Regional Value Chains in East Africa:
What Can We Learn from the Latin American and Asian Experiences?

Gary Gereffi
Duke University
ggere@soc.duke.edu

May 28, 2015
MINICOM, IGC
Ministry of Trade & Industry
Kigali, Rwanda

AGENDA

1. **Overview of GVC Framework**
   - Holistic View of Global Industries
   - Strategic Benchmarking through International Comparisons
   - Moving Up the Value Chain – From Commodities to High Value Activities
2. **Medical Devices GVC in Costa Rica**
3. **Offshore Services GVC in Chile**
4. **GVCs and Regional Value Chains in East Africa**
   - GVC Participation: Forward and Backward Linkages (Integration)
   - Wheat and Maize GVCs: Black Sea Region and East Africa
   - Tourism in East Africa
   - Policy Issues and Opportunities/Challenges for Upgrading

Global Value Chains

and Competitiveness

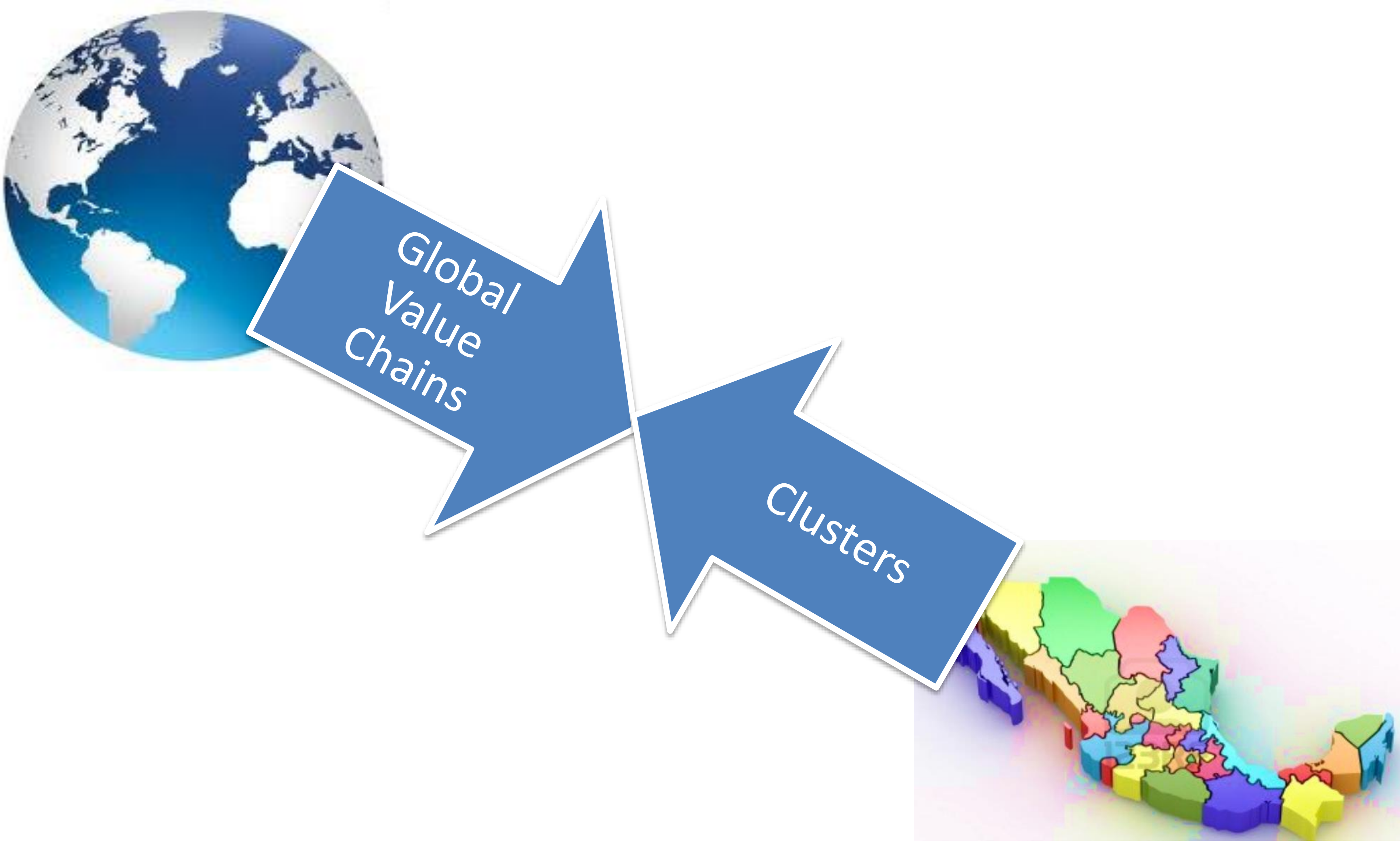
DUKE UNIVERSITY, CENTER ON GLOBALIZATION, GOVERNANCE & COMPETITIVENESS (DUKE CGGC)

Source: http://cggc.duke.edu/

GLOBALIZATION & DEVELOPMENT: KEY TRENDS

- **Post-Washington Consensus world** – Global economic recession of 2008-09 and rise of "middle powers" has changed export-oriented model
- **Large emerging economies** like China, India and Brazil are both export platforms and turning inward
- **Small economies** are seeking specialized niches in the global economy and regional economic blocs
- **Lead firms in global value chains** are streamlining and consolidating their sourcing and production networks

CLUSTERS & GLOBAL VALUE CHAINS



GLOBAL VALUE CHAINS: A HOLISTIC APPROACH

Global value chain analysis provides both conceptual and methodological tools for examining the global economy

- **Top-down**: a focus on lead firms and inter-firm networks, using varied typologies of industrial "governance"
- **Bottom-up**: a focus on countries and regions, which are analyzed in terms of various trajectories of economic and social "upgrading"

DIMENSIONS OF GLOBAL VALUE CHAIN ANALYSIS

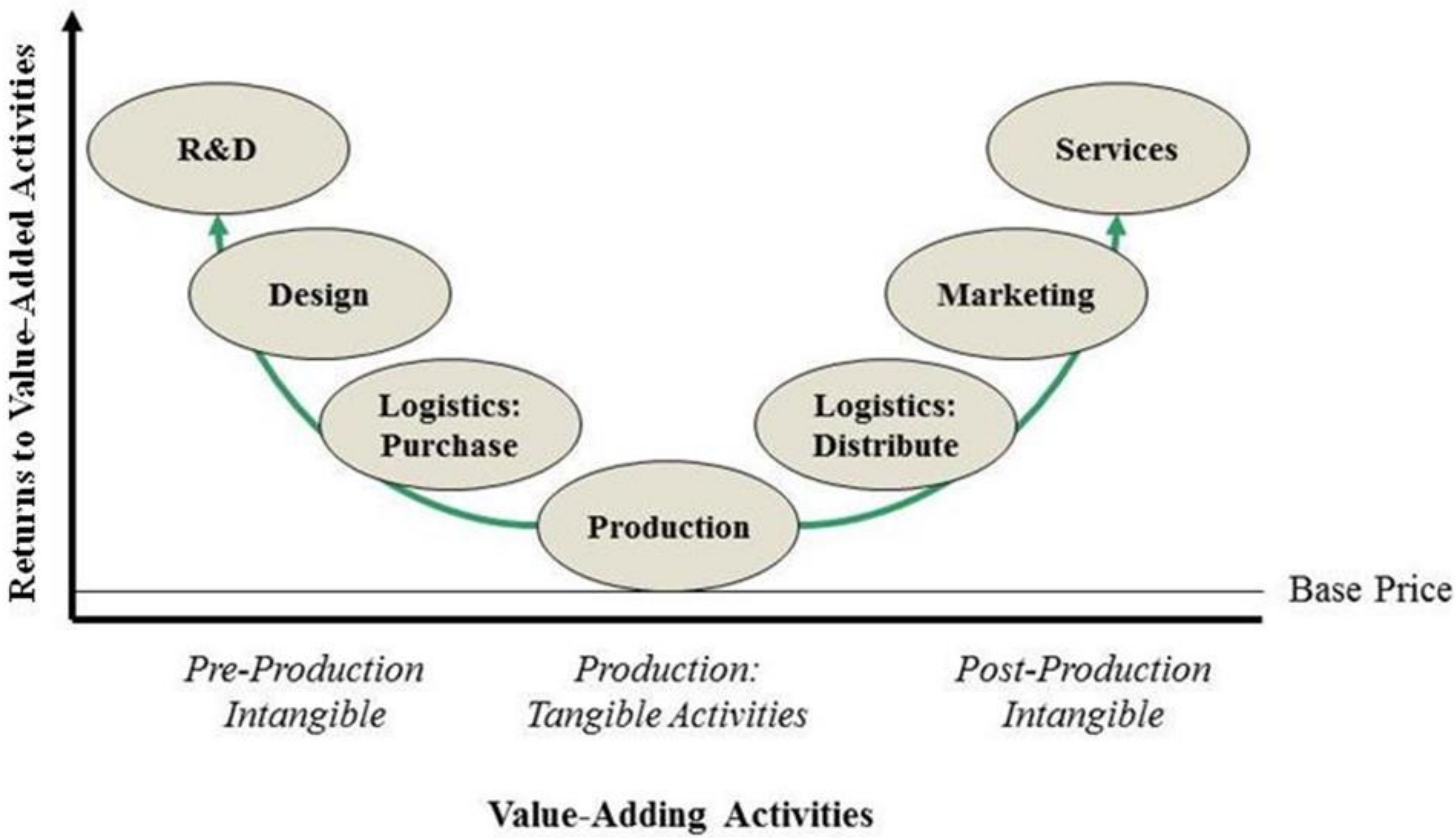
1. Value Chain Mapping
2. Geographic Scope
3. Governance Structures: Lead Firms, Suppliers & Standards

GLOBAL

4. Upgrading Trajectories
5. Local Institutional Context
6. Industry Stakeholders

LOCAL

Where Are the High-Value Activities in GVCs?



Drivers of GVC Competitiveness

1. **Role of the state**
2. **Types of FDI**
3. **Public-private collaboration**
4. **International benchmarking**
5. **Regional value chains**

Duke CGGC project with IGC: Regional Value Chains in East Africa

- Study supported by the International Growth Centre (IGC)
- Three value chains
  - Maize
  - Dairy
  - Tourism
- Goal: Understand the structure of regional value chains (RVCs) in selected industries and identify opportunities to upgrade firm capabilities

Why are Regional Value Chains Important for East Africa?

- Lead firms in GVCs prefer "one-stop shopping"
- Regional value chains allow smaller economies to create new forward and backward value adding stages across neighboring countries
- Mechanisms for regional value chains:
  - Trade
  - FDI
  - Regulations and standards
  - Labor markets
- Economic benefits of regional value chains:
  - Exports
  - Employment
  - Poverty reduction
  - Improve capabilities of local firms
  - Workforce development: adding skills and increasing wages

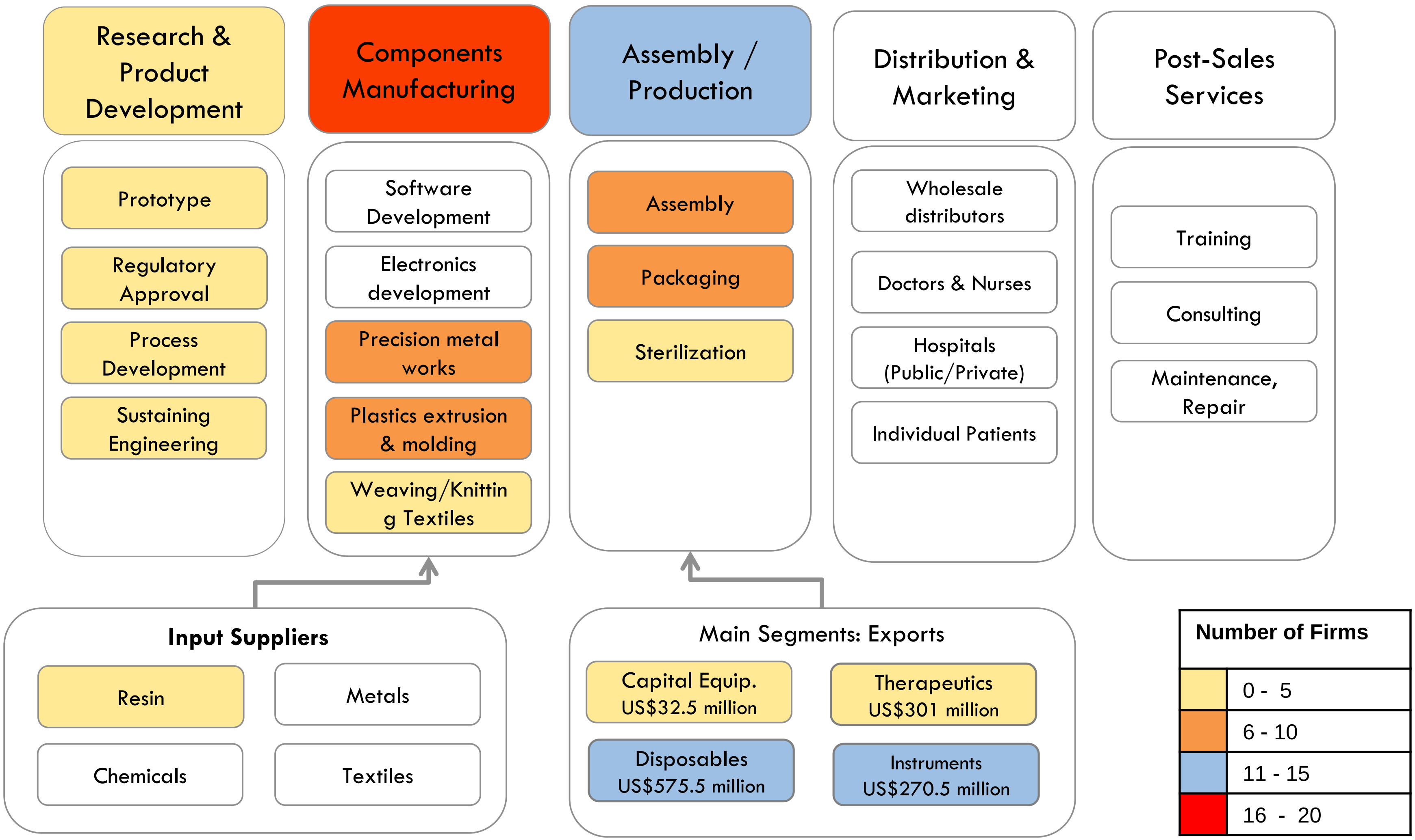
COSTA RICA IN THE
MEDICAL DEVICES GLOBAL VALUE CHAIN

Duke
CENTER on GLOBALIZATION, GOVERNANCE & COMPETITIVENESS

GVCs in Costa Rica

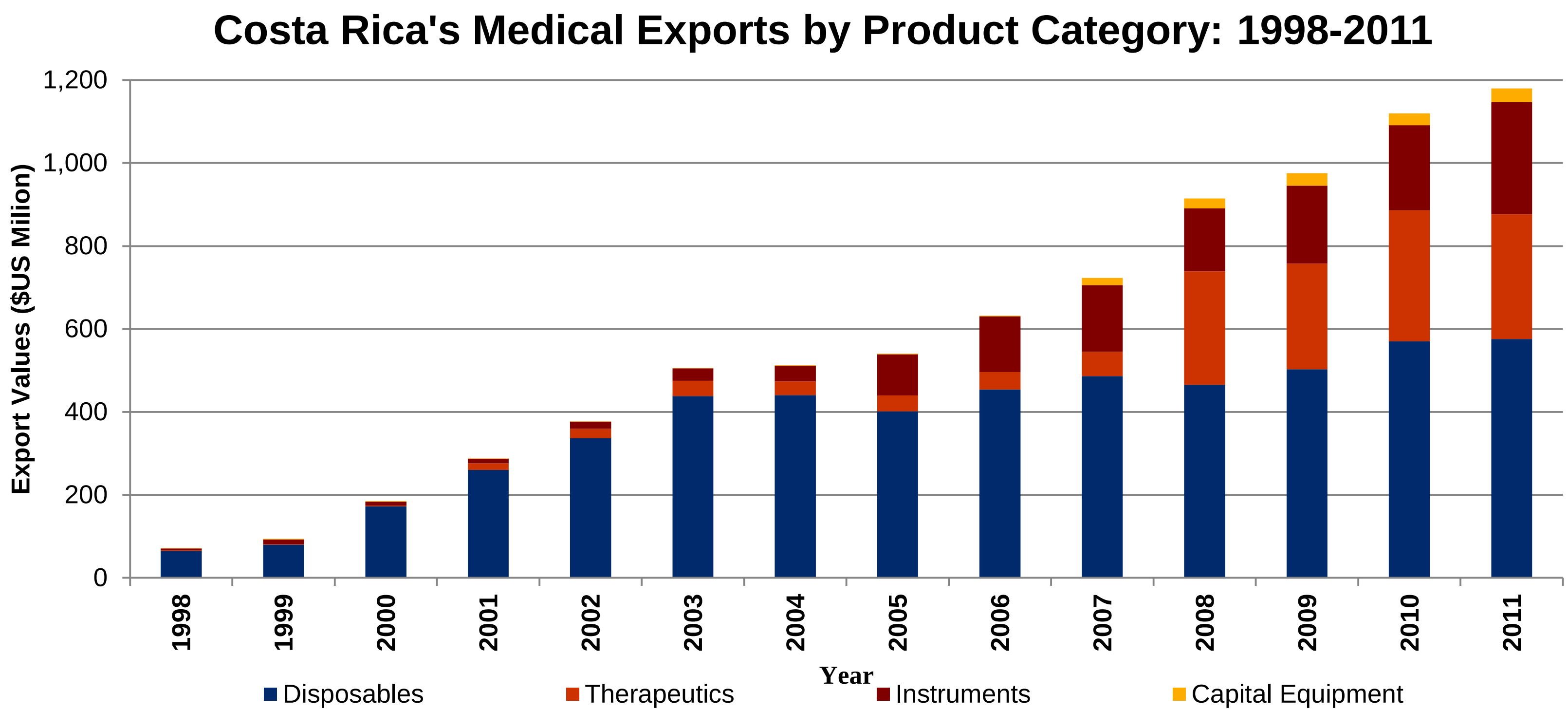
- Study for Costa Rica's Ministry of International Trade (2013) (http://www.cggc.duke.edu/gvc/project.php?proj=180)
- 3 Manufacturing GVCs: Economic Diversification
  - Medical devices
  - Electronics
  - Aerospace
- Research questions: How well positioned is Costa Rica to upgrade in these GVCs, and what factors contribute to positive or negative outcomes?

COSTA RICA IN THE MEDICAL DEVICES GVC



Local firms are mainly in packaging & support services (12 of 19) versus 4 in limited role in plastics molding & metal finishing and 1 OEM with exports under \$2 million.

EVOLUTION OF COSTA RICAN MEDICAL DEVICE EXPORTS



- **Disposables** still the largest product category exported, but no longer a strong growth area.
- Exports in **surgical instruments** have grown steadily since 2005.
- **Therapeutics** has become 2nd largest category since 2008; likely to increase as newly established firms complete transfer of new product lines.
- Limited export of highest value **capital equipment** (eg. Electronic/software devices)

FIRMS IN COSTA RICA MEDICAL DEVICES SECTOR

Entry Year	Firm Characteristics	Main Product Export Category	Core Market Segments	Product Examples	Select Firms
Up to 2000 24 firms: 8 US 15 CR 1 German	4 OEMs 8 Components 1 Input distributor 7 Packaging 1 Finishing 3 Support services	Disposables	Drug delivery; Women's health	Intravenous tubing (I) Mastectomy bra (I)	Hospira; Baxter; Amoena; Corbel
2001–2004 13 firms: 9 US 3 CR 1 Colombian	3 OEMS 6 Components 1 Finishing 1 Logistics provider 2 Support services	Instruments	Endoscopic surgery	Biopsy forceps (II)	Arthrocare; Boston Scientific; Oberg Industries
2005–2008 8 firms: 7 US 1 Puerto Rico	2 OEM 4 Components 1 Packaging 1 Finishing	Therapeutics	Cosmetic surgery; Women's health & urology	Breast implants (III) Minimally invasive devices for uterine surgery (II)	Allergan; Tegra Medical; Specialty Coating Systems
2009–2012 21 firms: 16 US 1 CR 1 Ireland 1 Japan 2 Joint ventures (US-CR)	5 OEMS 7 Components 2 Non-OEM assemblers 1 Input Distributor 2 Sterilization 2 Packaging	Therapeutics Disposables Instruments	Cardiovascular Drug delivery	Heart valves (III) Dialysis catheters (III) Guide wires (III) Compression socks (I)	Abbott Vascular St. Jude Medical Covidien Moog Synergy Health Volcano Corp.

UPGRADING SUCCESS: A LEADING MEDICAL DEVICES MNC IN COSTA RICA

2004
First production plant opens in Costa Rica ($10,000m^2$)

2005
Exports: US$18 million

2008
Second plant opens. ($32,000m^2$)
First plant restructuring

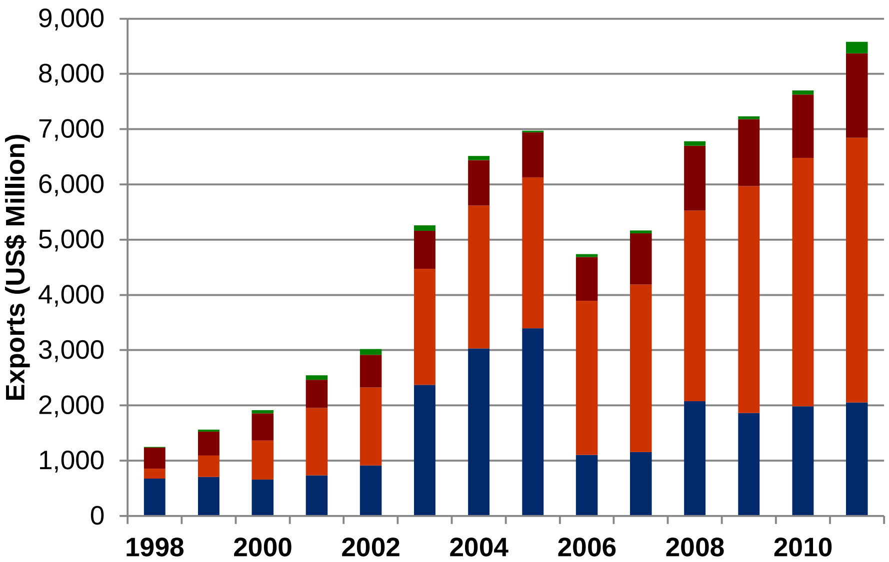
2010
Initial plant reopens after restructuring

2011
Exports: US$120 million

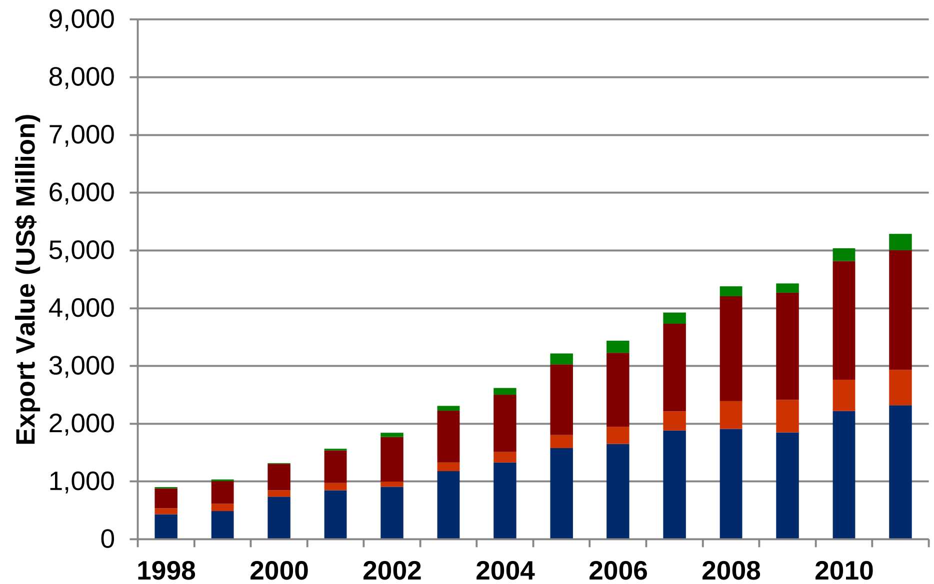
Functional Upgrading	• 2004: Manufacturing functions • 2012: Engineering for process improvements ➔Focused on cardiology segment; strategy – to alleviate R&D costs in the US.
Product & Process Upgrading	• Biopsy forceps➔ Labor intensive, basic metal works & extrusion. • Urethral stent➔ Thermoforming, laser marking, coating capabilities. • Guide Wires ➔ Sophisticated Laser cutting & welding. • Today – CR facilities cover 42 manufacturing processes.
Market Diversification	• Gastroenterology segment ➔ Urology ➔ Cardiovascular
Forward Linkages	• Recent co-location of sterilization vendors will allow the firm to export directly to global distribution centers

IRELAND AND MEXICO: MEDICAL DEVICE EXPORTS 1998-2011

IRELAND



MEXICO



- Most mature of the three locations
- 2005 shock forced upgrading strategy
- Significant growth in therapeutics & entry into capital equipment production

- Stabilizing disposables exports
- Strong focus in instruments
- Growing gains in capital equipment ➔ participation in electronics value chains

OFFSHORE SERVICES GVC IN CHILE

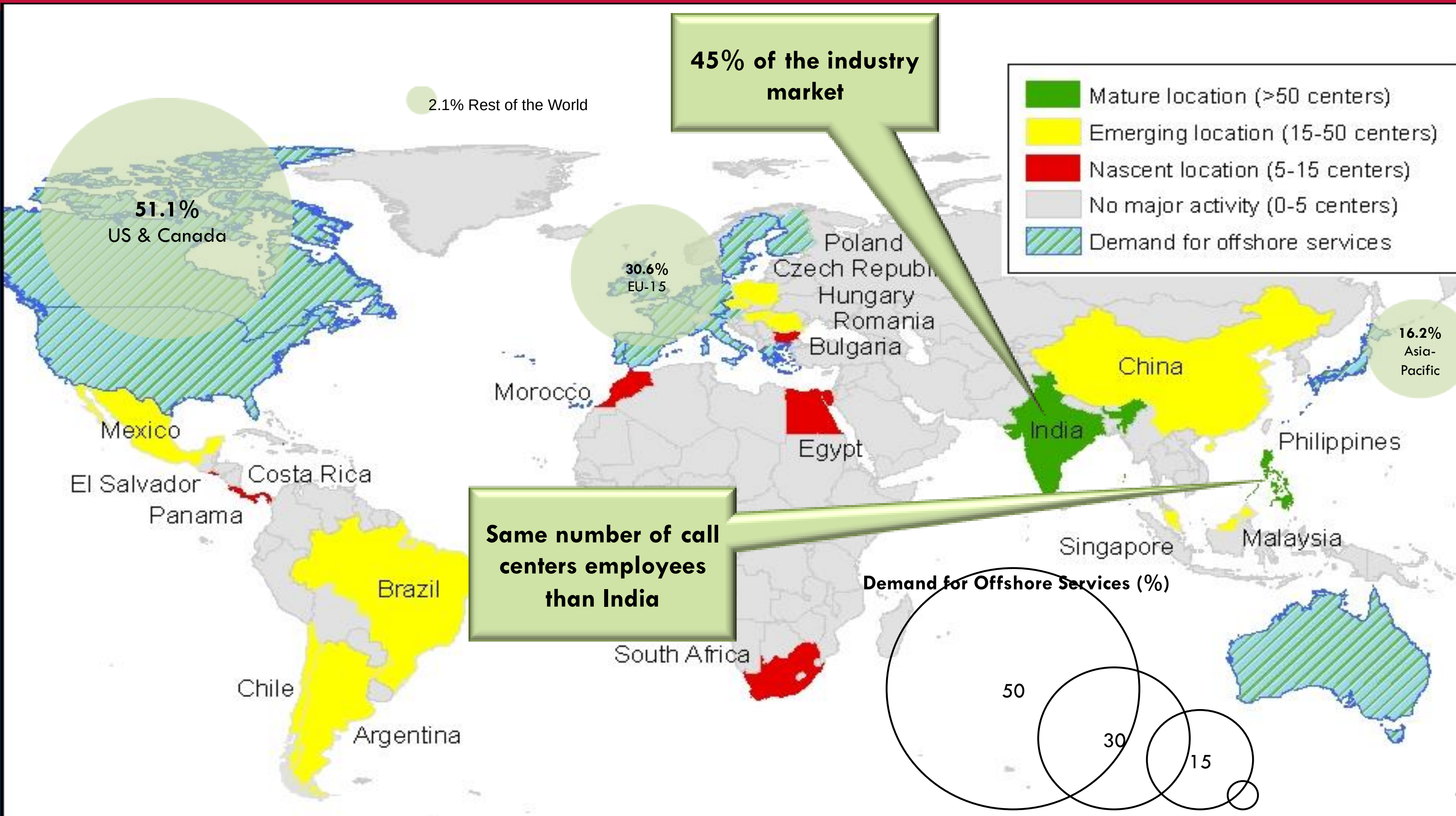
Duke

CENTER on GLOBALIZATION, GOVERNANCE & COMPETITIVENESS

OFFSHORE SERVICES IN CHILE

- Study for Chile's Economic Development Agency (CORFO) (http://www.cggc.duke.edu/pdfs/CGGC-CORFO_Chiles_Offshore_Services_Value_Chain_March_1_2010.pdf)
- Four questions:
  - What does the offshore services GVC look like?
  - What is Chile's position in the offshore services GVC?
  - What are viable upgrading niches for Chile in this GVC?
  - What workforce development strategy does Chile need to follow to develop this niche (engineering services)?

OFFSHORE SERVICES: GLOBAL SUPPLY AND DEMAND, 2008



Source: CGGC based on Everest & Datamonitor

OFFSHORE SERVICES: A SIMPLIFIED VIEW OF UPGRADING

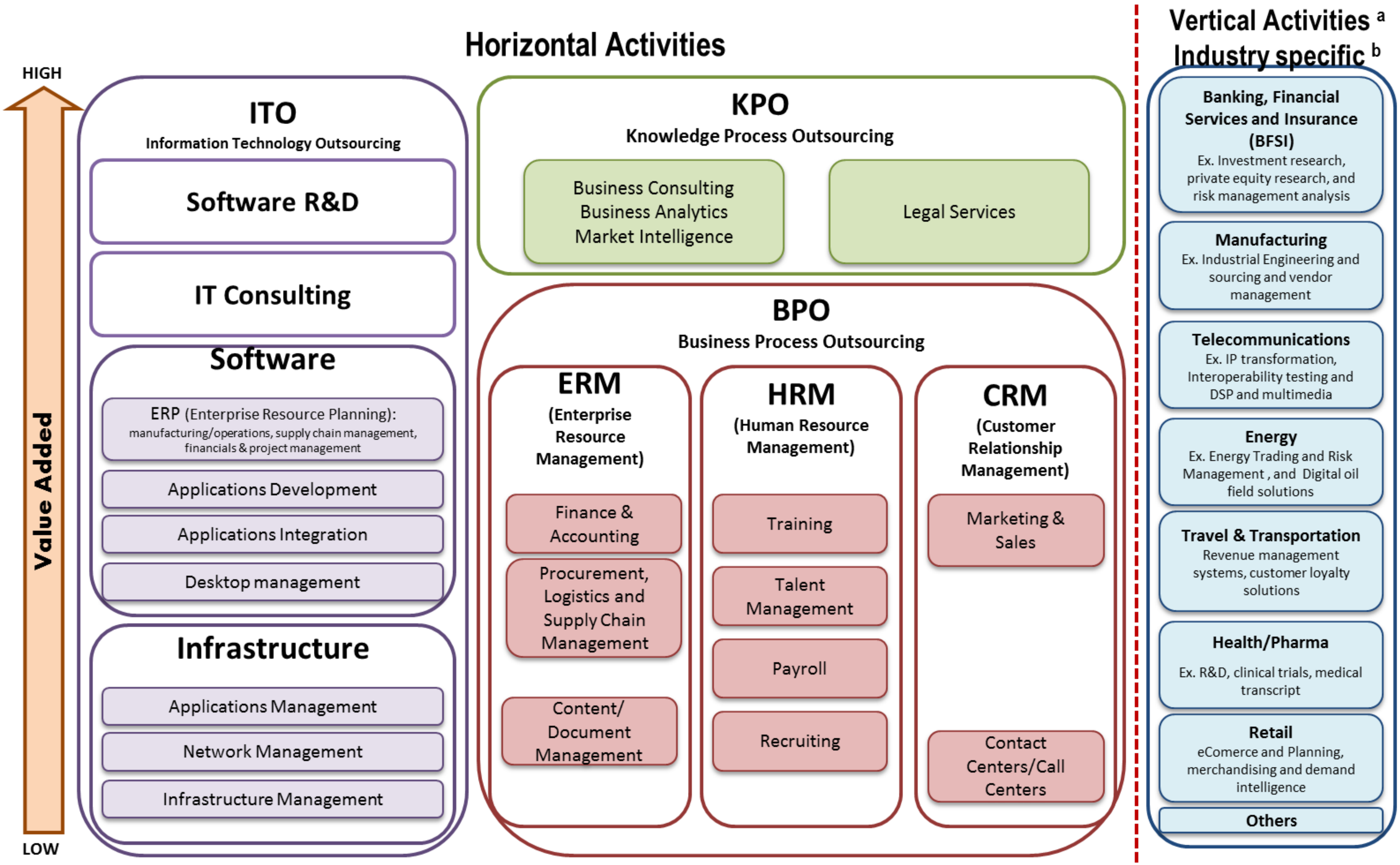
ITO – Information technology outsourcing

BPO – Business process outsourcing

KPO – Knowledge process outsourcing

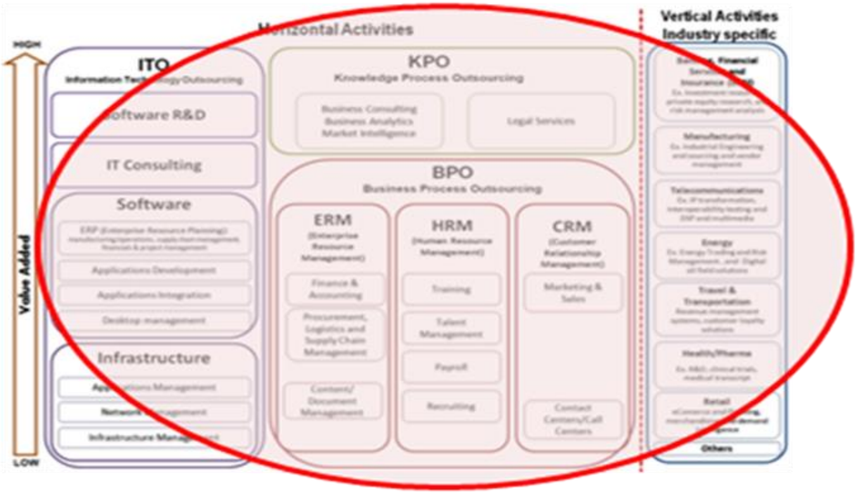
Upgrading trajectory: ITO → BPO → KPO

OFFSHORE SERVICES GLOBAL VALUE CHAIN

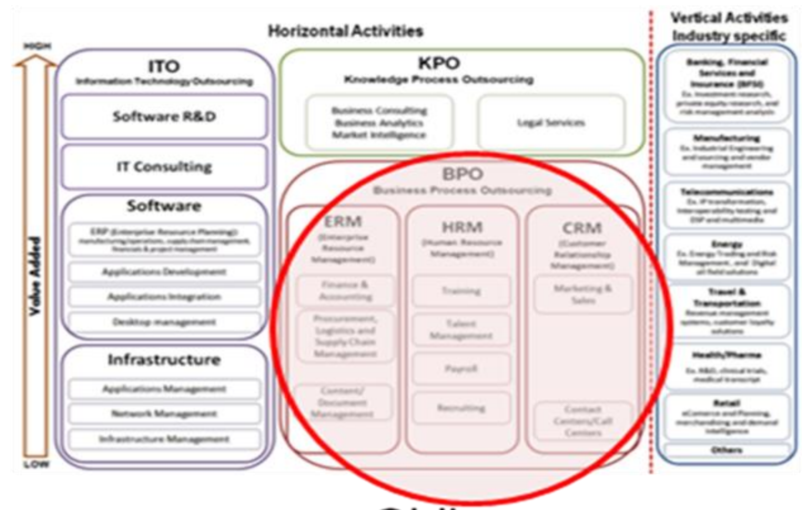


MAPPING SELECTED COUNTRIES IN THE OFFSHORE SERVICES GVC

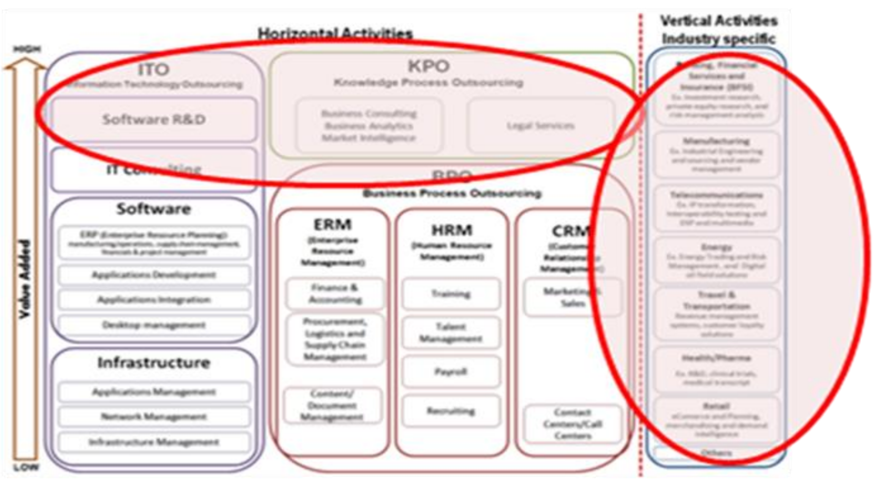
India



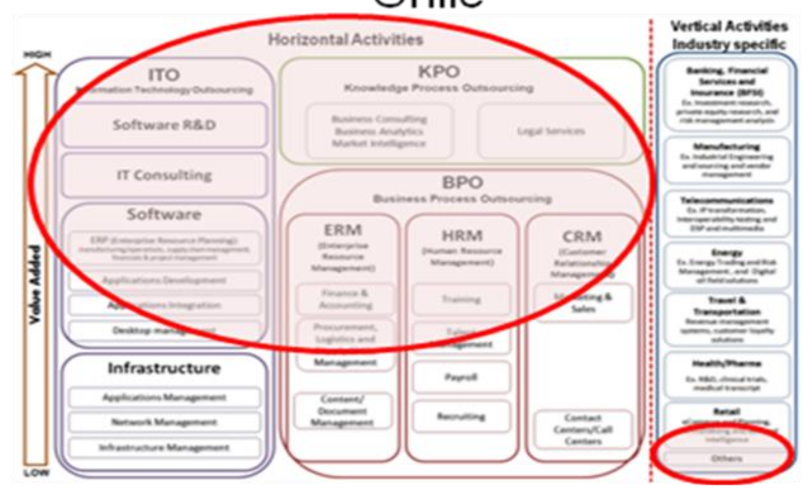
Philippines



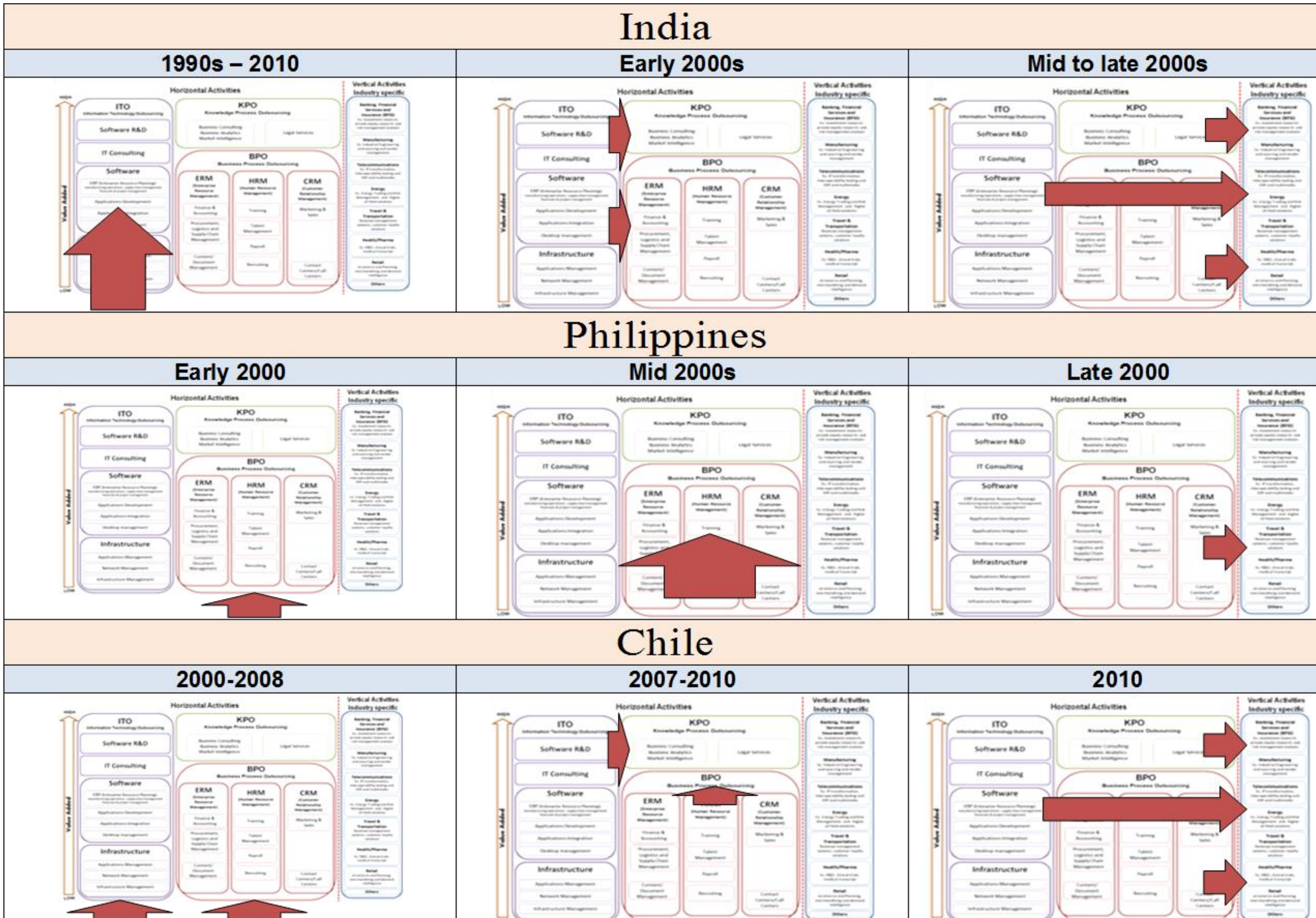
Czech Republic



Chile



OFFSHORE SERVICES UPGRADING: INDIA, PHILIPPINES & CHILE

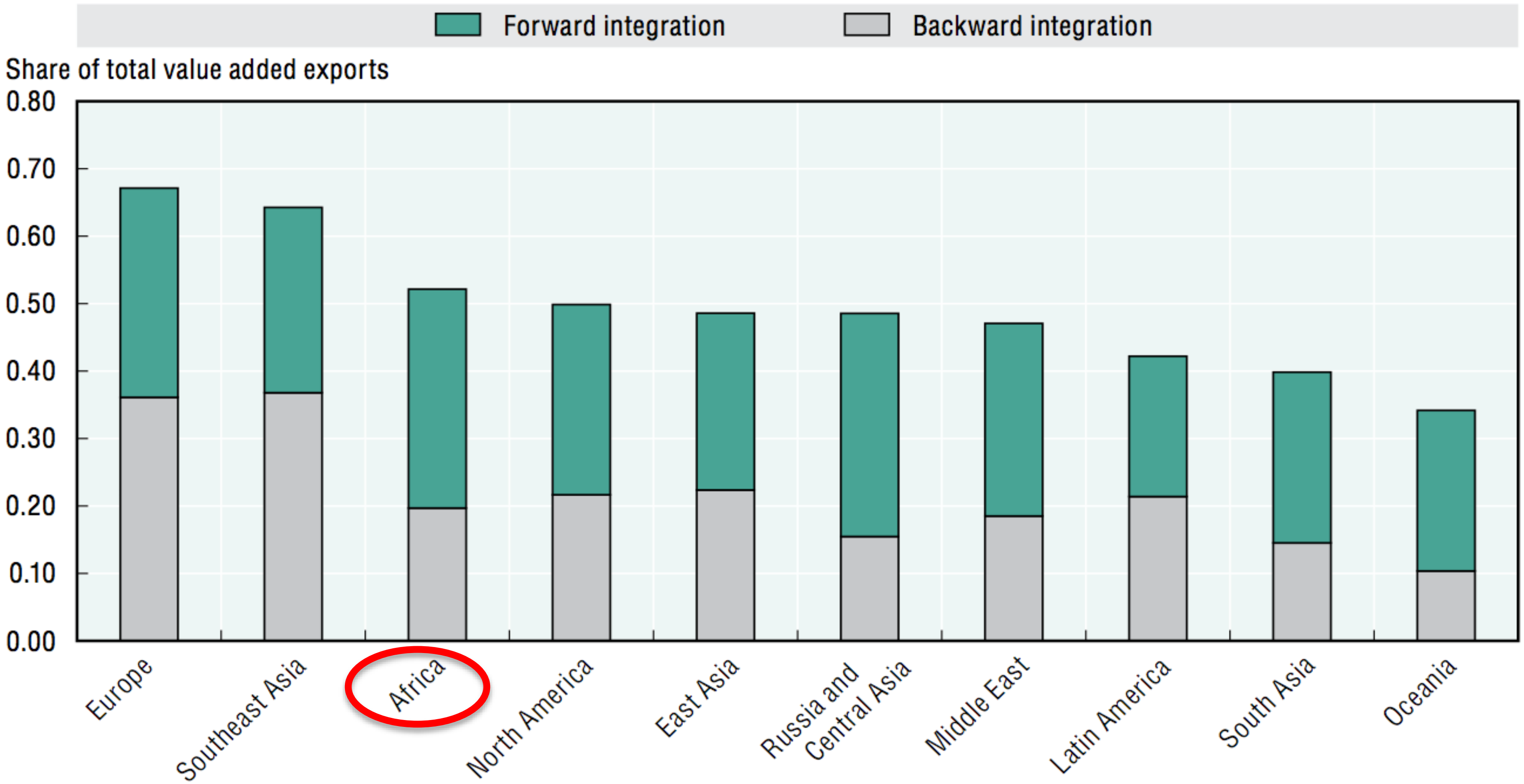


EAST AFRICA IN GLOBAL AND REGIONAL VALUE CHAINS

Africa's Participation in GVCs in International Perspective

- Africa captures a small share (2.2%) of global GVC trade
- …but GVC trade is growing faster in Africa than in any other major region (80% growth 1995-2011)
- In spite of a low share of global GVC trade, participation is high compared to other regions
- …and participation is shifting from forward to backward integration in GVCs (i.e., more local value added)
- South Africa is playing a leading role in coordinating GVC exports from Africa

Integration of Global Regions into GVCs



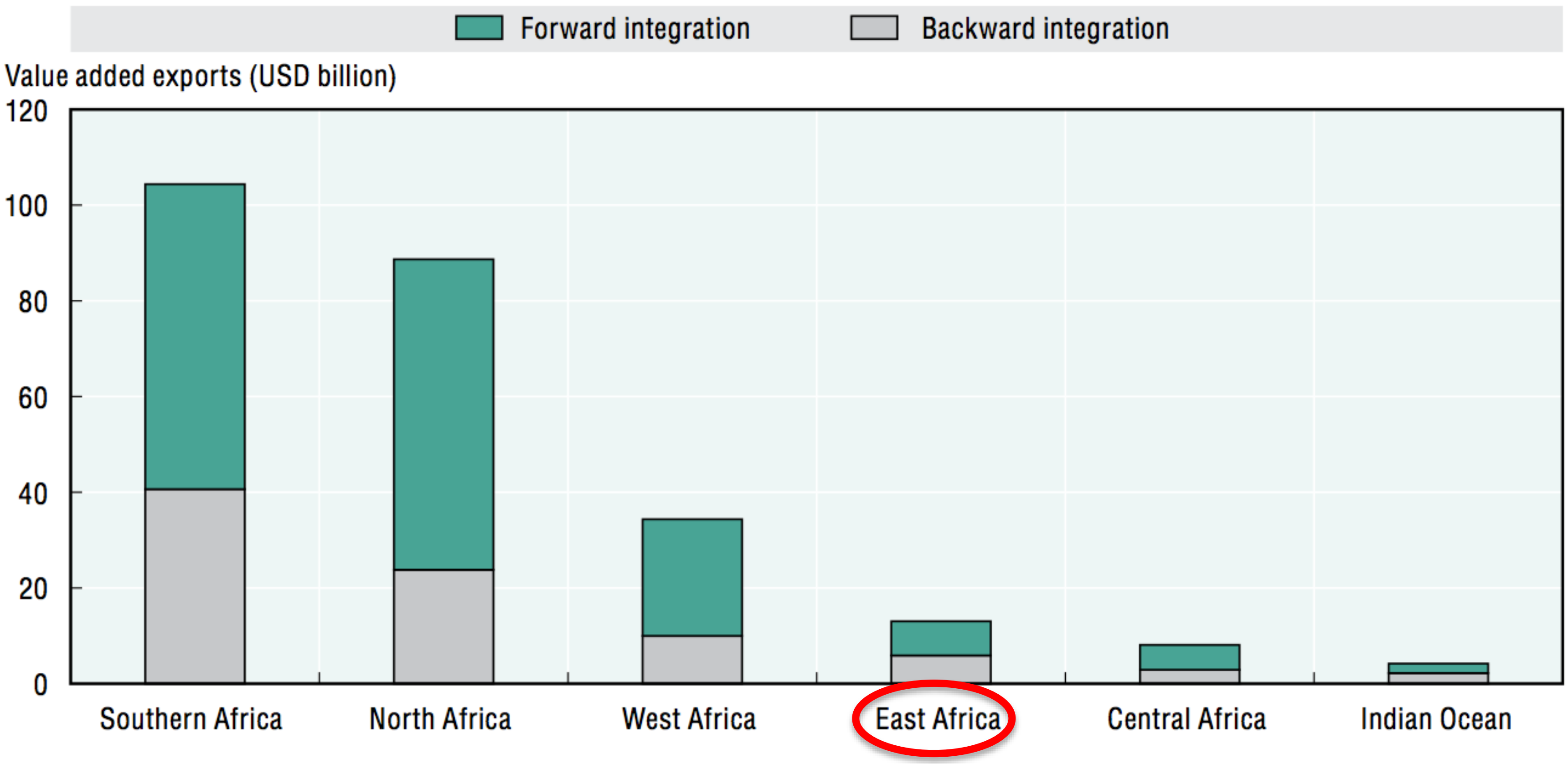
Note: **Forward integration** is measured by the share of a country's exported value added that is further exported by the importing country. **Backward integration** is measured by the share of foreign value added embedded in a country's exports.

Source: AfDB/OECD/UNDP (2014) African Economic Outlook, based on UNCTAD EORA database

East Africa in GVCs

- East Africa is relatively less integrated in global-scale GVCs than other regions of Africa
- EAC and COMESA agreements are enabling greater vertical specialization in value chain niches, promoting efficiencies
  - Intra-African and intra-regional value added is more prevalent than in East Africa than other African sub-regions, indicating high participation in RVCs
- GVC participation in East Africa is driven by primary sectors, rather than manufacturing and services

Integration of African Regions into GVCs



Note: **Forward integration** is measured by the share of a country's exported value added that is further exported by the importing country. **Backward integration** is measured by the share of foreign value added embedded in a country's exports.
Source: AfDB/OECD/UNDP (2014) African Economic Outlook, based on UNCTAD EORA database

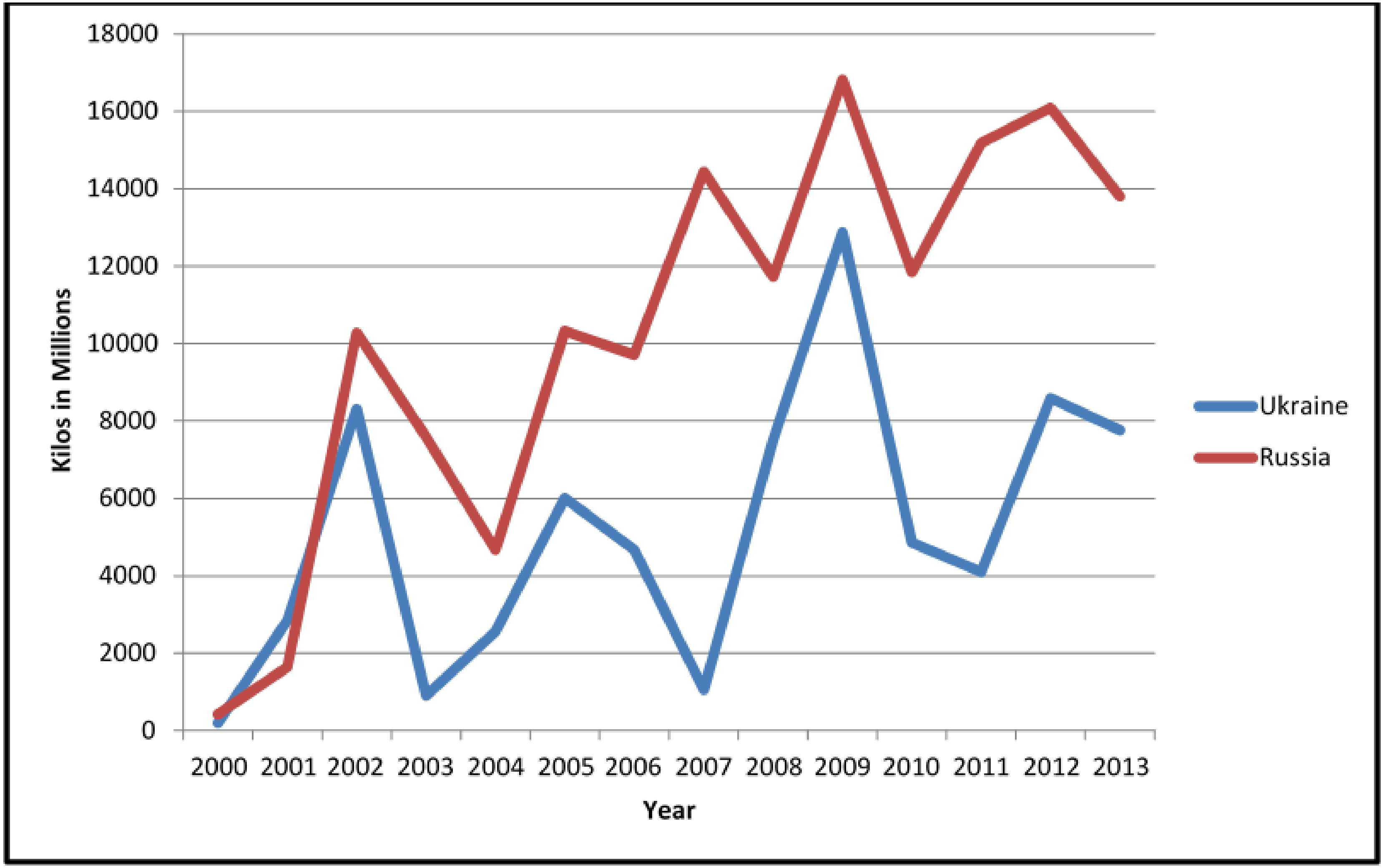
THE WHEAT AND MAIZE GVCS:

CONSTRAINTS AND OPPORTUNITIES IN RUSSIA AND UKRAINE VERSUS EAST AFRICA

Duke

CENTER on GLOBALIZATION, GOVERNANCE & COMPETITIVENESS

The Black Sea's Global Wheat Exports, 2000-2013



http://sites.duke.edu/minerva/files/2013/08/5.19.15_Russia-Ukraine-Wheat-GVC_FINAL.pdf

Comparative benchmarking

Russia and Ukraine: Key statistics

Country	Russia	Ukraine
Population	143.5 million	45.5 million
GDP	$2.097 trillion	$177.4 billion
Top 3 Agriculture Exports	Wheat, Sunflower oil, Tobacco	Wheat, Corn, Sunflower oil
2013 Exported Wheat in Tonnes	18.5 million	9.5 million
Lead Wheat Firms	OOO Trading House RIF, United Grain Company, Louis Dreyfus, Glencore	Khlib Investbud, Nibulon, Kernel & Louis Dreyfus

Comparative benchmarking: export markets

Russia's top 4 export markets: 2000-2013

2000		2003		2006		2009		2012		2013	
Azerbaijan	54%	Ukraine	14%	Egypt	23%	Egypt	29%	Egypt	33%	Turkey	18%
Israel	29%	Egypt	10%	India	18%	Turkey	13%	Turkey	17%	Egypt	16%
Georgia	7%	Israel	7%	Bangladesh	11%	Syria	8%	Iran	6%	Yemen	6%
Ukraine	5%	Italy	7%	Azerbaijan	7%	Libya	4%	Yemen	5%	Iran	5%

Ukraine's top 4 export markets: 2000-2013

2000		2003		2006		2009		2012		2013	
Belarus	21%	Indonesia	17%	Egypt	10%	Bangladesh	18%	Egypt	29%	Egypt	25%
Israel	19%	Israel	17%	Israel	10%	Spain	14%	Spain	14%	Syria	8%
Netherlands	13%	Spain	11%	Bangladesh	9%	Rep. of Korea	14%	Israel	9%	South Africa	7%
Armenia	9%	Hungary	7%	Italy	8%	Philippines	8%	Morocco	8%	Kenya	6%

Identifying Disruption Points in the GVC

2014 Russian Wheat Value Chain Vulnerabilities

Production → **Processing** → **Consumption**

Production
Agroholdings – 47%
Family Farms – 42%
Small Enterprises – 9%

Government Investment

Processing
- Mills
- Transport
- Ports
- Storage
- Export Policies

Consumption
- Domestic consumption – bread, animal feed
- Exports – Egypt, Turkey, Yemen & Iran

2014 Ukraine Wheat Value Chain Vulnerabilities

Production → **Processing** → **Consumption**

Production
Small enterprises – 69%
Family farms– 22%
Agroholdings – 9%

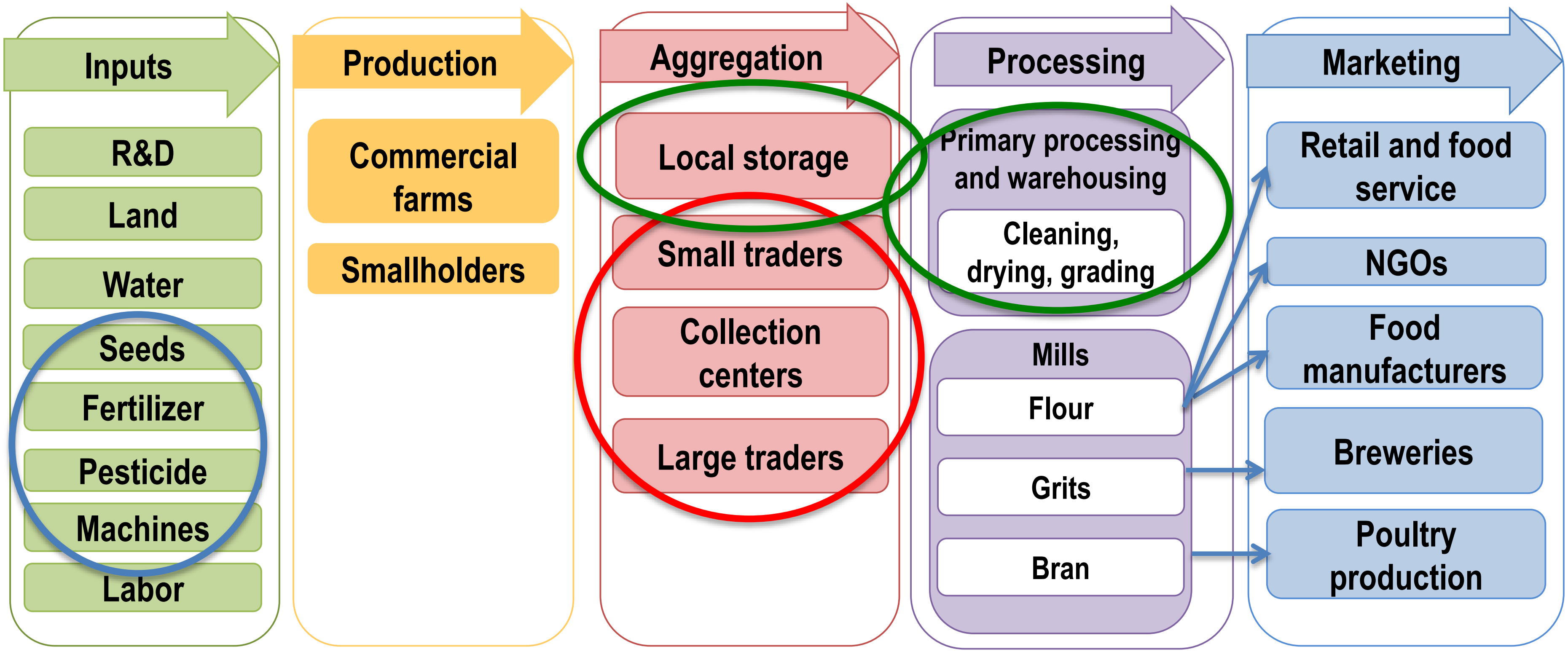
Private Investment

Processing
- Transport
- Mills
- Ports
- Storage
- Export Policies

Consumption
- Domestic consumption: bread & animal feed
- Exports: Egypt, Syria Turkey, Spain

Red: Disruption points

The Maize Value Chain in East Africa



Some key issues

- Informal domestic and regional trade.
- Storage as a bottleneck: undermines quality and generates waste.
- Access to high-quality inputs.
- Role of the state in sector coordination and enforcement of standards.

THE TOURISM VALUE CHAIN:

VALUE ADDITION THROUGH LOCAL LINKAGES

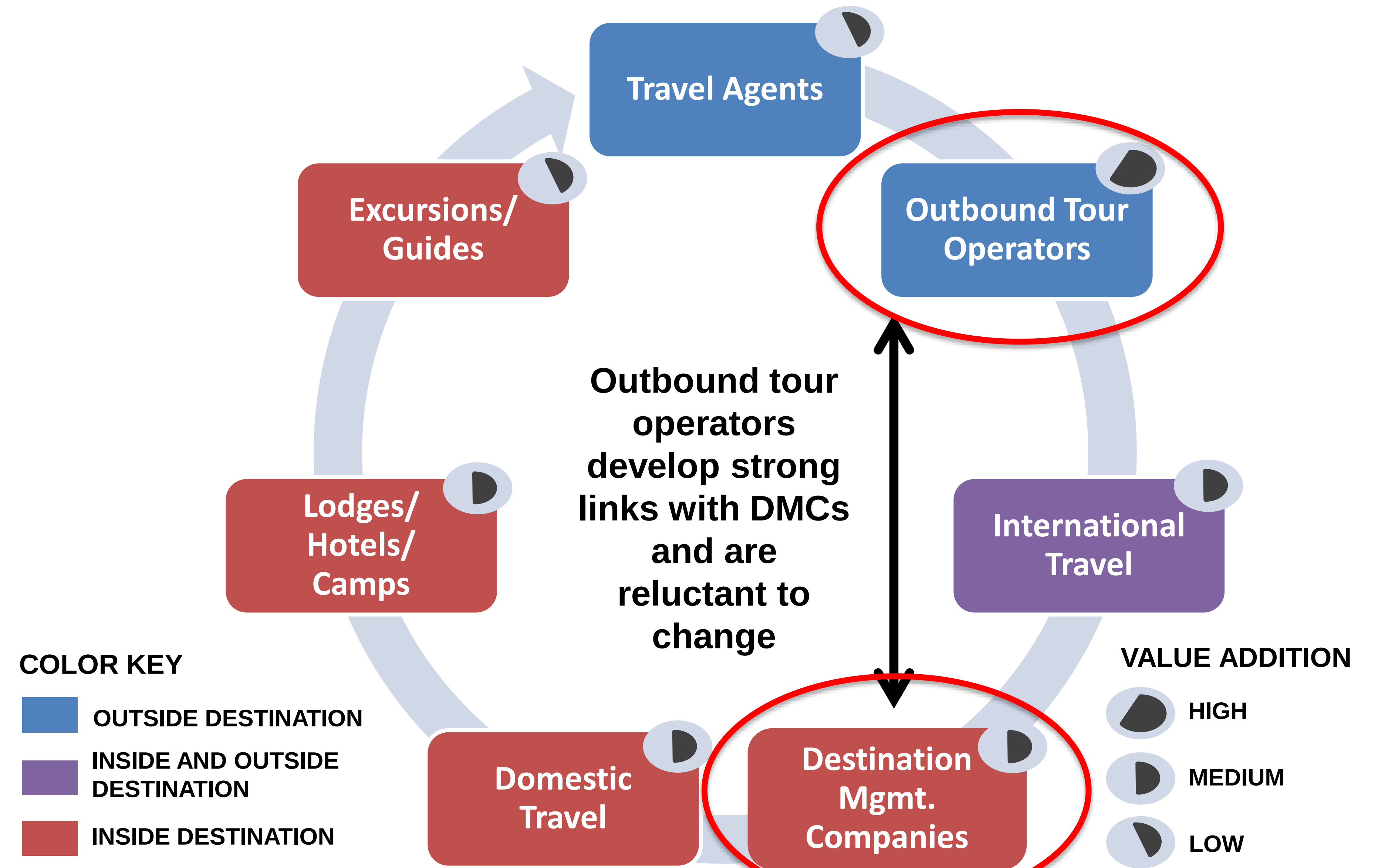
Duke

CENTER on
GLOBALIZATION,
GOVERNANCE &
COMPETITIVENESS

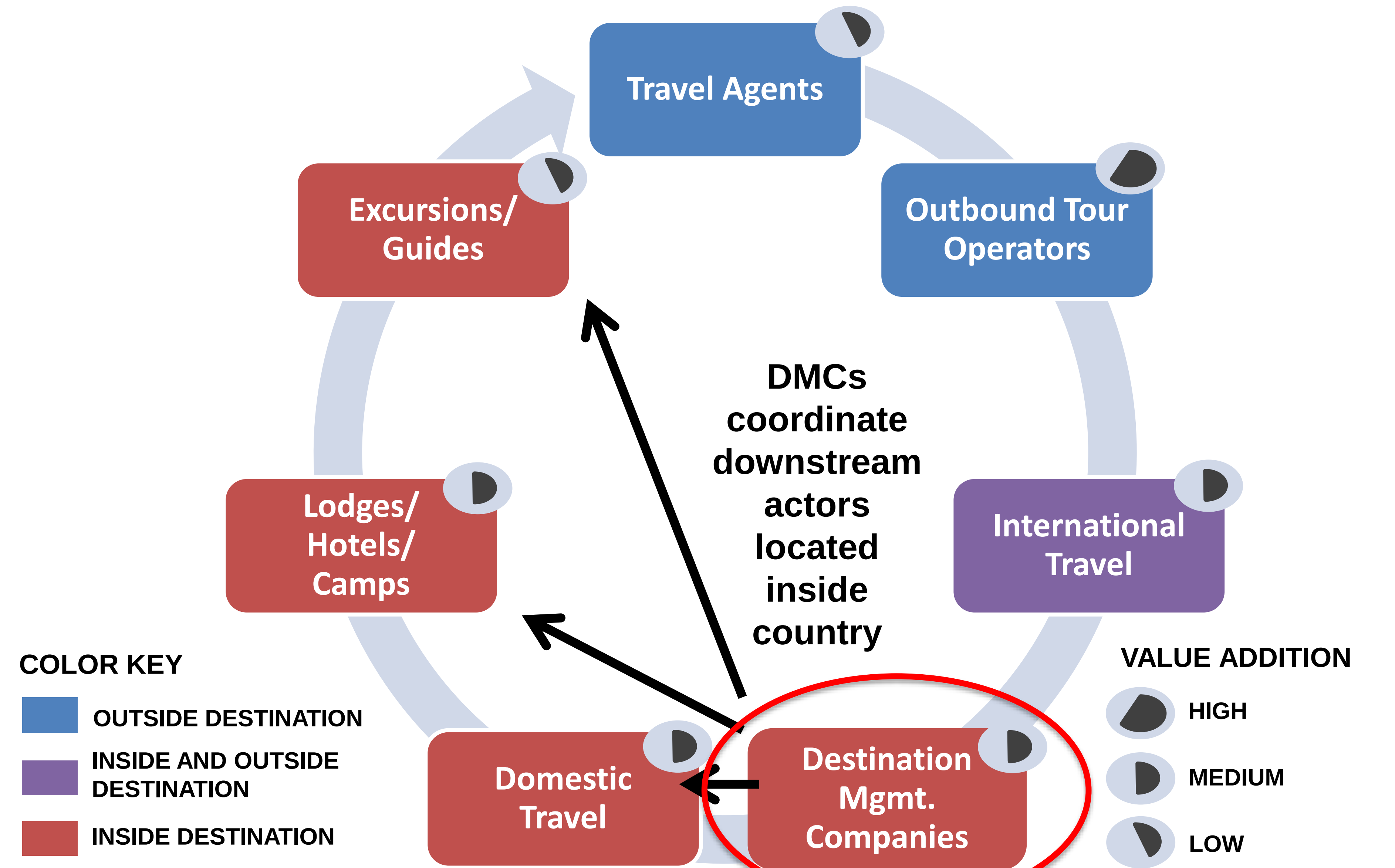
Circulation of Money in Tourism Value Chain

Governance in Leisure Tourism Value Chains

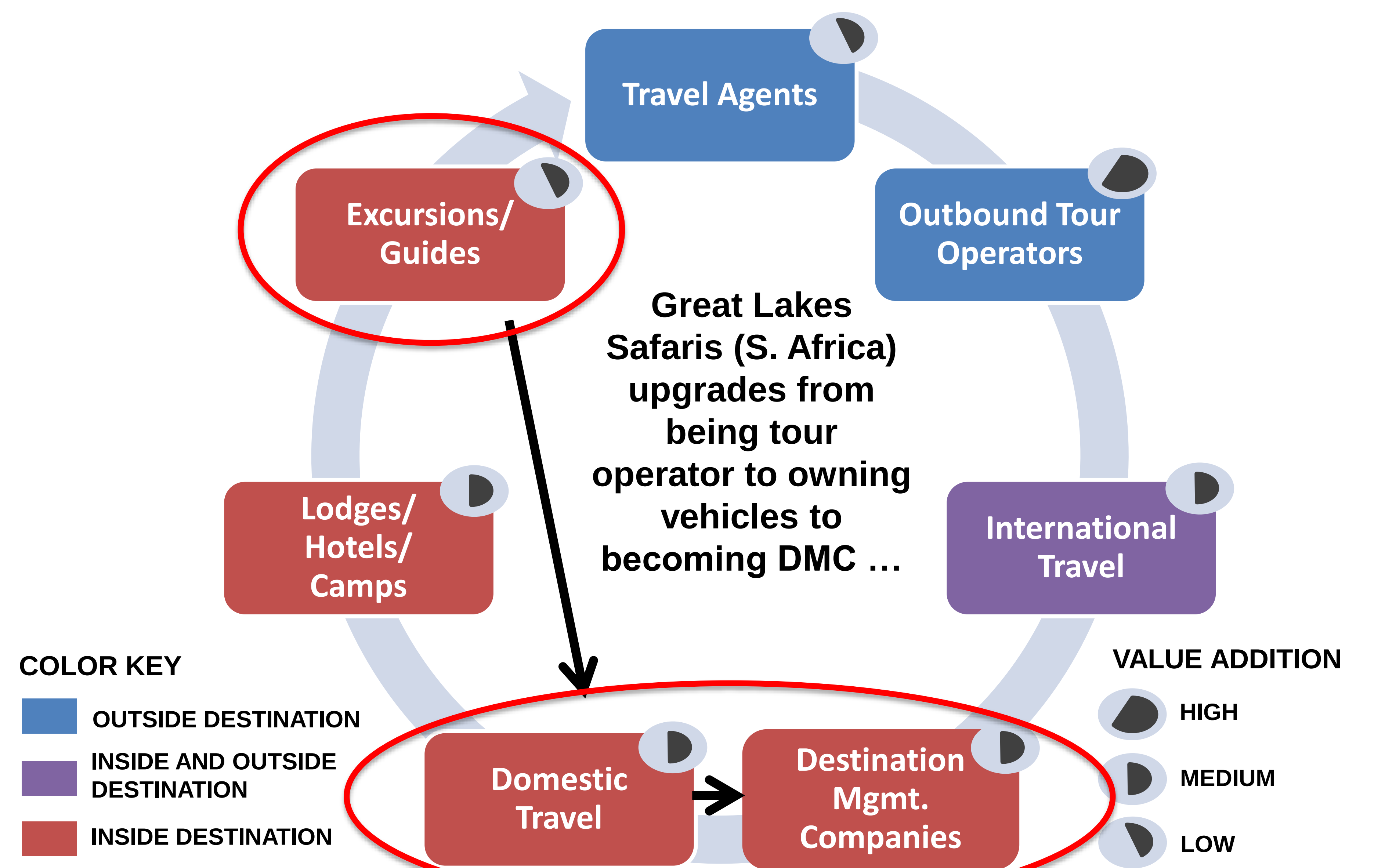
Governance in Leisure Tourism Value Chains



Local Linkages in Leisure Tourism Value Chains



Functional Upgrading in Regional Tourism Value Chains



One Pathway to Regional Tourism Value Chains

Policy Issues for East African Value Chains

1. Role of the state
   – Infrastructure, trade & FDI policy, regulation
2. Type of FDI
   – Ownership and up/downstream linkages
3. Public-private collaboration
   – Identifying strategic focus areas in the value chain
4. International benchmarking
   – National and regional comparisons
5. Regional value chains
   – Spillovers, division of labor, common challenges

Gary Gereffi

ggere@soc.duke.edu

THANK YOU

Questions?