

# Structural transformation and trade policy: A case of Nepal

Paras Kharel

Research Coordinator

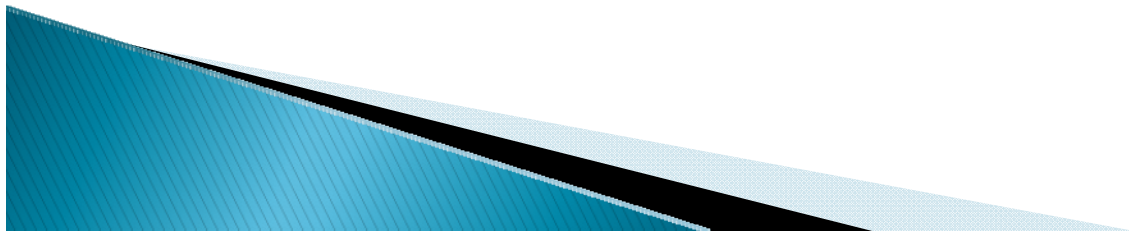
South Asia Watch on Trade, Economics and Environment (SAWTEE)

Presented at ARTNeT Conference on Empirical and Policy Issues of Integration in Asia and the Pacific

Colombo, 1-2 November 2012

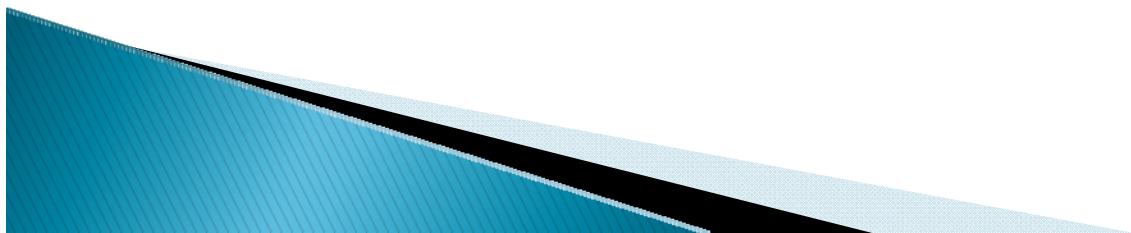
# Motivation

- ▶ High and sustained economic growth entails structural transformation
- ▶ Specialization and development are path-dependent
- ▶ Recent advances in the literature have produced powerful methods of analysis for providing evidence that products vary in their potential for effecting structural transformation and what a country exports determines the type of goods it will export in future and its future economic growth rate
- ▶ Nepal's GDP growth and export performance has been weak, especially in the new millennium
- ▶ The Government of Nepal has taken trade as an engine of growth in its Plan document
- ▶ It is imperative that the structural transformation dimension inform trade policy making and implementation




# Objectives of the paper

- ▶ Examine the trend, pattern and composition of productivity growth in the Nepali economy;
- ▶ Analyse the nature and extent of structural change in the Nepali economy;
- ▶ Assess Nepal's export performance, including in terms of export sophistication and diversification;
- ▶ Evaluate how conducive the products accorded priority by Nepal's Trade Policy 2009 and Nepal Trade Integration Strategy (NTIS) 2010 are to structural transformation and future growth of the Nepali economy;
- ▶ Draw policy conclusions

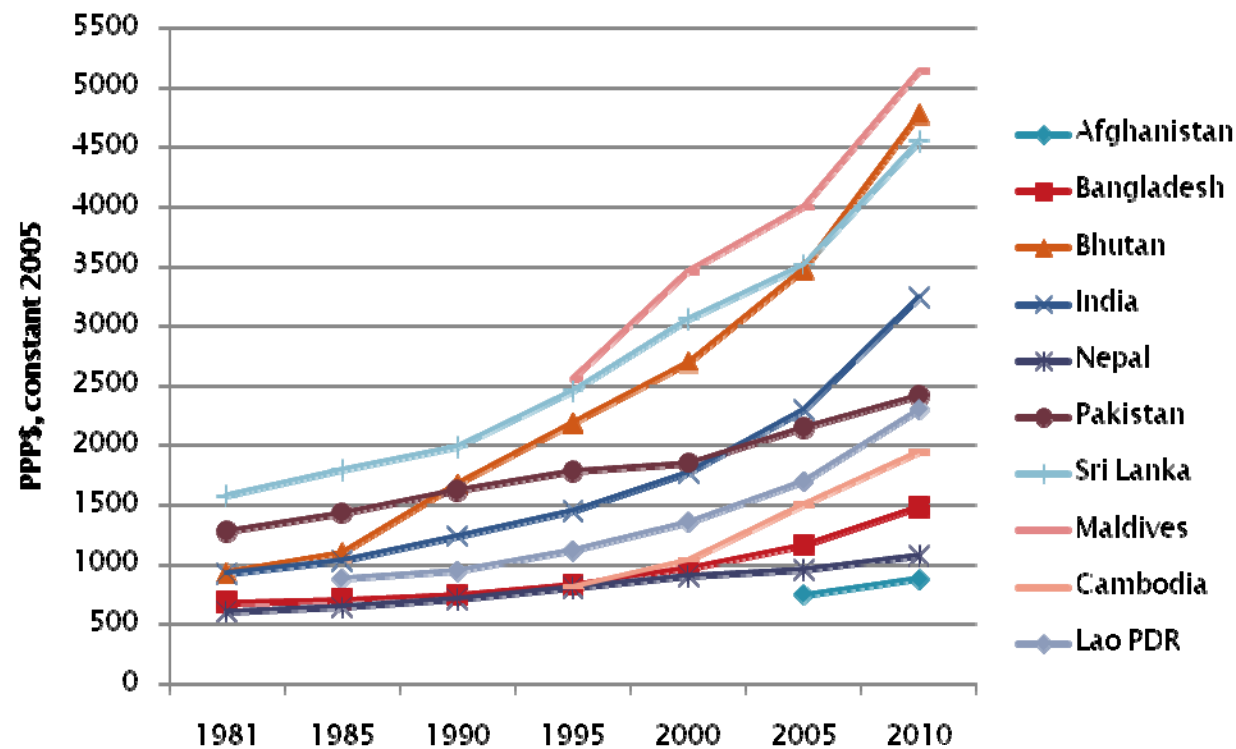


# Key methods

- ▶ Decomposition of productivity growth (McMillan and Rodrik 2011)
  - ▶ Analysis of export structure and composition using several measures/classifications, including:
    - Leamer (1984)
    - Lall (2000)
    - SITC 1 digit level
    - Sophistication of product and export basket: PRODY and EXPY (Hausmann et al. 2006)
  - ▶ Product space analysis (Hausman and Klinger 2006, 2007; Hidalgo et al. 2007; and related literature):
    - Proximity between products
    - Density of a product (relative distance of a product from current industrial and export capabilities)
    - Path (interconnectedness of a product with other products)
    - Open forest (unexploited opportunities)
    - Strategic value of a product (spillovers from exporting a product)
- 

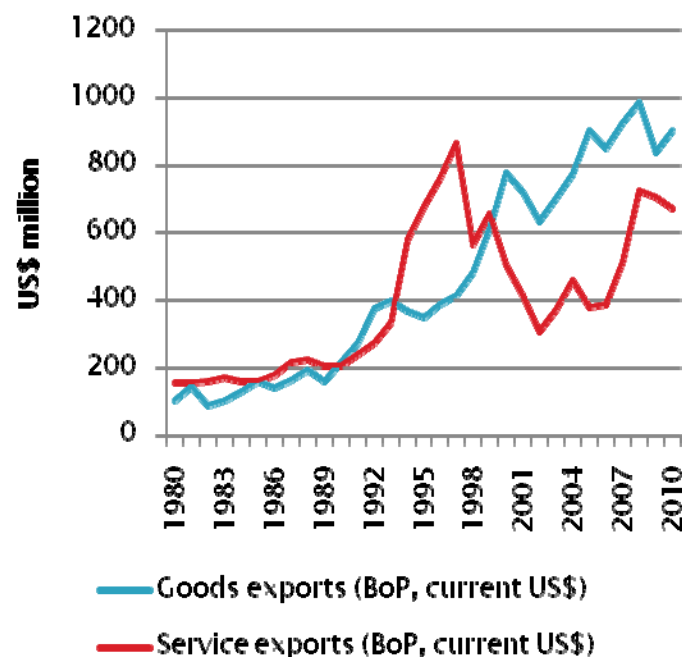
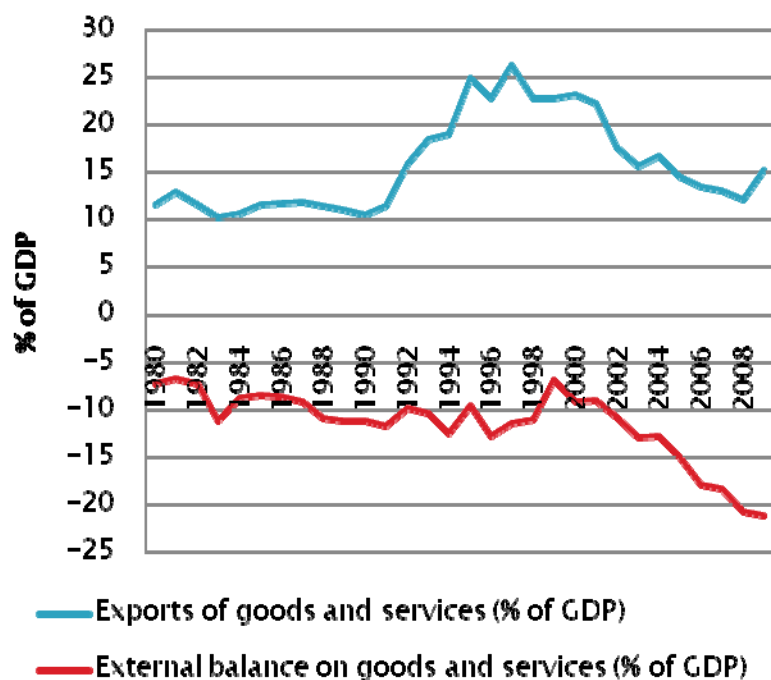
# Weak economic and export performance

- ▶ Low GDP per capita growth: 2.16% in 1980-2010; 1.8% in 2000-2010
- ▶ Low GDP per capita



# Weak economic and export performance

- ▶ Declining share of manufacturing in GDP (6.8% in 2009); increasing share of non-tradable services
- ▶ Low export growth; widening trade deficit



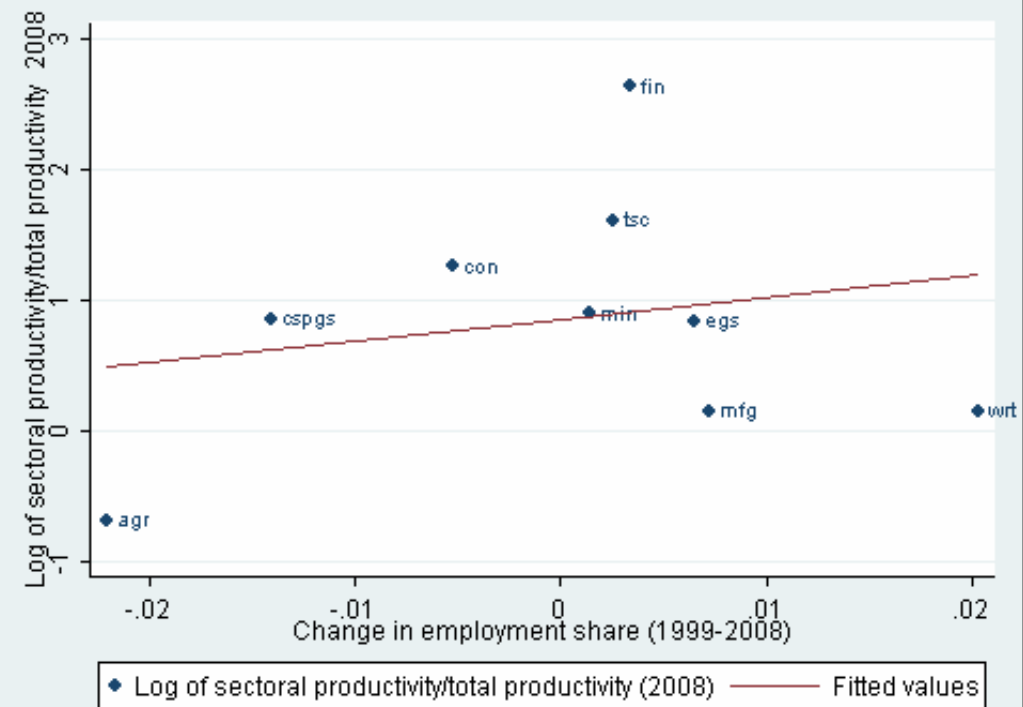
# Productivity growth and structural change

<b>Labour productivity growth (%)</b>	<b>1.44</b>
Within component	0.88
Structural change component	0.57

Structural change has been growth enhancing

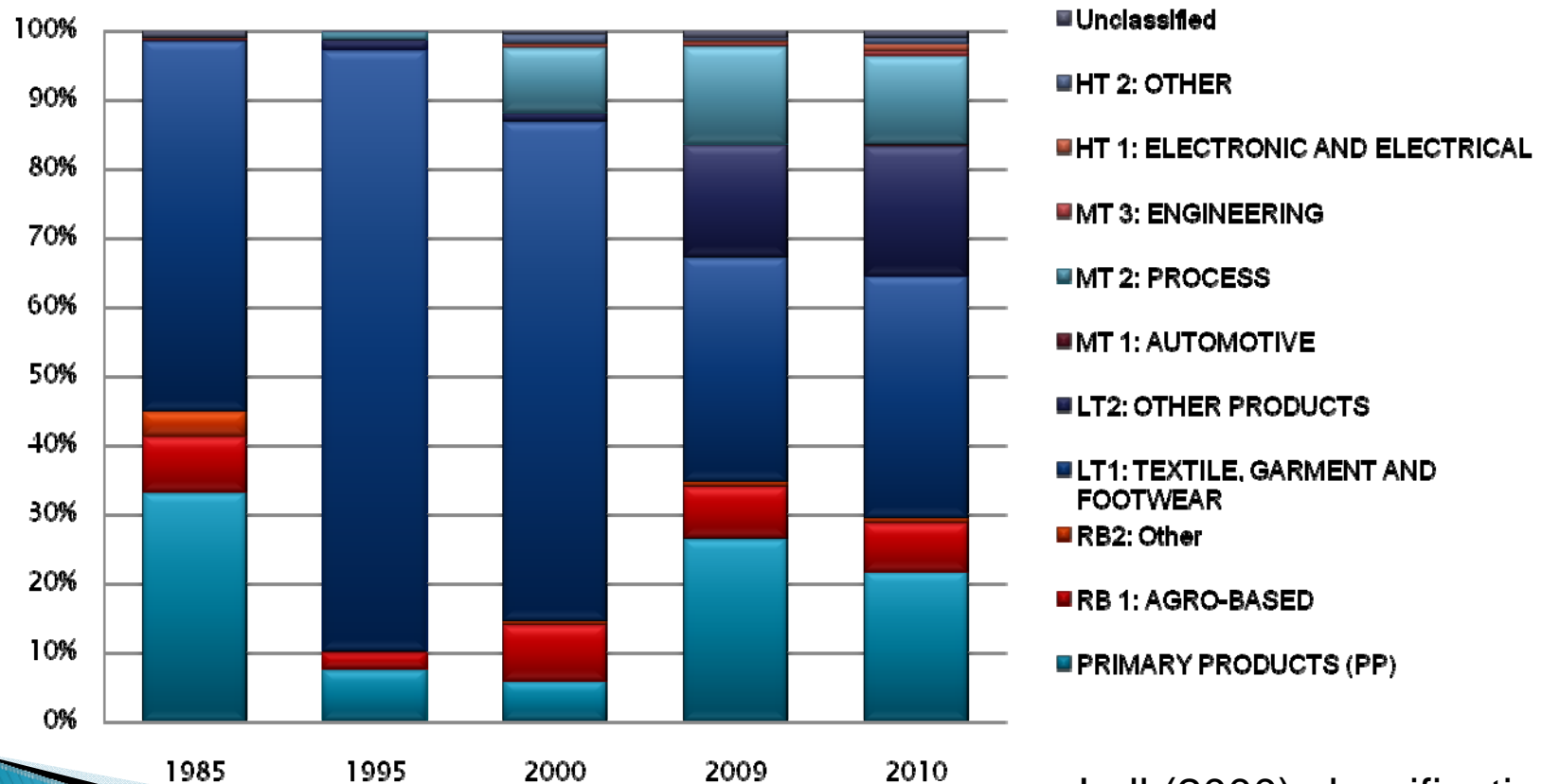
but

Transfer of labour from agriculture to more productive sectors at a higher speed is constrained by a weak manufacturing sector



# Export structure/composition I

- ▶ Merchandise export basket remains low in technological sophistication and poorly diversified

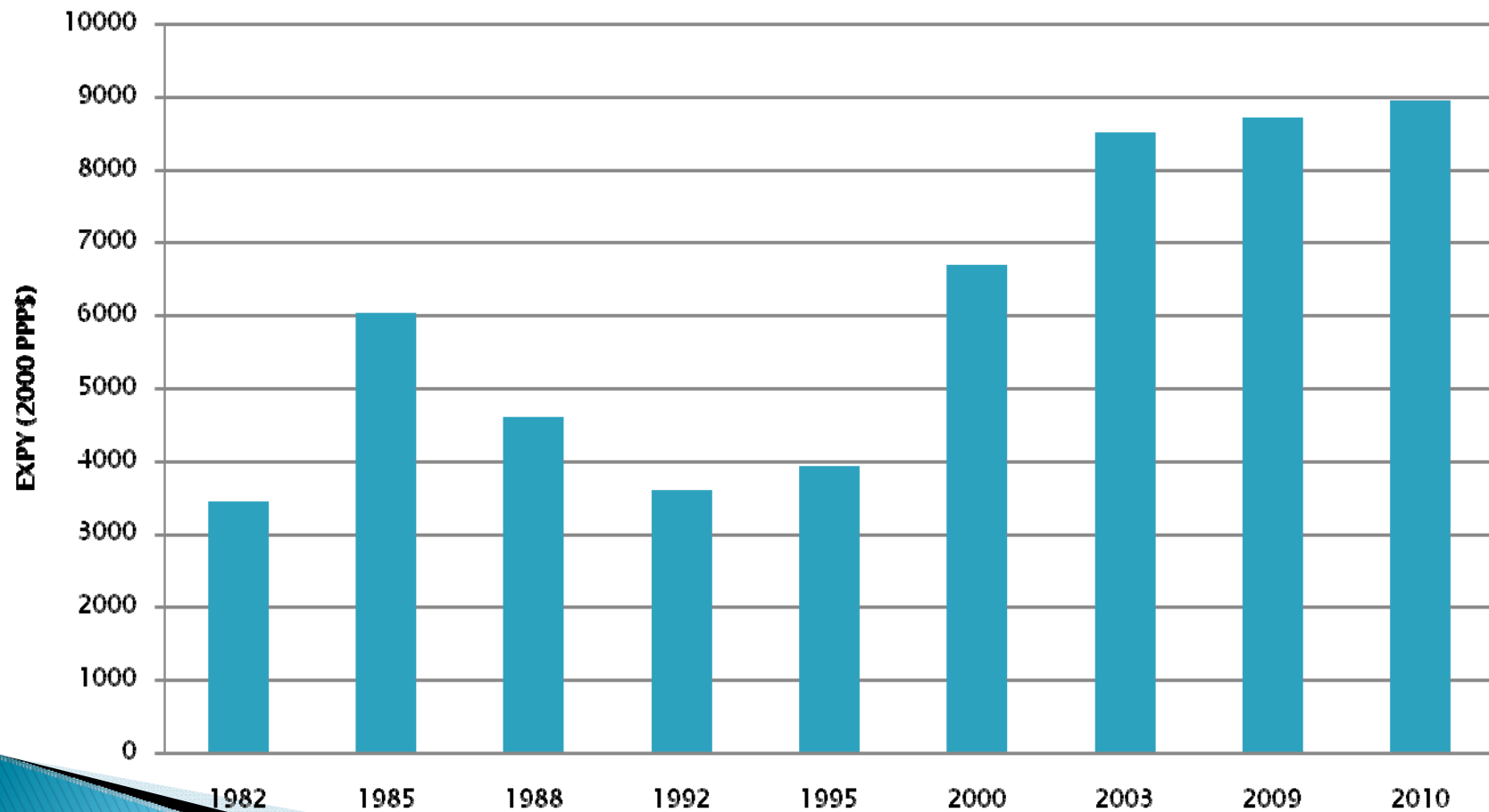


Lall (2000) classification



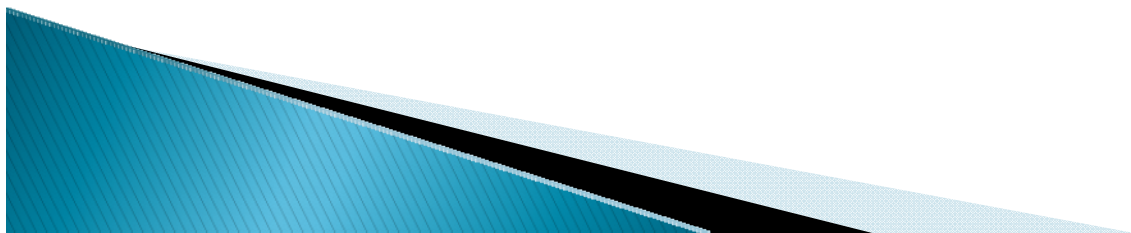
# Export structure/composition II

## Nepal's export sophistication



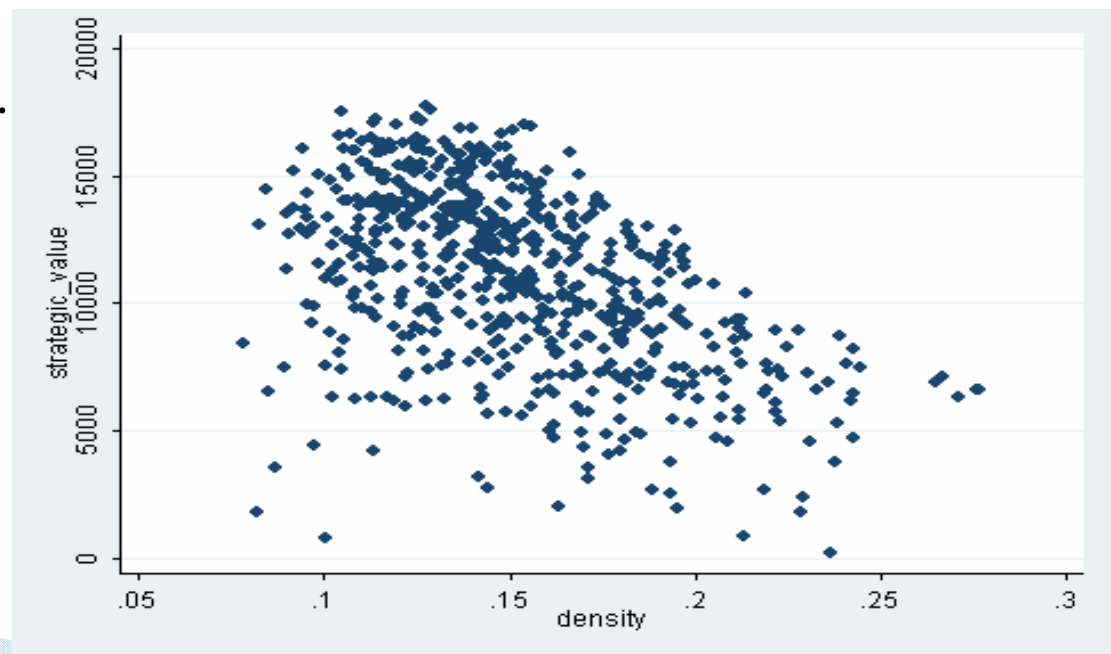
# Export structure/composition III

- ▶ The sophistication of export basket has almost stagnated since 2003
- ▶ The export sector has been unable to make inroads into products in the higher range of technological sophistication
- ▶ The share of primary products in the export basket has been increasing
- ▶ Iron and steel products (low-technology manufactures, with high import content) inflating sophistication of export basket



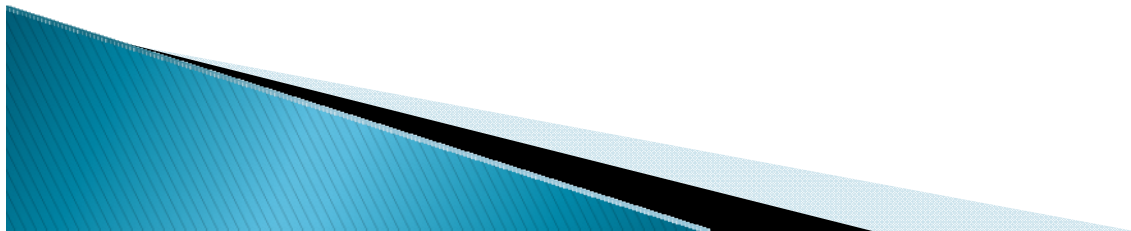
# Export structure/composition IV

- ▶ Of the 656 products (SITC, Rev. 2, 4-digit) in the open forest in 2010, about 28 percent (182) are nearby products, about 40 percent (251) are middle-distance products and the remaining 32 percent (222) are faraway products.
- ▶ Strategic value of open forest (unexploited) products varies inversely with density (which measures the relative proximity between open forest products from the current export basket).



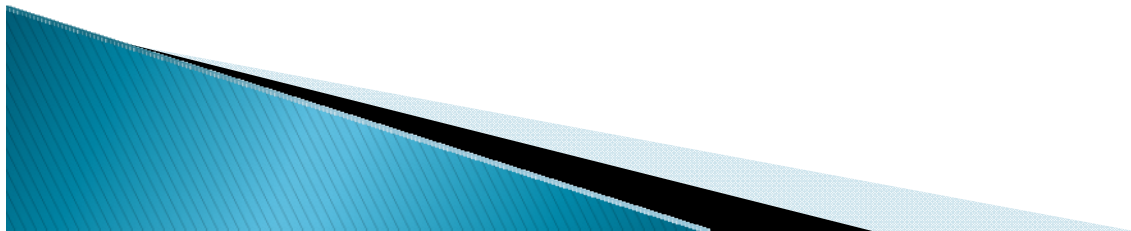
# Export structure/composition V

- ▶ None of the overall top 30 products in the open forest with highest strategic value are nearby current industrial capabilities
- ▶ Even among the nearby products, there are products that have medium-to-high sophistication and high connectedness with other products, and represent relatively high strategic value
- ▶ Among nearby products, 32 labour intensive, 31 capital intensive, 8 machinery and 4 chemical (Leamer classification)



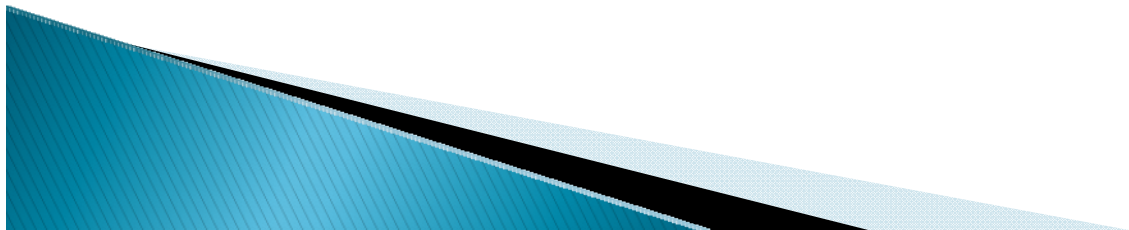
# Twin challenges on export front

- ▶ To increase the export earnings by increasing the export of existing products, given the current industrial and export structures and capabilities, so as to reduce the deteriorating trade balance and increase income and employment levels;
- ▶ To upgrade the industrial and export structures and capabilities to be able to produce and export, or expand the production and export of, more sophisticated products requiring a greater number of capabilities.



# Targeted products I

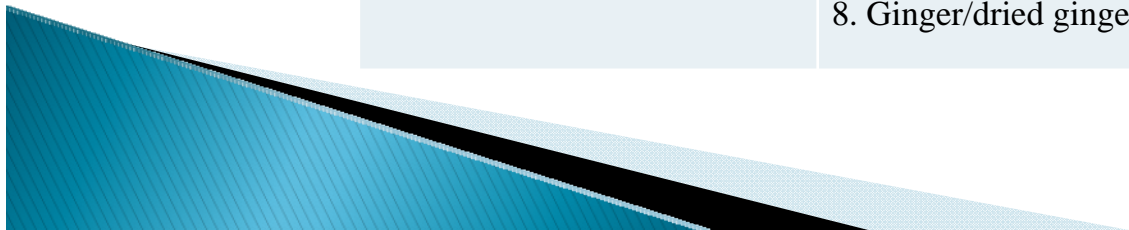
- ▶ Products targeted by Nepal Trade Integration Strategy (NTIS) 2010 and Trade Policy (TP) 2009
- ▶ NTIS 2010: 61 products (SITC Rev. 2, 4-digit) (38 of them iron and steel)
  - Cardamon, ginger, honey, lentils, tea, noodles and medicinal herbs/essential oils, handmade paper, silver jewelry, iron and steel, pashmina, wool products
  - Some overlaps with TP 2009
  - Accords top priority to agro-food products
  - Contains short- to medium-term strategies (until 2015)



# Targeted products II

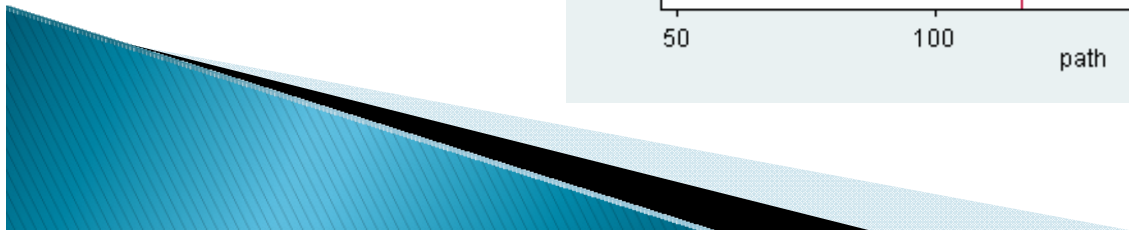
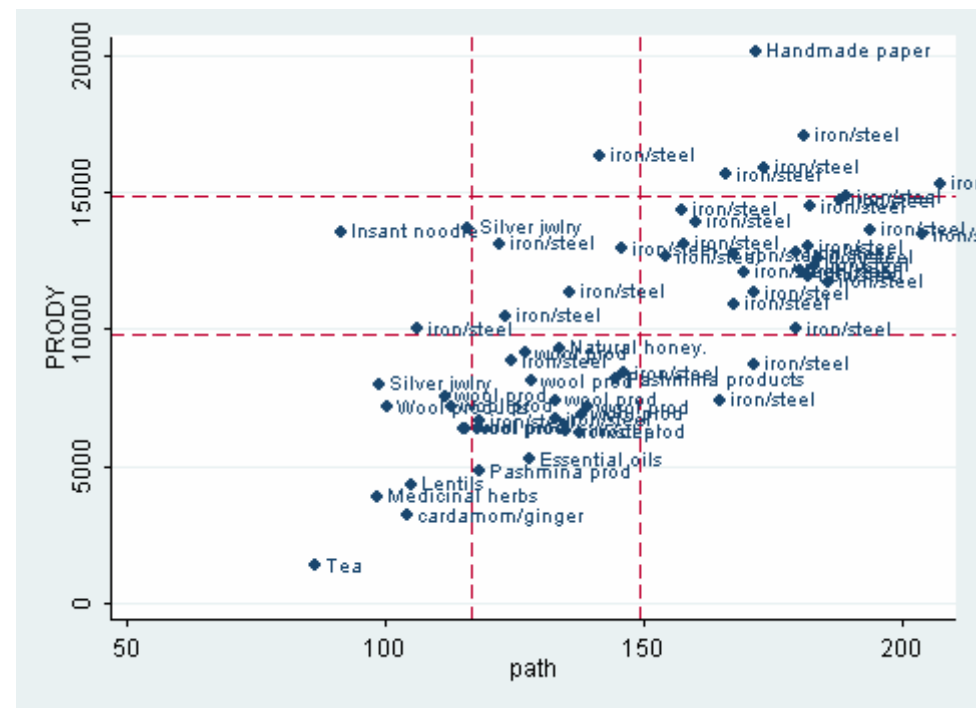
- ▶ TP 2009: 54 products (not in NTIS 2010)

Special focus area		Special thrust area	
1. Readymade garments, cotton towels		1. Tea	9. Herbs and essential oils
2. Woolen carpets		2. Vegetable seeds	10. Handmade paper and paper products
3. Pashmina and silk products		3. Large cardamom	11. Wood craft products
4. Handicraft goods (Pashmina, woolen products, silver products, metal products, handmade paper)		4. Pulses	12. Coffee
		5. Floriculture	13. Honey
		6. Precious/semi-precious gems and stones, and gold and silver ornaments	14. ( <i>junar</i> )
		7. Processed leather (and leather goods)	15. Vegetables
		8. Ginger/dried ginger	



## Targeted products (NTIS) I

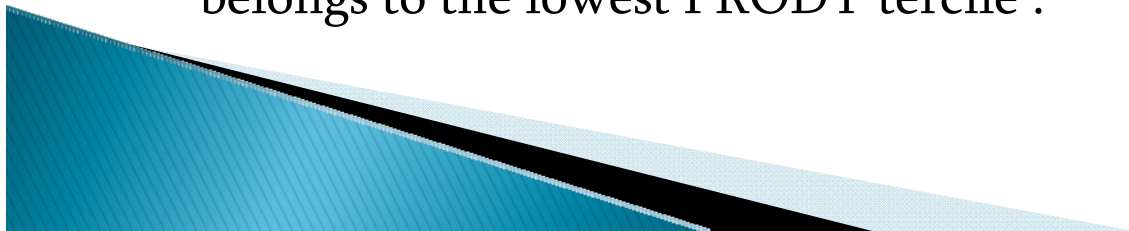
## Sophistication and connectivity of NTIS-identified products





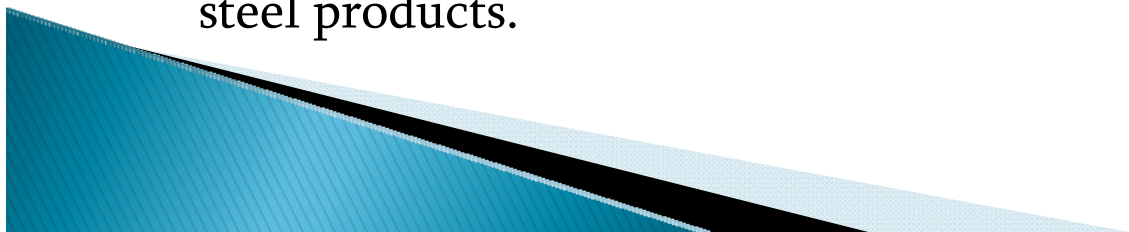
# Targeted products (NTIS) II

- ▶ In terms of sophistication (PRODY) and connectedness with other products (Path), the identified products fare better than the export basket (all exported products or products exported with comparative advantage) on average, but this is overwhelmingly driven by the presence of iron and steel products among the identified products. Excluding iron and steel products, the identified products mostly lag behind the export basket on average on the same parameters.
- ▶ While 36 of the 61 identified products have PRODY greater than EXPY (measuring overall sophistication of the export basket) for 2010 and 24 products have PRODY and Path greater than the average for their respective Leamer groups, they are disproportionately concentrated in the iron and steel products category. As could be expected of basic agricultural products, lentils, cardamom, ginger, tea, medicinal herbs and honey have low PRODY in the sense that it is less than EXPY and/or belongs to the lowest PRODY tercile .



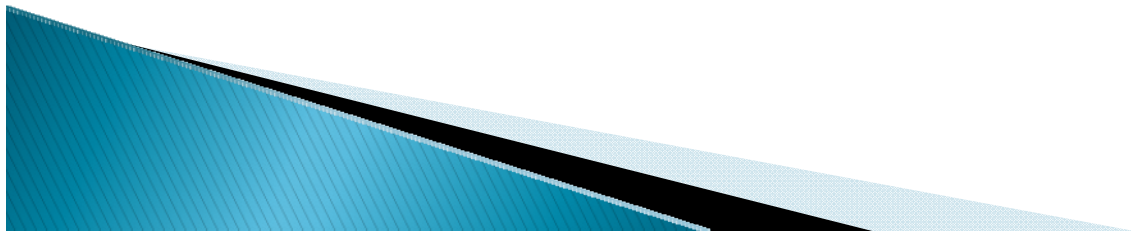
# Targeted products (NTIS) III

- ▶ The highest Paths are depicted by, on average, handmade paper, iron and steel products, natural honey and pashmina products. Outside of iron and steel products, only handmade paper makes it to the top (first) Path tercile. Among agro-food products, natural honey and essential oils stand out for belonging to the medium (second) Path tercile.
- ▶ 37 of 61 NTIS-identified products are unexploited products, of which 31 are iron and steel. 33 are nearby or middle-distance from current export basket
- ▶ The median Path and strategic value of the 37 products are higher than those of the entire open forest—this is driven by the presence of a high number of iron and steel products
- ▶ Handmade paper also has Path and strategic value greater than the median of the open forest, and greater than the majority of iron and steel products.



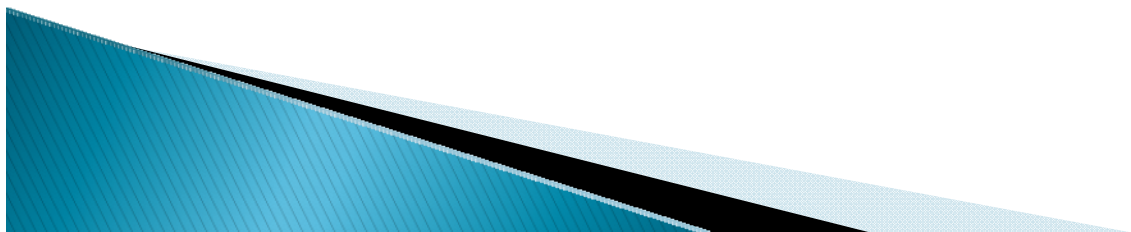
# Targeted products (NTIS) IV

- ▶ Considering all 61 products, the strategic value of about half of the identified products is less than the average strategic value of open forest products, and all those with strategic value above average are iron and steel products with the exception of handmade paper (which has higher strategic value than most iron and steel products).
- ▶ Looking only at Path, we find that, Path is greater than open forest average also for natural honey, pashmina products (1) and wool products (3). Only handmade paper and most of the iron and steel products have both strategic value and Path greater than the average for the open forest.

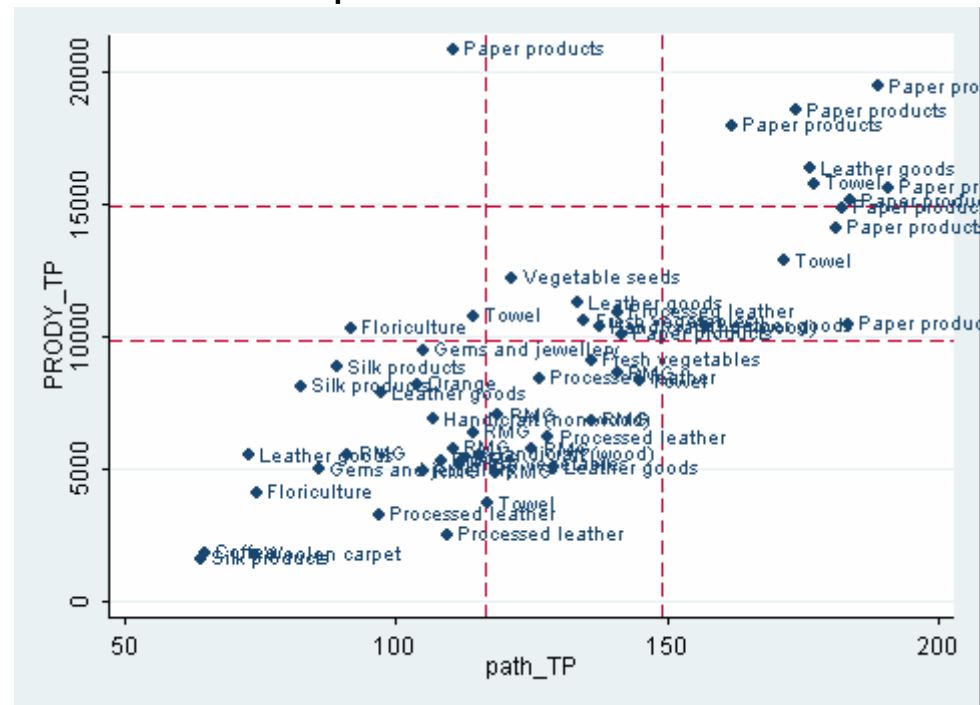


# Targeted products (TP) I

- ▶ The PRODY, Path and strategic value of the 54 TP-identified products are on average less than the NTIS products, but higher if compared to the NTIS product set excluding iron and steel products
- ▶ The PRODY and Path of the TP products are on average also less than those of the 2010 export basket
- ▶ 23 products have PRODY greater than the EXPY for 2010; 13 products have PRODY and Path greater than the average for their respective Leamer groups.
- ▶ The TP products represent a greater variety of manufactured goods than NTIS products.
- ▶ 12 have high Path and 17 medium Path. Three of the eight agricultural products have medium Path. All 11 RMG products have low PRODY but five of them have medium Path.



- ## Sophistication and connectivity of TP products



# Targeted products (TP) III

- ▶ In particular, leather goods, processed leather, paper products and towel exhibit higher-than-average Path and strategic value consistently across all comparator groups. In contrast, products such as coffee, floriculture, wooden handicraft, orange, silk products and woolen carpet have below-average Path and strategic value across all comparator groups.
- ▶ Combining NTIS products and TP products but excluding iron and steel (which yields 77 products), we find that among the top 20 products in terms of strategic value, 19 products are exclusive to TP while one product is common to both.
- ▶ 27 of 54 TP-identified products are nearby unexploited products (including leather, paper products).
- ▶ In sum, some of the products identified by TP but not included in NTIS hold greater potential for export diversification and structural transformation than many NTIS products, particularly when excluding iron and steel.



# Policy issues I

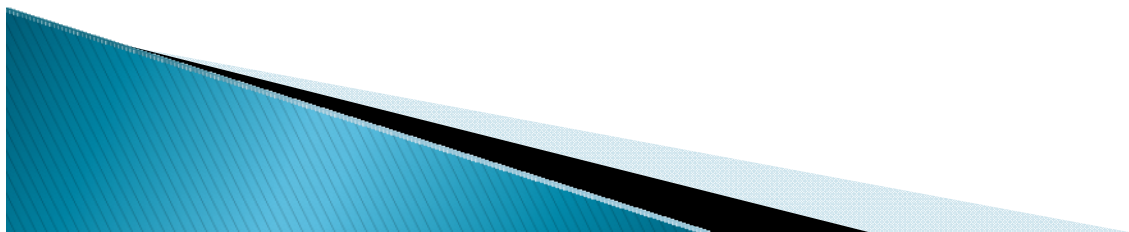
- ▶ Policy dilemma: Short-run imperative of poverty reduction and employment generation versus long-run goal of structural transformation
- ▶ Considerations of export potential (mainly demand, market access and competitiveness conditions, and supply-side capacities) and socio-economic impact (mainly employment and income generation, poverty reduction, and backward linkages) largely underlie the choice of products for targeting by GoN
- ▶ NTIS products differ in their sophistication and potential for structural transformation, but overall they are below-average on these parameters
- ▶ While iron and steel products have mostly high-to-medium sophistication and connectedness and above-average strategic value, and most of them lie in the “core” of the product space, agriculture products like tea, lentil, ginger, cardamom and medicinal herbs are at the low end. Handmade paper, some pashmina and wool products, honey and essential oils offer better prospects





# Policy issues II

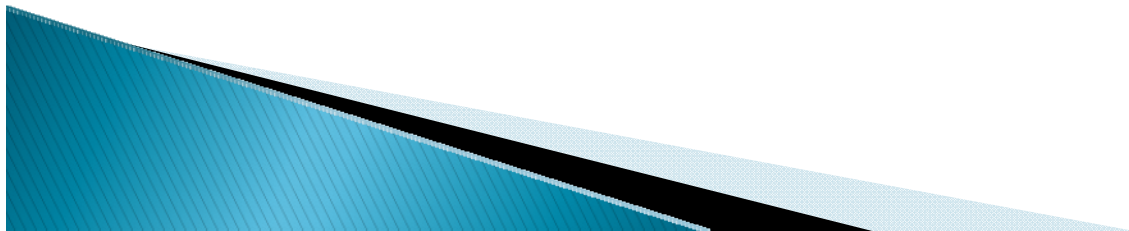
- ▶ There is some scope to better the prospects of achieving greater export sophistication and diversification by drawing in some of the products identified by TP but excluded from NTIS.
- ▶ The choice of products for targeting is limited by the concentration of Nepal's effective exportable products (here defined as those with  $RCA > 1$ ) in the periphery of the product space, which in turn is responsible for nearby products in the option set of unexploited opportunities (the open forest) being relatively low in sophistication and strategic value.
- ▶ But there are some unexploited products with relatively high potential for further export diversification that should be considered while targeting products—subject, of course, to the condition that certain minimum demand, supply-side and competitiveness conditions are met.





# Policy issues III

- ▶ Also, some of the “other” export potential products identified by NTIS but not accorded priority—such as dairy products and cement—have greater connectedness and strategic value than most of the “main” NTIS products, excluding iron and steel.
- ▶ Outward sophistication may mask low-technology processing, low domestic value addition: e.g., iron and steel products
- ▶ Need to also consider “within-product” (vertical) diversification and sophistication (moving up the value chain, quality improvement, product differentiation)
- ▶ Need to enhance competitiveness in existing products also (as low volume of exports is a major problem at the moment)
- ▶ The method of product space analysis to assess structural transformation possibilities is based on exports: Need to assess possibilities associated with import-substituting sectors also.



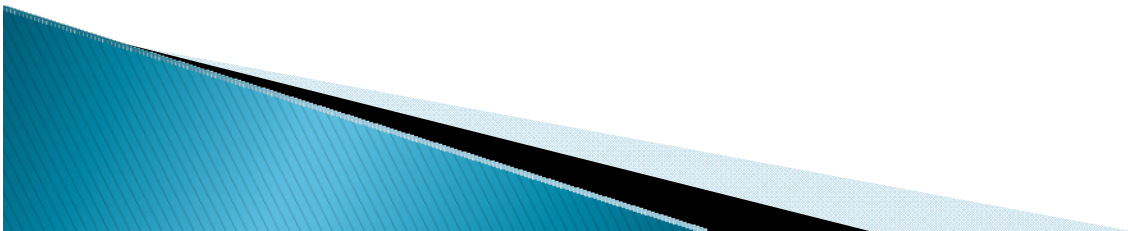
# Policy issues IV

- ▶ What about primary products?
  - Rich-country experience: productivity; branding/marketing
  - Processing, vertical diversification, value addition (processed agro/forestry/food products are more sophisticated and carry greater potential for structural transformation than do primary commodities)
  - Could offer a feasible path to structural transformation without compromising the objectives of mass employment creation and poverty alleviation
- ▶ Technology a major factor behind export sophistication (and thereby export location), but there are other factors also (Lall et al. 2005):
  - Economic factors: marketing; logistics and proximity; fragmentability; information and familiarity; natural resources; infrastructure; value chain organization
  - Policy factors



# Policy issues V

- ▶ The strategy of promoting exports of products *based on* agro-forestry resources is in itself not wrong, given the country's resource endowment. But failure to adopt policy measures to encourage *manufacturing* of agro-forestry-based products increases the risk of falling into the commodity-dependence trap.
- ▶ To avoid that trap, success of export promotion strategies must be measured in terms of progress in exports of commodity-based manufactures versus unprocessed commodities
- ▶ Policy measures such as incentives (cash incentives for exports announced by GoN), creation of SEZs (proposed) must incentivize processing and higher value addition



# Policy issues VI

- ▶ Supply-side constraints (SSCs) affect both the quantum of exports and the type of goods exported
  - Critical traditional SSCs: inadequate infrastructure, low human capital and inadequacy of trade facilitation measures (including the cost of landlockedness) -- structural in nature
  - Deteriorating industrial relations, frequent strikes and shutdowns, and deteriorating security situation -- political in nature
- ▶ Low export sophistication, low export diversification and very limited export sophistication possibilities (low open forest) are not just “symptoms” of coordination failure and self-discovery externalities. They are symptoms also of critical structural SCCs.
- ▶ Need to shore up the ailing manufacturing sector.

