

**INDUSTRY DEVELOPMENT ROADMAPS:  
ENHANCING PHILIPPINE INDUSTRY  
COMPETITIVENESS**

**THE PHILIPPINE  
MANUFACTURING  
INDUSTRY ROADMAP**

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# BACKGROUND

## Motivation

- ❑ Globalization: new opportunities, how to survive competition
- ❑ Industry upgrading: best way to achieve inclusive growth, create jobs, increase income, reduce poverty

## Process

- ❑ Growth potentials of industry: latent comparative advantage; product opportunity set
- ❑ Binding constraints to upgrading & entry: diagnostic analysis, supply/value chain analysis, industry roadmaps
- ❑ Recommendations to overcome constraints, upgrade industries, make markets work
  - ❑ Horizontal: power, logistics, bureaucracy, smuggling
  - ❑ Vertical: high cost/lack of raw materials, downstream industries
  - ❑ Coordination mechanism: industry councils (government & private)
- ❑ Roadmap: facilitation & coordination to address market failures

# 13 CONSULTATIONS & PRESENTATIONS (JAN-JUL 2013)

Bottom-up approach: consultations with stakeholders esp. on most binding constraints

- 23 industry consultations at PIDS
- DTI, BOI Board of Governors, DOLE-ILS, CHED
- TESDA, PRC, DOLE, DILG, DOF, DOST, DA, PPP Center
- NAST (National Scientists Raul Fabella, Mercedes Concepcion, Gelia Castillo, Academicians William Padolina, Ruben Villareal)
- NCC (Mr. Guillermo Luz), AIM Policy Center (Dr. Ronald Mendoza), ECOP, MAP
- DBM Undersecretary Laura Pascua
- NAPC Undersecretary Jude Esquerra
- NEDA Deputy Director General Emmanuel Esquerra
- PHILEXPORT Mr. Sergio Ortiz-Luis
- Export Development Council, PCCI Mr. Donald Dee
- UPSE (Dr. Emmanuel de Dios, Dr. Ramon Clarete)
- Labor sector (Mr. Greg del Prado, Mr. Angel Dimalanta, Mr. Josua Mata)

# PRESENTATION OUTLINE

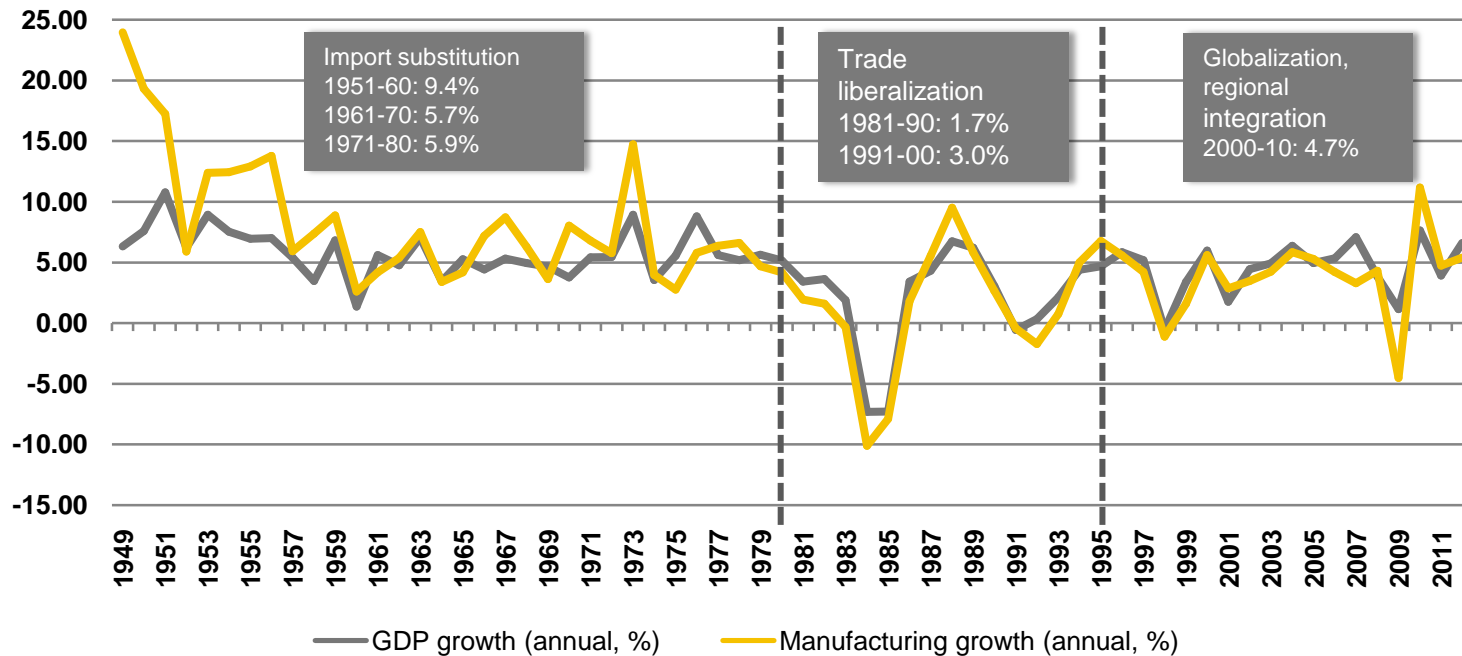
- ❑ **Taking stock: Structural transformation, upgrading, diversification**
  - industry performance, growth, structure
- ❑ **Analysis: Opportunities & Binding Constraints**
  - Are there potential growth areas where the industry might have latent comparative advantage?
  - What are the obstacles preventing the firms from upgrading the quality of their products? barriers that may be discouraging other firms from entering?
- ❑ **Way Forward: Roadmap for Industry Upgrading**
  - **Horizontal**: protection of property rights, improvement of overall business & investment environment, R&D, industrial clusters, economic zones
  - **Vertical**: incentive measures to address market failure such as tax incentives for a limited time, direct credits, access to raw materials & capital equipment
  - **Coordination mechanisms**: industry councils to serve as venues for deliberation and coordination between the government & private sector

# PART 1: A STOCKTAKING - - NEED FOR STRUCTURAL TRANSFORMATION & UPGRADING

Year	Description
1950s-1970s	Import substitution
1980s-mid '90s	removal tariff & NTBs (Tariff Reform Programs 1, 2)
1995	Tariff Reform Program 3: uniform 5% tariff by 2005
1996	tariffication of QRs on agriculture & creation of tariff quotas
1998	tariffs frozen at 2000 levels
2001	TRP 4 never implemented
2003	selective protection through Executive Orders 241 & 264
2004 onwards	ASEAN, ASEAN+1 FTAs, PJEPA

- MFN average tariffs in manufacturing 6.8%, agriculture 11.2%
- After '04, liberalization thru ASEAN CEPT Program
- ATIGA 0-10% tariffs ex highly sensitive rice
- ASEAN average tariffs were reduced from 9.8% to 0.6%

# DESIRED STRUCTURAL CHANGES DID NOT TAKE PLACE



- Boom-bust cycle growth
- 1980s witnessed the country's average growth plummet to 1.7% placing us significantly behind our neighbors
- 3% in the 1990s & 4.7% in the 2000s: attempt to recover & catch up with neighbors

# MANUFACTURING GROWTH & STRUCTURE

	average growth rate			average share		
	80s	90s	20s	80s	90s	20s
<b>GDP</b>	1.7	3.0	4.7	100	100	100
<b>Agriculture</b>	1.1	1.8	3.0	23.9	20.8	18.9
<b>Industry</b>	0.3	3.0	4.2	38.0	34.1	33.1
Manufacturing	0.9	2.5	4.1	26.3	24.3	23.7
<b>Services</b>	3.3	3.6	5.8	40.4	42.4	48.0

- Mfg growth sluggish from 1980s-1990s
- Some modest gains posted in the 2000s
- very little movement of resources in manufacturing as share to total industrial output declined

# EMPLOYMENT STRUCTURE

Employment share	1980-89	1990-99	2000-11
<b>Agriculture, Fishery, Forestry</b>	<b>49.60</b>	<b>43.2</b>	<b>36.1</b>
<b>Industry Sector</b>	<b>14.5</b>	<b>16.0</b>	<b>15.1</b>
Manufacturing	9.9	10.0	9.1
<b>Service Sector</b>	<b>35.9</b>	<b>40.9</b>	<b>48.8</b>

- Manufacturing average growth rate increased gradually from 0.9% in the 80s to 2.5% in the 90s & to 4.5% in the 2000s
- Manufacturing share to total employment remained stagnant
- Failure to create enough employment to absorb new entrants to labor force



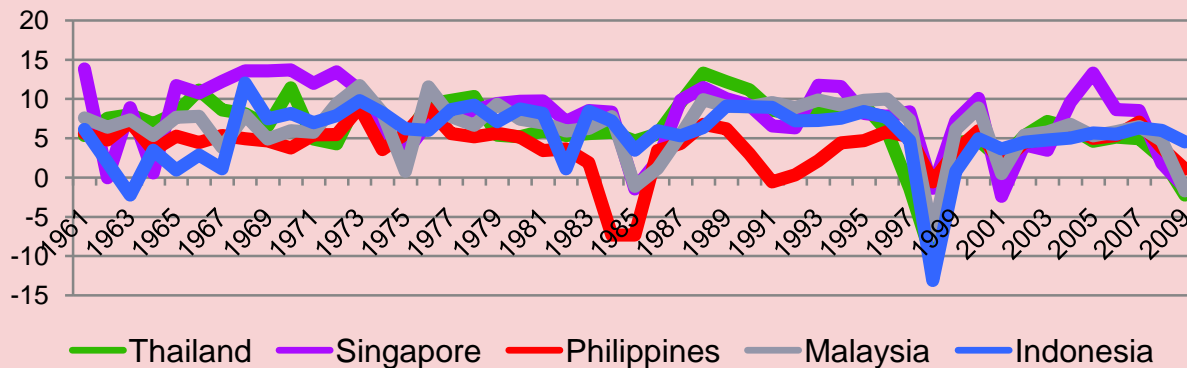
# OTHER CHARACTERISTICS

Manufacturing value added	1981-89	1990-99	2000-10
<b>Consumer Goods</b>	<b>57.0</b>	<b>50.0</b>	<b>51.0</b>
Food manufactures	44	36	40
Beverage industries	4	4	4
Footwear & wearing apparel	5	6	4
<b>Intermediate Goods</b>	<b>31.0</b>	<b>35.0</b>	<b>27.0</b>
Chemical & chemical products	7	6	6
Products of petroleum & coal	12	17	14
<b>Capital Goods</b>	<b>10</b>	<b>13</b>	<b>19</b>
Basic metal industries	3	2	3
Electrical machinery	3	6	12

- Consumer products dominated, intermediate products followed, then capital goods
- Negative total factor productivity growth: very little capital accumulation or technological change, absence of or slow industrial upgrading, lack of structural transformation
- Lack of export diversification
- Declining product groups with comparative advantage

# PH REMAINED OUTSIDE THE LEAGUE OF EAST ASIAN SUCCESSES

ASEAN5 GDP Growth Rate: 1961-2009



- Structural transformation in Thailand, Indonesia
- China, Malaysia : services rising

## Value Added Structure

Year	PHILS			THAILAND			INDONESIA			MALAYSIA			CHINA		
	'90	'99	'10	'90	'99	'10	'90	'99	'10	'90	'99	'10	'90	'99	'10
AGRI	22	18	12	12	10	12	19	19	15	15	11	11	27	18	10
INDY	34	30	33	37	40	45	39	43	47	42	46	44	42	49	47
--MFG	25	21	21	27	32	35	21	25	25	24	32	26	33	32	30
SERV	44	52	55	50	50	43	41	37	38	43	43	45	31	33	43

# PART 2: ANALYSIS - - OPPORTUNITIES & CONSTRAINTS

Strengths	Weaknesses
<ul style="list-style-type: none"><li>• Good macroeconomic environment</li><li>• Political stability: “Daang Matuwid”</li><li>• Young, trainable, English speaking workers</li><li>• Export zones’ legal framework, incentives</li></ul>	<ul style="list-style-type: none"><li>• Power cost</li><li>• Inadequate infrastructure</li><li>• Governance: smuggling</li><li>• Weak industry competitiveness</li></ul>
Opportunities	Threats
<ul style="list-style-type: none"><li>• Calamities in Thailand &amp; Japan disrupted supply chain driving investors to seek alternative locations</li><li>• Rising labor cost in China &amp; increasing tension between Japan &amp; China</li><li>• ASEAN, FTAs: potential markets</li></ul>	<ul style="list-style-type: none"><li>• Strong peso</li><li>• Global uncertainty, economic slowdown in the developed world</li></ul>

- 6.8% 2012; 7.8% Q1; economic outlook remains positive; a new growth area, capitalize on recent investment upgrade to attract FDI
- To sustain high growth, take advantage of market opportunities from a bigger market AEC 2015 → transform & upgrade manufacturing

# CLASSICS, EMERGING CHAMPIONS

## Classics (RCAs remain high)

Forest	<b>copper ores &amp; copper</b>
Raw materials	fuel wood, wood charcoal
Cereal, etc	Unmanufactured tobacco & vegetable textile fibers
Labor-intensive	Knitted men's, boys clothing; knitted women, girl clothing; other textile apparel
Capital-int.	tulle, lace, embroidery
Machinery	electric distribution equipment, nes; radio broadcast receiver; transistors, valves
Chemicals	alcohol, phenol

## Emerging Champions (low to hi)

Raw materials	scrap ferrous waste
Animal prods.	milk & cream
Cereals, etc	Manufactured tobacco
Machinery	electric power machinery, parts; electric machinery apparatus nes; <b>parts for tractors &amp; motor vehicles</b>
Labor-int.	glass
Chemicals	metal salts, inorganic acid

- Classics: maintain long term competitiveness
- Emerging Champions: need to build on these products

# DISAPPEARANCES, MARGINALS

Disappearances (high to low)		Marginals (RCAs remain low)	
Raw materials	Stone, sand, gravel; non-ferrous waste, scrap	Forest	<b>Pulp &amp; paper*</b>
Forest	veneers, plywood	Cereals	cereal prep'ns*, edible prod.*
Tropical agri	sugars, molasses, cocoa, natural rubber	Capital-intensive	furskins, tanned, dressed
Animal	fish, animal veg. fats, oils, nes	Machinery	<b>ship</b> , boat, float structures* <b>cycles, motorcycles</b> ; aircraft, associated equipment; medical instruments; arms & ammunitions
Labor intensive	pottery, <b>furniture</b> , cushions, clothing accessories, fabric		
Cereals	animal feed stuff	Chemicals	<b>soap, cleaners, polish</b> , etc

- **Disappearances**: declining competitiveness, move up the value chain, product/technology ladder to more sophisticated products
- **Marginals**: observe & let them grow to become exporter

# POTENTIAL GROWTH AREAS: NEARBY

Classification	Nearby Commodities (SITC 4 digit)
Highest level sophistication Highest spillover effect	<p>Machinery: Complete digital processing machines; watches; <b>photographic cameras</b>; TV, radio-broadcasting, transmitters; clocks; electrical line telephonic; portable radio receivers; microphones; calculating, accounting machines; sewing machines; <b>domestic electromechanical appliances &amp; parts</b></p> <p>Capital: Fabrics, woven of continuous synthetic textile materials</p> <p>Labor: <b>Precious jewelry</b>; porcelain or china house ware; pianos</p> <p>Animal: Fish, dried, smoked; fish fillets frozen</p> <p>Agriculture: <b>Refined sugar</b></p> <p>Cereal: Flours &amp; meals, of meat , fish</p>
Highest labor intensity	<p>Labor: Synthetic or reconstructed precious or semi-precious stones; pianos; pens; small wares &amp; toilet articles; <b>precious jewelry</b>; porcelain</p> <p>Capital: <b>Knitted not elastic nor rubberized of fibers other than synthetic; Fabrics, woven of continuous synthetic textile materials</b></p> <p>Machinery: Clocks; watches; <b>photographic cameras</b>; sewing machines</p>

Source: Usui, N. 2012. Taking the Right road to Inclusive Growth. ADB. Manila.

- Can be developed with relative ease, can utilize existing capabilities (inputs, institutional/infrastructure, skills, technology) embedded in the current export structure

# POTENTIAL GROWTH AREAS: MIDDLE

Classification	Nearby Commodities
Highest level of sophistication	<p>Chemicals: hormones, natural, or reproduced by synthesis; other nitrogen-function compounds; modified natural resins; oxygen function amino compounds; epoxide resins; regenerated cellulose; salts of metallic acids</p> <p>Metal: <b>angles, shapes, sections &amp; sheet filing of iron or steel</b></p> <p>Labor: orthopedic appliances, heating aids; safety glass</p> <p>Machinery: metal forming machine-tool; nonmechanical or electrical instruments; aircraft of unladen weight from 2000kg to 15000kg</p>
Highest spillover effect	<p>Machinery: cocks, valves for pipes boiler shells; air pumps, vacuum pumps &amp; air or gas compressors; other articles of rubber; other non-electric parts &amp; accessories of machinery, nes</p> <p>Chemicals: phenoplasts; aminoplasts</p> <p>Capital: felts, articles of felt; coated or impregnated textile fabrics &amp; products; bonded fiber fabrics</p>
Highest labor intensity	<p>Raw materials: slag, scaling, dross &amp; similar waste; other natural abrasives; seeds, fruits, spores, nes for planting</p> <p>Forest: <b>fiber building board of wood or other vegetable material</b></p>

Source: Usui, N. 2012. Taking the Right road to Inclusive Growth. ADB. Manila.

- Can be developed with some difficulties, not all required capabilities are in the country

# POTENTIAL GROWTH: FAR-AWAY

Classification	Nearby Commodities
Highest level of sophistication	<p>Chemicals: amide-function compounds exc. urea; other organo-inorganic compounds; suphonamides, sultones</p> <p>Forest: <b>printing paper &amp; writing paper</b></p> <p>Machinery: <b>chassis fitted with engines for vehicles</b>; furnace burners mechanical stokers etc &amp; parts; other non-electrical machines &amp; parts</p>
Highest spillover effect	<p>Machinery: electrical insulating equipment; furnace burners, mechanical stokers; harvesting &amp; threshing machines; engines &amp; motors; <b>other parts &amp; accessories of vehicles</b></p> <p>Forest: <b>paper &amp; paperboard coated impregnated in rolls sheets</b></p> <p>Chemicals: aldehyde, ketone, &amp; quinone-function compounds; inorganic esters, salts &amp; derivatives; polyamides</p> <p>Capital intensive: special products of textile materials</p>
Highest labor intensity	<p>Machinery: nuclear reactors &amp; parts; <b>bodies for vehicles; other parts &amp; accessories for vehicles</b>; railway track fixtures; parts nes of aircraft hdg 792, mechanically propelled railway, tramway, trolleys</p> <p>Capital: linoleum &amp; similar floor covering, special products of textile material; central heating equipment</p>

Source: Usui, N. 2012. Taking the Right road to Inclusive Growth. ADB. Manila.

- Need quite different capabilities that the country has not yet developed



# HORIZONTAL CONSTRAINTS

- Diagnostic analysis: most binding constraints to growth & upgrading (poor infrastructure, lack of access to finance)

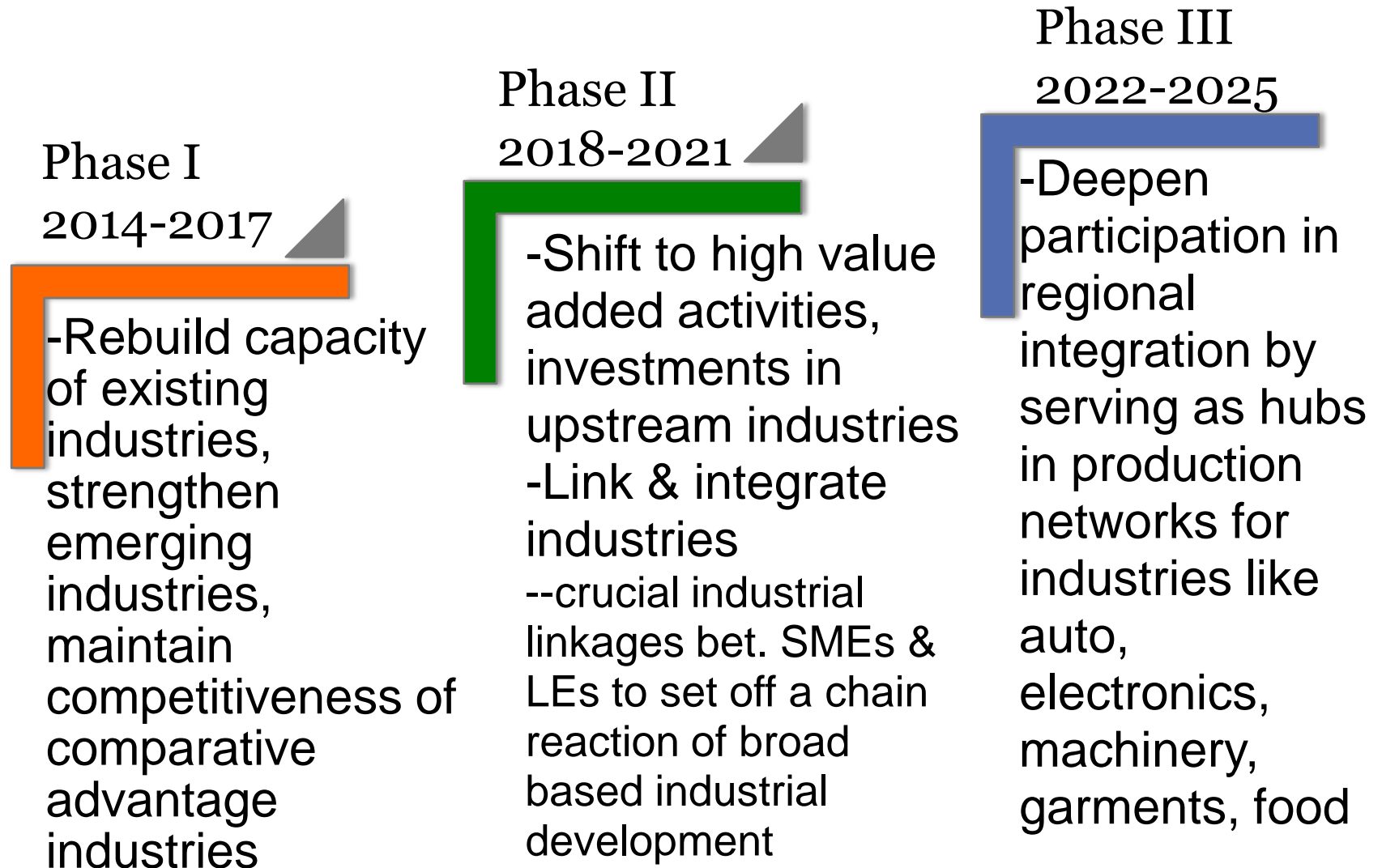
Major Area	Main Horizontal Issues & Constraints
Infrastructure & Logistics	<ul style="list-style-type: none"><li>• High cost &amp; unpredictability of power</li><li>• High cost of domestic shipping</li></ul>
Governance & Regulation	<ul style="list-style-type: none"><li>• Smuggling, corruption, bureaucracy/red tape</li><li>• Lack of streamlining/automation of interrelated business procedures /Lack of transparency</li><li>• Permits issued by LGUs, national agencies (DENR's ECC, BI visa, BFAD regulations 90-120 days, BIR registration)</li><li>• Lack of policy consistency, transparency, &amp; predictability</li></ul>

# VERTICAL CONSTRAINTS

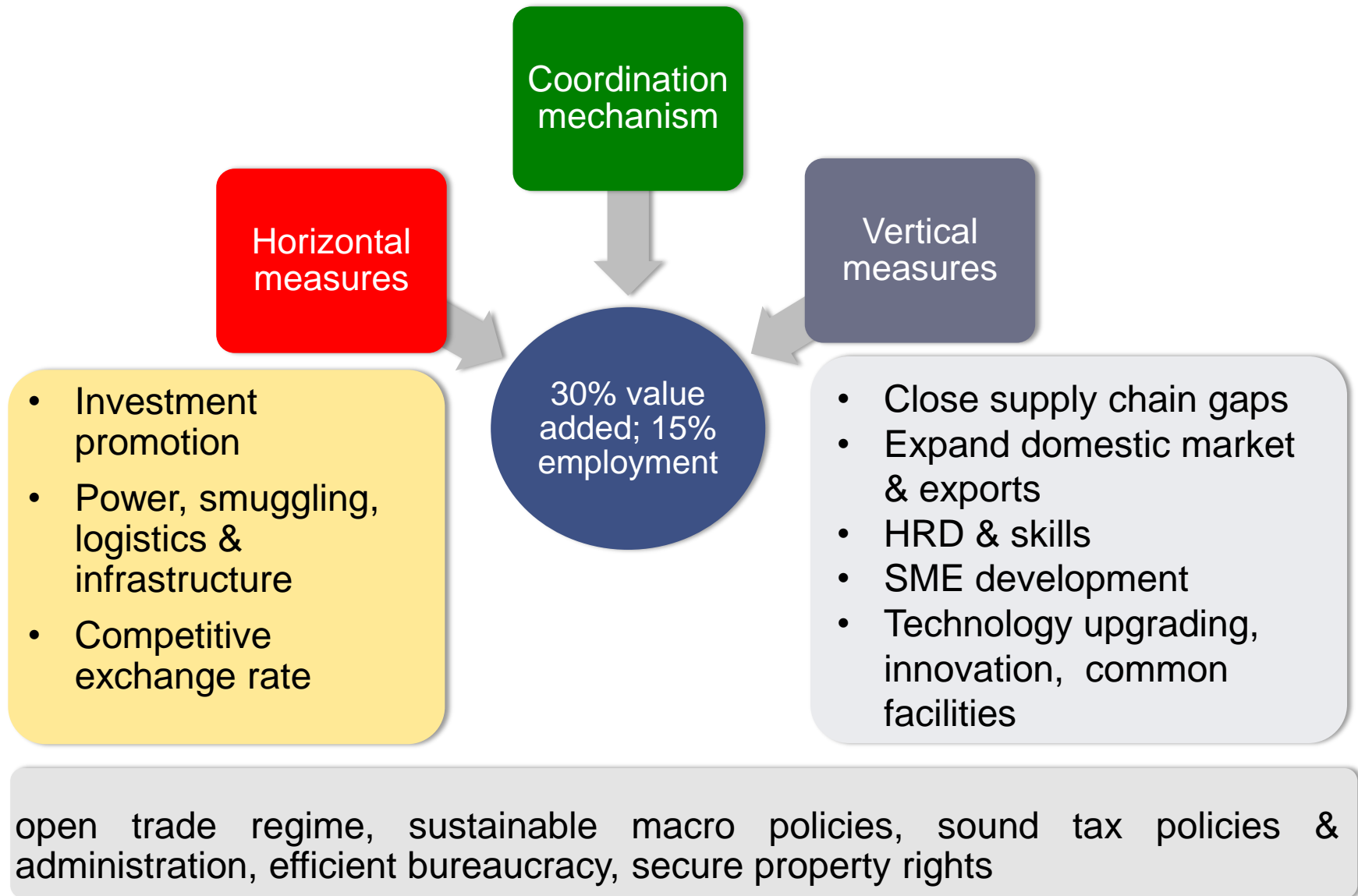
Major Area	Most Binding Constraints	Industries
Supply/value chain gaps	Absence of raw materials (upstream); weak parts & components sector (mid-stream); downstream	Furniture, paper, copper, iron & steel, plastic, biodiesel, engineered bamboo, tool & die
Domestic market base expansion	Economies of scale, expand & build on domestic supply base	Auto, motorcycle assembly, motorcycle parts, ship building
SME development	Access to finance, technology upgrade, inability to comply with product standard regulations	Auto parts, motorcycle, furniture, rubber
Human resources	Skilled workers, need for trainings	Metal casting, tool & die auto & motorcycle parts, furniture, chemical, rubber, plastic, iron & steel
Innovation	Industry-academe linkages new product development, R&D facilities	Metal casting, rubber, tool & die, engineered bamboo

# PART 3: WAY FORWARD - - ROADMAP FOR STRUCTURAL TRANSFORMATION

**VISION: GLOBALLY COMPETITIVE MANUFACTURING INDUSTRY**



# TARGETS, STRATEGIC ACTIONS, COMPLEMENTARY MEASURES



# ACTION 1. CLOSE SUPPLY/VALUE CHAIN GAPS

Sector	Measures
Copper	Institutional mechanism to fully integrate the industry; F/S copper wire rod was carried out
Furniture	Supply hubs for raw & natural materials
Engineered Bamboo	Establish plantations where processing will be undertaken
Tool & die	Access to raw materials, equipment, & software
Plastic	Encourage growth of recycling industry, incentives for upgrading
Paper	Expand fiber raw material base, develop massive tree plantations & commercial agro forestry integrated with virgin wood pulp prod'n
Iron & steel	Consistent set of investment policies for construction, auto, appliance, shipbuilding; Full integration of industry upstream-mining, reliable supply of iron ore & coal,
Petrochem	Enhance competitiveness of downstream products
Biodiesel	Develop feedstock through seedling development for high yield coconuts (DA/DOST) & other energy crops; map suitable areas (DENR/DOST) for biodiesel feedstock production

# ACTION 2. DOMESTIC MARKET BASE EXPANSION

Sector	Measures
Automotive	Incentive to rebuild domestic market: fiscal & non-fiscal incentives
Ship building	Implement RA 9295 (retirement of old vessels, restrictions on vessel importation) Domestic offshore & maritime demand development Investment promotion campaigns, seminars, company visits in Japan, business matching
Motorcycle Assembly	Development of the support (local parts) industries; critical parts & components are imported which leads to high production costs
Motorcycle parts	Incentive package to attract investments in supporting industries (die making, precision machining), capacity building & HRD programs

# Action 3. HRD & Skills/Trainings

Type	Sectors
Design, tool making, prototyping, molding, die & casting	Auto parts, Tool & Die
Chemical engineering, Materials Engineering	Chemical, Rubber, Plastics
Supervisory, managerial, consultancy for improved productivity	Furniture
Foundry technology, Metallurgical Engineering, Mechanical Engineering, Industrial Engineering, Metal casting Engineering	Metal casting
Die design, Tool & Die Engineering	Tool & Die
Vocational trainings (TESDA)	Iron & steel

# Action 4. SME development & technology/innovation

Type	Sectors
SME development: access to finance, incubation facilities, clusters	Auto parts, motorcycle parts, furniture, rubber, metal casting, tool & die, chemicals, iron & steel
Quality testing facilities	Auto and Auto parts, motorcycle assembly, motorcycle parts, furniture, rubber
R&D facilities Industry-academe linkages for new product development Applied technology for indigenous products/raw materials	Metal casting (foundry institute), tool & die, engineered bamboo, rubber, iron & steel, chemicals Furniture, paper, plastics

## Other Actions

- Aggressive marketing & promotion to attract investments esp. those that would bring in new technologies
- Continue to address high cost of power & domestic shipping, smuggling & measures to streamline & automate government procedures
- Competitive exchange rate



# GOVERNMENT COORDINATION

Agency	Area
DOLE	policies on hiring & firing; new, high productivity jobs
DOST	innovation strategy, R&D, common facilities/laboratories for product testing & certification, incubation facilities
NEDA	Philippine Development plan
DA	Agriculture roadmaps
BOC	smuggling, trade & customs facilitation
TESDA, DOLE, PRC	training of workers, skilled workers needed (supply gap)
Tariff Commission	Tariff distortions, anti-dumping & safeguard measures
DOF, DBM	budget, temporary incentive measures
BOI, PEZA, Clark, Subic	Investment promotion
DTI-MSMED, DOST	MSME development
LGUs	business permits & regulations (double taxation)
DOE	energy plan, policy implementation (B5 biodiesel)
PPA, MARINA	regulatory & port charges & domestic shipping, RA 9295
DENR	environmental permits, plantations

# **COORDINATION MECHANISM BETWEEN GOVERNMENT & PRIVATE SECTOR**

**Develop mechanism where government, industry & cluster-level private groups can collaborate**

- **on interventions to directly improve productivity**
  - Cluster-based intervention: increase supply of skilled workers, encourage technology adoption, improve regulation & infrastructure
- **measures to address coordination failures**
  - Implementation of legislations; strict enforcement of product quality standards; programs providing access to raw materials, intermediate inputs & common service, R&D facilities; aggressive investment promotion & marketing to attract investment; trainings, business & academe linkages

# **THANK YOU FOR YOUR ATTENTION**

**No matter whether it is a white cat or a black cat, as long as it can catch mice it is a good cat. The way to transit from a traditional planned economy to a market economy is just like crossing a river by groping for the stones beneath the surface.**

**Deng Xiaoping**