weights. Under the relaxed definition, a worker is defined as unemployed if he is not employed and available to work, whether or not he actively searched for work.

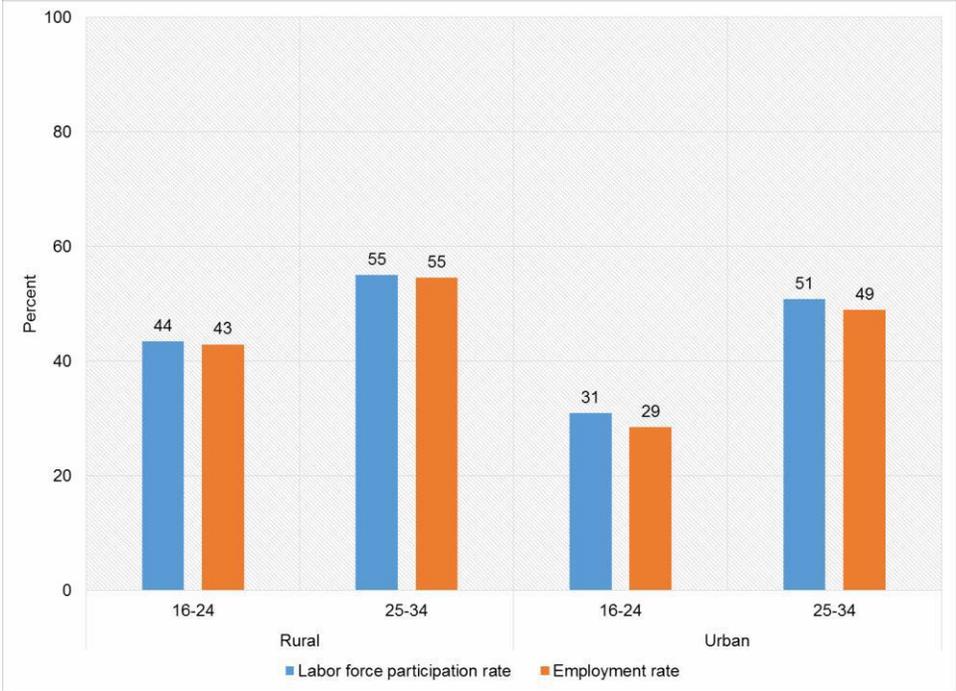
Figure 1. Self-reported reasons for being not available to work, not employed individuals



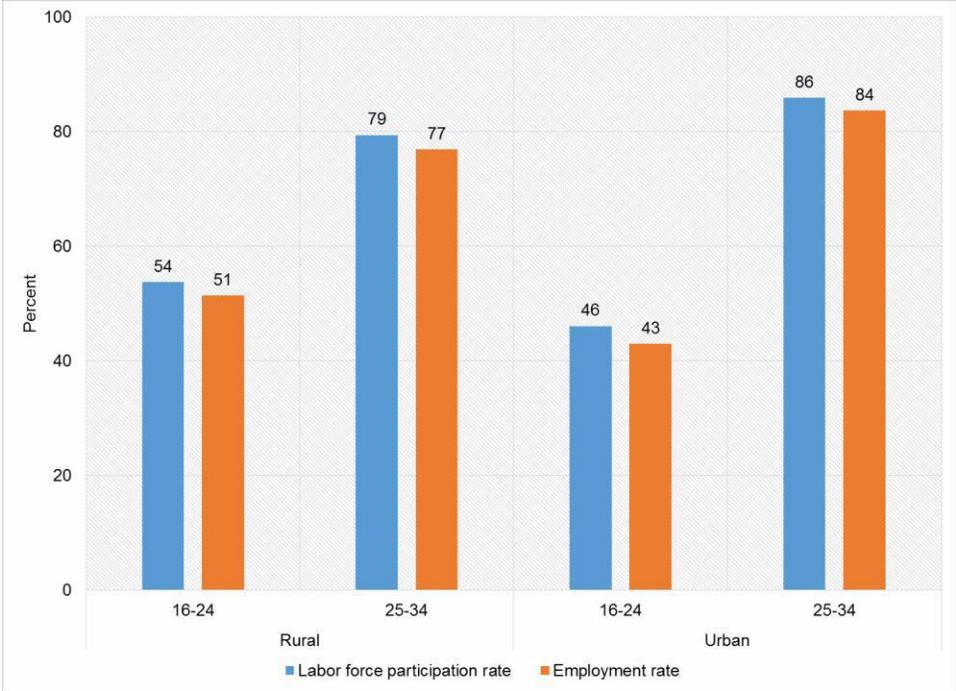
Note: LM related comprises of three responses: (1) waiting to hear back from an employment inquiry; (2) thought no employment is available; and (3) waiting to start already-arranged employment. Estimates adjusted for sampling weights.

Figure 2. Labor force participation and employment rates

A. Female youth



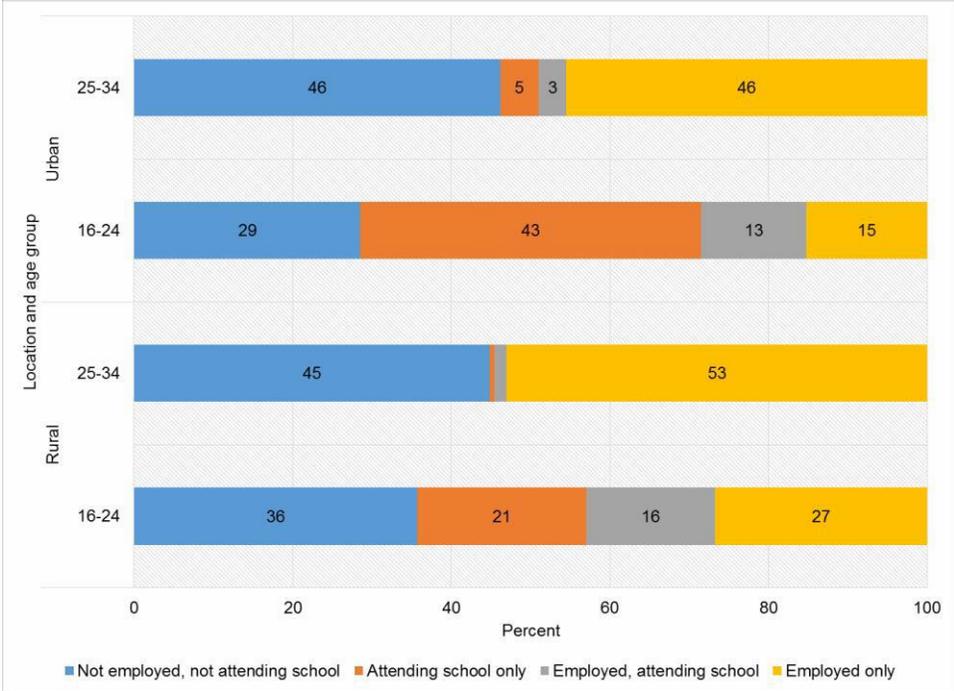
B. Male youth



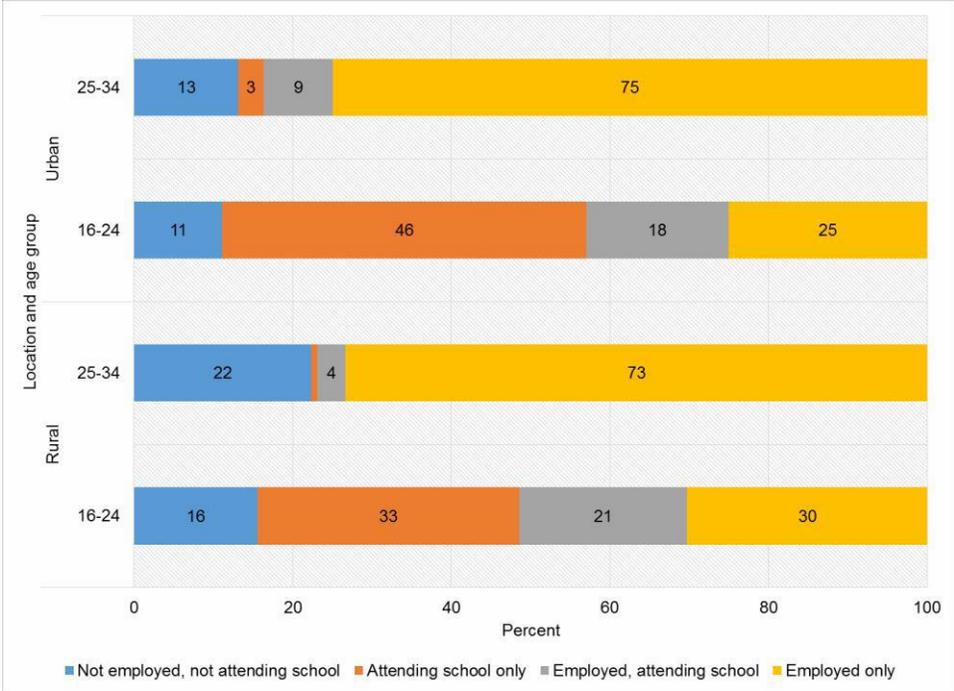
Note: Estimates are adjusted for sampling weights.

Figure 3. Distribution of schooling and employment activity status

C. Female youth



D. Male youth



Note: Estimates are adjusted for sampling weights.

Table 2. Multinomial logit regression results for activity status, individuals ages 16–34  
Average marginal effects

Covariate	Female			Male		
	In school only (1)	In school, Employed (2)	Employed only (3)	In school only (4)	In school, Employed (5)	Employed only (6)
	<i>Reference category: Not in school, not employed</i>					
Age	-0.041*** (0.012)	-0.037*** (0.010)	0.035*** (0.013)	-0.046** (0.021)	-0.070*** (0.017)	0.081*** (0.015)
Age squared	0.001** (0.000)	0.001*** (0.000)	-0.000 (0.000)	0.000 (0.001)	0.001*** (0.000)	-0.001*** (0.000)
Ever married	-0.081*** (0.010)	-0.063*** (0.009)	-0.020 (0.024)	-0.085*** (0.022)	-0.021 (0.021)	0.118*** (0.020)
Head of household	0.001 (0.023)	-0.032 (0.024)	0.007 (0.022)	-0.032 (0.027)	0.028 (0.025)	0.068*** (0.021)
Disability or chronic illness	-0.018 (0.018)	0.014 (0.017)	-0.022 (0.020)	-0.006 (0.033)	-0.032 (0.032)	-0.006 (0.026)
Illness or injury in the last month	-0.001 (0.012)	0.013 (0.012)	-0.050*** (0.018)	0.012 (0.018)	-0.009 (0.018)	-0.039* (0.020)
Engaged in noneconomic activity	-0.064*** (0.014)	0.056*** (0.015)	0.235*** (0.035)	-0.004 (0.013)	0.014 (0.013)	0.021 (0.015)
Completed 6-10	0.107*** (0.019)	0.082*** (0.021)	-0.116*** (0.018)	0.139*** (0.029)	0.097*** (0.032)	-0.168*** (0.020)
Passed SLC	0.148*** (0.022)	0.146*** (0.024)	-0.153*** (0.025)	0.198*** (0.031)	0.185*** (0.032)	-0.305*** (0.026)
Completed intermediate or higher	0.158*** (0.024)	0.173*** (0.024)	-0.204*** (0.030)	0.232*** (0.036)	0.247*** (0.034)	-0.372*** (0.027)
Household size	-0.003 (0.002)	0.005** (0.002)	-0.002 (0.003)	-0.004 (0.003)	0.003 (0.003)	0.011*** (0.003)
Poor	0.012 (0.014)	-0.027* (0.014)	0.004 (0.018)	0.014 (0.020)	-0.056*** (0.021)	-0.008 (0.020)
Terai middle caste	-0.006 (0.022)	-0.035 (0.025)	-0.084*** (0.031)	-0.067** (0.027)	0.043* (0.025)	0.031 (0.029)
Dalit	-0.038** (0.016)	0.016 (0.018)	-0.041* (0.024)	-0.027 (0.024)	0.007 (0.024)	-0.003 (0.028)
Newar	-0.039*** (0.014)	0.010 (0.017)	0.079*** (0.028)	-0.065*** (0.023)	0.040 (0.025)	0.077** (0.031)
Janajati	-0.023** (0.012)	0.004 (0.011)	0.021 (0.020)	-0.043*** (0.015)	0.001 (0.016)	-0.000 (0.019)
Log time to nearest paved road	-0.007** (0.003)	0.004 (0.003)	0.011** (0.005)	-0.005 (0.004)	0.013*** (0.004)	-0.009* (0.005)
Natural disaster in last 5 years	-0.003 (0.012)	0.014 (0.012)	0.002 (0.021)	0.012 (0.017)	0.006 (0.017)	-0.040** (0.019)
Easier to find work than 5 years ago	0.009 (0.013)	0.009 (0.014)	-0.017 (0.021)	0.022 (0.018)	-0.004 (0.017)	-0.015 (0.022)
Harder to find work than 5 years ago	0.015 (0.013)	-0.012 (0.013)	-0.057** (0.024)	0.020 (0.019)	-0.036* (0.019)	0.006 (0.023)
Net increase in population in last 5 years	0.045*** (0.016)	-0.028* (0.016)	-0.033 (0.029)	0.003 (0.026)	0.003 (0.026)	-0.050* (0.029)
Net decrease in population in last 5 years	0.016	-0.012	-0.031	0.005	-0.009	-0.072***

Table 2. Multinomial logit regression results for activity status, individuals ages 16–34

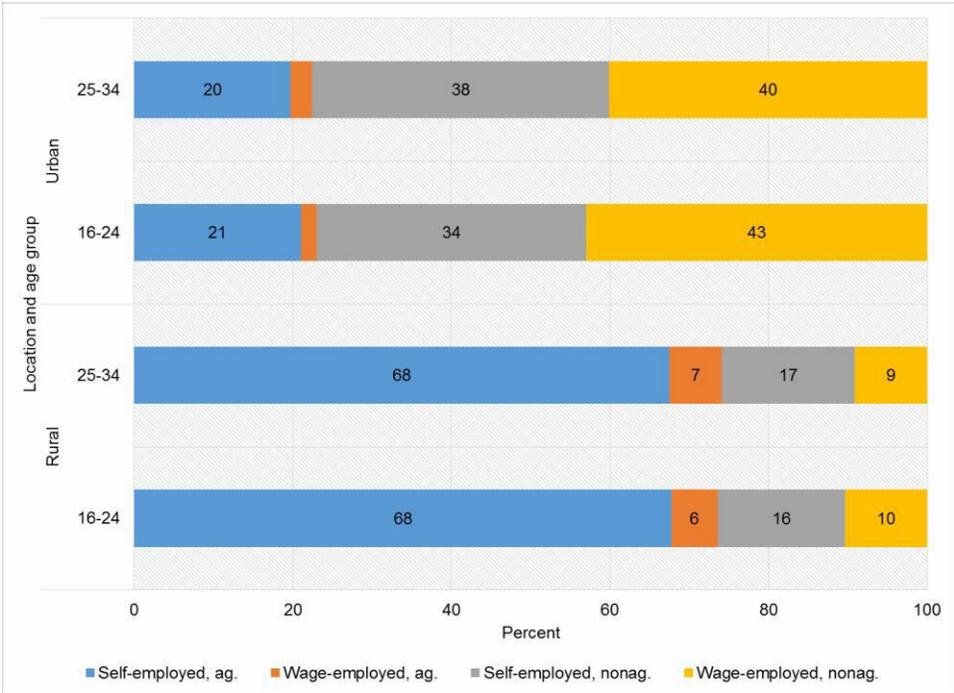
*Average marginal effects*

Covariate	Female			Male		
	In school only (1)	In school, Employed (2)	Employed only (3)	In school only (4)	In school, Employed (5)	Employed only (6)
	<i>Reference category: Not in school, not employed</i>					
Movement but net zero change in last 5 years	(0.015) 0.024	(0.014) 0.007	(0.026) –0.044	(0.022) –0.001	(0.021) 0.001	(0.026) –0.039
Active user group present	(0.018) –0.011	(0.019) 0.019	(0.029) 0.079***	(0.026) –0.023	(0.026) 0.032	(0.030) 0.019
Urban hills	(0.016) –0.004	(0.019) 0.029	(0.023) 0.012	(0.022) –0.038	(0.021) 0.030	(0.025) –0.018
Rural hills	(0.018) –0.024	(0.018) 0.049***	(0.037) 0.024	(0.027) –0.032	(0.029) 0.017	(0.037) –0.053
Mountains	(0.018) –0.050*	(0.018) 0.106***	(0.035) 0.071	(0.027) –0.033	(0.029) 0.087**	(0.033) –0.017
Urban Terai	(0.026) 0.043**	(0.025) –0.050**	(0.052) –0.074**	(0.040) 0.012	(0.039) –0.036	(0.056) 0.014
Rural Terai	(0.018) –0.025	(0.020) 0.029	(0.033) –0.069*	(0.025) –0.047*	(0.026) –0.018	(0.033) –0.010
	(0.019)	(0.020)	(0.036)	(0.027)	(0.030)	(0.034)
Observations	4,606			3,212		

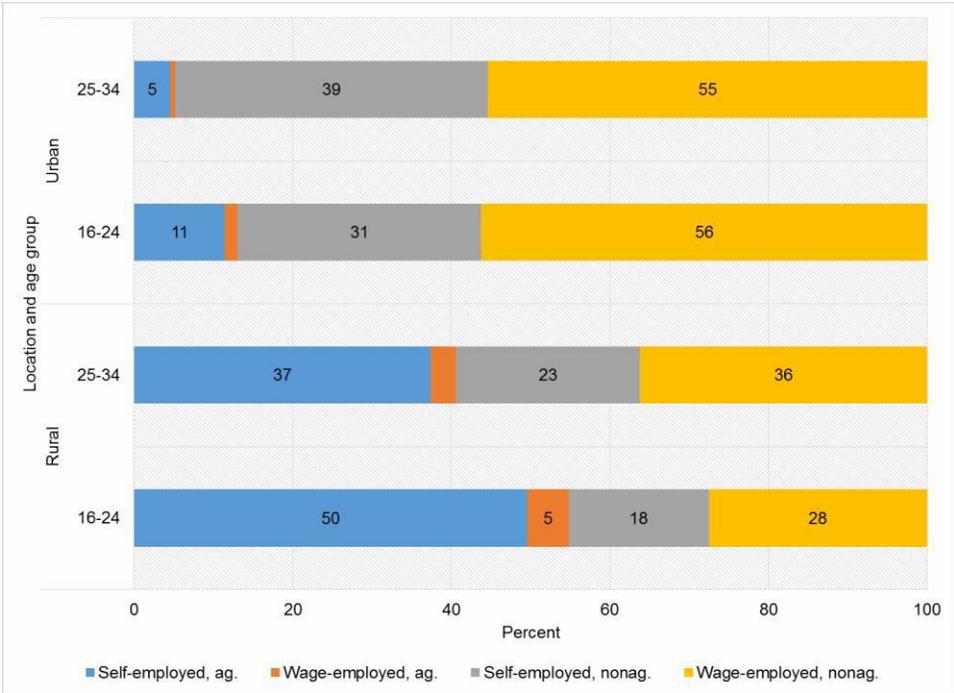
*Note:* SLC stands for School Leaving Certificate. Estimates are adjusted for sampling weights. Robust standard errors, clustered at the PSU level, are reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Figure 4. Distribution of type and sector of main employment

A. Female youth



B. Male youth



Note: In the case of multiple employment activities, the employment activity with the most hours worked in the reference week is set as the main. Estimates are adjusted for sampling weights.

Table 3. Multinomial logit regression results for sector and type of employment, employed workers ages 16-34

*Average marginal effects*

Covariate	Female		Male	
	Wage- employed in nonag. (1)	Self- employed in nonag. (2)	Wage- employed in nonag. (3)	Self- employed in nonag. (4)
	<i>Reference category: Self-employed in ag.</i>			
Age	0.068*** (0.015)	-0.019 (0.019)	0.068*** (0.023)	-0.029 (0.021)
Age squared	-0.001*** (0.000)	0.000 (0.000)	-0.001*** (0.000)	0.001 (0.000)
Ever married	-0.067*** (0.020)	0.021 (0.028)	-0.009 (0.034)	0.011 (0.027)
Head of household	0.011 (0.022)	-0.017 (0.027)	0.009 (0.031)	0.071** (0.029)
Disability or chronic illness	-0.023 (0.022)	0.037 (0.030)	0.001 (0.048)	0.012 (0.039)
Illness or injury in the last month	-0.034* (0.020)	0.018 (0.024)	0.024 (0.031)	-0.036 (0.030)
Engaged in noneconomic activity	-0.110*** (0.033)	-0.001 (0.047)	-0.069*** (0.026)	0.003 (0.023)
Currently attending school	0.020 (0.027)	-0.039 (0.030)	-0.074** (0.036)	-0.001 (0.031)
Completed 6-10	-0.023 (0.023)	0.052** (0.024)	-0.046 (0.029)	0.076*** (0.029)
Passed SLC	0.081*** (0.025)	0.080** (0.031)	-0.046 (0.038)	0.110*** (0.036)
Completed intermediate or higher	0.179*** (0.025)	0.065* (0.039)	0.125*** (0.044)	0.079** (0.040)
Household size	-0.008** (0.004)	-0.002 (0.005)	-0.013** (0.005)	0.006 (0.004)
Poor	0.016 (0.021)	-0.055* (0.031)	0.098*** (0.033)	-0.074** (0.031)
Terai middle caste	-0.052 (0.045)	0.141*** (0.044)	-0.055 (0.045)	0.015 (0.045)
Dalit	0.088*** (0.026)	-0.018 (0.033)	0.135*** (0.038)	-0.049 (0.041)
Newar	0.001 (0.024)	0.031 (0.035)	-0.038 (0.042)	0.073* (0.038)
Janajati	0.026 (0.019)	0.074*** (0.023)	0.010 (0.033)	-0.014 (0.032)
Log time to nearest paved road	-0.014*** (0.005)	-0.034*** (0.006)	-0.031*** (0.008)	-0.019*** (0.007)
Natural disaster in last 5 years	-0.033* (0.020)	-0.032 (0.027)	-0.058* (0.031)	0.009 (0.029)
Easier to find work than 5 years ago	0.045** (0.019)	0.044 (0.028)	0.001 (0.035)	0.049 (0.034)
Harder to find work than 5 years ago	0.067***	0.022	0.082**	0.042

Table 3. Multinomial logit regression results for sector and type of employment, employed workers ages 16-34

*Average marginal effects*

Covariate	Female		Male	
	Wage- employed in nonag. (1)	Self- employed in nonag. (2)	Wage- employed in nonag. (3)	Self- employed in nonag. (4)
	<i>Reference category: Self-employed in ag.</i>			
Net increase in population in last 5 years	(0.020) 0.015	(0.032) 0.053	(0.034) 0.030	(0.035) 0.094**
Net decrease in population in last 5 years	(0.027) -0.014	(0.041) 0.065*	(0.046) -0.030	(0.046) 0.030
Movement but net zero change in last 5 years	(0.025) -0.026	(0.036) 0.056	(0.042) -0.043	(0.044) 0.045
Active user groups present	(0.028) 0.014	(0.040) -0.063	(0.048) 0.003	(0.045) 0.032
Urban hills	(0.025) -0.250***	(0.040) -0.254***	(0.039) -0.237***	(0.039) -0.117*
Rural hills	(0.047) -0.273***	(0.072) -0.270***	(0.067) -0.241***	(0.062) -0.203***
Mountains	(0.043) -0.247***	(0.069) -0.231***	(0.063) -0.196**	(0.058) -0.122
Urban Terai	(0.054) -0.197***	(0.078) -0.164**	(0.083) -0.150**	(0.077) 0.003
Rural Terai	(0.044) -0.272***	(0.068) -0.253***	(0.064) -0.310***	(0.056) -0.090
	(0.042)	(0.068)	(0.063)	(0.055)
Observations	2,096		1,971	

*Note:* Workers that are mainly wage-employed in agriculture are omitted because of few observations. SLC stands for School Leaving Certificate. Estimates are adjusted for sampling weights. Robust standard errors, clustered at the PSU level, are reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 4. Median hours worked per week, employed workers ages 16–34

Main employment type	16–24		25–34	
	Rural (1)	Urban (2)	Rural (3)	Urban (4)
<i>A. Main employment activity</i>				
<i>Female</i>				
Self-employed, agriculture	22	24	22	21
Wage-employed, agriculture	35	—	36	—
Self-employed, nonagriculture	21	26	28	36
Wage-employed, nonagriculture	40	42	36	42
<i>Male</i>				
Self-employed, agriculture	18	32	27	26
Wage-employed, agriculture	28	—	32	—
Self-employed, nonagriculture	28	40	48	56
Wage-employed, nonagriculture	48	49	48	48
<i>B. All employment activities</i>				
<i>Female</i>				
Self-employed, agriculture	24	27	23	22
Wage-employed, agriculture	49	—	42	—
Self-employed, nonagriculture	21	28	33	41
Wage-employed, nonagriculture	42	42	40	45
<i>Male</i>				
Self-employed, agriculture	20	35	28	26
Wage-employed, agriculture	42	—	42	—
Self-employed, nonagriculture	34	42	56	60
Wage-employed, nonagriculture	48	50	50	51

*Note:* In the case of multiple employment activities, the employment activity with the most hours worked in the reference week is set as main. Estimates are adjusted for sampling weights.

Table 5. OLS regression results for log hours worked, all employment activities, employed workers ages 16–34

Covariate	Female (1)	Male (2)
Age	−0.005 (0.034)	0.138*** (0.030)
Age squared	0.000 (0.001)	−0.002*** (0.001)
Ever married	−0.111** (0.054)	0.030 (0.046)
Head of household	−0.104* (0.055)	0.031 (0.043)
Disability or chronic illness	−0.035 (0.054)	−0.166** (0.065)
Illness or injury in last month	−0.003 (0.046)	−0.014 (0.048)
Engaged in noneconomic activity	−0.129 (0.092)	−0.023 (0.033)
Currently attending school	−0.214*** (0.060)	−0.192*** (0.049)
Completed grades 6–10	−0.012 (0.052)	0.032 (0.039)
Passed SLC	−0.117* (0.066)	−0.011 (0.053)
Completed intermediate or higher	0.031 (0.063)	−0.016 (0.054)
Wage-employed in agriculture	0.580*** (0.073)	0.363*** (0.099)
Wage-employed in nonagriculture	0.598*** (0.058)	0.675*** (0.047)
Self-employed in nonagriculture	0.242*** (0.056)	0.501*** (0.057)
Household size	0.006 (0.008)	0.010* (0.006)
Poor	−0.033 (0.044)	−0.040 (0.041)
Terai middle caste	0.066 (0.087)	0.065 (0.058)
Dalit	−0.033 (0.060)	0.035 (0.052)
Newar	0.095 (0.064)	−0.025 (0.059)
Janajati	0.008 (0.051)	−0.023 (0.045)
Log time to nearest paved road	0.025* (0.014)	−0.010 (0.012)
Natural disaster in last 5 years	−0.006 (0.049)	−0.114** (0.045)
Easier to find work than 5 years ago	0.055 (0.062)	0.001 (0.051)
Harder to find work than 5 years ago	0.068	0.054

Table 5. OLS regression results for log hours worked, all employment activities, employed workers ages 16–34

Covariate	Female (1)	Male (2)
	(0.060)	(0.051)
Net increase in population in last 5 years	−0.078 (0.074)	−0.114* (0.061)
Net decrease in population in last 5 years	−0.060 (0.068)	−0.081 (0.064)
Movement but net zero change in last 5 years	−0.071 (0.072)	−0.001 (0.061)
Active user groups present	0.107* (0.059)	0.011 (0.048)
Urban hills	−0.054 (0.091)	−0.025 (0.100)
Rural hills	−0.168* (0.090)	−0.125 (0.080)
Mountains	−0.257** (0.125)	0.084 (0.103)
Urban Terai	−0.200** (0.094)	−0.101 (0.064)
Rural Terai	−0.237*** (0.088)	−0.122* (0.071)
Intercept	3.260*** (0.454)	1.443*** (0.381)
Observations	2,138	1,988
R-squared statistic	.135	.309

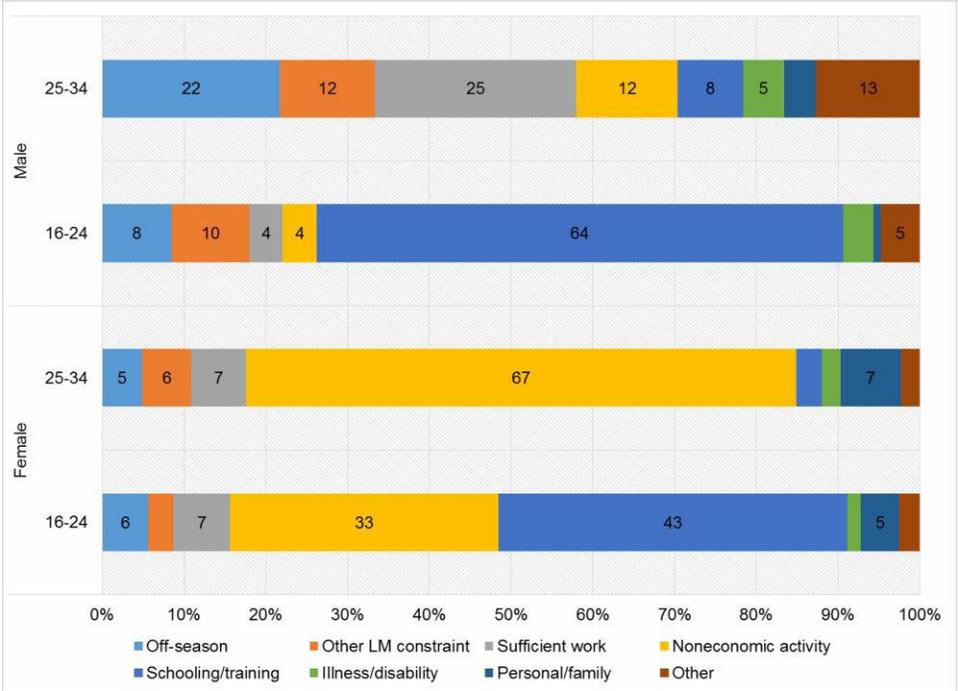
*Note:* SLC stands for School Leaving Certificate. Hours worked data are trimmed at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. Estimates are adjusted for sampling weights. Robust standard errors, clustered at the PSU level, are reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 6. Time-related underemployment

	<u>Female</u>		<u>Male</u>	
	16–24 (1)	25–34 (2)	16–24 (3)	25–34 (4)
<i>A. Rates</i>				
Underemployment rate, $\leq 35$ hours	4%	2%	7%	5%
Underemployment rate, $\leq 35$ hours (relaxed def.)	9%	8%	13%	10%
Underemployment rate, $\leq 15$ hours	2%	2%	4%	2%
Underemployment rate, $\leq 15$ hours (relaxed def.)	5%	5%	7%	5%
<i>B. Decomposition of underemployment conditions</i>				
(A) Employed, $> 36$ hours	38%	43%	51%	71%
(B) Employed, 16-35 hours	38%	35%	28%	20%
(C) Of (B), available for more work	11%	8%	24%	26%
(D) Of (C), actively searched for more work	40%	25%	54%	52%
(E) Employed, $\leq 15$ hours	27%	25%	23%	11%
(F) Of (E), available for more work	20%	19%	29%	44%
(G) Of (F), actively searched for more work	35%	35%	54%	44%

*Note:* Estimates are adjusted for sampling weights.

Figure 5. Self-reported reasons for being not available to work more hours, employed workers, less than 36 hours worked in the reference week



Note: Other labor market constraint comprises of four responses: (1) lack of finance/raw materials; (2) machinery, electrical, or other breakdown; (3) industrial dispute; and (4) lack of business or could not find more work. Estimates adjusted for sampling weights.

Table 7. Median hourly wage earnings, wage-employed workers ages 16-34

Main employment type	16-24		25-34	
	Rural (1)	Urban (2)	Rural (3)	Urban (4)
	<i>A. Main wage-employment activity</i>			
	<i>Female</i>			
Wage-employed, agriculture	15	—	17	—
Wage-employed, nonagriculture	19	25	23	26
	<i>Male</i>			
Wage-employed, agriculture	19	—	25	—
Wage-employed, nonagriculture	25	23	30	40
	<i>B. All wage-employment activities</i>			
	<i>Female</i>			
Wage-employed, agriculture	19	—	19	—
Wage-employed, nonagriculture	23	25	25	29
	<i>Male</i>			
Wage-employed, agriculture	19	—	30	—
Wage-employed, nonagriculture	29	24	38	42

*Note:* Hourly earnings are in 2010–11 Nepal rupees. In the case of multiple wage employment activities, the wage employment activity with the most hours worked in the reference week is set as main. In the case of multiple employment activities, the employment activity with the most hours worked in the reference week is set as main. Estimates are adjusted for sampling weights.

Table 8. OLS regression results for log hourly wage earnings, all wage-employment activities, mainly wage-employed workers ages 16–34

Covariate	Female (1)	Male (2)
Age	0.027 (0.068)	-0.016 (0.056)
Age squared	-0.000 (0.001)	0.001 (0.001)
Ever married	0.123* (0.074)	0.136** (0.061)
Head of household	0.206** (0.101)	0.027 (0.069)
Disability or chronic illness	-0.031 (0.106)	0.227** (0.098)
Illness or injury in last month	0.122 (0.080)	-0.012 (0.063)
Engaged in noneconomic activity	-0.217* (0.116)	0.084 (0.052)
Currently attending school	0.120 (0.098)	-0.028 (0.081)
Completed 6-10	0.208** (0.091)	-0.011 (0.060)
Passed SLC	0.075 (0.111)	0.070 (0.098)
Completed intermediate or higher	0.520*** (0.112)	0.484*** (0.089)
Wage-employed in nonagriculture	0.011 (0.090)	0.183* (0.099)
Household size	0.013 (0.013)	-0.031*** (0.012)
Poor	-0.079 (0.086)	-0.060 (0.069)
Terai middle caste	0.278 (0.195)	0.122 (0.101)
Dalit	-0.004 (0.106)	0.132 (0.084)
Newar	0.011 (0.095)	-0.087 (0.080)
Janajati	0.059 (0.077)	0.108 (0.068)
Log time to nearest paved road	0.036 (0.022)	0.029* (0.015)
Natural disaster in last 5 years	0.041 (0.087)	0.023 (0.061)
Easier to find work than 5 years ago	0.052 (0.088)	-0.012 (0.065)
Harder to find work than 5 years ago	-0.063 (0.092)	-0.030 (0.061)
Net increase in population in last 5 years	0.271** (0.106)	0.002 (0.076)

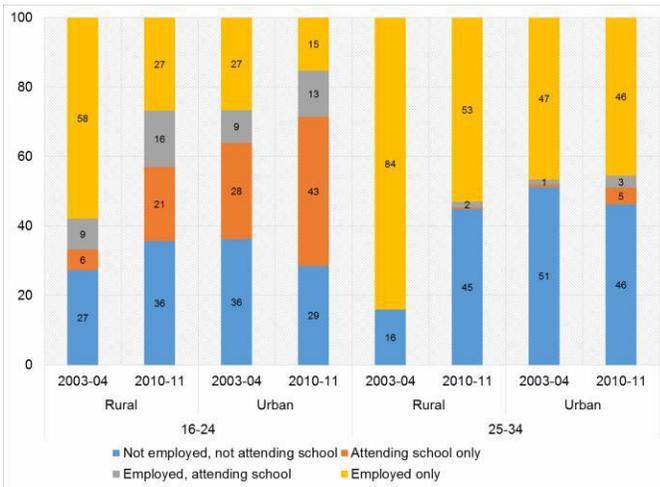
Table 8. OLS regression results for log hourly wage earnings, all wage-employment activities, mainly wage-employed workers ages 16–34

Covariate	Female (1)	Male (2)
Net decrease in population in last 5 years	0.089 (0.112)	-0.001 (0.085)
Movement but net zero change in last 5 years	0.019 (0.101)	-0.090 (0.081)
Active user groups present	-0.040 (0.084)	0.077 (0.064)
Urban hills	-0.062 (0.137)	-0.110 (0.129)
Rural hills	-0.355*** (0.135)	-0.194* (0.105)
Mountains	-0.258 (0.198)	0.061 (0.120)
Urban Terai	-0.530*** (0.126)	-0.241** (0.094)
Rural Terai	-0.365*** (0.130)	-0.199** (0.097)
Intercept	2.615*** (0.842)	3.126*** (0.702)
Observations	532	881
<i>R</i> -squared statistic	.209	.212

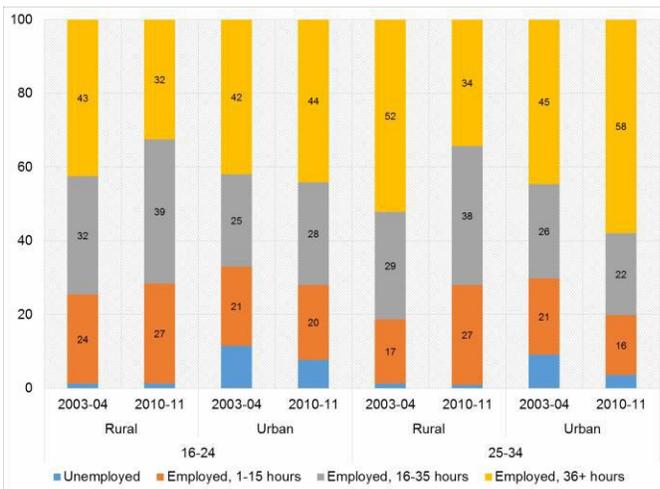
*Note:* SLC stands for School Leaving Certificate. Hourly earnings data are trimmed at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. Estimates are adjusted for sampling weights. Robust standard errors, clustered at the PSU level, are reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Figure 6. Distribution of female youth by activity, labor force, and employment type statuses, by age group and survey year

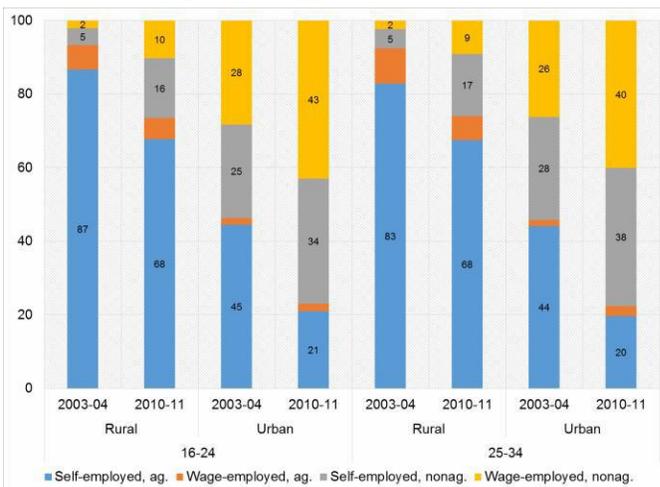
A. Activity status



B. Labor force status



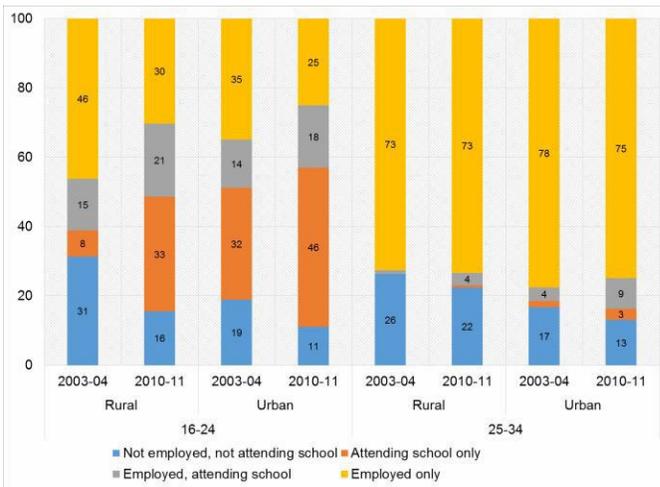
C. Main employment type



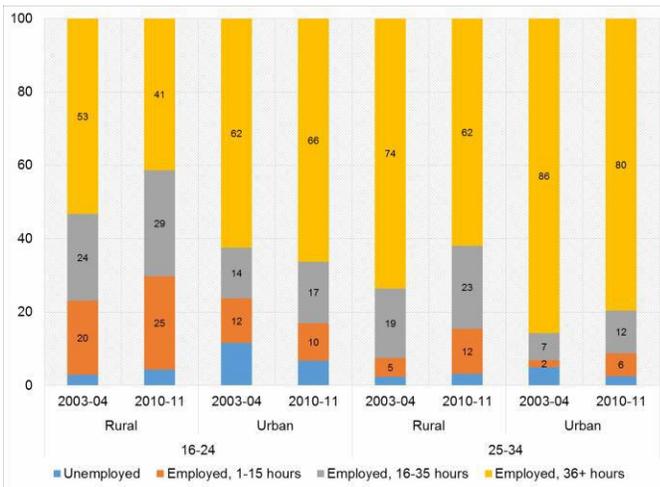
Notes. In the case of multiple employment activities, the employment activity with the most hours worked in the reference week is set as the main. Estimates are adjusted for sampling weights.

Figure 7. Distribution of male youth by activity, labor force, and employment type statuses, by age group and survey year

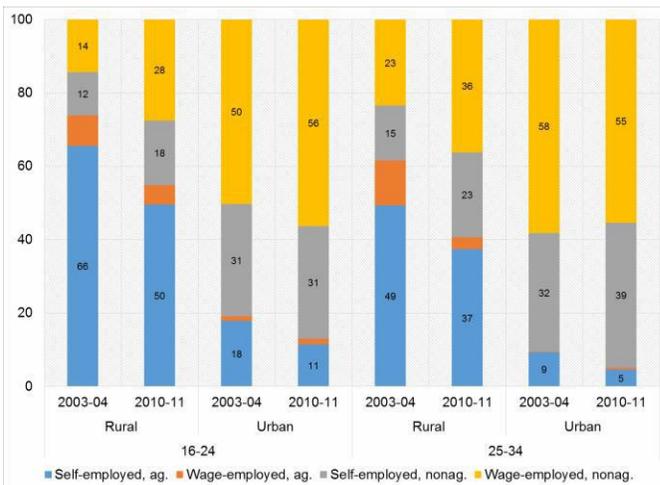
A. Activity status



B. Labor force status



C. Main employment type



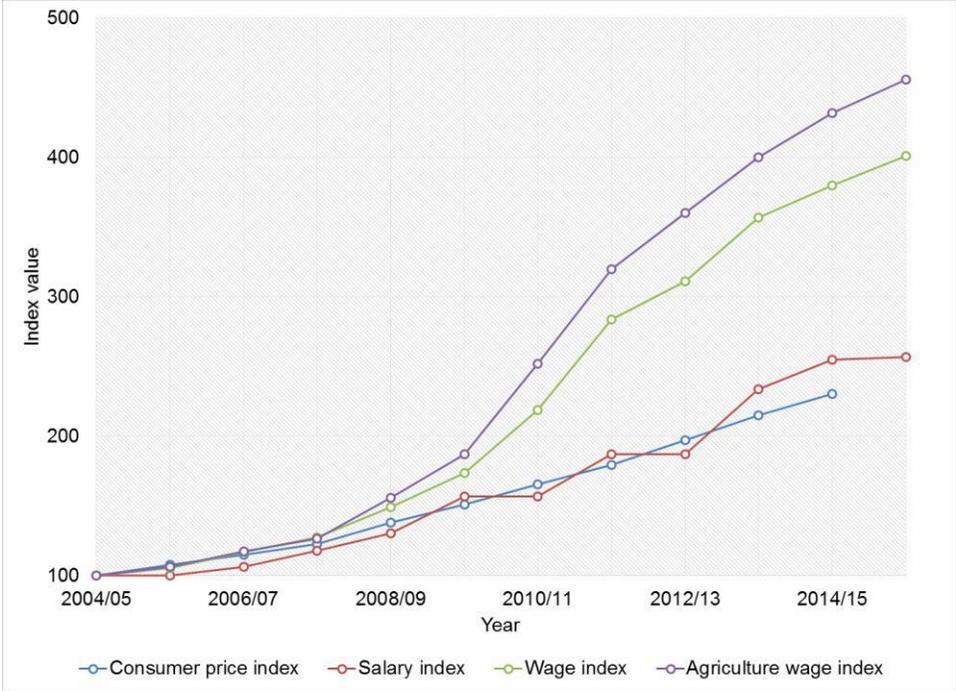
Note: In the case of multiple employment activities, the employment activity with the most hours worked in the reference week is set as main. Estimates are adjusted for sampling weights.

Table 9. Change in median real hourly wage earnings, main wage employment activity

Main employment type	16–24			Urban			25–34			Urban		
	Rural	%	Δ	2010–11	%	Δ	Rural	%	Δ	2010–11	%	Δ
	2010–11	from		2010–11	from		2010–11	from		2010–11	from	
	(1)	2003–04	(3)	(4)	2003–04	(5)	(6)	2003–04	(7)	(8)	(8)	
<i>A. Female</i>												
Wage-employed, ag.	15	5%	—	—	17	5%	—	—				
Wage-employed, nonag.	19	–36%	25	24%	23	5%	26	–4%				
<i>B. Male</i>												
Wage-employed, ag.	19	21%	—	—	25	50%	—	—				
Wage-employed, nonag.	25	4%	23	–8%	30	1%	40	–10%				

*Note:* Hourly earnings are in 2010–11 Nepal rupees. In the case of multiple wage employment activities, the wage employment activity with the most hours worked in the reference week is set as main. In the case of multiple employment activities, the employment activity with the most hours worked in the reference week is set as main. Estimates are adjusted for sampling weights.

Figure 8. Evolution of salary and wage indices



Note: Statistics obtained from the Government of Nepal’s Economic Surveys for the various fiscal years. The base year for all indices is 2004/05.

Table 10. Comparison of labor and other indicators between female youth and nonyouth

Indicator	Rural			Urban		
	16–24 (1)	25–34 (2)	35–54 (3)	16–24 (4)	25–34 (5)	35–54 (6)
Share currently attending school	38%	2%	0%	57%	8%	0%
Share attended school in the past	77%	45%	15%	92%	76%	48%
Share passed SLC	22%	9%	2%	48%	35%	18%
Share engaged in economic activities	43%	55%	63%	29%	49%	52%
Share engaged in noneconomic activities	91%	95%	95%	87%	96%	95%
Median hours in noneconomic activities in ref. week	21	28	21	17	28	21
Unemployment rate	1%	1%	0%	8%	4%	1%
Unemployment rate (relaxed definition)	5%	2%	1%	16%	9%	6%
Median hours worked in ref. week, main employment activity	24	25	24	35	40	40
Median hours worked in ref. week, all employment activities	27	28	26	35	42	42
Underemployment rate, ≤35 hours in ref. week	3%	2%	2%	4%	3%	1%
Underemployment rate, ≤15 hours in ref. week	2%	2%	1%	3%	2%	1%
Share wage-employed in agriculture	6%	6%	7%	2%	2%	3%
Share self-employed in agriculture	68%	68%	71%	21%	20%	27%
Share wage-employed in nonagriculture	10%	9%	5%	43%	40%	28%
Share self-employed in nonagriculture	16%	17%	16%	34%	38%	43%
Share in agriculture	75%	76%	81%	27%	23%	33%
Share in industry (including construction and agroprocessing)	9%	9%	7%	17%	18%	15%
Share in services (including transport)	16%	14%	13%	57%	58%	52%
Median hourly wage earnings, main wage-employment activity	18	19	19	25	25	27
Median hourly wage earnings, all wage-employment activities	19	23	19	25	27	27

*Note:* Sample restricted to household members. SLC stands for School Leaving Certificate. Ref. stands for reference. Relaxed definition for unemployment excludes the active search condition. Sector and type of employment information are for the main employment activity. Median hourly wage earnings are in 2010–11 rupees. Estimates are adjusted for sampling weights.

Table 11. Comparison of labor and other indicators between male youth and nonyouth

Indicator	Rural			Urban		
	16–24 (1)	25–34 (2)	35–54 (3)	16–24 (4)	25–34 (5)	35–54 (6)
Share currently attending school	56%	4%	1%	65%	12%	2%
Share attended school in the past	93%	82%	60%	98%	92%	83%
Share passed SLC	28%	23%	12%	52%	54%	40%
Share engaged in economic activities	53%	80%	83%	44%	86%	84%
Share engaged in noneconomic activities	52%	66%	75%	50%	67%	68%
Median hours in noneconomic activities in ref. week	5	8	7	5	7	6
Unemployment rate	4%	3%	1%	7%	3%	2%
Unemployment rate (relaxed definition)	8%	5%	2%	14%	6%	4%
Median hours worked in ref. week, main employment activity	28	40	36	48	49	48
Median hours worked in ref. week, all employment activities	30	43	42	48	56	48
Underemployment rate, ≤35 hours in ref. week	8%	5%	4%	3%	3%	2%
Underemployment rate, ≤15 hours in ref. week	4%	2%	2%	1%	2%	1%
Share wage-employed in agriculture	5%	3%	6%	2%	1%	1%
Share self-employed in agriculture	50%	38%	44%	11%	4%	11%
Share wage-employed in nonagriculture	28%	36%	27%	56%	56%	48%
Share self-employed in nonagriculture	17%	23%	23%	31%	40%	40%
Share in agriculture	56%	44%	54%	15%	6%	14%
Share in industry (including construction and agroprocessing)	17%	25%	21%	28%	25%	19%
Share in services (including transport)	26%	31%	26%	57%	69%	67%
Median hourly wage earnings, main wage-employment activity	25	30	31	23	40	50
Median hourly wage earnings, all wage-employment activities	26	38	38	24	42	50

*Note:* Sample restricted to household members. SLC stands for School Leaving Certificate. Ref. stands for reference. Relaxed definition for unemployment excludes the active search condition. Sector and type of employment information are for the main employment activity. Median hourly wage earnings are in 2010–11 rupees. Estimates are adjusted for sampling weights.

Table A1. Composition of unemployed and underemployed workers ages 16-34

Characteristic	Female			Male		
	Unemployed	Underemployed, ≤35 hours	Underemployed, ≤15 hours	Unemployed	Underemployed, ≤35 hours	Underemployed, ≤15 hours
	(1)	(2)	(3)	(1)	(2)	(3)
Age	24	24	25	23	24	24
Ever married	58%	74%	79%	54%	63%	59%
Head of household	27%	17%	16%	12%	21%	20%
Disability or chronic illness	12%	16%	15%	4%	7%	10%
Recent illness or injury	21%	14%	15%	11%	8%	5%
Engaged in noneconomic activities	96%	94%	96%	39%	56%	53%
Attending school	30%	21%	17%	28%	14%	13%
Grade 5 or lower	27%	46%	40%	30%	42%	42%
Grade 6-10	33%	32%	33%	28%	36%	37%
Passed SLC only	19%	17%	20%	19%	13%	14%
Higher secondary or higher	22%	6%	7%	23%	9%	7%
Household size	5	5	6	6	7	7
Poor	12%	27%	26%	24%	38%	38%
Brahmin/Chettri	47%	38%	41%	35%	25%	24%
Terai Middle Caste	9%	1%	0%	10%	16%	17%
Dalit	3%	17%	14%	10%	13%	10%
Newar	10%	4%	4%	7%	4%	3%
Janajati	28%	35%	32%	26%	33%	35%
Muslim	3%	4%	6%	9%	9%	12%
Other	0%	1%	2%	4%	0%	0%
Kathmandu valley	32%	4%	5%	14%	5%	3%
Urban hills	6%	4%	3%	4%	2%	0%
Rural hills	20%	37%	32%	22%	26%	23%
Mountains	3%	5%	0%	2%	5%	6%
Urban Terai	14%	11%	14%	10%	8%	9%
Rural Terai	25%	38%	46%	49%	55%	59%

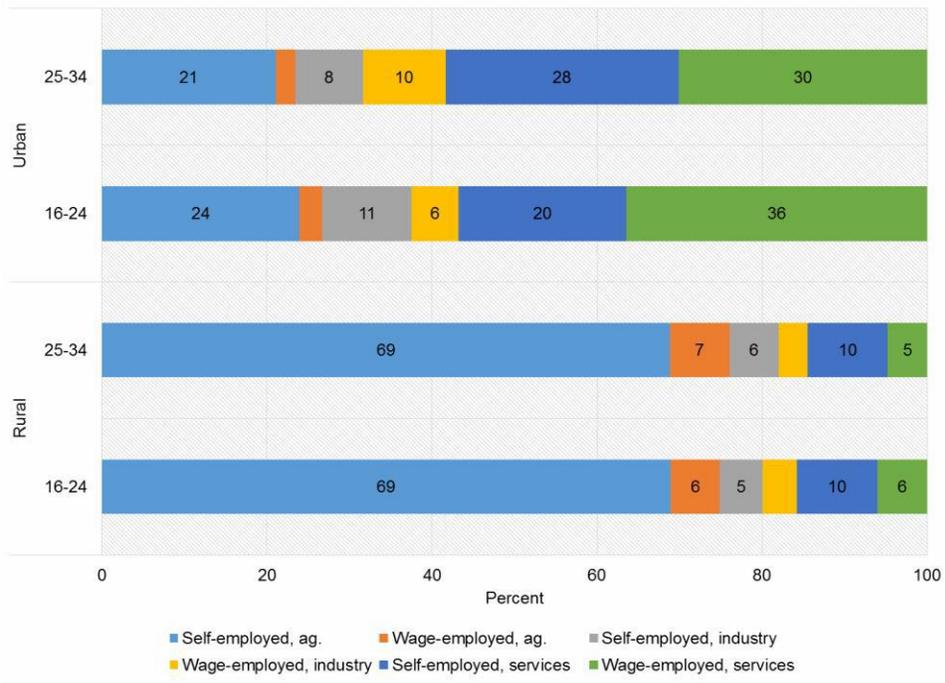
Table A1. Composition of unemployed and underemployed workers ages 16-34

Characteristic	Female			Male		
	Unemployed	Underemployed, ≤35 hours	Underemployed, ≤15 hours	Unemployed	Underemployed, ≤35 hours	Underemployed, ≤15 hours
	(1)	(2)	(3)	(1)	(2)	(3)

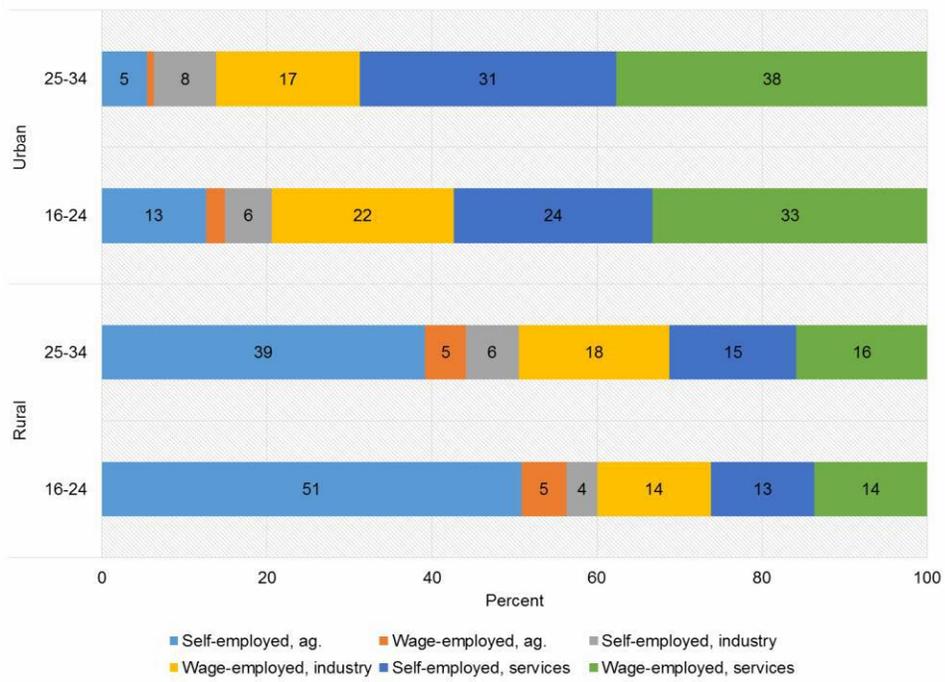
*Note:* SLC stands for School Leaving Certificate. Estimates are adjusted for sampling weights.

Figure A1. Distribution of sector and type of employment

A. Female youth



B. Male youth



Note: Sectors are derived from worker occupation data based on Nepal Standard Codes for Occupation (NSCO). Industry includes construction and agroprocessing. Services include transportation. Estimates are adjusted for sampling weights.

## WORKER PERCEPTIONS AND ATTITUDES

### 1. Introduction

What views do youth workers have about their current labor market conditions and outcomes, and future labor market prospects? Standard labor economics research is based on revealed preferences, that is, the analysis of data on observed behaviors and outcomes of workers and employers. A labor force survey mainly captures such data. Policymaking based on evidence from objective data has a sound footing to the extent that the worker's revealed preferences are consistent with his true preferences. However, observed labor choices may not reflect the true interests of the worker, and reveals little about the processes, both in thought and in actual, followed by the worker, and what opportunities and constraints the worker experienced in making his labor choices.

To shed light on the underlying labor processes and interests of workers, this chapter describes the self-reported attitudes, perceptions, motivations, intentions, and aspirations of Nepalese youth with respect to the domestic labor market; that is, their own explanations for their labor behavior. The data come from the 2013 School-to-Work Transition Survey (SWTS), a nationally-representative sample survey of individuals ages 15-29. In our analysis, we define youth to be those ages 16-29 and exclude individuals age 15, given that Nepalese law considers them children.

We examine workers' views regarding, among other things, employment search strategies, main difficulties in finding employment, relevance of their qualifications for employment, employment satisfaction, and desire to change employment. With the principal exception of Nicolas and CEDA (2014), who analyze these same data, previous research on self-reported explanations for the labor behavior of workers in Nepal is absent. Additionally, based on the 2008 Nepal Labor Force Survey, Government of Nepal (2009) reports the distribution of responses of unemployed workers on employment search length and search strategies, variables we also examine in this chapter. We deepen the existing evidence by performing all analysis separately for urban and rural areas, and by examining the sociodemographic and employment correlates of selected worker sentiments. For example, we ask what factors determine whether a worker (1) reported that insufficient employment opportunities or insufficient qualifications was the main difficulty to finding employment, (2) was unsatisfied with his employment, or (3) desired to

change his employment. Our findings hold for workers that are present in their households at the time of the survey, which is a highly-selected group given the substantial outflow of male workers from Nepal to other countries. According to the 2010-11 Nepal Living Standards Survey, 29% of Nepalese men ages 16-29 have migrated for employment to other countries.

With respect to employed workers, most found employment by either joining their family's income-generating activity or asking friends or family for assistance. Only a minority of workers formally applied for a job, and a negligible share used public employment service centers as part of their employment search. Employment search length tended to be short: the majority of workers found employment in less than three months. In rural areas, more educated workers and workers that obtained wage employment with written contracts were more likely to have longer employment searches. The majority of workers felt that their qualifications were relevant, but a sizeable minority felt that additional education or training was needed.

Most employed workers reported that the main difficulty they experienced in finding employment was either insufficient employment opportunities or insufficient qualifications. In rural areas, wage workers were more likely to report insufficient employment opportunities, whereas unpaid family workers were more likely to report insufficient qualifications. The majority of workers were dissatisfied with their employment, a higher rate than in other countries where the SWTS was administered. Wage workers with written contracts were less likely to be dissatisfied with their employment than other types of workers. A large share of workers desired to change employment, mainly to find employment that had better wages or working conditions, or better matched their qualifications.

With respect to unemployed workers, as one may have predicted, they had longer employment searches, were more likely to formally apply for employment, and were more likely to refuse employment offers than employed workers. Unemployed workers that refused employment offers mainly did so because of low wage offers. Similar to employed workers, most unemployed workers reported that the main difficulty they experience in finding employment was either insufficient employment opportunities or insufficient qualifications. Furthermore, unemployed workers in Nepal were more likely to report insufficient employment opportunities than their counterparts in other SWTS-surveyed countries. Within Nepal, more educated unemployed workers were more likely to report insufficient employment opportunities than their less educated counterparts.

In sum, the evidence suggests that employment creation appears to be a critical issue, specifically the creation of good formal wage employment.

The remainder of the chapter is organized as follows. Section 2 discusses the data, sample, and the structure of the analysis. Section 3 compares a subset of the results for Nepal to that for countries where comparable School-to-Work Transition Surveys have been administered. Section 4 presents the full set of results. Section 5 concludes.

### *Data, sample, and structure of analysis*

We analyze data from the 2013 round of the School-to-Work Transition Survey (SWTS) for Nepal. The School-to-Work Transition Surveys are an effort coordinated by the International Labor Organization as part of the Work4Youth Project financed by MasterCard Foundation. Surveys were conducted in 28 low- and middle-income countries between 2012 and 2015. The Nepal survey was administered by the Center for Economic Development and Administration (CEDA), Tribhuvan University, Kathmandu.

The SWTS is representative at the national level, for the six regions of Nepal, and urban and rural areas within each region. The original survey sample was 3,020 households from 151 wards (PSUs). In these households, only individuals ages 15–29 were to be interviewed. The survey successfully interviewed 3,584 individuals from 2,652 households. See Nicolas and CEDA (2014) for survey design details.

Individuals age 15 are excluded from our analysis, because they are considered as children and not adults under Nepalese law. Thus, the sample size drops by 7% to 3,332 individuals from 2,514 households.

The data suffer from two important problems. The first problem likely matters less for inference than the second. First, data were not collected for eligible members in each sample household that were not present at the time of the interview. The missing or nonresponse rate is a substantial 29%. To the extent that most of missing eligible individuals are those that have outmigrated, our results can be interpreted as holding for youth residing in their households.

Second, there appears to be a problem with the gender data. The male-female gender ratio in our data is 1.2. However, the male-female ratio for individuals ages 15-29 is .9 based on 2011 population census data (Government of Nepal 2012), and .7 for the same age group based on 2010-11 Nepal Living Standards Survey data, a nationally-representative household sample survey.

Given this, we do not perform any subgroup analysis by gender, nor include gender as a covariate in any regressions. Based on the analysis of other household survey data conducted in other chapters in this volume, we find that labor patterns often diverge in direction between genders, or the patterns are similar in direction but more pronounced for one gender. Thus, the results from the aggregated analysis of patterns in these data are expected to suffer from attenuation bias.

The survey had one main module for employed workers and another for unemployed workers. Following this, our analysis is disaggregated by whether the worker is employed or unemployed. Employed is defined as engaged in an economic activity in the last week. Unemployed is defined as not employed, available for work in the last week, and actively looked for work in the last month.<sup>1</sup> The analysis sample contains 1,300 employed workers (39% of all individuals) and 341 unemployed workers (10% of all individuals).

All analysis is performed separately for urban and rural workers. In the analysis sample, 30% of workers are urban residents. As other chapters show, labor patterns and trends differ substantially by rural versus urban areas, such as with respect to education qualifications, type and sector of employment, and labor outmigration. Indeed, for many labor indicators, the differences between rural and urban areas are much larger than differences between other key subgroups (such as gender or household poverty status). Thus, we expect that self-reported explanations and sentiments regarding labor behavior will differ between rural and urban workers as well.

Average sociodemographic and employment characteristics for workers, separately by status (employed, unemployed) and area or residence (rural, urban) are reported in Table 1. Sociodemographic characteristics comprise of age, marital status, number of children, current school participation status, education level, father's education level, relative household economic status, life goal, and region of residence. Employment characteristics comprise of hours worked in the last week, employment status, and employment sector.

In terms of some key patterns, compared to employed workers, unemployed workers were younger on average, less likely to be married, had less children on average, and were more likely to be attending school. Urban workers tended to be more educated than rural workers, and unemployed workers tended to be more educated than employed workers. Relative to urban workers, rural workers were more likely to report that they were economically worse off than

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<sup>1</sup> The definition for unemployed is more relaxed than the standard definition, which sets the active search condition as within the last week.

average and less likely to report that they were economically better off than average. Patterns for reported relative economic status were similar between employed and unemployed workers.

Employed workers worked full time on average (that is, 36 or more hours in the reference week). Unpaid family employment was more common for rural than urban employed workers (44% versus 27%), and wage employment with written contracts was more common for urban than rural employed workers (25% versus 12%). Compared to urban employed workers, rural employed workers were more likely to be engaged in agriculture (51% versus 11%) and less likely to be engaged in services (34% versus 75%).

In all the regressions we estimate, we examine the relationship between the outcome of interest and sociodemographic characteristics. In the regressions for employed workers, we also examine the relationship between the outcome of interest and employment characteristics. The reference categories for categorical sociodemographic and employment regression covariates are italicized in Table 1. Finally, depending on the specific outcome, we include other potentially-relevant covariates in the regressions. All covariates are identical in the rural- and urban-specific regressions except for region of residence. The regions in the rural-specific regressions are hills (reference category), Terai, and mountain, whereas the regions in the urban-specific regressions are Kathmandu valley (reference category), hills, and Terai. Note that the regressions for unemployed workers suffer from small sample sizes (between 100 to 200 observations), and, therefore, the results should be read with more caution.

All outcomes are binary by construction. Consequently, we estimate binomial logit regressions, and transform the estimated coefficients into average marginal effects, which we report. Inference is based on robust standard errors clustered at the PSU level. All estimates—patterns and correlates—are adjusted for survey sampling weights.

### ***Comparison of SWTS results between Nepal and other countries***

To provide an international frame of reference, we compare selected SWTS results for Nepal to those of other countries where the SWTS was conducted in 2012 or 2013, namely Bangladesh, Cambodia, Samoa, and Vietnam. Comparisons are based on the full sample of individuals ages 15-29, and statistics are drawn from ILO documentation (Elder 2014).

Among unemployed youth in Nepal, a relatively greater share used formal than informal search strategies, such as registering at an employment service center (16%), answering or placing

an employment advertisement (35%) and inquiring directly with employers (16%). These three strategies add up to 67% for Nepal, second only to Samoa (81%). Formal search strategies in Nepal were much more common than in Bangladesh (40%) and Vietnam and Cambodia (36% in both).

With respect to the main difficulty they experienced in finding employment, unemployed youth in Nepal were more likely than youth in other countries to cite insufficient employment opportunities (25% versus 15% in Vietnam, and 8% in both Cambodia and Bangladesh). Nepal was mid-ranked with respect to the share that reported that insufficient qualifications was the main difficulty, at 43%, compared to 63% in Bangladesh, 23% in Cambodia, and 6% in Vietnam.

With respect to employment satisfaction, Nepal stands out. The shares of employed workers that reported that they were at least somewhat satisfied with their employment were 90% in Cambodia, 81% in Vietnam, 80% in Bangladesh, 74% in Samoa, but only 41% in Nepal. In addition to exhibiting the highest employment dissatisfaction rate, employed workers in Nepal were the most likely to desire to change employment, at a rate of 45%, compared to 42% in Cambodia, 28% in Vietnam, 26% in Bangladesh, and 13% in Samoa.

### ***Main results***

#### **Employed youth workers**

*Employment search:* Employed youth workers (hereafter in the subsection, referred to as workers) found employment mainly through informal strategies. Forty-three percent of workers simply joined their family's income-generating activity, while another 20% found employment by asking family and friends for assistance. Twenty-nine percent of workers found employment by following formal strategies such as registering at public employment service centers (specifically, where relevant, labor offices, vocational and skill development training centers, or employment information offices), placing or responding to an employment advertisement, applying or interviewing for employment, directly inquiring with employers, or obtaining permits to start a business. Compared to urban workers, rural workers were more likely to report joining the family income-generating activity (46% versus 29%) and less likely to ask family and friends for search assistance (18% versus 31%).

As part of their employment search, only 23% of workers formally applied for employment in the year before they found employment, with a higher rate for urban than rural workers (37% versus 20%). Seven percent of workers refused an employment offer, with a higher rate for urban

than rural workers (18% versus 5%). Workers rarely used public employment service centers as part of their employment search: only 7% of workers used these centers, with similar rates for rural and urban workers.

*Main difficulties finding employment:* The two most commonly-reported main difficulties in finding employment were insufficient employment opportunities (26%) and insufficient qualifications (19%). Ten percent of workers reported that they did not experience any difficulty in finding employment. The response patterns are roughly similar between rural and urban workers.

Table 2 reports regression results for the correlates of whether the worker reported that insufficient employment opportunities was the main difficulty to finding employment, as well as regression results for the correlates of whether the worker reported that insufficient qualifications was the main difficulty. In rural areas, unpaid family workers were less likely to report insufficient employment opportunities than wage workers with written contracts. For both urban and rural workers, region of residence matters: those from hills were more likely to report insufficient employment opportunities.

In rural areas, unpaid family workers were more likely to report insufficient qualifications than wage workers with written contracts, and industrial workers were more likely to report insufficient qualifications than agricultural workers. For urban workers, those with higher levels of education were less likely to report insufficient qualifications (as one would expect), but few other factors appear to be associated with insufficient qualifications.

*Employment search length:* As may be expected given the informal nature of finding employment, employment search length tended to be short. Seventy-five percent of workers found employment in less than three months, with similar rates for rural and urban workers.

Table 3 presents regression results for the correlates of whether the worker searched for employment for at least three months (longer search). In rural areas, those with tertiary education were more likely to have had a longer search than those with primary education or less. In urban areas, those that reported that insufficient qualifications was the main difficulty they experienced finding employment were more likely to have a longer search, whereas insufficient employment opportunities do not appear to be correlated with the likelihood of longer employment search for either rural or urban workers. In both urban and rural areas, unpaid family workers were less likely to have had a longer employment search than wage workers with written contracts. Finally, region

of residence matters: among rural workers, those from hills were more likely to have had a longer search, and among urban workers, those from hills and Terai were more likely to have had a longer search.

*Education and training:* Fifty-five percent of workers reported that they felt that their academic and professional qualifications were relevant for their current employment, while 26% reported that they needed more education or training. Compared to urban workers, rural workers were less likely to feel that their qualifications were relevant (53% versus 67%), and were more likely to report that they needed more education or training (28% versus 13%).

Table 4 presents regression results for the correlates of whether the worker reported that his qualifications were either insufficient or irrelevant. As expected, those with higher levels of education were less likely to report insufficient or irrelevant qualifications. Those that were currently attending school and those that felt that they were not economically better off than average were more likely to report insufficient or irrelevant qualifications. Those that worked more hours were less likely to report insufficient or irrelevant qualifications. Finally, among urban workers, those from Kathmandu valley were more likely to report insufficient or irrelevant qualifications.

*Hours:* Both urban and rural workers worked on average 39 hours in the last week. Forty-two percent of workers reported that they would like to work more hours, with a higher share for rural than urban workers (44% versus 38%). Workers desired an additional 20 hours of work weekly on average, with urban workers desiring less additional hours weekly than rural workers on average (16 hours versus 20 hours).

Most workers that desired more hours of work reported that they desired these hours in the current employment, followed by obtaining additional employment. Only a small minority, 8%, reported that they desired additional hours by leaving their current employment. The distribution of responses were similar between rural and urban workers.

Table 4 also presents regression results for the correlates of whether the worker reported that they would like to work more hours. In urban areas, those with relatively less education, those that felt that they were economically less well off than average, and those from hills were more likely to desire more hours, while those that worked more hours, and industrial and service workers, were less likely to desire more hours. In rural areas, industrial workers were more likely

to desire more hours than agricultural workers. In both urban and rural areas, wage workers were more likely to desire more hours than other types of workers.

*Employment satisfaction:* Fifty-eight percent of workers reported that they were at least somewhat dissatisfied with their current employment, with a much higher rate of dissatisfaction among rural than urban workers (61% versus 40%).

Table 5 reports regression results for the correlates of whether the worker was dissatisfied with his current employment. In both rural and urban areas, compared to wage workers with written contracts, all other types of workers were much more likely to be dissatisfied with their current employment, possibly indicating the undesirability of other forms of employment relative to formal wage employment.

*Employment change:* Employment security did not register as an issue. About 90% of urban and rural workers reported that they were either very likely or likely to retain their employment over the next year if they desired to (the rates are similar when we examine wage workers only). Nonetheless, 45% of employed workers reported that they desired to change their employment, with similar rates for rural and urban workers. Common explanations reported by those that desired to change employment were to seek a better match with their qualifications (31%), current employment is temporary (21%), to work more hours (20%), or to have better working conditions (15%). Seeking a better match with qualifications was a more common response among urban than rural workers (38% versus 30%), whereas seeking better working conditions was more common for rural than urban workers (16% versus 10%). Notwithstanding, effort to change employment was limited: only 35% and 26% of workers that desired to change employment sought new employment or additional employment in the last month, respectively, with slightly higher reported effort rates among rural than urban workers.

Table 5 also presents regression results for the correlates of whether the worker reported the desire to change employment. In urban areas, older or married workers were less likely to report that they desired to change employment, while those currently attending school were more likely to report that they desired do so. In rural areas, industrial workers were less likely to report that they desired to change employment than agricultural workers. Unsurprisingly, in both rural and urban areas, those that were dissatisfied with the current employment were much more likely to report that they desired to change employment. Also in both rural and urban areas, employers

and own-account workers were much less likely to report that they desired to change employment than wage workers with written contracts.

### Unemployed youth workers

*Employment search:* The survey asked unemployed workers the strategies they pursued to search for employment. Unlike for employed workers for whom the question was on the specific strategy that led to employment, unemployed workers could offer multiple responses. The most commonly-used strategies by unemployed workers were asking friends and family for assistance (67%), placing or responding to an employment advertisement (45%), inquiring directly with employers (21%), and registering at a public employment service center (14%). Compared to urban unemployed workers, rural unemployed workers were more likely to register with a public employment service center (18% versus 5%), more likely to ask friends and family for assistance (67% versus 58%), and less likely to use employment advertisements (43% versus 52%). Direct inquiry rates with employers were similar between rural and urban unemployed workers.

Based on comparable questions, it appears that unemployed workers were more likely to formally apply for employment than employed workers, presumably given the need to explore other options to find employment. Fifty-nine percent of unemployed workers reported that they formally applied for employment in the last year, with a higher rate for urban than rural unemployed workers (66% versus 56%). (In comparison, only 23% of employed workers formally applied for employment in the year before they became employed.)

As discussed earlier, a large share of employed workers reported that they joined the family income-generating activity when asked about how they found their employment. A question on whether the unemployed worker's family had an income-generating activity was not asked. Thus, we do not know if the unemployed worker had a family income-generating activity that he did not join, or did not have a family income-generating activity.

*Desired employment:* Fifty-five percent of unemployed workers desired to work in the public sector, followed by 24% in the private wage sector. There was higher interest in public employment among rural than urban unemployed workers (55% versus 48%), and higher interest in private wage employment among urban than rural unemployed workers (32% versus 21%).

*Employment refusal:* Twenty-five percent of unemployed workers reported that they refused an employment offer, with a higher rate for rural than urban workers (26% versus 21%).

Sixty-three percent of unemployed workers that refused employment offers did so because of low wage offers, with a much higher rate for rural than urban workers (70% versus 40%). Other reasons such as lack of interest in the employment offer, inconvenient employment location, and mismatch between qualifications and the employment offer were more frequently reported by urban than rural unemployed workers.

*Employment search length:* Fifty percent of unemployed workers were without work and actively looking for employment for less than three months, 23% for three months to less than one year, and 27% for one year or more. It appears that employment search length was somewhat more likely to be longer for urban than rural unemployed workers: 56% of urban unemployed workers were looking for employment for at least three months, compared to 48% of rural unemployed workers. Being choosy about employment does not appear to influence employment search length: A simple bivariate correlation test indicates that unemployed workers that have been looking for employment for at least three months were in fact *less* likely to have refused an employment offer.

*Moving for employment:* Unemployed workers were asked whether they would move for employment, and they could provide multiple responses on where. Thirty-three percent reported that they would not move for employment, with a higher rate for urban than rural unemployed workers (52% versus 27%). Forty-two percent of those outside of Kathmandu reported that they would consider moving there for employment, with a higher rate for rural than other urban unemployed workers (44% versus 26%). Forty percent reported that they would consider moving to another country for employment, again with a higher rate for rural than urban unemployed workers (46% versus 25%).

*Labor value of education:* While their qualifications may be insufficient, most unemployed workers felt that their education was useful for employment: 78% reported that they felt their education was either useful or somewhat useful, with similar rates for rural and urban unemployed workers.

*Main difficulties finding employment:* The two most commonly-reported main difficulties in finding employment were insufficient employment opportunities (33%) and insufficient qualifications (32%). The response patterns were similar between rural and urban unemployed workers.

Table 6 presents regression results for the correlates of whether an unemployed worker reported that insufficient employment opportunities was the main difficulty, as well as the

regression correlates of whether the unemployed worker reported that insufficient qualifications was the main difficulty. While more educated unemployed workers were less likely to report insufficient qualifications was the main difficulty, they were more likely to report that insufficient employment opportunities was the main difficulty.

Region of residence matters. Among rural workers, those from hills were more likely to report insufficient employment opportunities, whereas those from mountains and Terai were more likely to report insufficient qualifications. Among urban workers, those from hills were more likely to report that insufficient employment opportunities was the main difficulty, and those from Kathmandu valley were more likely to report insufficient qualifications.

### *Conclusion*

Complementing the analysis of labor conditions and outcomes of youth using mostly objective data discussed in the rest of the manuscript, this chapter examines the explanations provided by youth Nepalese workers for their labor behavior and the sentiments they have about their labor circumstances, outcomes, and prospects, using data from the 2013 School-to-Work Transition Survey for the country. The analysis is performed separately for employed and unemployed workers, and for rural and urban areas. The analysis results hold for workers residing in Nepal, which is a strongly selected group, especially for men, given the large outflow of Nepalese workers to other countries.

With respect to employed workers, most found employment by either joining their family's income-generating activity or asking friends or family for assistance. Only a minority of workers formally applied for employment, and a negligible share used public employment service centers as part of their employment search. Employment search length tended to be short: the majority of workers found employment in less than three months. In rural areas, more educated workers and workers that obtained wage employment with written contracts were more likely to have longer employment searches. The majority of workers felt that their qualifications were relevant, but a sizeable minority felt that additional education or training was needed.

Most employed workers reported that the main difficulty they experienced in finding employment was either insufficient employment opportunities or insufficient qualifications. In rural areas, wage workers were more likely to report insufficient employment opportunities, whereas unpaid family workers were more likely to report insufficient qualifications. Although

workers tended to work full-time, a large share of workers desired additional hours of work, particularly agricultural workers.

The majority of workers were dissatisfied with their employment, a higher rate than for their counterparts in other countries, based on SWTS data for these countries. Wage workers with written contracts were less likely to be dissatisfied with their employment than other types of workers. The vast majority of workers, including wage workers, did not feel that their employment was insecure. Regardless, a large share of workers desired to change employment, mainly to find employment that had better wages or working conditions, or better matched their qualifications.

With respect to unemployed workers, as one may have predicted, they had longer employment searches, were more likely to refuse employment offers, and were more likely to formally apply for employment than employed workers. Unemployed workers that refused employment offers mainly did so because of low wage offers, but urban unemployed workers also tended to care about other aspects such as the match between their qualifications and the employment offer, and the convenience of the employment location. Rural unemployed workers were particularly open to moving to Kathmandu or another country for employment. Similar to employed workers, most unemployed workers reported that the main difficulty they experience in finding employment was either insufficient employment opportunities or insufficient qualifications. Furthermore, unemployed workers in Nepal were more likely to report insufficient employment opportunities than their counterparts in other SWTS-surveyed countries. Within Nepal, more educated unemployed workers were more likely to report insufficient employment opportunities.

For both employed and unemployed workers, region of residence matters at times for worker perceptions of the labor market. Insufficient qualifications appear to be more of an issue in Kathmandu, whereas insufficient employment opportunities appear to be more of an issue in hills, both urban and rural.

While we are able to use the perceptions and sentiments expressed by youth in other SWTS-surveyed countries as a point of reference for what Nepalese youth say, another potentially useful point of reference would have been older Nepalese workers. The SWTS was however restricted to those ages 15-29.

In sum, the evidence suggests that employment creation is a critical issue, particularly the creation of good formal wage employment, which are desired by youth workers. Insufficient

qualifications also appear to be an issue, for example for workers in Kathmandu valley. It is however possible that insufficient employment opportunities create the impression in workers that insufficient qualifications are the binding constraint if employers select workers for highly-demanded, scarce formal wage employment on the basis of worker qualifications (that is, education mainly serves as a screening mechanism). We conjecture that unemployed workers may have difficulty finding employment because they are more disadvantaged compared to employed workers in terms of the quality of the family and friend networks they can tap into to look for employment, or their family's position in terms of having an income-generating activity they could join.

While apparently less desirable, self-employment – that is by becoming an own-account or an unpaid family worker – may be acting as a safety valve for the labor market, complicating efforts by analysts to gauge the health of the labor market. The other safety valve is employment in India, the Middle East, and other countries, which a large share of Nepalese youth have availed of.

## *References*

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## Tables and Figures

Table 1. Average selected characteristics, by worker status

Characteristic	Rural		Urban	
	Employed (1)	Unemployed (2)	Employed (3)	Unemployed (4)
Age	22.83	21.29	23.75	22.04
Married	0.57	0.26	0.41	0.27
Number of children	0.69	0.33	0.38	0.22
Currently attending school	0.24	0.57	0.40	0.69
<b><i>Highest education</i></b>				
<i>Primary or less</i>	0.45	0.21	0.16	0.13
Secondary	0.35	0.35	0.35	0.29
Tertiary	0.20	0.44	0.49	0.59
<b><i>Relative economic status</i></b>				
<i>More well off than average</i>	0.13	0.14	0.39	0.35
Average well off	0.56	0.59	0.53	0.51
Less well off than average	0.31	0.27	0.08	0.14
<b><i>Father's education</i></b>				
<i>None</i>	0.42	0.29	0.18	0.12
Primary	0.39	0.27	0.30	0.35
Secondary	0.14	0.35	0.32	0.34
Tertiary	0.05	0.10	0.19	0.20
<b><i>Life goal</i></b>				
<i>Occupational</i>	0.13	0.36	0.32	0.30
Societal	0.11	0.13	0.10	0.13
Financial	0.28	0.18	0.22	0.17
Familial	0.48	0.33	0.37	0.39
Hours worked	39.07	—	38.82	—
<b><i>Employment type</i></b>				
<i>Wage employee, written contract</i>	0.12	—	0.25	—
Wage employee, verbal contract	0.28	—	0.28	—
Employer, own-account worker	0.17	—	0.20	—
Unpaid family worker	0.44	—	0.27	—
<b><i>Sector</i></b>				
<i>Agriculture</i>	0.51	—	0.11	—
Industry	0.14	—	0.14	—
Services	0.34	—	0.75	—
<b><i>Region</i></b>				
<i>Rural hills</i>	0.48	0.54	—	—
Mountain	0.12	0.08	—	—
Rural Terai	0.40	0.38	—	—
<i>Kathmandu</i>	—	—	0.48	0.49
Urban hills	—	—	0.25	0.23

Table 1. Average selected characteristics, by worker status

Characteristic	Rural		Urban	
	Employed (1)	Unemployed (2)	Employed (3)	Unemployed (4)
Urban Terai	--	--	0.27	0.27
Observations	970	204	369	143

Note: Own estimates using the 2013 School-to-Work Transition Survey. All estimates are adjusted for sampling weights. Italicized indicators represent reference categories in the regressions we estimate.

Table 2. Correlates of experienced difficulty in finding employment, employed workers  
MLE logit regression results  
*Average marginal effects*

Covariates	Insufficient employment opportunities		Insufficient qualifications	
	Rural (1)	Urban (2)	Rural (3)	Urban (4)
Age	0.007 (0.006)	0.002 (0.011)	-0.019*** (0.006)	-0.000 (0.007)
Married	-0.112*** (0.043)	-0.060 (0.076)	0.137*** (0.039)	-0.068 (0.050)
Number of children	0.024 (0.020)	0.041 (0.065)	0.008 (0.019)	0.033 (0.040)
Secondary education	-0.009 (0.045)	-0.028 (0.088)	0.021 (0.037)	-0.164* (0.096)
Tertiary education	0.002 (0.060)	-0.004 (0.088)	0.101* (0.060)	-0.247** (0.109)
Currently in school	-0.008 (0.069)	0.016 (0.061)	0.039 (0.045)	0.075 (0.071)
Average well off	-0.004 (0.043)	0.041 (0.055)	0.004 (0.055)	0.010 (0.048)
Less well off than average	-0.073 (0.062)	-0.131* (0.074)	0.023 (0.063)	0.211* (0.124)
Father: primary education	0.128** (0.060)	0.105 (0.089)	-0.120*** (0.041)	0.060 (0.089)
Father: secondary education	-0.064 (0.058)	-0.077 (0.065)	-0.026 (0.042)	-0.035 (0.054)
Father: tertiary education	0.048 (0.054)	-0.048 (0.073)	-0.026 (0.038)	0.070 (0.051)
Life goal: societal contribution	-0.073** (0.031)	-0.119 (0.091)	0.039 (0.034)	0.061 (0.052)
Life goal: financial	-0.051 (0.051)	-0.117 (0.089)	0.041 (0.042)	0.111 (0.082)
Life goal: familial	-0.035 (0.086)	-0.138 (0.100)	-0.019 (0.088)	-0.004 (0.064)
Hours worked	0.001 (0.001)	-0.002 (0.002)	0.001 (0.001)	0.001 (0.001)
Wage employee, verbal contract	-0.004 (0.079)	0.057 (0.055)	-0.028 (0.050)	-0.018 (0.049)
Employer/own-account worker	-0.034 (0.086)	0.048 (0.063)	0.023 (0.057)	0.025 (0.066)
Unpaid family worker	-0.163** (0.073)	-0.046 (0.055)	0.122** (0.055)	0.002 (0.075)
Industry	-0.051 (0.056)	-0.111 (0.106)	0.182** (0.071)	0.069 (0.101)
Services	-0.067 (0.045)	-0.029 (0.092)	-0.004 (0.036)	-0.026 (0.080)
Mountains	-0.192*** (0.066)	—	-0.062 (0.074)	—
Terai	-0.137***	—	-0.018	—

Table 2. Correlates of experienced difficulty in finding employment, employed workers  
MLE logit regression results  
*Average marginal effects*

Covariates	Insufficient employment opportunities		Insufficient qualifications	
	Rural (1)	Urban (2)	Rural (3)	Urban (4)
Hills	— (0.047)	0.205*** (0.069)	— (0.037)	-0.058 (0.056)
Terai	—	0.082 (0.070)	—	-0.088 (0.059)
Observations	739	297	739	297

Note: Own estimates using the 2013 School-to-Work Transition Survey. Robust standard errors, clustered at the PSU level, reported in parentheses. All estimates are adjusted for sampling weights. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 3. Correlates of employment search duration of at least three months,  
MLE logit regression results  
*Average marginal effects*

Covariate	Rural (1)	Urban (2)
Age	0.001 (0.006)	0.011 (0.010)
Married	0.031 (0.048)	-0.005 (0.065)
Number of children	0.010 (0.024)	0.060 (0.048)
Secondary education	0.030 (0.060)	-0.127 (0.105)
Tertiary education	0.150** (0.074)	-0.105 (0.135)
Currently in school	0.007 (0.061)	0.092 (0.070)
Average well off	0.023 (0.050)	0.086 (0.058)
Less well off than average	0.075 (0.057)	0.022 (0.120)
Life goal: societal contribution	-0.101 (0.075)	-0.062 (0.082)
Life goal: financial	-0.085 (0.066)	-0.057 (0.076)
Life goal: familial	-0.025 (0.063)	0.014 (0.067)
Father: primary education	0.060 (0.045)	0.030 (0.077)
Father: secondary education	0.085 (0.058)	0.056 (0.088)
Father: tertiary education	-0.044 (0.093)	0.086 (0.104)
Hours worked	0.001 (0.001)	0.003** (0.001)
Insufficient employment opportunities	0.015 (0.039)	0.043 (0.061)
Insufficient qualifications	0.077 (0.058)	0.115** (0.058)
Wage employee, verbal contract	0.054 (0.077)	-0.039 (0.081)
Employer/own-account worker	-0.097 (0.088)	-0.028 (0.083)
Unpaid family worker	-0.171** (0.086)	-0.242*** (0.086)
Industry	-0.056 (0.059)	0.107 (0.134)
Services	0.041 (0.055)	0.081 (0.109)

Table 3. Correlates of employment search duration of at least three months,  
MLE logit regression results  
*Average marginal effects*

Covariate	Rural (1)	Urban (2)
Mountains	-0.204** <sup>c</sup> (0.070)	
Terai	-0.107* (0.056)	
Hills		0.197** (0.089)
Terai		0.188** (0.075)
Observations	739	297

Note: Own estimates using the 2013 School-to-Work Transition Survey. Robust standard errors, clustered at the PSU level, reported in parentheses. All estimates are adjusted for sampling weights. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 4. Correlates of need training and desire more work hours, employed workers  
MLE binomial logit regression results  
*Average marginal effects*

Covariate	Need training/skills not relevant		Desire more work hours	
	Rural (1)	Urban (2)	Rural (3)	Urban (4)
Age	0.006 (0.006)	0.001 (0.008)	-0.011 (0.007)	0.000 (0.010)
Married	-0.044 (0.036)	0.027 (0.042)	-0.021 (0.043)	-0.110 (0.069)
Number of children	0.012 (0.024)	0.016 (0.031)	0.022 (0.028)	-0.023 (0.050)
Secondary education	-0.178*** (0.050)	-0.205* (0.114)	-0.012 (0.048)	-0.126* (0.076)
Tertiary education	-0.155** (0.064)	-0.431*** (0.119)	-0.040 (0.061)	-0.126 (0.091)
Currently attending school	0.143** (0.060)	0.173** (0.073)	-0.090 (0.061)	-0.020 (0.069)
Average well off	0.193*** (0.044)	0.088** (0.044)	-0.098* (0.053)	-0.014 (0.053)
Less well off than average	0.302*** (0.051)	0.263** (0.125)	-0.109* (0.064)	0.285*** (0.109)
Father: primary education	-0.110 (0.075)	-0.215*** (0.052)	-0.034 (0.072)	-0.002 (0.092)
Father: secondary education	-0.119* (0.063)	-0.078 (0.055)	-0.009 (0.064)	-0.005 (0.099)
Father: tertiary education	-0.102** (0.047)	-0.067 (0.048)	0.057 (0.068)	0.109 (0.069)
Life goal: societal contribution	-0.125*** (0.039)	-0.082 (0.064)	0.071* (0.042)	0.116** (0.058)
Life goal: financial	-0.136** (0.055)	-0.085 (0.070)	-0.024 (0.069)	0.136* (0.072)
Life goal: familial	-0.240*** (0.081)	0.050 (0.080)	-0.023 (0.102)	0.133* (0.074)
Hours worked last week	-0.002** (0.001)	-0.004*** (0.001)	-0.001 (0.002)	-0.003* (0.002)
Wage employee, verbal contract	0.087 (0.070)	0.001 (0.065)	-0.001 (0.088)	-0.022 (0.102)
Employer/own-account worker	0.061 (0.071)	-0.050 (0.056)	-0.307*** (0.078)	-0.242*** (0.063)
Unpaid family worker	0.028 (0.077)	-0.011 (0.075)	-0.185** (0.091)	-0.400*** (0.062)
Industry	-0.031 (0.053)	0.008 (0.081)	0.196*** (0.072)	-0.228** (0.108)
Services	-0.070* (0.041)	0.034 (0.063)	-0.009 (0.062)	-0.221*** (0.083)
Mountains	0.068 (0.047)	—	0.088 (0.054)	—
Terai	0.004	—	-0.080	—

Table 4. Correlates of need training and desire more work hours, employed workers  
MLE binomial logit regression results  
*Average marginal effects*

Covariate	Need training/skills not relevant		Desire more work hours	
	Rural (1)	Urban (2)	Rural (3)	Urban (4)
Hills	— (0.047)	-0.147** (0.070)	— (0.057)	0.354*** (0.080)
Terai	—	-0.127* (0.068)	—	0.050 (0.071)
Observations	819	319	789	314

Note: Own estimates using the 2013 School-to-Work Transition Survey. Robust standard errors, clustered at the PSU level, reported in parentheses. All estimates are adjusted for sampling weights. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 5. Correlates of employment dissatisfaction and desire to change employment, employed workers

MLE binomial logit regression results

*Average marginal effects*

Covariate	Dissatisfied with employment		Desire to change employment	
	Rural (1)	Urban (2)	Rural (3)	Urban (4)
Age	-0.004 (0.005)	-0.012 (0.010)	-0.004 (0.006)	0.019** (0.009)
Married	-0.022 (0.043)	0.034 (0.051)	-0.012 (0.041)	-0.115** (0.057)
Number of children	-0.012 (0.018)	0.050 (0.041)	0.019 (0.027)	-0.049 (0.054)
Secondary education	-0.015 (0.043)	-0.069 (0.090)	0.089* (0.050)	-0.013 (0.077)
Tertiary education	0.001 (0.065)	-0.126 (0.111)	0.044 (0.062)	-0.080 (0.082)
Currently attending school	0.117** (0.058)	0.091 (0.066)	0.036 (0.056)	0.188*** (0.065)
Average well off	0.046 (0.050)	0.119*** (0.040)	-0.051 (0.048)	0.009 (0.049)
Less well off than average	0.134** (0.054)	0.140 (0.090)	-0.035 (0.058)	0.149 (0.123)
Father: primary education	0.074 (0.072)	0.052 (0.077)	0.060 (0.058)	-0.001 (0.070)
Father: secondary education	0.093* (0.055)	-0.111* (0.058)	0.160*** (0.059)	0.011 (0.077)
Father: tertiary education	0.070 (0.055)	-0.037 (0.058)	0.069 (0.051)	-0.000 (0.056)
Life goal: societal contribution	-0.053 (0.039)	-0.021 (0.061)	-0.005 (0.039)	0.194*** (0.075)
Life goal: financial	0.041 (0.049)	0.146** (0.074)	0.025 (0.051)	0.175** (0.086)
Life goal: familial	-0.051 (0.070)	0.112 (0.080)	-0.057 (0.076)	0.098 (0.093)
Dissatisfied with current job	—	—	0.365*** (0.035)	0.212*** (0.057)
Overqualified	-0.004*** (0.001)	-0.003** (0.001)	-0.001 (0.001)	-0.003* (0.001)
Need training/skills not relevant	-0.015 (0.042)	0.130 (0.107)	-0.043 (0.046)	0.002 (0.077)
Hours worked last week	-0.018 (0.033)	0.074 (0.077)	-0.061 (0.043)	0.088 (0.087)
Wage employee, verbal contract	0.246*** (0.062)	0.209*** (0.063)	0.087 (0.069)	0.141* (0.084)
Employer/own-account worker	0.320*** (0.063)	0.091 (0.082)	-0.237*** (0.071)	-0.145** (0.070)
Unpaid family worker	0.602*** (0.059)	0.611*** (0.069)	-0.118 (0.075)	-0.071 (0.088)

Table 5. Correlates of employment dissatisfaction and desire to change employment, employed workers

MLE binomial logit regression results

*Average marginal effects*

Covariate	Dissatisfied with employment		Desire to change employment	
	Rural (1)	Urban (2)	Rural (3)	Urban (4)
Industry	-0.028 (0.046)	-0.135 (0.099)	-0.109** (0.055)	0.054 (0.101)
Services	-0.035 (0.043)	-0.021 (0.080)	-0.070 (0.046)	-0.076 (0.089)
Mountains	0.028 (0.062)	—	0.014 (0.049)	—
Terai	-0.032 (0.038)	—	0.028 (0.043)	—
Hills	—	-0.046 (0.056)	—	0.025 (0.069)
Terai	—	0.027 (0.065)	—	0.025 (0.080)
Observations	819	319	819	319

Note: Own estimates using the 2013 School-to-Work Transition Survey. Robust standard errors, clustered at the PSU level, reported in parentheses. All estimates are adjusted for sampling weights. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 6. Correlates of main difficulty finding employment, unemployed workers  
MLE binomial logit regression results  
*Average marginal effects*

Covariate	Insufficient employment opportunities		Insufficient qualifications	
	Rural (1)	Urban (2)	Rural (3)	Urban (4)
Age	-0.008 (0.016)	-0.003 (0.017)	0.024* (0.015)	-0.010 (0.015)
Married	-0.038 (0.139)	0.152 (0.099)	-0.120* (0.071)	-0.032 (0.105)
Number of children	-0.019 (0.156)	-0.088 (0.078)	-0.033 (0.062)	-0.136 (0.088)
Secondary education	0.200** (0.096)	0.046 (0.067)	-0.183 (0.142)	-0.398*** (0.104)
Tertiary education	0.401*** (0.144)	0.344*** (0.106)	-0.422** (0.193)	-0.695*** (0.123)
Currently in school	-0.114 (0.104)	-0.111 (0.096)	-0.191** (0.094)	0.034 (0.088)
Average well off	0.074 (0.081)	-0.006 (0.088)	-0.121 (0.108)	0.064 (0.068)
Less well off than average	0.118 (0.117)	0.113 (0.131)	-0.135 (0.102)	0.005 (0.120)
Father: primary education	-0.091 (0.135)	0.020 (0.089)	0.180 (0.127)	-0.032 (0.129)
Father: secondary education	-0.219** (0.109)	0.014 (0.121)	-0.122 (0.100)	-0.028 (0.094)
Father: tertiary education	-0.156* (0.080)	0.112 (0.121)	0.051 (0.082)	0.012 (0.091)
Life goal: societal contribution	-0.139 (0.111)	0.059 (0.090)	0.076 (0.087)	-0.018 (0.098)
Life goal: financial	0.083 (0.112)	-0.046 (0.107)	-0.087 (0.104)	0.049 (0.133)
Life goal: familial	-0.026 (0.128)	-0.016 (0.114)	-0.072 (0.155)	-0.115 (0.134)
Mountains	—	—	0.463*** (0.130)	—
Terai	-0.262** (0.116)	—	0.186*** (0.068)	—
Hills	—	0.174* (0.099)	—	-0.155** (0.068)
Terai	—	0.119 (0.112)	—	-0.166** (0.080)
Observations	177	136	189	136

Note: Own estimates using the 2013 School-to-Work Transition Survey. Robust standard errors, clustered at the PSU level, reported in parentheses. All estimates are adjusted for sampling weights. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## YOUTH LABOR MIGRATION

### Introduction

The extent of labor migration by Nepalese youth is such that it deserves attention within the broader discussion of youth employment for Nepal. Despite the importance of temporary labor migration in Nepal, rigorous analytical work on the topic is limited. Furthermore, several aspects of labor migration have not even been subject to empirical analysis. For example, while there is a growing public concern about the socioeconomic consequences of labor migration, to the best of our knowledge, except for Lokshin and Glinskaya (2009) who examine the effect of male migration on female labor force participation at home, evidence based on representative data for Nepal on these aspects of labor migration is absent. Similarly, there is a knowledge gap on the domestic labor market outcomes and aspirations of migrants who have returned home, a group likely to increase in size in the coming years. Lastly, despite a relatively large number of youth migrating within Nepal, internal migration, its determinants and outcomes, remains an understudied phenomenon.

Temporary labor migration from Nepal can largely be split into three main streams: (i) to India; (ii) to South Korea, and (iii) to all other countries. Temporary labor migration to India is unregulated. India is considered to be one of the most popular and least costly international destinations. Temporary labor outmigration to South Korea is regulated by a bilateral agreement. The process, which prohibits private recruitment agencies from engaging in worker selection and placement, and documentation are managed by the Korean implementing agency within the Nepal Ministry of Labor and Employment (MOLE). Temporary labor migration to South Korea is viewed to be one of the safest and most remunerative options, but small quotas imposed by South Korea limit temporary labor migration from Nepal to around 6,000 annually. The third stream, that is, temporary labor migration to destination countries other than India and South Korea, is referred to as “foreign employment”. As in the case of South Korea, temporary foreign employment of Nepalese workers to these destination countries is based on bilateral agreements with the Nepal government. However, selection and placement of foreign employment workers is undertaken by private recruitment agencies based in Nepal. The Department of Foreign Employment (DOFE) under MOLE maintains documentation on foreign employment workers and provides each worker traveling legally with an employment (or exit) permit prior to departure. This type of foreign

employment constitutes the second largest stream of temporary labor migrants from Nepal and is viewed as the most costly option.

This chapter, using both nationally representative household survey and government administrative data, examines the patterns, correlates and effects of both external and internal youth labor migration, with youth being defined as individuals ages 16-34. In particular, the chapter aims to answer the following questions:

- 1) What is the incidence of labor migration?
- 2) What are the patterns and trends in labor migration in terms of migrant profiles, destination choices and employment patterns at destination?
- 3) What are the strengths and weaknesses of the institutional set up behind the process of foreign employment?
- 4) What are the effects of labor migration on the labor market outcomes of youth in households with a migrant?
- 5) What is the incidence of return migration and how do the labor market outcomes of returnee migrants differ from youth that has not migrated?

The chapter finds that current youth labor migration is extensive in Nepal, and is male dominated. Male youth labor migration rates were highest from three regions in Nepal: rural Terai, rural hills, and mountains. Most female youth migrants moved internally, whereas most male youth migrants moved externally. Irrespective of gender, most youth migrants appear to be wage-employed, particularly when they moved externally, and engaged in services. Labor migrants that moved internally or to India tended to obtain information on employment at destination through informal channels such as from friends or relatives, whereas labor migrants that moved to other external destinations tended to obtain information on employment at destination from recruitment or employment agencies. These patterns are consistent with existing evidence.

On the correlates of youth labor migration, female youth that are more educated or come from richer households tend to migrate for labor, suggesting positive selection. In contrast, male youth that are less educated tend to migrate for labor, and household economic status does not appear to have an influence, suggesting negative or neutral selection. Male youth tend to migrate from more agricultural communities, especially if they are landless or smallholders, indicating that the state and structure of the home economy serve as a push factor. Evidence also suggests negative selection in labor migration to India, presumably facilitated by low costs of migrating to India, and

positive selection in the decision to migrate internally, suggesting that the domestic urban labor market is more attractive to male youth with more human capital and wherewithal.

The institutional arrangements in Nepal guiding the foreign employment process appear to suffer from implementation shortcomings. Seeking and securing foreign employment appears to suffer from market inefficiencies due to information asymmetries that result in high costs of migration, and expose the worker to potential fraud and exploitation. Foreign employment workers mainly go to four countries: Malaysia, Qatar, Saudi Arabia, and the UAE. Foreign employment outflow appears to be mainly influenced by economic and other forces in destination countries, rather than in Nepal. The 2015 earthquake in Nepal appears to have had negative effect on agency-based foreign employment outflow (mostly new foreign employment workers), but not individual foreign employment outflow (mostly renewing foreign employment workers).

In terms of the effects of migration on the labor outcomes of youth that did not migrate we find that male youth labor migration has negative effects on the likelihood of employment and hours worked for youth in migrant households, although the effects are not consistently significant. In line with previous evidence, male youth labor migration has significant positive effects on school enrollment and years of education for children in the household, and the effects appear to be mediated through remittances.

Returning home is common among male youth labor migrants, particularly for those that migrated to India, which is consistent with the view that migrants to India engage in circular or seasonal migration, facilitated by the low costs of migrating to India. Comparing labor outcomes at home between youth labor migrants that have returned and youth nonmigrants, those that have returned from external destinations other than India appear to have poorer outcomes. The results suggest that these returning migrants may face constraints in effectively reintegrating. However, alternatively this can be explained by the fact that returnee migrants have chosen not to effectively integrate because they plan on migrating again soon.

The remainder of the chapter is structured as follows: Section 2 discusses the main data sources of data. Section 3 discusses patterns in youth labor migration, and Section 4, the correlates of youth labor migration. As a special focus on foreign employment, Section 5 discusses: the institutional arrangements in Nepal for foreign employment; the process that workers follow to seek and secure foreign employment; and foreign employment trends, and the macro determinants of trends. Section 6 discusses the effects of male youth labor migration on the labor outcomes of male

and female youth stayers, and on the education outcomes of children in the household, and Section 7, the correlates of returning for youth labor migrants, and labor outcome of returners versus nonmigrants. Section 8 concludes with a discussion of the implications of the findings for data and research, and for policy.

### *Main data sources*

The main sources of data for this study is the 2010–11 National Living Standard Survey (NLSS) and DOFE employment permit data. The third round in a series, the 2010–11 NLSS is representative at the national level, as well as for twelve regions within the country. In the 2010-11 sample, 1,192 households were successfully interviewed from the second NLSS round (the 2003–04 NLSS) to constitute a panel sample. Additionally, 5,988 households were interviewed to constitute a new cross-sectional sample.<sup>1</sup> We mainly use the new cross-sectional sample for our analysis.

The extract from the DOFE database covers agency-based foreign employment permit data from January 2010 to May 2016, and individual foreign employment permit data from September 2011 to May 2016. In the data, individual foreign employment workers are categorized into: (i) new; (ii) repeat (those that are returning to the same foreign employer); and (iii) legalized (those that initially left Nepal without a permit but were allowed to later apply to the DOFE for legalization of their status). For all workers, the database includes data on the foreign employment worker's age, gender, district of origin, destination country, date of permit issue, recruitment agency, foreign employer, occupation, and wage.<sup>2</sup>

### *Patterns in youth labor migration*

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<sup>1</sup> See Government of Nepal (2011) for survey design details.

<sup>2</sup> The DOFE employment permit data we use have at least three important limitations. First, date of birth is missing for more than 40% of foreign employment workers who received permits prior to 2013. Second, the database contains data on wages only for agency-based foreign employment workers. These wage data must be interpreted cautiously. The recruitment agency may have over-reported wages to comply with the minimum wage at destination mandated by the DOFE based on the bilateral agreement between Nepal and the destination country where relevant or on the prevailing regulation on minimum wage for foreign employment where not. The recruitment agency is obligated to provide DOFE with a written foreign employment contract for DOFE to issue a permit. There is no guarantee that this is the same contract that the foreign employment worker sees. (Agency-based foreign employment workers do not apply for permits themselves; instead agencies collect their passports and apply for permits in bulk). Third, the data allow us to distinguish whether a foreign employment worker is new or repeat only for individual foreign employment workers and not agency-based foreign employment workers.

This section presents a basic profile of current labor migrants. Labor migration is extensive, and dominated by youth and men. Eighteen percent of Nepalese youth had migrated for labor. Disaggregated by gender, 30% of male youth had migrated for labor, compared to 5% of female youth. Seventy-two percent of labor migrants were youth, and 87% of youth labor migrants were male.

Figure 1 shows youth labor migration rates by region. Youth labor migration rates are higher in rural than urban regions. For male youth, it is highest in rural Terai (34%), rural hills (32%), and mountains (30%), and lowest in Kathmandu valley (10%). Although the extent of male youth labor migration is relatively low for Kathmandu valley, the rate still represents a large absolute number, and a significant share of the country's male youth population. Female youth labor migration rates are generally low, and consequently vary little between regions (from a high of 7% in urban hills and mountains to a low of 4% in the Terai and Kathmandu valley).

Figure 2 shows the distribution of youth labor migrants by destination. The most common destinations for female youth labor migrants were rural and urban areas of Nepal (32% and 39%, respectively), followed by external destinations other than India (24%). Only 5% of female youth labor migrants went to India. The most common destinations for male youth labor migrants were urban Nepal and external (India and other destinations).

Panel A of Figure 3 shows that distribution of youth labor migrants by type of employment (wage or self-employment) at destination. While the do-not-know shares at times prevent a clean picture (especially for female youth labor migrants to India), the evidence suggests that the vast majority of youth labor migrants to external destinations are wage employed, irrespective of gender. The majority of male youth labor migrants to internal destinations are also wage employed, but a large share are self-employed. For female youth labor migrants to internal destinations, the shares that are wage-employed and self-employed are similar.

Panel B of Figure 3 shows the distribution of youth labor migrants by sector of employment (agriculture, industry, construction, and services) at destination. Again while the do-not-know shares make the picture unclear, employment in services dominates for both female and male youth labor migrants, across destinations. In addition, a sizeable share of male youth labor migrants are employed in construction across destinations, whereas a sizeable share of female youth labor migrants to internal destinations are employed in agriculture.

Finally, Figure 4 shows the distribution of sources of destination job information. The main source of destination job information for female and male youth labor migrants to internal destinations and India was family, friends, and neighbors. While the shares of female and male youth labor migrants to external destinations other than India that obtained destination job information through family, friends, and neighbors remain substantial, they are exceeded by the share that obtained destination job information through recruitment/employment agencies. Interestingly, if the statistics are taken at face value, nontrivial shares of youth labor migrants to internal destinations and India also have received destination job information from recruitment/employment agencies.

### *Correlates of youth labor migration*

What factors are associated with labor migration in general, and to specific destinations? Although previous research has explored the determinants of migration, the factors associated with labor migration by Nepalese youth are not well understood. Evidence on the factors associated with the choice of destination for labor migration by Nepalese youth is particularly limited.

### Theory and international evidence on the determinants of labor migration

In standard models of migration (for example, see Sjaastad 1962, Roy 1951, or Borjas 1987), labor migration is characterized to be an investment decision in which potential migrant workers arbitrate between the gain in earnings from and the cost of migrating. Self-selection is primarily driven by wage differentials between home and potential migration destinations, net of migration costs. Selection into migration can be positive or negative in nature (Borjas 1999). Positive selection occurs when workers that choose to migrate are more productive (specifically, better skilled) than those that decide not to migrate, and vice versa in the case of negative selection. Various self-selection patterns with respect to human capital may be observed depending on whether the wage-skill profile is steeper at home or at destination, and on whether migration costs increase or decrease with skill. If the returns to skill are larger at destination than at home, one would expect positive selection to occur.<sup>3</sup>

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<sup>3</sup> Using data on emigrant stocks by education level and home country in OECD destinations, Groger and Hanson (2011) validate these predictions, finding that migrants for a home country-destination country pair are more educated relative

Theory and international evidence also suggest that the existence of migration networks can affect the cost of migration and, hence, the decision to migrate and the type of selection that occurs (see Rapoport, 2010 and Fernández-Huertas Moraga, 2011, among others)

Fixed costs and household wealth can also matter for the migration decision (Grogger and Hanson 2011). When the credit market is not sufficiently developed or a collateral is required in order to obtain a loan, household wealth will positively influence the decision to migrate (Hanson 2006). On the other hand, household wealth may also aid income-generating opportunities at home (either directly through employment in a family enterprise, or through local family networks that help the worker find and secure a well-paying wage job), inducing a negative association between wealth and migration. The net effect across the population of interest (empirically, the direction of the association between household wealth and migration) is therefore theoretically ambiguous.

#### Available evidence on the determinants of migration in Nepal

Rigorous evidence based on representative data on the determinants of migration and choice of migration destination is limited for Nepal. Using village-level panel data over the period 2001–10, Shrestha (2017a) examines several different pull and push factors in the decision to migrate. He reports that a positive income shock associated with rainfall increases the likelihood of migrating to India, suggesting the existence of important liquidity constraints. Additionally, he shows that an increase in migrant demand from external destinations, proxied by their economic growth rates, increases migration to those destinations, highlighting the role of pull factors. His findings are therefore consistent with the classical model of migration in the presence of credit constraints.

Using survey data from a rural agricultural setting (Chitwan Valley), Bhandari (2004) finds that households with lower access to cultivated land are more likely to migrate, indicating the role of a push factor. Based on qualitative research in a village in Kathmandu district, Gaurab (2014) suggests that earnings differentials between home and destination influence the decision to migrate.

Existing evidence also suggests that social networks influence the decision to migrate. Using survey data for a small sample of agricultural households in eastern Chitwan district, Regmi

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to nonmigrants the larger the absolute skill-related difference in earnings between the home country and the destination country.

at al. (2014) finds that the migrant's number of extended family members at destination, a measure of the migrant's social network, is positively associated with the decision to migrate.

### Correlates of youth labor migration

Figure 5 reports the unconditional relationship between the likelihood to migration for labor reasons and years of schooling among the youth. The probability to migrate is high among male youth at low levels of schooling at about 0.5, but then decline in an almost linear fashion for individuals that completed more than six years of schooling. This suggests negative skill-based selection in the labor migration decision among male youth. For female youth, the likelihood to migrate for labor is low throughout the distribution of years of schooling, with a small increase after 12 years of schooling.

Table 1 reports the regression results of the correlates of current or recent-past labor migration to any destination, separately by male and female youth. For male youth, those with higher levels of education (SLC or higher) are less likely to migrate, controlling for other observables characteristics, which is consistent with the association observed in Figure 7.. Compared to those from the Brahmin community, those from the Dalit and Muslim communities are more likely to migrate, whereas those from the Terai middle caste community are less likely to migrate. The likelihood of migrating is increasing in the share of households engaged in agriculture in the community, controlling, for among other things, the level of development of the community, as captured by a community infrastructure index. In other words, workers tend to migrate from more agricultural communities, suggesting a potential push factor. On the other hand, workers from households that own at least one hectare of agricultural land (the average agricultural land size owned by households is 0.7 hectares) are less likely to migrate, suggesting that large land ownership discourages labor migration.

For female youth, those married are less likely to migrate, and those with higher levels of education, from richer households, or residing in a community with a higher level of development are more likely to migrate. The agriculture-related characteristics of the household or the community do not appear to be associated with the labor migration decision. The nature of the association between migration and education, household economic status, and the level of community development indicate female youth labor migration is positively selected by skill and

other dimensions. For both male and female youth, those from regions outside of Kathmandu valley are more likely to migrate.

### Correlates of choice of destination

Individual, household, and community factors may also influence the individual's destination choice. In the basic migration model, the individual evaluates his expected utility in each possible destination choice and decides to migrate to the destination where the expected utility is highest (Sjaastad 1962), which may depend on the individual's characteristics.

Figure 6 shows the association between the likelihood to migrate to a given destination and years of schooling by gender. Panel A shows our results for male youth. It shows very different patterns by destination. For labor migration to India, the probability to migrate is relatively high at low levels of education, but then decreases sharply after six years of education. This indicates negative selection in migration to India. For migration to other external destinations, the relationship between years of schooling and probability to migrate is non-monotonous. The likelihood to migrate first increases with years of schooling up to year 10, but then decreases with years of education after that. For internal destinations, the likelihood to migrate is increasing with years of education, indicating positive selection. The results for female youth, shown in Panel B, show less striking differences in the association between education and migration across destinations. For internal destination, the probability to migrate increases slightly up to age five and is then relatively flat. It is higher than the likelihood to migrate to India or to other external distribution at all levels of schooling. For India and other external destinations, the likelihood to migrate for labor is virtually zero up to year 12, and then increases with years of schooling, especially for migration to other external destinations.

Table 2 presents regression results of the correlates of destination choice for current or recent-past male youth labor migrants. The reference category is male youth that did not migrate for labor. We do not estimate the regression relationship for female youth because of small sample size issues.

The relationship between education and choice of destination documented by Figure 8 is robust to controlling for workers' other characteristics. Those with higher levels of education are more likely to migrate internally, and less likely to migrate to India and other countries. In terms of household economic status, those from richer households are more likely to migrate internally or

to external destinations other than India, and less likely to migrate to India. The education related results suggest that the earnings returns to higher levels of education may be higher for internal migration than external migration.

Additionally, individuals from households with relatively large agricultural land ownership are less likely to migrate internally or to India, and more likely to migrate to other external destinations. This could result from large landholdings being used as collaterals for large loans covering migration to other external destinations, characterized by large upfront costs.

### *A special look at foreign employment*

This section provides an overview of the institutional arrangements for foreign employment. It also examines the efficiency of the process the worker follows to seek and secure foreign employment, based on available documentation on the process, and data from the 2015 KNOMAD migration cost database and 2009 Nepal Migration Survey (NMS).<sup>4</sup>

#### regulatory system

In the late 1990s and early 2000s, the government's policy on labor outmigration was focused on the creation of institutional mechanisms to facilitate temporary labor migration to destinations other than India. Subsequently, partly due to the success of this policy and partly due to changing economic conditions, the labor migration flow to other international destinations increased markedly. The policy focus then shifted from one of labor migration promotion to one of regulation of the labor migration process to these new destinations with particular attention on the protection of the rights and welfare of Nepalese workers. The formulation of Nepal's Foreign Employment Policy in 2012; the preparation of legislation, directives, and manuals associated with it; and the creation of the National Strategic Action Plan 2015-22 focused on improving foreign employment worker welfare all serve as evidence of this shift.

The Nepal government has laws for the protection of the rights of foreign employment workers. The Foreign Employment Policy 2012 has resulted in the creation of the following directives and manuals aimed at improving the foreign employment process and ensuring that the rights of foreign employment workers are protected: Standard on the Enlisting Process of the Health Examination 2013, the Directive on the Procedure on Individual Labor Permits 2013, the Manual

on Registration and Renewal of Orientation Training Institution 2014, the Manual on Extending Objective Assistance to Skill Trained Human Resources, and the Directive on Sending Domestic Helpers for Foreign Employment. These directives and manuals are complementary to the Foreign Employment Act (FEA) 2007, which prescribes penalties for misconduct by recruitment agencies such as fraud, misrepresentation of work conditions, overcharging of migrants, and falsification and confiscation of documents.

The Nepal government also has institutions to promote safe and decent foreign employment. FEA 2007 mandated the creation of institutions designed to ensure the welfare of Nepalese foreign employment workers before departure and at destination, namely the: (i) Foreign Employment Welfare Fund (FEWF) managed by the Foreign Employment Promotion Board (FEPB); (ii) Department of Foreign Employment (DOFE); and (iii) Foreign Employment Tribunal (FET).

*Foreign Employment Promotion Board:* FEPB is responsible for the promotion of foreign employment and ensuring the social protection and welfare of foreign employment workers. The latter responsibility includes the management of the Foreign Employment Welfare Fund (FEWF). Using FEWF resources, FEPB: (i) conducts skill training and pre-departure orientation; (ii) provides access to healthcare services for foreign employment workers and their families; (iii) engages in rescue/rehabilitation and re-integration of foreign employment workers; and (iv) provides financial support and compensation to families for the occupational death or disability of foreign employment workers.

FEWF is funded by: (i) foreign employment worker fees (each worker is supposed to pay NPR1,000) and interest earned from deposited fees; (ii) license and deposit fees collected from recruitment agencies (recruitment agencies are mandated to pay a deposit of \$30,000 and a fee of \$200 upon registration of the agency, and a deposit of \$2,000 per registered individual agent); and (iii) any other contributions received from foreign employment related institutions and grants from local or foreign entities (Paoletti et al. 2014).

*Labor attaches:* FEA 2007 mandates that each of the embassies in the host country with more than 5,000 migrants has a labor attaché whose responsibility is to oversee the welfare of Nepalese workers in the country. As of July 2015, Nepal had labor attaches in eight countries: (1) Bahrain, (2) Kuwait, (3) Malaysia, (4) Oman, (5) Qatar, (6) South Korea, (7) Saudi Arabia, and (8) the United Arab Emirates (ILO 2016). The main functions of the labor attaché include assistance in resolving disputes between the worker and the employer, assistance with the rescue of the worker

and the repatriation of the worker's body in the case of death, and diplomatic functions such as informing the Nepal government regarding the labor conditions in the destination country and checking if the conditions of the bilateral agreement between Nepal and the destination country are respected.

*Department of Foreign Employment:* DOFE is responsible for the regulation of recruitment agencies and registration of foreign employment workers to prevent fraud such as overcharging of workers or the provision of false information about foreign employment terms and conditions. DOFE is also responsible for grievance redressal.

*Foreign employment tribunal:* FET is a semi-judicial body responsible for the resolution of complaints filed by individual prospective or incumbent foreign employment workers (i.e., those not using recruitment agencies) and other complaint cases that are outside of the jurisdiction of DOFE.

*Vocation and Skills Development Training Center:* VSDTC provides counseling services for foreign employment workers, and helps workers enroll in and use online banking services.

The foreign employment process from the point of view of the worker is presented in Figure 2. A prospective foreign employment worker has two options for migrating legally: (i) through a recruitment agency; or (ii) individually. Most new workers choose to go through recruitment agencies.

*Recruitment agency:* Recruitment agencies are regulated by DOFE. Currently, 754 recruitment agencies are listed as registered companies by DOFE (DOFE 2017). Based on our analysis of DOFE data, about 900 agencies have sent foreign employment workers between 2010 and 2015.

Recruitment agencies rely on their counterparts in destination countries to obtain data on the number and type of workers demanded. The recruitment agency submits the obtained information to DOFE to verify that it meets the requirements of FEA 2007 and to obtain DOFE's approval to recruit workers. The agency then advertises the positions through public media and individual agents, and recruits workers. Once workers are selected and necessary documents (such as a medical report and life insurance) are obtained, the agency registers the workers with DOFE to obtain an employment permit on behalf of each worker it sends.

A prospective foreign employment worker, however, initially interacts with an individual agent that represents one or more agencies in his/her locality. The individual agent provides the

worker with information on foreign employment opportunities and often facilitates the process of obtaining necessary documents such as a passport. After the contract is secured, the worker travels to Kathmandu to sign necessary papers, pass a medical examination, and obtain required pre-departure training. Prior to departure, the worker has to pass a document check by the Labor Migration Desk at Kathmandu's Tribhuvan International Airport to ensure that s/he has at least the minimum required documents: (i) a copy of the contract in Nepali with at least a minimum wage; (ii) proof of life insurance; (iii) proof of passed medical tests; and (iv) the employment permit from DOFE.

Workers can also secure foreign employment without using recruitment agents or agencies. Workers who choose this path are referred to as individual foreign employment workers. To proceed as an individual foreign employment worker, the worker either (1) has to have an immediate family member or an employer in the destination country who sponsors his/her foreign employment, or (2) has to be renewing his contract with the foreign employer s/he previously worked for. In 2011-12, DOFE allowed applications for individual foreign employment permits. In 2012, the Nepal government decided to legalize those who illegally obtained foreign employment in the past, and DOFE began issuing individual permits to such workers. The government also strengthened the process associated with individual foreign employment through the 2013 Directive on the Procedure on Individual Labor Permits.

Both agency-based and individual foreign employment workers have access to grievance redressal mechanisms provided by DOFE and FET. DOFE however handles grievances of agency-based foreign employment workers only. The functioning of DOFE and FET grievance redressal mechanisms has been improving, but a very small and falling number of workers register cases. Between 2012 and 2015, only 19% of cases against recruitment agencies and only 13% of cases against individual agents have been resolved by DOFE.<sup>5</sup> Furthermore, the average settlement amount is less than 20% of the amount claimed, and, for majority of cases, it takes more than one year before the settlement is reached (Paoletti et al. 2014, ILO 2016). In contrast to DOFE, FET's performance has been improving, with 50% of cases settled by the end of FY2014/15.<sup>6</sup>

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<sup>5</sup> There is currently no public data on the nature of cases that are settled by DOFE, or details on the actual payment received by the complainant.

<sup>6</sup> There are caveats: (1) The statistic does not take in account the length of time it takes for many cases to be settled as some end up being carried over for years; (2) the outcomes of the settled cases, as FET does not make this information public; and (3) whether the outcomes were realized given the limited enforcement capacity of FET (Paoletti et al. 2014).

While, in principle, the Nepal government has laws and institutions necessary for safe and gainful foreign employment, it faces several challenges. The institutional arrangements are geared towards ensuring safe and gainful foreign employment through pre-migration checks and training provided by DOFE, FEPB and VSDTC. Foreign employment workers have support at destination provided by FEPB and labor attaches, and can register their grievances with DOFE and FET. Furthermore, recent legislative changes that increase the focus on ensuring safe migration for individual foreign employment workers reflect the responsiveness of the system to changing realities. However, many of the institutions engaged in the foreign employment process remain underfunded and understaffed. The inefficiencies in the grievance redressal services provided by DOFE and FET likely discourages workers from using them.<sup>7</sup>

#### Potential inefficiencies in the foreign employment process followed by the worker

Figure 7 summarizes the process followed by the worker to obtain foreign employment. Foreign employment workers that secure their contracts through recruitment agencies tend to do so with the assistance of local individual agents. Recruitment agencies are mostly registered in Kathmandu, and have a limited number of local branches.<sup>8</sup> Agencies use registered and unregistered individual agents to identify workers to recruit. Workers may not have a good way to signal their ability or reliability to the recruitment agency. They also may have limited reliable information on the process for foreign employment. This constrains them to work through an individual agent. Individual agents usually come from the same communities as workers. Thus, they are well placed to assess the qualities of the worker. Furthering this conjecture, Paoletti et al. (2014) report that agencies tend to prefer workers that agents send them as opposed to those who come to the agency directly.<sup>9</sup>

The widespread use of individual agents is substantiated by 2015 KNOMAD migration cost and 2009 NMS data. All workers who obtained their jobs through recruitment agencies made

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<sup>7</sup> Potentially due to them being understaffed and underfunded in particular in regards to grievance resolution functions.

<sup>8</sup> Even though it is legal for recruitment agencies to open local branches with the prior approval of DOFE due to the widespread opening of unregistered local branches, the government halted the process of registering local branches. As a result, according to Paoletti et al. (2014), there were only 47 legal local branches belonging to 35 agencies in 2014.

<sup>9</sup> In addition, due to the nature of foreign employment process, agencies know that the worker proposed by the agent is likely to follow through regardless of the conditions of the contract. This is because the prospective foreign employment worker has likely already paid his agent commonly by taking out a loan. Thus, it is much less likely that the prospective worker will decide to back out of the proposed contract because he is likely to need foreign employment to repay the loan taken out for the agent payment.

payments to local individual agents. Less than 5% of foreign employment workers stated that they sought help from a recruitment agency directly.

Notwithstanding, there is scant data on the numbers of registered and unregistered agents. For example, DOFE website has a list of 693 agents as of February 2015, and DOFE did close the process in Feb 2016. At the same time pravasipath.com states that in 2015, only 1,800 out of almost 100,000 agents were registered. These numbers do not reconcile easily. Furthermore, there are no studies that examine the worker-individual agent marketplace (that is, the conditions and processes through which workers and individual agents transact), the individual agent-agency marketplace (the conditions and process through which agents and agencies transact), and how individual agents interact with each other, such in in sharing or splitting market territory.

The fact that workers tend to interact with individual agents to secure foreign employment would be less of a source for concern if the worker-agent market was competitive and transparent, if there were efficient ways to obtain credible information on agent and agency reputations, and if formal grievance redressal systems for workers were efficient and effective. There is little evidence of these.

Given that the registration of an agent is prohibitively expensive for both agencies and agents and that there is only a small penalty if the agency uses unregistered agents, agencies use unregistered agents. Registering an agent is expensive as the agency has to pay a deposit of about US\$2,000 for each registered agent. The agency has the right to ask the agent to repay up to US\$700 of this sum, thus making it an expensive proposition for the agent as well. In addition, once the agent is registered, he cannot work with any other agency. There is also no mechanism available to workers to file claims against agencies that use unregistered individual agents, which lowers the risk associated with their use.<sup>10</sup>

The high prices paid by workers for agent services suggest that the market may not be competitive. Given the large number of agencies and unregistered agents, basic economic theory would predict that competition between agents would drive agent prices down to the cost of the transaction for the agent. There is little evidence that agent prices have declined over time. A comparison of the costs of migration between the 2009 NMS and 2015 KNOMAD data show that the median price paid by the worker to obtain employment in Qatar has declined only by about NPR 10,000 from a median of about NPR 100,000 in 2009 to a median of NPR 90,000 in 2015.

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<sup>10</sup> Furthermore, while being an unregistered agent is punishable by law, using one is not.

Furthermore, both the 2009 and 2015 median prices are substantially higher than the government mandated price of NPR 70,000 for Gulf destinations. Only 25% of foreign employment workers surveyed in 2015 paid the mandated price or less. Furthermore, virtually no worker reported paying NPR 10,000 or less to the local agent in the 2015 data, which was the price ceiling for agents mandated by the government before the free visa/free ticket policy.

The agent's market power can result in higher agent prices. This market power can come from the agent having a monopoly in his area or engaging in collusive behavior with other agents. There are currently no studies on the structure and dynamics of the agency market, and what they imply for agent prices. Unless the number of registered agents is expanded, the recent push to ensure that foreign employment workers use registered agents can increase the market power of registered agents in many areas given the highly limited number of registered agents, potentially driving up agent prices.

The market may fail to weed out bad agents and agencies, which can add to market inefficiency. In the 2015 KNOMAD data, 37% of workers reported that they learned about their job from a relative and 80% of those said that they had to pay a local agent to secure the job. Paoletti et al. (2014) indicate that due to agents often being close relatives or friends, grievances are suppressed in favor of not damaging community ties. Thus, bad agents and agencies can continue to survive and operate with their reputations untarnished.

While high agency prices may be due to an uncompetitive market, the right market price may be above the prices mandated by the government. Mandated prices may be too low to attract sufficient numbers of agents to the market, which would lead to underprovision of agent services. Enforcing mandated prices or lowering them can then undermine the worker-agent market to the detriment of the worker.

The high costs associated with foreign employment are a serious policy concern. High costs can result in the high indebtedness of foreign employment workers early on in the process which can then make the worker more accepting of fraud or unfavorable contract terms. To address high costs, the government announced a free visa/free ticket policy in 2015. Workers were to be informed that the employer would bear the full cost of the visa and travel. It is unclear what effect the free visa/free ticket policy will have on the costs borne by the worker. According to 2015 KNOMAD data, the median cost of visa and ticket represented about 40% of the total median cost.<sup>11</sup> It is

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<sup>11</sup> However, only 12% of respondents knew the airfare cost, and less than 10% knew the visa cost.

possible that the policy, by controlling visa and ticket costs but not other costs, has the unintended effect of leading to higher payments to agents, because agents would have more consumer surplus available from the worker to extract as payment.

### Foreign employment trends

Foreign employment outflow appears to be seasonal (see Figure 8). Foreign employment outflow peaks in December-January and April-May. Outflow drops in July, which corresponds to the rice planting period. Given that most foreign employment workers come from the Terai region, workers in the region may be occupied with rice planting than securing employment opportunities elsewhere. Outflow also drops at the time of religious festivals in October and November.

Male foreign employment outflow declines in 2015 and 2016, controlling for seasonality. The number of permits issued in early 2016 is lower than the numbers for the same period in previous years. The decline is particularly large for agency-based male foreign employment outflow.

The composition of foreign employment outflow in terms of agency based versus individual appears to change over time. Individual foreign employment appears to have picked up in 2015 and 2016. It first surpassed agency-based foreign employment outflow in April 2015 and then fell below agency-based foreign employment outflow in August of the same year. Starting in November 2015, individual foreign employment outflow has been consistently above agency-based outflow. Eighty-eight percent of individual foreign employment outflow is repeat migration, that is, workers renewing contracts with the same employers.

### Effects of economic and policy developments in Nepal and destination countries

Ninety-six percent of agency-based foreign employment workers and 85% of individual foreign employment workers went to four destinations: Saudi Arabia, Qatar, United Arab Emirates and Malaysia. The economies of the Gulf countries are different from Malaysia in being more likely to be dependent on oil prices than the Malaysian economy. Additionally, given that Malaysia was the top destination from 2012 to 2015 for agency-based foreign employment workers and at the same time the least popular destination for individual foreign employment workers (see Figure 9), the types of jobs, contracts, and recruitment processes are likely to differ between destination Gulf countries and Malaysia.

Prior to 2015, Gulf countries were the second-most popular destination after Malaysia for agency-based foreign employment workers, and the most popular destination for individual foreign employment workers (see Figure 10). Qatar was the top destination among Gulf countries for agency-based foreign employment workers, but with a decline in flow in 2015, Saudi Arabia took its position. Among individual foreign employment workers, Qatar has consistently remained the top destination through the years.

The growth in the numbers of foreign employment workers going to the Gulf countries between 2012 and 2015 could be partly explained by the growth in the construction and manufacturing sectors in destination countries (Shrestha 2017a, 2017b).

However, the Gulf country economies are largely dependent on oil exports, the price of which experienced a drastic decline in the second half of 2014, falling from US\$100 to about US\$50 per barrel.<sup>12</sup> This decline negatively affected economic growth in Gulf countries.<sup>13</sup> With the exception of Becker et al. (2005) who find that macroeconomic deterioration in Russia depressed migration from Kazakhstan to Russia, international evidence on the effect of negative shocks in destination countries on temporary labor migration is lacking.

Table 3 reports regression results for the relationship of international oil prices, quarterly GDP growth rates at destination, and annual GDP growth rates in Nepal, all lagged, with agency and individual foreign employment outflow. An increase in international oil prices is associated with an increase in both agency-based and individual outflow, indicating that declining oil prices are associated with a decrease in foreign employment outflow to the main Gulf destination countries. However, there is a negative relationship between GDP growth and foreign employment, in particular, for Gulf countries. This might be indicative of Nepali workers being an inexpensive and unregulated source of labor that more employers are willing to turn to in times of slower economic growth.

The ability to easily hire and fire foreign workers as well as their legal attachment to a particular employer can make them particularly attractive for destination country employees. Thus in destination Gulf countries, labor law reforms that pertain to foreign employment may have had different effects on new and repeat foreign employment workers. For example, in 2011, the United Arab Emirates allowed foreign workers to change employers, a departure from the traditional

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<sup>12</sup> <http://www.imf.org/external/pubs/ft/survey/so/2016/car042516c.htm>.

<sup>13</sup> Ibid.

“kafala” system that tied the worker to his/her employer without any possibility of change and made the employer the worker’s legal guardian. Naidu et al. (2015) find that the reform led to higher earnings for incumbent foreign workers, and a decrease in demand for new foreign workers. Qatar passed a similar law in December 2016.

Malaysia was the top destination country for agency-based foreign employment workers until 2015, with a steady increase in the number from 2012 through 2014. The country has however ranked behind destination Gulf countries with respect to the number of individual foreign employment workers (see Figure 7). The sharp difference in the levels of agency-based and individual foreign employment flows to Malaysia may be due to the low wages offered to foreign workers and labor laws that discourage the long-term engagement of foreign employment workers in Malaysia. Malaysia offers the lowest wages out of the top destination countries. The median monthly wage for male foreign employment workers in Malaysia is US\$60 lower than the next lowest median wage among Gulf countries. Thus, foreign employment workers may be less inclined to return to Malaysia and may seek employment elsewhere. The low repeat flow (for which those renewing their foreign employment permits serve as a proxy) may also be due to Malaysian regulations aimed at discouraging long-term employment of low-skilled foreign workers, as their employment is considered acceptable only as a stop-gap measure to labor shortages (Devadason and Meng 2014).

Foreign employment flow from Nepal to Malaysia dropped sharply in 2015 (see Table 3). The trend may be due to efforts by the Malaysian government to adhere to its 2009 promise to drastically reduce the number of labor migrants by 2015. The trend may also be due a sharp decline in the value of Malaysia currency that occurred between mid-2014 and mid-2015, which would have made the country a less attractive employment destination for Nepalese workers (Shrestha 2016b).

### Effect of the 2015 earthquake in Nepal

Nepal experienced a violent earthquake with a magnitude of 7.8 to 8.1 on April 25, 2015, which caused extensive damage and loss.<sup>14</sup>The potential effect of this earthquake on foreign employment outflow is theoretically ambiguous. Foreign employment outflow may fall because workers decide to remain in Nepal to help their households and communities recover from the earthquake. Foreign

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<sup>14</sup>The country also experienced several aftershocks, including one with a magnitude of 7.3 on May 12, 2015.

employment outflow may also fall because workers have greater difficulty in raising the funds needed to migrate, or because the arrangements for securing foreign employment (for example, recruitment agency operations) may have been disrupted by the earthquake. On the other hand, outflow may rise because workers use foreign employment as an economic coping strategy.

Table 4 reports regression results for the effect of the earthquake on foreign employment outflows, under a difference-in-differences framework (before and after the earthquake, and between worst-affected districts and others). We find that the earthquake had a negative effect on agency-based foreign employment outflow, controlling for district of origin, and lagged values for GDP growth rates in main destination countries and in Nepal. Agency-based foreign employment flows may have been negatively affected because workers were unable to make the needed payments to agencies and/or agency activity was disrupted due to the earthquake. Individual foreign employment flows would be free of these constraints.

***Effect of youth labor migration on labor outcomes of remaining youth household members***

According to standard labor market theory, the overall effect of labor migration on the labor supply of the remaining members of the migrant household is ambiguous. There are several pathways through which labor migration could affect the labor outcomes of the remaining family members, with conflicting effects. A first channel is the receipt of remittances by households. In our sample, 81% of labor migrants sent remittances to their households. The standard model of labor-leisure choice predicts that individuals receiving remittances will increase their consumption of leisure and decrease their labor supply, because household nonlabor income increases through remittances (an income effect).

As a second channel, labor migration can create the need to substitute for the labor of migrants, particularly in household enterprises, to compensate for foregone income (a disruption effect). In addition, a large outflow of migrants reduces aggregate labor supply which can increase aggregate wages in the local labor market, leading to an increase in labor supply by people left in these communities (a substitution effect). Finally, households may also have to finance the costs of migration of household members, which may increase the labor supply or the remaining household members to pay for the costs of migration.

Rigorous international evidence on the effects of migration on home outcomes is mixed. De Brauw and Giles (2012) find for China that labor migration from rural areas is associated with an increase in the total labor supplied to productive activities and in land per capita managed by remaining household members. Examining the effect of remittances on household labor supply in rural Mexico, Amuedo-Dorantes and Pozo (2006) find that male labor supply does not change but female labor supply declines. Examining the effect of remittances on household labor supply in El Salvador, Acosta (2006) finds that female labor supply declines.

The available evidence for Nepal is also mixed. Using 2003–04 NLSS data, Lokshin and Glinskaya (2009) examine the effect of male labor migration on household female labor supply. Attempting to account for nonrandom migration of male household members, they find that male migration has a negative effect on household female labor force participation. In contrast, using household data from two districts, Maharjan et al. (2013) find that male migration has a positive effect on female employment, especially on female agricultural employment.

Here, we examine the effect of whether a household has a male youth member that is a current labor migrant (our main “treatment” variable) on the labor outcomes of female and male youth household members who remain at home.<sup>15</sup> We also examine the effects of alternative household-level treatments, namely whether the household had a male youth labor migrant that: (1) sent remittances; (2) had migrated internally; (3) had migrated to India, or (4) had migrated to another external destination.<sup>16</sup>

Tables 5 and 6 present regression results for the effects of current male youth labor migration on the labor outcomes of male and female youth stayers, respectively. Table 7 presents the regression results of male youth labor migration on school enrollment and years of schooling by children 5–15 years of age in the household.

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<sup>15</sup> The number of observations for female labor migrants is few, and hence they are excluded from the treatment variable.

<sup>16</sup> Given the selectivity of migration, we expect youth in households with labor migrants to differ from youth in households without labor migrants. The poor overlap in the distribution of characteristics of these two groups of households can make estimates of the effects of male youth labor migration on outcomes imprecise and sensitive to the choice of specification. To arrive at an optimal subsample, we use the approach suggested by Crump, Hotz, Imbens, and Mitnik (2009) to discard observations with extreme predicted probabilities of male youth labor migration status of the household. The approach does not bias the estimates because the optimal subsample depends on the joint distribution of characteristics and household labor migration status and not on the distribution of outcomes. It can greatly improve the precision of the estimated associations between male labor migration and the outcomes of youth both in the households with and without the migrant, which we sometimes refer to as “effects”. However, given the data, the method does not allow us to interpret these associations as causal.

We find that male youth labor migration has negative effects on the likelihood of employment for female and male youth stayers but the effects are insignificant. Male youth labor migration also has negative effects on hours worked for female and male youth stayers, but only the effect of –11% for female youth stayers is significant. Looking at the alternative treatment variants, we find that male youth labor migration to external destinations other than India has significant negative effects on the likelihood of employment of –34 pp. for male youth stayers and –21 pp. and for female youth stayers. Male youth migration coupled with remittances has significant negative effects on hours worked of –12% for male youth stayers and –13% for female youth stayers.

Looking at participation in noneconomic activities, male youth labor migration has a significant positive effect of 8 pp. on the likelihood of noneconomic participation by male youth stayers, and the effect appears to be driven by remittances. Male youth labor migration to India has significant negative effects on hours in noneconomic activities of –32% for male youth stayers and –16% for female youth stayers. The collective evidence suggests cutbacks in labor supply in economic and noneconomic activities by stayers.

### Allocation of labor across sector and type of employment

Labor migration could affect the allocation of labor supply by youth stayers across types of employment (Amuedo-Dorantes and Pozo 2006). One channel is the disruption effect discussed previously, in particular when the household runs an enterprise. Eighty-five percent of labor migrants originate from rural areas, where self-employment in agriculture is prevalent, representing 61% of total rural employment.

We find that male youth labor migration does not appear to have effects on the likelihoods of wage employment, self-employment in agriculture, employment in industry, or employment in services either for male or female youth stayers. Looking at the alternative treatments, male youth labor migration to India has significant negative effects on the likelihood of employment in services for female and male youth stayers. Male youth labor migration combined with remittances has a significant positive effect of 5 pp. on the likelihood of self-employment in agriculture for male youth stayers.

### Wage earnings

Male labor migration can affect the labor earnings of youth stayers. Migration out of rural areas decreases local labor supply. Keeping labor demand fixed, a decrease in labor supply can increase aggregate wages. The effects on wage earnings for female and male youth stayers are positive (9% and 6%, respectively), but insignificant.

## Children's education

Previous studies suggest that labor migration can influence the education investment decision for children in the household. Acosta (2006) and Yang (2008) find for El Salvador and the Philippines, respectively, that remittances reduce child labor, and increase child school enrollment. Using 1995-96 NLSS data for Nepal, Bansak and Chezum (2004) find that remittances have a positive effect on children's school enrollment, particularly for young boys. Using data for the Sainik Basti settlement in western Nepal, Thieme and Wyss (2005) find that migration is associated with higher education attainment by children.

Whereas the effect of male youth labor migration on the likelihood of school enrollment by household children is small and insignificant, male youth labor migration combined with remittances to the household has a positive effect of 2 pp. on the likelihood of child school enrollment. Male youth labor migration also has a positive effect of .1 years of additional schooling. Overall, it appears that male youth labor migration has small positive effects on the education of household children, mediated through remittances to the household.

### ***Returning youth labor migrants***

#### The extent of return migration

Figure 12 shows the share of male youth labor migrants that have returned.<sup>17</sup> In total, 29% had returned. Return rates differ by destination choice, specifically between India and other destinations. The higher return rate for male youth labor migrants to India is consistent with the view that labor migration to India tends to be seasonal in nature, or is used as a temporary coping strategy by households during times of economic stress (World Food Program 2008).

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<sup>17</sup> A returning labor migrant is defined to be a household member that had migrated for labor for at least two consecutive months in the five years before the survey, but was present in the household at the time of the survey. Seventeen percent of male youth residing in Nepal were returnees, whereas 1% of female youth in Nepal were returnees. Given the negligible percentage of female youth returnees, we restrict the analysis of returnees to male youth only.

The return rates suggest that temporary labor migration is extensive. It is important to note, however that the high return rates may be an artifact of the data given that the NLSS defines household absentees as individuals that are temporarily absent from the household but are expected by the household to return. Those household members that have migrated for labor and are not expected to return would not be accounted for in the estimation, and thus the reported return rates may be upwardly biased.

### Domestic labor outcomes of returning youth labor migrants

The international literature on the labor outcomes at home of returning migrants is thin. Some evidence from low- and middle-income countries suggests that returning from international migration is associated with a wage premium at home. Reinhold and Thom (2013) find that the labor market experience accumulated in the United States increases the home earnings of returning Mexican migrants. Wahba (2015a) finds that temporary international migration by Egyptian workers results in a wage premium upon return. A few studies examine the occupational choice of returning migrants, in particular with respect to entrepreneurship and self-employment (Mesnard 2004, Dustmann and Kirchkamp 2002, and McCormick and Wahba 2001). These studies find that returning migrants are more likely to become employers and self-employed compared to nonmigrants, and that savings accumulated at destination played an important role. To the best of our knowledge, there is no evidence based on representative data on the labor outcomes at home of returning migrants for Nepal.

Comparing the labor outcomes at home of returning youth labor migrants (returners) to those of youth nonmigrants is complicated by the double selectivity of returning (migration self-selection and return self-selection). To adjust for these differences in characteristics between returners and nonmigrants, we trim the sample from observations with extreme probability of return, based on the methodology of Crump et al. (2009). Applying these steps, we trim out 33% of observations. The subsample of returners from internal destinations has a small number of observations. Hence, the results from comparing the labor outcomes of nonmigrants to returners from internal destinations should be read more cautiously.

Table 8 presents the average labor outcomes of male youth nonmigrants, and the difference for male youth returners, in the relevant trimmed samples. Returners are 12 pp. less likely to be employed than nonmigrants. Conditional on working, returners work 15% less hours on average,

are 9 pp. more likely to be self-employed in agriculture, and are 6 pp. less likely to be engaged in services than nonmigrants.

The overall results are driven by returners from external destinations. Labor market integration seems weaker for returners from other external destinations than other returners. Returners from other external destinations are 23 pp. less likely to be employed than nonmigrants. Conditional on working, such returners are 24 pp. less likely to be wage-employed, are 10 pp. less likely to be engaged in services; and work 25% less hours on average than nonmigrants. The weak labor market integration of returners from other external destinations may be because these returners expect to migrate out for labor again soon. Our data do not allow us to distinguish between those whose return is temporary and those whose return is more permanent.

We also investigate whether the labor outcomes of recent returners (individuals that returned less than a year ago) differ from the outcomes of returners that have been back home for a longer period. The reason for that is that the outcomes of returners might lag behind those of stayers because they recently returned, and therefore did not have sufficient time to reintegrate into local labor markets. We find that recent returners are 15 pp. less likely to be employed compared to stayers, while other returners are 10 pp. less likely to be employed. Both differences with stayers are statistically significant. Also, recent returners work 25% less hours than stayers, while other returners work 10% less hours than stayers. The gap with stayers is also statistically significant for both types of returners. Therefore, the labor supply of returners at both the intensive and extensive margin is significantly lower than for stayers, even once returners have been back home for a substantial period.

### ***Conclusion***

Consistent with standard migration theory, in which earnings differentials between home and potential destination influence the migration decision, Nepalese workers tend to leave more agricultural communities presumably for remunerative employment opportunities elsewhere. The predominance of India as a migration destination among poorer households may also be due to financial constraints, as migration to India is relatively low cost compared to other external destinations. Additionally, the low fixed cost of migration to India makes circular or seasonal migration more affordable, which may explain the higher return rates observed for labor migrants to India.

While laws and institutions to regulate foreign employment process in destinations outside of India exist, there are indications that the process is not sufficiently safe, straightforward, smooth, and economical for the worker. The design of sound interventions to improve the foreign employment process will require primary data and diagnostic research on several, interrelated questions, such as: (1) the characteristics, motives, and practices of individual agents; (2) the structure, workings, and evolution of the worker-individual agent market, and likewise for the agent-agency market, with a focus on how information on the quality of workers and agents/agencies are exchanged, how service prices are set, and what they imply for the welfare of workers and agents/agencies; (3) the search and matching process that the worker follows to link with an agent, and, in turn, an agency; (4) the perceptions that workers hold about the returns and risks to transacting with agents and agencies for foreign employment; (5) the effectiveness and efficiency of interventions that aim to train workers for foreign employment; and (6) the effectiveness and efficiency of formal grievance redressal mechanisms.

Based on available documentation, data, and analysis, efforts to (1) improve the performance of formal grievance redressal systems for workers, (2) make the agent market more open and competitive, (3) openly provide critical information on the process and costs of migration to prospective workers, and (4) detect, punish, and debar agents and agencies that engage in fraudulent or exploitative transactions with workers appear to be warranted.

Efforts to improve the DOFE database and its quality control and assurance are also warranted. Specific database improvements that would be useful are the use of unique identification numbers for workers, contracts, agencies, foreign employers; VDC (or ward) of origin information using standardized codes; and the ability to link workers using their unique identification numbers to records kept by Nepal's Department of Immigration on the movement of Nepalese individuals in and out of Nepal. For workers, the unique identification numbers could be their national ID numbers when introduced by the government. A detailed up-to-date database on agencies appears necessary for DOFE to perform its mandated oversight role. Information in the worker and agency databases should be periodically validated on a sample basis by actively contacting workers and agencies and cross-checking against documentation that they are required to retain.

The evidence suggests that some subgroups are much less likely to migrate, indicating low gains, or high barriers.<sup>18</sup> The low rates of labor migration for female youth, both to external and internal destinations, are particularly striking. This finding contrasts with the recent increase in the rate of international migration by women from countries like Bangladesh. In the case of Bangladesh, the increase appears to be driven by a recent agreement regarding the movement of female domestic workers to the Middle East. Globally, female labor migration has been increasing. However, the risks of abuse and exploitation are perceived to be systematically higher for female than male labor migrants.

This concern partly drives the low rates of female labor migration to international destinations. Some bilateral labor agreements between Nepal and destination countries explicitly restrict female migration to prevent abuses. Female youth labor migration rates to India and internal destinations are also very low, despite the absence of formal restrictions. Thus, there is a need to better understand the factors, both drivers and barriers, associated with female labor migration. Intra-household dynamics may play a role given that a large share of men are already absent from the household. Concerns about risks at destination may also play a role.

Our analysis of returning migrants shows that integration into the domestic labor market appears to be weak, which may be due to either constraint or choice by the worker. More investigation is required to develop interventions to effectively leverage the work experience, and any financial capital and labor skills and other competencies, acquired at destination by the returning worker. One option for such data are through a more detailed module in household sample surveys directly asked to household members that have returned from external and internal labor migration. The other option can be achieved through the merge of the DOFE and Immigration databases mentioned earlier.

Additionally, reintegration programs may help returning migrants obtain productive, remunerative employment at home. One of the more comprehensive programs is the Overseas Foreign Worker Reintegration program in the Philippines. The program provides services and assistance to the migrant worker and family through the entire cycle, that is, prior to departure to destination, through the worker's time at destination, for returning, and for reintegrating back into

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<sup>18</sup> Some of the barriers could be mitigated by providing a one-off risk sharing mechanism (such a conditional cash grant) to encourage a potential migrant to explore more costly destinations (e.g. India vs internal migration). Such schemes have been shown to facilitate migration and raise household welfare in Bangladesh (Bryan, Chowdhury, and Mobarak 2014).

the home community and labor market. Labor market reintegration services include skill training, credit, and guidance for self- or wage-employment activities (Go 2012). Some programs have aimed to better recognize the skills and competencies acquired through migration. Rigorous evidence on the effectiveness of reintegration programs is absent.

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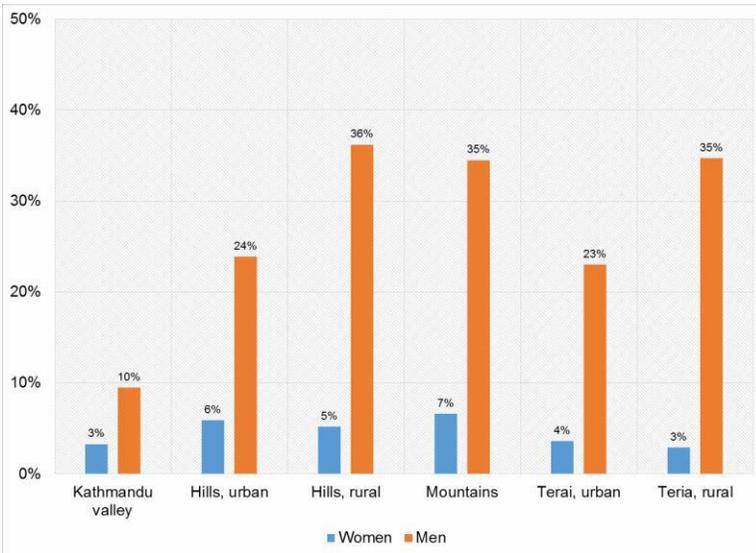
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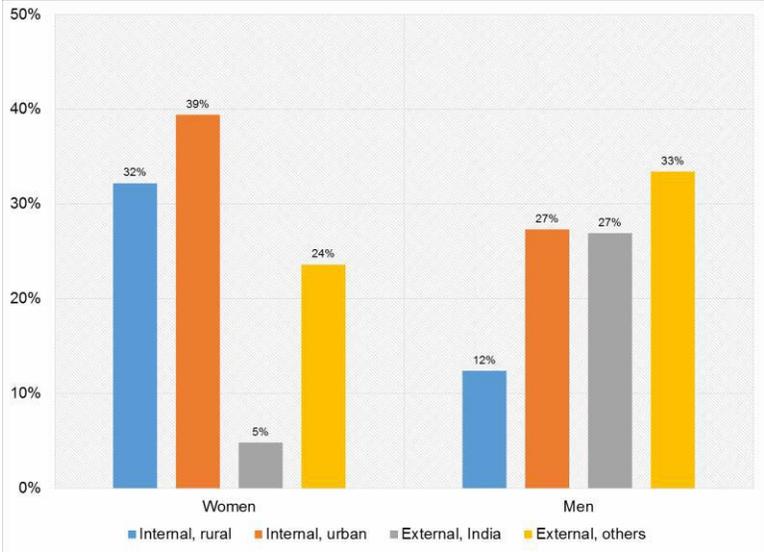
## Tables and Figures

Figure 1. Share of youth that outmigrated for labor, by home region



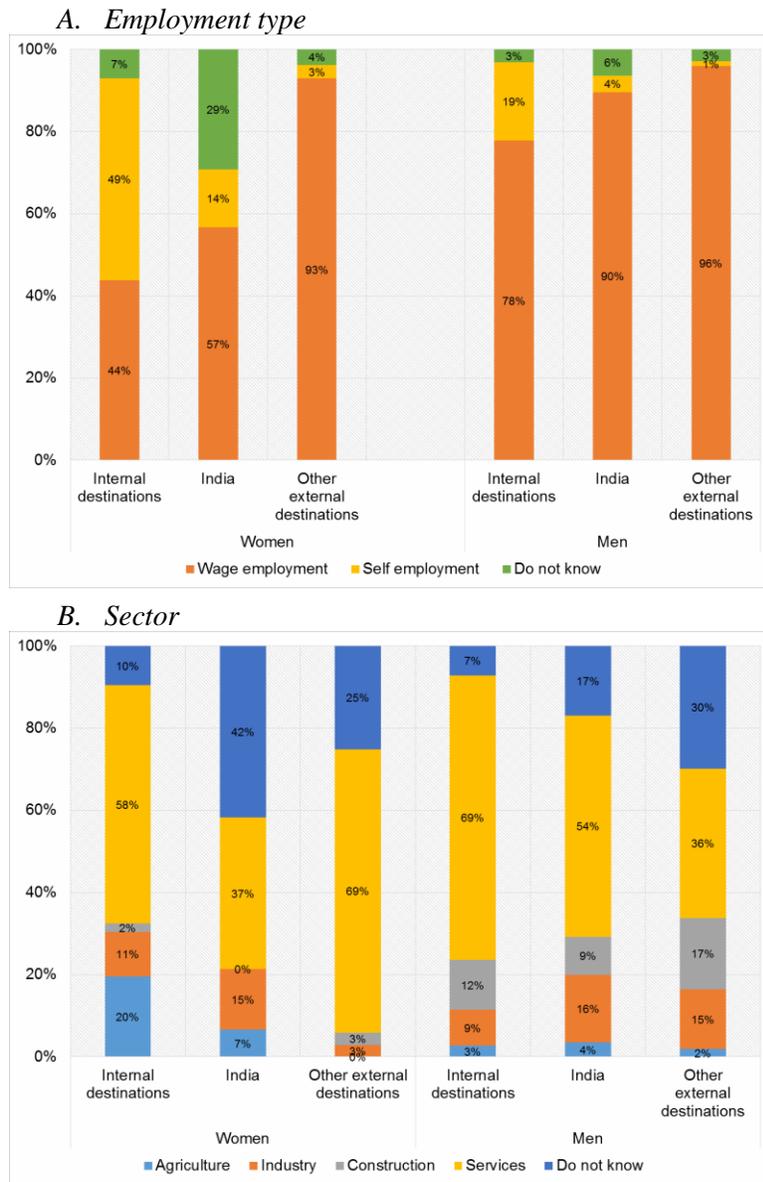
Notes. All estimates are adjusted for sampling weights.

Figure 2. Destination distribution of youth labor migrants



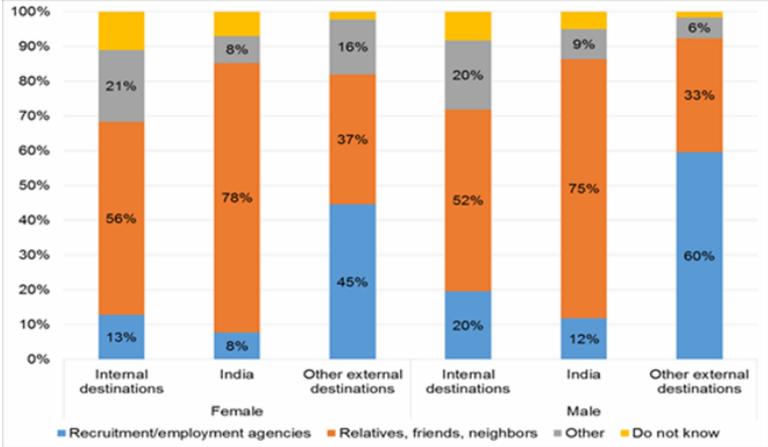
Note: All estimates are adjusted for sampling weights.

Figure 3. Sector and type of employment at destination



Note: All estimates are adjusted for sampling weights.

Figure 4. Source of destination job information



Notes. All estimates are adjusted for sampling weights.

Figure 5. Probability to migrate for labor reasons among youth

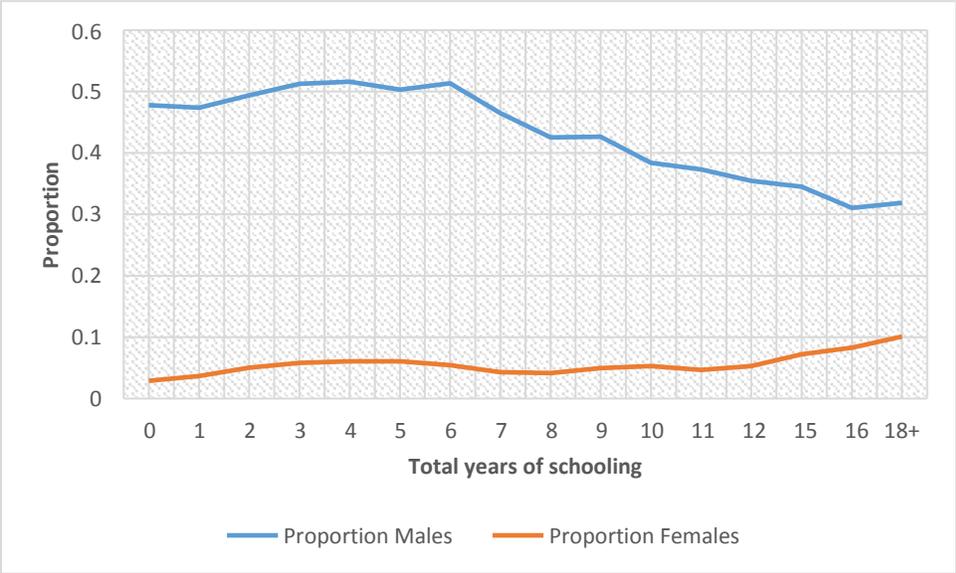
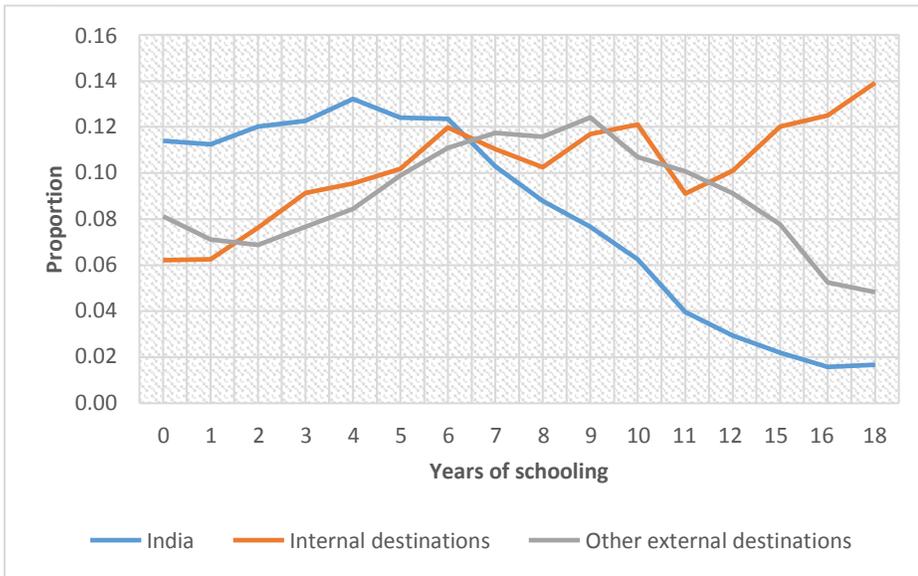


Figure 6. Likelihood of migrating for labor reasons among youth

A. Males



B. Females

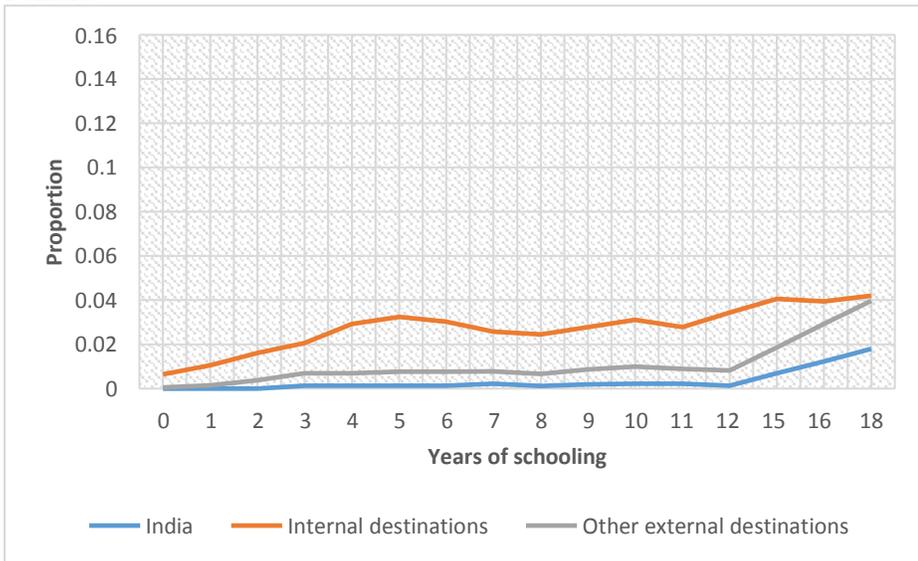


Table 1. Correlates of youth labor migration,  
binomial logit estimation  
*Average marginal effects*

Covariate	Male (1)	Female (2)
Age	0.190*** (0.013)	0.058*** (0.009)
Age squared	-0.003*** (0.000)	-0.001*** (0.000)
Married	-0.027 (0.020)	-0.039*** (0.011)
<i>Education (reference category: Less than SLC)</i>		
SLC or 11th grade	-0.046** (0.018)	0.035*** (0.011)
Grade 12 and above	-0.129*** (0.030)	0.052*** (0.016)
<i>Consumption quintile (reference category: 1st quintile)</i>		
2nd	0.005 (0.027)	0.036** (0.015)
3rd	0.012 (0.028)	0.037** (0.016)
4th	0.041 (0.029)	0.032* (0.018)
5th (richest)	0.048 (0.032)	0.071*** (0.018)
<i>Ethnicity/caste (reference category: Brahmin)</i>		
Terai middle class	-0.098*** (0.033)	-0.023* (0.012)
Dalit	0.075*** (0.028)	0.025 (0.015)
Newar	-0.035 (0.037)	0.021 (0.023)
Janajati	-0.010 (0.021)	0.036*** (0.010)
Muslim	0.074* (0.044)	-0.037*** (0.014)
Other	-0.148*** (0.051)	-0.036* (0.020)
Community amenities index	0.003 (0.018)	0.012** (0.006)
Time to nearest paved road (in hours)	-0.003* (0.002)	-0.000 (0.001)
Natural disaster in the past five years	-0.006 (0.023)	0.010 (0.010)
Household size (including the absentee)	0.003 (0.003)	0.002 (0.002)
Household owns at least one ha of agricultural land	-0.073***	0.014

Table 1. Correlates of youth labor migration,  
binomial logit estimation  
*Average marginal effects*

Covariate	Male (1)	Female (2)
	(0.026)	(0.011)
Share of household heads in PSU employed in agriculture	0.267*** (0.038)	0.018 (0.016)
<i>Regions (Reference category: Kathmandu valley)</i>		
Urban hills	0.152*** (0.034)	0.050*** (0.017)
Rural hills	0.275*** (0.033)	0.048*** (0.010)
Mountains	0.328*** (0.052)	0.084*** (0.026)
Urban Terai	0.189*** (0.037)	0.034*** (0.012)
Rural Terai	0.302*** (0.031)	0.052*** (0.012)
Observations	4,937	4,827

*Note:* Youth are defined as individuals 16–34 years of age. Labor migrant is defined as a household member who has migrated for labor reasons in the last five years. SLC stands for School Leaving Certificate. PSU stands for Primary Sampling Unit. Robust standard errors, clustered at the PSU level, are reported in parentheses. Estimates are all adjusted for sampling weights. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 2. Correlates of choice of destination, male youth labor migration only  
 multinomial logit estimation  
 Average marginal effects

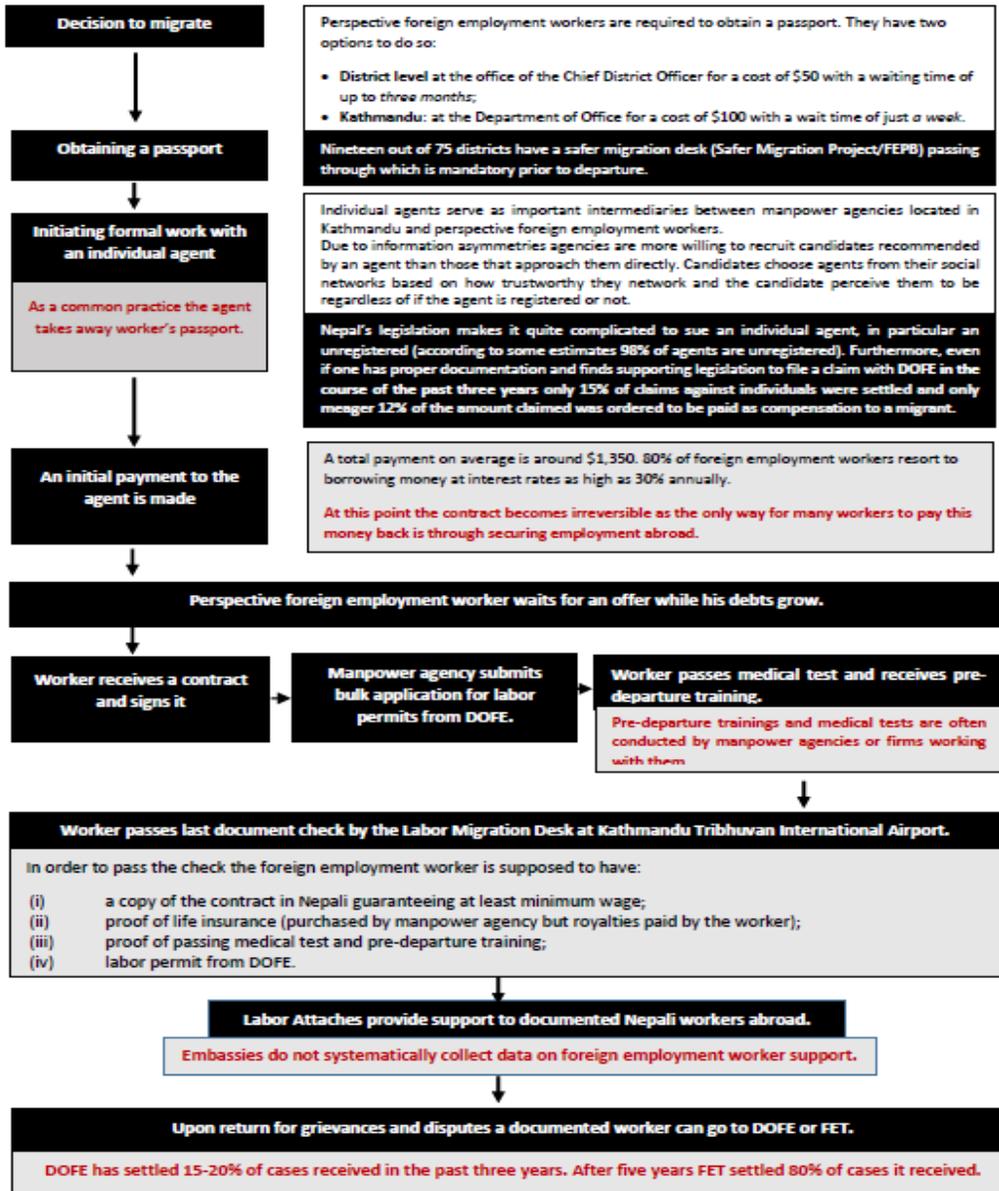
Covariate	Reference category: Did not migrate		
	Destination		
	Internal	India	Other external
	(1)	(2)	(3)
Age	0.048*** (0.013)	0.021** (0.010)	0.139*** (0.013)
Age squared	-0.001*** (0.000)	-0.000** (0.000)	-0.002*** (0.000)
Married	0.013 (0.017)	0.010 (0.016)	-0.049*** (0.015)
<i>Education (reference category: Less than SLC)</i>			
SLC or 11th grade	0.053*** (0.016)	-0.107*** (0.019)	-0.002 (0.014)
Grade 12 and above	0.089*** (0.030)	-0.123*** (0.040)	-0.119*** (0.036)
<i>Consumption quintile (reference category: 1st quintile)</i>			
2nd	0.033 (0.025)	-0.034* (0.018)	0.027 (0.029)
3rd	0.038 (0.025)	-0.058*** (0.020)	0.059** (0.025)
4th	0.055** (0.027)	-0.097*** (0.024)	0.104*** (0.026)
5th (richest)	0.050* (0.029)	-0.101*** (0.029)	0.111*** (0.029)
<i>Ethnicity/caste (reference category: Brahmin)</i>			
Terai middle class	-0.048* (0.026)	-0.088*** (0.024)	0.030 (0.028)
Dalit	-0.003 (0.025)	0.028 (0.025)	0.031 (0.024)
Newar	0.084* (0.046)	-0.156*** (0.023)	0.002 (0.026)
Janajati	-0.004 (0.018)	-0.080*** (0.020)	0.073*** (0.017)
Muslim	-0.072** (0.033)	0.018 (0.045)	0.114*** (0.039)
Other	-0.030 (0.038)	-0.116*** (0.030)	-0.002 (0.053)
Community amenities index	-0.006 (0.011)	0.020** (0.008)	-0.019 (0.016)
Time to nearest paved road (in hours)	-0.001 (0.001)	-0.002* (0.001)	-0.000 (0.001)
Natural disaster in the past five years	-0.015	-0.006	0.011

Table 2. Correlates of choice of destination, male youth labor migration only  
 multinomial logit estimation  
*Average marginal effects*

Covariate	Reference category: Did not migrate		
	Destination		
	Internal	India	Other external
	(1)	(2)	(3)
Household size (including the absentee)	0.001 (0.003)	-0.001 (0.003)	0.003 (0.002)
Household owns at least one ha of agricultural land	-0.037* (0.021)	-0.087*** (0.020)	0.040** (0.018)
Share of household heads in PSU employed in ag.	0.066** (0.028)	0.106*** (0.033)	0.101*** (0.034)
<i>Region (Reference category: Kathmandu valley)</i>			
Urban hills	0.097*** (0.023)	0.051** (0.024)	0.004 (0.031)
Rural hills	0.162*** (0.020)	0.115*** (0.023)	0.005 (0.028)
Mountains	0.243*** (0.045)	0.101*** (0.036)	-0.005 (0.034)
Urban Terai	0.079*** (0.016)	0.103*** (0.030)	0.014 (0.034)
Rural Terai	0.129*** (0.018)	0.149*** (0.022)	0.028 (0.028)
Observations	4,937		

*Note:* Youth are defined as individuals 16–34 years of age. Labor migrant is defined as a household member who has migrated for labor reasons in the last five years. SLC stands for School Leaving Certificate. PSU stands for Primary Sampling Unit. Robust standard errors, clustered at the PSU level, are reported in parentheses. All estimates are adjusted for sampling weights. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Figure 7. Path of the foreign employment worker



Notes. Based on data from Humanity United 2016, Shrestha 2017a, Paoletti et al. 2014, ILO 2016, and DOFE.

Figure 8. Annual trends in foreign employment outflow

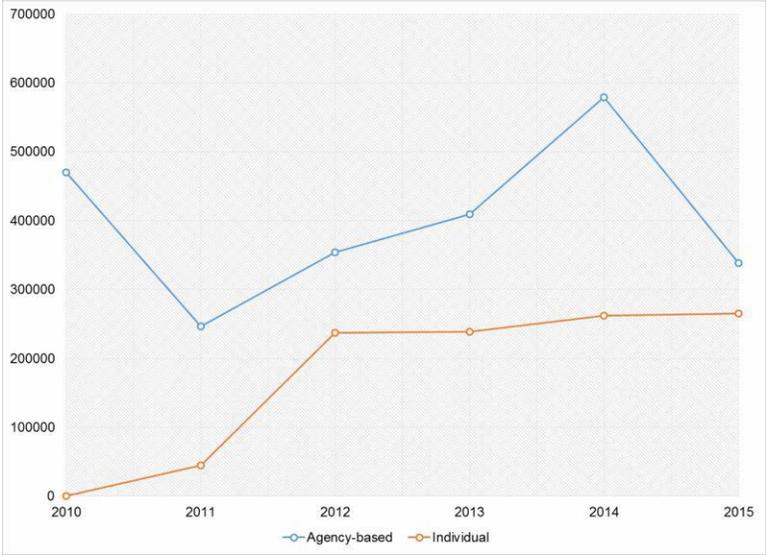
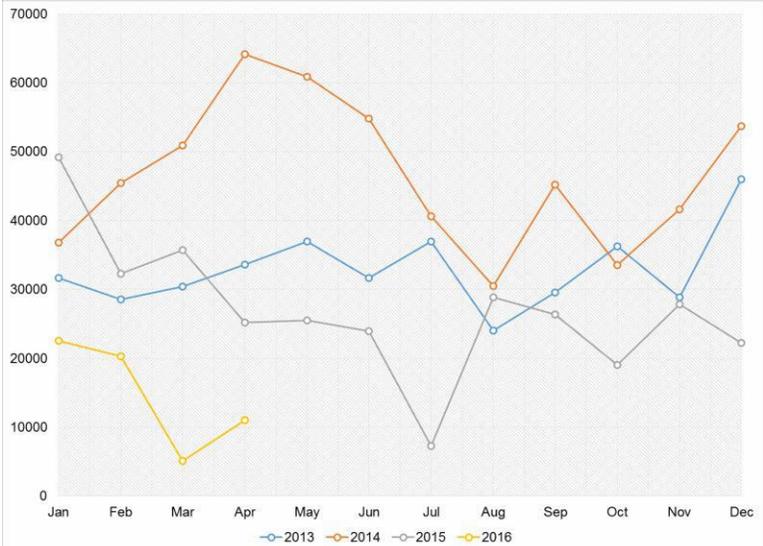


Figure 9. Monthly trends in male foreign employment outflow

A. Agency-based



B. Individual

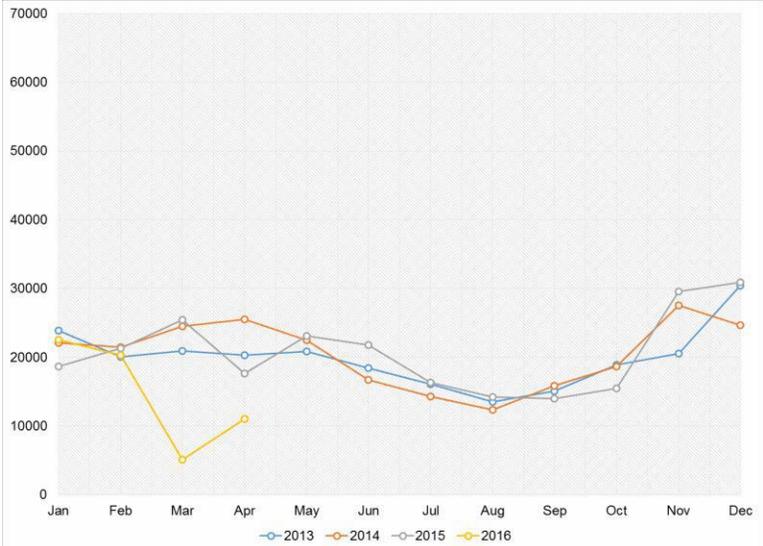
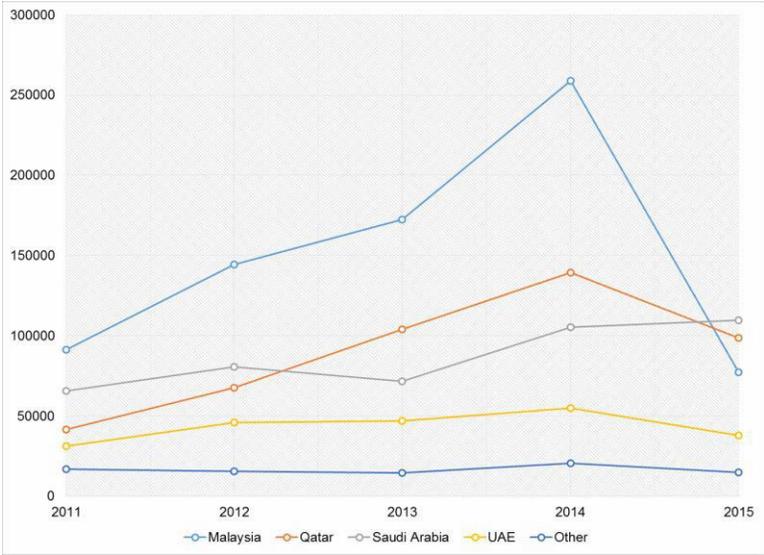


Figure 10. Top destinations for male foreign employment workers

A. Agency-based



B. Individual

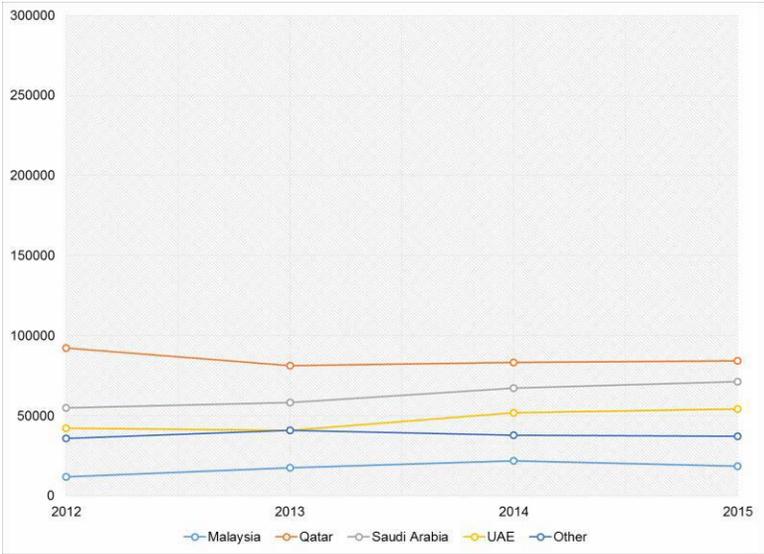
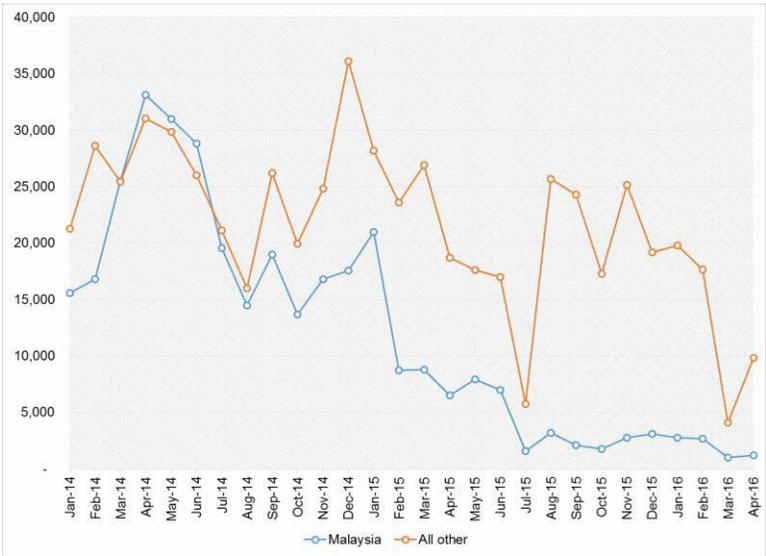


Figure 11. Male foreign employment flow to Malaysia



Note: Agency-based outflow only.

Table 3. Macroeconomic determinants of foreign employment worker outflow

*Quarterly data*

	Log quarterly foreign employment outflow by district/destination			
	Agency-based outflow		Individual-based outflow	
	(1)	(2)	(3)	(4)
Log lagged annual GDP growth rate in Nepal	-2.540*** (0.09)	0.201* (0.09)	-0.421*** (0.10)	0.432*** (0.08)
Log lagged quarterly GDP growth rate at destination	-0.154*** (0.02)	-0.595*** (0.02)	0.161*** (0.01)	-0.106*** (0.02)
Malaysia×Log lagged quarterly GDP growth rate at destination	0.936*** (0.10)	1.478*** (0.07)	-1.723*** (0.12)	0.05 (0.05)
Log lagged quarterly oil price	--	2.811*** (0.07)	--	0.601*** (0.07)
Malaysia×log lagged quarterly oil price	--	-0.0807*** (0.02)	--	-0.239*** (0.02)
District dummies	Yes	Yes	Yes	Yes
<i>N</i>	1,345	1,121	1,300	1,087
<i>R</i> -squared statistic	0.85	0.92	0.87	0.91

*Note:* Dependent variable is log of quarterly outflow of male foreign employment workers from a given district to a particular destination starting from January 2013 to December 2015. Due to data availability the specification is limited to top three destinations (Malaysia, Qatar, and Saudi Arabia) that account for close to 85% of total male foreign employment outflow in that period. Quarterly GDP growth rates in destination countries, and average quarterly oil prices are lagged by two quarters. Average quarterly oil price is constructed from data on monthly crude oil, average spot price of Brent, Dubai and West Texas Intermediate, equally weighed (Global Economic Monitor Commodities Database, World Bank). Standard errors in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 4. Effect of the 2015 earthquake on foreign employment worker outflow

	Agency-based outflow (1)	Individual-based outflow (2)
Post earthquake	0.168*** (0.03)	-0.131*** (0.03)
Earthquake-affected district	2.133*** (0.04)	2.850*** (0.04)
Earthquake-affected district×post earthquake	-0.173** (0.05)	0.07 (0.05)
District dummies	Yes	Yes
<i>N</i>	1,121	1,087
<i>R</i> -squared statistic	0.92	0.91

*Note:* Dependent variable is log of quarterly outflow of male foreign employment workers from a given district to a particular destination starting from January 2013 to December 2015. Due to data unavailability, the specification is limited to the top three destinations (Malaysia, Qatar, and Saudi Arabia) that account for close to 85% of total male foreign employment outflow in that period. Regressions control for lagged GDP growth rates at destination and in Nepal, lagged international oil prices, and district. Earthquake affected district are the 14 districts that are considered to be the heaviest hit: Bhaktapur, Dhading, Dolakha, Gorkha, Kathmandu, Kavrepalanchowk, Lalitpur, Makwanpur, Nuwakot, Okhladunga, Ramechhap, Rasuwa, Sindhuli, and Sindupalchowk. Difference-in-differences is measured by post earthquake\*earthquake affected district. Standard errors are reported in parentheses. \* p<0.05, \*\* p<0.01, \*\*\*p<0.001

Table 5. Effects of male youth labor migration on female youth stayers, trimmed sample  
Least squares and binomial logit estimations  
Average marginal effects

	Outcome	Conditional on employment						Engaged in NEA	Conditional on NEA Log hours in NEA
	Employed	Wage employed	Self- employed in ag.	Employed in industry	Employed in services	Log hours worked	Log wage earnings		
	(1)	(2)	(3)	(4)		(5)	(6)	(7)	
<i>A. Main household-level treatment indicator</i>									
Household has male youth labor outmigrant(s)	-0.103 (0.080)	-0.012 (0.020)	0.018 (0.020)	0.002 (0.015)	0.008 (0.017)	-0.109** (0.047)	0.085 (0.053)	0.013 (0.010)	-0.042 (-0.030)
<i>B. Alternative household-level treatment indicators</i>									
Has male youth labor outmigrant(s) sending remittances	-0.066 (0.085)	-0.018 (0.021)	0.018 (0.022)	-0.003 (0.014)	0.016 (0.016)	-0.134*** (0.051)	0.101* (0.057)	0.006 (0.010)	-0.024 (0.032)
Has male youth labor outmigrant(s) to internal destinations	0.115 (0.114)	-0.009 (0.026)	0.024 (0.027)	0.002 (0.019)	0.002 (0.021)	-0.073 (0.055)	0.071 (0.077)	0.012 (0.013)	0.049 (0.042)
Has male youth labor outmigrant(s) to India	-0.008 (0.125)	-0.007 (0.033)	0.033 (0.036)	-0.009 (0.025)	-0.079** (0.032)	-0.079 (0.073)	0.008 (0.082)	0.012 (0.013)	-0.162*** (0.051)
Has male youth labor outmigrant(s) to other external destinations	-0.206* (0.110)	-0.025 (0.027)	-0.003 (0.028)	0.010 (0.019)	0.035 (0.024)	-0.083 (0.060)	0.160 (0.102)	0.009 (0.012)	0.043 (0.043)
Observations	4,446	2,040	2,040	2,040	2,040	2,040	645	4,446	1,969

*Note:* The propensity score trimmed sample only includes observations with predicted values between .1 and .9 in a household-level male youth labor migration binomial logit regression. All outcome regressions control for the individual's age, marital status, schooling status, education level, and ethnicity/caste, whether the individual has a chronic illness or disability, whether the individual was ill in the last month, whether the individual is poor, community amenities and access to roads, the share of household heads employed in agriculture in the PSU, and region identifiers. Robust standard errors, clustered at the PSU level, reported in parentheses. All estimates are adjusted for sampling weights. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 6. Effects of male youth labor migration on male youth stayers, trimmed sample

Least squares and binomial logit estimations

*Average marginal effects*

	Outcome	Conditional on employment						Engaged in NEA	Conditional on NEA Log hours in NEA
	Employed	Wage employed	Self- employed in ag.	Employed in industry	Employed in services	Log hours worked	Log wage earnings		
	(1)	(2)	(3)	(4)		(5)	(6)	(7)	
	<i>A. Main household-level treatment indicator</i>								
Household has male youth labor outmigrant(s)	-0.172 (0.114)	-0.01 (0.032)	0.011 (0.026)	0.017 (0.027)	-0.021 (0.029)	-0.075 (0.049)	0.063 (0.065)	0.081*** (0.024)	-0.016 (0.081)
	<i>B. Alternative household-level treatment indicators</i>								
Has male youth labor outmigrant(s) sending remittances	-0.105 (0.125)	-0.046 (0.033)	0.054** (0.027)	0.014 (0.028)	-0.053* (0.031)	-0.123** (0.056)	0.073 (0.075)	0.109*** (0.027)	0.008 -0.086
Has male youth labor outmigrant(s) to internal destinations	-0.001 (0.16)	-0.013 (0.043)	-0.020 (0.033)	0.049 (0.034)	0.017 (0.033)	-0.193*** (0.066)	0.020 (0.085)	0.065* (0.035)	0.172* (0.102)
Has male youth labor outmigrant(s) to India	0.087 (0.207)	0.001 (0.048)	0.025 (0.038)	0.013 (0.042)	-0.089* (0.049)	0.017 (0.097)	0.121 (0.094)	0.030 (0.040)	-0.319*** (0.122)
Has male youth labor outmigrant(s) to other external destinations	-0.341** (0.171)	0.022 (0.052)	0.017 (0.043)	0.024 (0.041)	-0.035 (0.041)	0.059 (0.073)	0.039 (0.093)	0.072** (0.036)	0.089 (0.126)
Observations	2,341	1,318	1,318	1,318	1,318	1,318	688	2,341	792

*Note:* The propensity score trimmed sample only includes observations with predicted values between .1 and .9 in a household-level male youth labor migration binomial logit regression. All outcome regressions control for the individual's age, marital status, schooling status, education level, and ethnicity/caste, whether the individual has a chronic illness or disability, whether the individual was ill in the last month, whether the individual is poor, community amenities and access to roads, the share of household heads employed in agriculture in the PSU, and region identifiers. Robust standard errors, clustered at the PSU level, reported in parentheses. All estimates are adjusted for sampling weights. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

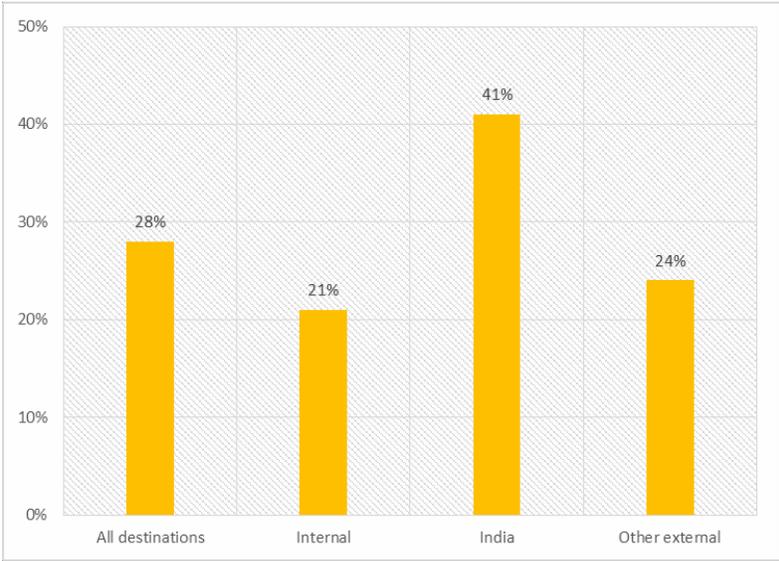
Table 7. Effects of male youth labor migration on household child's education, trimmed sample OLS and binomial logit estimations

*Average marginal effects*

	School enrollment (1)	Years of schooling (2)
<i>A. Main household level-treatment</i>		
Household has male youth labor outmigrant(s)	0.011 (0.010)	0.104* (0.053)
<i>B. Alternative household-level treatments</i>		
Has male youth labor outmigrant(s) sending remittances	0.023* (0.012)	0.101* (0.055)
Has male youth labor outmigrant(s) to internal destinations	0.002 (0.017)	0.082 (0.079)
Has male youth labor outmigrant(s) to India	0.001 (0.014)	0.088 (0.086)
Has male youth labor outmigrant(s) to other external destinations	0.021 (0.016)	0.049 (0.082)
Observations	6,745	

*Note:* The propensity score trimmed sample only includes observations with predicted values between .1 and .9 in a household-level male youth labor migration binomial logit regression. Child is defined as an individual 5–15 years of age. Child-level regressions control for age, age squared, gender, having a disability or health problem, consumption quintiles, the share of household heads employed in agriculture in the village, household head's education, household size, ethnicity, community amenities index, time to paved road, whether a natural disaster occurred in the village in the past four years. Robust standard errors, clustered at the PSU level, reported in parentheses. All estimates are adjusted for sampling weights. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Figure 12. Share of male youth labor migrants that have returned



*Note:* Youth are defined as individuals 16–34 years of age. Labor migrant is defined as a household member who has migrated for labor reasons in the last five years. All estimates are adjusted for sampling weights.

Table 8. Returner labor outcomes relative to stayers, male youth, trimmed sample

	Employed	Conditional on employment					Conditional on wage employment
	Wage employee	Self-employed in agriculture	Employed in industry	Employed in services	Log hours worked	Log wage earnings	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All returners	-0.122*** (0.025)	-0.041 (0.033)	0.088*** (0.031)	0.036 (0.023)	-0.95*** (0.026)	-0.149*** (0.051)	-0.036 (0.099)
<i>By time of return</i>							
Recent returners (returned in the past year)	-0.152*** (0.034)	-0.037 (0.051)	0.096** (0.043)	-0.005 (0.039)	-0.149** (0.060)	-0.245*** (0.094)	-0.099 (0.112)
Other returners	-0.095*** (0.028)	-0.052 (0.038)	0.088** (0.035)	-0.007 (0.032)	-0.084** (0.036)	-0.108*** (0.054)	-0.026 (0.084)
<i>By return destination</i>							
Returners from internal destinations	-0.056 (0.053)	0.075 (0.063)	-0.048 (0.050)	0.126*** (0.039)	-0.044 (0.054)	-0.058 (0.123)	-0.016 (0.104)
Returners from India	-0.072** (0.034)	0.085** (0.036)	0.082** (0.040)	0.020 (0.030)	-0.034 (0.037)	-0.133** (0.065)	-0.093 (0.103)
Returners from external destinations	-0.225*** (0.034)	-0.236*** (0.063)	0.210*** (0.049)	-0.014 (0.039)	-0.096** (0.043)	-0.245*** (0.090)	0.105 (0.178)
Observations	1383	1000	1000	1000	1000	1000	357

*Note:* Own estimates based on the 2010-11 Nepal Living Standards Survey. Robust standard errors, clustered at the PSU level, reported in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. All estimates are adjusted for sampling weights. The propensity score trimmed sample only includes observations with predicted values between 0.1 and 0.9 in a household-level labor migration logit regression. All outcome regressions control for the individual's age, marital status,

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schooling status, education level, and ethnicity/caste, whether the individual has a chronic illness or disability, whether the individual was ill in the last 30 days, whether the individual is poor, community amenities and access to roads, the share of household heads employed in agriculture in the PSU, and region identifiers.

## LABOR SKILL TRAINING

### Introduction

One of the main ways that the Nepal government intervenes in the labor market is by training workers.<sup>1</sup> The preference for training supply is reportedly motivated by at least three reasons. First, training is seen as appropriate given the relatively low level of human capital acquisition in the population. As one measure, average education attainment among individuals ages 16–34 in 2010–11 was 8 years. Second, training has attributes that make it attractive from both technical and political angles: training is visible, tangible, seemingly straightforward to design and administer, and relatively uncontentious (for example, in comparison to welfare programs). Third, the development of the training system and the expansion of training supply in the country has been driven by funds and technical assistance from aid agencies (Asian Development Bank [ADB] 2004, ADB 2013, World Bank 2011). As a result, training in Nepal has increased substantially since its emergence over four decades ago, and is now extensive.

While training is an important intervention in the country’s labor and development space, there is little systematic empirical research on training, such as on the drivers and barriers to training demand and supply, and the labor market effects of training. The literature broadly on training for the country is mainly composed of basic descriptions of the structure and status of the training system in project documents of international aid agencies, or statistical profiles of training providers and recipients using administrative data in government reports (see, for example, Government of Nepal 2010).

We conduct a descriptive analysis of mainly formal off-the-job training among youth. Youth is defined as individuals ages 16–34. Formal off-the-job training is defined as training through short training courses, or through vocational education tracks that confer a Technical School Leaving Certificate (TSLC) or a technical diploma.

We investigate several questions:

- (1) What is the incidence (or rate) of training in Nepal, and how does it compare to other countries in the South Asia region?

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<sup>1</sup>The other two main ways are extensive public sector employment and the provision of permits for contract labor migration to international destinations.

- (2) How do training rates differ by the worker's gender, age, schooling status, and education attainment?
- (3) How do training rates differ spatially, that is, between urban and rural areas, and between major regions in Nepal?
- (4) What types of training do recipients take?
- (5) How do training recipients differ from nonrecipients?
- (6) Is training associated with employment and earnings outcomes?
- (7) What are the levels, patterns, and correlates of interest in training?

To answer these questions, we use data from the 2008 Nepal Labor Force Survey (NLFS), and the 2013 Nepal School-to-Work Transition Survey (SWTS). Both household sample surveys are representative for Nepal and its major regions. The NLFS is the latest-available survey with data on whether the individual obtained any formal off-the-job training. The NLFS also has a large sample size and data on a number of potentially-relevant individual and household covariates. In comparison, to its advantage, the SWTS gathered data on whether employed workers obtained on-the-job training, but to its disadvantage, the survey only gathered data on whether the individual obtained off-the-job training only through TSLC and technical diploma programs, has a small sample size, and has data on a small number of potentially-relevant covariates. The SWTS also did not gather data from individuals older than 29 years. Consequently, the analysis of training is mostly based on NLFS data.

In 2008, 10% of youth had obtained formal off-the-job training at some point. In 2013, 6% of individuals ages 16–29 obtained training through TSLC or technical diploma programs at some point, a substantial increase from 1.3% for 2008. In addition, in 2013, 10% of individuals ages 16–29 obtained on-the-job training over the preceding year.

Training rates are higher for youth than nonyouth (ages 35–54), for urban than rural residents, and for individuals that have obtained at least a School Leaving Certificate (SLC). Gender differences in training rates are small, whereas differences between regions in Nepal are large. Training rates for Nepal also tend to be higher than for Bangladesh, India, and Pakistan.

The most popular fields for female training recipients are basic computing and dressmaking/tailoring, whereas it is basic computing for male recipients. Short training predominates. The median length of training is 3 months for rural recipients and 6 months for urban recipients.

Training recipients are on average older, more educated, and come from wealthier households, and are more likely to be attending school and come from traditionally-advantaged ethnic/caste communities such as Brahmin/Chettri or Newar. Urban training recipients are also less likely to come from the Terai and more likely to come from Kathmandu valley and the hills. Those that obtained training in basic computing appear to be more advantaged in terms of education, wealth, and caste/ethnic affiliation than those that obtained training in other fields.

We examine the labor market effects of training, adjusting for selection into training. In general, for women, training is associated with higher likelihoods of employment, wage work, and nonfarm work. There is also some variation in whether or not training effects for women are significant by selected sociodemographic and training subgroups, namely schooling status, education attainment, rural versus urban residence, short training versus TSLC/technical diploma programs, and basic computing versus other fields. For men, training does not appear to be associated with the examined employment margins. In addition, there is little variation in whether or not training effects are significant by the examined sociodemographic and training subgroups.

In general, we do not find effects on wage earnings for either gender. This finding contradicts evidence on the effects of short training on earnings for Nepal by Chakravarty, Lundberg, Danchev, and Zenker (2015). Among other plausible explanations, we posit that the general absence of effects on earnings indicates that skills (by themselves) may not be the binding constraint to labor market success for disadvantaged individuals. It may (additionally) be the lack of financial and physical capital for income-generating activities, as evidence from some recent evaluations of training and self-employment programs in other low-income settings (Hicks, Kremer, Mbiti, and Miguel 2015; Blattman, Fiala, and Martinez 2014) and SWTS data for self-employed workers in Nepal suggest.

Interest in training is high: 40% of youth express interest in obtaining training. Interest is particularly high in areas outside of Kathmandu valley. For those interested in training, dressmaking/tailoring and basic computing had the most interest among women, whereas men were most interested in basic computing. Other fields with significant interest include farming and livestock management and hairdressing/beautician services for women, and farming and livestock management, manufacturing and repair, and driving for men. In contrast to patterns for training receipt, training interest is higher among younger and less wealthy individuals. Training interest is also higher among those that have already obtained training, and by those already employed.

Those already trained tend to be interested in training in the same field, which may signal demand for upskilling. Unemployed workers tend to view their education as relevant but inadequate, and view higher education and training through TSCL/diploma programs, training in computing, and on-the-job apprenticeships as useful for obtaining work.

One important caveat is that all the findings in the chapter apply to individuals residing in Nepal at the time the data we use were collected. There has been substantial outmigration from Nepal to other countries, mainly by men for employment. An estimated 18% of Nepali young men (and 1% of young women) were household absentees employed in other countries based on 2010–11 Nepal Living Standards Survey data. Thus, our analysis may be biased relative to an analysis of all young Nepalis, especially for young Nepali men.

The remaining sections of the chapter are organized as follows: Section 2 presents background information on the formal off-the-job training system in Nepal. Section 3 discusses the data and samples for the analysis. Sections 4, 5, and 6 respectively present results on: the levels, patterns, and correlates of training; the effects of training on labor market outcomes; and the levels, patterns, and correlates of interest in training, as well as on worker perceptions of training in relation to employment. Section 7 concludes by discussing the implications of our findings for training research and policy, with respect to effectiveness, efficiency, and equity.

### *Nepal's training system*

Formal training has existed in Nepal for over four decades. Tribhuvan University, the country's first university, has offered training in engineering, agriculture, livestock, forestry, and medicine since the late 1960's. The first independent technical institute was established in 1980 (ADB 2015).

The Nepal government has passed a number of major policies on training over the years. These include the Council for Technical Education and Vocational Training (CTEVT) Act of 1989 (amended in 1993), the National Technical and Vocational Education and Training Sectoral Policy of 1999, the Technical Education and Vocational Training and Skills Development Policy of 2007, and the Nepal Technical and Vocational Education and Training Policy of 2012. As a primary goal, all these policies call for a major expansion in training supply. Other government policies, plans, and documents such as the National Planning Commission's periodic development plans and the Ministry of Youth and Sports' National Youth Policy of 2015 and Youth Vision 2025 also

call for expanding training supply and see training as a critical instrument for improving the country's economic state (ADB 2015, other references).

As a pivotal event, in 1989, the Council for Technical Education and Vocational Training (CTEVT) was established to formulate policies and plans, and coordinate, supply, and assure the quality of training. CTEVT has its own technical institutes, and it accredits private technical institutes (ADB 2015).

There are three main training options: (1) programs that confer a Technical School Leaving Certificate (TSLC); (2) programs that confer a diploma or Proficiency Certificate Level (PCL), and (3) short-term training courses/events that confer a training completion certificate. TSLC and technical diploma/PCL programs are offered by CTEVT and private technical institutes. TSLC programs, managed by the CTEVT, are also offered in a few community secondary schools. Short-term training courses are offered by various providers. They include CTEVT and private technical institutes, departments under different government ministries, industry associations, NGOs, and CBOs (World Bank 2011, ADB 2015).<sup>2</sup>

For entry into TSLC programs, individuals must have completed grade 10 or passed the School Leaving Certificate (SLC) exam, which is a national academic exam at the end of grade 10. For grade-10 completers, programs are 29 months long, whereas for SLC holders, the programs are either 15 or 18 months long. For entry into technical diploma/PCL programs, individuals must be SLC holders. These programs are typically 3 years long. The main TSLC and technical diploma/PCL programs are in the fields of agriculture, engineering, and health.

For entry into short training courses, individuals must be at least 16 years of age. Other than that, entry qualifications differ greatly. Some courses do not require any academic qualifications. Short training courses typically range in length from a few days to 10 months (ADB 2015).

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<sup>2</sup> Government entities that offer short training courses include the Department of Cottage and Small Industries and the Cottage and Small Industry Development Board; the Local Development Training Academy under the Ministry of Federal Affairs and Local Development; the Vocational Skills Development Training Directorate under the Ministry of Labor and Employment; the Mechanical Training Center under the Department of Roads, Ministry of Physical Infrastructure and Transport; the Nepal Academy of Tourism and Hotel Management under the Ministry of Culture, Tourism, and Civil Aviation; the Directorate of Agricultural Training under the Ministry of Agricultural Development; and the Nepal Academy of Science and Technology (ADB 2015).

Irrespective of how they were acquired, individuals can choose to have their skills certified by taking occupational skill tests administered by the National Skills Testing Board (NSTB) under CTEVT.

Training has expanded substantially over time. In 2009–10, 25,000 individuals participated in TSLC and diploma/PCL programs, and another 60,000 individuals participated in short training courses. In comparison, in the early 2000's, the estimated annual enrollment capacity in all training programs and courses was 50,000. Private technical institutes have increased from less than a handful in 1990 to over 100 in 2000 to over 400 in 2010. Individuals tested and certified by NSTB increased almost tenfold over the late 2000's (ADB 2004, ADB 2013, ADB 2015, World Bank 2011).

Much of the developments and activities in the training space have been driven by significant, sustained financial and technical support from international aid agencies, mainly the Asian Development Bank (ADB), the Swiss Agency for Development and Cooperation (SDC), and the World Bank. This engagement by these aid agencies extends at least as far back as the early 1990's (ADB 2015).

The training system is perceived to perform poorly. Project documents by aid agencies report that training is marked by insufficient and inequitable access, poor quality, and low market relevance. These issues are considered to be linked to poor training delivery capacity. As suggestive evidence of concerns with training quality and relevance, a 2012 labor demand survey of a sample of employers in construction, service, and manufacturing subsectors found that only about one-half of employers viewed TSLC and technical diploma holders as adequately prepared (ADB 2013). What is more, the issues with training appear to be chronic (for example, compare the description of the issues in ADB 2004 to ADB 2013).

There have been initiatives at different levels aimed at improving training supply. Common initiatives have included (1) labor demand assessments; (2) hiring training providers through a competitive bidding process; (3) contracting providers to offer training on vocational and life skills, post-training services such as job counseling and placement services; and training in hard-to-reach villages through a community-based mode; (4) and paying providers for their services partly conditional on training-recipient employment and minimum earning requirements. There have also been initiatives aimed at encouraging the demand for training. Common initiatives have included (1) free or subsidized training, and (2) stipends and transportation benefits conditional on

training-recipient minimum attendance and learning requirements. Traditionally-disadvantaged groups such as women, the poor, or members from the Dalit community are given preferential treatment (benefit from affirmative action) in training admission and the provision of training program benefits (ADB 2013, World Bank 2011).

### *Data*

Our main data source is the 2008 Nepal Labor Force Survey (NLFS).<sup>3</sup> The NLFS is representative at the national level, as well as for six regions within the country (Kathmandu valley, urban hills, urban Terai, rural hills, rural Terai, and mountains). The original sample was 16,000 households from 800 wards, the primary sampling units (PSUs). Out of this sample, 15,976 households from 799 PSUs were successfully interviewed. See Government of Nepal (2009) for survey design details.

With respect to training, the NLFS asked questions on whether the individual obtained any formal off-the-job training, that is, either through short training courses or TSLC/technical diploma programs, as well as the field and length of training. The survey also asked questions on whether the individual was interested in training and, if yes, the specific field. All the training questions are separate questions in the education module and were asked to individuals ages 14 years and above.

The NLFS is the latest-available survey with data on total formal off-the-job training. The survey also has other advantages such as its large sample size and data on a number of potentially-relevant individual and household covariates.

Our secondary data source is the 2013 Nepal School-to-Work Transition Survey (SWTS).<sup>4</sup> The SWTS is representative at the national level, and for the same six regions as the NLFS. The original survey sample was 3,020 households from 151 wards (PSUs). In these households, only individuals ages 15–29 were to be interviewed. The survey successfully interviewed 3,584 individuals from 2,652 households.<sup>5</sup> See Nicolas and CEDA (2014) for survey design details.

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<sup>3</sup>The NLFS was designed and administered by the Central Bureau of Statistics, Government of Nepal, with support from the International Labor Organization (ILO).

<sup>4</sup>The SWTS was administered by the Center for Economic Development and Administration (CEDA), with technical and financial support from the ILO and the Mastercard Foundation.

<sup>5</sup>CEDA communicated that the gap between the original and actual household sample sizes was due to the absence of any individuals in the selected age range in some households.

With respect to training, in the SWTS, technical education at the secondary and post-secondary levels—i.e., TSLC and technical diploma programs—were included as response options to questions on the current level of education for those attending school or the highest level of education for those that have completed their schooling. The SWTS also asked questions on on-the-job training in the last year to employed workers (39% of individuals), and views on the value of education and training to unemployed workers (9% of individuals).<sup>6</sup> Our analysis using the SWTS data is however limited due to the survey's small sample size and less extensive data on potentially-relevant individual and household covariates.

As an important caveat, in both the NLFS and SWTS, training data were only gathered from individuals residing in the household at the time of the survey. Nepal has experienced substantial labor migration to international destinations such as India, the Middle East, and Malaysia. Most of this labor outmigration is by young men. An estimated 18% of Nepali young men (and 1% of young women) were absent from their households and employed in other countries based on the 2010–11 Nepal Living Standards Survey. Reflecting this, the estimated sex ratio for individuals ages 15–34 based on 2011 National Population Census data is 85 men per 100 women (Government of Nepal 2012). Young men that are present in households systematically differ in characteristics from young men that are absent. Thus, our analysis of training for young men that are present may be biased relative to all young Nepalese men.

### *Patterns and correlates of training*

#### *A. Training rates*

SWTS data show that 6% of individuals ages 16–29 obtained training through TSLC and technical diploma programs. The rates of such training are comparable between urban and rural residents. Using data on training length in the NLFS, we indirectly estimate the share of individuals ages 16–29 that obtained training through TSLC and technical diploma programs to be 1.3%. Thus, it appears that the rate of training through these tracks has increased around fourfold from 2008 to 2013. The large increase is consistent with the increase in training enrollment (capacity) presented in Section 2.

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<sup>6</sup> Employed is defined as engaged in an economic activity for at least one hour in the last week. Unemployed is defined as not employed, available to work in the last week, and actively searched for work in the last month.

SWTS data also show that 10% of employed workers ages 16–29 report that they received on-the-job training in the last year. Another 5% of employed workers report that they obtained off-the-job training, mainly in vocational trades, basic computing, and basic business and accounting. The on-the-job training rate for employed workers is higher in rural than urban areas (11% versus 7%). On-the-job training rates appear to be similar between wage- and self-employed workers.

Turning to the NLFS data, we find that 10% of youth (ages 16–34) obtained formal off-the-job training. In the rest of this section, we examine training patterns using these data.

### *B. Patterns in training rates*

Figure 1 shows training rates, separately for youth and nonyouth (ages 35–54) age cohorts. For Nepal, the training rate is 10% for youth, and lower at 6% for nonyouth. Training rates range from 6% for rural women to 21% for urban men among youth, whereas they range from 3% for rural women to 13% for urban men among nonyouth.

Multiple factors may explain the difference in training rates between youth and nonyouth. On the supply side, training supply has increased over time. Thus, the current youth observe a higher supply than the nonyouth when younger. Training supply is also often by design targeted at youth. On the demand side, those that are making the transition from school to work or seeking greater labor market returns by shifting between work activities, who tend to be youth, are more likely to seek training than those that are already in stable work, who tend to be nonyouth.

Youth training rates are markedly higher in urban than rural areas. For example, for women, the youth training rate is 6% in rural areas and 19% in urban areas. Youth training rates are slightly lower for women than men. For example, in rural areas, the youth training rate is 6% for women and 9% for men. In the rest of the section, all statistics are for youth only.

Figure 2 compares youth training rates in Nepal to three other countries in South Asia: Bangladesh, India, and Pakistan. The data for India and Pakistan allow us to construct identical training indicators to Nepal's, that is, whether or not the individual ever obtained any formal off-the-job training. The data for Bangladesh only allow us to construct a training indicator for whether or not the individual obtained any formal off-the-job training *in the last year*. The period-limited indicator for Bangladesh would then work in favor of Nepal exhibiting higher rates. The data for the other countries are more recent than for Nepal, which would work against Nepal exhibiting higher rates if training markets have expanded in all countries.

With these caveats in mind, we find that training rates for Nepal are mostly higher than for other countries. At the country level, the training rate for Nepal (10%) is slightly higher than for Bangladesh and Pakistan (8% in each), and considerably higher than for India (3%). In each of the gender-by-location subgroups, the rates for Nepal are either highest or second-highest relative to other countries. The contrast is most notable for urban women: Nepal has the highest rate at 19%, followed next by Bangladesh with a rate less than one-half as high at 9%.

Figure 3 shows training rates across regions in Nepal. The most striking pattern is the higher rates in urban than rural regions. For example, for women, training rates range from 17% to 21% in urban regions, whereas they range from 5% to 7% in rural regions. Among urban regions, rates in the Terai are lower than in Kathmandu valley and the hills. For example, for women, it is 17% in the Terai compared to 21% in Kathmandu valley and the hills.

Figures 4 shows training-age profiles. Figure 5 shows training-schooling status (Panel A) and training-education attainment profiles (Panel B). We treat the profiles as reflecting the “timing” of training uptake in relation to age, schooling status, and education attainment. The profiles are however imperfect because information on these variables were not captured in relation to the timing of training but only as of the time of the survey.

The training-age profiles display a weak inverted-U shape. Training rates rise with age over the late teens and early 20’s before falling over the late 20’s and early 30’s. This pattern is more discernible in the urban profiles. Training rates are higher for those that are attending school than those that have completed their schooling. The rates range from 9% for rural women to 26% for urban men that are attending school, whereas they range from 6% for rural women to 18% for urban men that have completed their schooling. The training-education attainment profiles display a convex shape. Training rates are flat at relatively low levels, and then rise sharply when individuals have passed the SLC.

Multiple factors may explain this pattern of change in the training-education attainment profiles. On the supply side, entry into at least TSLC and technical diploma programs require that the individual has completed grade 10 or passed the SLC. On the demand side, individuals may seek training upon leaving school in order to improve their labor market prospects. School exits increase sharply upon completing grade 10, passing the SLC, or completing grade 12 (intermediate education).

### C. Training fields

Which fields were the most popular among training recipients? Table 1 reports the distribution of recipients by training field.<sup>7</sup> In urban areas, the most common field was basic computing (38% for female recipients and 57% for male recipients), followed by dressmaking/tailoring for female recipients (30%), and other service fields (such as food service, hotel service, tourism, and security) for male recipients (10%). In rural areas, the most common field for female recipients was dressmaking/tailoring (48%), followed by basic computing (20%). Like in urban areas, the most common field for male recipients in rural areas was basic computing (37%). The field distribution in rural areas is however less skewed than in urban areas for male recipients. In rural areas, 13% of male recipients obtained training in construction, 11% in driving, 10% in small manufacturing and repair, and 9% in healthcare services.

Table 2 reports summary statistics for selected characteristics of recipients and their training by field. Generally consistent with traditional patterns of gender-dominated occupations, the majority of recipients of training in teaching, handicrafts, dressmaking/tailoring, and hairdressing/beautician services were women, whereas the majority of recipients of training in construction, small manufacturing and repair, driving, and other service fields were men. The majority of recipients of training in basic computing were attending school at the time of the survey, whereas the majority of recipients of training in other fields had completed their schooling. Recipients of training in teaching, basic computing, and health services are more likely to have passed the SLC than recipients of training in other fields. These patterns generally hold for both rural and urban areas.

Short training, defined as training of less than 12 months, is the norm. With the exception of urban and rural recipients of training in health services and urban recipients of training in fine and performing arts, the vast majority of recipients across fields obtained short training. The median length of training was typically 1 or 3 months across fields for rural recipients, whereas it

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<sup>7</sup> Training fields are constructed as follows. Individual responses were coded using the 1997 ISCED fields for training. With the exception of four detailed fields (*computer science, dressmaking/tailoring, driving and motor vehicle operation, and hairdressing/beautician work*) which had reasonable numbers of observations, detailed fields were aggregated to the broad field level. Given their similarity, the broad field of *engineering* was combined with the broad field of *other craft, trade, and industrial*. Broad fields with less than one percent of observations each were eliminated. Instead of using ISCED's broad field names, we sometimes named the field based on the detailed field in it with the highest percent of observations. For example, instead of using the broad field name of *fine and applied arts*, we named it handicrafts; instead of the broad field name of *agriculture, forestry, and fisheries*, we named it farming and livestock management. Discussions with training providers indicate that the computer science observations are largely tantamount to basic computer and internet use. Thus, we named this field basic computing.

was typically 3 or 6 months across fields for urban recipients. Training was longest in healthcare services, with a median length of 15 months. This is consistent with the length of TSLC programs to become a Community Medical Assistant, Lab Assistant, or Auxiliary Nurse Midwife which are either 15 or 18 months long. Training was shortest in basic business and accounting and fine and performing arts for rural recipients, and agriculture and livestock management for both rural and urban recipients, with a median length of 1 month or less.

#### *D. Characteristics of training recipients*

How do training recipients differ from nonrecipients? Table 3 reports pairwise differences in mean individual and household characteristics between nonrecipients and recipients. The direction of differences between recipients and nonrecipients are similar with respect to several characteristics, although in some cases the differences are not significant. To a much lesser extent, the direction of differences between recipients and nonrecipients differ between women and men, and between rural and urban residents.

With respect to demographic characteristics, among urban women, recipients are less likely to be the household head or the head's spouse and more likely to be the head's child or grandchild than nonrecipients. Recipients are on average older and are less likely to be married than nonrecipients. Among men, recipients are less likely to be born in the Village Development Committee (VDC) or urban municipality where they reside than nonrecipients; alternatively put, recipients are more likely to be migrants than nonrecipients. Among urban women, recipients are more likely to be born in the VDC or urban municipality where they reside than nonrecipients.

With respect to education, recipients are much more likely to be attending school than nonrecipients. In addition, recipients are on average much more educated than nonrecipients. The higher mean education attainment of recipients is also evident when we look at the share that have passed the SLC.

With respect to household characteristics, among urban women, recipients are more likely to come from households with absent members than nonrecipients. Recipients are more likely to come from households that have a benefactor from outside the household than nonrecipients.

Recipients are on average substantially wealthier than nonrecipients. Recipients differ from nonrecipients in terms of religion and caste/ethnic composition: recipients are more likely to be

Hindu than nonrecipients, and recipients are more likely to come from the Brahmin, Chettri, or Newar communities and less likely to be come from the Terai middle caste, Dalit, Janajati, Muslim, and other caste communities than nonrecipients.

Finally, with respect to location, among urban women, recipients are more likely to come from Kathmandu valley and less likely to come from the Terai than nonrecipients. Among urban men, recipients are more likely to come from the hills and less likely to come from the Terai than nonrecipients.

The differences in characteristics between recipients and nonrecipients may themselves vary depending on the training field. To examine if this is the case, we decompose training into main fields, specifically basic computing, dressmaking/tailoring, and all other fields for female recipients, and basic computing and all other fields for male recipients. Table 4 reports pairwise differences in mean characteristics between recipients trained in a specific field (who we refer to as “trainees” for short) and nonrecipients of training in any field (“nontrainees”).

Trainees in basic computing appear to differ from trainees in other fields. As an extreme illustration, significant differences between trainees in basic computing and nontrainees in individual-level characteristics such as relationship to the household head, age, marital status, and education are in the *opposite* direction of significant differences between trainees in other fields and nontrainees. Specifically, relative to nontrainees, trainees in basic computing are less likely to be the household head and more likely to be the head’s children, are on average younger, and are more likely to be attending school. In contrast, relative to nontrainees, trainees in other fields are more likely to be the household head and less likely to be the head’s children, are on average older, and are either just as likely or less likely to be attending school than nontrainees. Trainees in basic computing are less likely to be married than nontrainees, whereas female trainees in dressmaking/tailoring, and male trainees in other fields are more likely to be married.

### ***Labor market effects of training***

#### *E. Analytical approach*

Has training improved the labor market outcomes of recipients? To the best of our knowledge, credible evidence on the effects of training from widely representative data is absent

for Nepal. The only available study for Nepal is by Chakravarty et al. (2015), which evaluates a small-scale variant of a preexisting training initiative undertaken by an international NGO in partnership with the government. The intervention offered one-to-three month long training in a few selected fields (for example, dressmaking/tailoring, construction, electrical work), targeted to young women and other traditionally-disadvantaged groups. Comparing applicants who qualified for entry to selected training events to applicants that did not qualify under a difference-in-differences strategy, they find that the intervention improved employment and earning outcomes for qualifying applicants within a year or less of the training period.

Looking broadly, the collective rigorous international evidence on the effects of training programs on youth employment or earnings is encouraging but inconclusive. Tripney and Hombrados (2013) conduct a meta-evaluation of youth training programs in low- and middle-income countries, and Kluve et al. (2016) conduct a meta-evaluation of youth employment programs, looking at training programs separately. Both studies find that training programs have significant positive aggregate effects. In their meta-evaluation of active labor market programs globally, Card, Kluve, and Weber (2015) find that the aggregate effect of training programs targeted at youth is smaller than that for untargeted training programs. All three meta-evaluations additionally find substantial variability in effect sizes across included evaluation studies, and that large shares of (if not most) evaluation studies have insignificant results.

Here, using NLFS data, we examine whether or not the individual obtained training is associated with:

- (1) Whether in employment;
- (2) Conditional on employment, whether primarily engaged in wage employment (as opposed to self-employment), which we call wage work;
- (3) Conditional on employment, whether primarily engaged in nonagricultural employment (as opposed to agricultural employment), which we call nonfarm work; and
- (4) Hours-adjusted earnings in the worker's wage employment activities, which we call wage earnings.

Although of interest as an outcome, data on incomes or profits in self-employment activities were not gathered in the NLFS.

As noted earlier, training recipients systematically differ from nonrecipients in characteristics such as age, marital status, education, household economic status, caste, and region of residence. The poor overlap in the distribution of characteristics between recipients and nonrecipients can make estimates imprecise and sensitive to the choice of specification. To arrive at an optimal subsample, we use the approach suggested by Crump, Hotz, Imbens, and Mitnik (2009) and Imbens (2015) to discard observations with extreme predicted probabilities of training. The approach does not bias the estimates as the optimal subsample depends on the joint distribution of characteristics and training status and not on the distribution of outcomes. Discarding observations with extreme predicted probabilities can also greatly improve the precision of the estimates.

We estimate the effects of training in two stages. In the first stage, we (1) estimate gender-specific regressions of whether the individual obtained training, (2) predict the individual probabilities of having obtained training, and (3), following the general optimal rule suggested by Crump et al. (2009), only retain individuals with predicted probabilities between .1 and .9. Performing this stage, we trim out 17% of recipients and 63% of nonrecipients from the full sample for the female training receipt regression, and 13% of recipients and 52% of nonrecipients from the full sample for the male training receipt regression. Sample sizes for the outcome regressions are still large after the trimming.

Recipients and nonrecipients in the trimmed samples are more similar than in the full samples (see Table A1). Differences in mean characteristics are substantially smaller in the trimmed samples relative to the corresponding full samples, and the differences between means for many characteristics lose significance in the trimmed samples.

In the second stage, we estimate gender-specific regressions of the effects of training only for individuals in the trimmed samples, controlling for all characteristics we examined in Table 3. Standard errors in all regressions are clustered at the PSU level, to account for potential correlation between individuals within the same PSU.

While we only discuss the estimated effects of training for the trimmed female and male samples, we also estimate regressions for the full female and male samples. The full-sample regression results are reported in Tables A2–A5. Note that our selected method provides arguably well-estimated associations between training and outcomes of interest, which we sometimes refer to as “effects”. However, given the data, the method does not allow us to interpret these

associations as causal. Also note that the associations are no longer representative of all recipients, but only those recipients who survived the trimming step.

Delving further, we additionally investigate the variation in the effects of training by selected sociodemographic subgroups: whether or not the individual is attending school, education attainment (completed grade 10 or less, passed the SLC only, completed at least intermediate education), and area of residence (rural, urban).<sup>9</sup> We also investigate the variation in the effects of training by selected training characteristics: the type of training (short courses, TSLC/technical diploma programs) which we determined indirectly using information on the length of training, and by major training field (basic computing and other fields for men, and basic computing, dressmaking/tailoring, and other fields for women). We examine whether the effects differ across subgroups as well as whether a given subgroup-specific effect is significant. In discussing the results, we focus on the latter.

While we attempt to adjust for selection into training, we do not adjust for selection into the various sociodemographic and training related subgroups. The training and schooling decisions may be jointly determined, as may be training and residence decisions. The decision to obtain training may be influenced by the type or length of training. The subgroup analysis may then be a source of bias. Thus, the results should be interpreted as suggestive at best.

#### *F. Effects for women*

Table 5 reports estimated average marginal effects (AMEs) of training for women. Training is associated with an increase in the likelihood of employment by 6 percentage points (pp.), or by 10% in relative terms. Training is also associated with increases in the likelihoods of wage work by 5 pp. (31%) and nonfarm work by 16 pp. (46%). However, training does not appear to be associated with wage earnings.<sup>10</sup>

Table 5 also reports training effects interacted with schooling status, education attainment, and area of residence for women. Whether or not training effects are significant appears to differ by sociodemographic groups. With respect to schooling status, training is associated with increases in the likelihoods of employment (9 pp.) and nonfarm work (17 pp.) for those have completed their

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<sup>9</sup> All training of 12 months or more is classified as training through TSLC/technical diploma programs.

<sup>10</sup> The employment rate is 63%, the wage work share is 16%, and the nonfarm work share is 35% for female training nonrecipients in the trimmed sample.

schooling, and increases in the likelihoods of wage work by 7 pp. and nonfarm work by 11 pp. for those attending school. With respect to education attainment, training is associated with an increase in the likelihood of nonwage work by 21 pp. for those that have not passed the SLC; increases in the likelihoods of employment by 6 pp., wage work by 7 pp., and nonfarm work by 16 pp. for those that have passed the SLC only; and an increase in the likelihood of employment by 9 pp. for those that have completed at least intermediate education. With respect to area of residence, training is associated with increases in the likelihoods of employment by 7 pp. and nonfarm work by 13 pp. for urban residents, and an increase in the likelihood of nonfarm work by 16 pp. for rural residents. With the exception of those attending school, for whom training is associated with an increase in wage earnings by 16%, training does not appear to be associated with wage earnings for any of the sociodemographic groups.

Table 6 reports training effects separately by type and length of training subgroups for women. Training through short courses is associated with increases in the likelihoods of employment by 6 pp., wage work by 4 pp., and nonfarm work by 14 pp. Training through TSLC/technical diploma programs is only associated with an increase in the likelihood of nonfarm work by 15 pp.

Training in basic computing is only associated with an increase in the likelihood of nonfarm work by 11 pp. Training in dressmaking/tailoring is associated with increases in the likelihoods of employment by 6 pp. and nonfarm work by 16 pp. Training in dressmaking/tailoring does not appear to be associated with the likelihood of wage work. Dressmaking/tailoring tends to be self-employment activity for Nepali women: 71% of female youth engaged in dressmaking/tailoring were self-employed based on NLFS data. Training in other fields is associated with increases in the likelihoods of employment by 12 pp., wage work by 8 pp., and nonfarm work by 19 pp. The mean effect of training on wage earnings is insignificant irrespective of the type or major field of training.

### *G. Effects for men*

Tables 7 and 8 report estimated AMEs of training for men. The structure of the tables respectively mirror Tables 5 and 6 for women. Training does not appear to be associated with any outcome.

In terms of training effects interacted with sociodemographic groups, training does not appear to be associated with any outcome for those that have completed their schooling, or those that have passed the SLC only or with less schooling. Training also does not appear to be associated with any outcome for rural or urban residents as groups. For those that are attending school, training is associated with increases in the likelihoods of wage work by 14 pp. and nonfarm work by 8 pp. For those that have completed at least intermediate education, training is associated with an increase in the likelihood of employment by 11 pp.

In terms of training effects by type and length of training subgroups, training through short courses is associated with an increase in the likelihood of wage work by 5 pp. Training through TSLC/technical diploma programs is associated with an increase in the likelihood of employment by 8 pp., and wage earnings by 15%. Neither training in basic computing nor training in other fields appear to be associated with any outcome.

#### *H. Plausible explanations for differential results by gender*

To recapitulate, in general, we find that training is associated with shifts in employment for women, along both extensive and intensive margins, but not so for men. In general, we do not find that training is associated with higher wage earnings for both genders.

There are at least two competing explanations for the general absence of an effect of training on wage earnings. First, the lack of skills may be a binding constraint for local labor market success but the obtained training fails to improve skills. Second, the obtained training improves skills but only relaxing the skills constraint is not sufficient for labor market success.

Recent evidence from other low-income countries suggest that financial capital constraints may be overriding. Based on an experimental evaluation, Hicks et al. (2015) find that cash vouchers to out-of-school youth for training in vocational education institutions increased training but did not, in general, lead to an increase in employment and earnings, measured variously. The study also reports that interviews with training students indicated that the lack of financial capital for self-employment activities serves as a barrier to the effective use of training. Also based on an experimental evaluation, Blattman et al. (2013) find that cash grants to poor youth groups in Uganda for income-generating activities led to higher investments in training and business assets, and employment and earnings measured variously, with most of the grant funds used to buy business tools, materials, and supplies.

There is suggestive evidence that financial capital constraints may be important for labor market success in Nepal. The SWTS asked self-employed workers what was the most important issue they faced in undertaking their activities. Among individuals ages 16–29, in rural areas, the lack of financial capital was the most commonly reported issue at 27%, while in urban areas, it was the second most commonly reported issue at 16% (the most commonly reported issue was intense market competition at 46%). Responses to the question included “poor quality staff” and “lack of business expertise” as options. Treating these options as signifying inadequate labor skills, only about 11% of rural or urban self-employed workers reported skills to be an issue.

Notwithstanding the general result of a lack of an effect of training on wage earnings for both genders, the differential results by gender of the effects of training on employment are consistent with those from the evaluation of short training in Nepal by Chakravarty et al. (2015). Their evaluation results also differ by gender. For men, they find that the intervention has significant positive effects on the likelihoods of nonfarm work and work in the field they were trained in, that it does not appear to have significant effects on the likelihood of employment or work hours, and that the significance of the positive effect on labor earnings depends on the specific earnings measure. In contrast, for women, they find that the intervention had significant positive effects on all of the study’s labor market measures.

The differential results by gender are also consistent with evidence from elsewhere. For example, Attanasio, Kugler, and Meghir (2011), evaluating a short-term training program targeted at disadvantaged urban youth in Colombia, find that the program had significant, sizeable positive effects on a range of employment and earnings measures for women, but had largely insignificant effects for men.<sup>11</sup> Likewise, examining the longer-term effects of the same training program in Colombia, Attanasio, Guarin, Medina, and Meghir (2015) find significant positive effects on formal sector employment and earnings outcomes for women but insignificant effects for men, and suggestive evidence that the training program increased the labor productivity of women.<sup>12</sup> Meta-evaluations of youth employment programs globally (Kluve et al. 2016), youth training programs in low- and middle-income countries (Tripney and Hombrados 2013), and active labor

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<sup>11</sup> The authors are however tentative about the male results due to some issues that weakened treatment identification.

<sup>12</sup> In contrast, Ibararan et al. (2014) and Ibararan, Kluve, Ripani, and Shady (2016), evaluating a short-term training intervention provided to youth that did not complete high school in the Dominican Republic, find that the intervention mainly increased the likelihood of male formal employment measured two and six years after the training.

market programs globally (Card et al. 2015) find larger aggregate effects for women than men.<sup>13</sup>

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We posit three explanations for the differential employment effects by gender. First, the most common training for men was in basic computing, and we find that the effects of basic computing tend to be insignificant for both genders. This suggests that training in basic computing may often be for nonwork reasons. Second, given that our analysis data were collected when male external labor migration was already a large phenomenon, the trained men in the analysis sample—in other words, trained men *in* Nepal—may be negatively selected relative to all trained men, and thus the effects of training for this sample may be biased towards zero. Third, the trained men in the analysis sample may have obtained training to work in external labor markets, and decided to wait for or actively seek external work opportunities instead of seeking local labor market success. One explanation that we discount is that the results for men may be due to ceiling constraints: the rates of employment, wage work, and nonfarm work are well below 100% for untrained men.

### ***Interest in and perceptions of training***

#### ***I. Training desire rates***

To begin this section, we examine NLFS data on the individual's stated preference for training, specifically whether the individual desires training, and, if so, the specific training field desired. Estimates of training desire rates based on these questions presumably overstate the extent of effective demand for training (that is, the rate of individuals that is willing to obtain training and able to incur any costs, including opportunity costs, of training).

Figure 6 shows rates training desire rates, separately for youth and nonyouth cohorts. There appears to be extensive interest in training among youth. For Nepal, training desire rates are 39% for youth, and less than one-half as much at 18% for nonyouth. Youth training desire rates range from a low of 29% for urban men to a high of 41% for rural women. Youth training desire rates appear to be higher in rural than urban areas. For example, for female youth, the training desire rate is 41% in rural areas, whereas it is 35% in urban areas. Youth training desire rates are

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<sup>13</sup> More precisely, Card et al. (2015) find that active labor market programs for women only have larger aggregate effects than programs for men only or both genders.

<sup>14</sup> Although larger in size, the aggregate effects for women found in the meta-evaluations are not always statistically different from those for men.

comparable between women and men in rural areas, and higher for women than men in urban areas. In the rest of the section, unless noted, all statistics are restricted to youth.

Figure 7 contrasts training desire rates in Nepal to those from Bangladesh in 2013, the only other country from the region for which we found comparable questions in a recent national labor force survey. Training desire rates for Nepal are strikingly similar to those for Bangladesh. At the country level, the desire rate is 39% in Nepal compared to 37% in Bangladesh. Training desire rates are also similar between the two countries for all the gender-by-location subgroups.

Figure 8 shows training desire rates across regions within Nepal. Interest in training by women and men is especially extensive in regions outside of Kathmandu valley. For example, for women, training desire rates range from 35% (rural hills) to 47% (urban Terai) outside Kathmandu valley, whereas it is 19% in Kathmandu valley.

Figure 9 shows training desire-age profiles. In general, training desire rates are higher among individuals in their early 20's than individuals in their late 20's or early 30's. Figure 10 shows training desire-schooling status (Panel A) and training desire-education attainment (Panel B) profiles. Training desire rates for those attending school are either higher or similar to those that have completed their schooling. Training desire rates for rural women and men jump for those that have passed the SLC only or completed at least intermediate education. We do not observe a similar pattern for urban women and men.

#### *J. Desired training fields*

Table 9 reports the distribution of desired training fields. Although our wording is loose here, all statistics are for those that express interest in training. Among women, training in dressmaking/tailoring had the highest interest by a large margin: 64% of rural women and 47% of urban women desire training in dressmaking/tailoring. After dressmaking/tailoring was interest in training in basic computing and farming/livestock management (12% each) among rural women, and training in basic computing (26%) and hairdressing/beautician services (8%) among urban women.

Among men, training in basic computing had the highest interest: 48% of urban men and 27% of rural men desire training in basic computing. Interest in basic computing was followed by interest in training in farming/livestock management (20%), manufacturing and repair (13%), and

construction (12%) among rural men, and manufacturing and repair (14%), driving (9%) and other services fields (9%) among urban men.

#### *K. Characteristics of those that desire training*

Table 10 reports differences in mean characteristics between those that are interested in training versus those that are not. For many characteristics, the patterns of differences are qualitatively similar to the patterns of differences in mean characteristics between those that obtained training and those that did not.

Patterns however sometimes diverge, such as with respect to age, household economic status, and region of residence. Those that obtained training were on average older and wealthier, and more likely to come from Kathmandu valley than those that did not obtain training. In contrast, those that desire training are on average younger and less wealthy, and more likely to come from rural or urban Terai than those that do not desire training.

We also examine whether training desire rates differ based on the individual's training and employment status. Those that desire training are more likely to have obtained training than those that do not desire training. Among rural men and urban women, those that desire training are more likely to be employed than those that do not desire training. Apart for rural women, those that desire training are more likely to be self-employed in agriculture than those that do not desire training. Among rural women, those that desire training are more likely to be wage-employed in services or self-employed in industry than those that do not desire training.

#### *L. Relationship between obtained and desired training fields*

We found that individuals that desire training are more likely to have obtained training than those that do not desire training. Does the field that the individual desires training in differ from the field that the individual has already obtained trained in (which may indicate interest in reskilling), or is it in the same (which may indicate interest in upskilling)? We explore this question in relation to training in basic computing and dressmaking/tailoring given that these two fields constitute the largest shares of observations.

Panel A of Figure 11 shows the rates of individuals that desire training in basic computing, separately for those already trained in basic computing, those already trained in other fields, and those that have not obtained any training. The majority of those trained in basic computing desire

more training in the same field. The rates range from 56% for urban women to 82% for rural men. Rates of individuals trained in other fields or individuals that have not obtained training and desire training in basic computing are much lower. For individuals that have not obtained any training, the rates that desire training in basic computing range from 10% for rural women to 42% for urban men. For individuals trained in other fields, the rates that desire training in basic computing range from 9% for rural women to 24% for rural men.

Panel B presents rates of women that desire training in dressmaking/tailoring, separately for those already trained in dressmaking/tailoring, those already trained in other fields, and those that have not obtained any training. In this case, there is extensive interest for training in dressmaking/tailoring by women already trained in dressmaking/tailoring as well as by women that have not obtained any training. For example, 72% of rural women already trained in dressmaking/tailoring desire training in the same field, and 65% of rural women without any training desire training in dressmaking/tailoring. Interest in training in dressmaking/tailoring by those trained in other fields is much lower. For example, 23% of rural women trained in other fields desire training in dressmaking/tailoring.

#### *M. Perceptions on education and training*

Using SWTS data, Figure 12 shows the views held by employed and unemployed workers ages 16-29 regarding the value of human capital accumulation (collectively, education and training) for finding employment. Fifty-five percent of employed workers reported that their education and training was relevant, followed by 26% that reported that they were underqualified. Nineteen percent of employed workers reported that inadequate qualifications was the main difficulty they faced finding employment, second only to inadequate employment opportunities (26%).

Among unemployed workers, 33% and 32% of them reported that insufficient employment opportunities and insufficient qualifications, respectively, were the main difficulties they face in finding employment, followed by insufficient work experience (15%). The majority of unemployed workers, 78%, viewed their education or training to be useful for finding employment, even if the education or training was insufficient. When asked what type of education or training would be most useful for finding employment, the most common responses were completing secondary or tertiary education (27%), training in computing/information technology (27%),

training in technical institutes (presumably in TSLC or technical diploma programs) (19%), and employment apprenticeships (17%).

### *Conclusion*

Under the most basic model, individuals demand training if the private stream of expected benefits from training (net of costs) is positive. Using labor earnings as the measure of benefits, the evidence we find suggests that the condition may be unmet in Nepal. The problem may lie within the training production function in terms of quantity and quality, which is what most training projects in Nepal have fixed their sights on. Alternatively, it may lie within the labor earnings production function broadly. That is, the effect of training on labor earnings may depend on factors and features outside of training such as the acquisition of financial and physical capital for income-generating activities, an expanding market for skilled labor, and the existing labor market structure. For example, with respect to the labor market structure, if the wage labor market is characterized by monopsonistic employers, trained workers may obtain lower returns to training even if training induces higher labor productivity.

In the case of women, even if labor earnings are no larger for training recipients than nonrecipients, we find that training is associated with a higher likelihood of employment. Employment may be welfare-improving for women measured along nonmonetary dimensions, as, for example, the evidence by Chakravarty et al. (2015) on the effects of short training on empowerment outcomes for women suggests.

The rationale for public intervention in the training market for Nepal should be evaluated. Even if there was a compelling case in the past, the case should be reevaluated as the current landscape in terms of formal training supply is radically different.<sup>15</sup> Absent public intervention, will there be a missing market for training, where the price at which private providers are willing to offer training exceeds the price that workers—particularly poorer workers—are willing to pay for training? If so, what are the sources behind training market failure? Answers to these questions are vital for designing public interventions that address the specific sources of training market failure.

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<sup>15</sup> We are unable to find any studies for Nepal that justify public intervention based on an analysis of failures in the formal training market.

We find that a large share of workers, especially poorer workers, report that they are interested in training. However, these workers may still under-demand training. Workers are predicted to underinvest in training because they, for example, cannot afford the costs of training, have high discount rates or are present biased, are averse to riskiness or uncertainty in the returns to training, or face costs in signaling the productivity gain induced by training to employers (Brunello and De Paola 2009). Which reason is paramount may differ between workers. International evidence suggests that, relative to richer households, the human capital investment behavior of poorer workers are more (likely to be) constrained by all of the noted reasons.

Rigorous empirical research is needed for Nepal to inform the extent and nature of public intervention in the labor market in general and in the training market in particular. In relation to the latter, we note four directions where evidence is missing but would be valuable for policy. First is to measure the willingness of workers to pay for training as well as the willingness of employers to pay for trained workers, examining the relative importance of different attributes of training and how different attributes are traded off by workers and employers. Second is to measure perceptions of training and its returns and the risk, uncertainty, and time preferences of the target population for training, and to investigate the associations of perceptions and preferences with training demand. Third is cost-benefit or cost-effectiveness analyses of public interventions in the training market, where costs are measured comprehensively (that is, covering the direct and indirect costs incurred by training providers, and the explicit and opportunity costs borne by recipients). Fourth is investigating employer-provided training, in part to learn if there can be a role for government in promoting the effectiveness, efficiency, and equity effects of such training.

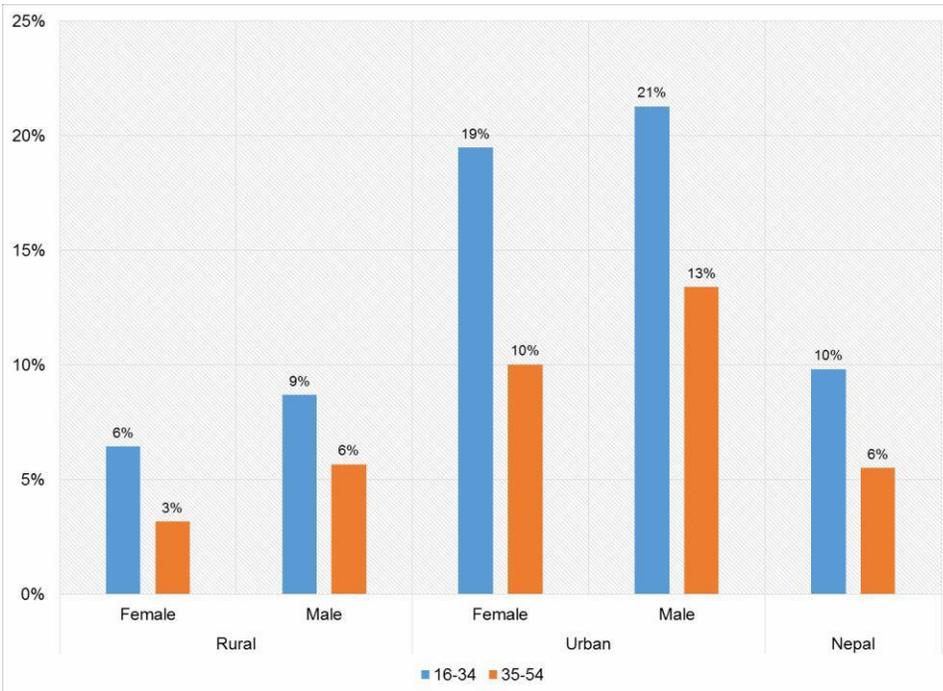
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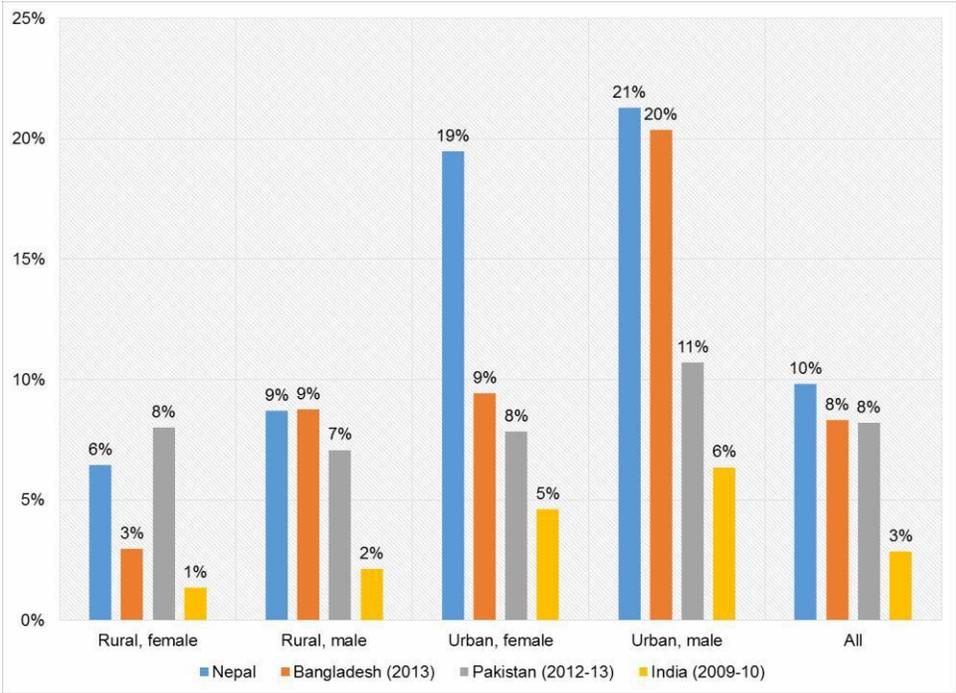
## Tables and Figures

Figure 1. Training rates



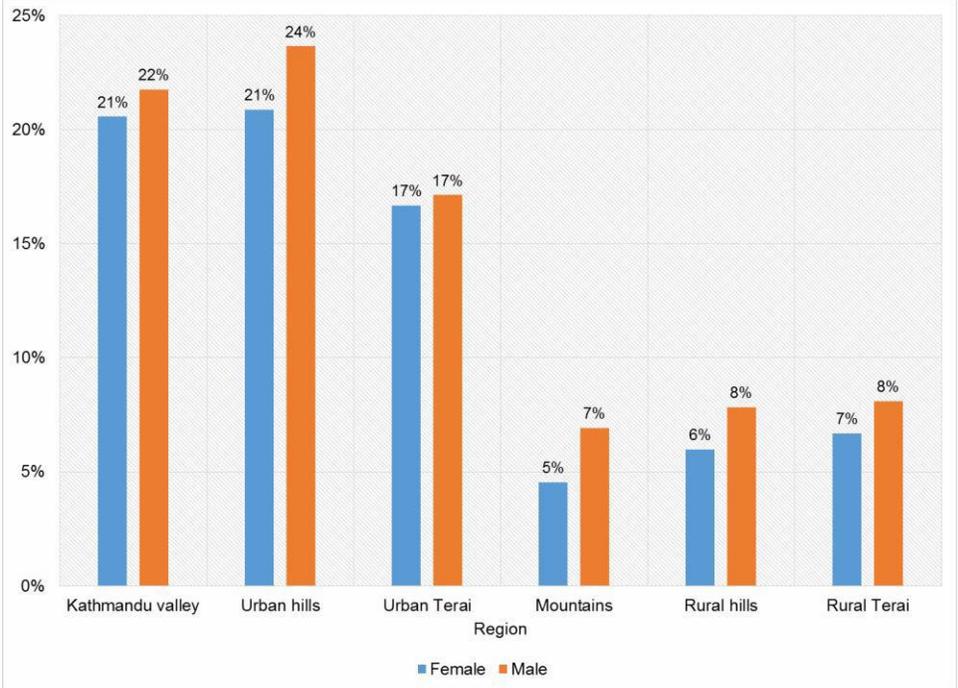
Notes. Own estimates using the 2008 Nepal Labor Force Survey. All estimates are adjusted for sampling weights.

Figure 2. Training rates in Nepal and other South Asian countries, individuals ages 16–34



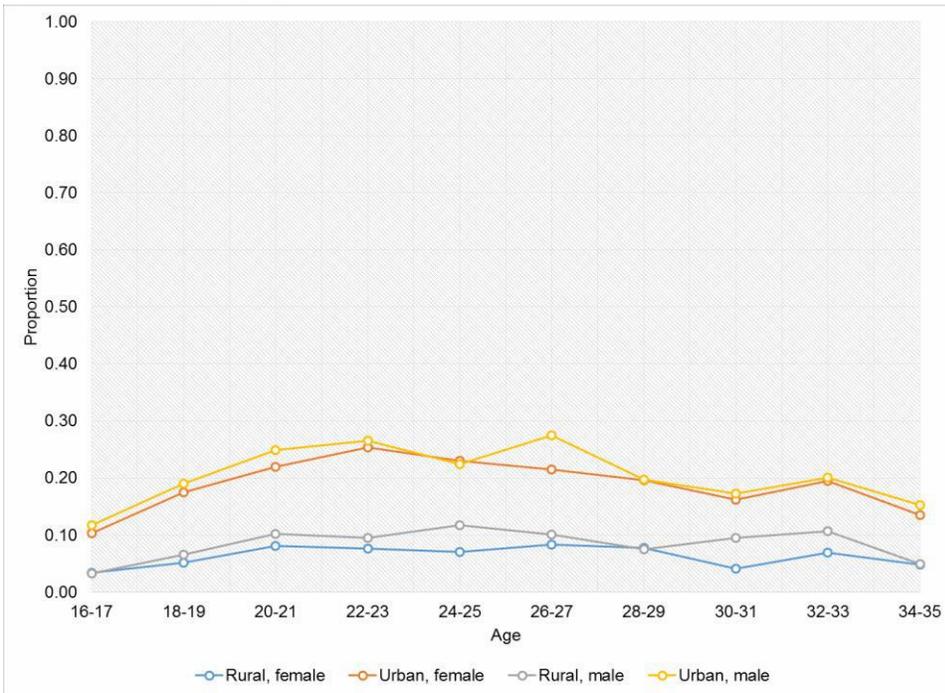
Note: Own estimates using the labor force surveys for Nepal (2008), Bangladesh (2013), and Pakistan (2012-13), and India’s National Sample Survey 66<sup>th</sup> round (2009–10). All estimates are adjusted for sampling weights.

Figure 3. Training rates by region, individuals ages 16–34



Notes. Own estimates using the 2008 Nepal Labor Force Survey. All estimates are adjusted for sampling weights.

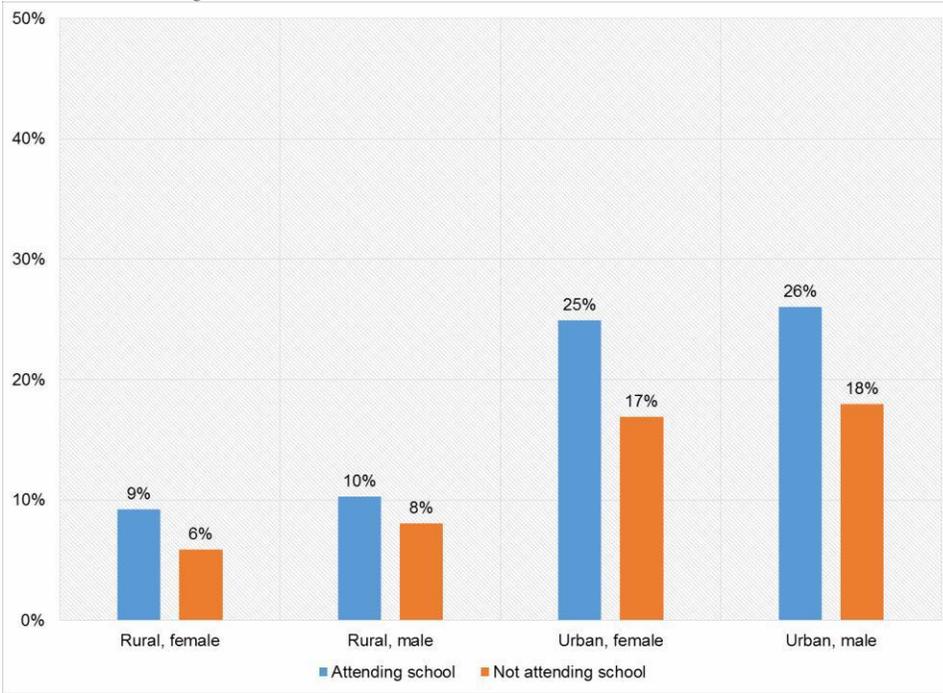
Figure 4. Training-age profiles



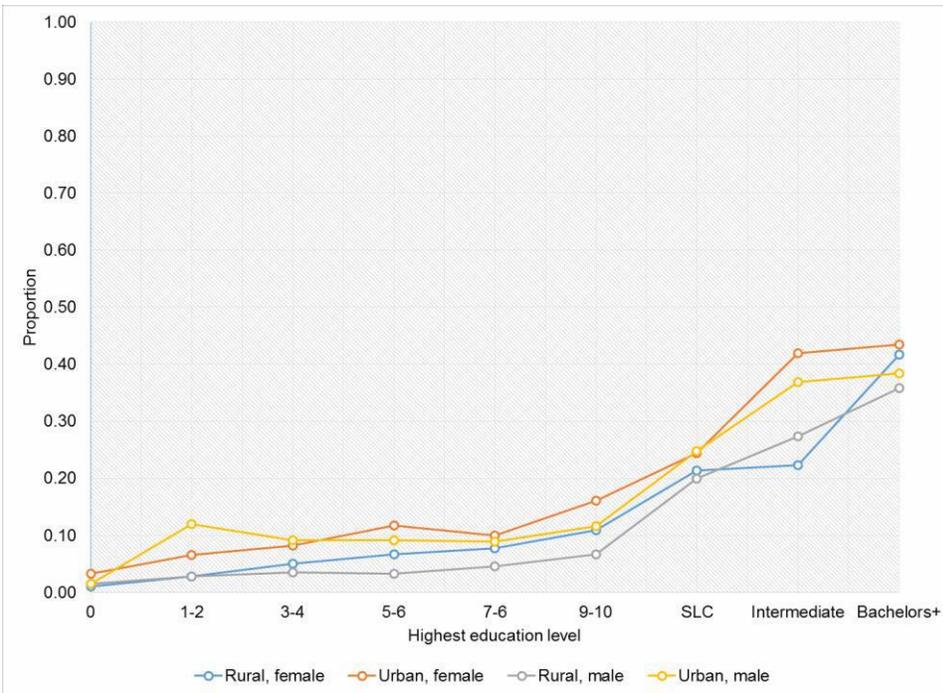
Notes. Own estimates using the 2008 Nepal Labor Force Survey. All estimates are adjusted for sampling weights.

Figure 5. Training-education profiles, individuals ages 16–34

A. *Schooling status*



B. *Education attainment*



Notes. Own estimates using the 2008 Nepal Labor Force Survey. All estimates are adjusted for sampling weights.

Table 1. Distribution of training fields,  
*individuals ages 16–34*

Field	Rural		Urban	
	Female (1)	Male (2)	Female (3)	Male (4)
Teaching	5.6	3.9	2.8	1.6
Handicrafts	6.7	2.5	5.3	2.7
Fine and performing arts	0.3	0.0	2.0	2.0
Business and accounting	0.7	1.2	1.5	1.7
Basic computing	19.6	36.5	37.5	56.9
Health services	9.2	9.4	7.2	4.5
Construction	1.4	12.7	0.4	4.8
Dressmaking/tailoring	47.6	0.0	29.9	0.0
Small manufacturing and repair	0.8	10.3	1.3	6.8
Agriculture and livestock management	4.4	7.8	1.6	1.2
Driving and motor vehicle operation	0.0	10.9	0.0	8.0
Hairdressing/beautician services	3.0	0.0	8.4	0.0
Other service trades	0.8	4.8	2.0	10.0
Observations	426	353	1,272	1,198

Notes. Own estimates using the 2008 Nepal Labor Force Survey. All estimates are adjusted for sampling weights.

Table 2. Characteristics of training recipients by field  
Individuals ages 16-34

Field	Rural					Urban				
	Share female (1)	Share attending school (2)	Share passed SLC (3)	Share short courses (4)	Median training length (5)	Share female (6)	Share attending school (7)	Share passed SLC (8)	Share short courses (9)	Median training length (10)
Teaching	0.63	0.36	0.89	0.98	4	0.65	0.21	0.88	0.90	6
Handicrafts	0.76	0.06	0.21	1.00	3	0.68	0.23	0.43	0.92	6
Fine and performing arts	1.00	0.00	1.00	1.00	1	0.51	0.25	0.71	0.55	9
Business and accounting	0.43	0.25	0.43	1.00	1	0.48	0.34	0.84	0.96	2
Basic computing	0.39	0.72	0.94	0.91	3	0.41	0.73	0.95	0.92	3
Health services	0.54	0.19	0.60	0.46	15	0.63	0.40	0.86	0.33	15
Construction	0.12	0.13	0.37	0.91	3	0.09	0.29	0.54	0.84	6
Dressmaking/tailoring	0.91	0.08	0.19	0.94	3	0.90	0.14	0.38	0.95	3
Small manufacturing and repair	0.08	0.10	0.41	0.83	3	0.17	0.23	0.54	0.81	6
Agriculture and livestock management	0.40	0.12	0.40	0.85	1	0.58	0.28	0.58	0.85	1
Driving and motor vehicle operation	0.03	0.01	0.11	0.97	3	0.02	0.08	0.28	0.94	3
Hairdressing/beautician services	0.94	0.19	0.42	0.93	6	0.99	0.26	0.71	0.92	6
Other service fields	0.16	0.18	0.28	0.86	3	0.18	0.25	0.72	0.85	3

Notes. Own estimates using the 2008 Nepal Labor Force Survey. All estimates are adjusted for sampling weights. Short courses are defined as training of less than 12 months in length. Training of one month or less was set as 1 month in constructing the training length measure.

Table 3. Differences in mean characteristics, training recipients versus nonrecipients, individuals ages 16–34

Characteristic	Rural				Urban			
	Female		Male		Female		Male	
	Nonrecipients-mean (1)	Recipients-diff (2)	Nonrecipients-mean (3)	Recipients-diff (4)	Nonrecipients-mean (5)	Recipients-diff (6)	Nonrecipients-mean (7)	Recipients-diff (8)
Rel. to head: Head	0.388	0.004	0.307	0.035	0.442	−0.068***	0.311	−0.018
Rel. to head: Spouse	0.282	−0.040*	0.007	0.005	0.310	−0.071***	0.022	−0.002
Rel. to head: Son/daughter (in law)	0.548	0.015	0.606	−0.052	0.451	0.045**	0.509	−0.010
Rel. to head: Grandchild	0.014	−0.007*	0.019	0.007	0.015	0.015*	0.018	0.000
Rel. to head: Other relative	0.044	−0.005	0.059	0.013	0.074	0.013	0.125	0.025
Age	23.67	0.571***	23.31	1.310***	24.03	0.320	23.59	0.420*
Married	0.749	−0.086***	0.565	−0.012	0.663	−0.130***	0.440	−0.077***
Born in present VDC/municipality	0.418	0.006	0.842	−0.127***	0.341	0.037*	0.470	−0.047**
Attending an academic institution	0.161	0.076***	0.277	0.068**	0.300	0.112***	0.387	0.129***
Education (in years)	3.859	4.281***	6.278	3.306***	7.075	3.349***	8.661	2.431***
Passed SLC	0.157	0.380***	0.282	0.448***	0.441	0.367***	0.553	0.304***
Household has absentee(s)	0.492	0.014	0.325	−0.270	0.304	0.044***	0.195	0.026
Household has benefactor	0.038	0.030**	0.032	0.042**	0.055	0.025**	0.067	0.035**
Household asset index	−0.192	0.758***	−0.176	0.672***	1.310	0.544***	1.405	0.515***
Hindu	0.856	0.034**	0.848	0.039*	0.844	0.056***	0.848	0.039***
Brahmin/Chettri	0.306	0.167***	0.286	0.126***	0.375	0.117***	0.370	0.137***
Terai middle castes	0.121	−0.047***	0.139	−0.220	0.078	−0.031***	0.101	−0.049***
Dalit	0.130	−0.589***	0.121	−0.051***	0.075	−0.046***	0.072	−0.058***
Newar	0.036	0.059***	0.039	0.039**	0.144	0.058***	0.151	0.010
Janajati	0.340	−0.067**	0.349	−0.062**	0.279	−0.071***	0.249	−0.020
Muslim	0.047	−0.038***	0.043	−0.020**	0.035	−0.022***	0.043	−0.020***
Other castes	0.020	−0.015***	0.022	−0.010*	0.014	−0.005	0.015	0.001
Kathmandu valley	—	—	—	—	0.326	0.039*	0.394	0.040
Urban Terai	—	—	—	—	0.440	−0.060**	0.423	−0.077***

Table 3. Differences in mean characteristics, training recipients versus nonrecipients, *individuals ages 16–34*

Characteristic	Rural				Urban			
	Female		Male		Female		Male	
	Nonrecipients- mean (1)	Recipients- diff (2)	Nonrecipients- mean (3)	Recipients- diff (4)	Nonrecipients- mean (5)	Recipients- diff (6)	Nonrecipients- mean (7)	Recipients- diff (8)
Urban hills	—	—	—	—	0.234	0.021	0.183	0.037**
Rural Terai	0.508	0.039	0.523	0.037	—	—	—	—
Rural hills	0.416	-0.018	0.396	-0.024	—	—	—	—
Mountains	0.076	-0.021	0.803	-0.013	—	—	—	—

Note: Own estimates based on the 2008 Nepal Labor Force Survey. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Inference based on robust standard errors clustered at the PSU level. SLC stands for Schooling Leaving Certificate, and VDC stands for Village Development Committee.

Table 4. Differences in mean characteristics between nonrecipients and recipients, by field, *individuals ages 16–34*

Characteristic	Female				Male		
	Mean	Diff. from mean				Diff. from mean	
	No training (1)	Basic computing (2)	Dressmaking/ tailoring (3)	Other fields (4)	No training (5)	Basic computing (6)	Other fields (7)
Rel. to head: Head	0.396	-0.225***	0.062**	0.072**	0.308	-0.121***	0.124***
Rel. to head: Spouse	0.286	-0.204***	0.013	0.008	0.010	0.001	0.008
Rel. to head: Son/daughter (in law)	0.533	0.138***	-0.038	-0.053*	0.587	0.053*	-0.145***
Rel. to head: Grandchild	0.014	0.023**	-0.009***	-0.003	0.019	0.013	-0.003
Rel. to head: Other relative	0.049	0.063***	-0.012	-0.010	0.072	0.042***	0.025
Age	23.72	-2.288***	1.376***	1.841***	23.36	-1.156***	2.764***
Married	0.736	-0.457***	0.047**	-0.065**	0.540	-0.326***	0.145***
Born in present VDC/municipality	0.406	0.102***	-0.053**	-0.017	0.769	-0.239***	-0.123***
Attending an academic institution	0.182	0.571***	-0.090***	0.022	0.298	0.411***	-0.122***
Education (in years)	4.346	7.366***	3.139***	4.395***	6.748	4.930***	2.265***
Passed SLC	0.200	0.787***	0.205***	0.455***	0.335	0.641***	0.288***
Household has absentee(s)	0.463	-0.057*	0.035	-0.053	0.300	-0.007	-0.055**
Household has benefactor	0.041	0.041**	0.033**	0.023	0.039	0.083***	0.017
Household asset index	0.035	1.670***	0.688***	0.930***	0.136	1.480***	0.523***
Hindu	0.854	0.058***	0.037**	0.028	0.848	0.044**	0.035**
Brahmin/Chettri	0.316	0.257***	0.100***	0.169***	0.303	0.251***	0.066**
Terai middle castes	0.114	-0.097***	-0.032*	-0.036*	0.131	-0.076***	-0.014
Dalit	0.121	-0.093***	-0.067***	-0.044**	0.111	-0.091***	-0.043***
Newar	0.052	0.127***	0.085***	0.047***	0.061	0.074***	0.033**
Janajati	0.331	-0.146***	-0.033	-0.094***	0.329	-0.122***	-0.021
Muslim	0.045	-0.031***	-0.042***	-0.030***	0.043	-0.023***	-0.018**
Other castes	0.019	-0.017***	-0.011**	-0.012*	0.020	-0.013***	-0.002
Kathmandu valley	0.049	0.177***	0.030***	0.098***	0.078	0.166***	0.052***
Urban Terai	0.066	0.114***	0.061***	0.076***	0.084	0.096***	0.032***

Table 4. Differences in mean characteristics between nonrecipients and recipients, by field, *individuals ages 16–34*

Characteristic	Female				Male		
	Mean	Diff. from mean				Diff. from mean	
	No training	Basic computing	Dressmaking/ tailoring	Other fields	No training	Basic computing	Other fields
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Urban hills	0.035	0.103***	0.041***	0.058***	0.036	0.068***	0.046***
Rural Terai	0.431	-0.197***	0.003	-0.135***	0.420	-0.160***	-0.039
Rural hills	0.353	-0.133***	-0.108***	-0.088***	0.318	-0.125***	-0.081***
Mountains	0.065	-0.065***	-0.026*	-0.009	0.064	-0.044***	-0.010

Note: Own estimates based on the 2008 Nepal Labor Force Survey. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Inference based on robust standard errors clustered at the PSU level. SLC stands for Schooling Leaving Certificate, and VDC stands for Village Development Committee.

Table 5. Effects of training, overall, by level of schooling, and by location, female, ages 16–34 years

	Employment	Wage work	Nonfarm work	Log wage earnings
	(1)	(2)	(3)	(4)
Training	0.061*** (0.020)	0.045** (0.019)	0.156*** (0.026)	0.013 (0.066)
<i>A. Heterogeneous effects by schooling status</i>				
Training ( $\beta_1$ )	0.093*** (0.025)	0.032 (0.022)	0.171*** (0.031)	-0.077 (0.077)
Training×attending school ( $\beta_2$ )	-0.076** (0.036)	0.041 (0.037)	-0.057 (0.048)	0.239* (0.144)
$\beta_1+\beta_2>0$ ; $p$ -value	0.558	0.020	0.005	0.177
<i>B. Heterogeneous effects by education attainment</i>				
Training ( $\beta_1$ )	0.039 (0.037)	0.045 (0.036)	0.209*** (0.038)	-0.128 (0.148)
Training×passed SLC only ( $\beta_2$ )	0.021 (0.046)	0.028 (0.051)	-0.048 (0.053)	0.223 (0.218)
Training×Intermediate or higher ( $\beta_3$ )	0.048 (0.049)	-0.031 (0.044)	-0.164*** (0.056)	0.154 (0.168)
$\beta_1+\beta_2>0$ ; $p$ -value	0.053	0.032	0.000	0.520
$\beta_1+\beta_3>0$ ; $p$ -value	0.003	0.615	0.345	0.746
<i>C. Heterogeneous effects by location</i>				
Training ( $\beta_1$ )	0.072*** (0.018)	0.035 (0.023)	0.129*** (0.028)	-0.083 (0.061)
Training×rural ( $\beta_2$ )	-0.018 (0.039)	0.006 (0.036)	0.027 (0.043)	0.153 (0.139)
$\beta_1+\beta_2>0$ ; $p$ -value	0.117	0.141	0.000	0.568
Observations	5,332	2,803	2,814	622

Note: Own estimates based on the 2008 Nepal Labor Force Survey. \*\*\* denotes  $p<0.01$ , \*\*  $p<0.05$ , and \*  $p<0.1$ . Wage work and nonfarm work are conditional on employment, and log wage earnings are conditional on wage work. Employment, wage work, and nonfarm work regressions are estimated as logit based on maximum likelihood, and log wage earnings regressions are estimated based on least squares. All regressions control for the individual's relation to the head of household, age, marital status, current schooling status, education attainment in years, whether obtained the School Leaving Certificate (SLC), and caste; whether the individual's household has a private benefactor; whether the individual's household has an absentee member; a standardized index of household consumptive assets; and region identifiers. The propensity score trimmed sample only includes observations with predicted values between .1 and .9 in a training receipt logit regression. Robust standard errors, clustered at the PSU level, are reported in parentheses. All estimates are adjusted for sampling weights.

Table 6. Effects of training, by training length and field, trimmed sample female, ages 16–34

	Employment	Wage work	Nonfarm work	Log wage earnings
	(1)	(2)	(3)	(4)
<i>A. Heterogeneous effects by training type</i>				
Short training courses ( $\beta_1$ )	0.057*** (0.021)	0.042** (0.020)	0.142*** (0.028)	0.015 (0.071)
TSLC/diploma programs ( $\beta_2$ )	0.041 (0.062)	0.023 (0.042)	0.153** (0.078)	-0.009 (0.123)
$\beta_1 = \beta_2$ ; <i>p</i> -value	0.817	0.546	0.989	0.654
<i>B. Heterogeneous effects by training field</i>				
Basic computing ( $\beta_1$ )	0.014 (0.028)	0.042 (0.027)	0.103** (0.044)	0.136 (0.105)
Dressmaking/tailoring ( $\beta_2$ )	0.057* (0.032)	-0.005 (0.029)	0.159*** (0.039)	-0.058 (0.128)
Other fields ( $\beta_3$ )	0.123*** (0.034)	0.081*** (0.028)	0.186*** (0.040)	-0.047 (0.076)
$\beta_1 = \beta_2$ ; <i>p</i> -value	0.271	0.223	0.312	0.218
$\beta_1 = \beta_3$ ; <i>p</i> -value	0.008	0.275	0.130	0.105
$B_2 = \beta_3$ ; <i>p</i> -value	0.117	0.024	0.610	0.941
Observations	5,332	2,803	2,814	622

Note: Own estimates based on the 2008 Nepal Labor Force Survey. \*\*\* denotes  $p < 0.01$ , \*\*  $p < 0.05$ , and \*  $p < 0.1$ . Wage work and nonfarm work are conditional on employment, and log wage earnings are conditional on wage work. Employment, wage work, and nonfarm work regressions are estimated as logit based on maximum likelihood, and log wage earnings regressions are estimated based on least squares. All regressions control for the individual's relation to the head of household, age, marital status, current schooling status, education attainment in years, whether obtained the School Leaving Certificate (SLC), and caste; whether the individual's household has a private benefactor; whether the individual's household has an absentee member; a standardized index of household consumptive assets; and region identifiers. The propensity score trimmed sample only includes observations with predicted values between .1 and .9 in a training receipt logit regression. Robust standard errors, clustered at the PSU level, are reported in parentheses. All estimates are adjusted for sampling weights.

Table 7. Effects of training, overall, by level of schooling, and by location, trimmed sample male, ages 16–34

	Employment (1)	Wage work (2)	Nonfarm work (3)	Log wage earnings (4)
Training	0.000 (0.020)	0.038 (0.026)	0.026 (0.028)	−0.016 (0.057)
<i>A. Heterogeneous effects by schooling status</i>				
Training ( $\beta_1$ )	−0.010 (0.036)	−0.010 (0.030)	−0.006 (0.036)	0.004 (0.072)
Training×attending school ( $\beta_2$ )	0.014 (0.043)	0.142*** (0.051)	0.084 (0.052)	−0.061 (0.113)
$\beta_1+\beta_2>0$ ; $p$ -value	0.839	0.002	0.046	0.520
<i>B. Heterogeneous effects by education attainment</i>				
Training ( $\beta_1$ )	−0.065 (0.064)	0.021 (0.059)	−0.043 (0.073)	0.065 (0.147)
Training×passed SLC only ( $\beta_2$ )	0.033 (0.064)	0.003 (0.073)	0.087 (0.079)	−0.168 (0.189)
Training×Intermediate or higher ( $\beta_3$ )	0.110 (0.072)	0.034 (0.064)	0.065 (0.083)	−0.056 (0.151)
$\beta_1+\beta_2>0$ ; $p$ -value	0.247	0.561	0.232	0.397
$\beta_1+\beta_3>0$ ; $p$ -value	0.075	0.109	0.616	0.895
<i>C. Heterogeneous effects by location</i>				
Training ( $\beta_1$ )	0.005 (0.019)	0.040 (0.025)	0.036 (0.030)	−0.087 (0.066)
Training×rural ( $\beta_2$ )	−0.009 (0.038)	−0.020 (0.049)	−0.024 (0.044)	0.116 (0.113)
$\beta_1+\beta_2>0$ ; $p$ -value	0.892	0.619	0.724	0.759
Observations	4,739	3,041	3,041	1,225

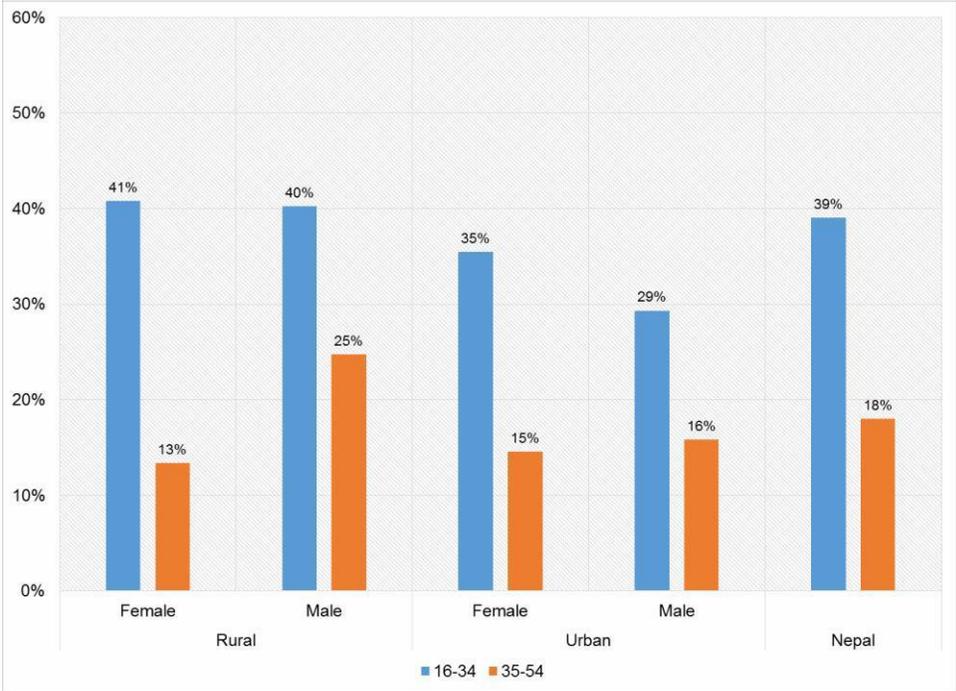
Note: Own estimates based on the 2008 Nepal Labor Force Survey. \*\*\* denotes  $p<0.01$ , \*\*  $p<0.05$ , and \*  $p<0.1$ . Wage work and nonfarm work are conditional on employment, and log wage earnings are conditional on wage work. Employment, wage work, and nonfarm work regressions are estimated as logit based on maximum likelihood, and log wage earnings regressions are estimated based on least squares. All regressions control for the individual's relation to the head of household, age, marital status, current schooling status, education attainment in years, whether obtained the School Leaving Certificate (SLC), and caste; whether the individual's household has a private benefactor; whether the individual's household has an absentee member; a standardized index of household consumptive assets; and region identifiers. The propensity score trimmed sample only includes observations with predicted values between .1 and .9 in a training receipt logit regression. Robust standard errors, clustered at the PSU level, are reported in parentheses. All estimates are adjusted for sampling weights.

Table 8. Effects of training, by training length and field, trimmed sample male, ages 16–34

	Employment (1)	Wage work (2)	Nonfarm work (3)	Log wage earnings (4)
<i>A. Heterogeneous effects by training type</i>				
Short training courses ( $\beta_1$ )	-0.013 (0.021)	0.050* (0.030)	0.004 (0.032)	-0.037 (0.061)
TSLC/diploma programs ( $\beta_2$ )	0.081** (0.034)	-0.059 (0.056)	0.096 (0.061)	0.146* (0.082)
$\beta_1 = \beta_2$ ; <i>p</i> -value	0.045	0.032	0.423	0.370
<i>B. Heterogeneous effects by training field</i>				
Basic computing ( $\beta_1$ )	-0.007 (0.022)	0.039 (0.034)	0.040 (0.038)	-0.111 (0.083)
Other fields ( $\beta_2$ )	0.015 (0.031)	0.038 (0.031)	0.016 (0.035)	0.065 (0.064)
$\beta_1 = \beta_2$ ; <i>p</i> -value	0.497	0.974	0.619	0.067
Observations	4,739	3,041	3,041	1,225

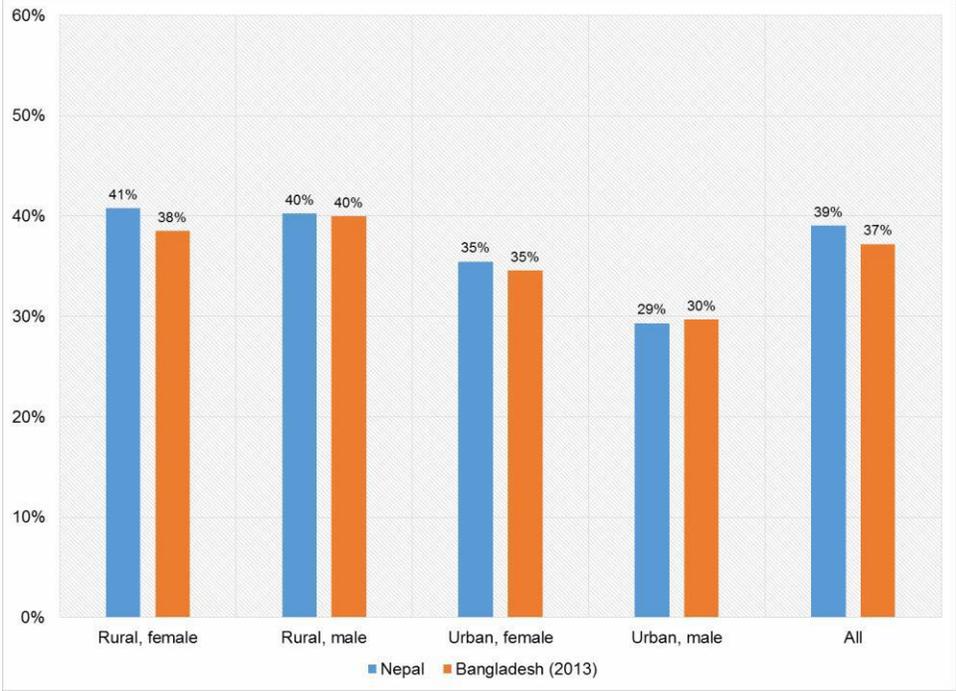
Note: Own estimates based on the 2008 Nepal Labor Force Survey. \*\*\* denotes  $p < 0.01$ , \*\*  $p < 0.05$ , and \*  $p < 0.1$ . Wage work and nonfarm work are conditional on employment, and log wage earnings are conditional on wage work. Employment, wage work, and nonfarm work regressions are estimated as logit based on maximum likelihood, and log wage earnings regressions are estimated based on least squares. All regressions control for the individual's relation to the head of household, age, marital status, current schooling status, education attainment in years, whether obtained the School Leaving Certificate (SLC), and caste; whether the individual's household has a private benefactor; whether the individual's household has an absentee member; a standardized index of household consumptive assets; and region identifiers. The propensity score trimmed sample only includes observations with predicted values between .1 and .9 in a training receipt logit regression. Robust standard errors, clustered at the PSU level, are reported in parentheses. All estimates are adjusted for sampling weights.

Figure 6. Training desire rates



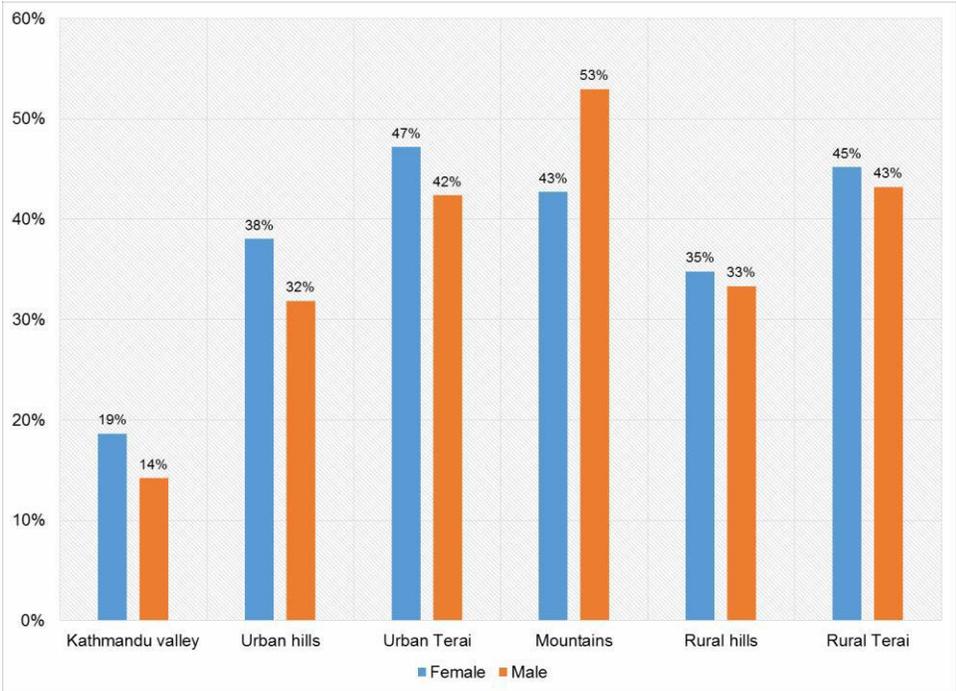
Notes. Own estimates using the 2008 Nepal Labor Force Survey. All estimates are adjusted for sampling weights.

Figure 7. Training desire rates in Nepal versus Bangladesh, individuals ages 16–34 years



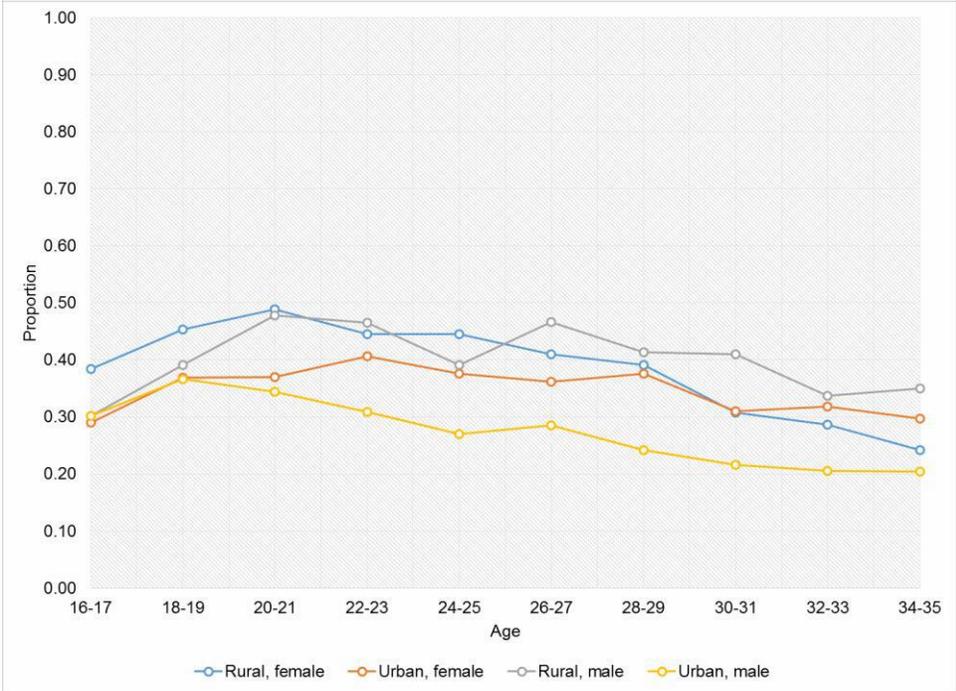
Notes. Own estimates using the 2008 Nepal Labor Force Survey and the 2013 Bangladesh Labor Force Survey. All estimates are adjusted for sampling weights.

Figure 8. Training desire rates by region, individuals ages 16–34 years



Notes. Own estimates using the 2008 Nepal Labor Force Survey. All estimates are adjusted for sampling weights.

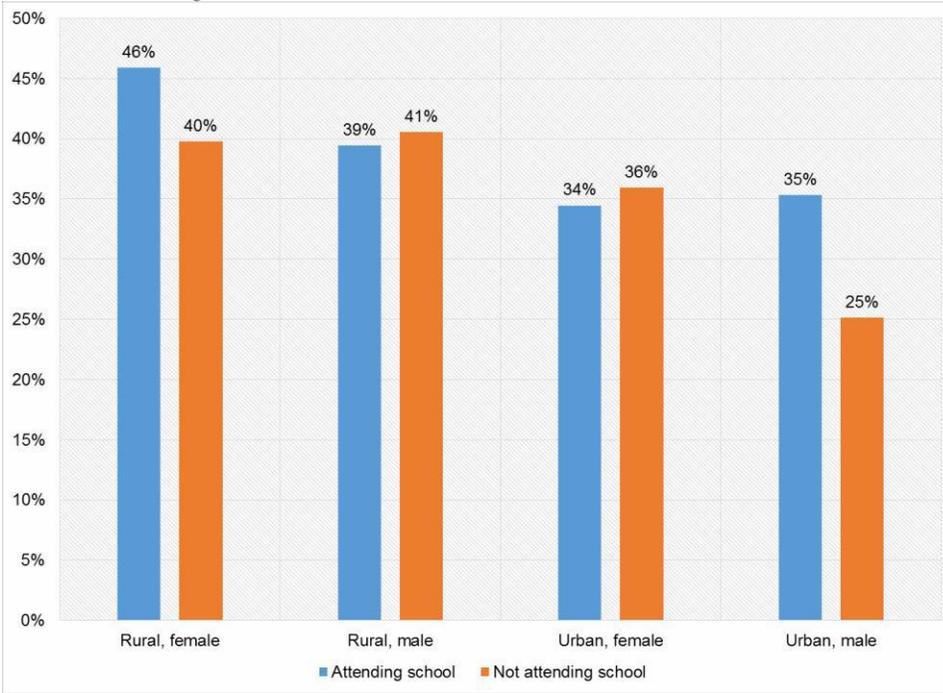
Figure 9. Training desire-age profiles



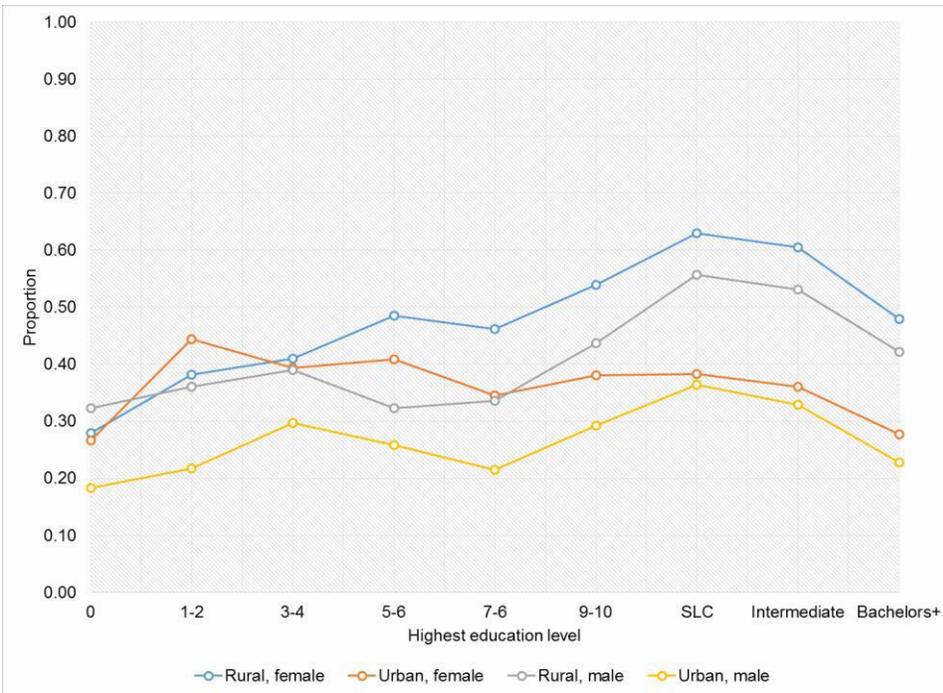
Notes. Own estimates using the 2008 Nepal Labor Force Survey. All estimates are adjusted for sampling weights.

Figure 10. Training desire-education profiles, individuals ages 16–34 years

A. *Schooling status*



B. *Education attainment*



Notes. Own estimates using the 2008 Nepal Labor Force Survey. All estimates are adjusted for sampling weights.

Table 9. Distribution of desired training fields,  
*individuals ages 16–34*

Field	Rural		Urban	
	Female (1)	Male (2)	Female (4)	Male (5)
Teaching	3.0	3.1	3.8	1.7
Handicrafts	2.0	0.0	4.1	0.0
Business and accounting	0.2	0.9	0.8	2.1
Basic computing	12.0	26.7	25.9	47.9
Health services	2.7	1.3	4.2	2.7
Construction	0.0	12.4	0.0	7.4
Dressmaking, tailoring	63.7	5.5	47.0	2.6
Small manufacturing and repair	1.0	12.8	1.5	13.5
Architecture	0.0	1.3	0.0	0.8
Agriculture and livestock management	11.8	19.9	3.0	3.6
Driving and motor vehicle operation	0.0	9.9	0.0	9.2
Hairdressing/beautician services	2.3	0.0	7.6	0.0
Other service fields	1.3	6.2	2.3	8.5
N	2,606	1,673	2,292	1,666

Notes. Own estimates using the 2008 Nepal Labor Force Survey. All estimates adjusted for sampling weights.

Table 10. Differences in mean characteristics, those who desire training versus who do not, *individuals ages 16-34*

Characteristic	Rural				Urban			
	Female		Male		Female		Male	
	Do not desire- mean (1)	Desire-diff. (2)	Do not desire- mean (3)	Desire-diff. (4)	Do not desire- mean (5)	Desire-diff. (6)	Do not desire- mean (7)	Desire-diff. (8)
Rel. to head: Head	0.406	-0.044***	0.301	0.026	0.427	0.009	0.316	-0.033**
Rel. to head: Spouse	0.302	-0.055***	0.009	-0.005	0.307	-0.031*	0.027	-0.018***
Rel. to head: Son/daughter (in law)	0.528	0.052***	0.602	-0.001	0.454	0.012	0.496	0.038
Rel. to head: Grandchild	0.016	-0.008**	0.025	-0.014***	0.022	-0.008	0.018	0.000
Rel. to head: Other relative	0.044	-0.001	0.062	-0.006	0.076	-0.005	0.130	0.003
Age	24.09	-0.946***	23.27	0.403**	24.12	-0.079	24.03	-1.150***
Married	0.757	-0.030**	0.559	0.017	0.629	0.027	0.452	-0.089***
Born in present VDC/municipality	0.431	-0.032**	0.834	-0.006	0.354	-0.018	0.444	0.063**
Attending an academic institution	0.151	0.035***	0.284	-0.008	0.324	-0.014	0.376	0.123***
Education (in years)	3.292	2.079***	6.143	1.000***	7.604	0.319	9.032	0.385**
Passed SLC	0.078	0.106***	0.174	0.132***	0.415	0.012	0.487	0.089***
Household has absentee(s)	0.477	0.039***	0.315	0.021	0.286	0.076***	0.182	0.058***
Household has benefactor	0.033	0.019***	0.029	0.016**	0.049	0.030***	0.064	0.027**
Household asset index	-0.189	0.112***	-0.085	-0.086*	1.521	-0.296***	1.623	-0.380***
Hindu	0.846	0.031*	0.831	0.051***	0.834	0.060***	0.841	0.043**
Brahmin/Chettri	0.277	0.100***	0.246	0.127***	0.385	0.039*	0.379	0.058**
Terai middle castes	0.119	-0.001	0.143	-0.016	0.060	0.031**	0.083	0.024
Dalit	0.131	-0.014	0.121	-0.011	0.064	0.008	0.055	0.021**
Newar	0.046	-0.016**	0.052	-0.022**	0.172	-0.048***	0.178	-0.081***
Janajati	0.356	-0.048**	0.364	-0.053**	0.274	-0.025	0.247	-0.016
Muslim	0.050	-0.014	0.049	-0.014	0.034	-0.008	0.044	-0.009
Other castes	0.021	-0.005	0.025	-0.011	0.012	0.003	0.014	0.002
Got training	0.034	0.079***	0.068	0.058***	0.163	0.093***	0.178	0.123***
Not employed	0.168	-0.009	0.148	-0.038***	0.515	-0.062***	0.345	0.015

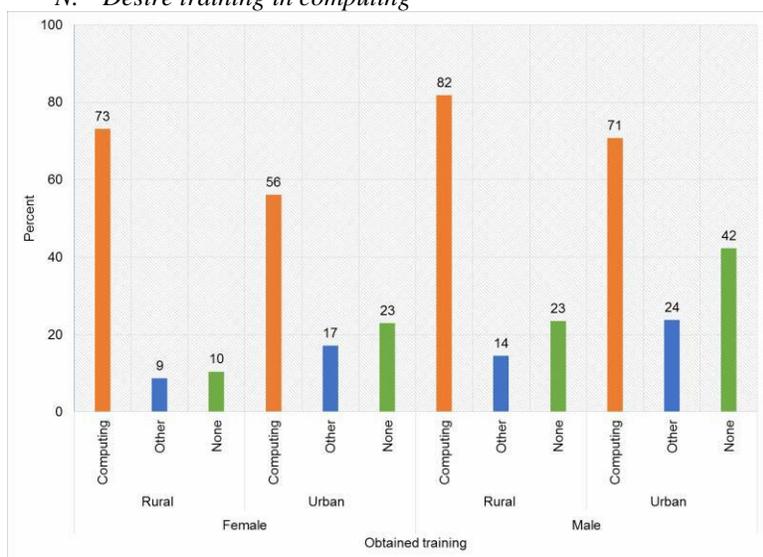
Table 10. Differences in mean characteristics, those who desire training versus who do not, *individuals ages 16-34*

Characteristic	Rural				Urban			
	Female		Male		Female		Male	
	Do not desire-mean (1)	Desire-diff. (2)	Do not desire-mean (3)	Desire-diff. (4)	Do not desire-mean (5)	Desire-diff. (6)	Do not desire-mean (7)	Desire-diff. (8)
Wage employed in agriculture	0.038	-0.019***	0.062	-0.024***	0.010	-0.001	0.011	0.003
Wage employed in industry	0.011	0.002	0.098	-0.016	0.028	-0.004	0.123	-0.018*
Wage employed in services	0.013	0.022***	0.092	-0.001	0.100	-0.016	0.231	-0.046**
Self employed in agriculture	0.686	-0.029	0.479	0.081***	0.172	0.083***	0.066	0.061***
Self employed in industry	0.019	0.022***	0.035	0.003	0.033	0.005	0.045	-0.010
Self employed in services	0.066	0.010	0.089	-0.005	0.143	-0.007	0.180	-0.005
Kathmandu valley	—	—	—	—	0.424	-0.247***	0.489	-0.290***
Terai-urban	—	—	—	—	0.348	0.219***	0.329	0.264***
Hills-urban	—	—	—	—	0.228	0.027	0.182	0.027
Terai-rural	0.471	0.095***	0.501	0.069**	—	—	—	—
Hills-rural	0.456	-0.101***	0.437	-0.111***	—	—	—	—
Mountains	0.073	0.006	0.062	0.042**	—	—	—	—

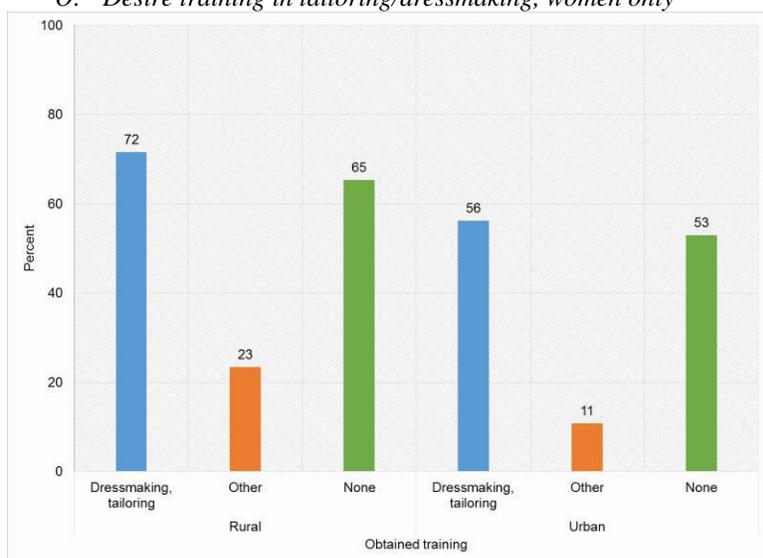
Note: Own estimates based on the 2008 Nepal Labor Force Survey. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Inference is based on robust standard errors clustered at the PSU level. SLC stands for Schooling Leaving Certificate, and VDC stands for Village Development Committee.

Figure 12. Desire for training in selected fields, conditional on obtained training status, individuals ages 16–34

*N. Desire training in computing*



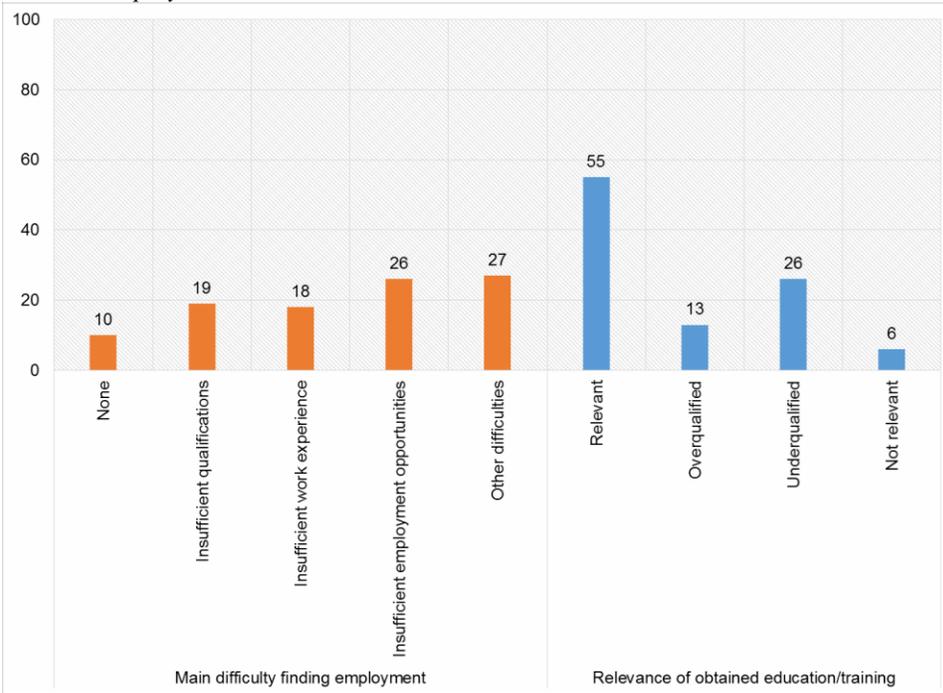
*O. Desire training in tailoring/dressmaking, women only*



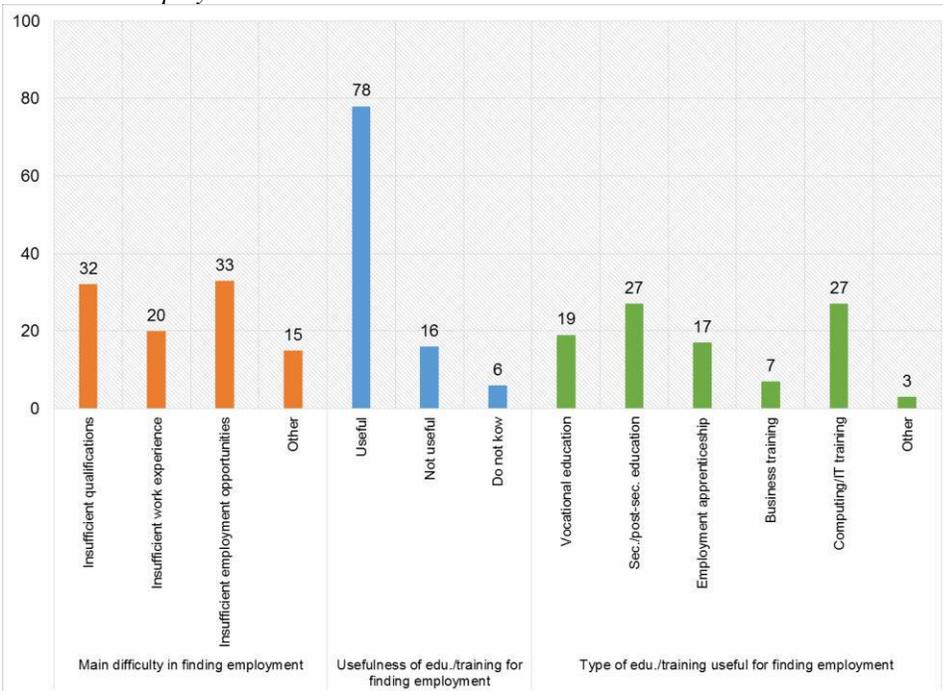
Notes. Own estimates using the 2008 Nepal Labor Force Survey. All estimates adjusted for sampling weights.

Figure 13. Perceptions on education and training, individuals ages 16–29

A. Employed workers



B. Unemployed workers



Note: Own estimates using the 2013 Nepal School to Work Transition Survey. All estimates adjusted for sampling weights. Employed workers are defined as those that are engaged in an economic activity for at least one hour in the last week. Unemployed workers are defined as those that are not employed, available for work in the last week, and actively looked for work in the last month.

## Appendix

Table A1. Differences in mean characteristics, training recipients versus nonrecipients, full versus trimmed sample *individuals ages 16–34*

Characteristic	Female				Male			
	Full sample		Trimmed sample		Full sample		Trimmed sample	
	Nonrecipients- mean	Recipients- diff	Nonrecipients- mean	Recipients- diff	Nonrecipients- mean	Recipients- diff	Nonrecipients- mean	Recipients- diff
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Rel. to head: Head	0.396	-0.019	0.356	-0.005	0.308	0.014	0.294	-0.012
Rel. to head: Spouse	0.286	-0.046***	0.220	-0.019	0.010	0.005	0.016	-0.003
Rel. to head: Son/daughter (in law)	0.533	0.004	0.554	0.008	0.587	-0.056***	0.554	0.008
Rel. to head: Grandchild	0.014	0.002	0.014	0.006	0.019	0.004	0.021	0.003
Rel. to head: Other relative	0.049	0.009	0.061	0.000	0.072	0.032**	0.108	0.002
Age	23.72	0.558***	23.80	0.346	23.37	1.000***	24.13	-0.069
Married	0.736	-0.123***	0.594	-0.043*	0.540	-0.067***	0.458	-0.059**
Born in present VDC/municipality	0.406	0.000	0.390	0.025	0.769	-0.175***	0.591	-0.036
Attending an academic institution	0.182	0.122***	0.352	0.020	0.298	0.118***	0.458	0.058**
Highest class/degree completed (in years)	4.346	4.672***	9.907	0.646***	6.748	3.464***	10.754	0.672***
Passed SLC	0.138	0.395***	0.581	0.140***	0.241	0.454***	0.829	0.084***
Household has absentee(s)	0.463	-0.018	0.453	0.007	0.300	-0.034*	0.283	-0.032
Household has benefactor	0.041	0.032***	0.075	0.002	0.039	0.047***	0.066	0.042***
Household asset index	0.035	1.027***	1.141	0.314***	0.136	0.953***	1.083	0.301***
Hindu	0.854	0.040***	0.899	0.014	0.848	0.039***	0.901	-0.005
Brahmin/Chettri	0.316	0.164***	0.523	0.021	0.303	0.149***	0.483	0.025
Terai middle castes	0.114	-0.051***	0.059	-0.007	0.131	-0.042***	0.091	-0.000
Dalit	0.121	-0.067***	0.035	-0.004	0.111	-0.065***	0.039	-0.018*
Newar	0.052	0.084***	0.128	0.035**	0.061	0.051***	0.121	0.009
Janajati	0.331	-0.083***	0.244	-0.047**	0.329	-0.067***	0.239	-0.021
Muslim	0.045	-0.035***	0.006	0.001	0.043	-0.020***	0.017	0.003
Other castes	0.019	-0.013***	0.004	0.000	0.020	-0.007	0.010	0.001
Kathmandu valley	0.049	0.091***	0.144	0.032*	0.078	0.103***	0.180	0.028*

Table A1. Differences in mean characteristics, training recipients versus nonrecipients, full versus trimmed sample  
*individuals ages 16–34*

Characteristic	Female				Male			
	Full sample		Trimmed sample		Full sample		Trimmed sample	
	Nonrecipients- mean (1)	Recipients- diff (2)	Nonrecipients- mean (3)	Recipients- diff (4)	Nonrecipients- mean (5)	Recipients- diff (6)	Nonrecipients- mean (7)	Recipients- diff (8)
Urban Terai	0.066	0.080***	0.137	0.033**	0.084	0.061***	0.138	0.025*
Urban hills	0.035	0.063***	0.094	0.031**	0.036	0.056***	0.083	0.031***
Rural Terai	0.431	-0.095***	0.342	-0.020	0.420	-0.093***	0.316	-0.006
Rural hills	0.353	-0.108***	0.250	-0.065***	0.318	-0.101***	0.236	-0.063***
Mountains	0.065	-0.031***	0.033	-0.011*	0.064	-0.025**	0.048	-0.016

Note: Own estimates based on the 2008 Nepal Labor Force Survey. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Inference based on robust standard errors clustered at the PSU level. The trimmed sample only includes observations with predicted values between .1 and .9 from a training receipt logit regression. The training receipt regressions were estimated separately by gender.

Table A2. Effects of training, overall, by level of schooling, and by location, full sample female, ages 16–34

	Employment (1)	Wage work (2)	Nonfarm work (3)	Log wage earnings (4)
Training	0.044*** (0.014)	0.027** (0.011)	0.105*** (0.016)	−0.033 (0.066)
<i>A. Heterogeneous effects by schooling status</i>				
Training ( $\beta_1$ )	0.061*** (0.017)	0.016 (0.013)	0.106*** (0.017)	−0.105 (0.077)
Training×attending school ( $\beta_2$ )	−0.047* (0.024)	0.046** (0.023)	−0.009 (0.033)	0.231 (0.142)
$\beta_1+\beta_2>0$ ; $p$ -value	0.491	0.003	0.001	0.308
<i>B. Heterogeneous effects by education attainment</i>				
Training ( $\beta_1$ )	0.024 (0.020)	0.023 (0.016)	0.120*** (0.018)	−0.057 (0.109)
Training×passed SLC only ( $\beta_2$ )	0.025 (0.030)	0.017 (0.027)	0.003 (0.033)	0.102 (0.180)
Training×Intermediate or higher ( $\beta_3$ )	0.046 (0.030)	−0.024 (0.025)	−0.104*** (0.040)	0.009 (0.145)
$\beta_1+\beta_2>0$ ; $p$ -value	0.038	0.058	0.000	0.769
$\beta_1+\beta_3>0$ ; $p$ -value	0.002	0.990	0.685	0.595
<i>C. Heterogeneous effects by location</i>				
Training ( $\beta_1$ )	0.056*** (0.013)	0.025* (0.015)	0.081*** (0.018)	−0.062 (0.063)
Training×rural ( $\beta_2$ )	−0.027 (0.024)	0.002 (0.020)	0.031 (0.025)	0.042 (0.119)
$\beta_1+\beta_2>0$ ; $p$ -value	0.179	0.058	0.000	0.851
Observations	13,184	8,907	8,907	1,098

Note: Own estimates based on the 2008 Nepal Labor Force Survey. \*\*\* denotes  $p<0.01$ , \*\*  $p<0.05$ , and \*  $p<0.1$ . Wage work and nonfarm work are conditional on employment, and log wage earnings are conditional on wage work. Employment, wage work, and nonfarm work regressions are estimated as logit based on maximum likelihood, and log wage earnings regressions are estimated based on least squares. All regressions control for the individual's relation to the head of household, age, marital status, current schooling status, education attainment in years, whether obtained the School Leaving Certificate (SLC), and caste; whether the individual's household has a private benefactor; whether the individual's household has an absentee member; a standardized index of household consumptive assets; and region identifiers. Robust standard errors, clustered at the PSU level, are reported in parentheses. All estimates are adjusted for sampling weights.

Table A3. Effects of training, by training length and field, full sample female, ages 16–34

	Employment	Wage work	Nonfarm work	Log wage earnings
	(1)	(2)	(3)	(4)
<i>A. Heterogeneous effects by training program length</i>				
Short training courses ( $\beta_1$ )	0.041*** (0.015)	0.026** (0.012)	0.098*** (0.016)	-0.022 (0.071)
TSLC/diploma programs ( $\beta_2$ )	0.035 (0.046)	0.007 (0.026)	0.097* (0.053)	-0.090 (0.106)
$\beta_1 = \beta_2$ ; <i>p</i> -value	0.903	0.719	0.902	0.888
<i>B. Heterogeneous effects by training field</i>				
Basic computing ( $\beta_1$ )	0.010 (0.022)	0.045** (0.018)	0.062* (0.032)	0.136 (0.104)
Dressmaking/tailoring ( $\beta_2$ )	0.040* (0.021)	-0.016 (0.018)	0.104*** (0.021)	-0.155 (0.130)
Other fields ( $\beta_3$ )	0.086*** (0.022)	0.054*** (0.017)	0.123*** (0.024)	-0.070 (0.083)
$\beta_1 = \beta_2$ ; <i>p</i> -value	0.271	0.013	0.247	0.065
$\beta_1 = \beta_3$ ; <i>p</i> -value	0.008	0.672	0.097	0.059
$B_2 = \beta_3$ ; <i>p</i> -value	0.117	0.003	0.550	0.589
Observations	13,184	8,907	8,907	1,098

Note: Own estimates based on the 2008 Nepal Labor Force Survey. \*\*\* denotes  $p < 0.01$ , \*\*  $p < 0.05$ , and \*  $p < 0.1$ . Wage work and nonfarm work are conditional on employment, and log wage earnings are conditional on wage work. Employment, wage work, and nonfarm work regressions are estimated as logit based on maximum likelihood, and log wage earnings regressions are estimated based on least squares. All regressions control for the individual's relation to the head of household, age, marital status, current schooling status, education attainment in years, whether obtained the School Leaving Certificate (SLC), and caste; whether the individual's household has a private benefactor; whether the individual's household has an absentee member; a standardized index of household consumptive assets; and region identifiers. Robust standard errors, clustered at the PSU level, are reported in parentheses. All estimates are adjusted for sampling weights.

Table A4. Effects of training, overall, by level of schooling, and by location, full sample male, ages 16–34

	Employment (1)	Wage work (2)	Nonfarm work (3)	Log wage earnings (4)
Training	−0.009 (0.012)	0.082*** (0.022)	0.070*** (0.024)	0.046 (0.047)
<i>A. Heterogeneous effects by schooling status</i>				
Training ( $\beta_1$ )	−0.009 (0.019)	0.042* (0.023)	0.054* (0.028)	0.035 (0.054)
Training×attending school ( $\beta_2$ )	0.000 (0.024)	0.175*** (0.044)	0.062 (0.049)	0.054 (0.108)
$\beta_1+\beta_2>0$ ; $p$ -value	0.587	0.000	0.005	0.350
<i>B. Heterogeneous effects by education attainment</i>				
Training ( $\beta_1$ )	−0.044* (0.023)	0.098*** (0.030)	0.101*** (0.035)	0.082 (0.065)
Training×passed SLC only ( $\beta_2$ )	0.016 (0.030)	−0.090* (0.050)	−0.058 (0.053)	−0.135 (0.140)
Training×Intermediate or higher ( $\beta_3$ )	0.083*** (0.029)	−0.063 (0.048)	−0.094 (0.064)	−0.078 (0.091)
$\beta_1+\beta_2>0$ ; $p$ -value	0.147	0.032	0.000	0.520
$\beta_1+\beta_3>0$ ; $p$ -value	0.037	0.381	0.897	0.959
<i>C. Heterogeneous effects by location</i>				
Training ( $\beta_1$ )	0.002 (0.010)	0.087*** (0.026)	0.054* (0.029)	−0.013 (0.059)
Training×rural ( $\beta_2$ )	−0.023 (0.022)	−0.003 (0.038)	0.019 (0.039)	0.073 (0.087)
$\beta_1+\beta_2>0$ ; $p$ -value	0.309	0.004	0.008	0.382
Observations	10,100	7,568	7,568	2,652

Note: Own estimates based on the 2008 Nepal Labor Force Survey. \*\*\* denotes  $p<0.01$ , \*\*  $p<0.05$ , and \*  $p<0.1$ . Wage work and nonfarm work are conditional on employment, and log wage earnings are conditional on wage work. Employment, wage work, and nonfarm work regressions are estimated as logit based on maximum likelihood, and log wage earnings regressions are estimated based on least squares. All regressions control for the individual's relation to the head of household, age, marital status, current schooling status, education attainment in years, whether obtained the School Leaving Certificate (SLC), and caste; whether the individual's household has a private benefactor; whether the individual's household has an absentee member; a standardized index of household consumptive assets; and region identifiers. Robust standard errors, clustered at the PSU level, are reported in parentheses. All estimates are adjusted for sampling weights.

Table A5. Effects of training, by training length and field, full sample  
male, ages 16–34

	Employment	Wage work	Nonfarm work	Log wage earnings
	(1)	(2)	(3)	(4)
<i>A. Heterogeneous effects by training program type</i>				
Short training courses ( $\beta_1$ )	-0.016 (0.013)	0.090*** (0.023)	0.052** (0.026)	0.028 (0.048)
TSLC/diploma programs ( $\beta_2$ )	0.051* (0.027)	-0.047 (0.052)	0.115* (0.065)	0.149 (0.116)
$\beta_1 = \beta_2$ ; <i>p</i> -value	0.041	0.150	0.256	0.141
<i>B. Heterogeneous effects by training field</i>				
Basic computing ( $\beta_1$ )	-0.014 (0.015)	0.099*** (0.033)	0.051 (0.038)	0.011 (0.088)
Other fields ( $\beta_2$ )	-0.001 (0.018)	0.074*** (0.024)	0.077*** (0.029)	0.060 (0.051)
$\beta_1 = \beta_2$ ; <i>p</i> -value	0.560	0.486	0.565	0.616
Observations	10,100	7,568	7,568	2,652

Note: Own estimates based on the 2008 Nepal Labor Force Survey. \*\*\* denotes  $p < 0.01$ , \*\*  $p < 0.05$ , and \*  $p < 0.1$ . Wage work and nonfarm work are conditional on employment, and log wage earnings are conditional on wage work. Employment, wage work, and nonfarm work regressions are estimated as logit based on maximum likelihood, and log wage earnings regressions are estimated based on least squares. All regressions control for the individual's relation to the head of household, age, marital status, current schooling status, education attainment in years, whether obtained the School Leaving Certificate (SLC), and caste; whether the individual's household has a private benefactor; whether the individual's household has an absentee member; a standardized index of household consumptive assets; and region identifiers. Robust standard errors, clustered at the PSU level, are reported in parentheses. All estimates are adjusted for sampling weights.