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Applying the Growth Identification and Facilitation Framework to Nepal

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ABSTRACT

This paper analyzes opportunities for growth in Nepal by applying the policy tool of New Structural Economics – Growth Identification and Facilitation Framework (GIFF). Drawing on firm level surveys, stakeholder interviews, and existing datasets it aims to contribute to policy discussions in Nepal and to demonstrate the use of the GIFF for other least developed countries. The report argues that Nepal should seek to capture industrial transfer from China to establish a foothold in global value chains, create employment and catalyze structural transformation. The report identifies product-level advantages arising from preferential market access and sector-specific binding constraints, and proposes how to use Special Economic Zones to mitigate identified constraints to set Nepal on a path of structural transformation.

JEL Codes: L16, L50, H54, O25, O53

1 The authors appreciate the preferential trade agreement research and analysis of Derek Stephenson. The authors also appreciate support from the international team at the CNSE including Yang Liu, Qianlin Ye, Peiyuan Li, Tozo Kokou Wotodjo, and Elias Tsokalia Junior.

EXECUTIVE SUMMARY

This report draws insights from New Structural Economics (NSE) by applying its practical policy tool, the Growth Identification and Facilitation Framework (GIFF), to Nepal. The GIFF is designed to help policy-makers in growth-oriented, developing countries to create feasible and sharply focused policies, enabling leaders to identify and unlock the latent comparative advantage of their country to achieve structural transformation.

The Government of Nepal has decided to invest in structural transformation as part of the 3-year plan running from July 2016-2019. One step on this path is increasing focus on joining global value chains and promoting exports. [2] These efforts come at a time of increasing opportunity as the current international wave of industrial transfer is beginning to take off and labour-intensive firms are seeking new, low-cost production locations. Rising wages in China alone mean that many of the country's 85 million manufacturing jobs[3] will be relocated to low income countries.

The contents of this report are based on primary research conducted with manufacturing firms in Nepal in 2016.[4] The results of this research programme are combined with publically available data, a firm-level survey, and confidential government interviews to suggest policies that will support Nepal's ambition to graduate from least developed country (LDC) status by 2022. By applying the GIFF methodology, the present work aims to help Nepal to take advantage of the current wave of industrial transfer in three ways: first, by identifying latent comparative advantages; second, by diagnosing binding constraints, and finally, by suggesting policies for Nepal's SEZ programme which can facilitate growth by mitigating these binding constraints.

The report is organized around four analytical questions:

- Where Should Nepal Look for Industrial Transfer?
- What Should Nepal Produce?
- What is Holding Nepal Back?
- How can Nepal Use Special Economic Zones (SEZs) to Overcome Challenges?

Where Should Nepal Look for Industrial Transfer?

Based on the GIFF methodology, Nepal should seek to attract light manufacturing from China. According to New Structural Economics, developing countries should look for inspiration and industrial transfer from specific high growth countries that satisfy two basic conditions. Firstly, the benchmark countries should not be so developed that the technical requirements for their outgoing manufacturing industries are inaccessibly

2 "Integration of Nepalese trading system to the global economy is a crucial process in achieving enhanced competitiveness and linking trade with poverty reduction and inclusive economic growth as envisaged in the 2030 Agenda." Ministry of Commerce 2016. Nepal Trade Integration Strategy (NITS). Government of Nepal. Kathmandu, Nepal. www.mocs.gov.np/uploads/NTIS 2010 exe sum 160610.pdf

3 Lin and Wang 2014. China-Africa co-operation in structural transformation: Ideas, opportunities, and finances. https://www.wider.unu.edu/sites/default/files/wp2014-046.pdf

4 CNSE industrial survey and case studies conducted 2016. The survey sample size was 35 firms and 4 firms participated in historical case studies. A further freight forwarding representative was interviews. Details of the survey collection methodology can be found in Appendix A. The authors would like to thank Shaleen Khanal for his excellent survey work.

inaccessibly advanced relative to the skills and resources available in the developing country. Sustained periods of rapid growth in benchmark countries means that they are likely to be undergoing their own structural transformation. Such transformation can be seen in rising wages and costs that ultimately push low-end manufacturers to find new production locations. Secondly, these high growth countries should have similar factor endowments to the developing country. Similarities in factor endowments mean that products which were successfully produced in the benchmark countries may be produced in the catching-up country and that these outgoing industries are likely to thrive if relocated.

The benchmark countries for Nepal are India, Viet Nam, and China. However, wages in Nepal are high relative to Viet Nam and India due to unusual conditions in Nepal's labour market which is challenged by outgoing migration and labour unrest. In fact, immigration into Nepal from India is common as Indian workers seek higher wages earned in a currency that has been pegged at 1.6:1 to the Indian rupee since 1993. Therefore, it is difficult for Nepal to be able to attract industrial transfer from either India or Viet Nam.

In China, rapidly increasing wages have opened up a historical opportunity based on the sheer scale of the transfer taking place. In the last 25 years, China has become the world's factory and in 2015 produced 14% of the world's merchandise exports.[5] However, structural changes in China have been putting upward pressure on wages, and it is predicted that as many as 85 million manufacturing jobs[6] may need to transfer to new production locations. For context, one of the largest previous rounds of industrial transfers was from Japan in the 1960's and accounted for around 9.7m jobs[7]. Attracting a small percentage of this outward bound production represents a huge opportunity to stimulate growth in Nepal and refresh its laggard manufacturing sector. Foreign Direct Investment (FDI) backed firms bring product knowledge, international buyer networks, management expertise, capital, and equipment from their home markets. These transfers may produce skills spill overs and may encourage the development of local SMEs in the medium term to produce intermediate support goods for the manufactures exported to global markets.

What Should Nepal Produce?

Following the example set by these benchmark countries, Nepal should focus on increasing competitiveness in light manufactured goods. Products in the top 10 exports of benchmark countries in the last 20 years are called 'stars'. Tracking stars from the beginning of the 20-year period in 1995 to today indicates that many products may be losing comparative advantage in the benchmark countries. Products that were 'stars' but have lost export share are called 'decliners'. A total of 50 decliners were identified across all benchmark countries. Of these, 46% are in light manufacturing including garments, trunks, and footwear.[8]

The fact that the preponderance of decliners is in light manufacturing sectors is intuitive from the standpoint of New Structural Economics. Light manufactured goods are often labour intensive and therefore facing the greatest pressure from rising labour costs in their home countries. Furthermore, labour-intensive industries often require low or easily acquired skills, even for relatively advanced products. For instance, when Singapore opened the pioneering Texas Instruments plant at the Kallang Basin Industrial Estate in 1969 they were able to bring 1,400 workers onto production lines with only three weeks of training.[9]

5 World Trade Organization 2017. World Trade Organization: Statistics Database. Merchandise Trade, as accessed Feb. 2017. https://www.wto.org/english/res_e/statis_e/trade_datasets_e.htm

6 Lin and Wang 2014. China-Africa co-operation in structural transformation: Ideas, opportunities, and finances. https://www.wider.unu.edu/sites/default/files/wp2014-046.pdf

7 Ibid.

8 The other sectors include natural resource based, agriculture based, heavy manufactures, and technology related.

9 History SG 2016. Texas Instruments Plant Officially Opens. Singapore Government: National Library Board. http://eresources.nlb.gov.sg/history/events/1f22a763-35e6-4587-8f50-d77b65e59b3c

It is worth noting that the above proposal on priority sectors is indicative and should not be rigidly interpreted as a top-down sector selection dictated by the Government. The Government should seek to create a dialog between the private sector and government decision makers. The Government should also provide information on what has enabled the success of export-oriented newly industrialized countries. Private sector firms should contribute their sector-specific knowledge and experience to discern which sectors are economically viable for Nepal.

What is Holding Nepal Back?

In order to be an attractive location for industrial transfer, an LDC must meet two criteria. The first criterion is that the total costs of production must be at least equal to, or less than ,the total production cost in the country of origin plus some margin for additional risk, new capital investments, and friction costs incurred in the transfer. The second criterion is that the hard and soft infrastructure of the proposed location must meet or exceed minimum standards for production. These minimum standards vary on a sector-wise basis, but in any tradable sector some amount of electricity and transportation infrastructure is required. Meeting these minimum requirements can be challenging for LDC's which face substantial constraints to participation in modern industries. However, binding constraints – introduced by high costs, hard and soft infrastructure deficiencies, or poor business environments – can be mitigated through the use of targeted policies and Special Economic Zones.

Nepal faces significant challenges affecting its manufacturing performance. Manufacturing had actually contracted as a per cent of GDP from 9.57% in 1998 to 6.45% in 2012. By 2015 manufacturing had not significantly rebounded, reaching only 6.51%.[10] The most significant binding constraints in Nepal are unstable electricity, high cost but low dependability transportation, and potentially uncompetitive labour costs. Electricity is most often reported as being a significant strain on business, with load shedding and outages being frequent. As a landlocked and mountainous country, overland transportation to international markets into and out of Nepal is expensive and delays are frequent. The labour market in Nepal is challenged by significant levels of outbound migration and a history of strained labour relations. However, NSE holds that by applying limited resources in a focused way, such as through the use of SEZs, these biding constraints can be mitigated.

How can Nepal Use SEZs to Overcome Challenges?

SEZs enable the Government to put the critical policies in place to achieve quick wins while observing the impact of policies on a limited scale. Such limited trials provide information about what actually works in Nepal as it exists today. Both successes and failures offer lessons that can be adapted and applied on a progressive scale. This iterative process of trial and adaptation is one of the several keys to success in the high growth countries such as China and Singapore, which have lifted millions of people out of poverty.

Nepal has seen some success in approaching these challenges with the limited use of industrial estates. Although 80% of respondent firms claimed that electricity instability was a core challenge to their business, some firms operating within Industrial Estates reported that electricity guarantees had been consistently met.[11] This is a highly positive result that points to the great potential for Nepal if the recently passed SEZ bill can be implemented. However, of the firms in our sample, only plastics companies were located in the current industrial estates. There has been some indication that a specific Garment Processing Zone

10 The World Bank 2016. WDI DataBank: World Development Indicators, [NV.IND.MANF.ZS], as accessed May 2016.

11 CNSE 2016. Nepal Firm Survey. Peking University, Beijing, CNSE: 2016. 80% of respondents claimed electricity was a core challenge and 89% had either a private electric generator, an inverter, or both.

Zone may be established in the future and this would be significant if dedicated electricity and other infrastructure could be guaranteed at or above the level of the currently existing industrial estates.

While Nepal has historically experimented with SEZs, political implementation and policy innovations must be brought together to realize a credible industrial vision for Nepal. In the National Trade Integration Strategy (NTIS 2016), [12] the Government acknowledges that it has improvements to make in overcoming challenges to political coordination which persist during Nepal's protracted political transition.[13]

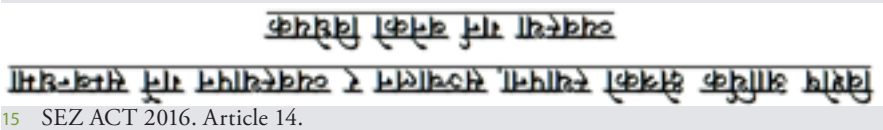
The Nepalese Government passed the SEZ Bill in September of 2016.[14] Many of the policies in this act are positive. For instance, the SEZ authority is established in the act and is given power to manage, develop, and monitor the SEZs.[15] Furthermore, the Government encourages cluster development by allowing firms which supply directly to export firms to receive the same benefits as exporters. However, the act contains no firm commitments for infrastructure provision and its success will depend on implementation.

Implementation can be facilitated by bringing experienced zone developers on board and providing stable, attractive incentives that will help to overcome investor reluctance. Attracting a few pioneer firms to prove Nepal as a credible production location will have the greatest effect in jump-starting industrialization and employment growth. The structure and power of the SEZ regulators and managers bear substantially on the likelihood of success. In this regard there is some concern about Nepal's ability to carry this promising programme into implementation due to the potential coordination issues.

12 Ministry of Commerce 2016. Nepal Trade Integration Strategy (NITS). Government of Nepal. Kathmandu, Nepal. www.mocs.gov.np/uploads/NTIS 2010 exe sum 160610.pdf

13 Ministry of Commerce 2016. Nepal Trade Integration Strategy (NITS). Government of Nepal. Kathmandu, Nepal. www.mocs.gov.np/uploads/NTIS 2010 exe sum 160610.pdf

14 As of publication the SEZ Act has no official translation. A private translation has been used and as such, may not accord with a later official translation if one is produced. The Nepalese title of the SEZ Act is:



15 SEZ ACT 2016. Article 14.

SUMMARY OF POLICY RECOMMENDATIONS

This report contains two kinds of policy recommendations. The first set of recommendations are aimed at using SEZs to mitigate binding constraints. The second are policy recommendations relating to the implementation of the SEZ programme and incentives for pioneer firms.

Policies for Mitigating Binding Constraints:

Nepal has already seen some success with 12 hours of electricity guaranteed in industrial estates. The following recommendations could be considered in SEZs to enhance firm productivity in the SEZ:

- Extend electricity provision from 12 hours to 18 or 24. Many factories operate in shifts which increases the productivity of fixed assets and may produce more jobs.
- Take advantage of public-private partnership arrangements provided in the SEZ Act (Article 6) to recruit zone developers with private electricity generation and transmission capabilities.
- Consider using partnerships with China and India to develop border SEZs with shared commitment and investment to electricity stability.

Coordination within Nepalese SEZs may be able to help mitigate transportation pressures in the following ways:

- Goods bound for international markets may be able to be pooled among firms in the SEZs to take advantage of lower cost container rates vs. shipping in open trucks. This is a service typically provided by shippers at international ports, but given the high cost of land transportation, this could be more efficiently handled within the SEZ in Nepal.
- SEZ management may be able to negotiate guarantees from freight forwarding companies on behalf of firms. Price or time guarantees may be secured in exchange for minimum volumes, which can be met by pooling goods, and concessions may be provided to the forwarders, such as exclusive contracts to shipped pooled goods for a fixed duration.
- Locating upstream material production near downstream assembly of final goods may allow firms to take advantage of the temporary benefit of discounted export transportation costs vs. import costs arising from the current trade balance.

SEZs may be able to mitigate challenging labour conditions by:

- Investigating the cause of agricultural workers' lack of participation in formal sector employment and provide appropriate incentives. This may be one reason why the SEZ Act (Article 27) provides additional benefits for firms locating in mountainous regions. Relatively more emphasis should be placed on understanding the incentives for people to move from agriculture and into highly productive areas rather than trying to entice firms toward formerly agricultural land.
- Reducing the effective wage level within the SEZ by regulating existing piece work payment schemes. This allows the wage to be more closely linked to worker productivity, stabilizing the unit labour cost. It also may reduce employee turnover as increasing skill enables the worker to achieve higher take-home wages. As part of this regulation, consider allowing piece work contracts to benefit from relaxed non-wage benefit and mandatory contribution requirements. This may bring more workers and firms into the formal sector.

- Working with developers to provide non-wage benefits to workers such as accommodation, meals, education, and health services that can benefit from economies of scale within the SEZ. This may improve the attractiveness of the SEZ as a work location and increase labour buy-in to the newly regulated piece-work contracts.
- Allowing the use of skilled foreign labour in SEZs and allow economic migration to support a competitive labour market at least until outbound migration trends slow or reverse.

Policies for the Implementation of the SEZ Programme:

As the SEZ programme in Nepal moves from act to implementation, the Government may consider the following recommendations:

- Ensure that the representative steering committee does not suffer from coordination issues despite the large number of agencies engaged.[16] To guard against such issues, the steering committee should be responsible for the determination of guiding principles while simultaneously ensuring the SEZ Authority is strong and agile with responsibility for practical implementation. In particular, the Authority should be invested with power to incentivize pioneer firms. In addition to being legally vested with powers over the SEZ programme, it is essential that the Authority be given sufficient financing and enough financial independence to meet its commitments.

- Consider involving the head of Government directly in the SEZ Authority. The active involvement of the head of Government may help to shorten the lead time on decision making and problem solving.

- Undertake a thorough study of SEZ incentives and services in other countries seeking to attract FDI from China, with the current incentives defined in the Act taken as minimum guarantees. This will enable the SEZ programme to effectively respond to changes in the market and develop a competitive offering while avoiding falling into the race-to-the-bottom pitfall.

- Ensure the one stop shop is effective and business registration procedures can be completed with the maximum of ease in the shortest period of time. For most foreign companies the one stop shop will be the primary point of contact with the Government of their host country. Potential investors compare investment destinations on service and ease of doing business in addition to financial incentives.

- Consider the involvement of SEZ experts or experienced zone managers, at least in the early stages, to provide fast learning and avoid some common management mistakes that can jeopardize the effectiveness of SEZ programs and lead to a poor reputation with potential investors.

16 The design of the committee under the current act is chaired by the Secretary of Ministry of Industry and consisting of Joint Secretaries from Ministry of Commerce, Ministry of Industry, Ministry of Labour, Ministry of Law; Director Generals from Department of Industries, Department of Customs, Inland Revenue Department, Department of Immigration, Deputy Governor from Nepal Rastra Bank, Registrar from Company Registrar's Office; representatives from Federation of Nepal Chamber of Commerce and Industries (FNCCI), Chamber of Nepalese Industries (CNI), Federation of Small and Cottage Industries (FoSCI), Federation of Women Entrepreneurs; and three eminent experts from industries, commerce and tourism sectors (Article 19).

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Acronyms

ATC	Agreement on Textiles and Clothing
CMEs	Census of Manufacturing Establishments
CNI	Chamber of Nepalese Industries
EBA	Everything but Arms
FNCCI	Federation of Nepal Chamber of Commerce and Industries
FoSCI	Federation of Small and Cottage Industries
FDI	Foreign Direct Investment
GAN	Garment Association of Nepal
GSP	Generalized System of Preferences
GDP	Gross Domestic Product
GIFF	Growth Identification and Facilitation Framework
HTS	Harmonized Tariff Schedule
IDM	Industrial Districts Management
LDC	Least Developed Country
NTIS	National Trade Integration Strategy
NEA	Nepal Electricity Authority
NEFFA	Nepal Freight Forwarders Association
NSE	New Structural Economics
NTMs	non-tariff measure
RCA	Revealed Comparative Advantage
SMEs	Small and Medium-sized Enterprises
SAWTEE	South Asia Watch on Trade, Economics and Environment
SEZs	Special Economic Zones
TEPC	Trade and Export Promotion Centre
TFTEA	Trade Facilitation and Trade Enforcement Act
UNDSS	United Nations Department of Safety and Security
USTR	United States Office of Trade Representative

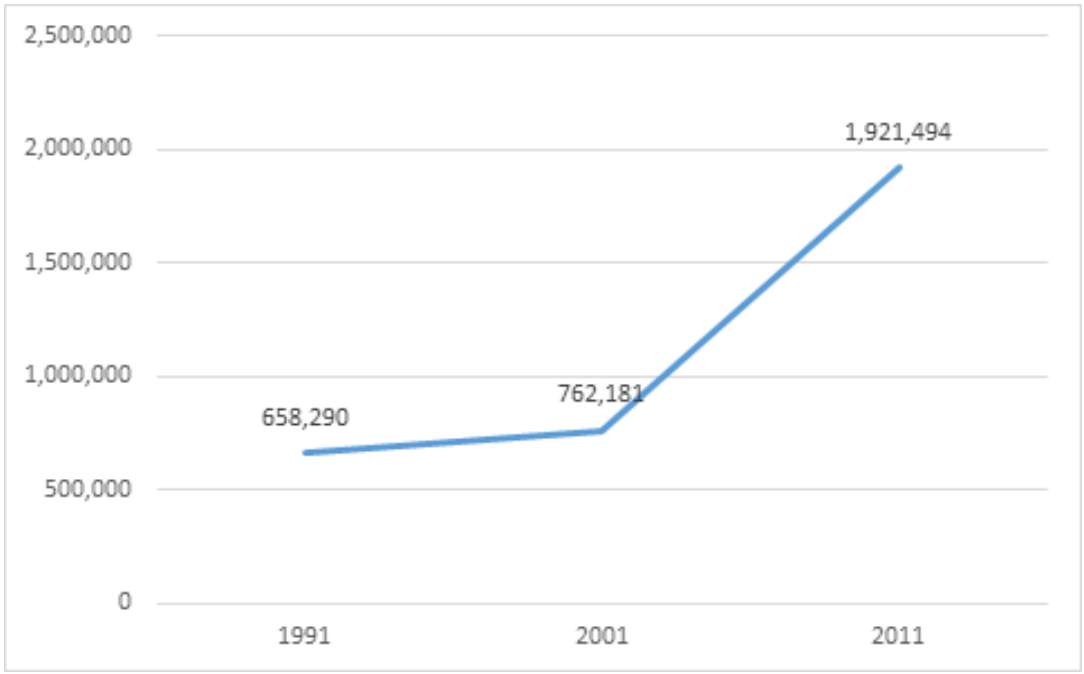
Applying the Growth Identification and Facilitation Framework to Nepal

I Introduction

The purpose of this report is to suggest policies to support the Government of Nepal in their attempt to revitalize the country's manufacturing industry and create economic growth. The Government recognizes the value of manufacturing recovery and expansion to creating structural change and reducing outbound migration (see Figure 1).[17]

The country's manufacturing performance over the last 20 years has stagnated. Decomposition of GDP shows that industry and manufacturing shares lag behind service and agriculture and have been declining. The contribution of Nepalese industry to its GDP has decreased from 17.20% in 2006 to 15.63% in 2014, which is a sharp contrast to its more rapidly growing regional peers which saw an average industrial share from 27.83% in 2006 to 28.85% in 2014 (see Figure 2).[18]

Figure 1
Absentee Population in Nepal



Sources: Sanjay Sharma, Shibani Pandey Dinesh Pathak & Bimbika Sijapati-Basnett 2014. State of Migration in Nepal. Center for the Study of Labor and Mobility.

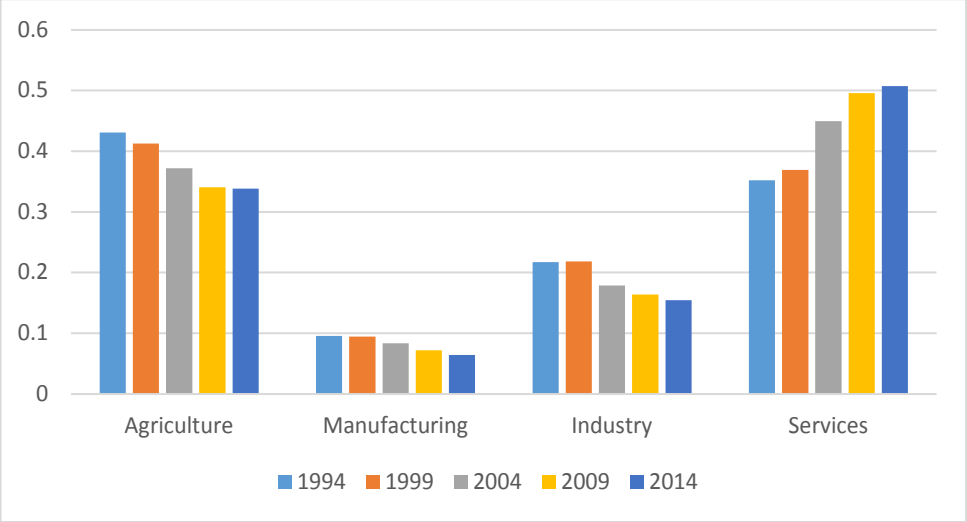
17 Ministry of Commerce 2016. Nepal Trade Integration Strategy (NTIS). Government of Nepal. Kathmandu, Nepal. http://www.moc.gov.np/uploads/Strategy/NTIS%202016.pdf

18 The World Bank 2016. WDI DataBank: World Development Indicators, [NV.IND.TOTL.ZS], as accessed May 2016. The South Asia region consists of Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka.

The situation is challenging as both the number of firms and employees per firm have declined. As is demonstrated in the table 1, there were some signs of the beginning of a recovery during the last industrial census in 2011/12, but declines may have become entrenched as wages rise rapidly even as firm efficiency[19] continues to fall. Swift action is needed to foster new sources of growth and reverse these unsustainable manufacturing trends.

Figure 2

Share of Value Added by Sector (% GDP)



Sources : The World Bank 2016. WDI DataBank: World Development Indicators, [NV.SRV.TETC.ZS, NV.IND.TOTL.ZS, NV.IND.MANF.ZS, NV.AGR.TOTL.ZS], as accessed May 2016.

Table 1

Change in Key Manufacturing Statistics Index: 1991 =100%

Indicators	1996	2001	2006	2011
Number of Firms	-17%	-25%	-19%	-5%
Number of Employees per Firm	-12%	-15%	-20%	-9%
Real Wages (incl. benefits)	-11%	14%	14%	46%
Inputs per Unit of Output	3%	12%	18%	22%

Sources : 'Development of Manufacturing Industries in Nepal', National Planning Commission Secretariat, Central Bureau of Statistics 2014

19 As measured by inputs per unit of output.

By way of regional comparison, Nepal continues to lag behind other South Asian economies and has not improved significantly despite the peace treaty in 2006. The average annual per capita GDP growth rate of Nepal was 2.29% from 1996 to 2005, compared with an average of 4.06% during the period for other South Asian economies. There was little comparative improvement from 2006-2014, where Nepal averaged only 3.29% annual growth against 5.48% for the region. [20]

A Brief Introduction to GIFF Methodology

New Structural Economics emphasizes the role of both an effective market and a facilitating government in successfully seizing the opportunity created by industrial transfer. The first firms that enter a new production market are pioneers. They undertake additional risks and create information benefits for other firms. If they fail, other firms will know that the market was not yet mature or the product was ill-suited to the country's conditions. The failed firm will bear these costs alone. However, if they can demonstrate quick wins, other firms will enter and create a competitive market that will drive down the margins and profitability of the pioneer firm. The emergence of a competitive market may be challenging for the pioneer firm, but it is good for the economy because it creates opportunities for small and medium-sized enterprises (SMEs) to take over parts of the intermediate value chain, initiates spill overs in skills and technology, and supports the accumulation of capital. This is called the first mover problem, and it is difficult to resolve without the assistance of a facilitating government.

The GIFF helps policymakers to understand how to use the limited resources available to solve the first mover problem and attract labour intensive industries to invest in their country. The following sections analyse Nepal according to the six steps of the GIFF (Lin 2012). [21] These steps include choosing the right target, removing binding constraints, attracting global investors, scaling up successful self-discoveries, recognizing the power and magic of industrial parks, and providing limited incentives to priority industries.

This report proceeds along four analytical questions. The first question is 'Where Should Nepal Look for Industrial Transfer?' This section explains the logic and efficacy of industrial transfer and introduces the ideas of benchmark and transfer countries. Benchmark countries are countries whose high growth and similarity of factor endowments may suggest priority sectors for Nepal to produce. The benchmark countries for Nepal are China, Viet Nam, and India. Transfer countries are countries which Nepal should seek to engage in order to attract industrial transfer and foreign direct investment (FDI). These industrial transfer firms bring much needed expertise and global value chain participation and offer the best opportunity to launch Nepal's industrial rejuvenation.

The second question is 'What Should Nepal Produce?' This section expands upon the benchmark countries and argues that, based on the success and possible decline of these sectors in the benchmark countries, similar products may be suitable for Nepal. Following the analysis of potentially new sectors, we consider instances of successful self-discovery and argue that firms in Nepal are doing somewhat well but are heavily constrained by local conditions.

The third question is 'What is Holding Nepal Back?' In this section we identify three binding constraints which are strongly impeding firms in Nepal. Binding constraints cause firms to change their behaviour in order to overcome constraints and limit the firm's ability to be internationally competitive. Almost all firms in our survey reported the use of independent electricity generation through inverters and diesel fuel driving up costs. Confidential interviews with the Government and firms indicate that blackouts

20 The World Bank 2016. WDI DataBank: World Development Indicators, as accessed May 2016.

21 Lin, Justin Yifu 2012. New Structural Economics: A Framework for Rethinking Development and Policy. Washington, DC: World Bank Press, pg. 181-182.

can extend more than 12 hours in a given day causing substantial disruption to manufacturing operations. The second binding constraint is transportation. Firms in Nepal face high transportation costs, long delays, and have a weak position relative to the freight forwarders they depend on due to low volumes. The third and final binding constraint is the challenging labour market in Nepal. Wages are high relative to regional neighbours and countries at a similar level of development, and worker relations with companies are often strained. These problems are compounded by outgoing economic migration which increases employee trust and reduces employer investment.

The fourth and final analytic question is 'How Can Nepal Use Special Economic Zones (SEZs) to Overcome Challenges and Secure Investment?' This section analyses the recent SEZ Act passed by the Government in September of 2016 and argues that the act has many positive features including measures to encourage the development of clusters and provide for streamlined business services in the One Stop Shop. The SEZ Act is not without concern, however, and emphasis should be placed on ensuring that the SEZ Authority is empowered to carry out its mandates. Finally, we consider several concrete actions the SEZ Authority may take to help mitigate the binding constraints identified in the previous section.

In this report we apply the Growth Identification and Facilitation Framework (GIFF) to help Nepal to identify potential sources of growth and use SEZs to overcome binding constraints that have held back competitive production in Nepal. By looking at potential sources of investment, priority sectors, and the new SEZ policy, this report strives to provide tangible recommendations to Nepal and inspiration to other Least Developed Countries trying to stimulate economic growth and job creation.

II Where Should Nepal Look for Industrial Transfer?

In the past, economies including Singapore, China, South Korea, and Mauritius achieved remarkable economic development. They experienced per capita growth rates of more than 5% annually for more than a decade, lifting millions of people out of poverty and creating jobs that enabled them to achieve economic transformation. The success of these economies followed a distinct pattern – they attracted FDI from countries with rising labour costs. The FDI-backed firms brought their own supply chains, management expertise, capital finance, and even production equipment. In the destination country they used only lower cost labour and other geographically dependent factors of production including utilities and land. Mainland China once took over labour-intensive sectors from the Four Asian Tigers (Singapore; Hong Kong Special Administrative Region (SAR) of China; Taiwan Province of China; and South Korea), but now its own labour costs are rising, initiating a new wave of industrial transfer.

In this section we consider the benchmark and transfer countries which may be appropriate targets for Nepal to aim for. Benchmark countries are selected from countries with economies that are larger than Nepal's, but not so large as to be unattainable. In addition to being the right size, benchmark countries should have experienced strong and consistent growth and have similar factor endowments as Nepal. The benchmark countries for Nepal are China, Viet Nam, and India. Transfer countries are countries which are undergoing their own structural transformation and facing pressure to relocate from their country of origin. A transfer country should, at a minimum, have higher wage costs vs the potential destination country. Owing to the relatively high wages in Nepal, the only potential transfer country is likely to be China.

Wages in China have risen in step with its increasing role as a global producer. China's minimum wage in 2000 was 50 US$.[22] At that time, its share of global merchandise trade was around 4%.[23] Tracking

22 Source: International Labour Organization. 2016. ILOSTAT Database, as accessed November, 2016.

23 World Trade Organization 2017. World Trade Organization: Statistics Database. Merchandise Trade, as accessed Feb. 2017. https://www.wto.org/english/res_e/statis_e/trade_datasets_e.htm

forward to 2013, we see that nominal minimum wages in China have more than quadrupled, to $226 USD with China's percentage of global merchandize trade having nearly tripled, to around 12%. Looking specifically at manufacturing, China's percentage of global trade is even higher than general trade in goods. Having reached 19% of global manufactures trade in 2015, and showing strong positive growth since data were collected, barring a shock in 2009 from the global financial crisis. The dollar value of Chinese manufacturing export dropped by 3% between 2014 and 2015.[24]

In a Revealed Comparative Advantage (RCA)[25] comparison of the WTO's manufacturing[26] and total merchandise[27] indexes, China has shown a decreasing revealed comparative advantage in manufactures since its peak in 2012. This is the first drop since 2000, again excluding 2009 in the aftermath of the global financial crisis. While this is insufficient to certify a loss of comparative advantage we can see evidence that China's comparative advantage in manufactures may be diminishing.[28] Altogether, 85 million manufacturing jobs are projected to leave China[29] , as rising wages put increasing pressure on manufacturing production.

Selecting Benchmark and Transfer Countries for Nepal

The first step of the GIFF is to identify a list of tradable goods and services that have been produced for about 20 years in dynamically growing countries with similar factor endowment structures. The following section discusses two classifications of countries that Nepal can learn from–benchmark countries and transfer countries.

Benchmark countries help to identify product classes which may be consistent with Nepal's comparative advantage. If these countries, which were recently at the same level of development as Nepal is today, were able to grow and generate employment from very low skill and capital bases by producing these products then Nepal is likely to realize some success by making these same goods.

Transfer countries are countries which have been identified as benchmarks that may be facing incentives to relocate from their country of origin. Most of these incentives are caused by structural transformation in the country of origin. As the country has grown, the products which were most appropriate for its early development gradually decline as sources of growth because rising wages and expectations force firms to upgrade to a higher position on the value chain or relocate to a more competitive location. At a minimum, a transfer country must have higher factor costs than the proposed destination country. Due to Nepal's high wages, only China is a potential transfer country for Nepal.

Benchmark countries are selected from those with GDP per capita about 100%-300% higher than that of Nepal or countries with a similar per capita GDP

24 World Trade Organization 2016. World Commodity Profiles: Trade in Manufactures. https://www.wto.org/e nglish/res_e/statis_e/world_commodity_profiles16_e.pdf

25 The formula for the RCA calculation is: (Chinese Manufactures/World Total Manufactures)/(Chinese Total Merchandise/World Total Merchandise Trade). All data calculated as value of exports in US$.

26 Manufactures includes SITC sections 5, 6, 7, 8 minus division 68 and group 891. [Iron and Steel; Chemicals; Other semi-manufactures: (leather, rubber, cork, wood, etc.); Machinery and transport equipment; Textiles; Clothing; Other manufactures (Personal household goods, scientific instruments, etc.)]

27 It covers all types of inward and outward movement of goods through a country or territory including movements through customs warehouses and free zones. Goods include all merchandise that either add to or reduce the stock of material resources of a country by entering (imports) or leaving (exports) the country's economic territory.

28 2015 Data is projected. World Trade Organization 2016. WTO Statistics Database: Time Series on International Trade. [Manufactures, Total Merchandise]. https://www.wto.org/english/res_e/statis_e/statis_e.htm

29 Lin and Wang 2014. China-Africa co-operation in structural transformation: Ideas, opportunities, and finances. https://www.wider.unu.edu/sites/default/files/wp2014-046.pdf

20 years ago. The list of potential countries is further narrowed down by the requirement of having maintained strong per capita GDP growth rates (between 5% and 9%) over the past 20 years, and having similar factor endowments as Nepal. The benchmark countries for Nepal are China, Viet Nam, and India.

Table 2 shows the growth rates and manufacturing value added for Nepal and each of the three benchmark countries. Benchmarking begins by looking at the economies' sizes based on per capita GDP. At that stage, there were 40 potential benchmarks for Nepal. Once countries are identified by economic size, they are progressively excluded based on criteria including the strength and consistency of their growth rates, manufacturing value added,[30] and availability of resources. In order to be considered for a benchmark, the country must have a higher level of industrialization, as measured by manufacturing value added. Furthermore, a potential benchmark should not derive a substantial amount of their economic activity from natural resource rents, as Nepal is not a resource rich country.

It is worth mentioning that the decision to select China as a benchmark country for Nepal was undertaken with caution. China's per capita GDP today is 587% of Nepal's and this ratio was 190% 20 years ago. The reasons for selecting the relatively larger China are four-fold: 1) minimum wages in Viet Nam and India are significantly lower than wages in Nepal and therefore would not be able to become transfer countries; 2) China has most likely entered an early phase of industrial transfer, with much more expected in the future as wages continue to rise rapidly; 3) the cause of these wage rises in China was the remarkable growth it has experienced over the last 20 years; and finally, 4) Nepal's advantages include its border with China and the two countries' deepening development relationship.

Table 2

Growth and Manufacturing Value Added in Nepal and Benchmark Countries (%)

Country	Ratio of Per Capita GDP to Nepal (2015)	10 year Average Per Capita GDP Growth Rate (2015)	20 year Average Per Capita GDP Growth Rate (2015)	Manufacturing Value Add as a per cent of GDP (2013)
Nepal	100	3.77	2.87	6.58
Viet Nam	245	4.52	5.24	13.34
India	248	5.40	5.25	16.52
China	579	8.17	8.65	29.74

Sources : The World Bank 2016. World Development Indicators, [NY.GDP.PCAP.PP.KD], as accessed Feb. 2017 and author's calculations.

The logic of industrial transfer is that an economy which has enjoyed rapid growth will be experiencing change in its initial endowments. Rising wages and more abundant capital mean that the products which built the early stages of growth will no longer be most compatible with the country's comparative advantage. At this point firms must relocate production, transform to new industries, or face diminishing margins and eventual closure in a competitive market. While most benchmark countries will have some industries which are candidates for transfer, their choice of destination will depend highly on their assessment of their potential savings. In general the pattern appears to have been driven by rising labour costs.

30 A short list of considered countries can be found in Appendix E.

Out of the benchmark countries, only China has a higher nominal minimum wage than Nepal. By contrast, both India and Viet Nam have lower minimum wages than Nepal. Table 3 shows the nominal minimum wage differences among the countries.[31] It is worth noticing that wages are rising much faster in Nepal than in India despite the afore mentioned currency peg. In 2000 Nepal and India had almost the same minimum wage, but by 2013 India's minimum wage was only 59% of Nepal's.

Table 3

Minimum Wage Comparison, Nominal US$ [32]

Year	Nepal	India	Viet Nam	China
2000	26	26	12	50
2001	26	25	12	53
2002	25	27	14	56
2003	32	28	19	56
2004	33	38	18	66
2005	32	39	22	71
2006	46	38	28	80
2007	52	41	34	96
2008	59	48	32	115
2009	62	54	36	117
2010	64	57	39	142
2011	73	64	40	180
2012	71	56	50	200
2013	81	51	55	226

Sources : International Labour Organization. 2016. ILOSTAT Database, as accessed November, 2016.

In addition to the wage differential, India and Viet Nam also have sea access via container ports and significantly more integration in global value chains. For example, Nepal's 2015 dollar value exports were 0.3% of India's and 0.6% of Viet Nam's.[33] Given these wage, infrastructure, and trade considerations, it is hard to conceive that firms have any compelling incentives to move to Nepal under current conditions. Companies may be willing to contend with some degradation of conditions, such as slightly longer lead times on goods, if they are saving a substantial amount on their wage bill. However, it is difficult to conceive of the incentives which would prompt companies to relocate in mass to a more expensive labour market that also has correspondingly poorer conditions.

31 The nominal wage is of greatest interest when comparing potential transfer locations. This is because the overall rate of increase in wages, whether due to policy, currency translations, or inflation will be the wages paid by transferring firms which are usually spending a foreign currency. In the short run, export oriented FDI backed firms are less subject to local inflation as they buy materials and sell finished goods on the international market.

32 All conversions are individually converted by the yearly average exchange rate, as calculated by the International Financial Statistics of the IMF. International Monetary Fund (IMF) 2016. International Financial Statistics (IFS). IMF Data: Access to Macroeconomic and Financial Data. data.imf.org

33 UN Comtrade Database 2016. Trade Database. United Nations, Department of Economic and Social Affairs, Statistics Division. http://comtrade.un.org/data/

An Opportune Geo-political Space

Nepal's location between the giants of India and China is an advantage not shared by many other LDCs. While being landlocked drives up transaction costs and impedes access to international markets, sharing a border with two large and dynamic economies provides Nepal with opportunities for trade, development assistance, and knowledge transfers. Historically, country analysis has focused on what a developing country lacks, whereas the emphasis in New Structural Economics is on what the country has and can use to further its development goals.

The pattern of FDI engagement with India and China is substantially different. Chinese firms are more likely to invest in diverse economic activities including the 11% in manufacturing shown in figure 3. Although the range of these data are limited,[34] there are reasons to believe that this pattern is persistent including interviews with governments and private firms in both China and Nepal.

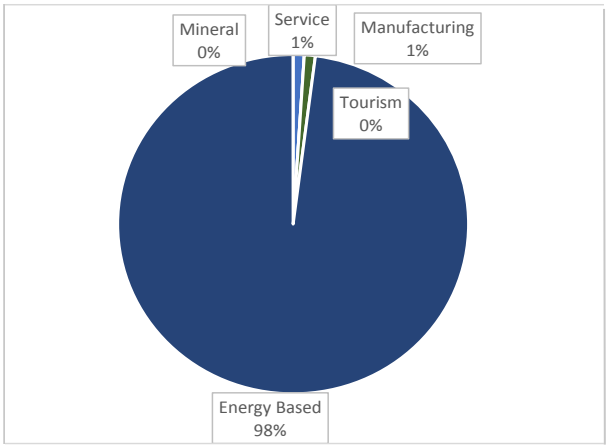
Indian firms are predominantly investing in energy based projects in Nepal. Despite their own structural upgrading, they are more likely to look for lower cost countries for manufacturing than Nepal. This may go some way to explaining the narrowness of their FDI sectorial profile. However, it is also important to consider the conditions in the benchmark countries and their physical relationship with the developing country. India and Nepal have a number of power sharing arrangements including border interconnections that allow for the exchange of power in the event of deficit on either side and a Power Trade Agreement (1996) to support public and private sector collaboration.[35]

Figure 4 shows the global pattern of FDI into Nepal from 2009-2014. The diversity of sectors attracting investment is encouraging as it demonstrates that even with its current challenges the market is willing to invest in Nepalese manufacturing. In this five year period manufacturing accounted for almost a quarter of total investment, roughly equal to services but lagging behind the energy sector.

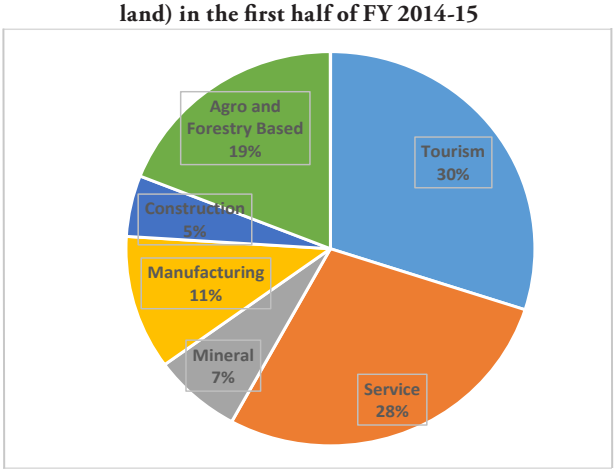
Figure 3

Comparison of Chinese and Indian FDI to Nepal

Sectorwise FDI Commitment of India in the first half of FY 2014-15



Sectorwise FDI Commitment of China (Mainland) in the first half of FY 2014-15



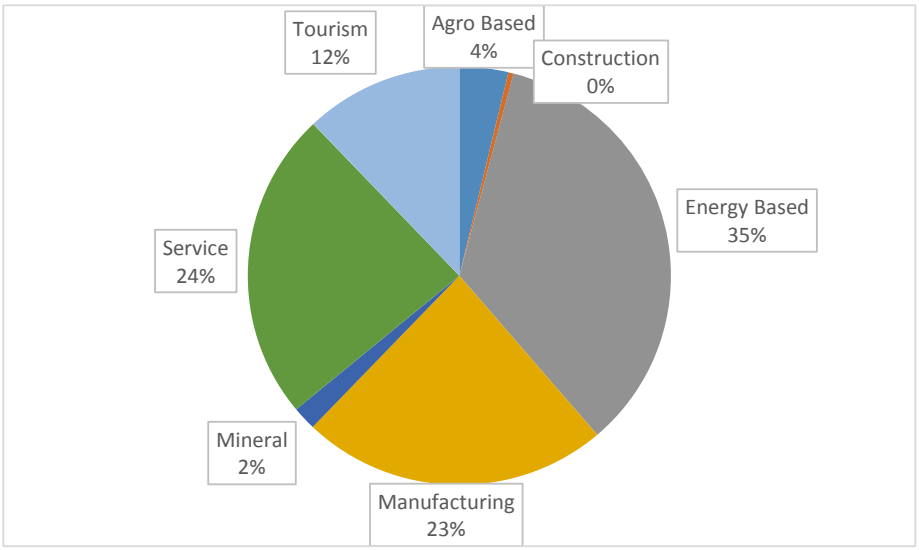
Sources : Nepal-India Chamber of Commerce and Industry (NICCI) 2016. "Foreign Investment Projects in Nepal", as accessed October 14th 2016. http://www.nicci.org/pdf/FDI%20in%20Nepal%20in%20the%20last%206%20months%20in%20FY%202014-15%20(2071-72).pdf

34 Additional sources of sector and country wise FDI breakouts were not available as of this publication.

35 Independent Power Producers' Association Nepal (IPPAN) and Confederation of Indian Industry (CII) 2006. "Research on Nepal India Cooperation on Hydropower (NICOH)".

Figure 4

Global FDI by Sector for Nepal (FY 2009-2014)



Sources: Nepal – India Chamber of Commerce and Industry (NICCI) 2015. "Last 5 Fiscal Year-wise Sector-wise Trend of FDI in totality".

The fact that India is not a likely transfer country and appears to be investing narrowly in Nepal does not mean that India has no role in Nepal's development ambitions. Rather, the Government should focus its efforts on creating the most effective cooperation possible with its large neighbours given the existing advantages and incentives. The strategic pattern of engagement with Nepal's neighbours should provide as much impetus to growth and joining global value chains as possible. This is likely to mean seeking industrial transfer from China, while strengthening energy cooperation with India.

India and Nepal have long had a special relationship with cultural and economic ties stretching back before the 1950 Indo-Nepal Treaty of Peace and Friendship which granted an open border and residential rights to citizens of both countries. As of 2014, approximately 600,000 Indians were domiciled in Nepal. [36] Four aspects of this relationship are particularly salient for Nepal's development efforts – the currency peg, trading ties, transportation, and energy development.

The peg between Nepalese and Indian rupees has advantages and disadvantages for Nepal. On the one hand, India's growth and inflation have affected Nepal which has had persistent inflation above 8% since 2008, suppressing real per capita GDP growth. This currency peg contributes to making Nepalese exports more expensive than Indian exports given the higher labour and transportation costs. On the other hand, the currency peg enables Nepalese firms to have some purchasing power for imported materials which our survey indicates come primarily from China and India. Furthermore, the currency peg protected the Nepalese rupee from possible freefall during the worst of its internal struggles.

India is Nepal's most important trade partner comprising more than 65% of the trade volume in both export and import. China is the second largest source of imports and sixth largest export destination.[37]

36 Indian Ministry of External Affairs 2016. "India–Nepal Relations", as accessed October 19th 2016. http://mea.gov.in/Portal/ForeignRelation/Nepal_July_2014_.pdf

37 Central Bureau of Statistics 2014. Statistical Pocketbook. Govt. of Nepal: National Planning Commission Secretariat. Nepal. http://cbs.gov.np/image/data/Publication/Statistical%20Pocket%20Book%202014.pdf

Although India is currently Nepal's largest trading partner, the export basket is not very diverse.[38] For instance, almost 17% of India's import of Nepalese goods are beverages, sprits, and vinegar. Improving the export efficiency and reducing the cost of Nepalese exports may make the large markets in India more attractive. Although greater benefit is still likely to come from the more developed markets in the United States of America and Europe,[39] it is worth considering ways to diversify exports to India as most goods bound for international markets move through the international shipping terminal in Kolkata.

In addition to being Nepal's largest trading partner, India is also the primary route through which Nepalese goods reach international markets. Goods destined for export to the United States, EU, and even China transport through Kolkata as this is the closest point for international shipping. In order to reach this port, goods must travel nearly 1000 km overland. However, according to an in-depth interview with a member of the Nepal Freight Forwarders Association (NEFFA), this access point suffers from substantial problems.[40] The port at Kolkata is affected by seasonal variation. The port itself is less efficient in winter when some of the water dries up, and overland road transportation is held up during periods following summer monsoons. When our representative was interviewed in October, there were 745 vehicles with containers that had cleared customs and were waiting for rail passage to the final loading at port and exporting firms rarely managed to load the containers within the 21 day demurrage free period.

The governments of India and Nepal have advanced transportation cooperation granting access to Nepali goods through the port of Vishakhapatnam. Although this port may eventually be able to reduce some of the back log, it is 50% farther away (approximately 1500 km from Katmandu) and requires higher freight volumes to be economically efficient.[41] However, even if volumes can be increased, the primary route to Vishakhapatnam is over roads. State tolls and variable driver efficiency increase the costs further on a per container basis that cannot be substantially mitigated by volume. There are substantial opportunities for Nepal and India to deepen transportation infrastructure

As mentioned above, energy cooperation is in the interests of both India and Nepal. Nepal has substantial hydropower potential. Bhutan, which shares similar geographic characteristics with Nepal, provides an instructive case for what could be possible. Bhutan has the capacity to produce 1,500 MW and exports electricity to India. In contrast, Nepal continues to import electricity from India.[42] Nepal's commercially viable hydropower generation potential is estimated at 43,000 MW, and currently less than one per cent is being exploited.[43] According to sources such as Nepalese authorities and the World Bank, four large hydropower projects have been confirmed and are being developed by Nepalese, Indian and Chinese firms.[44] These hydropower resources have the potential to drive down electricity costs as Bhutan has some of the cheapest electricity in the world, and it is conceivable that Nepal could emulate this success. However, these energy project will take a long time to develop and solutions should be sought to provide energy to productive sectors immediately.

38 For a list of Nepalese exports imported by major trading partners see Appendix B.

39 These markets have greater demand and purchasing power as well as allowing the firm to accumulate foreign exchange in attractive currencies.

40 CNSE 2016. Nepal Freight Forwarding Case Study. Peking University, Beijing, CNSE: October 2016.

41 CNSE 2016. Nepal Freight Forwarding Case Study. Peking University, Beijing, CNSE: October 2016.

42 NEA 2015. Annual Report 2015. Dubar Marg, Kathmandu, Nepal. http://www.nea.org.np/images/supportive_docs/year-review-2014-15.pdf

43 Dr. Amit Kumar 2015. "Indo-Nepal Hydropower Cooperation: The Way Forward". Indian Council of World Affairs. http://www.icwa.in/pdfs/PB/2014/IndoNepalHydropowerCooperationPB.pdf

44 International Monetary Fund (IMF) 2015. IMF Country Report No. 15/317. Washington, D.C. http://www.imf.org/external/pubs/ft/scr/2015/cr15317.pdf

As India is unlikely to be a source of industrial transfer, the Government should focus its implementation of SEZ policy and infrastructure development to attract the right kind of investment and tailor its proposal to the most likely source of that investment. This means that Nepal should focus on using SEZs to attract Chinese firms. Like Indian firms, Chinese firms could find lower cost locations to produce their manufacturing than Nepal. However, unlike Indian firms, Chinese firms are still likely to find substantial wage savings in Nepal vs. their home market and may be able to be persuaded if the total package of infrastructure and incentives is competitive for a specific sector or segment.

As shown in table 3, China's nominal minimum wage in 2000 was $50 US$[45] with both India and Nepal having minimum wages around $26 US$. From 2000 to around 2005, minimum wages in India and Nepal were comparable, with the higher nominal minimum wage changing between the two countries. However, after this, Nepal's wages took a series of significant jumps, landing around $81 US$ in 2013. By contrast, both India and Vietnam had nominal minimum wages around $50 US$, or the same level as China in 2000.

There are signs that the Government of Nepal and the market are sensitive to the potential for Chinese firms to engage with the Nepalese SEZ programme. Reports indicate that shortly after signing the SEZ bill in to law, Chinese firm Ping An Insurance sought permission to conduct SEZ feasibility studies for the development and management of an SEZ in partnership with Lhasa SEZ.[46] If this or similar deals go through, it will enable Nepalese SEZs to learn from Chinese expertise in managing zone projects and create conditions that meet or exceed transferring firms expectations.

In addition to these market based push factors, the Government of China is showing signs of embracing structural change and encouraging firms from some regions to invest abroad. Furthermore, the 'Belt and Road' initiative seeks to promote enhanced cooperation across the region and is providing development financing for infrastructure projects.

A case in point is the MOU signing between Nepal and China to work together to promote the Silk Road Economic Belt in December 2014. Since then, China-Nepal cooperation has gained momentum. In the recent visit of then Prime Minister, Rt. Hon. K.P. Sharma Oli of Nepal to China in March 2016, the two countries published a Joint Statement where China promised to enhance their infrastructure connectivity with great construction projects, including two highways' repair and opening maintenance projects, one bridge construction, Kathmandu Ring Road's 2nd phase,[47] a 434 MW Hydro Power Project, and a 400 KV Cross-Border Transmission Lines Project.

In addition, the Chinese agreed to provide financial support on preferential terms for the Pokhara Regional International Airport. Both sides also agreed to explore establishing cross-border economic cooperation zones via existing frontier ports and to start the joint feasibility study of the China-Nepal Free Trade Agreement. The Chinese side encourages local government, social groups, and Chinese enterprises to tap the potential of the Nepalese side on production capacity cooperation and economic and trade cooperation zones.

Together the rising costs and Chinese Government facilitation are providing the foundation for potential industrial transfer on a scale that is likely without precedent. If the Government of Nepal is able to overcome challenges to project implementation and coordination, the country may be able to position itself as one of prime destinations for manufacturing investment.

45 Source: International Labour Organization. 2016. ILOSTAT Database, as accessed November, 2016.

46 Xinhua 2016. "Two Chinese Investors Show Interest in Developing SEZ in Nepal". "Mo Hong'e" http://www.ecns.cn/business/2016/10-05/228991.shtml

47 Xinhua 2016. "China-assisted Ring Road Expansion Project Underway in Nepal". http://news.xinhuanet.com/english/photo/2016-01/15/c_135011105.htm

In the case of Nepal, its geographic proximity, deepening relationships, and improving connectivity with China and India should be an important part of its development programme. Continuing to cooperate with India on developing a more diverse export basket and energy projects while seeking industrial transfer from China will give Nepal the best possible chance to take advantage of its position between two large and high growth neighbours. One telling mark of the potential for regional cooperation between Nepal and its larger neighbours was the side line meeting of Chinese President Xi Jinping and Nepalese Prime Minister Pushpa Kamal Dahal in the western Indian state of Goa.[48]

III What Should Nepal Produce?

Under the NSE framework there are two ways of identifying products that may be consistent with a countries latent comparative advantage. The first is to identify tradable goods from the benchmark countries, and the second is to scale up successful self-discoveries where private enterprises have been able to show some participation in global value chains and could be competitive with government facilitation. In both cases, the progress of these industries may be accelerated by receiving FDI from countries with deeper links to the global market and firms with expertise, equipment, and existing buyer relationships.

Benchmark analysis on 20 years of trade data from China, India, and Viet Nam revealed that the preponderance of historically high performing exports that may be losing comparative advantage. We identify sectors which may be losing comparative advantage as revealed by declining export share[49] from 1995-2013/4.[50] Of these 'decliners', 46% are in light manufacturing including garments, trunks, and footwear.

The recommendations in this section are only indicative and were developed to contribute to robust consideration by stakeholders of priority sectors. The viability of proposed product groups depends on the investment decisions of private firms. These firms respond to the total package of incentives produced by the local market, policy conditions, and their private motivations. Among these private motivations are network effects produced from knowing firms which have relocated to a specific outbound location. This is one of the reasons that attracting pioneer firms is so powerful. Once the viability of a sector is demonstrated in a new market, word spreads and produces a compounding effect. Achieving this effect is the reward of effectively using incentives to overcome the first mover problem.

One of the limitations in the present state of international trade and global value chain research lies in the way that trade is measured. There are at least four shortcomings in the current international Harmonized System (HS)– disparities between trade categories and firms' production decisions, differences among products within a single trade category, the opacity of relative factor intensities, and the inability to see which value chain activities are undertaken by exporting firms in that country.

48 Side line meeting held during the eighth summit of the emerging-market bloc of BRICS, which groups Brazil, Russia, India, China and South Africa. Xinhua 2016. "Xi Suggests China, Nepal Forge Community of Shared Destiny". Huang Mingrui. http://www.ecns.cn/2016/10-16/230381.shtml

49 Declining export share of any particular product is not conclusive proof that a product is losing comparative advantage. There could be other factors such as product obsolesce (fax machines), or the relatively faster expansion of other exports by the country as the country enters new sectors. The former has been dealt with in the case of Nepal by excluding all technology decliners. In the latter case, even if the country has not yet lost comparative advantage in these sectors they may be squeezed out by more efficient uses of capital and labour in the faster growth industries.

50 Table of identified products by country can be found in Appendix B.

Despite this, existing trade studies rely almost exclusively on various models applied to UN Comtrade data.[51] While this has historically been the best we can do, the considerations above point to a clear imperative for international institutions and national statistics bodies to continue to collect and disseminate firm level data. As the importance for global value chain participation is increasingly recognized by the international development community, the weaknesses in our current data are becoming increasingly apparent.

Where we have used trade data, it is at a highly aggregated level and used to spot overall trends in historical product exports from the benchmark countries. Aggregation helps to remove synthetic distinctions such as the differences between producing women's or girl's swimwear or shoes made of synthetic or real leather. However, these differences often do make a substantial difference for import tariffs, for instance men's overcoats[52] only cost $.386 US$/kg + 10% of market value, while women's are $.644 US$/kg + 18.8% of value for import to the United States.[53] Aggregating across all benchmark countries also reduces the noise that may be introduced by the complex export dynamics within any individual country. If the pattern of decline holds across several countries it is more likely to be robust. While we cannot claim with confidence that any specific product is losing comparative advantage in a given benchmark country, we can see a strong pattern of light manufacturing decline across all countries despite increasing global demand from rising levels of disposable income in large, high growth countries like China and India.

The survey and case studies conducted as part of this study on Nepal go some way toward describing the experiences of manufacturers in Nepal. However, we have not produced a nationally representative sample. For this report we relied on the advice of local experts to identify sectors which had export oriented manufactures where at least five firms could be interviewed in each sector. An overview of the survey methodology can be found in Appendix A.

In undeveloped markets it is common for firms to demonstrate low levels of specialization, producing a large variety of loosely related products. This pattern is similar in Nepal where our sample of 35 firms claimed to produce a total of 55 products.

Furthermore, this lack of specialization extends to value chain activities in addition to product production choices. Figure 6 shows the value chain activities of the 35 surveyed firms. Among these firms we observed 83 instances of a firm reporting a given activity such as the packaging of products. Overall, the preponderance of activities (40%) were reported to be the production of parts for products, with the design of new products (29%) and the wholesale of products (14%) coming in second and third place respectively.

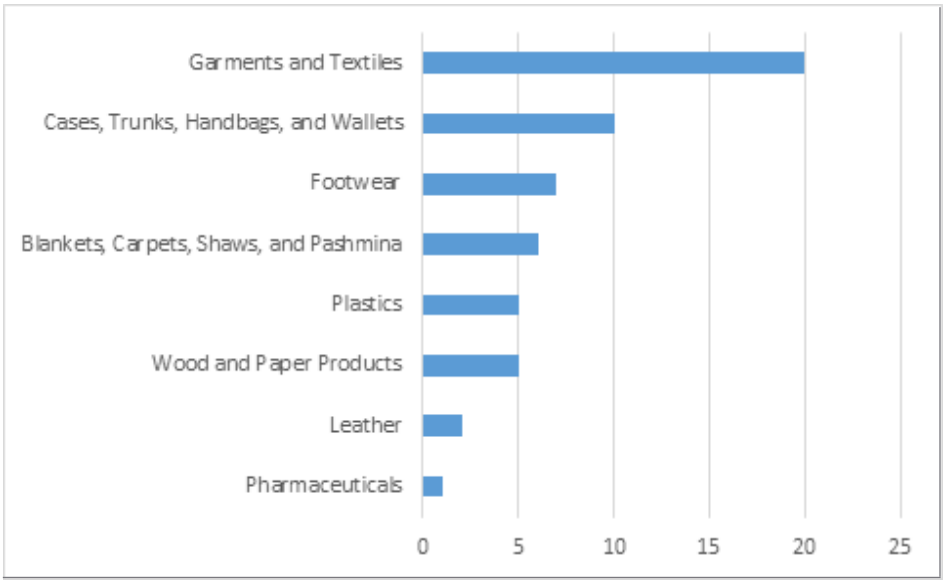
51 United Nations 2016. UN Comtrade International Trade Statistics Database. http://comtrade.un.org/data/

52 Specifically containing 23% or more wool of fine animal hair (by weight).

53 It is these customs considerations that have led to the current system of trade data as UN Comtrade is based on national reporting. All trade data is reported and summarized by individual countries and submitted to UN Comtrade who are not responsible for omissions due to failure to report.

Figure 5

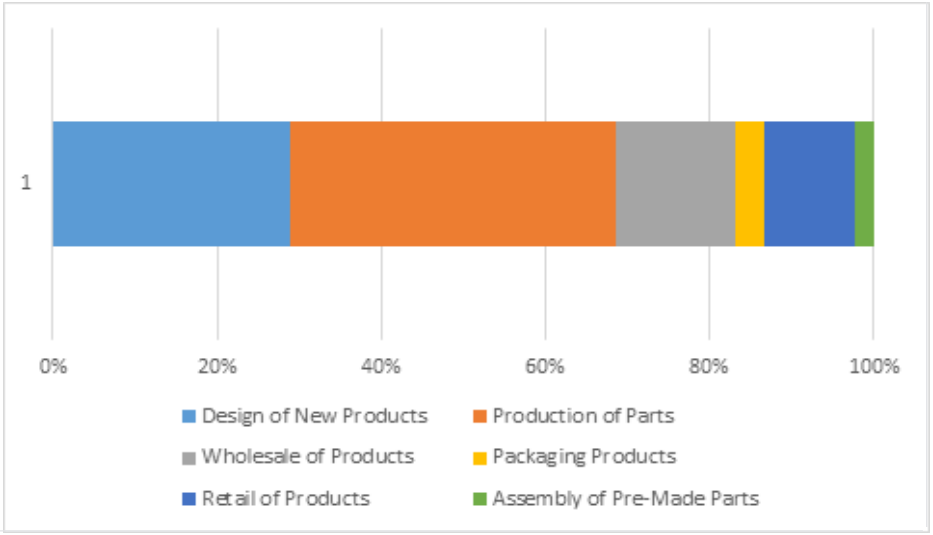
Products Produced by 35 Firms - Count of Firms Producing Product



Sources: CNSE 2016. Nepal Firm Survey. Peking University, Beijing, CNSE: 2016.

Figure 6

Value Chain Activities in Nepal



Sources: CNSE 2016. Nepal Firm Survey. Peking University, Beijing, CNSE: 2016.

More work should be done to produce a comprehensive understanding of Nepalese conditions and to map the value chains and cost structures in benchmark countries with greater reliability. However, even within the current limitations, there is evidence that increasing firm specialization and encouraging cluster development would positively impact manufacturing competitiveness in Nepal.

Light Manufacturing – Dominance and Decline in Benchmark Countries

After identifying top export sectors, we take a step further to look for sectors which have contributed to the growth of the benchmark countries over the last 20 years and which may be losing their comparative advantage as revealed by declining export share from 1995-2013/4.[54] Products in the top 10 exports of benchmark countries by trade volume in any of the 20 study years are called 'stars'. By having made it into the top 10 exports during the high growth years, these products are likely to have been a driver of growth in the benchmark countries.

Tracking stars from the beginning of the 20-year period in 1995 to today show that some may be losing comparative advantage in benchmark countries ('decliners'). A total of 50 decliners were identified across all benchmark countries. Of these the preponderance (23 codes, 46%) are in light manufacturing including garments, trunks, and footwear. Looking closely at the dynamics of change in the export baskets of benchmark countries, we can often see that top performing exports based on natural resources often hold their importance while the composition of goods which could theoretically be produced anywhere show the greatest changes over time (see Table 4). For instance, Indian diamonds and Vietnamese crude oil stayed consistently in the top 1-2 export position despite these countries relatively low GDP contribution from natural resource rents.[55] See Appendix B for a detailed trade analysis of the benchmark countries.

It is worth mentioning that technology related products have been decomposed from light manufactured goods despite some overlap in skill requirements and labour intensities in some products. If they had been included the per cent of light manufactured goods would increase to more than 60%. The reason for their exclusion is twofold. First, we are not able to tell on the basis of the available trade data which products are declining due to obsolesce. Secondly, although technology related goods may require similar skill levels for the production of many products, controlled facilities are required for their production, such as clean rooms and temperature control. These facilities are more capital intensive and require higher levels of infrastructure, particularly electricity.

The fact that the preponderance of decliners is in light manufacturing is intuitive from the standpoint of New Structural Economics. Light manufactured goods are often labour intensive and therefore are well suited to countries with abundant, low skilled labour. This frequently observed labour condition in developing countries is one aspect of the 'advantage of backwardness'. "Every developing country can have similar opportunities to sustain rapid growth for several decades and reduce poverty dramatically if it exploits the benefits of backwardness, imports technology from advanced countries, and upgrades its industries."[56]

54 Table of identified products by country can be found in Appendix B.

55 In 2014, India's contribution to GDP from natural resource rents was 4.9% and Viet Nam's was 7.6%. For comparison, Nepal's contribution from natural resource rents was 7.1% in 2014.

56 Yifu Lin 2014. Demystifying the Chinese Economy. Cambridge University Press.

Table 4:
Taxonomy of Decliners across Benchmark Countries (2016)

Category	4-Digit Import Categories	Number of 4-Digit HS Codes	Total(%)
Light manufacturers	Other plastic articles; trunks and cases; leather apparel; cotton yarn; light woven cotton; knit men's shirts; knit T-shirts; knit sweaters; non-knit coats; non-knit suits; non-knit shirts; non-knit active wear; house linens; bedspreads; leather, textile, and other footwear; seats; models and stuffed animals	23	46
Natural resource based	Animal fodder; iron ore; crude petroleum; refined petroleum; other organic compounds; rubber; jewellery	7	14
Agriculture based products	Crustaceans; molluscs; coconuts, brazil nuts and cashews; coffee; tea; rice	6	12
Heavy manufacturers	cargo containers; passenger and cargo ships; Ferro-alloys; hot-rolled iron; coated flat-rolled iron; other large iron pipes	6	12
Technology related	Office machine parts; electric heaters; telephones; broadcasting equipment; radio receivers; broadcasting accessories; video recording equipment; video and card games	8	16
Total		50	100

Sources: Authors' own taxonomy, United Nations. 2016. UN Comtrade Database, as accessed May, 2016.

The 'advantage of backwardness' describes a condition wherein developing countries can experience rapid economic growth from relatively low cost increases to their production base. These technologies and processes, often brought by FDI firms in low end manufacturing, are far from the technology frontier but can represent a significant improvement over domestic practice. In our survey many firms reported using outdated production methods, and few firms demonstrated appetite for new capital investment. As a result, moving into more modern production processes is likely to require the participation of foreign firms or a substantial change in local conditions. The Government of Nepal has made the purchase of a new plant and equipment a qualifying condition for firms to enter into SEZs which may help to overcome barriers to domestic upgrading and investment. [57]

Successful Self-discovery: Current State of Export Oriented Firms

Successful self-discovery refers to activities by private firms that produce goods valuable in the international market but are currently held back. These firms may be constrained by conditions in the market, lack of information, or lack of access to international markets. The Government should pay attention to spontaneous self-discovery by private enterprises in Nepal and give support to scale up successful innovations by using SEZs to overcome binding constraints, providing information such as international production methods to improve efficacy, or facilitating introductions to suppliers and buyers.

From our limited industrial sample,[58] we see that textiles, garments, cases and trunks, wood and paper products, footwear and leather are all being exported. However, the scale of these exports is small, and production and export are often completed on a per order basis. Our sample indicates that the largest export markets for these manufacturing sectors are the EU, India, and the United States (see Table 5).

Table 5:
Top Export Destinations and Products [59]

	EU	India	United States	Australia/ New Zealand	Canada	Japan	South East Asia (ex. India)	Product Total
Garments and Textiles	15	7	10	9	2	2	-	45
Cases, Trunks, Handbags, and Wallets	6	3	2	3	2	2	-	18
Wood and Paper Products	5	1	2	1	3	-	-	12
Footwear	1	5	1	1	-	-	2	11
Leather	-	2	1	1	-	1	-	5
Country Total	27	18	16	15	7	5	2	

Sources: CNSE 2016. Nepal Firm Survey. Peking University, Beijing, CNSE: 2016, author's taxonomy.

57 SEZ Act 2016.

58 Sampling methodology can be found in Appendix A.

59 Locations with only one firm, including Turkey and Uganda, were removed. Similarly, categories such as plastics for which we found no exporters are not recorded. As noted in Appendix A, blankets, shawls and carpets were aggregated into textiles and garments. This is because the blankets, carpets, shawls, and pashmina category was not a unique response provided in the survey but was frequently written in under 'other'.

In order to corroborate this sample, we cross referenced these figures with trade data from UN Comtrade. According to these data the top five export destinations for Nepal are India (62.2%), the EU (14.9%), United States (10.5%), Turkey (1.9%), and China (1.7%). Although we failed to find strong evidence for Turkey and China[60] and we see greater participation in trade with Australia and New Zealand, the overall pattern is reasonable. Analysis of exports of these key markets indicate that the EU and United States are more favoured destinations for light manufacturing while exports to India include more agricultural products. Given that our sample targeted export oriented manufacturers, the relatively weaker trade with India vs the EU and United States is not concerning. As we have described, Nepalese manufactured goods struggle to compete with lower prices in the Indian market which benefits from lower wages and often better infrastructure. However, the presence of some intermediate goods on the export list, such as shoe gaiters, points to the hope that Nepal will be able to improve the value of the goods it exports to the Indian market or participate in intermediate goods trade for Indian final production if firms can become more competitive.

Nepal's export basket is limited. Carpets and textiles form the majority of Nepal's exports to the EU and United States markets. Exports to India are composed of food, raw materials, and resources, whereas exports to the United States and EU are for finished manufactured products. One exception, represented both in the trade data and the firm survey, is footwear. Footwear parts are a significant portion of exports to India; however, footwear products seem to not be strongly observed the United States and EU markets, although some firms demonstrated limited success in this regard, this follows the pattern seen within our survey with a few small exceptions. First, our sample records higher export of textiles and garments to India than can be observed the UN-COMTRADE data. Secondly, 'Trunks, Cases and Bags' are reported in our sample but do not conform to a suitable single trade code. Despite the mismatch between trade code descriptions and firm production decisions, we do see that in our sample the largest market for 'Cases, trunks, handbags and wallets' is the EU. UNCOMTRADE data does show leather goods including handbags at about 2% of Nepalese exports into that market (see Table 6).

Table 6:
Key Nepali Exports to Major Markets (2015)[61]

European Union		
Commodity	Total Trade Value of Imports from Nepal into the EU (US$ million)	Percentage of Total Imports from Nepal into the EU (%)
Articles of apparel and clothing accessories, not knitted or crocheted	$30.560	26.29
Carpets and other textile floor coverings	$29.690	25.54
Articles of apparel and clothing accessories, knitted or crocheted	$21.555	18.54
Other made up textile articles; sets; worn clothing and worn textile articles; rags	$4.869	4.19
Raw hides and skins (other than fur skins) and leather	$3.646	3.14
Headgear and parts thereof	$2.923	2.51

60 Each of which had only one report in our sample.

61 Distinctions were drawn at the 2 digit HS level.

(Continued) European Union Commodity	Total Trade Value of Imports from Nepal into the EU (US$ million)	Percentage of Total Imports from Nepal into the EU (%)
Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	$2.785	2.40
Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)	$2.066	1.78
Miscellaneous articles of base metal	$1.669	1.44
Paper and paperboard; articles of paper pulp, of paper or of paperboard	$1.598	1.37
India		
Commodity	Total Trade Value of Imports from Nepal into India (US$ million)	Percentage of Total Imports from Nepal into India (%)
Beverages, spirits and vinegar	$92.736	16.54
Plastics and articles thereof	$69.465	12.39
Iron and steel	$60.732	10.83
Man-made staple fibres	$49.247	8.78
Coffee, tea, and spices	$42.141	7.52
Articles of iron or steel	$37.220	6.64
Footwear, gaiters and the like; parts of such articles	$28.509	5.08
Edible fruit and nuts; peel of citrus fruit or melons	$25.013	4.46
Other made up textile articles; sets; worn clothing and worn textile articles; rags	$20.240	3.61
Miscellaneous chemical products	$17.080	3.05
United States		
Commodity	Total Trade Value of Imports from Nepal into the US (US$ million)	Percentage of Total Imports from Nepal into the US (%)
Carpets	$41.721	45.21
Non-knit woman's suits	$11.411	12.37
Knit sweaters	$7.426	8.05
Works of art, collectors' pieces and antiques	$5.910	6.40
Soybean meal	$3.561	3.86
Other made up textile articles; sets; worn clothing and worn textile articles; rags	$3.206	3.47

(Continued) United States Commodity	Total Trade Value of Imports from Nepal into the US (US$ million)	Percentage of Total Imports from Nepal into the US (%)
Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)	$2.715	2.94
Commodities not specified according to kind	$2.402	2.60
Headgear and parts thereof	$1.957	2.12
Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	$1.926	2.09

Sources: UN Comtrade Database 2016. Trade Database. United Nations, Department of Economic and Social Affairs, Statistics Division. http://comtrade.un.org/data/

Box 1

Case Study: Global Value Chains as a Source of Information and Upgrading[1]

An entrepreneur in Nepal began working in the traditional carpet industry. During this time she developed contacts with importers. She attended the Canton Fair in Guangzhou, China. Using these networks, the entrepreneur developed into an agent supplying textile materials into the local market. Through these activities she was able to gather more market information and eventually establish a strong buyer relationship.

Deciding that she could not be cost competitive with Indian and Chinese garment production, the entrepreneur built on this strong buyer relationship to identify niche segments of the garment market with high value added in Europe.

Failure to produce innovative product designs eventually led that buyer to cancel their orders leaving the firm without any income for several months. However, the experience in navigating international trade relationships enabled the entrepreneur to take initiative and locate a new buyer in another European country using the internet. This eventually led to the formation of an exclusive partnership and consistent demand for the Nepalese firm's outputs.

Moving into niche markets required the firm to upgrade to better quality machines. The entrepreneur is confident and has plans to continue investing by purchasing computer aided drafting software and digitized fabric pattern printing.

Through the gradual development and expansion of participation in different segments of the global value chain, the entrepreneur has been able to sustain her firm for more than 10 years and employs about 100 people. Since the original trade fair participation, the company's supplier network has grown to buy from 20-30 Chinese firms.

Despite successfully navigating global value chains under her own auspices, the entrepreneur reported that the most effective way that the Government could support export oriented manufacturing in Nepal would be to supply information. She urged the Government to step into a facilitating role and encourage other entrepreneurs to find international buyers and suppliers.

1 Sources: CNSE 2016. Nepal Survey. Peking University, Beijing, CNSE: April 2016.

Preferential Trade Agreement Opportunities

Firms relocating from manufacturing giants like China have a choice of destinations from which they can produce their goods. While international buyers are often the importers and thus beneficiaries of the tariff reductions, they are also the power holders in many demand-driven manufacturing supply chains. Using this power and incentives, such as rebating some portion of tariff savings back to suppliers, buyers can encourage producers to locate manufacturing in a specific country. Buyers are likely to want manufacturers to produce from countries where they can get the best import trade terms while maintaining sufficient quality.

Trade preferences typically confer an advantage to a block of countries based on regional or income levels. These preferences do not usually differentiate between two developing countries, but rather confer advantages on LDCs vs middle and high income countries. However in some instances, trade preferences have been extended to individual countries, and Nepal is a benefit of one such trade preference act.

The Trade Facilitation and Trade Enforcement Act (TFTEA) (2015) was granted to Nepal as a form of disaster relief following the earthquake in April of 2015. The president signed the act into law in February of 2016, and policy makers have up to one year to make the case if they believe some of the preferences granted pertain to goods that require tariff protections for American producers. Currently, a report is to have been submitted to the United States Trade Representative for review and approval of the TFTEA product terms. As part of this review process, Nepal submitted comments on April 27th, 2016 concerning their eligibility for these trade concessions. The United States International Trade Commission was due to transmit their confidential reports to the United States Office of Trade Representative (USTR) on September 29th of 2016 for an individual assessment of each line of the bill. [62]

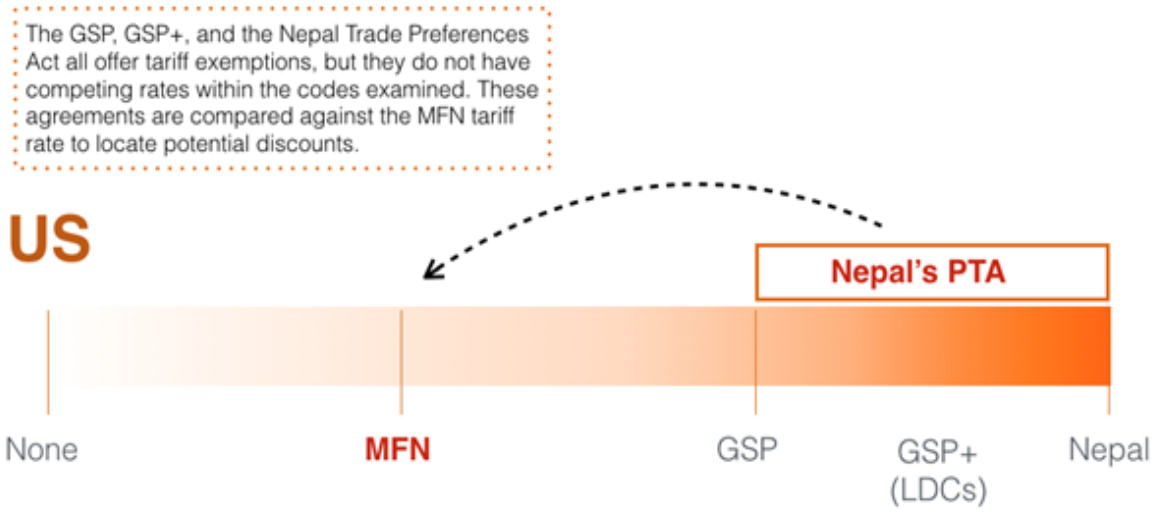
In addition to these belaboured processes to extend trade concessions to Nepal, the landscape is further muddied by frequent shifts in Harmonized Tariff Schedule (HTS) of the United States. On June 1st, 2016 the United States Government made changes to the GSP+ system that eroded Nepal's advantage. According to the law, these category shifts should not interfere with Nepal's benefits. As an LDC which qualifies for GSP+, Nepal has not been directly penalized by the change in the classification system but some of its proposed trade concessions are now shared with other LDCs. However, some products remain unique to Nepal[63] and not shared with all LDCs or GSP (Generalized System of Preferences) countries. A review of the altered codes is provided in Appendix C.

Figure 7 illustrates the relationship between the various United States trade preference schemes. At the far left are countries which do not qualify for any trade tariff reductions. As our analysis for the United States focuses on the unique preferences granted to Nepal, countries which qualify for GSP or GSP+ would face the same tariff rates as MFN nations in these product categories. China is an MFN country for import to the United States and so these tariff savings may be read as specific savings vs. production in China from the standpoint of a potential investor.

62 United States International Trade Commission 2016.Nepal: Advice Concerning Whether Certain Textile and Apparel Articles Are Import Sensitive.
https://www.usitc.gov/secretary/fed_reg_notices/332/332_558_notice04152016sgl.pdf?source=govdelivery

63 None of these preferences are entirely unique. They are frequently shared with the United States' neighbours and developed allies (Examples include Australia, Canada, Mexico, Chile, Columbia, Israel, Jordan, Panama, and Peru.) The trade agreement itself, however, is unique to Nepal.

Figure 7:
Visualization of Nepal's Beneficial Trade Agreements



The United States' Generalized System of Preferences (GSP), GSP+ (the LDC exclusive extension of the GSP), and the Trade Facilitation and Trade Enforcement Act (TFTEA) (2015) define products with differing import rates. In our analysis of trade preferences for the United States, we focus on the trade concessions that are only enjoyed by Nepal. In some of these product classes, Nepal has an advantage of up to 20% tariff savings vs other LDCs.

For export to the United States, there are five sub-segments of trunks and cases which receive 20% preference and 17 which receive a 17.6% preference vs MFN, GSP or GSP+ qualifying countries. Only one of these products is currently being exported from Nepal–'handbags of material not elsewhere stated'. Table 7 shows the full list of proposed TFTEA products which would grant greater than 15% tariffs savings if produced in Nepal but which are not currently being exported by Nepal into the United States market.

Table 7:
Tariff Savings from the United States Trade Facilitation and Trade Enforcement Act (TFTEA) for Products Not Currently Exported by Nepal to the United States with Proposed Tariff Savings Exceeding 15% (2005-2015)

Tariff Rate (%)	Commodity
20.00	Attaché cases, brief cases, and similar containers of plastics
20.00	School satchels, surface of plastics rigid on all sides
20.00	Attaché cases, briefcases, etc., of plastics (not elsewhere stated)
20.00	School satchels, and similar containers, surface of plastic (not elsewhere stated)
17.60	Attaché cases, briefcases, 85%+ by weight of silk/silk waste
17.60	Attaché cases, briefcases, etc., of cotton

(Continued) Tariff Rate (%)	(Continued) Commodity
17.60	Attaché cases, briefcases, school satchel, etc. (not elsewhere stated)
17.60	Trunks, suitcases, vanity, 85%+ by weight of silk/silk waste
17.60	Trunks, suitcases, vanity cases, etc., of cotton
17.60	Trunks, suitcase, vanity case, etc., surface textiles (not elsewhere stated)
17.60	Handbag w/ outer surface textiles material of cotton (not elsewhere stated)
17.60	Handbags, outer surface textiles, ex braid, pile/tuft, of paper yarn
17.60	Handbags, outer Surface Textiles, ex braid, pile/tuft (not elsewhere stated)
17.60	Art for pocket or handbag, of cotton
17.60	Travel, sports and similar bags, of paper yarn
17.60	Travel, sports and similar bags, 85%+ by weight silk/silk waste
17.60	Travel, sports bags, etc. of cotton
17.60	Other bags, outer surface 85%+ by weight silk/silk waste
17.60	Other, jewellery boxes, and similar containers, retail, w/ contents
17.60	Other bags, outer surface textiles materials (not elsewhere stated)

Sources: United States Census Bureau 2016. USA Trade Online, as accessed Oct, 2016. https://usatrade.census.gov/

Although not as strong a savings as demonstrated in the untraded products above, there are some active exports from Nepal which would receive trade preference under the current text of the TFTEA. It is worth noticing that these goods are exclusively garments and textiles (see Table 8).

Table 8:

Top 10 US Nepali Imports Eligible for the US Trade Facilitation and Trade Enforcement Act (TFTEA) (2005-2015)

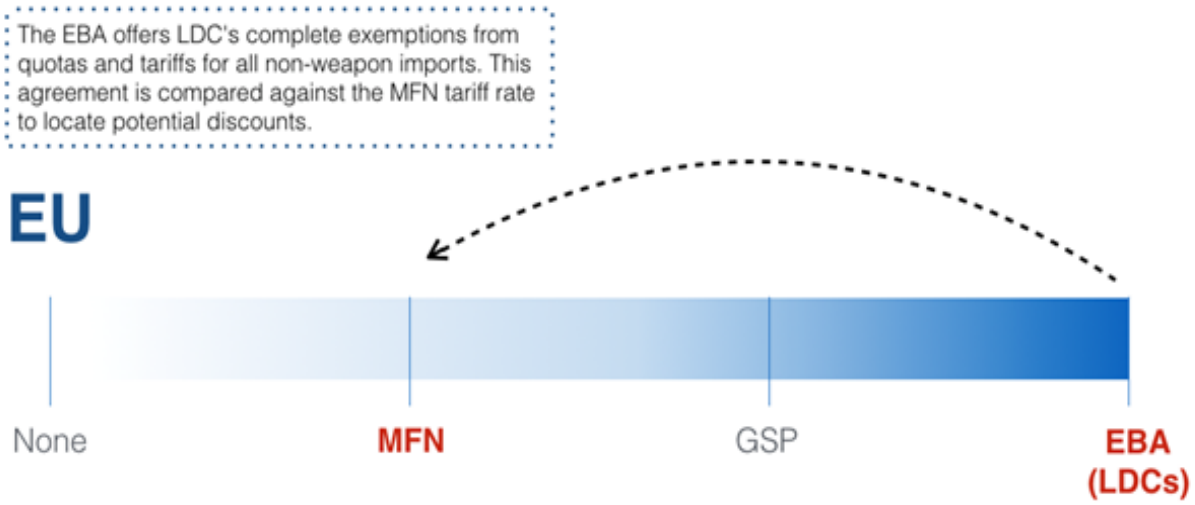
Tariff Rate (%)	10 Year Total Import Value (US$ million)	Commodity
6.70	$20.132	Shawls, scarves, and the like, of wool, not knit
7.70	$6.143	Knit or crocheted wool headgear: (not elsewhere stated)
4.50	$4.646	Textile carpeting, Knotted, wool/fine animal hair (not elsewhere stated)
3.90	$1.161	Shawls, scarves, and the like containing 70%+ silk/silk waste not knit
11.30	$1.024	Shawls, scarves, and the like of Cotton (not elsewhere stated), not knit
11.30	$0.647	Shawls, scarves, and the like of textile material (not elsewhere stated)
6.00	$0.489	Textile carpets, tufted, of wool or fine animal hair, Hand-hooked
7.90	$0.436	Not knit wool headgear (not elsewhere stated)
5.30	$0.412	Shawls, scarves, and the like, artificial fibre, not knit
9.50	$0.400	Shawls, scarves, and the like, cotton knit

Sources: United States Census Bureau 2016. USA Trade Online, as accessed Oct. 2016. https://usatrade.census.gov/

The tariff exemptions remain subject to the relevant rules of origin, which the NTIS acknowledges to be an obstacle to taking advantage of these benefits. Most generally these require that products not enter Nepal under the same section or heading of the HS code as when they leave Nepal to fulfil country of origin requirements. Essentially, a good must be modified into a different product in order to change the country of origin. Also sufficient infrastructure must be in place to ensure other nations do not attempt to take advantage of Nepal's preferential trade status. Other rules of origin and exceptions may also apply. Further, it should be noted that qualifying for specific tariff sections require specific material components, and varying components can cause a significant change in tariff savings.

In contrast to the United States' system of trade preference, the European Union's Everything but Arms (EBA) system of LDC preferences is simple (see Figure 8). All LDCs qualify for tariff and quota free imports for all qualifying products excluding firearms.

Figure 8:
Visualization of Calculated Discount for Nepal Tariff Exemptions (EU)



From the aggregated decliners identified in the previous section, the EBA offers 104 sub-segments with greater than 10% tariff savings vs. MFN[64] trading partners. Of these, three classes of footwear have preferences of almost 17% which was the highest preference identified for these products under the EBA. However, the EBA is shared by almost all LDCs and grants Nepal no privilege over any other LDC. In addition, Nepal must factor in the possibility of graduating from LDC status, possibly as early as 2022. After graduation, Nepal would face a transition period of only three years during which EBA preferences would be maintained.

However, the EBA is still not quite as simple as it may seem. Nepal faces non-tariff barriers to gaining significant benefit from trade access schemes. The NTIS acknowledges that "Despite Nepal's access to various preferential schemes, it has not been able to take full advantage of benefits of these schemes mainly due to difficulties in meeting the stringent non-tariff measure (NTMs) requirements of the importing countries." Among these non-tariff barriers are testing and safety requirements that the products must meet. While many classes of goods are required to meet some kind of standards the EU is known for having particularly hard to satisfy criteria for agro-products.

64 The EU's MFN equivalent as sourced from the WTO Tariff Download database is used. The EU does not currently have a tariff scheme labelled MFN.

Box 2

Meeting Technical Standards – A Facilitating Role for Government

A producer of traditional Nepalese products has maintained his business in Nepal for nearly 30 years. Having seen many ups and down's, this businessman tells stories of extortion during the Maoist Revolution and wage increases 20x higher than when his business opened.

Despite surviving as a business through these deep changes to the political and economic system, the Government support that he believes would make the most impact on manufacturing today is technical assistance. Meeting the certification requirements for exporting products comes at a high expense as products must be shipped out for testing in Hong Kong SAR or the UK. Certifications must be renewed and the entrepreneur estimated the cost of overseas product qualification to run between $300-$500 US$ per instance.

Sources: CNSE 2016. Nepal Survey. Peking University, Beijing, CNSE: April 2016.

It is worth mentioning that the problem of technical qualification is much less concerning for FDI backed firms with deep exporting experience. As China grew to become the 'world's factory', the firms behind that success mastered the technical and certification demands of products bound for the large US and European markets. Having met expectations over the last 20 years, they are well placed to transfer this expertise to partner firms and workers in the Nepalese market. In addition to this anticipated knowledge and network spill over, there exists opportunities for the Nepalese Government to help fill some of the gap in standards setting, testing facilitation, and enforcement.

Finding products with significant overlap between the EU and United States' preferences is difficult as they use different categorization methods. At the broadest level, leather goods have the best outcome across both markets. As examples, leather gloves (average 8.8%) have the strongest preference of leather products in the EU with lined leather gloves being worth a strong 12.6% in the United States. For the US, leather cases and wallets may qualify for the 20% exemptions shown above and average about 6.5% preference in the EU.

In summary, some light manufactured goods enjoy preferential access to large markets if produced in Nepal, creating incentives for FDI firms and their international buyers to relocate production to Nepal. The TFTEA (2015) preferences apply only to Nepal but are restricted to very specific products produced from specific materials. These restrictions make it difficult to formulate systematic trade policy to take advantage of trade concessions. However, there are five categories of trunks and cases which receive a unique 20% duty exemption and a further 17 categories with 17.6%. Footwear is a particularly strong product classification to export into the EU, where they can enjoy tariff preferences as high as 17%. Although it is difficult to find products which perform well in both the United States and the EU, at the broadest level leather goods have the best outcome across both markets. Thus trunks and cases, footwear, and leather should be encouraged for export to the world's two largest markets.

Box 3

Case Study: Impact of Preferential Trade Agreements (PTAs)

For some firms, PTAs and global trade schemes significantly impact business. An entrepreneur in Nepal described how the change in quota allocation for Indian garments bound for United States markets pushed many Indian companies to cooperate with local businessmen to register 'ghost' businesses in Nepal. The investment to open the firm would be provided entirely by the Indian firm and the products would be produced in India but labeled and shipped out from Nepal.

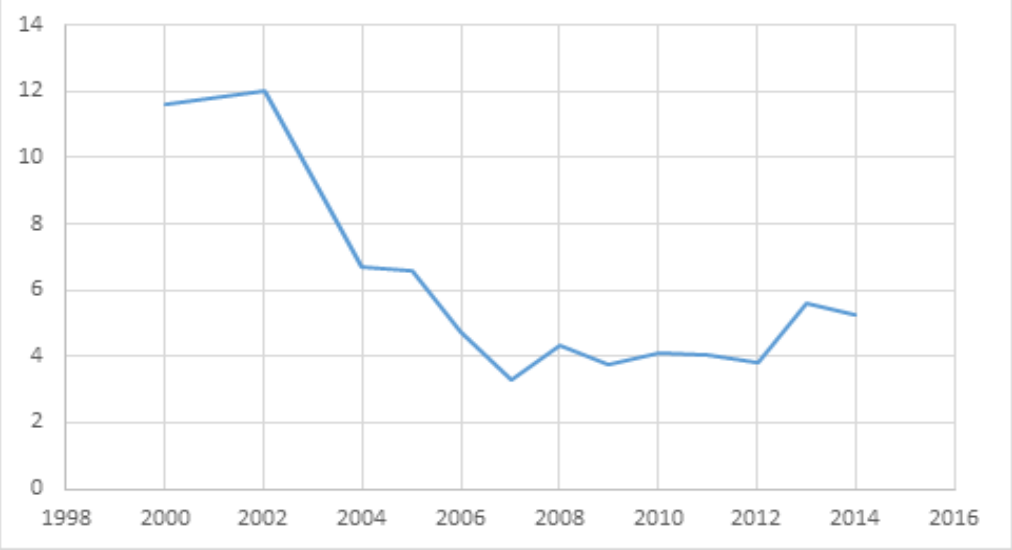
This practice was curbed with the introduction of rules of origin and value added criteria in order to qualify for tariff savings. This pushed the firms to arrange for final assembly in Nepal with the market demonstrating that in at least some cases the costs savings offered by PTAs offset the transportation costs of shipping unfished goods from India to Nepal, finishing them and shipping them back to the port in India for international export.

Sources: CNSE 2016. Nepal Survey. Peking University, Beijing, CNSE: April 2016.

Although trade preference regimes are difficult to navigate, they can have a material impact on manufacturing growth and export success. Underperformance in Nepal's manufacturing sectors has before been attributed to changes in international trade regimes. The garment industry is said to have suffered significantly when Government policy failed to adequately alleviate the shocks caused by changes in global market access regimes and increases in the minimum wage. The WTO Agreement on Textiles and Clothing (ATC) 1995-2004 was a transitional instrument to integrate textile and clothing products into the general rules under GATT 1994. The ATC was designed to generally phase out ending in January 2005 leading to greater liberalization in textile markets. With the elimination of quotas on the trading of textile and clothing products, competition in the global market increased. The Government appears to have failed to prepare for the situation over the transitional period which probably aggravated existing declines in garment exports.

Figure 9:

Nepal's Export of Ready-made Garments to United States (million Rs.)1998-2016



Sources: Garment Association Nepal 2016. "Exports of Nepali RMG". http://ganasso.org.np/?page_id=120

In this section we have approached the question of what Nepal should produce from three complimentary angles. First, we looked for products which had contributed to growth in Nepal's benchmark countries – India, Viet Nam, and China. Products which had successfully made it into the top 10 exports were called 'stars'. Of these stars, some may be losing their comparative advantage or facing pressure from the growth of new industries in their countries of origin. Products which fell successively down the export list were labelled 'decliners'. Tracking these decliners over a period of 20 years revealed a pattern of light manufacturing success and decline. Although priority sectors should not be determined on the basis of trade data alone, light manufactured goods such as textiles, garments, shoes, leather, and cases demonstrated strong potential across the three benchmark countries.

Following this, we looked at the existing export activity of firms in our small primary research sample. From this we observed that firms in textiles had the strongest exports to the United States and EU, with some bags and leather being present as well. The success of these firms in reaching major markets even in their limited and ad hoc way offers exciting potential for the viability of manufacturing firms in Nepal. These producers managed to persevere in very challenging conditions which points to greater success if the binding constraints holding back Nepal's manufacturing can be mitigated.

Finally, we considered trade preferences in two of Nepal's major export markets – the United States and the EU. The Trade Facilitation and Trade Enforcement Act (TFTEA) (2015) affords special trade preferences to Nepal as a form of disaster relief. If it is enacted in its current form, Nepal will qualify for significant tariff savings that are not available to other LDCs. However, the permitted products are extremely specific, and the products with the highest tariff savings (exceeding 15%) are not currently being exported by Nepal, with only one exception. More modest, but still advantageous savings can be found from several classes of textiles which Nepal currently produces. By contrast, the EU's Everything But Arms (EBA) scheme is simple – it allows for tariff and quota free access for all goods from LDCs excluding firearms. However, as it does apply to all LDCs, it does not help Nepal to compete against other LDCs for FDI as far as preferential market access to the EU is concerned. The greatest area of overlap between the United States and the EU is in products produced from leather including shoes, gloves, and cases.

The products mentioned in this section may only be taken as indicative as the choice of sectors depends on the activities of private firms. However, it is hoped that this analysis may support the decisions of potential transferring firms and other stakeholders in their decisions.

IV What is holding Nepal back?

Light manufacturing sectors as a whole had contracted as a per cent of GDP from 1998 to 2012 with no substantial growth from 2012 until 2015 (the last year for which data are available).[65] This is strongly corroborated by multiple sources of firm level data. Interviews undertaken by the CNSE in 2016 demonstrated a pattern of low enthusiasm for investment or upgrading due to a generally pessimistic view of the manufacturing environment. This pattern is a continuation of previous years' studies undertaken by both the World Bank and the Nepalese Central Bureau of Statistics.

According to the Enterprise survey micro-data less than 12% of manufacturing firms were operating at capacity in 2013, indicating that new domestic firms are unlikely to enter and that further consolidation may occur.[66] Two years earlier, the Census of Manufacturing Establishments (CMEs),[67] found that manufacturing share of gross domestic product (GDP) had fallen by almost a third, from about 9% in 2000-2001 to just over 6.2% in 2012-2013.

There are a multitude of interrelated constraints bearing down on light manufacturing in Nepal. Among these, the three most impactful are the instability of the electricity supply, the poor state of transportation infrastructure, and a troubled labour market. All three binding constraints are exacerbated by political instability and poor Government implementation. These challenges increase the cost of doing business for manufacturing firms and reduce their export competitiveness. However, these constraints can be significantly mitigated through the use of targeted public and private investment in Special Economic Zones.

Instability of Electricity Supply

Electricity is a crucial input cost for labour intensive, light manufacturing production. Although Nepal has substantial potential for the development of hydropower, domestic electricity production currently falls short of demand and distribution is unstable. Figure 10 shows that for businesses in Nepal access to electricity remains the principal challenge to their business.

Although data are not directly comparable due to different survey questions and methodologies, this finding is consistent with the pattern observed four years prior in the National Census of Manufacturing Establishments 2011-2012 (see Figure 11).

Shortages are exacerbated by increasing demand, and electricity production capacity is falling further behind. From 2006 to 2014 electricity demand in Nepal increased by 68.5%, while the production capacity of the state electric utility, the Nepal Electricity Authority (NEA), only increased by approximately 45% (see Table 9).[68] In 2014 NEA had to purchase more than half of the domestic electricity consumption from other sources, including importing from India.[69]

65 The World Bank 2016. WDI Indicators. [NV.IND.MANF.ZS], as accessed June 2016.

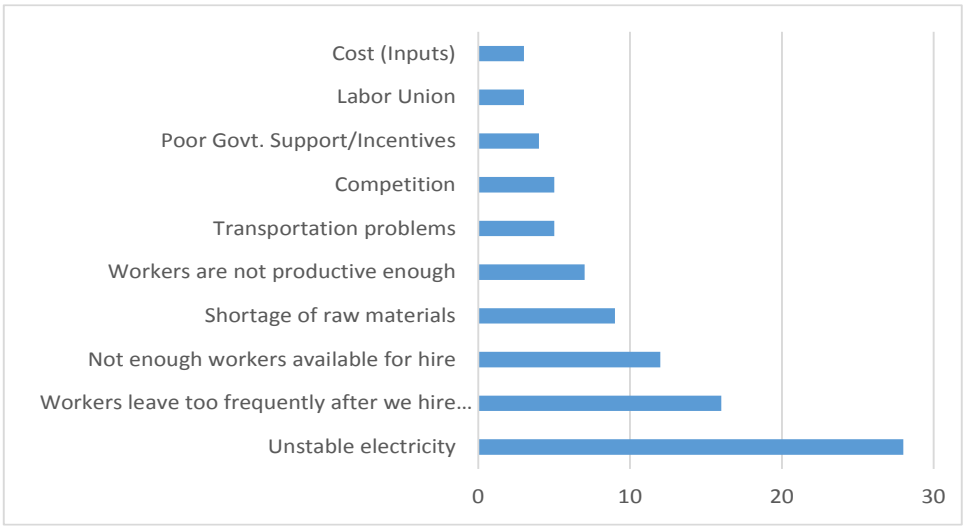
66 The World Bank 2013. Nepal – Enterprise Survey 2013. [NPL_2013_ES_v01_M], as accessed June 2016. http://www.enterprisesurveys.org/nada/index.php/catalog/674.

67 The CMEs is undertaken by the Nepalese Central Bureau of Statistics (CBS), in every five year interval since 1964-1965. The 2011-12 CMEs was carried out in coordination with United Nations Industrial Development Organization (UNIDO).

68 Nepal Electrical Authority (NEA) 2015. Annual Report 2015. Dubar Marg, Kathmandu, Nepal. http://www.nea.org.np/images/supportive_docs/year-review-2014-15.pdf

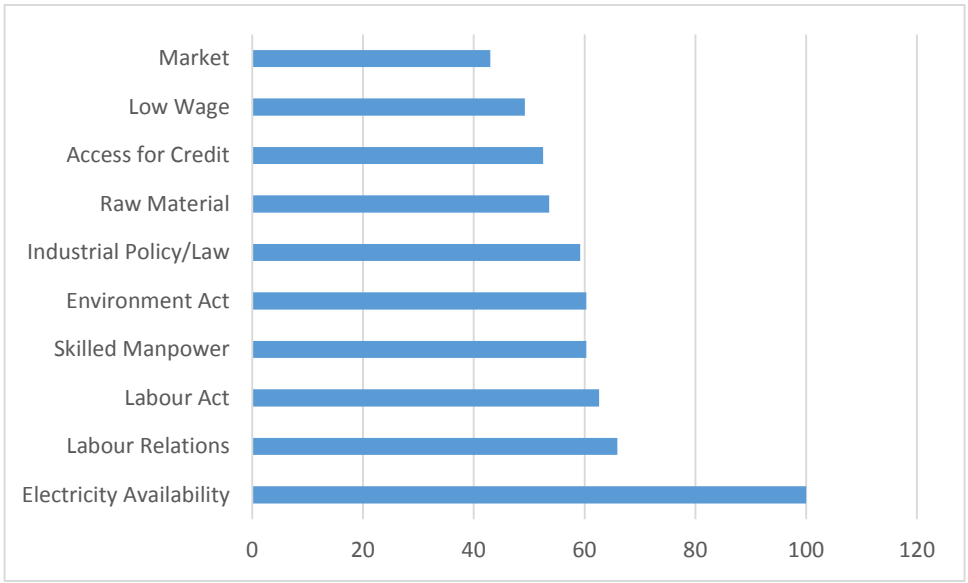
69 Ibid.

Figure 10:
Major Challenges for Surveyed Manufacturing Firms [70] :2016



Sources: CNSE 2016. Nepal Firm Survey. Peking University, Beijing, CNSE: 2016.

Figure 11:
Challenges in the Manufacturing Sector in 2011-12



Sources:Central Bureau of Statistics (CBS) 2014. "Development of Manufacturing Industries: Current State and Future Challenges". Kathmandu, Nepal.
http://cbs.gov.np/image/data/Manufacturing/Development%20of%20Manufacturing%20Industries%20in%20Nepal,%202014/Devlopment-of-manufacturing-industries-in-Nepal.pdf

70 Data in Figure 10 record any instance of a selecting major challenges from a list of potential challenges given as options to respondents. However, some discrepancies may arise due to respondents having been asked for the top 3 challenges but responding with variable numbers of challenges. Table based on 35 survey firms only, excluding case study data. Only challenges reported by 3 or more firms are displayed in figure 10.

Table 9:
Electricity, Total Energy Available, 2010-2014, Nepal (GWh)

Year	Total Available Energy	Nepal Hydro	Nepal Thermal	Purchased (Total)	India (Purchase)	Nepal Independent Power Producers (Purchase)
2010	3,352	2,109	130	1,230	639	591
2011	3,858	2,122	3	1,733	694	1,039
2012	4,179	2,357	2	1,820	746	1,074
2013	4,258	2,273	19	1,966	790	1,176
2014[71]	4,632	2,291	10	2,331	1,072	1,259

Sources: Central Bureau of Statistics. 2014. Statistical Pocket Book 2014. Government of Nepal, Kathmandu, Nepal.

Despite its poor availability, the cost of electricity in Nepal is moderate as shown in table 10. It is worth mentioning that the effective price of energy is likely to be much higher for firms in Nepal as 85.7% of firms report using generator or inverter. Of these, 96.7% of firms report that they maintain private generating facilities because power outages interrupt their production. On average, survey data indicate that firms in Nepal spend $257 on electricity. [72]

'We have a 65 KVA generator which consumes 6 litres per hour so if it's a winter day with 10 hours of load shedding that is 60 litres of fuel spent on electricity.' [73]

Table 10:
Electricity Prices for 5 Major South Asian Countries as well as benchmark countries (US$ per kWh)[74]

Country	Bangladesh[75]	Bhutan[76]	China[77]	India[78]	Nepal[79]	Sri Lanka[80]	Vietnam[81]
Electricity Price	0.07	0.04	0.11	.11-.13	0.08	.08-.08	0.07

Sources: Tariff rates from multiple Sources. See footnotes

71 2014 Numbers are provisional.

72 Based on 28 valid observations.

73 Adapted from firm response CSNE 2016

74 Data is converted to US$ via annual average exchange rate from IFS.

75 Bangladesh Energy Regulatory Commission 2015. "BPDBs Wholesale (Bulk) Electricity Tariff 2015", as accessed June 2016. http://www.berc.org.bd/bulktariff_bpdb.pdf. Based on 28 valid observations.

76 Bhutan Power Corporation Limited 2016. "Electricity Tariffs", as accessed June 2016. http://www.bpc.bt/utilities/electricity-tariffs/. Medium voltage electricity tariff is used here.

77 State Grid Corporation of China 2016. "Latest Electricity Tariff in Beijing", as accessed Jun 2016.
http://www.95598.cn/static/html//person/sas/es//PM06003001_2016037918467080.shtml
Electricity tariff for industrial purpose 20KV electricity during normal time is used here.

78 Central Electricity Authority of India 2014. "Tariff & Duty of Electricity Supply in India", as accessed June 2016.
http://cea.nic.in/reports/others/enc/fsa/tariff_2014.pdf.
Non domestic electricity tariff in Delhi (NDMC) is used here.

79 Nepal Electrical Authority (NEA) 2016. Annual Report of Nepal Electricity Authority. NEA, pg. 133.
"Normal Time" electricity tariff for industrial use at medium voltage is adopted here.

80 Public Utilities Commission of Sri Lanka 2013. "Approved Tariff for Domestic Consumers-2014", as accessed June 2016.
http://www.pucsl.gov.lk/english/information-centre/tariff-revision-2013/
Day-time electricity tariff of industrial use is adopted here.

81 Viet Nam Electricity 2016. "Electricity Prices", as accessed June 2016.
http://www.evn.com.vn/c3/evn-va-khach-hang/Bieu-gia-ban-le-dien-9-79.aspx
Normal-time electricity tariff of 22KV-110KV in manufacturing sector is used here.

There is support in the survey data that the availability of electricity significantly affects the behaviour of firms. For instance one entrepreneur reported that electricity was the primary reason that her firm continued to operate in the informal sector.

'I haven't registered the business at all. When I went to register they told me that factories need to be located outside the ring road, but electricity voltage outside the ring road is not good enough so I am operating without registration.' [82]

Greater consistency of supply, not to mention lower costs, may be achievable through the development of hydropower. However, if a choice is to be made between ensuring supply and reducing costs, the former should be preferred. This is particularly salient as large infrastructure projects take years to come online and may not be operational by Nepal's 2022 ambition to graduate from LDC status. Nepal's limited success with industrial estates demonstrates that scarce resources may be thoughtfully applied to mitigate the worst impacts of the inconstant energy supply on business. Some industrial estates, such as Pokhara, guarantee firms up to 12 hours of uninterrupted electric supply at fixed prices, and firms located in these estates seemed to be satisfied with the service they received. Considering the time required for the development of new energy infrastructure projects sufficient to improve the national level of electricity, SEZs offer the best chance of revitalizing the manufacturing sector in the short and medium terms.

Transportation Infrastructure

Nepal suffers from high transportation costs stemming from its challenging geography and small export volumes. These costs may be reduced most effectively by focusing on connecting the most promising SEZs with international markets. Table 11 shows the costs of transporting from Nepal to international markets. Nepal places second to last, followed only by Afghanistan in both the time and dollar costs of transportation.

Table 11:
Regional Comparison of Costs and Times for Transportation (2014)

Country	Cost to import (US$ per container)	Cost to export (US$ per container)	Time to import (days)	Time to export (days)
Sri Lanka	$690	$560	13	16
Pakistan	$1,005	$765	18.4	20.7
India	$1,462	$1,332	21.1	17.1
Bangladesh	$1,515	$1,281	33.6	28.3
Maldives	$1,610	$1,625	22	21
Bhutan	$2,330	$2,230	37	38
Nepal	$2,650	$2,545	39	40
Afghanistan	$5,680	$5,045	91	86

Sources: The World Bank 2016. WDI DataBank: World Development Indicators, [IC.EXP.COST.CD, IC.IMP.DURS, IC.EXP.DURS, IC.IMP.DURS], as accessed May 2016.

One driver of the elevated transportation costs in Nepal is the lack of rail networks. As shown in table 12, the rail network in Nepal is significantly less developed than that of its regional neighbours, again excluding Afghanistan. However, there have been some positive developments such as an international freight lane which has begun to operate between Lanzhou and Kathmandu. Even though the rail transport will change over to road transport from Shigatse and Geelong, this could potentially reduce shipping times and boost trade linkages between Nepal and China.

82 Adapted from firm response CSNE 2016

Table 12:
Railway Comparison in South Asia Region

Country	Total Route (km)	Data Year
Nepal	59	2006
Afghanistan	24.6	2001
Sri Lanka	1,200	2007
Bangladesh	2,835	2006
India	63,327	2007
Pakistan	7,791	2006

Sources: World Bank 2013. Transport in South Asia: Nepal Railway Data, as accessed May 2016.

http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/EXTSARREGTOPTRANSPORT/0,,menuPK:579621~pagePK:51065911~piPK:64171011~theSitePK:579598,00.html

Note: Data for Bhutan and Maldives are unavailable.

In its Vision 2007 paper, the Government of Nepal had targeted a 3-year goal of the construction of the Birgunj – Raxaul – Kolkata - Haldia and the Birgunj – Raxaul – Katihar railway lines. These projects were identified as part of the South Asian Association for Regional Cooperation Multimodal Transport Network. Nepal's long-term goal is more ambitious. It aims to bring these projects together in the East West electrified railway line connecting Terai from Mechi to Mahakali and Raxaul – Kathmandu – Lhasa railway line. The former was made one of the National Pride Projects under Ministry of Physical Infrastructure & Transport and officially launched on June 15, 2014.[83]

The second driver of the high cost in Nepal is the small scale of existing exports. Individual firms most often lack the ability to fill containers of goods on their own and ship to order on ad hoc schedules. This limits their ability to negotiate and may leave manufacturers subject to decisions made by freight forwarding companies. One respondent indicated freight forwarding companies were not always transparent in their dealings with manufacturers and would occasionally book cheaper flights without notifying the producer, resulting in delays reaching the destination market. However, according to the freight forwarding representative many of the delays are out of the control of the forwarding companies.[84] For instance, while Nepalese freight forwarding companies are able to maintain reasonable communication and enforcement over Nepalese drivers, they have fewer mechanisms to use with Indian drivers. In one instance the freight forwarding representative claimed that an Indian driver had gone home and was only in contact with the firm after five days. Penalties for late delivery vary substantially based on buyer agreements with some firms suffering 'only' reputational damage while others are financially penalized or forced to use air freight which substantially reduces profit margins.

There may be some benefit for export oriented firms who use a substantial amount of local upstream supplies due to Nepal's trade balance. As exports are currently only 9.98% of imports,[85] substantial shipping discounts of about 30-40% vs. import shipping cost may be available. This discount arises because the cost to ship an empty container back for the shipping company is almost the same as the cost of shipping a full container. For the freight forwarding representative in our interview the ratio of export

83 Railway Gazette 2014. "Mechi – Mahakali Electric Railway Construction Launched", as accessed June 2016. http://www.railwaygazette.com/news/infrastructure/single-view/view/mechi-mahakali-electric-railway-construction-launchedhtml

84 CNSE 2016. Nepal Firm Survey. Peking University, Beijing, CNSE: 2016.

85 UN Comtrade 2016. UN Comtrade Database. United Nations, as accessed Nov. 2016. http://comtrade.un.org/data/

containers to import containers was about 1 in 6.5. These benefits will eventually diminish as exports and imports come closer to par, but for the moment firms may be able to use this period to realize an early opportunity. This discount is slightly less pronounced for firms that import most of their raw production materials as they are bearing the high premium on imports.

Transportation challenges are not only about raising the cost of doing business, but they also weigh heavily on the credibility of Nepalese manufacturing. While transportation infrastructure remains poor Nepal should avoid producing products which are time sensitive, whether for concerns over spoilage or being bound for fast moving fashion markets. As Nepal further integrates with global value chains, firms will face increasing pressure to ensure delivery is regular and quality is sufficient.

Labour Challenges

The labour market in Nepal is extremely challenging. Outbound economic migration has continued for more than 50 years and has become a social as well as an economic phenomenon. Structural transformation holds the potential to bring these workers back in the medium and long terms. A similar pattern has been observed in people returning to China and other high-growth Asian countries after many years overseas. However, high costs and poor labour relations constrain the possibility of structural upgrading, and it is imperative that solutions be found to mitigate them.

According to the National Statistics Bureau, almost 2 million Nepalese citizens worked abroad in 2011 (see Table 13).[86] Outbound migration is a nuanced issue as it has evolved into more than a question of economic opportunity and involves issues of community expectations and social status. Originally a response to economic necessity, migration has become a mark of success and social status. Local sources indicate that having worked overseas may even influence marriage opportunities. If this holds, then in the short term rising wages are unlikely to prevent young workers from seeking their fortunes abroad. This outbound migration is affecting the labour price by restricting supply.

'We have around 100 workers in the factory at the moment. Most of them are ready to leave the factory the moment they get their visa for Arab countries. The motivation among the workers is very low. I pay them around $150-$200US$ a month.'[87]

Although economic migration is reducing the supply of workers, 65% of the population remained employed in agriculture in 2013. This is somewhat puzzling given that the number of workers in agriculture significantly outnumbers the population employed overseas. Even if the population of undocumented workers was as large as those immigrating legally, the figure would still be comfortably below the population of agricultural workers. The reasons for why these workers are not moving into the formal sector to take advantage of strong wage earning potential is beyond the scope of this report but requires further investigation. From the standpoint of manufacturers, a stable source and reasonably stable price for labour are key factors in their industrial transfer decisions (see Table 14 & Table 15).

86 Ministry of Labour and Employment 2014. Labour Migration for Employment A Status Report for Nepal: 2013/2014. Government of Nepal. Kathmandu, Nepal. https://asiafoundation.org/resources/pdfs/MigrationReportbyGovernmentofNepal.pdf

87 CNSE 2016. Nepal Firm Survey. Peking University, Beijing, CNSE: 2016. Adapted.

Table 13:
Number of Workers Abroad by Year: 1991, 2001, 2011

Year	1991	2001	2011
Number of Workers Aboard	658,290	762,181	1,921,494

Sources: Sanjay Sharma, Shibani Pandey Dinesh Pathak & Bimbika Sijapati-Basnett 2014. State of Migration in Nepal. Center for the Study of Labor and Mobility.

http://ceslam.org/docs/publicationManagement/STATE%20OF%20MIGRATION%20IN%20NEPAL1404964819.pdf

Table 14:
Employment by Sector (% of Total Employment): 2001, 2008, 2013

Sector	2001	2008	2013
Agriculture	65.70	73.90	66.50
Industry	13.40	10.80	11.20
Service	20.70	15.30	22.40

Sources: The World Bank 2016. WDI DataBank: World Development Indicators, [SL.SRV.EMPL.ZS, SL.IND.EMPL.ZS, SL.AGR.EMPL.ZS], as accessed May 2016.

Table 15:
Agricultural Employment in Nepal (Millions): 1991, 1999, 2001, 2008

Gender	1991	1999	2001	2008
Male	3.67	4.09	3.77	4.24
Female	4.09	4.88	4.35	5.71

Sources: The World Bank 2016. WDI DataBank: World Development Indicators, [SL.AGR.EMPL.FE.ZS, SL.AGR.EMPL.MA.ZS, SL.AGR.EMPL.ZS, SL.TLF.TOTL.IN, SL.TLF.TOTL.FE.ZS], as accessed May 2016, author's calculation.

As of 2013, the minimum wage in Nepal was $81 US$.[88] It is worth mentioning that while this is the legal minimum, effective salaries are thought to be higher. Interviews with policymakers indicated that wages may exceed $108 US$ in the garment industry, and the average wage across all payment structures in the sample was $182 US$.[89] However, there is quite a wide spread in wages with the lowest reported monthly wage being $68 US$ in a textile company, and the highest reported wage for a non-management production worker coming in at $487 for an Indian worker or $418 US$ for a Nepalese production worker.[90] It is worth mentioning that in both cases the high end salaries were reported by firms specifying the use of piece rate compensation structures.

Even as Nepalese workers are migrating out, Indian workers migrate into Nepal to take advantage of higher wages. This was especially true where piece work were structures were in place.[91] On the surface economic migration from India seems surprising because India's per capita GDP is 240% of Nepal's and correspondingly[92] average real wages in India would be expected to be in the vicinity of twice as high as those in Nepal (assuming roughly similar distribution). However, despite no specific question being asked about foreign labourers, nine firms in the study reported using Indian labourers.

88 ILO 2016. ILOSTAT Database, as accessed May 2016.

89 CNSE 2016. Interviews in Nepal. Peking University, Beijing, CNSE: April 2016. CNSE 2016. Nepal Firm Survey. Peking University, Beijing, CNSE: 2016.

90 Ibid.

91 A further discussion of piece work wages structure can be found in Box 4: Piece Work Wages.

92 The World Bank 2016. World Bank Open Data., [NY.GDP.PCAP.PP.KD], http://data.worldbank.org/

Box 4

Piece Work Wages

In the survey data collected, 42% of firms specifically mention compensating workers according to piece rates rather than monthly salaries. When this method of compensation is adopted employers report a higher range of pay and often openly admit to paying Indian workers more on account of increased productivity.

Although the range of salaries was greater, piece rate workers had a higher average monthly salary at $207 US$ vs. $149 US$ for workers at factories that did not mention piece rate wage structures. The average difference between the highest and lowest earner at the same company was $134 US$ at the piece rate factories vs. $70 US$ at factories which did not mention paying piece wages.

Two explanations are suggested for this piece work payment structure. The first is that it enables the employers to avoid contracting with employees and thereby saving additional, non-wage labour costs.

"If I start giving permanent contracts here to my employees, I know my factory will shut the very next day."

The second explanation is related to the poor supply of electricity. When workers are not able to produce output due to outages, they are not paid. In this way the entrepreneurs are shifting some of the cost of inadequate infrastructure onto their low skilled workers.

Sources: CNSE 2016. Nepal Survey. Peking University, Beijing, CNSE: April 2016.

As of 2014, approximately 600,000 Indians were domiciled in Nepal.[93] There are indications that on average Indian workers are perceived to be more productive. Two firms in the study claimed that when piece work wages were offered Indian workers earned about twice the take home pay of Nepalese workers. A third firm expressed a preference for Nepalese workers, but acknowledged the higher unit productivity of Indian workers. Encouragingly, this entrepreneur also noted positive impact from government facilitated worker training programmes on improving Nepalese worker efficiency.

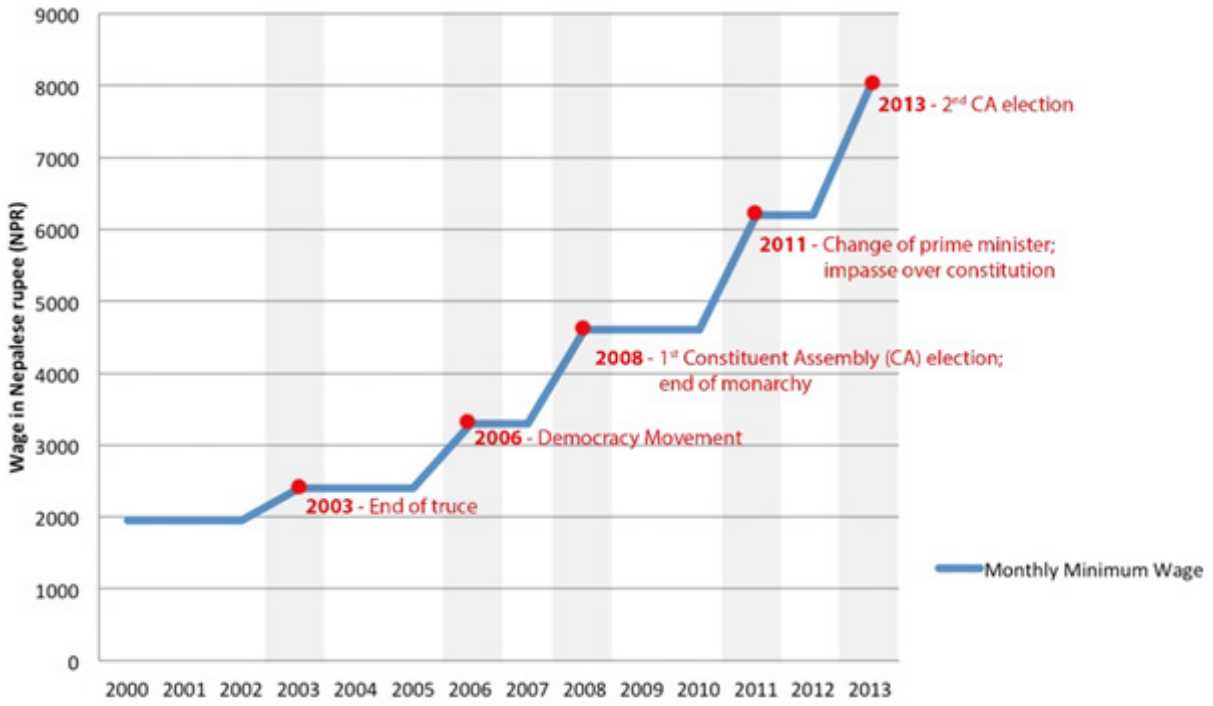
Labour relations in Nepal appear to be contentious. Nearly 40% of all firms interviewed[94] mentioned that strikes were a disruption to their business. In some cases respondents explicitly held the Government responsible for these strikes. This is corroborated by data from the United Nations Department of Safety and Security (UNDSS), Nepal Office which report that between 2008 and 2013 nearly 35% of the 4677 strikes in this period were initiated by political parties. Strikes initiated by rebellion groups were listed as a distant second at around 16% of strikes.[95] There is further evidence that increases in the minimum wage are correlated with political events in Nepal, and there is additional evidence that politicians have taken advantage of the fragile labour settlement for political gains.

93 Indian Ministry of External Affairs 2014. India–Nepal Relations, as accessed October 19th 2016. http://mea.gov.in/Portal/ForeignRelation/Nepal_July_2014_.pdf

94 Includes any mention of disruptions due to strikes from interviews with 35 survey firms and 4 case study firms. Strikes were not specifically mentioned by any question on the survey but were volunteered by respondents where open answers were permitted – e.g. in a question about the causes of delays of goods to buyers.

95 Shrestha and Chaudhary 2013. The Economic Cost of General Strikes in Nepal. https://www.nrb.org.np/ecorev/pdffiles/vol26-1_art1.pdf

Figure 12:
Advances in Minimum Wage Plotted Against Political Events:2000-2013



Sources: ILOSTAT Database 2016.

However, businesses themselves may be coming up with innovative solutions to strikes. A firm in Nepal brought forward a scheme where both husband and wife work inside the factory. This factory houses a school for the workers' children believing that this would reduce the strike rate. These kind of employment based service delivery structures have been successful in Chinese SEZs and can improve outcomes for all parties. Firms or SEZ developers are able to deliver housing and meals at lower costs than would be paid by individual households due to savings from scale and improved coordination. Where service provision is delivered at a quality that is desirable to workers, it may reduce the wage bill and improve employee turnover. The result from a well implemented service programme can be that firms save money while households are able to have more disposable income due to savings on household expenditure.

Beyond the minimum wage, the labour law prescribes mandatory wage increases based on tenure without regard to productivity gains or business outcomes.[96] Laws protect labourers in a variety of ways, including strong limitations on redundancies. Even in the event of businesses slowing down where work becomes unavailable for an extended period, workers cannot be fired and instead must be retained on half salary on 'notice of reserve.'

The Labour Act of 1992 and its subsequent amendments require employers to show cause before punishment may be administered. Notice must be issued, and the employee is given seven days to give satisfactory clarification of their actions. As table 16 shows, precise maximum punishments are outlined in law and employer discretion is limited.

96 Labour Act Chapter 4.21A. Government of Nepal. Kathmandu, Nepal.

In addition, the law requires firms to provide and pay for additional non-wage benefits (see Table 16).[97] Whilst it is accepted that these benefits reflect and protect workers' rights, they inevitably create additional costs for the firms and investors. When such costs approach or even exceed value addition, employers might attempt alternatives to maximize their profits, such as hiring labour from the black market. Such dual labour markets can undermine the labour regulation system and impede economic activity.

Table 16:
Labour Costs Beyond Wages

Non-wage benefits	
Bonus	10 % of net income set aside for bonus pool[98]
Annual leave	18 days a year
Maternity leave	52 days a year
Sick leave (half pay)	15 days a year
Obsequies leave	13 days a year
Overtime	150%
Housing allowance	5 % of gross profit set aside for employee housing[99]
Retirement benefits	
Provident fund, employer contribution	10 % of gross salary
Provident fund, employee contribution	10 % of gross salary
Final gratuity payment in consideration of first 7 years of service	Half a month of final gross salary per year worked
Final gratuity payment in consideration of eighth to fifteenth years of service	Two-thirds of a month of final gross salary per year worked
Final gratuity payment in consideration of service beyond 15 years	One month of final gross salary per year worked
Termination indemnities	
Notice period	1 month of salary
Indemnity for each year worked or at least 6 months thereof	1 month of salary/year

Sources: United Nations Conference on Trade and Development 2014. UNCTAD iGuide Nepal, as accessed May, 2016. http://www.theiguides.org/public-docs/guides/nepal

97 Labour Law 1992. See table 16 for a summary of relevant benefits.

98 70% of remaining benefits after bonuses are placed in a staff welfare fun.

99 Rental allowances and housing subsidies are negotiated alternatives to investing in employed accommodation.

The labour market in Nepal faces significant challenges including high costs and strained labour relations. The labour price and reports of interviewed companies suggest that the supply of labour in Nepal is constrained and that this is exacerbated by outbound migration. However, there are large numbers of agricultural workers in Nepal, and the reasons why these workers have not shifted into formal wage work should be investigated. Overcoming challenges and high mandatory benefits have incentivized some firms to avoid the private sector and use piece rate payment structures. These structures can be positive overall, providing a stabilization of the unit-labour price but also shift the costs of electricity outages onto the workers. Despite challenges, Nepalese companies are showing signs of perseverance and ingenuity, such providing jobs for families with childcare facilities on site to improve employee turnover.

V How Can Nepal Use SEZs to Overcome Challenges and Secure Investment?

SEZs offer solutions to many problems for developing countries because they allow for relatively scarce resources to be concentrated in order to overcome binding constraints and release productive capacity. In addition to providing space for improved infrastructure, SEZs can be used to create an altered policy environment that can incubate pioneer industries and allow for policy iteration and adjustment to target the specific conditions faced by firms in an individual SEZ. Furthermore, SEZs may provide opportunities for the development of clusters, particularly where policy is directed toward supporting upstream or horizontal linkages. In this section, we first look at the new provision for SEZs in Nepal. Following this, we consider how a well-run SEZ could help to address the binding constraints of electricity instability, high cost and unreliable transportation, and labour challenges.

2016 Nepalese SEZ Act

In September of 2016 the Nepalese Government passed the SEZ Act[100] allowing for the creation of SEZs in Nepal. Our analysis focuses on three aspects of the SEZ framework as laid out in the SEZ Act. First, we analyse the roles and responsibilities of the SEZ High-level Steering Committee and SEZ Authority. Second, we look at the incentives provided in the Act and their potentially positive role in supporting cluster development and upstream linkages. Finally, we look at the current provisions for the one stop shop and permit granting process.

The SEZ act creates two governing bodies for SEZs – The SEZ High-level Steering Committee and the SEZ Authority, henceforth the 'Steering Committee' and the 'Authority'. The Steering Committee appears to be responsible for the oversight of the Authority and brings together multiple stakeholders from the Nepalese Government. The Steering Committee is chaired by the Ministry of Industry with joint-secretaries from the Ministry of Commerce, Ministry of Labour, and Ministry of Law. The remaining composition of the committee are: Directors General which are stipulated to be drawn from the Department of Customs, the Inland Revenue Department, the Department of Immigration, the Deputy Governor of Nepal Rostra Bank, the Registrar from Company Registrar's Office; representatives from the Federation of Nepal Chamber of Commerce and Industries (FNCCI), the Chamber of Nepalese Industries (CNI), the Federation of Small and Cottage Industries (FoSCI), the Federation of Women Entrepreneurs; three eminent experts from the industry, commerce and tourism sectors; and the Executive Director of the Authority.[101]

100 As of publication there is no official English translation of the SEZ Act. The analysis in this section is based on a private translation and may not be consistent with an official translation should it become available.

101 SEZ Act 2016. Article 19.

This highly diverse and representative steering committee may be an asset or a hindrance to the implementation of the SEZ programme depending on how it is put into practice. Optimistically, a diverse steering committee will be inclusive and unite potentially fractious agencies around a shared development agenda. However, in the pessimistic case, the large number of influencers may introduce coordination issues that gridlock the implementation of the SEZ programme. If the pessimistic outcome obtains, it may be difficult to regain the trust of the market given Nepal's historical levels of political risk and unrest. The current SEZ Act represents a new opportunity to reach out to the private sector and stimulate imagination for Nepal's industrialization. However, the pace of implementation and effectiveness of the programme will send strong signals to firms about what they can expect from Nepalese SEZs.

In our translation of the SEZ Act, the obligations of the Steering Committee are not well laid out and the relationship with the Authority is not firmly defined. However, the roles and responsibilities of the Authority itself are more explicit. The Authority has responsibility for the operation and management of SEZs, operation of the one stop shop, infrastructure development and maintenance, and monitoring and regulation of firms (Article 14). Encouragingly, these responsibilities are specifically stipulated as open to Public-Private Partnership (Article 6). If Nepal is able to successfully attract SEZ partnerships, such as the potential cooperation with Chinese Ping An Insurance mentioned above, they will be able to benefit from potential private partners' experience in SEZ development and potentially avoid the false starts acknowledged in some attempts at creating SEZs in other developing countries.[102] In this regard, Nepal's geographic location is an asset as partnership can be shared with either of its dynamic neighbours. In particular, border SEZs with shared responsibility for infrastructure and customs cooperation hold potential for improvement in both electricity provision and transportation costs and times.

The Authority is empowered to draft a list of potential industries that can be established in SEZs, but it is not clear which body is responsible for approval of the final list. Furthermore, the Authority is only in position to recommend services, facilities, and concessions available to enterprises. The concern is that the Authority, which has primary interaction with the firms through the management of the SEZ and one stop shop, may know what is needed to stimulate participation in SEZs but may be unable to carry out its mandate due to coordination issues with other bodies, potentially including the Steering Committee.

To guard against coordination issues, the Steering Committee should be responsible for the determination of guiding principles while ensuring the SEZ Authority is endowed with the power, independence and financing for practical implementation. Financing is important because the Authority will not be able to meet its infrastructure obligations without sufficient funding, and if newly established SEZs are left bare or allowed to deteriorate it will quickly compromise any gains realized under the SEZ programme. The Authority should be invested with stronger power to incentivize pioneer firms. The incentives stipulated in the current law[103] may not be sufficient to attract pioneer firms. Investment incentives should be targeted to attract investment into sectors most consistent with Nepal's comparative advantage. However, the incentives offered and industries targeted should be approached with a spirit of experimentation and adaptation in response to feedback from market participants.

102 Thomas Farole 2011. Economic Premise: Special Economic Zones: What Have We Learned? The World Bank. https://myweb.rollins.edu/tlairson/asiabus/sezevaluate.pdf

103 Current incentives include special tax treatment (Article 24); reduced leasing costs for 3 years (Article 26); corporate income tax exemptions and dividend exemptions for 5-10 years depending on SEZ location and firm characteristics (Article 27); customs exemptions on imports (Article 28).

Despite these concerns over coordination, the SEZ Act in Nepal shows signs of careful consideration. In particular, its provisions for local content are well considered. They provide incentives for using domestic inputs but not legally requiring them. The incentive provided for using at least 60% local raw material is to extend the life of the corporate income tax incentive from 5 years to 10 years. When this is combined with the current 30-40% discount on export transportation arising from import skewed trade balance, there are substantial opportunities for export producers in the short and midterm if they are able to source inputs locally. In addition, the Act incentivizes the upstream producers to upgrade by stipulating that firms which supply to exporters are eligible for the same benefits as exporters which may also help to lower the cost of the inputs. However, if these savings on transportation and tax are not sufficient to encourage use of local imports, this will constitute a clear verdict on the competitiveness of the upstream sectors. If this happens, the Government should devote resources to understanding the binding constraints and barriers to upgrading in the primary sector.

A similar incentive extending the period of tax exemption is offered for firms agreeing to locate in mountainous areas. Considering the existing question posed by high agricultural labour combined with reported labour shortages for wage earning jobs, it is possible to understand why the Government wishes to bring the firms to the rural areas. However, it is thought that the physical placement of SEZs bears significantly on their success. For instance the development of clusters is more likely to occur in central locations where there is relatively greater access to information, suppliers, and routes to markets. If clusters can be sustained they will need to be placed in a location which will continue to attract increasing skilled labour to meet demands for upgrading. Most of the successful SEZs in China were in coastal areas and workers came to these sites from the hinterland to take up work in factories. Historically, it was posited that strong family values in Chinese culture would prevent migrant workers and that this was compounded by strict rules on internal migration in China. However, workers did come by the millions to the coastal factories and demonstrated their individual responses to the incentives offered to factory workers.

Nepal is a landlocked country whose geographical advantage comes from its location between China and India. Rather than trying to create SEZs in rural areas, it is advisable to look for locations which will offer the best long term prospects. These areas are likely to be along borders or areas that are less difficult to connect reliably to existing or expected transportation networks. Adopting an SEZ strategy means devoting a large share of limited resources to a small area in order to overcome significant binding constraints. These resources should be allocated to create the strongest possible odds for success. If industrialization efforts are effective, these sites will require continual improvement in line with the upgrading industries' requirements and therefore should be placed with careful consideration for their entire projected life-cycle. Given these considerations, the Authority is encouraged to be cautious when permitting the creation of an SEZ in a mountainous area. Where concerns are present, it would be wise to seek private partners for the mountainous SEZ and be attentive to any signs of reluctance from experienced developers to enter that location.

For some firms ease of doing business and a partnership relationship with local government can matter as much as financial incentives. The SEZ Act provides for the creation of a One Stop Shop to streamline services in the SEZs and stipulates that these services will include business registration, visa services, and exemptions (Article 23). It is difficult to underestimate the value of the solid implementation power of the one-stop-shop in international investment promotion. For most foreign companies, the one stop shop will be the primary or only interaction that they have with the Government of their host country. The concept of the One Stop Shop has coexisted with SEZs since at least the Singaporean Economic Development Board. The successful implementation of the One Stop Shop can be an advantage for a

developing country, but given their ubiquity, the emphasis again falls on implementation. Despite the seeming simplicity of the One Stop Shop concept, they infrequently produce the intended impact.[104]

One concern is that the granting of permits to operate in the SEZ is guaranteed to be provided within 30-days (Article 8). However, this may be a relatively long delay, particularly if a permit must be obtained prior to accessing One Stop Shop Services. No commitments have been provided in the SEZ for the time for services in the One Stop Shop. As one point of recent comparison, the Ethiopian one-stop shop for investors covers the all of the procedures of starting business including: issuing investment permits, business licenses and construction permits; issuing commercial registration certificates as well as renewals, amendments, replacements or cancellations; effecting registration of trade or firm name and amendment, as well as replacements or cancellations; issuing work permits, including renewals, replacements, suspensions or cancellations. This one-stop shop forms a core part of Ethiopia's competitiveness, with financial incentives such as 8-10 year income tax exemption broadly in line with Nepal's.[105] Another recent example can be found in Rwanda, which has emphasized the time aspect of business registrations and promises that businesses can be registered in a maximum of 24 hours.[106]

Creating an effective and service oriented One Stop Shop in Nepal should be a primary concern for the Authority which must be endowed with sufficient power to meet its commitment to potential investors. In the Singaporean Economic Development Board, the board itself was empowered to issue many of the needed permits and permissions. However, many One Stop Shops coordinate among issuing agencies.[107] The Government should consider a thorough review of existing One Stop Shops and incentives in other countries seeking to attract FDI from China. Combined with tailoring its incentives and services to the priority industries identified by the Authority, this comparative study will help Nepal to ensure that it has a strong sector-specific proposition for potential investors. Whichever form the Nepalese One Stop Shop takes, the credibility it maintains with investors should be considered strategic and essential to Nepal's SEZ strategy.

In order to help overcome potential coordination issues in the Authority and provide credible guarantees in the One Stop Shop, Nepal may consider involving the head of Government directly in the SEZ Authority. The active involvement of the head of Government may help to shorten the lead time on decision making and problem solving. As the process of creating SEZs and implementing the One Stop Shop will be influenced by local conditions, the ability to react and adapt will be a great advantage. Having a clear and consistent communication channel to the highest levels of the Government sends a strong signal that the decisions of the Authority will stand, and can be implemented successfully. In addition, it may be prudent to involve SEZ experts or experienced zone managers, at least in the early stages, to provide fast learning and avoid some common management mistakes that can jeopardize the effectiveness of SEZ programs and lead to a poor reputation with potential investors.

104 Frank Sader 2000. Do "One-Stop Shops" Work? Foreign Investment Advisory Service (FIAS). The World Bank Group. http://led.co.za/sites/default/files/documents/92.pdf

105 Ethiopian Investment Commission 2012. "Incentives". Ethiopian Government. http://www.investethiopia.gov.et/images/pdf/incentives.pdf

106 Rwanda Development Board 2016. One Stop Centre. http://www.rdb.rw/one-stop-centre.html

107 Frank Sader 2000. Do "One-Stop Shops" Work? Foreign Investment Advisory Service (FIAS). The World Bank Group. http://led.co.za/sites/default/files/documents/92.pdf

Overcoming Nepal's Binding Constraints

In the course of this report we have identified three binding constrains that have held back Nepalese manufacturing and entry into global value chains. These include the instability of the electricity supply, high cost and unreliable transportation, and a challenging labour market. For each of these, SEZs offer tangible opportunities to facilitate the development of productive capacity from a limited base. In this section we will take each constraint in turn and provide specific recommendations on how Nepal may be able to use its SEZs to overcome them.

Nepal has cost competitive electricity, but the supply is unstable and inadequate for the level of demand. Load shedding was consistently reported by firms outside of the existing industrial estates, while firms in these estates reported that the guarantees for 12 hours of electricity had been met and nearly eliminated this concern. In many manufacturing operations, it is advantageous to work on a shift based schedule as this improves the productivity of fixed assets. Shift work may also allow for the creation of more jobs, depending on the structure of the shifts preferred by firms and allowed under Nepalese law. As such, the electricity guarantee provided in the SEZs should be extended from 12 hours to 18 or 24 depending on the feasibility. In addition to the potential productivity gains, this may also help to differentiate the new SEZs from the old Industrial Estates in a way that generates enthusiasm for the new programme.

In order to meet these guarantees, the Authority should look for partnerships with the private sector and neighbouring Governments. Private partners with substantial experience in electricity generation and transmission experience may significantly contribute to the creation of efficient zone development. In particular, partners which have overcome this constraint in developing counties should be particularly prized. The early involvement of partners at the stage of selecting the physical location of SEZs is likely to have some bearing on their ability to meet proposed electricity guarantees.

In addition to private sector partners, the Government should consider co-locating SEZs in border regions where Indian and Chinese Governments could share the obligation and investment to support electricity guarantees. However, border SEZs have potential downsides. While the greater expertise and experience of the partner may introduce solutions, increasing the complexity of decision making and negotiation could introduce new coordination failures. All aforementioned cautions about the need for capable implementation apply to partnerships. The structure of partnerships with the private sector or neighbouring Governments must be negotiated with the competitiveness of the SEZ programme and the development of Nepal as core metrics by which mutual success will be judged.

The small scale of Nepalese exports and its landlocked condition contribute to high cost transportation which suffers from low reliability. While the SEZs cannot eliminate the transportation strains of being landlocked, they can help to improve problems relating to scale. Furthermore, there may be a window of opportunity created by the current trade balance which could feature into the selection of SEZ locations.

Goods bound for international markets may be able to be pooled among firms in the SEZs to take advantage of lower cost container shipping rates vs. shipping in open trucks. Interviewed firms frequently struggled to report their transportation costs as their small scale made containerization impossible and they often shipped their goods by a variety of ad hoc means including the use of open trucks. Pooling of goods in volumes that are insufficient to meet a full container is a service typically provided by shippers at international ports, however given the high cost of land transportation this could be more efficiently handled within the SEZ in Nepal. Creating a containerization service within the SEZ may help reduce the transportation costs and provide some space for new firms to get up to efficient scale. As part of this containerization service the Authority may be able to negotiate with freight forwarders on behalf of the SEZ. This may allow the SEZ to use the pooled

containers to agree to concessions in exchange for minimum volumes or limited exclusive rights to ship the pooled containers from the SEZ. Caution should be exercised in the agreement of any monopoly access to the SEZs due to threats from political capture, rent seeking, or other abuses.

As mentioned above, the use of incentives to encourage clustering upstream materials production with downstream assembly of final goods is positive. It may allow firms to take advantage of the temporary benefit of discounted export transportation costs vs. import costs arising from the current trade balance. Although this discount is likely temporary, it could provide an initial boost to both the upstream and downstream industries. However, this depends on the ability of Nepalese primary goods to be competitive. In our interviews, many firms' inputs were sourced from India and China. In order to maximize the value of the transportation discount, larger or heavy inputs may be a good early target for investigation to see if there are ways to facilitate upgrading. These goods cost the most to import, and therefore have higher potential for being competitive. Although it is not easy to stimulate the growth of a cluster, the Government appears to recognize the value of clusters for addressing multiple challenges, among which may be the high cost of transportation.

As mentioned above, the high cost and restricted supply of labour in Nepal is challenging when looked at in combination with the high agricultural labour. The SEZs can provide opportunities to overcome labour challenges. For instance, effective wage levels may be reduced by regulating the existing piece work system. Piece work allows the wage to be more closely linked to worker productivity, stabilizing the unit labour cost. It may also reduce employee turnover as increasing skills and experience allow the worker to achieve higher take home wages. As part of this regulation, piece work contracts could benefit from relaxed non-wage benefit and mandatory contribution requirements. This may bring more workers and firms into the formal sector, as the current costs of formalizing a labour contract appear to be keeping some firms outside of the system. However, the implementation of piece work payment systems must balance the interests of workers and companies. Effort should be taken to study the effects of piece work in other markets as this payment structure has been used and outcomes for workers and firms vary.

One of the most effective ways SEZs help to reduce labour costs is by offering non-wage benefits that can be provided more cost effectively by developers or firms. These may include accommodation, meals, education, and health services that can benefit from economies of scale within the SEZ. These benefits often increase the attractiveness of the SEZ as a work location. Furthermore, they increase labour buy-in for the newly regulated piece-work contracts as workers' disposable income may be increased due to the limited need for living expenses and welfare goods. When well implemented, these programmes offer significant potential for win-win cooperation with labour.

Finally, given the current challenges in the Nepalese labour market, the Government should resist the temptation to restrict the use of foreign labour in the SEZs. Due to the large outgoing migration and the restriction of labour supply, economic migration should be allowed to continue in order to stimulate a more competitive labour market at least until the outbound migration trends slow or reverse.

In this section we have analysed the 2016 Nepal SEZ act. We found that overall the drafting of the act is very strong and has potential for supporting the development of clusters; however, there are some concerns about coordination issues. These issues manifest in both the Authority's ability to provide credible incentives and create a service friendly One Stop Shop.

Following the examination of the SEZ Act, we looked at several ways that the SEZ programme in Nepal can be used to overcome the challenges of poor electricity supply, high transportation costs, and a challenging labour market. These include using experienced partners to help guarantee electricity provision for 18-24 hours a day, pooling exporter goods to access savings from containerization, and

providing non-wage benefits to workers onsite to benefit from economies of scale in household expenditure.

VI Conclusion

In this report, the Growth Identification and Facilitation Framework (GIFF) was applied to Nepal. The GIFF is a practical policy tool that helps decision makers in developing countries to create sharply focused policies that support growth. New Structural Economics holds that a country can achieve rapid economic growth by targeting industries in which they have a latent comparative advantage. Through the use of facilitating policies this latent comparative advantage can be realized, setting the country on a course of continual structural transformation.

The GIFF starts from 'What a Country Has' in order to determine what it may be able to do well. One of Nepal's advantages is its strategic location between the high-growth countries of China and India. These countries, along with Viet Nam, serve as benchmark countries for Nepal. Benchmarking is used in the GIFF to help to identify industries which were successful in fast growing countries. In addition to having high growth rates, benchmark countries must be the right size to provide an achievable model and have similar factor endowments.

Benchmark countries may also provide opportunities for industrial transfer. Under conditions of high growth the benchmark countries will be undergoing their own structural transformation. This means that the products which were instrumental for their success may no longer be best placed to support further growth due to rising wages and enhanced opportunities for productive uses of accumulated capital. In such cases, these industries will relocate their manufacturing operations to lower cost countries. Of the benchmark countries, in the short term only China is a suitable place for Nepal to seek industrial transfer because the minimum wage in Nepal is actually higher than the minimum wage in India – despite India having more than twice the level of GDP per capita of Nepal.

If Nepal can capture a share of the industrial transfer from China and demonstrate successful manufacturing exports, this effect is likely to snowball as additional firms seek to replicate this success. Transferring firms bring more than just capital. Their existing management production process expertise may help to drive innovation and upgrading in the host country. However, one of the greatest assets brought by transferring firms is existing global buyers and distribution networks. Through these networks they can establish credibility for Nepali goods.

The products most likely to be successful in Nepal are light manufactured goods. Of these, several enjoy special preferential trade access to the United States which were extended as a form of disaster relief. Although there are challenges in realizing these preferences, there are several categories of products which could offer substantial discounts to importers that may encourage them to purchase the products from producers in Nepal. Unfortunately, the greatest potential savings are in trunks and cases categories which Nepal does not currently produce. There are some products on the list that are currently made in Nepal, though most of these are garments and the potential savings are much smaller.

The firms in Nepal producing light manufactured goods, including plastics, footwear, and garments, demonstrate ingenuity in reaching global markets. However, these firms are held back by many challenges including unstable electricity supply, high cost transportation, and a labour market characterized by high levels of outgoing migration and strained labour relations. One critical step in the GIFF is recognizing the power of SEZs and using targeted policy interventions to overcome binding constraints.

The new SEZ Act represents significant potential for Nepal to use its limited resources to provide an environment where firms can thrive and begin the process of reinvigorating Nepal's manufacturing sector. The quality of the implementation of this Act will determine its success, and this report has provided several recommendations for enabling Nepali SEZs to reach their potential. Among these are putting structures in place to guard against coordination failures and maintain a high-performing One Stop Shop. Ultimately, comparative advantage is proven in the market place, and the decisions of private firms will be driven by the total package of incentives in Nepal and their private motivations. In whatever form the Nepalese SEZs eventually take, it will be critical for the policy framework that supports them to be adaptable and maintain clear communication channels to the private sector. Ideally, the change will be driven by the need to adapt to the new structures created by years of high growth.

Appendices

Appendix A: Survey Methodology

The survey and case studies undertaken as part of this report do not claim to be a representative sample. The aim of the survey was to illustrate binding constraints and routes to export by focusing on sectors which had high export potential. Potential for export was determined on the basis of preliminary benchmarking analysis, preferential trade agreements, and the advice of our local expert.

Due, in part, to the small volume and narrow export basket in Nepal the advice of the consultant was required in order to select sectors where a sufficient number of firms could be identified given the following criteria:

- A minimum of 5 firms must be interviewed in each sector with no more than 20% total from each sector.
- Firms must be light manufacturing.
- Exporting firms were to be prioritized.

After an initial pre-test on local firms to finalize the questionnaire, it was agreed that the sectors of focus would be plastics, garments, leather and shoes, fabrics and yarn, carpets and pashmina. Paper was later substituted for fabrics and yarns as a sufficient number of responsive firms could not be identified to meet the above criteria.

Within these sectors firms were selected from a number of sources. First the industry websites of the respective industry associations were used when available. These were supplemented with firm lists from the Nepal Trade and Export Promotion Centre (TEPC) and Federation of Nepal Chambers of Commerce and Industries (FNCCI).

At this stage, there was a high failure rate arising from outdated contact information and respondent refusal. In order to meet the minimum firm requirements an open internet key-word search was used along with the database of the South Asia Watch on Trade, Economics and Environment (SAWTEE). Industry associations were also contacted for support with one respondent being introduced from the Garment Association of Nepal (GAN) and two plastics firms being introduced by the Industrial Districts Management (IDM). Finally, the remaining 8 firms were identified using snowballing from existing samples.

Table A.1 details the firms including the sector focus which led to their identification and additional products that they produce.

Table A.1:
Initial Firm Categorization and Additional Product Categories[108]

Initial Product Category	Firm Code	Also Makes
Pashmina and Carpets	PC01	Textiles/Garments, Footwear, Trunks/cases etc.
	PC02	Textiles/Garments, Trunks/cases etc.
	PC03	Textiles/Garments
	PC04	Textiles/Garments
	PC05	
	PC06	Textiles/Garments
Garments	GR01	
	GR02	
	GR03	Pashmina
	GR04	NOT INTERVIEWED

(Continued) Initial Product Category	Firm Code	Also Makes
Garments	GR05	
	GR06	
	GR07	NOT INTERVIEWED
	GR08	Trunks/cases etc.
	GR09	Trunks/cases etc.
	GR10	Yarn
	GR11	
	GR12	Leather, Trunks/cases etc.
	GR13	Trunks/cases etc.
Footwear	FW01	
	FW02	
	FW03	
	FW04	NOT INTERVIEWED
	FW05	NOT INTERVIEWED
	FW06	
	FW07	
	FW08	Leather
Paper	PP01	Trunks/cases etc.
	PP02	Textiles/Garments, Trunks/cases etc.
	PP03	
	PP04	Trunks/cases etc.
	PP05	NOT INTERVIEWED
	PP06	
Plastic	PL01	
	PL02	NOT INTERVIEWED
	PL03	Textiles/Garments, Pharmaceuticals
	PL04	
	PL05	
	PL06	
Textiles	TX01	Yarn
	TX02	Textiles/Garments, Pashmina and Carpets, Trunks/cases etc.

108 The questionnaire did not distinguish between carpet textiles and garment textiles, as such most firms in the carpet industry expressed working in 'Textiles/Garments'; however, this is not necessarily an additional branch of products.

Table A.2:
Survey and Case Study Firms Introduced by Associations or Snowballing

Firm Code	Snowballing Data
CS01	Association Introduced
PL03	Association Introduced
PL05	Association Introduced
FW08	Snowball
GR02	Snowball
GR05	Snowball
GR06	Snowball
GR09	Snowball
PC01	Snowball
PC06	Snowball
PL06	Snowball

Table A.3:
Case Study Firms

Firm Code	Snowballing Data
CS01	Association Introduced
PL03	Association Introduced
PL05	Association Introduced
FW08	Snowball
GR02	Snowball
GR05	Snowball
GR06	Snowball
GR09	Snowball
PC01	Snowball
PC06	Snowball
PL06	Snowball

Appendix B: Decliners from Benchmark Countries

Country	HS-4 Code	Product	% of total export 1995	Rank 1995	Rank 2000	Rank 2005	Rank 2010	Rank 2014
China	6204	Non-Knit Women's Suits	2.42	1	4	7	16	16
	6204	Non-Knit Women's Suits	2.42	1	4	7	16	16
	6203	Non-Knit Men's Suits	2.40	2	7	20	33	28
	9503	Models and Stuffed Animals	1.95	3	3	25	28	30
	4202	Trunks and Cases	1.92	4	8	15	12	13
	8527	Radio Receivers	1.81	5	14	41	73	98
	6403	Leather Footwear	1.79	6	6	12	26	34
	6110	Knit Sweaters	1.59	7	5	9	14	21
	8471	Computers	1.55	8	1	1	1	2
	2709	Petroleum Oils, Oils from Bituminous Minerals, Crude	1.50	9	24	59	187	505
	6402	Rubber Footwear	1.43	10	10	18	19	14
	5208	Light Pure Woven Cotton	1.31	11	30	51	46	52
	4203	Leather Apparel	1.31	12	16	48	133	206
	3926	Plastic Articles (Other)	1.18	13	12	23	31	23
	6109	Knit T-shirts	1.13	14	21	29	41	44
	6302	Bed, Table, Toilet and Kitchen Linens	1.04	15	27	46	44	46
	8504	Electric Transformers, Static Converters and Rectifier	1.04	16	9	10	10	12
	8473	Parts, Accessories, Except Covers, for Office Machine	1.03	17	2	3	6	6
	6205	Men's or Boys' Shirts	0.88	18	32	66	83	121
	8609	Cargo Containers	0.80	19	19	24	43	48
	8517	Telephones	0.80	20	13	8	2	1
India	7102	Diamonds	14.48	1	1	1	2	2
	1006	Rice	4.30	2	11	6	13	5
	5205	Cotton Yarn	2.79	3	5	17	10	9
	6204	Non-Knit Women's Suits	2.49	4	3	8	18	16
	6205	Non-Knit Men's Shirts	2.37	5	7	18	42	43

(Continued) Country	HS-4 Code	Product	% of total export 1995	Rank 1995	Rank 2000	Rank 2005	Rank 2010	Rank 2014
India	306	Crustaceans	2.18%	6	4	15	33	11
	6206	Non-Knit Women's Shirts	2.09%	7	9	10	23	29
	2304	Oil-cake and Other Solid Residues	1.72%	8	18	21	21	40
	5208	Light Pure Woven Cotton	1.70%	9	13	41	54	51
	2601	Iron Ore	1.62%	10	22	3	4	59
	7113	Jewellery	1.56%	12	8	4	3	3
	3004	Packaged Medicaments	1.54%	13	10	5	5	4
	6304	Other Furnishing Articles	1.48%	14	12	11	32	26
	2710	Refined Petroleum	1.43%	15	2	2	1	1
	4203	Leather Apparel	1.37%	16	14	32	63	49
	6105	Men's or Boys' Shirts, Knitted or Crocheted	1.23%	17	23	40	71	88
	801	Coconuts, Brazil Nuts and Cashew Nuts	1.16%	18	16	24	66	55
	901	Coffee	1.16%	19	49	82	100	108
	902	Tea	1.09%	20	21	46	49	90
	3204	Synthetic Organic Colouring Matter	1.05%	21	17	22	29	18
Viet Nam[109]	2709	Crude Petroleum	24.19%	N.A.	1	1	1	2
	306	Crustaceans	5.78%	N.A.	2	4	11	11
	6404	Textile Footwear	4.93%	N.A.	3	2	14	5
	1006	Rice	4.61%	N.A.	4	3	2	8
	901	Coffee	3.46%	N.A.	5	9	8	7
	8473	Parts etc. for Typewriters & Other Office Machines Computer Accessories	3.36%	N.A.	6	15	56	73
	307	Molluscs	2.74%	N.A.	8	21	41	59
	6403	Leather Footwear	2.49%	N.A.	9	6	4	3

109 Vietnam did not report trade data in 1995. 2000 data is used as a baseline.

(Continued) Country	HS-4 Code	Product	% of total export 1995	Rank 1995	Rank 2000	Rank 2005	Rank 2010	Rank 2014
Viet Nam	6203	Non-knit Men's or Boys' Suits	2.44%	N.A.	10	8	16	13
	6402	Rubber Footwear	2.09%	N.A.	11	23	20	18
	6202	Non-knit Women's or Girls' Overcoats	1.90%	N.A.	12	26	37	32
	6201	Non-Knit Men's Coats	1.84%	N.A.	13	29	30	26
	2710	Petroleum Oils	1.56%	N.A.	14	25	18	30
	6205	Non-knit Men's or Boys' Shirts.	1.29%	N.A.	15	22	28	37
	801	Coconuts, Brazil Nuts and Cashew Nuts	1.20%	N.A.	16	14	19	19
	4202	Trunks and Cases	1.15%	N.A.	17	24	22	16
	4001	Natural Rubber	1.15%	N.A.	18	10	6	22
	9403	Other Furniture and Parts Thereof	1.07%	N.A.	19	5	5	6
	6211	Non-knit Track Suits	1.05%	N.A.	20	53	60	53
	904	Pepper of the Genus Piper	1.01%	N.A.	21	31	34	27

Appendix C: Altered HTS Codes

Codes in NTP Text	HTS Code (if altered)	Availability
4202.11.00		ALL LDCS
4202.12.20	4202.12.21	ALL LDCS
4202.12.20	4202.12.29	Nepal
4202.12.40		ALL LDCS
4202.12.60		Nepal
4202.12.80	4202.12.81	ALL LDCS
4202.12.80	4202.12.89	Nepal
4202.21.60		ALL LDCS
4202.21.90		ALL LDCS
4202.22.15		ALL LDCS
4202.22.40		Nepal
4202.22.45		ALL LDCS
4202.22.60		Nepal
4202.22.70		Nepal
4202.22.80	4202.22.81	ALL LDCS
4202.22.80	4202.22.89	Nepal
4202.29.50		Nepal
4202.29.90		Nepal
4202.31.60		ALL LDCS
4202.32.40		ALL LDCS
4202.32.80		ALL LDCS
4202.32.95	4202.32.91	Nepal
4202.32.95	4202.32.93	ALL LDCS
4202.32.95	4202.32.99	ALL LDCS
4202.91.00	4202.91.10	Nepal
4202.91.00	4202.91.30	ALL LDCS
4202.91.00	4202.91.90	ALL LDCS
4202.92.08		ALL LDCS
4202.92.15		ALL LDCS
4202.92.20		ALL LDCS
4202.92.30	4202.92.31	ALL LDCS
4202.92.30	4202.92.33	Nepal
4202.92.30	4202.92.39	ALL LDCS
4202.92.45		ALL LDCS
4202.92.60		Nepal
4202.92.90	4202.92.91	ALL LDCS

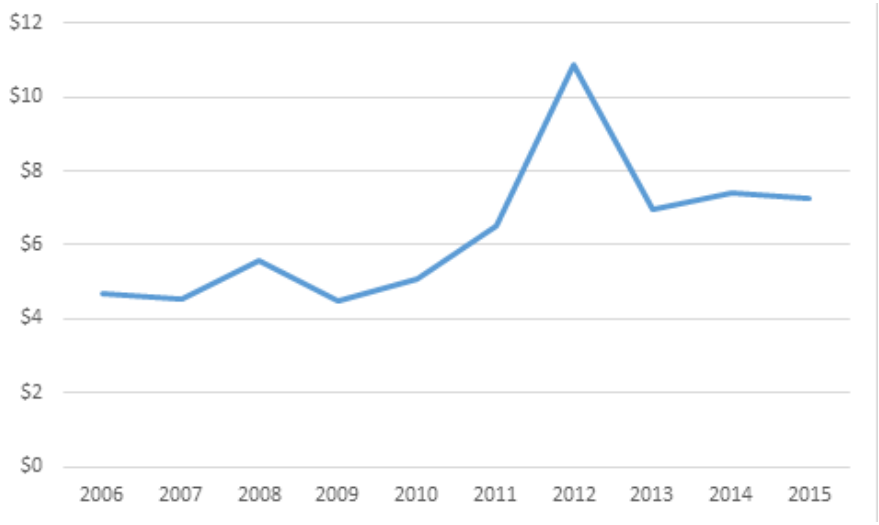
(Continued) Codes in NTP Text	HTS Code (if altered)	Availability
4202.92.90	4202.92.93	Nepal
4202.92.90	4202.92.94	Nepal
4202.92.90	4202.92.97	ALL LDCS
4202.99.90		ALL LDCS
4203.29.50		Nepal
5701.10.90		Nepal
5702.31.20		Nepal
5702.49.20		Nepal
5702.50.40		Nepal
5702.50.59		Nepal
5702.91.30		GSP*
5702.91.40		Nepal
5702.92.90		Nepal
5702.99.15		Nepal
5703.10.20		GSP*
5703.10.80		Nepal
5703.90.00		GSP*
5705.00.20		Nepal
6117.10.60		Nepal
6117.80.85		GSP
6214.10.10		GSP
6214.10.20		Nepal
6214.20.00		Nepal
6214.40.00		Nepal
6214.90.00		Nepal
6216.00.80		Nepal
6217.10.85		GSP
6301.90.00		Nepal
6308.00.00		Nepal
6504.00.90		Nepal
6505.00.08		Nepal
6505.00.15		Nepal
6505.00.20		Nepal
6505.00.25		Nepal
6505.00.30		Nepal
6505.00.40		Nepal

(Continued) Codes in NTP Text	HTS Code (if altered)	Availability
6505.00.50		Nepal
6505.00.60		Nepal
6505.00.80		Nepal
6505.00.90		Nepal
6506.99.30		GSP
6506.99.60		GSP

Sources: Public Law No: 114-125 2015. 114th US Congress. https://www.congress.gov/bill/114th-congress/house-bill/644/text;

Harmonized Tariff Schedule of the United States (2016) (Supp. 1 Update) 2016. US International Trade Commission. https://hts.usitc.gov/view/Change%20Record?release=Chapter99; author's compilation.

Appendix D: United States Imports of TFTEA Goods from Nepal (US$ million, 2006-2015)



Sources: U.S. Census Bureau 2016. USA Trade Online. Economic Indicators Division.

Appendix E: Benchmarks Countries for Nepal – Before Narrowing Criteria (%)

Country	GDP per capita Ratio to Nepal's	10 years growth rate	20 years growth rate
Nepal	100	3.18	2.66
Lao PDR	224	6.13	5.23
Uzbekistan	235	6.38	4.34
Viet Nam	237	5.06	5.35
India	240	6.18	5.26
Cabo Verde	275	3.53	5.38
Bhutan	329	5.49	5.16
Armenia	340	5.21	7.00
Georgia	386	7.05	7.19
China	556	9.41	8.82

Sources: The World Bank 2016. World Development Indicators, author's calculations.

Appendix F: Industry Incentives

Any Industry[Note] 10 Year Tax Rebate (Location Based)			
	Remote Areas	Undeveloped Areas	Under-developed Areas
Income Tax	30%	25%	20%
Excise Duty	35%	25%	15%

Note Excluding alcohol and tobacco

Packing Materials		
packing materials, raw materials, and auxiliary raw materials	Customs duties	reimbursed
	Sales tax	
	Excise duty	
	Premium	
Any industry that sells its products in the Export Promotion House		
Imported raw materials	Custom duties	reimbursed
	Sales tax	
Products for sold to an Export Promotion House	Sales tax	reimbursed
	Excise duty	
Final Products	Sales tax	reimbursed
	Excise duty	
	Premium	

Industry on process or equipment that is environmentally-friendly	
Taxable Income	up to 50% reduction for investment

Industry producing intermediate goods for the production of exportable industrial goods		
Production Materials	Customs duties	Reimbursed
	Sales tax	
	Excise duty	
	Premium	
Final Products	Sales tax	Reimbursed
	Excise duty	
Intermediate Goods	Sales tax	Adjusted
	Excise duty	

Export Promotion Industry	
machine, tool, equipment, machinery and raw material	No tax, fee or charge of any kind
Final Products	No tax, fee or charge of any kind

Sources: Industrial Enterprise Act 1992 and amendments. 2008. Government of Nepal.
http://www.lawcommission.gov.np/en/documents/2015/08/industrial-enterprises-act-2049-1992.pdf

Appendix G: Overlapping Codes from Light Manufacturing Decliners with US and EU Tariff Exemption (2016)

HS 6 Digits (EU)	HS 6 Product Description	EU Tariff Exemption (%)	HS 10 Digits (US)	US Tariff Exemption (%)
3926.10	Office or school supplies, of plastics, (Other)	6.50	3926.10.00.00	5.30
3926.20	Articles of apparel and clothing accessories produced by the stitching or sticking together of plastic sheeting, incl. gloves, mittens and mitts (excl. goods of 9619)	6.50	3926.20.30.00	3.00
			3926.20.40	6.50
			3926.20.90	5.00
3926.30	Fittings for furniture, coachwork and the like, of plastics (excl. building components for permanent mounting on parts of buildings)	6.50	3926.30.10.00	6.50
			3926.30.50.00	5.30
3926.40	Statuettes and other ornamental articles, of plastics	6.50	3926.40.00	5.30
3926.90	Articles of plastics and articles of other materials of heading 3901 to 3914, (Other) (excl. goods of 9619)	6.50	3926.90.10.00	3.40
			3926.90.16.00	3.10
			3926.90.21.00	4.20
			3926.90.25.00	6.50
			3926.90.30.00	4.20
			3926.90.33.00	6.50
			3926.90.35.00	6.50
			3926.90.40.00	2.80
			3926.90.45	3.50
			3926.90.48.00	3.40
			3926.90.50.00	3.80
			3926.90.55.00	5.10
			3926.90.56.00	5.10
			3926.90.57.00	6.50
			3926.90.59.00	2.40
			3926.90.60	4.20
			3926.90.65	4.20
			3926.90.70.00	5.30
			3926.90.75.00	4.20
			3926.90.77.00	2.40
			3926.90.83.00	5.30
			3926.90.85.00	6.50
			3926.90.87.00	5.30
			3926.90.99	5.30

(Continued)HS 6 Digits (EU)	HS 6 Product Description	EU Tariff Exemption (%)	HS 10 Digits (US)	US Tariff Exemption (%)
4202.11	Trunks, suitcases, vanity cases, executive-cases, briefcases, school satchels and similar containers, with outer surface of leather, composition leather or patent leather	3.00	4202.11.00	8.00
4202.12	Trunks, suitcases, vanity cases, executive-cases, briefcases, school satchels and similar containers, with outer surface of plastics or textile materials	6.40	4202.12.20	20.00
			4202.12.40.00	6.30
			4202.12.60.00	5.70
			4202.12.80	17.60
4202.21	Handbags, whether or not with shoulder straps, incl. those without handles, with outer surface of leather, composition leather or patent leather	3.00	4202.21.60.00	10.00
			4202.21.90.00	9.00
4202.22	Handbags, whether or not with shoulder straps, incl. those without handles, with outer surface of plastic sheeting or textile materials	6.70	4202.22.15.00	16.00
			4202.22.35.00	8.40
			4202.22.40	7.40
			4202.22.45.00	6.30
			4202.22.60.00	5.70
			4202.22.70.00	7.00
			4202.22.80	17.60
4202.29	Handbags, whether or not with shoulder strap, incl. those without handle, with outer surface of vulcanized fibre or paperboard, or wholly or mainly covered with such materials or with paper	3.70	4202.29.10.00	5.30
			4202.29.20.00	3.30
			4202.29.50.00	7.80
			4202.29.90.00	20.00
4202.31	Wallets, purses, key-pouches, cigarette-cases, tobacco-pouches and similar articles carried in the pocket or handbag, with outer surface of leather, composition leather or patent leather	3.00	4202.31.30.00	3.70
			4202.31.60.00	8.00
4202.32	Wallets, purses, key-pouches, cigarette-cases, tobacco-pouches and similar articles carried in the pocket or handbag, with outer surface of plastic sheeting or textile materials	6.70	4202.32.10.00	12.1¢/kg + 4.6
			4202.32.20.00	20.0
			4202.32.40.00	6.30
			4202.32.80.00	5.70
			4202.32.95	17.60

(Continued)HS 6 Digits (EU)	HS 6 Product Description	EU Tariff Exemption (%)	HS 10 Digits (US)	US Tariff Exemption (%)
4202.39	Wallets, purses, key-cases, cigarette-cases, tobacco-pouches and similar articles of a kind normally carried in the pocket or handbag, with outer surface of vulcanized fibre or paperboard, or wholly or mainly covered with such materials or with paper, incl. spectacle cases of moulded plastic material	3.70	4202.39.10.00	5.30
4202.91	Travelling-bags, insulated food or beverage bags, toilet bags, rucksacks, shopping-bags, map-cases, tool bags, sports bags, jewellery boxes, cutlery cases, binocular cases, camera cases, musical instrument cases, gun cases, holsters and similar containers, with outer surface of leather, composition leather or patent leather (excl. trunks, briefcases, school satchels and similar containers, handbags and articles normally carried in the pocket or handbag)	3.00	4202.91.00	4.50
4202.99	Travelling-bags, shopping or tool bags, jewellery boxes, cutlery cases and similar, with outer surface of vulcanized fibre or paperboard; cases for binoculars, cameras, musical instruments, guns, holsters and similar containers with outer surface of materials (not leather, plastic sheeting or textile materials) (excl. trunks, briefcases, school satchels and similar; handbags; articles normally carried in pocket or handbag)	3.70	4202.99.10.00	3.40
			4202.99.20.00	4.30

Sources: WTO 2016. Tariff Download Facility, as accessed June 2016. http://tariffdata.wto.org/default.aspx

US International Trade Commission 2016. Harmonized Tariff Schedule 2016, as accessed June 2016. https://hts.usitc.gov/view/release?release=Chapter99