Duke

CENTER on GLOBALIZATION, GOVERNANCE & COMPETITIVENESS

NUEVAS TENDENCIAS EN LAS CADENAS DE VALOR Y EL ESCALAMIENTO INDUSTRIAL

Gary Gereffi

Center on Globalization, Governance & Competitiveness (CGGC)

Duke University

10 de abril, 2014

UNAM/INEGI

Seminario en México, D.F., México

© 2013 Duke CGGC

AGENDA

1. Cadenas Globales de Valor: Tendencias Recientes
2. Escalamiento Industrial en las Cadenas de Valor
   - Perspectivas Diversas
3. Nuevos Estudios sobre Dos Cadenas de Valor:
   - Dispositivos Médicos
   - Servicios Offshoring
4. Propuesta de Investigación sobre las Cadenas de Valor en México y Otros Paises

© 2013 Duke CGGC

Duke

CENTER on GLOBALIZATION, GOVERNANCE & COMPETITIVENESS

CADENAS GLOBALES DE VALOR: NUEVAS TENDENCIAS

© 2013 Duke CGGC

GLOBALIZACION EN EL SIGLO XXI

- **El mundo "Post-Washington Consensus"**– Global economic recession of 2008-09 and rise of "middle powers" has changed export-oriented model
- **Empresas líderes en las cadenas globales de valor** are streamlining and consolidating their sourcing and production networks
- **Grandes economías emergentes** like BRICS + others are both export platforms and turning inward
- **Economías pequeñas** are seeking specialized niches in the global economy and regional economic blocs
- **Cadenas de Valor – globales o regionales?**

© 2013 Duke CGGC

CLUSTERS & CADENAS GLOBALES DE VALOR



Cadenas globales de valor

Clusters



© 2013 Duke CGGC

DIMENSIONES ANALITICAS DE LAS CADENAS GLOBALES DE VALOR

1. Mapeo de las cadenas de valor
2. Alcance geográfico (variada)
3. Gobernanza (empresas líderes y la organización industrial)

GLOBAL

4. Contexto institucional local
5. Stakeholders de la industria
6. Escalamiento industrial (upgrading)

LOCAL

© 2013 Duke CGGC

Duke

CENTER on GLOBALIZATION, GOVERNANCE & COMPETITIVENESS

UPGRADING EN LAS CADENAS DE VALOR: PERSPECTIVAS DISTINCTAS

© 2013 Duke CGGC

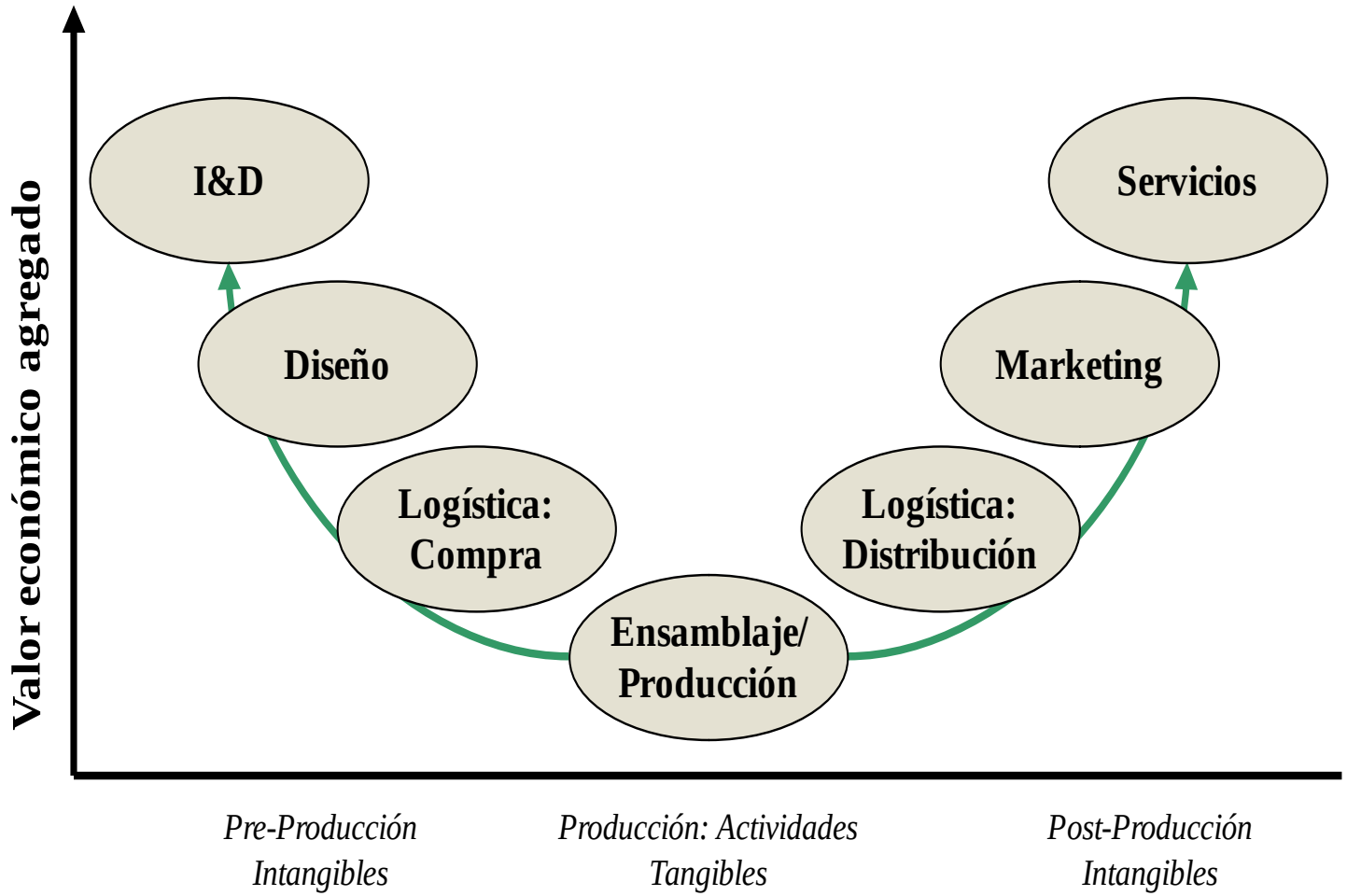
ESCALAMIENTO INDUSTRIAL "FUNCIONAL"



El escalamiento industrial requiere estrategias consensuadas entre los stakeholders (empresas, sector publico, instituciones educacionales, etc.) para mejorar la posición económica de los sectores industriales en la economía global.

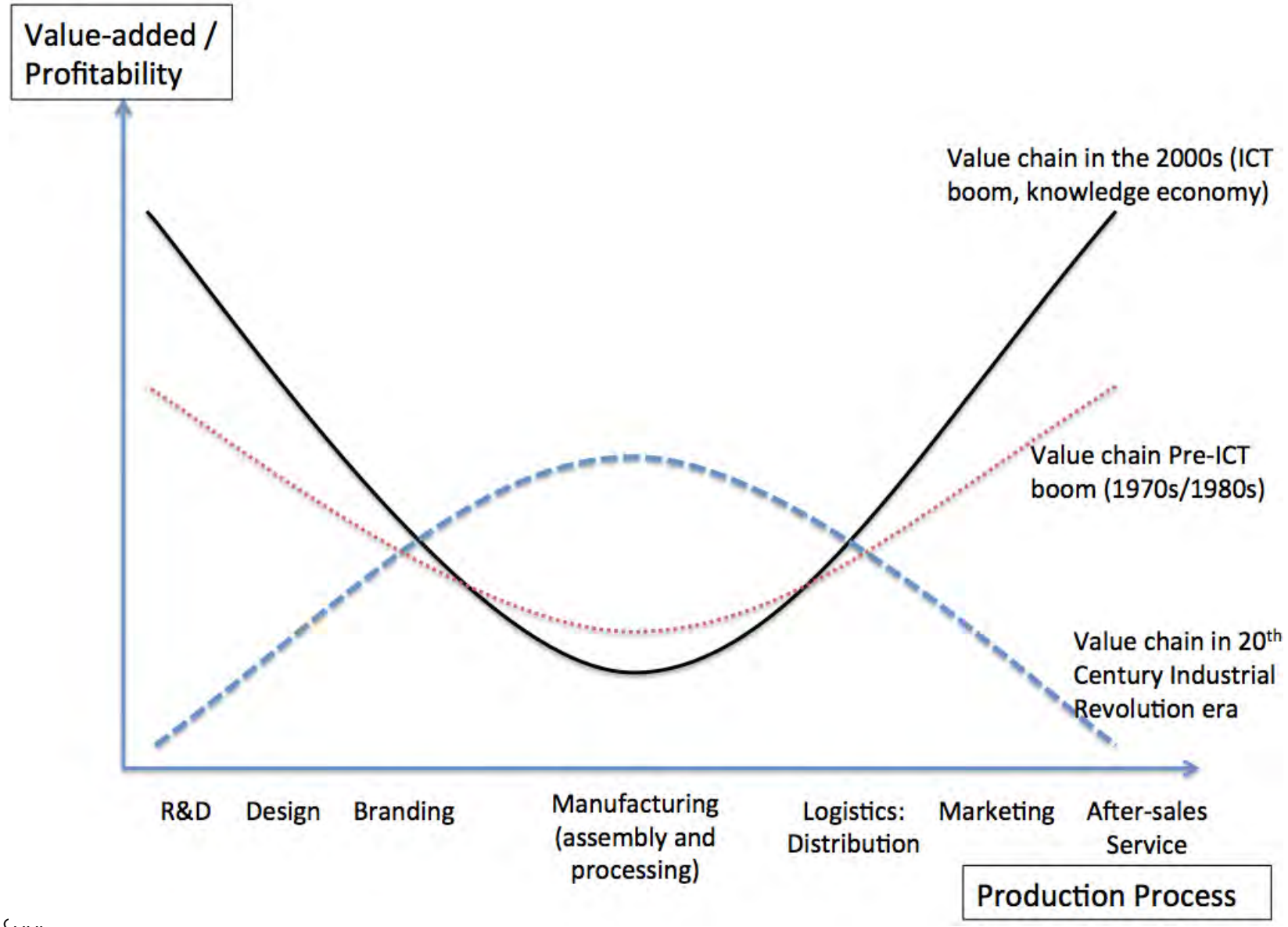
© 2013 Duke CGGC

DONDE ESTAN LAS ACTIVIDADES DE MAYOR VALOR AGREGADO EN LAS CADENAS?



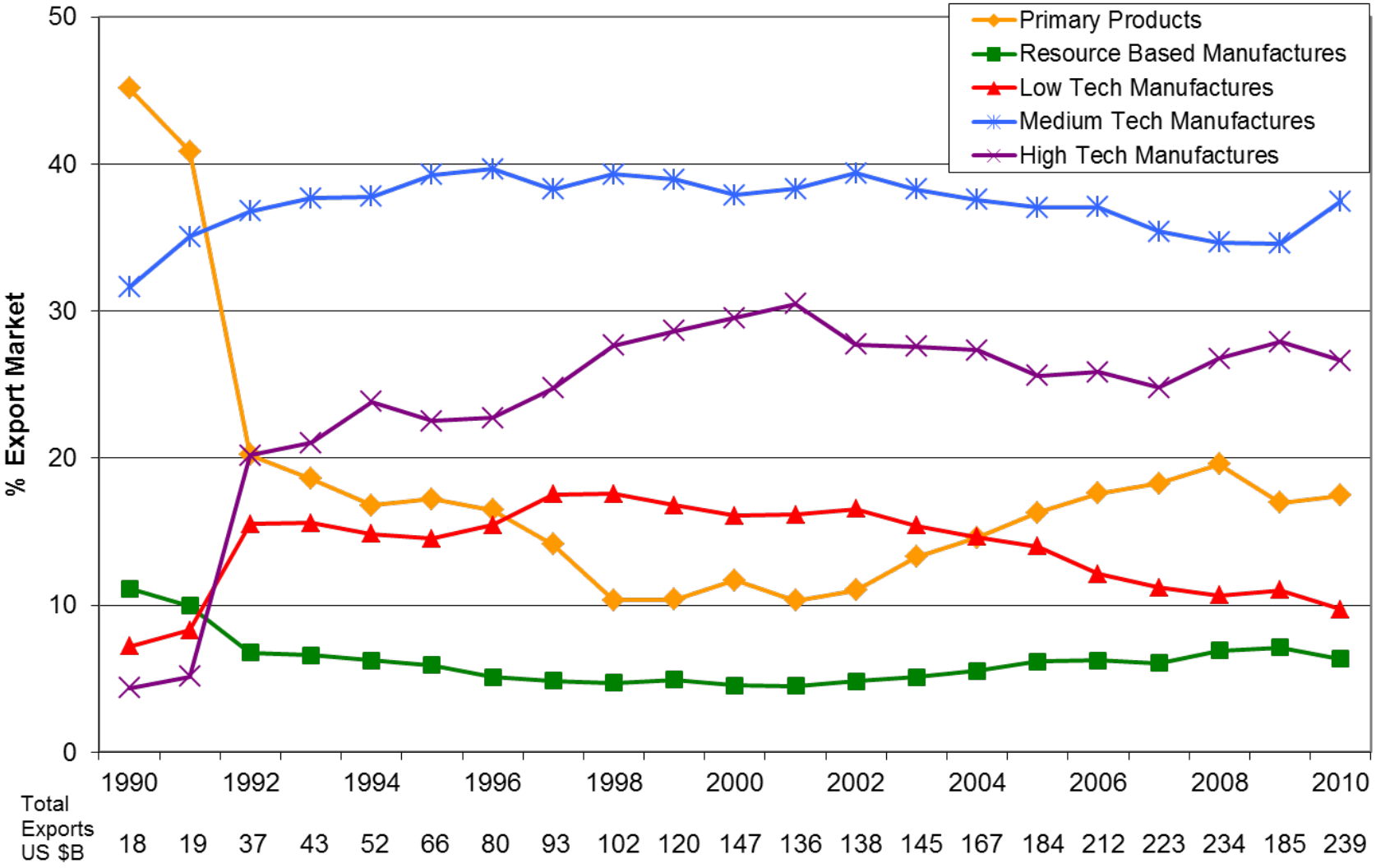
© 2013 Duke CGGC

The Smile Curve in GVCs: Variations



© 2013 Duke Cccc

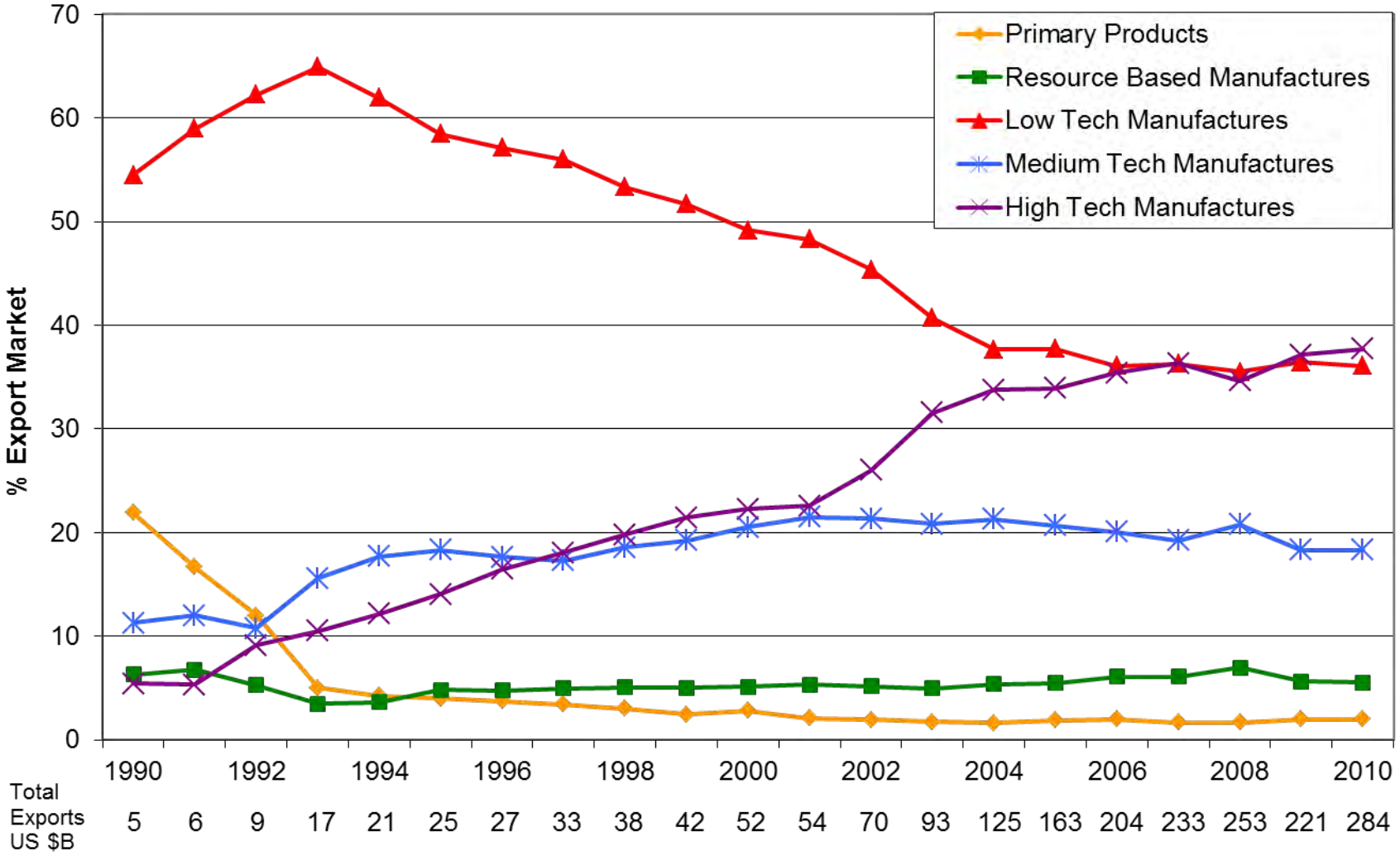
COMPOSICION DE LAS EXPORTACIONES DE MEXICO A EEUU, 1990-2010



Source: UN Comtrade (http://comtrade.un.org/db/dqBasicQuery.aspx), Feb 2012

© 2013 Duke CGGC

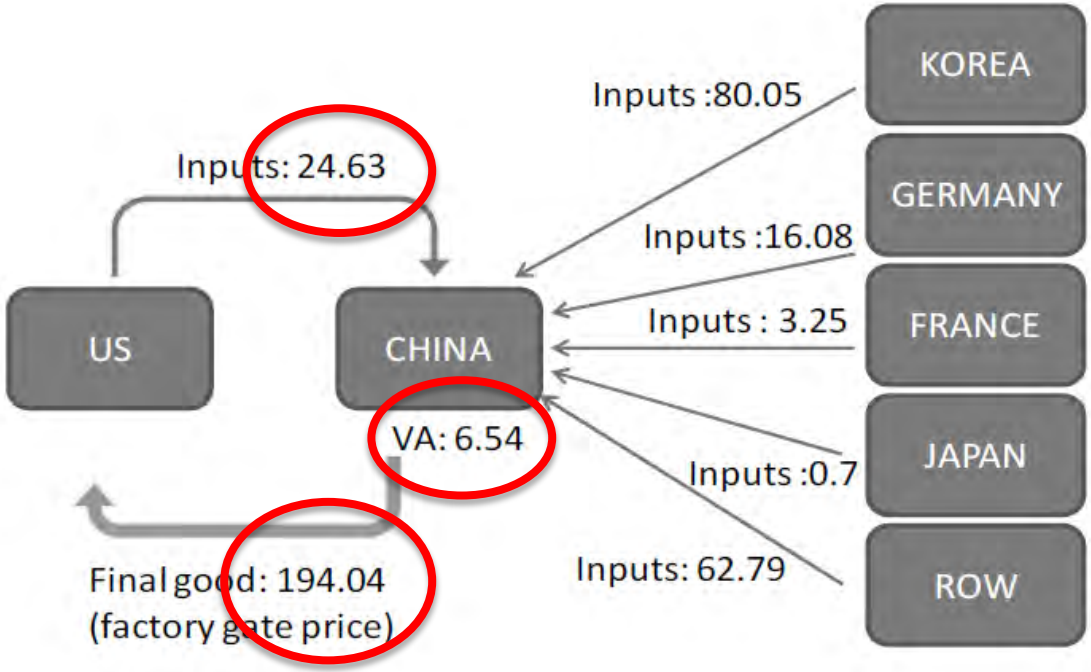
COMPOSICION DE LAS EXPORTACIONES DE CHINA A EEUU, 1990-2010



Source: UN Comtrade (http://comtrade.un.org/db/dqBasicQuery.aspx), Feb 2012

© 2013 Duke CGGC

U.S. Bilateral Trade Balance with China for One Unit of iPhone 4 (US$)



US trade balance with	CHINA	KOREA	GERMANY	FRANCE	JAPAN	ROW	WORLD
Gross	-169.41	0	0	0	0	0	-169.41
Value added	-6.54	-80.05	-16.08	-3.25	-0.7	-62.79	-169.41

Source: OECD (2011: 40)

© 2013 Duke CGGC

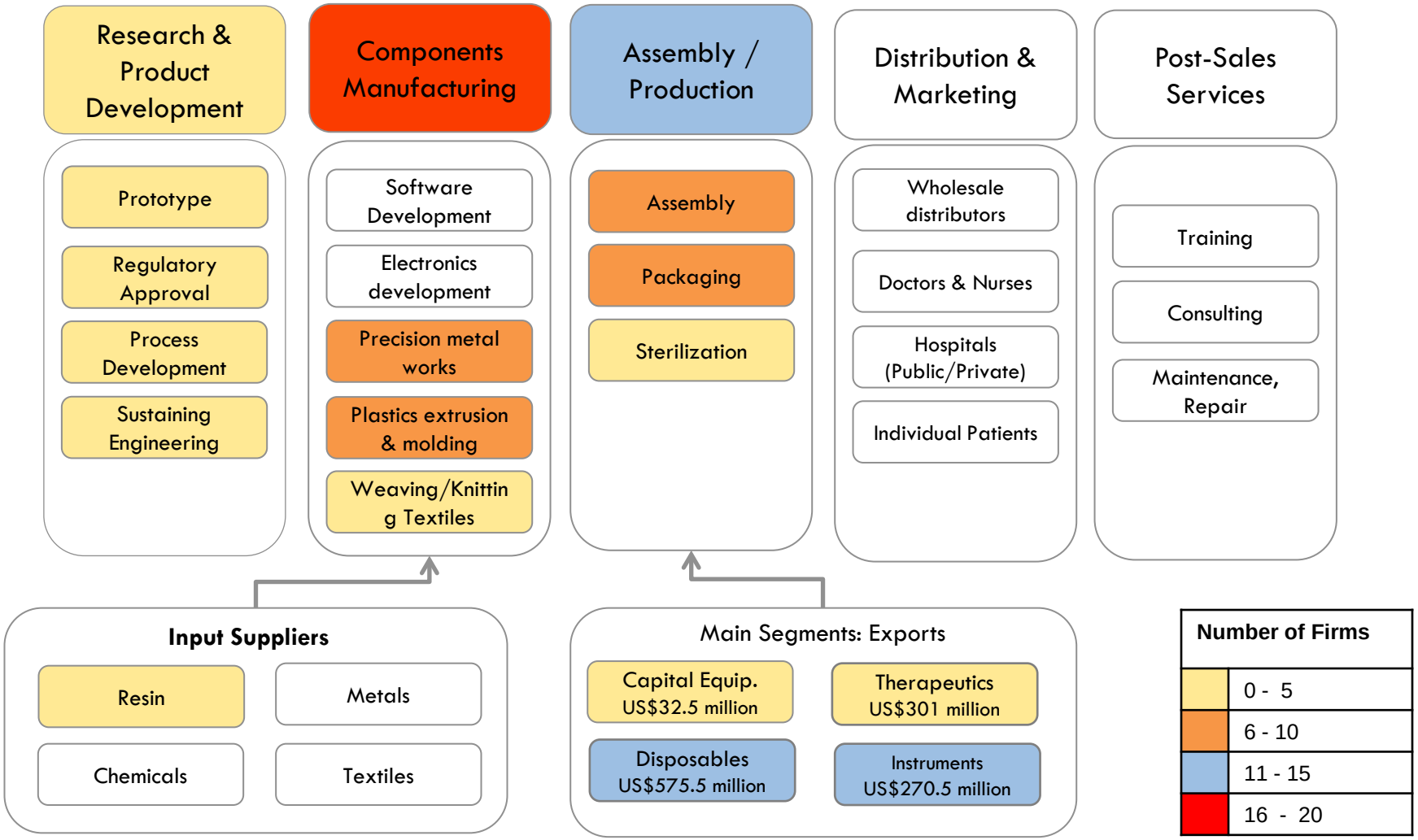
Duke

CENTER on GLOBALIZATION, GOVERNANCE & COMPETITIVENESS

LA CADENA GLOBAL DE VALOR DE LOS DISPOSITIVOS MEDICOS

© 2013 Duke CGGC

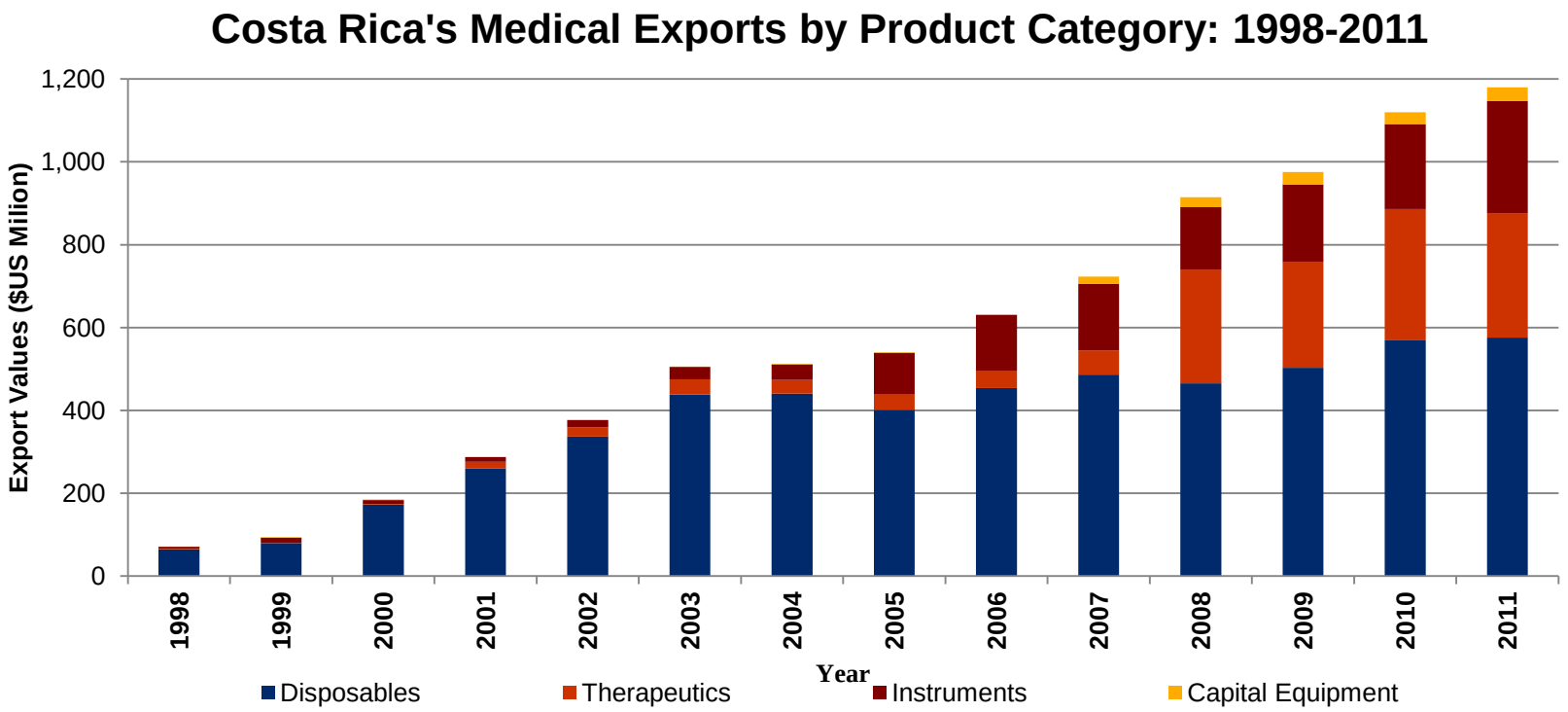
LA CADENA GLOBAL DE VALOR DE LOS DISPOSITIVOS MEDICOS EN COSTA RICA



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.

© 2013 Duke CGGC

LA EVOLUCION DE LAS EXPORTACIONES DE DISPOSITIVOS MEDICOS DE COSTA RICA



- **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)

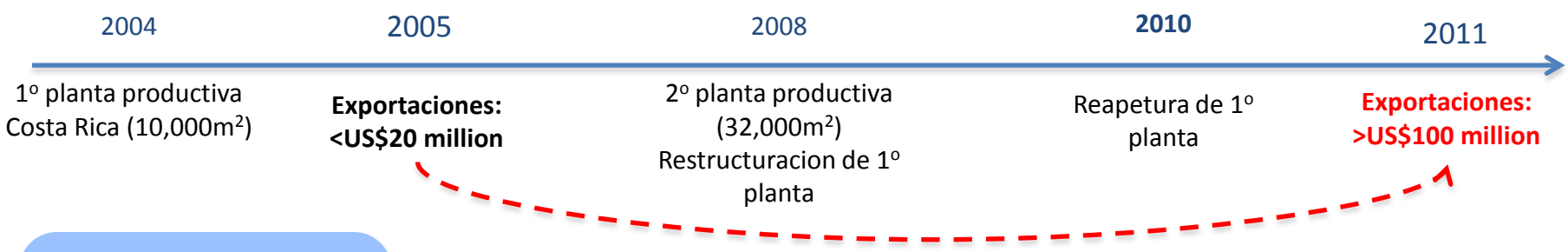
© 2013 Duke CGGC

EMPRESAS EN EL SECTOR DE DISPOSITIVOS MEDICOS EN COSTA RICA

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.

© 2013 Duke CGGC

ESCALAMIENTO INDUSTRIAL: UN CASO EXITOSO EN LA INDUSTRIA COSTARICENSE

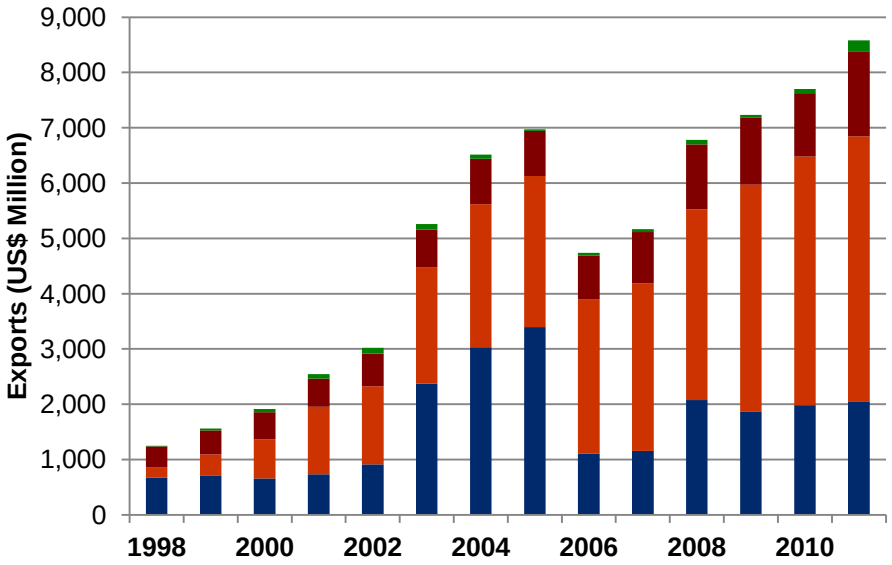


Escalamiento Industrial Funcional	• 2004: Manufacturing functions • 2012: Engineering for process improvements ➔Focused on cardiology segment; strategy – to alleviate R&D costs in the US.
Escalamiento Industrial de Productos & Procesos	• Biopsy forceps➔ Labor intensive, basic metal works & extrusion.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

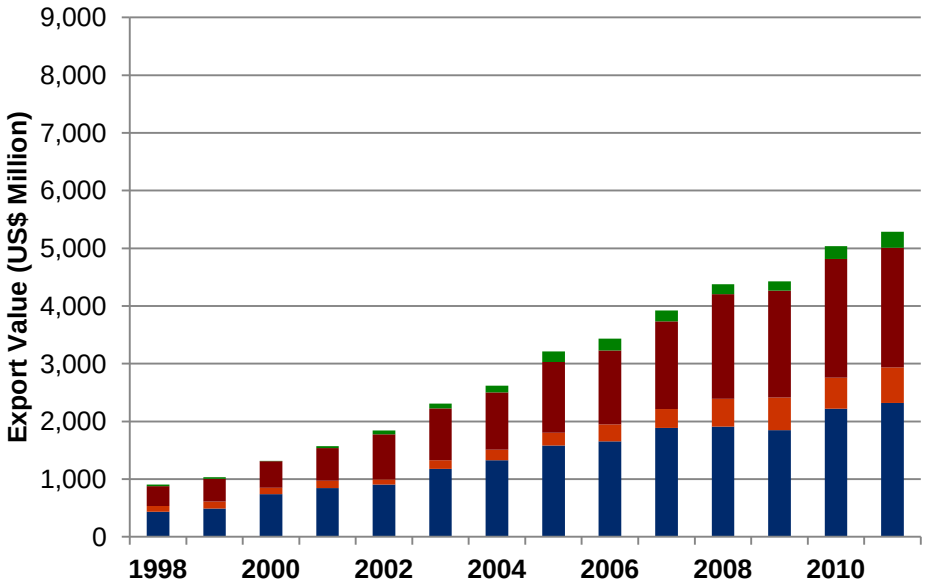
© 2013 Duke CGGC

IRLANDA Y MEXICO: EXPORTACIONES DE DISPOSITIVOS MEDICOS 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

© 2013 Duke CGGC

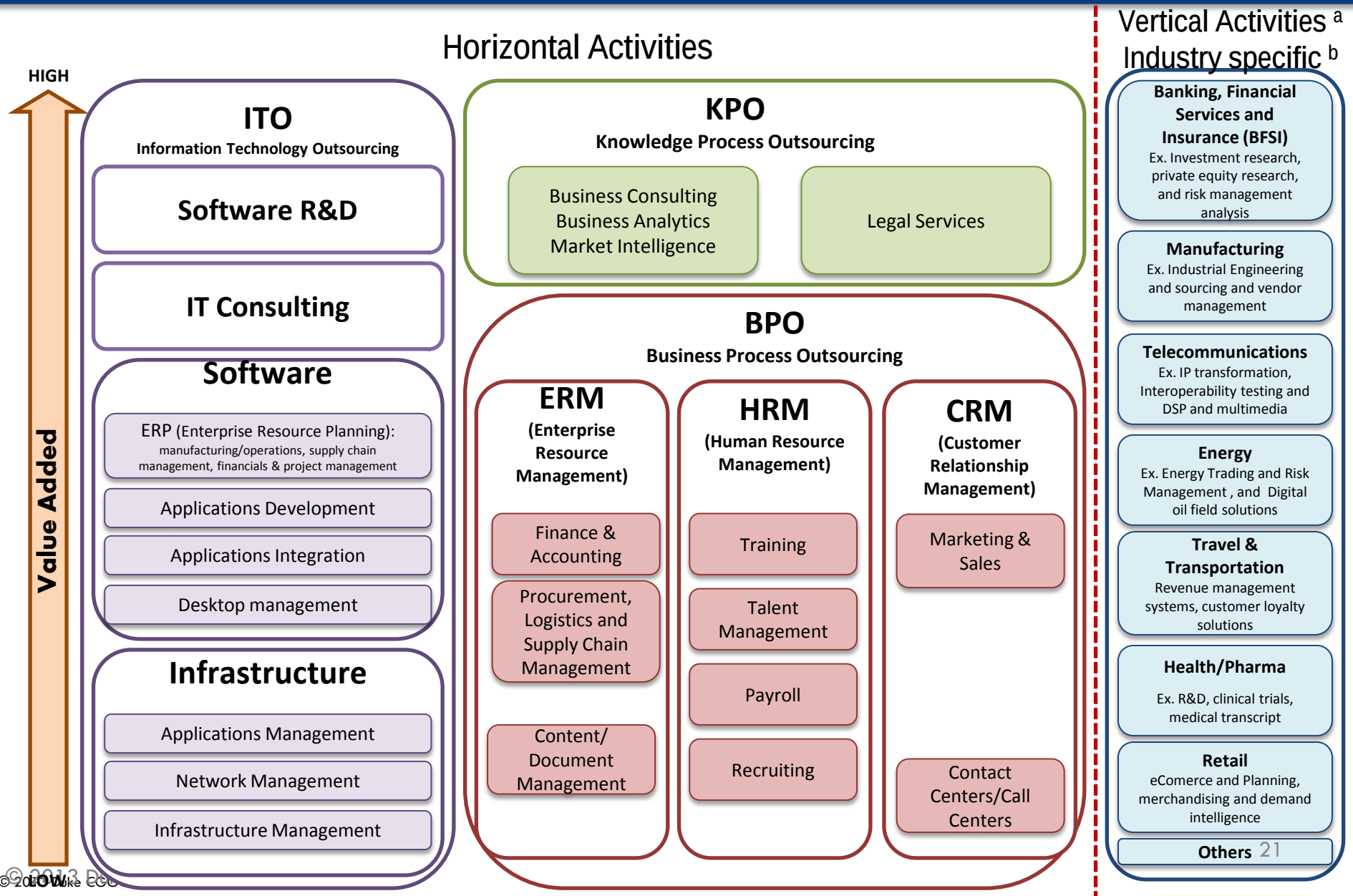
Duke

CENTER on GLOBALIZATION, GOVERNANCE & COMPETITIVENESS

LA CADENA GLOBAL DE VALOR DE LOS SERVICIOS OFFSHORING

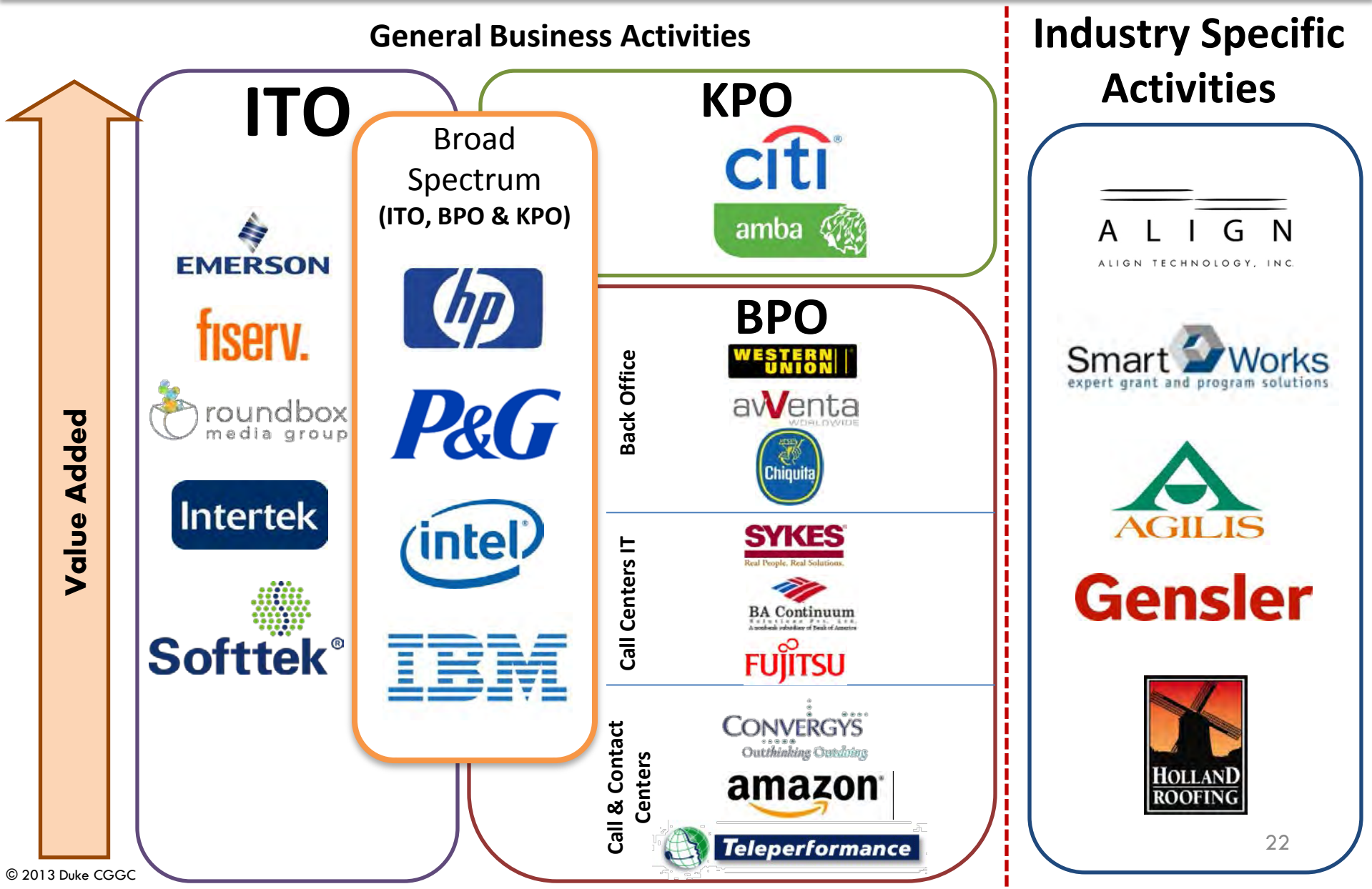
© 2013 Duke CGGC

LA CADENA GLOBAL DE VALOR DE LOS SERVICIOS OFFSHORING



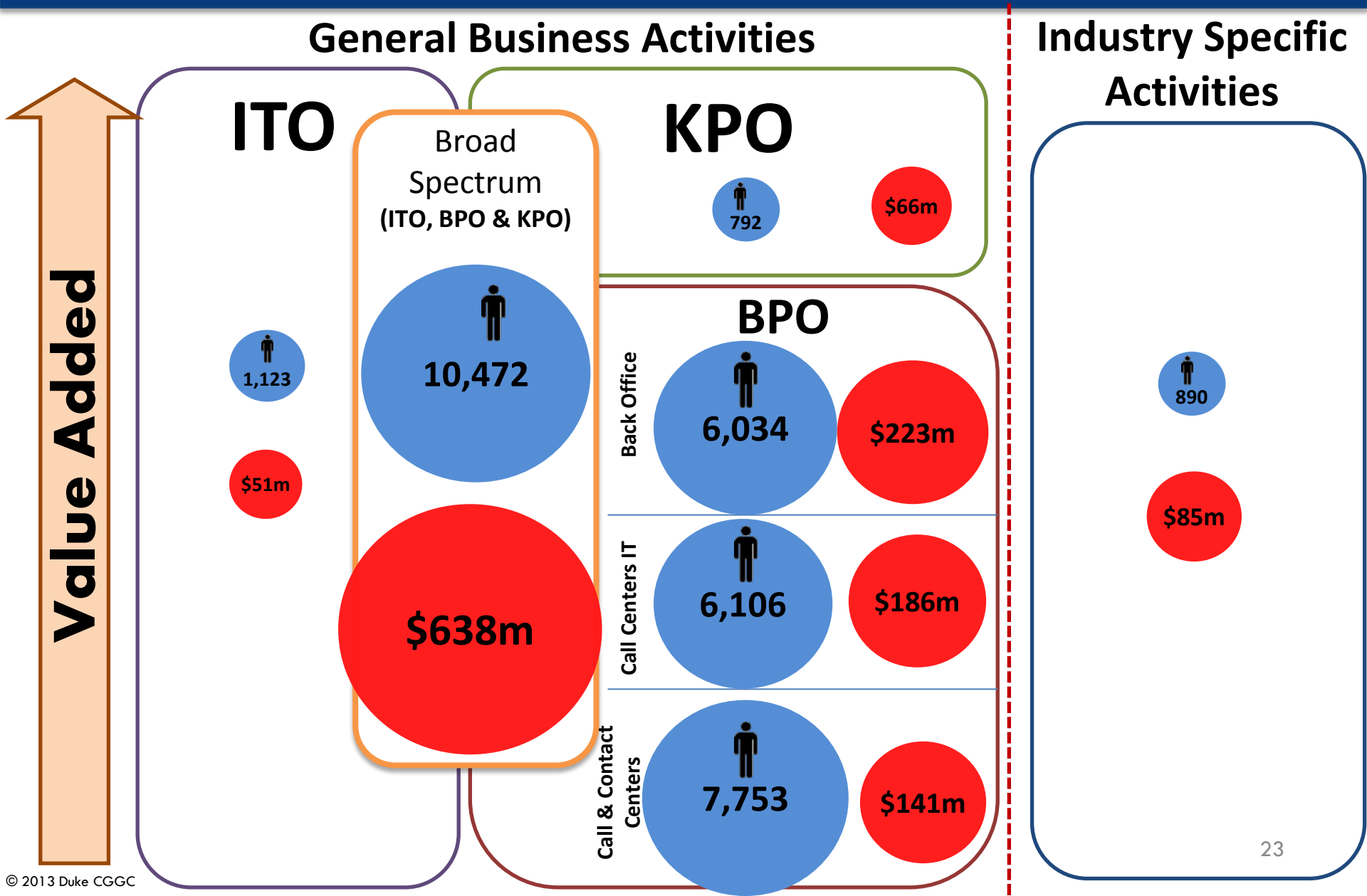
© 2013 Duke CCG

EMPRESAS LIDERES EN EL SECTOR DE SERVICIOS OFFSHORING EN COSTA RICA



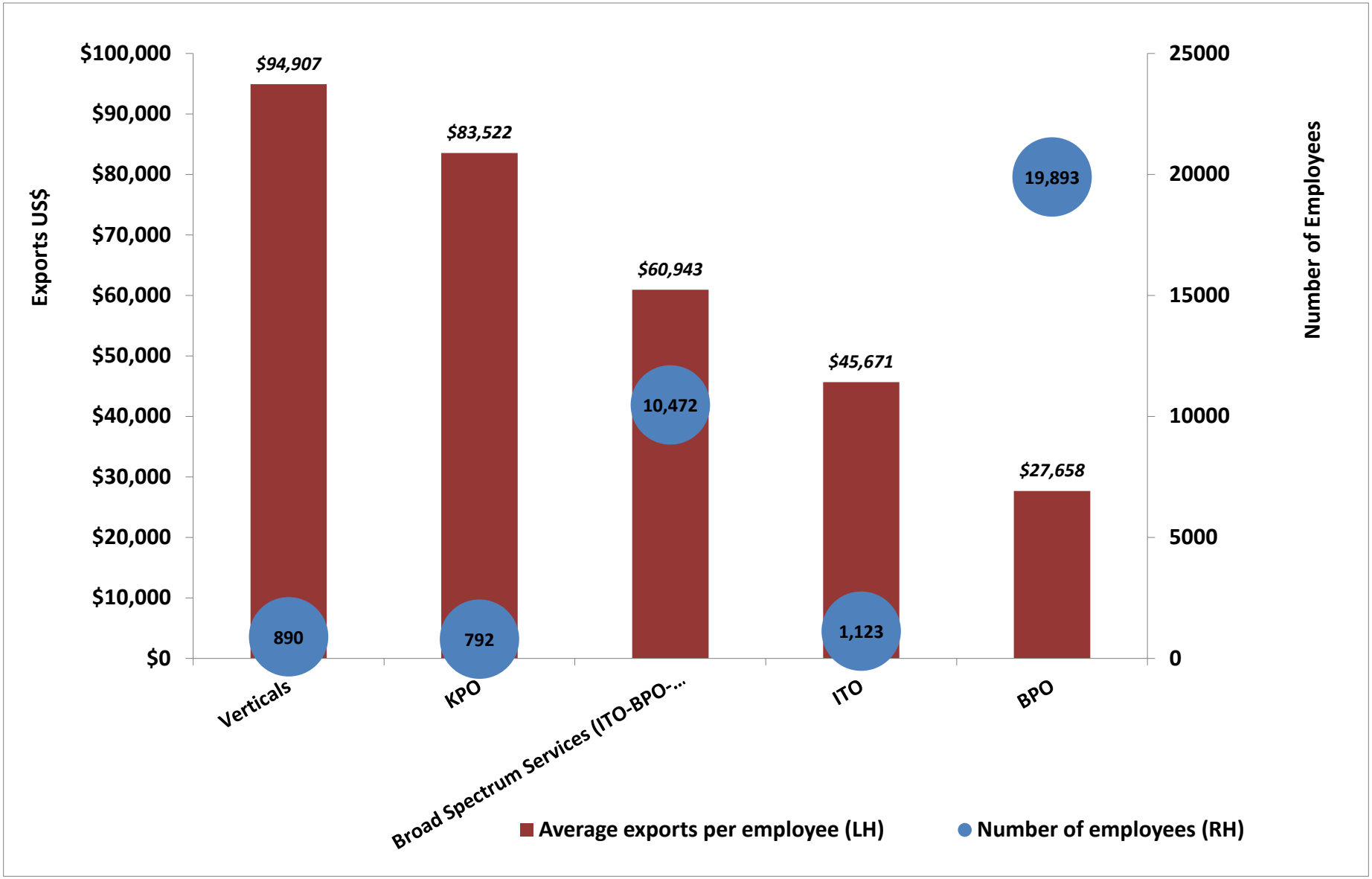
© 2013 Duke CGGC

COSTA RICA EN LA CADENA GLOBAL DE VALOR DE LOS SERVICIOS OFFSHORING



© 2013 Duke CGGC

COSTA RICA: EXPORTACIONES PROMEDIO POR EMPLEADO, 2011



© 2013 Duke CGGC

TEMAS ESTRATEGICAS PARA APOYAR UPGRADING EN COSTA RICA

1. Revisar y seleccionar la Inversión Extranjera Directa mas apropiada al desarrollo tecnológico del sector
2. Apoyar la identificación y el upgrading de proveedores locales
3. Buscar los vínculos claves para cerrar brechas en la cadena productiva (e.g., la esterilización)
4. Desarrollar o encontrar el capital humano
5. Expandir la infraestructura de modalidades múltiples (aereo, carreteras, y puertos)
6. Desarrollar alianzas regionales para promover el upgrading functional (e.g., Costa Rica & México)

© 2013 Duke CGGC

PROPUESTA PARA EL ANALYSIS INTEGRADO DE LOS CLUSTERS Y CADENAS EN MEXICO Y LAS AMERICAS

1. Seleccionar clusters dinámicos de interés alto que se desarrollan simultáneamente en diferentes países del la región

   CLUSTERS: Automotriz, electrónica, aeronáutica, y dispositivos médicos

   PAISES: México, Costa Rica, Brasil, EE.UU y Canadá.

2. Analizar su posición relativa en las cadenas productivas globales correspondientes (e.g., balance comercial, tecnología, trabajos)
3. Utilizar nuevos bases de datos complementarios a nivel de países, empresas y productos (e.g., INEGI, USITC, WTO-OECD)
4. Identificar los retos y oportunidades principales para aumentar el upgrading económico y social de la perspectiva no solo de países individuales, sino la competitividad regional entre países como un bloque (e.g., Asia Oriental; EU-27; NAFTA + CAFTA).

© 2013 Duke CGGC



Gary Gereffi

ggere@soc.duke.edu

Center on Globalization, Governance & Competitiveness (CGGC)
Grey Building, Suite 0010, Lower Level | 2020 W. Main St. | Durham, NC 27705

Duke | CENTER on GLOBALIZATION, GOVERNANCE & COMPETITIVENESS *at the* Social Science Research Institute

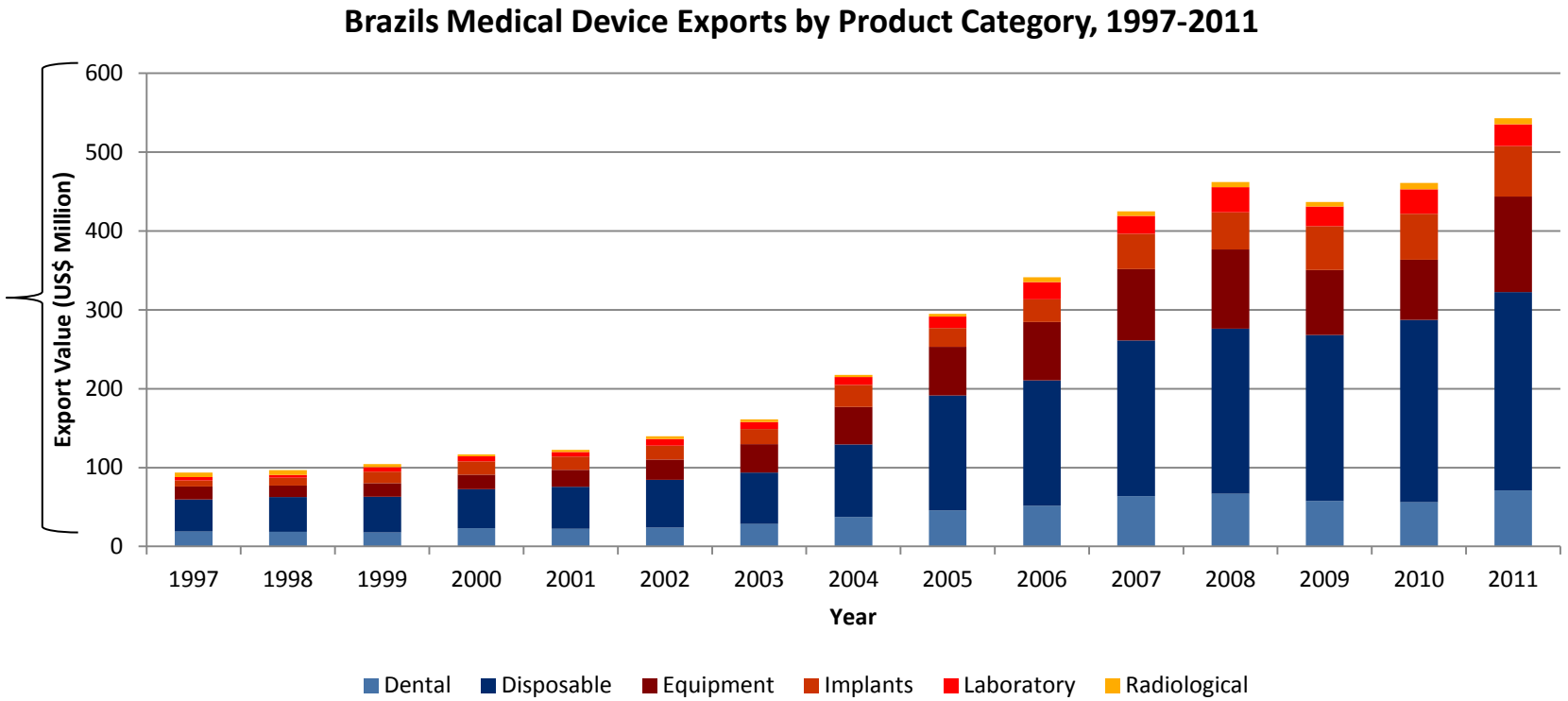
© 2013 Duke CGGC

LA EVOLUCION DE LAS EXPORTACIONES DE DISPOSITIVOS MEDICOS DE BRASIL

Costa Rica 2x

Mexico 10x

Ireland 18x



- **Disposables** are both the largest product category exported and an area of growing exports.
- **Medical equipment** surpassed **dental products** as the second largest export category in 2002.
- Export statistics hide the sectors of greatest importance, since the main export items tend to be low-tech. Brazilian government and private sector actors are working to promote price-competitive, mid-tech exports.

© 2013 Duke CGGC

SIETE ECONOMIAS EMERGENTES, 2011

Country	Population (Millions)	2011 Exports ($Billions)	GDP ($Billions)	GDP/capita (USD)	GDP/capita (PPP)	GDP growth YoY (%)	Percent of GDP: Agriculture	Industry	Services
China	1,344	$1,899	$7,318	$5,445	$8,450	9.1	10	47	43
Brazil	197	$256	$2,476	$12,594	$11,500	2.7	5	28	67
Russia	142	$516	$1,858	$13,089	$19,940	4.3	4	37	59
India	1,241	$303	$1,848	$1,489	$3,620	6.9	17	26	56
South Korea	50	$557	$1,116	$22,424	$30,340	3.6	3	39	58
Mexico	115	$350	$1,115	$10,064	$15,060	3.9	4	34	62
South Africa	51	$97	$408	$8,070	$10,710	3.1	2	31	67
Total or Avg.	3,140	$3,978	$16,139	$10,454	$14,231	4.8	6.4	34.6	58.9
World Total	6,974	$17,979	$69,980	$9,511	--	2.7	15.7*	31.8*	52.7*
% of World Total	45.0%	22.1%	23.1%	109.9%	--	177.8%	40.9%	108.7%	111.7%

Sources: World Bank: http://data.worldbank.org; UN Comtrade, International Trade Center.

*These world averages are taken from nations with existing data. Not all nations were consistent across categories.

© 2013 Duke CGGC

PERFILES DE EXPORTACION – ECONOMIAS EMERGENTES, 2011

	Industrial Sector					Export	Change in Percentage Value 2000-2011					Export Value
Country	Primary Products	Resource Based	Low-Tech	Med-Tech	High-Tech	Value ($Bil)	Primary Products	Resource Based	Low-Tech	Med-Tech	High-Tech	2000-2011 % Increase
China	3	9	30	24	33	1898	(4)	(0)	(11)	5	10	662%
Brazil	32	37	5	19	4	256	11	10	(7)	(6)	(8)	365%
Russia#	45	27	2	8	1	478	(3)	8	(3)	(4)	(3)	364%
India	11	39	21	17	8	301	(3)	10	(18)	6	3	617%
S. Korea	3	16	9	45	27	555	0	5	(7)	11	(9)	223%
Mexico	20	8	9	38	22	350	7	3	(7)	0	(6)	111%
S. Africa	29	30	5	26	3	93	13	(0)	(5)	0	(2)	254%

Russia had more than 17% of uncategorized exports

Source: United Nations Comtrade, SITC Rev. 2.

© 2013 Duke CGGC