
Classifications: BEC and VCRM

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BEC

- I. **Original BEC in 1971 (SITC, Rev.1)**
- II. **First revision 1976 (SITC, Rev.2)**
- III. **Second revision 1984 (SITC, Rev.3)**
- IV. **Third revision 1986 (corrigendum)**
- V. **Fourth revision 2002 (SITC, Rev.4)**

Table 1
Current BEC and SNA classes of goods

Classification by Broad Economic Categories	Basic classes of goods in SNA
1 Food and beverages	
11 Primary	
111 <i>Mainly</i> for industry	Intermediate
112 <i>Mainly</i> for household consumption	Consumption
12 – Processed	
121 <i>Mainly</i> for industry	Intermediate
122 <i>Mainly</i> for household consumption	Consumption
2 Industrial supplies not elsewhere specified	
21 Primary	Intermediate
22 Processed	Intermediate
3 Fuels and lubricants	
31 Primary	Intermediate
32 Processed	
321 Motor spirit	<i>Not classified</i>
322 Other	Intermediate
4 Capital goods (except transport equipment), and parts and accessories thereof	
41 Capital goods (except transport equipment)	Capital
42 Parts and accessories	Intermediate

3 Fuels and lubricants

31 Primary

Intermediate

32 Processed

321 Motor spirit

Not classified

322 Other

Intermediate

4 Capital goods (except transport equipment), and parts and accessories thereof

41 Capital goods (except transport equipment)

Capital

42 Parts and accessories

Intermediate

5 - Transport equipment and parts and accessories thereof

51 Passenger motor cars

Not classified

52 Other

521 Industrial

Capital

522 Non-industrial

Consumption

53 Parts and accessories

Intermediate

6 Consumer goods not elsewhere specified

61 Durable

Consumption

62 Semi-durable

Consumption

63 Non-durable

Consumption

7 - Goods not elsewhere specified

Not classified

Motivation for the revision

1. BEC is still relevant: referred to in more than 400 research papers since 2000
 - Trade in intermediate goods
 - End-use categorization of imported goods for the construction of national Supply and Use Tables
2. Improving the structure of BEC
 - Clear separation of economic categories and end-use categories
 - Services added
3. Full alignment with SNA definitions and practices
4. Review of correspondences HS-BEC and CPC-BEC

BEC and GVC analysis



Processed intermediate goods contain

- many generic products with published reference prices (e.g., cotton bales, linseed oil) or commonly sold at auction
- more differentiated, complex intermediate products intended for use in specific industries and for specific final goods (e.g. auto parts made for a specific brand or model of car).

The “specification” dimension of processed intermediate goods category was created for BEC Rev.5 to better identify GVC-related trade.

Table 2. BEC Rev.5 broad economic classes and their correspondence to ISIC Rev 4

BEC	Broad economic classes	ISIC categories
Section 1	Agriculture, forestry, fishing, food, beverages, tobacco	01, 02, 03, 10, 11, 12, 2821, 2825, 462, 463, 4653, 4711, 472, 4781, 56, 75
Section 2	Mining, quarrying, refinery, fuels, chemicals, electricity, water, waste treatment	05, 06, 07, 08, 09, 19, 20, 2811, 2812, 2813, 2815, 2824, 332, 35, 36, 37, 38, 39, 4661, 4669, 473
Section 3	Construction, wood, glass, stone, basic metals, housing, electrical appliances, furniture	16, 2219, 222, 23, 24, 25 (except 252), 27, 2816, 2818, 2819, 2822, 2823, 31, 3311, 3312, 3314, 41, 42, 43, 4642, 4659, 4662, 4663, 475, 55, 68, 81, 9521, 9522, 9524, 9525
Section 4	Textile, apparel, shoes, jewelry, leather	13, 14, 15, 2826, 321, 4641, 4771, 4782, 9523
Section 5	Transport equipment and services, travel, postal services	2211, 2814, 29, 30, 3315, 45, 49, 50, 51, 52, 53, 79
Section 6	ICT, media, computers, business and financial services	17, 18, 26, 2817, 3313, 4651, 4652, 474, 58, 59, 60, 61, 62, 63, 64, 65, 66, 69, 70, 71, 72, 73, 74, 82, 951
Section 7	Health, pharmaceuticals, education, cultural, sport	21, 322, 323, 324, 325, 476, 4772, 77, 85, 86, 87, 88, 90, 91, 92, 93, 96
Section 8	Government, military and other	252, 2829, 329, 3319, 461, 469, 4719, 4773, 4774, 4789, 479, 78, 80, 84, 94, 97, 98, 99

VII. ANNEX 2: DETAILED CODING OF THE BEC REV.5

BEC – Broad Economic Classes	Coding
<i>Agriculture, forestry, fishing, food, beverages, tobacco</i>	
Intermediate Consumption	
Primary Goods	111100
Processed Generic Goods	111210
Processed Specified Goods	111220
Generic Services	121010
Specified Services	121020
Capital Goods	112000
Final Consumption	
Non-durable Goods	113001
Durable Goods	113002
<i>Mining, quarrying, refinery, fuels, chemicals, electricity, water, waste treatment</i>	
Intermediate Consumption	
Primary Goods	211100
Processed Generic Goods	211210
Processed Specified Goods	211220
Generic Services	221010
Specified Services	221020
Capital Goods	212000
Final Consumption	
Non-durable Goods	213001

Value Chain Reference Model

VCRM

As presented at the FOC meeting in 2014.

The Global Value Chain Approach

Global value chain framework developed over the past decade by a diverse **interdisciplinary and international group of researchers** who have tracked the global spread of industries and their implications for both corporations and countries

- Global value chain analysis provides both conceptual and methodological tools for looking at 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” or “downgrading”

Dimensions of global value chain analysis

1. Value Chain Mapping
2. Geographic Scope
3. Governance Structure (Lead Firms & Industry Organization)

GLOBAL

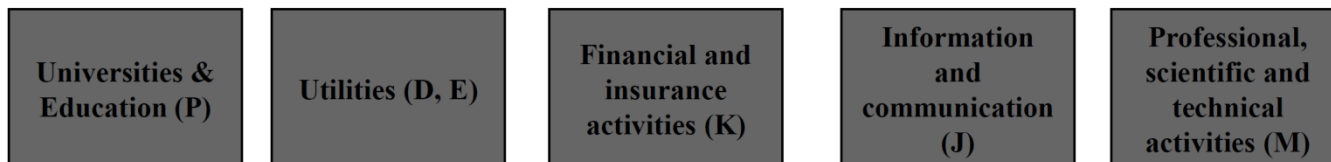
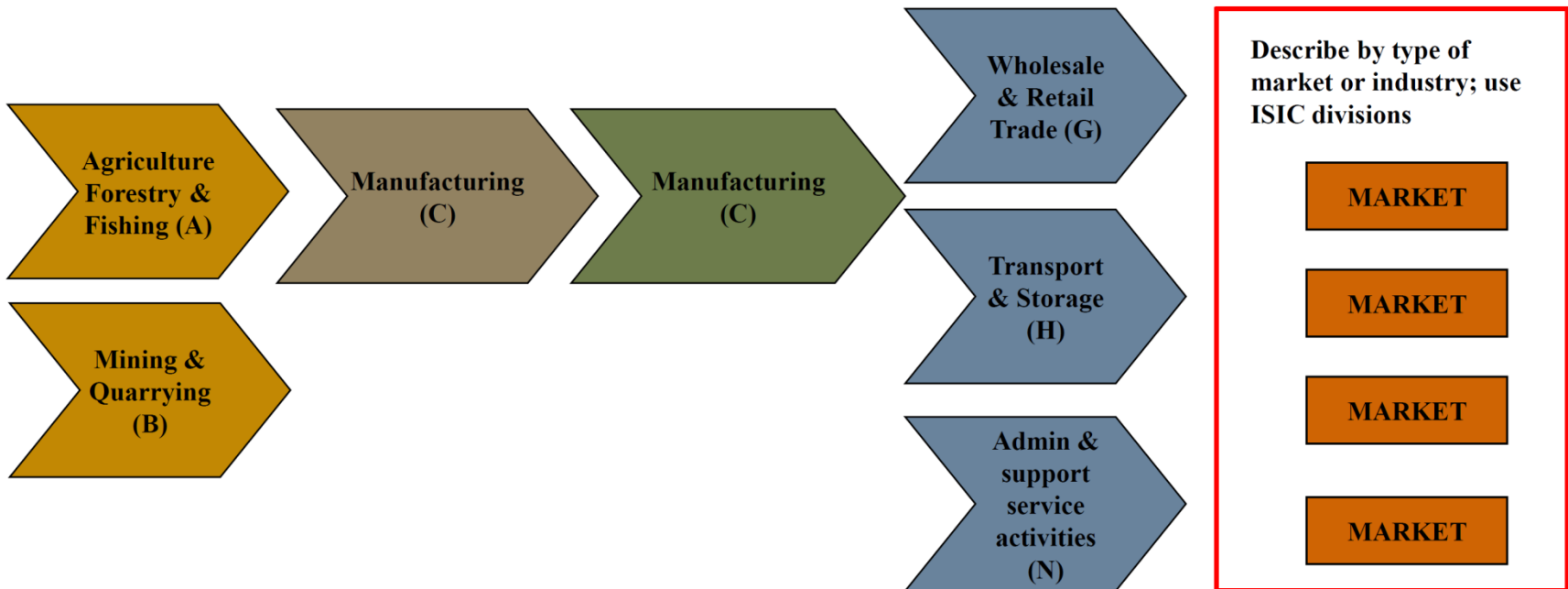
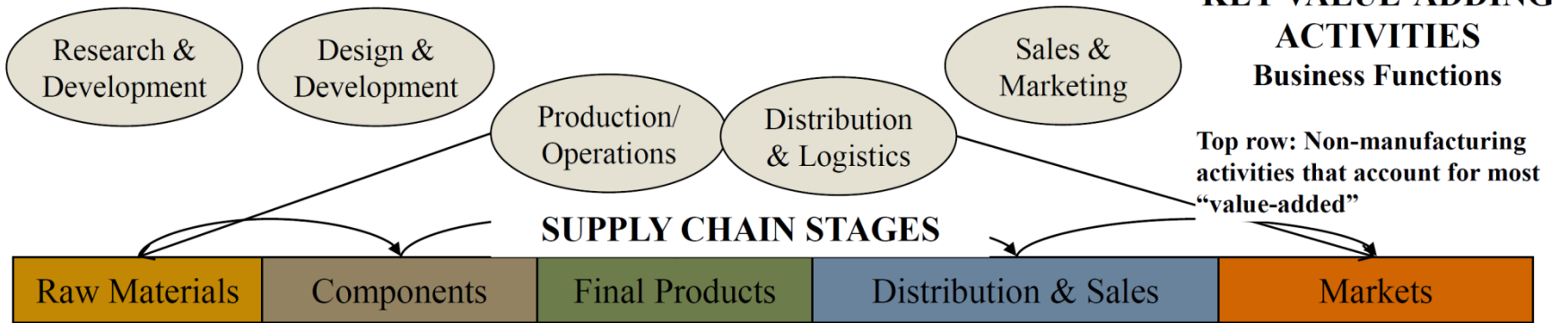
1. Upgrading Trajectories
2. Local Institutional Context
3. Industry Stakeholders

LOCAL

Upgrading: Adding value to industries

- **Market entry** - when a new actor begins to participate in the value chain
- **Product upgrading** - moving into more sophisticated product lines
- **Process upgrading** – increase efficiency by reorganizing the production system or introducing superior technology
- **Functional upgrading** - acquiring new functions (or abandoning existing ones) to increase the overall skill content of the activities
- **Chain upgrading** - entry into a new chain by leveraging the knowledge and skills acquired in current chain

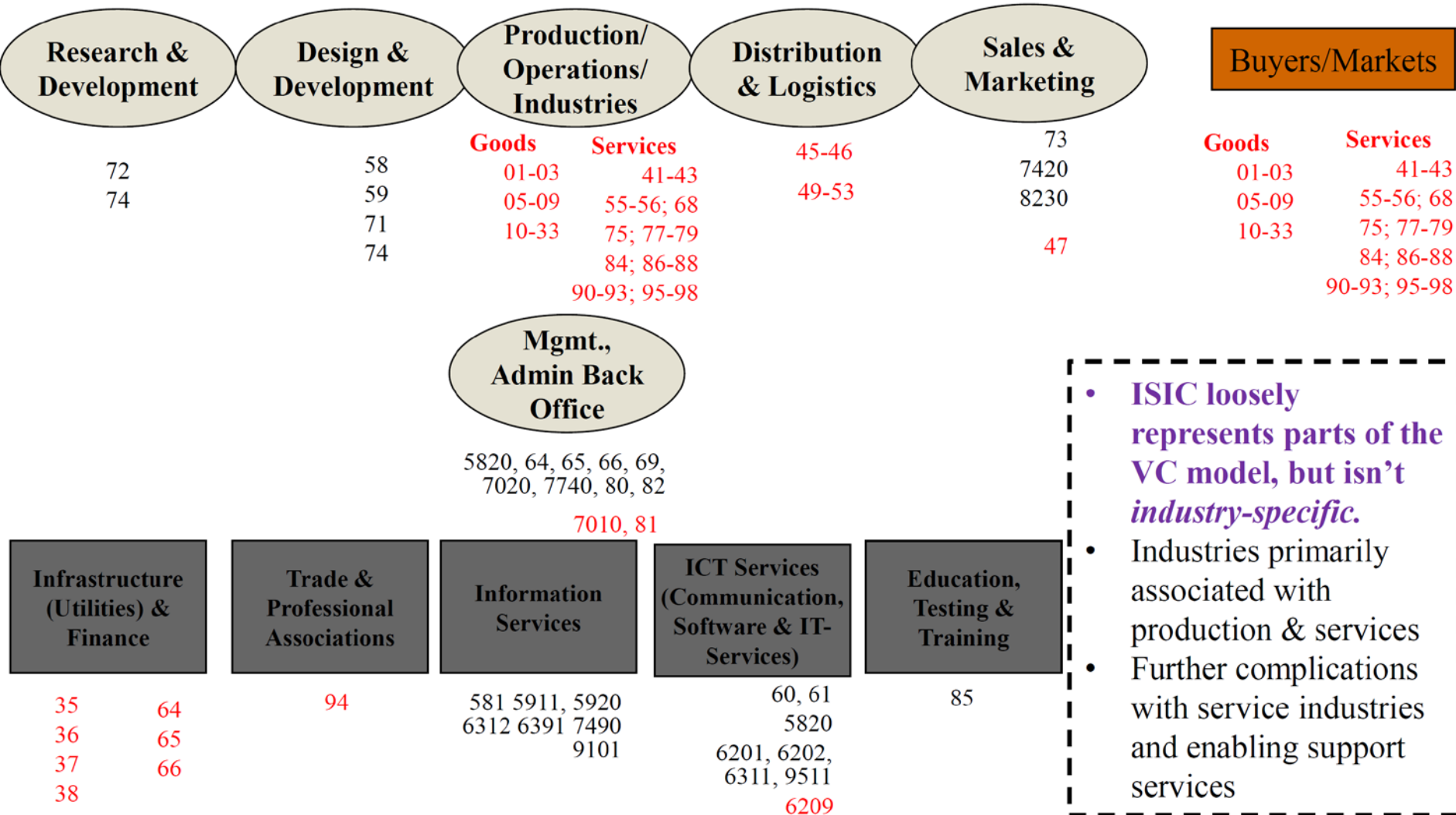
Four Parts of Value Chain Model



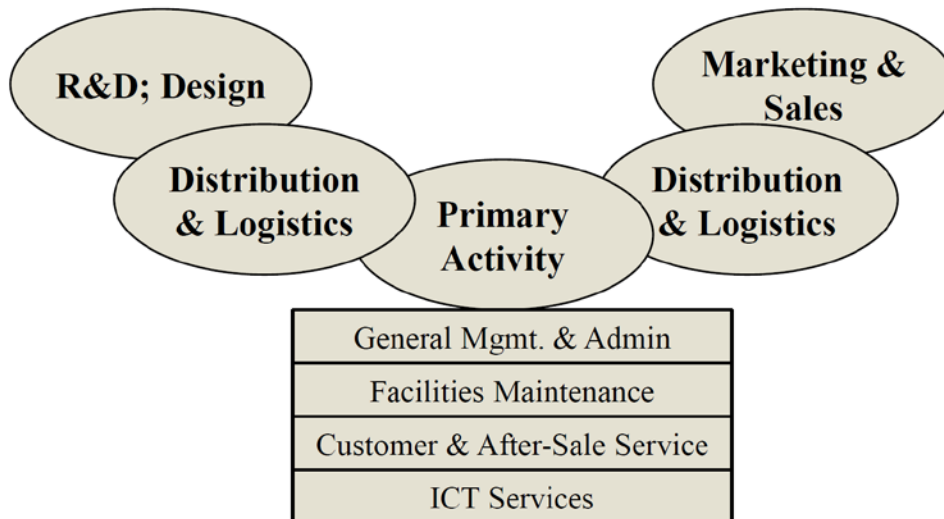
**END MARKETS/
BUYERS &
SUPPORTING
INDUSTRIES**

Value Chain Model correlated to ISIC:

Value-Adding Activities & Supporting Industries



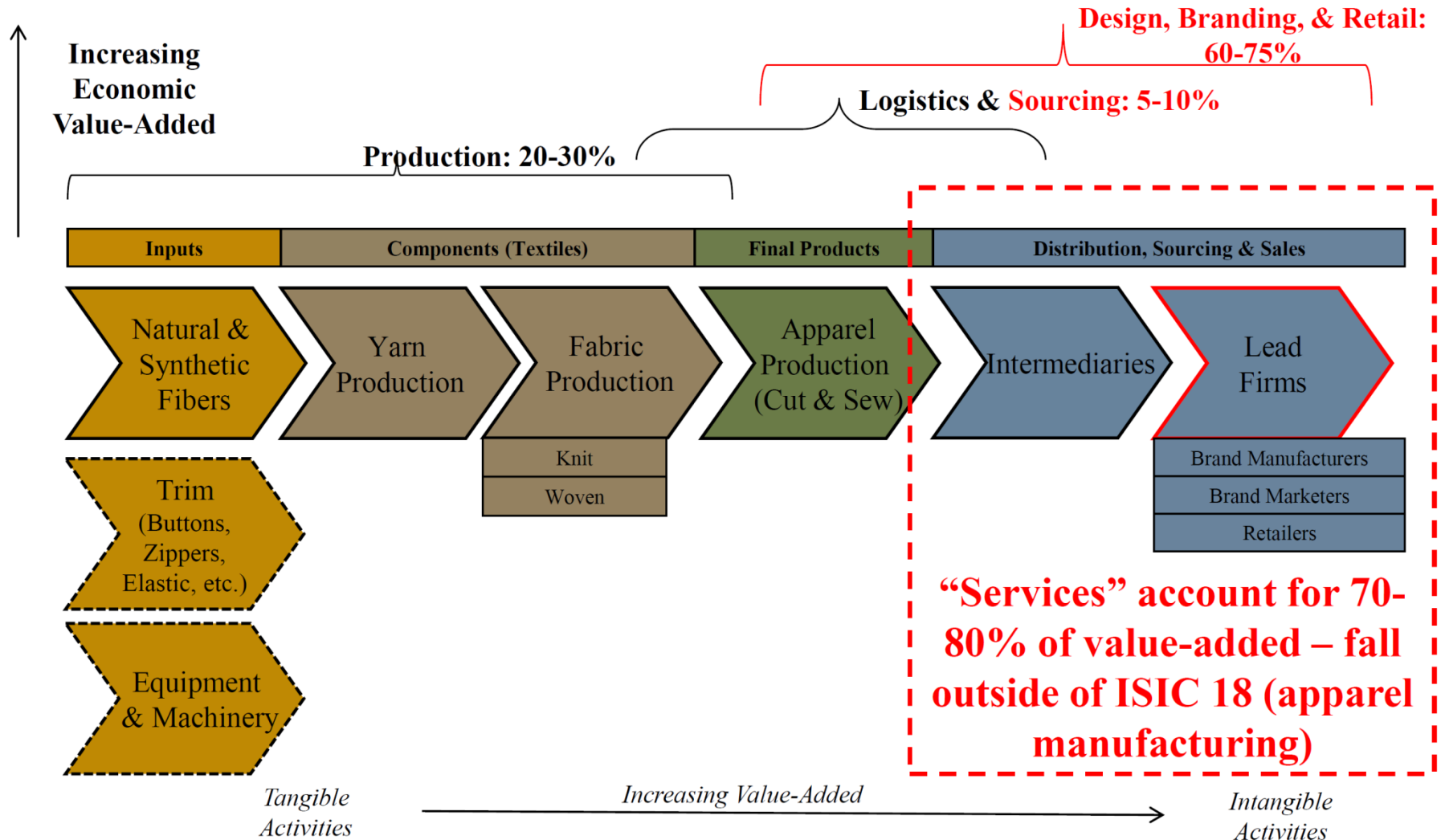
Business Functions & Organizational Decision Matrix in GVCs



Location/ Organization	Domestic	International
Internal	Make – domestic (in-house) <i>(national surveys)</i>	Make – offshore (FDI) <i>(AMNE)</i>
External	Outsource – domestic <i>(I-O TBLs)</i>	Outsource – offshore <i>(trade data)</i>

- Business function classification
 - 8 activities
 - 1 core + 7 supporting
 - Visual separates activities that relate to “value-adding activities”
- For any of the business functions, a company makes two choices, leading to four potential outcomes
 - Make or buy
 - Domestic or offshore
- *Parenthesis indicate supplemental data sources*

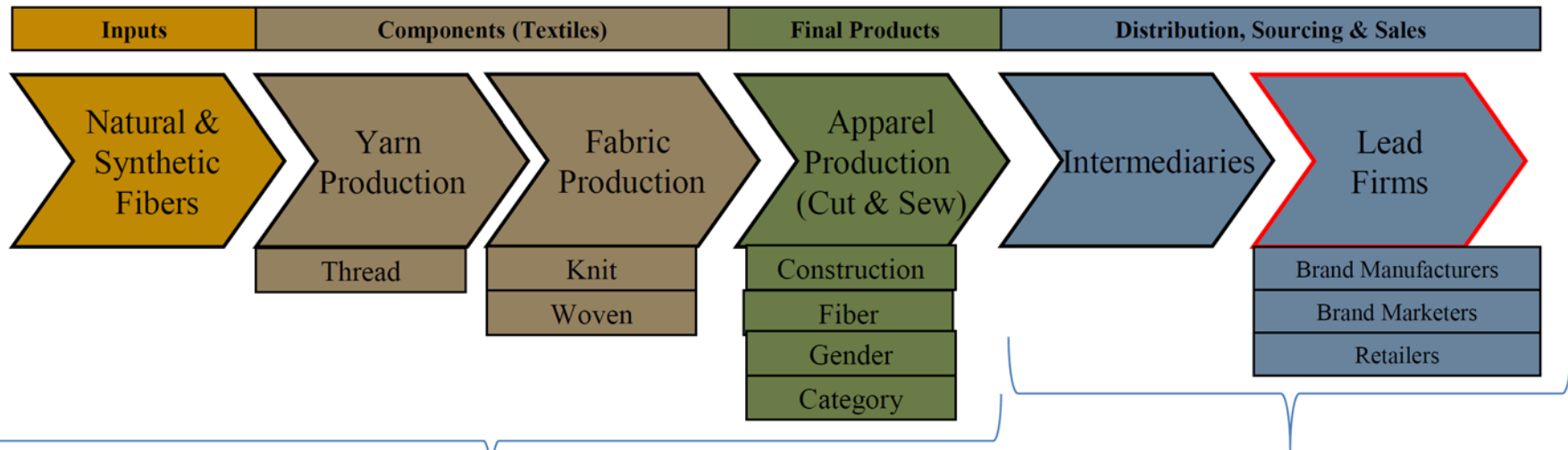
Apparel Value Chain



Red indicates highest value-added activities + control/power over the chain

Percentages represent relative shares of apparel retail selling price attributed to value-adding activities

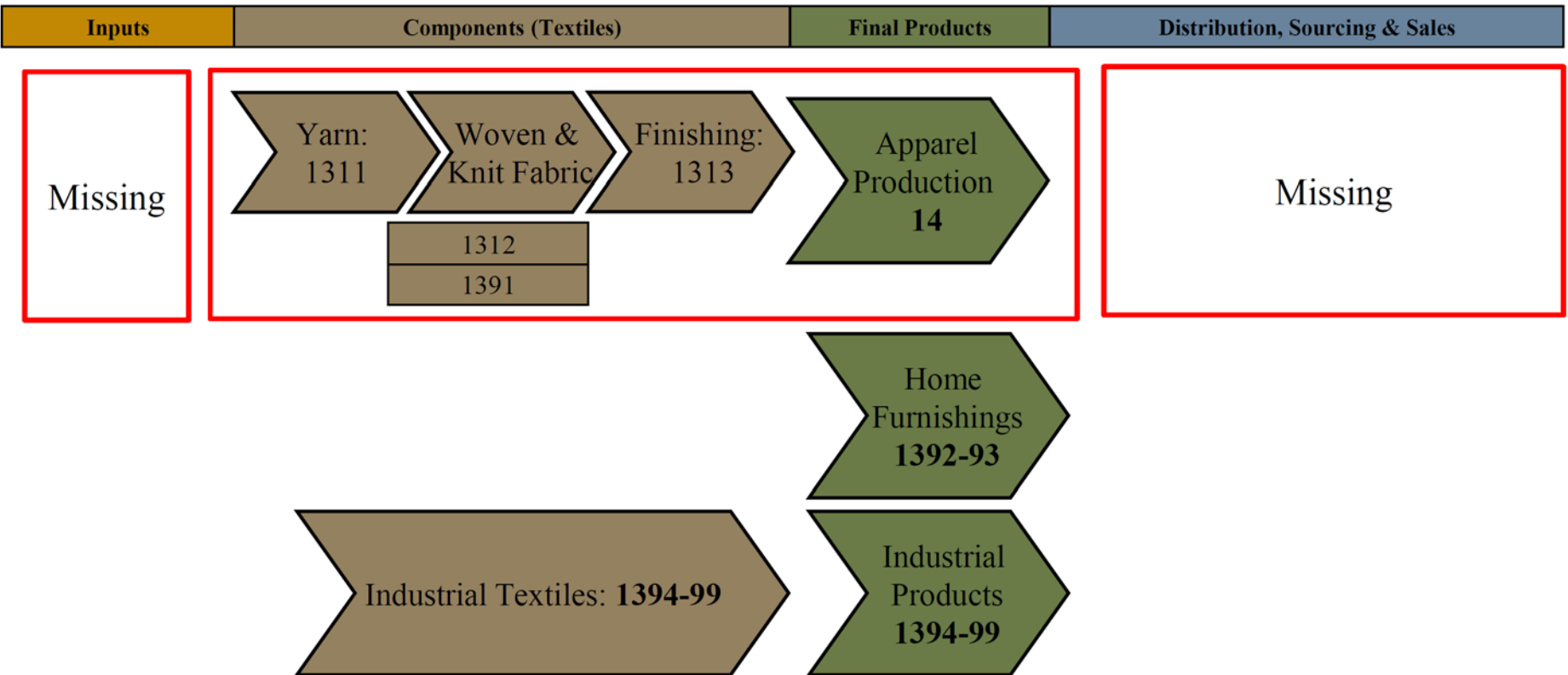
Detail needed to achieve minimum categories



Level of detail needed can be reached by using **6-digit HS codes or potentially 6-digit NAICS** (more detailed extension of ISIC). However required significant re-categorizing.

Lead firms are either labeled as manufacturers even if they don't manufacture, or are labeled as generic "wholesale" or "retail"

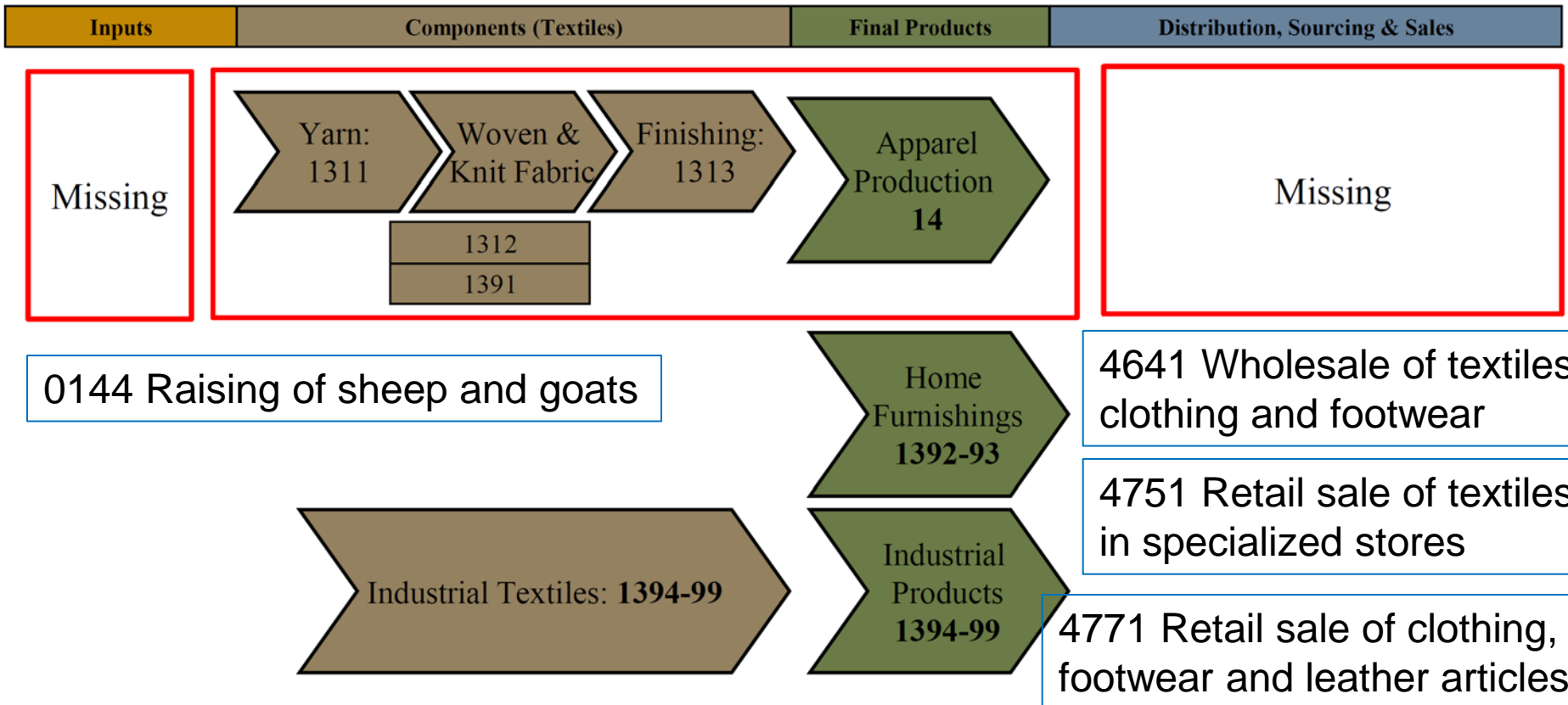
Best categorization possible with ISIC



Even the best possible categorizations using ISIC do not provide adequate detail.

Textile components are grouped with final products and knit fabric classified at 3-digit level with non-apparel end-uses (and was not separated from knit apparel in ISIC Rev. 3). Also not a connection to upstream and more importantly, downstream segments.

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TiVA

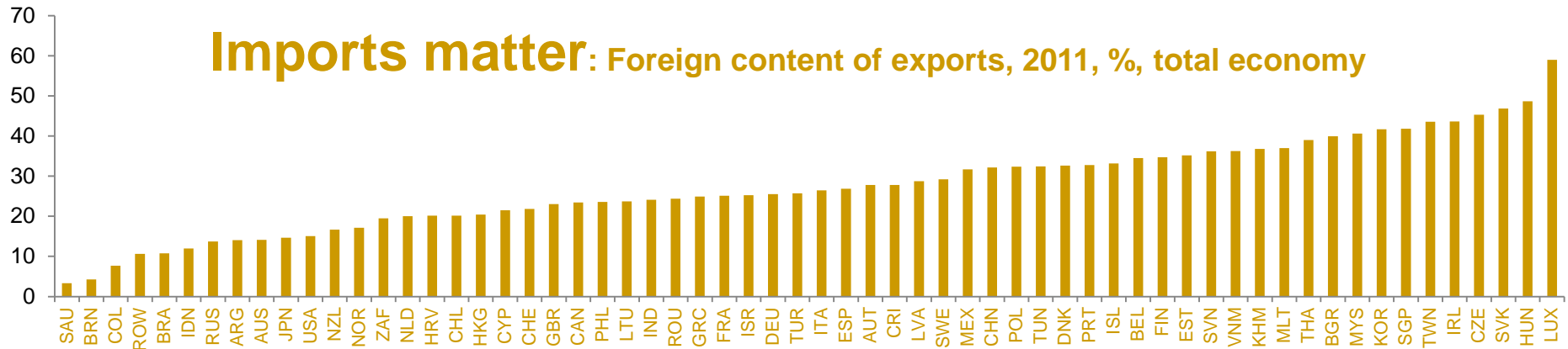
34 Industry sectors

TiVA 2015 ¹		ISIC Rev.3	approx. ISIC Rev.4
1	Agriculture, hunting, forestry and fishing	01t05	01t03
2	Mining and quarrying	10t14	05t09
3	Food products, beverages and tobacco	15t16	10t12
4	Textiles, textile products, leather and footwear	17t19	13t15
5	Wood and products of wood and cork	20	16
6	Pulp, paper, paper products, printing and publishing	21t22	17t18, 58
7	Coke, refined petroleum products and nuclear fuel	23	19
8	Chemicals and chemical products	24	20T21
9	Rubber and plastics products	25	22
10	Other non-metallic mineral products	26	23
11	Basic metals	27	24
12	Fabricated metal products except machinery and equipment	28	25
13	Machinery and equipment n.e.c	29	28
14	Computer, electronic and optical products	30, 32, 33	26
15	Electrical machinery and apparatus n.e.c	31	27
16	Motor vehicles, trailers and semi-trailers	34	29
17	Other transport equipment	35	30

21	Wholesale and retail trade; repairs	50t52	45T47, 95
22	Hotels and restaurants	55	55T56
23	Transport and storage	60t63	49, 50, 51, 52, 79
24	Post and telecommunications	64	53, 61
25	Finance and insurance	65t67	64t66
26	Real estate activities	70	68
27	Renting of machinery and equipment	71	77
28	Computer and related activities	72	62t63
29	Research and development	73	72
	Other Business Activities	74	69t71, 73t75, 78, 80t82
30	Public admin. and defence; compulsory social security	75	84
31	Education	80	85
32	Health and social work	85	86t88
33	Other community, social and personal services	90t93	37t39, 59t60, 90t93, 94, 96
34	Private households with employed persons	95	97t99

Providing new insights into GVCs..

Imports matter: Foreign content of exports, 2011, %, total economy



As do services: services content of manufacturing, all countries, 2011

