



Research Implications of the Creation of Sustainable Global Product Channels as a Multi-actor Process

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To be discussed

- Two contrasting images of international trade
 - mainstream versus sustainable
- Sustainable Global Product Chains:
 - Why emerging?
 - Multi-actor phenomenon
 - Multi-level phenomenon
- Key question → 7 perspectives
- Research Implications





Image 1

Mainstream International Trade

- South → North trade
 - mainly raw materials, resources, agro produce, 'cheap' commodities
 - Unstable world market prices
 - 'Anonymous' middleman and pulling down prices
 - Speculating
 - Small farmer / producer loses this battle
 - Small western consumer picks the fruits . . .





Image 2

Business case of EOSTA B.V.

- Dutch firm, estd. 1990
- Turnover 2004 appr. € 60 mln
= medium size (or largest organic food wholesaler)
- 60 employees
- Imports many types of organic fruits (all continents)
- Exports most of it to EU countries and North America and Far East





Image 2

Business case of EOSTA B.V.

- **Intensive interaction**
 - Knows and visits all it's suppliers (also there in SA)
- **Applies product standards:**
 - at least adhere EU EKO label / other organic produce schemes
- **Additional Assessments:**
 - Product Quality
 - Ecological Quality
 - Social Quality





Image 2

Business case of EOSTA B.V.

- Pays guaranteed **prices** to farmers
 - At least 20% higher than world market price, or more when higher scores on Product / Ecological / Social Quality
 - Pre-financing of exports / links with ‘sustainable bank’
- Supports **new suppliers** in transition to organic production and technical advice
- Direct communication to **consumer** about ‘sustainability performance’





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Products Growers About Us Our Quality

Home > 250 White Seedless Grapes

250 White Seedless Grapes
★★★★☆




Thank you for buying our White Seedless Grapes

It was grown on our farm located in the Northern Cape near the Orange River in South Africa.

On the left you can check out the number of stars our product has been awarded according to the Nature & More Quality index.

On the right you can see a photo of me - and by clicking below, you can learn more about our farm. - Enjoy!



Attie Valentin, Amval Farms, South Africa

Quality Rating

Product Quality
★★★★☆


Ecological Quality
★★★★☆

Social Quality
★★★★☆

100% certified organic!

100% Organic - Certified by: Soil Association Certification Ltd.

In addition to organic certification by Soil Association, Amval Farms have been certified by EuropGap and are regularly inspected by local authorities.



White Seedless Grapes

White seedless grapes range in color from yellowish green to light green.

The most popular varieties include Prime, Regal and Superior. Their loose bunches contain smaller berries than red varieties. The firm flesh has a crisp texture and provides an exciting bite.

The history of many seedless varieties is difficult to establish. They are most likely the result of many different varieties that easily cross-pollinate.

[>More about this grower](#)

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The triple assessment



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South Africa

- Amval Farms
- Emerald Acres
- Groenheuvel Boerdery
- Lorraine Farm
- Merensky Farms
- Mine Own Citrus
- Modderfontein
- Mueller and Sons
- Orex Farms
- Reliance
- Rossouw Organics
- Sun Valley Farms
- Sundays Organic Grower Association

Amval Farms

Farm description

- Interview
- Quality
- Photos

Amval Farms

Located in the Northern Cape, Amval Farms benefit from the water of the mighty Orange River. Sunny winter days with temperatures just below freezing and hot and dry summer heat averaging 42°C are one of the best climates for the production of grapes in the world. It is not surprising then, that this desert region produces deliciously sweet grapes sought after in European markets.

Ecological Quality
★★★★☆

Social Quality
★★★★☆

Amval Farms comprises of Warmzand farm and the organic farm Vaalhoek. Both are located about 12 kilometers apart from each other. The total area of Vaalhoek is 430 hectares of which 90 hectares have been certified organic. The rest is left in its natural state. It is treated as a conservation area where no vehicles are allowed. Table grapes are grown on 4 different fields totalling about 30 hectares. The remaining 60 hectares are reserved for additional varieties of grapes as well as citrus.

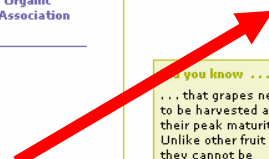
... if you know ...

... that grapes need to be harvested at their peak maturity? Unlike other fruit they cannot be ripened artificially but need to be stored and transported under optimum conditions?

Compost and green manures for the basis for the fertility program on the farm. Building up soil fertility in these harsh conditions is a painstakingly slow process. It requires constant attention and the right balance between growing a green manure crop (which uses water) and cutting it down for mulch (to preserve water). The green manure crops utilized on the farm are chosen for their nitrogen fixing ability. Under optimum irrigation these nitrogen fixing crops are cut five times per year, which provides ample organic material to gradually allow the humus layer to be built up. Noxious weeds are pulled by hand and added to the mulching material. Certified organic fertilizers are only used when the vines show deficiencies.

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Explanation of the farm's production approach



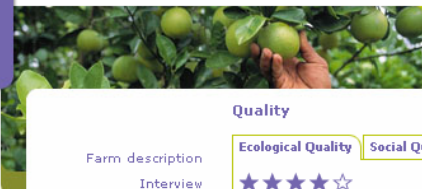


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South Africa

- Amval Farms
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- Farm description
- Interview
- Quality
- Photos



Quality

- Ecological Quality
- Social Quality

★★★★☆

Motivation	excellent	★★★★☆
Stimulation of Bio-diversity	excellent	★★★★☆
Soil-Building and Fertility Management	excellent	★★★★☆
Responsible Irrigation Practices	outstanding	★★★★★
Maintenance, Sanitation & Hygiene	excellent	★★★★☆
Preventative Pest & Disease Management	excellent	★★★★☆
Post Harvest Handling	excellent	★★★★☆
Sustainability Issues	good	★★★☆☆
Research, Innovation & Technology Transfer	outstanding	★★★★★
Extraordinary Aspects	excellent	★★★★☆

Did you know ...
 ... that grapes need to be harvested at their peak maturity? Unlike other fruit they cannot be ripened artificially but need to be stored and transported under optimum conditions?



More detail, but still simple



Image 2

Business case of EOSTA B.V.

- Dutch CSR Entrepreneurship prize (2004)
- Investors in People Award (2005)
- Fruit Logistica Innovation Award nomination (2006)

- Serving a small, but growing market





Sustainable Global Product Chains: relevance for science

- How to understand this phenomenon?
 - Why does it emerge?
 - Motivation, prospects on the market?
 - What determines reliability?
 - Sust. Dev.: perceptions at supply side?
- Is it a *business model* to be mainstreamed?
 - More variance in models?
 - Constraints and solutions
 - Role of context variables: roles of business networks, competitors, governments, NGO's etc.





Why does it emerge?

A normative answer:

Growing wealth +
Increasing pressure on our resource base:
Planet Earth

2005 UN's Millennium Ecosystem Assessment:

- *Approximately 60% of the benefits that the global ecosystem provides to support life on Earth (such as fresh water, clean air and a relatively stable climate) are being degraded or used unsustainably.*
- *The transformation of the planet has contributed to substantial net gains in health, well-being and economic development. But not all regions and groups of people have benefited equally from this process.*

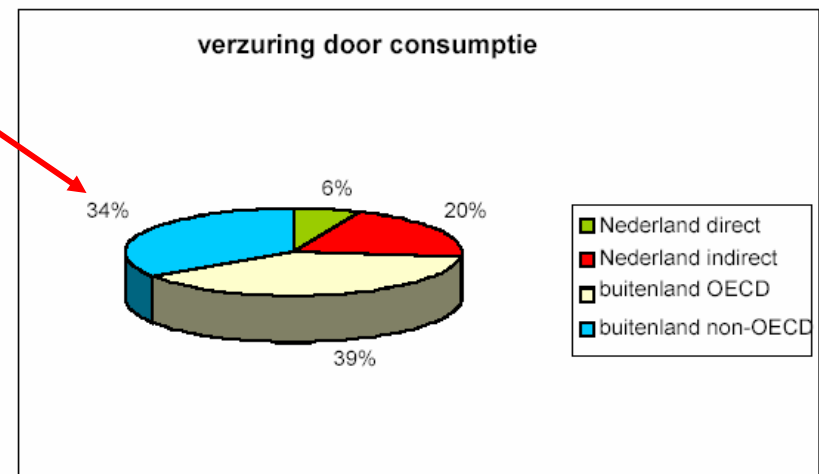
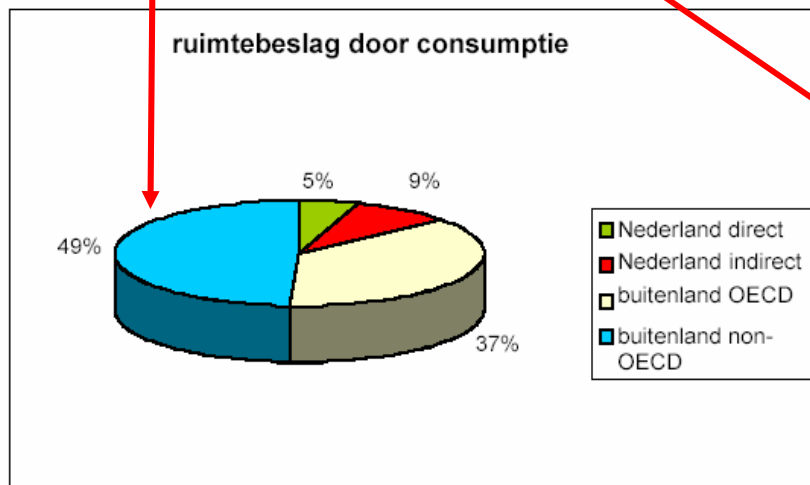
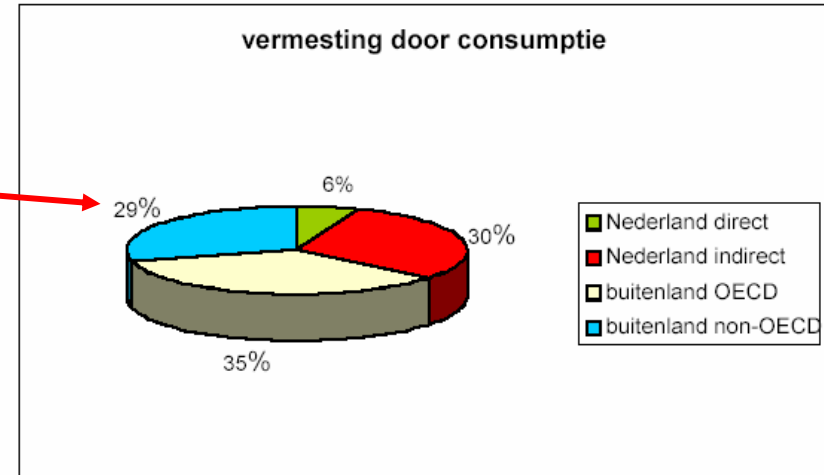
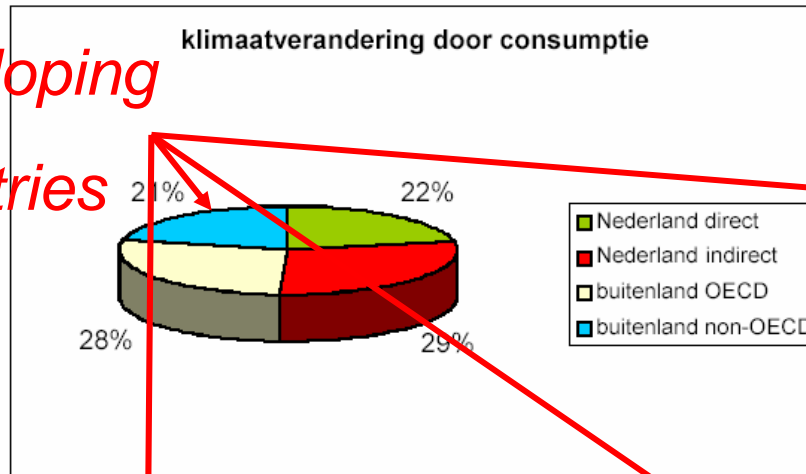


... and growing



major impacts of consumption abroad.

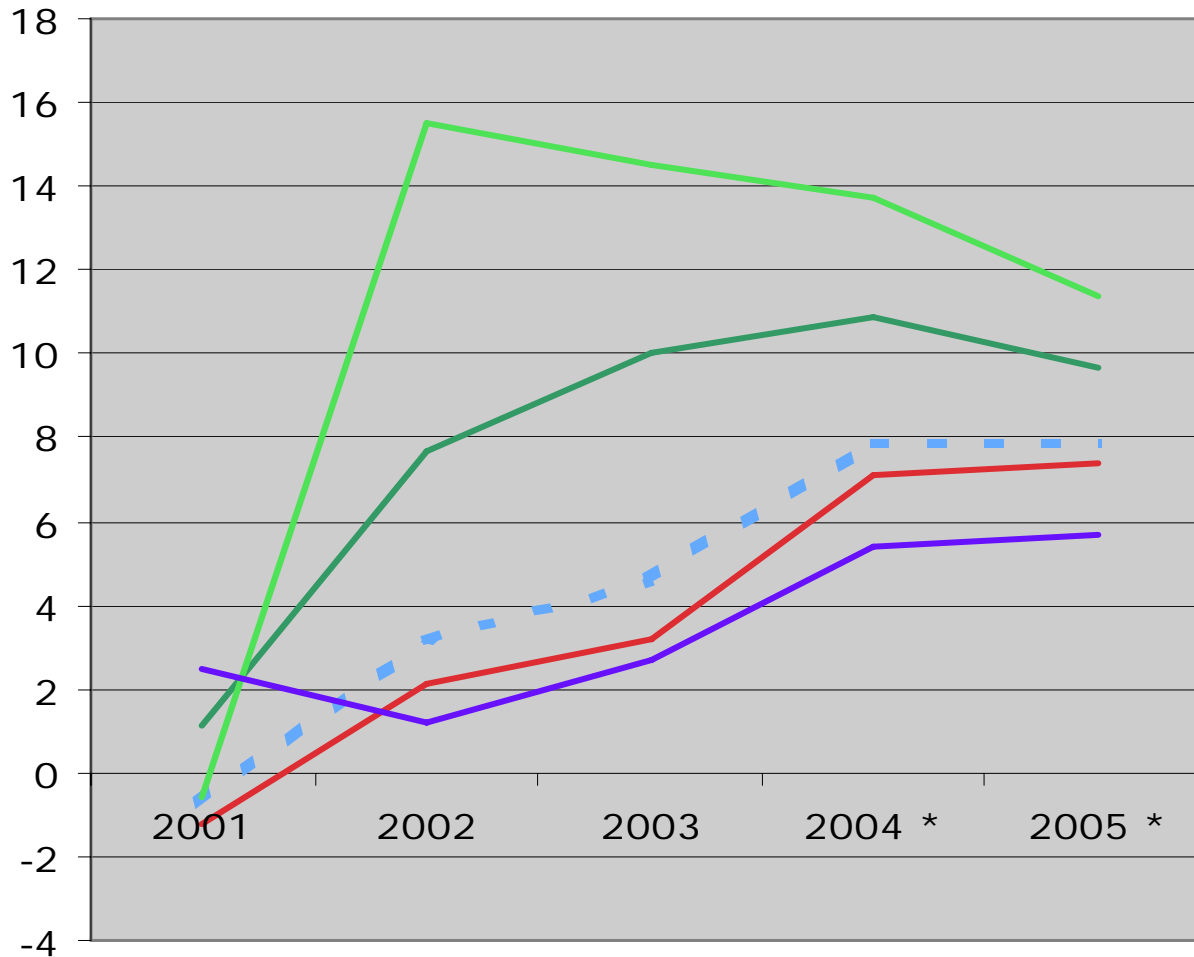
Impacts in
developing
countries



(RIVM, 2003)



... making a global approach more relevant



Annual change of international trade volumes (%)

- World
- High-income countries
- Developing countries
- East Asia and Pacific
- Sub-Saharan Africa





The key question:

- **Can *voluntary cooperative* strategies for sustainable production and consumption in global product chains be successful:**
 - To what degree?
 - Under what conditions?





Global product chains =

- Combined *social* and *physical/material* phenomena.
 - forms of globe-wide collaboration of all relevant actors in social product chain, focusing on improvement of the environmental, social and economic performance in the full product chain;
 - requires comprehensive social sciences approach: addressing both the micro level, meso level and macro level





Global product chains

Developing country

Western country

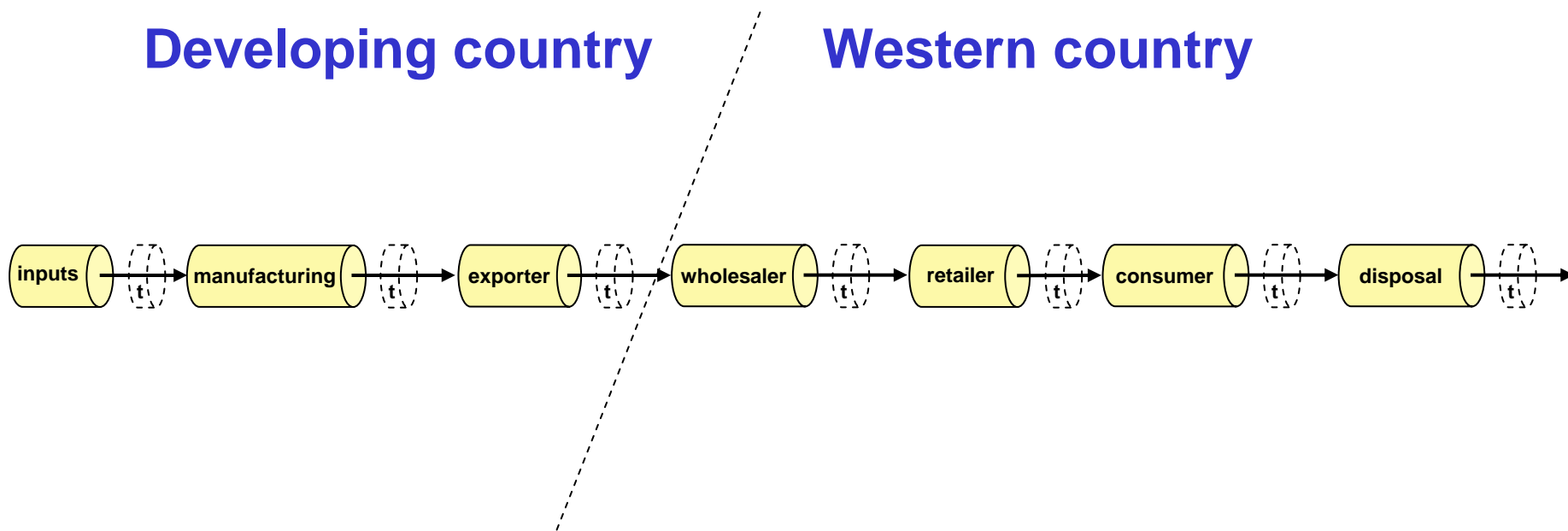


Figure 1 Representation of a global product chain





Research in global product chains

- Many disciplines, varying perspectives and key questions.....
 - roots in environmental sciences (LCA, DfE)
 - environmental business management (SCM)
 - But also (without focus on sustainability):
 - Sociology / economic geography
 - development studies
 - economics, business administration (logistics)
 - technical sciences





Integrating research in global product chains

At least 7 perspectives:

1. (socio-)environmental **impacts** of activities in the chain;
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

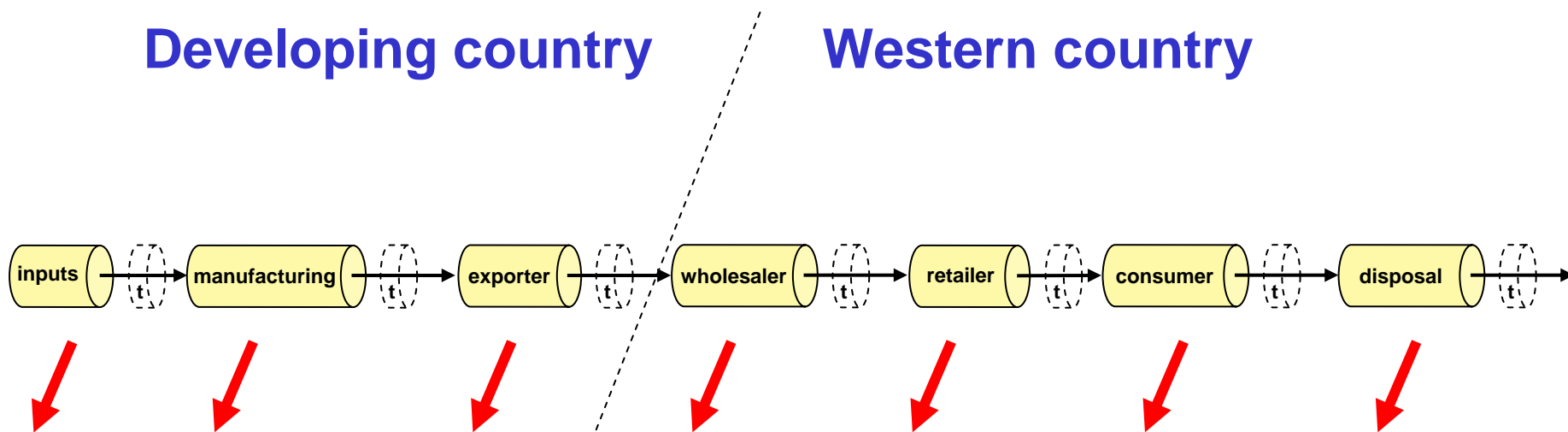




Global product chains

Developing country

Western country



(socio-)environmental **impacts** of activities in the chain:

LCA, MFA, CSR-reporting





Integrating research in global product chains

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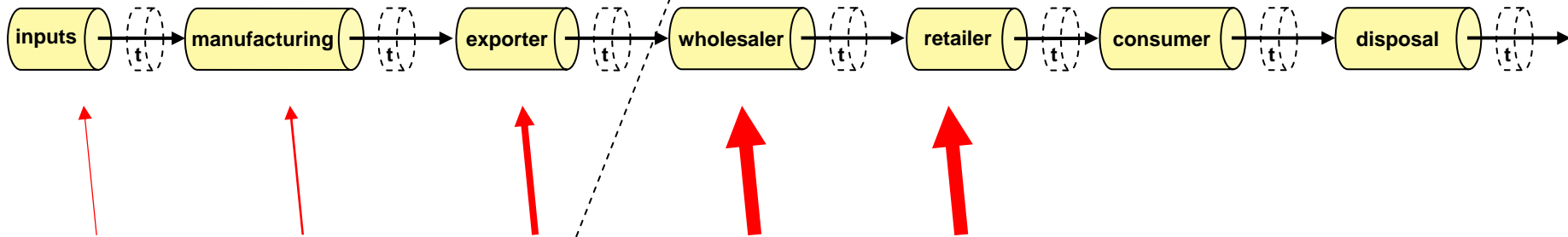




Global product chains

Developing country

Western country



individual firms in a chain:

motivation ?
constraints ?
methods ?



Integrating research in global product chains

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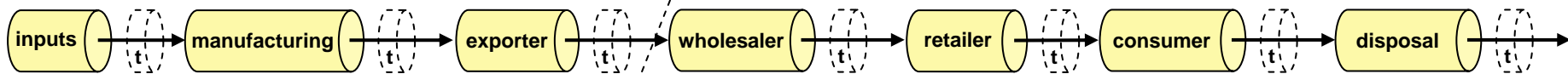




Global product chains

Developing country

Western country



firms **interacting** in a chain:

normative theories: 6 steps

- analyse entire life cycle
- decide on objectives of environmental excellence
- select possible improvements
- analyse economics of improvements and choose
- implement the improvements themselves & engage in inter-firm cooperation
- develop systems of control (third parties?)

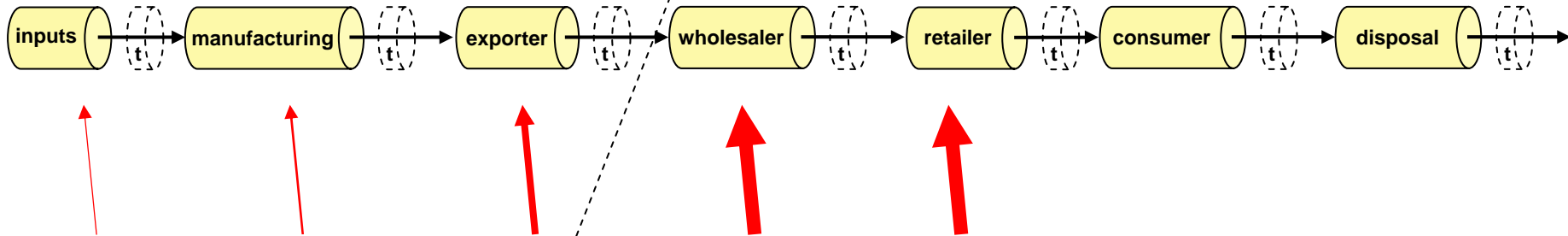




Global product chains

Developing country

Western country



firms **interacting** in a chain :

many methods:

- inquiries, questionnaires
- procurement strategies: requirements
- preferred suppliers
- joint programs, collaboration
- co-makerships
- verticalisation etc.....





Integrating research in global product chains

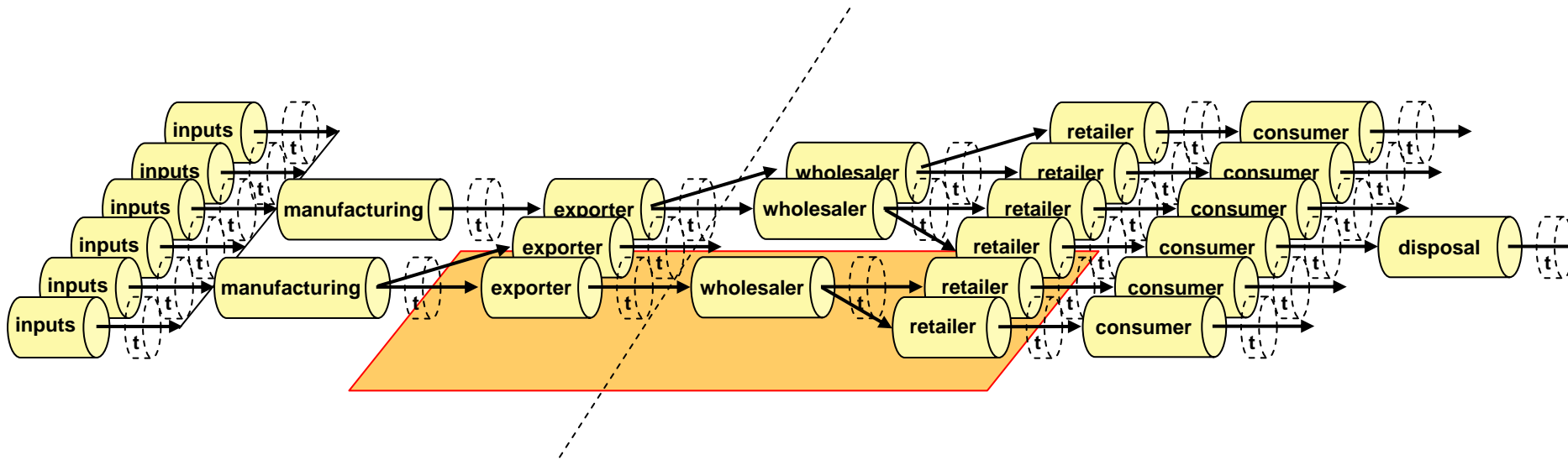
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Developing country

Western country



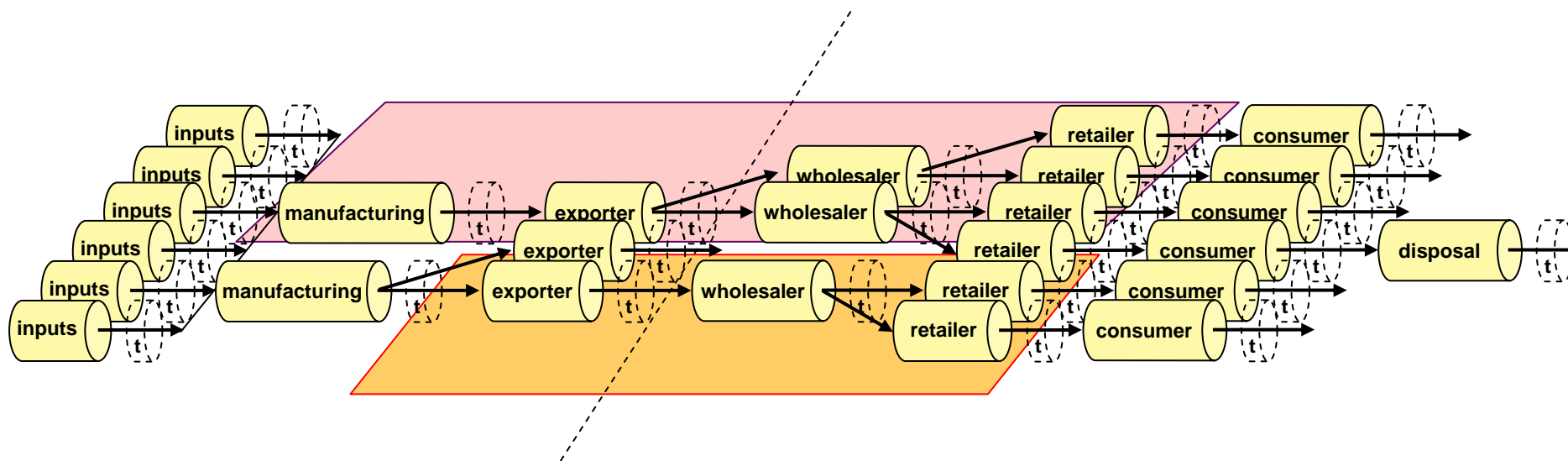
Adding complexity: multiple chains = product channel

- Competing strategies

-

Developing country

Western country



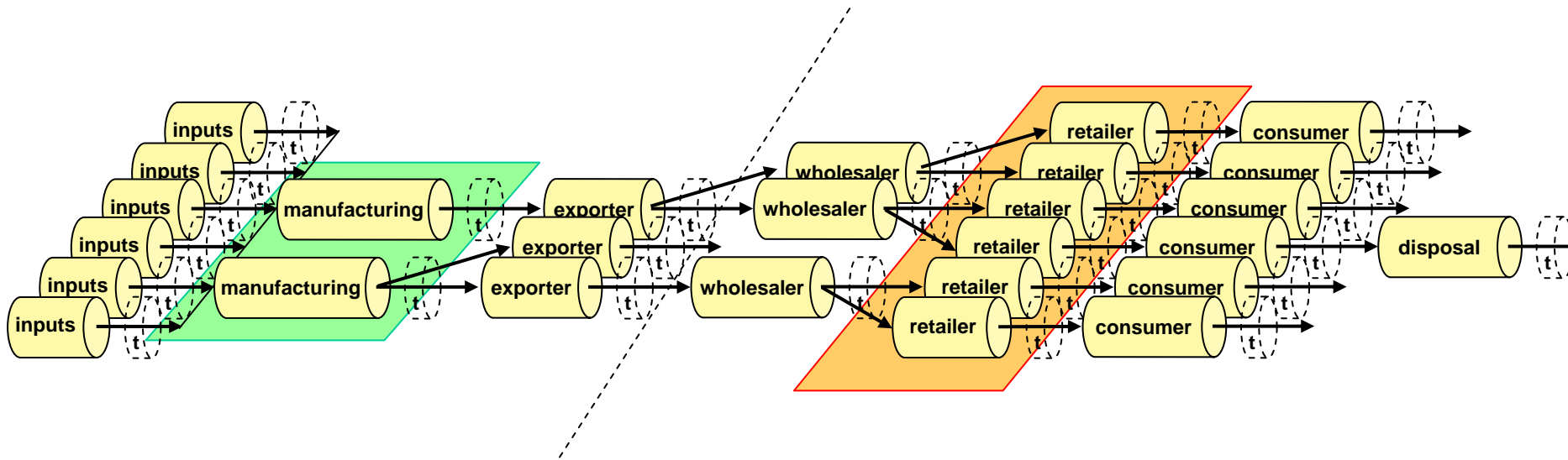
Adding complexity: multiple chains = product channel

- **Competing strategies**

-

Developing country

Western country

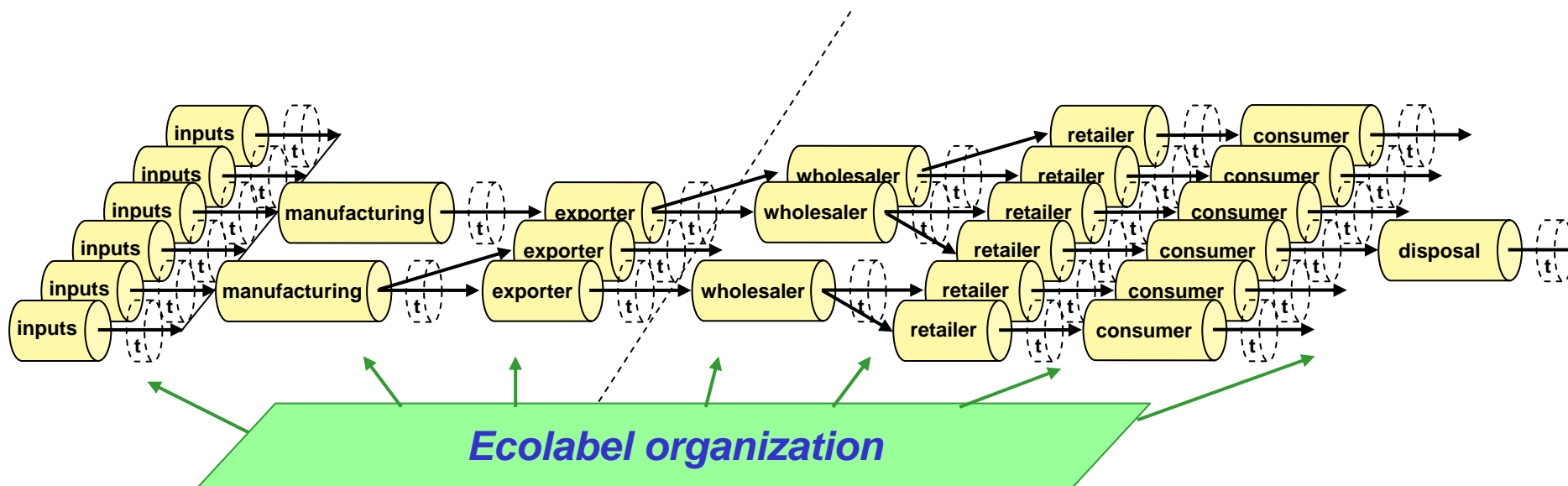


Adding complexity: multiple chains = product channel

- **Competing strategies**
- **Sector collaboration**
-

Developing country

Western country

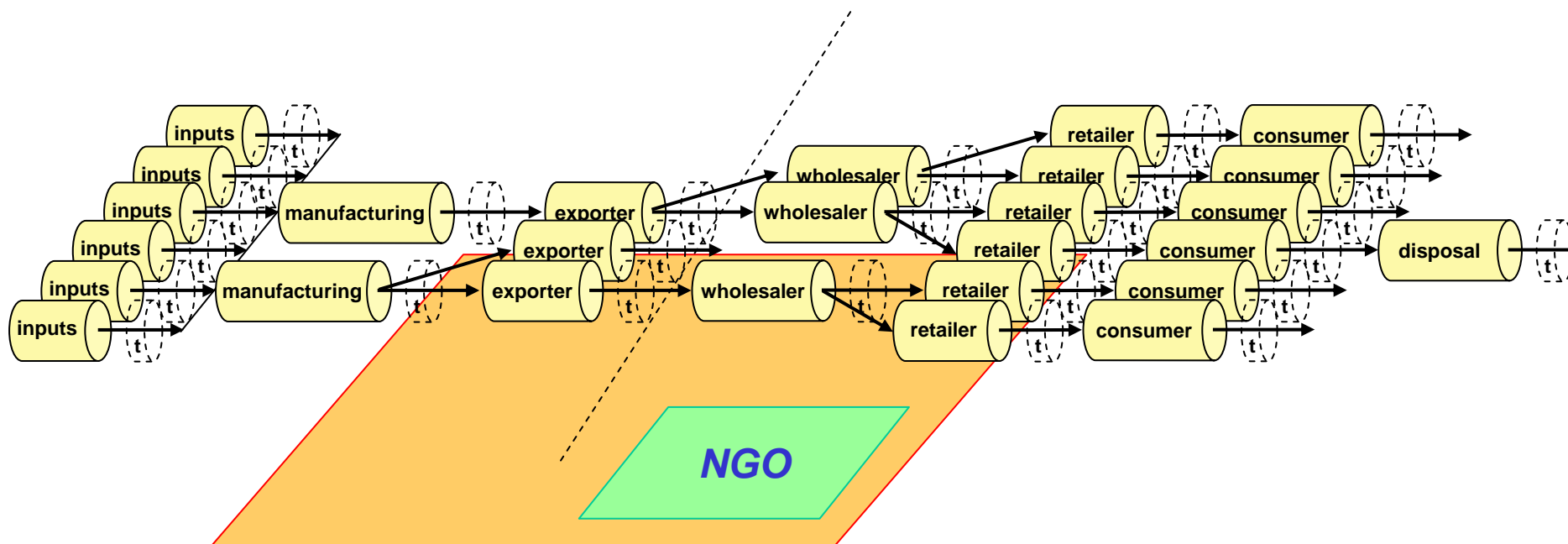


Adding complexity: multiple chains = product channel

- **Competing strategies**
- **Sector collaboration**
- **Third parties**

Developing country

Western country



Adding complexity: multiple chains = product channel

- **Competing strategies**
- **Sector collaboration**
- **Third parties**
- **NGO partnerships**



Integrating research in global product chains

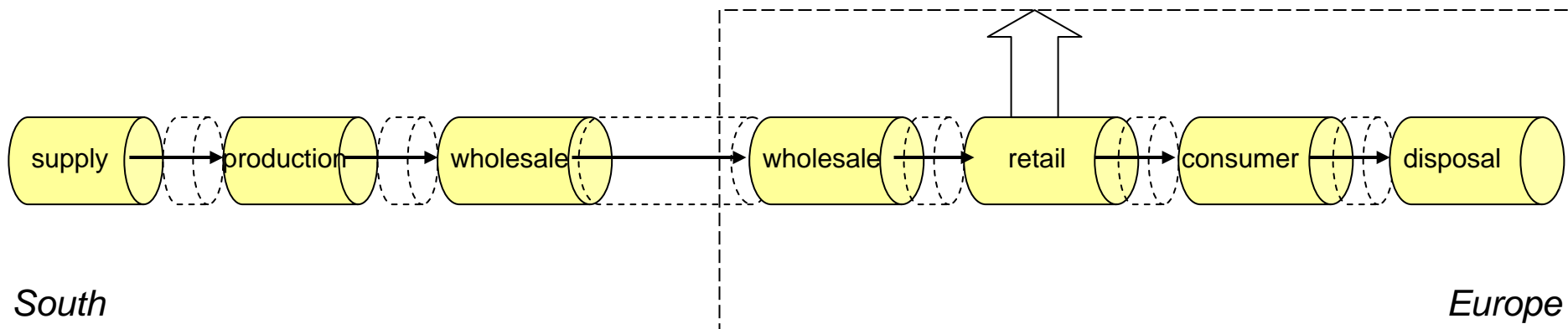
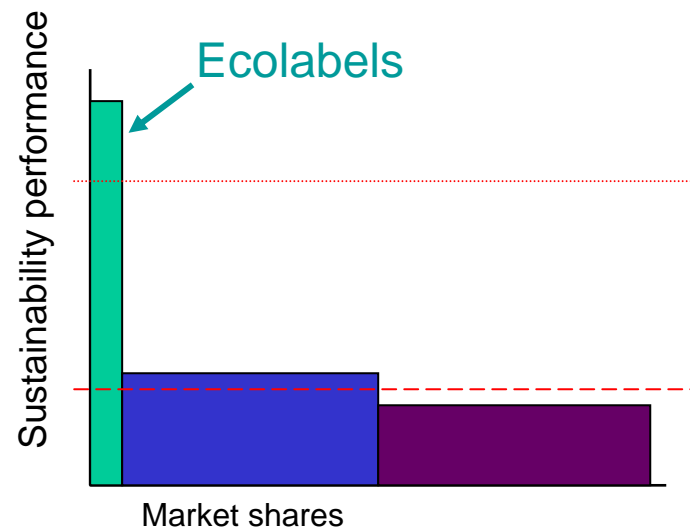
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Subsequent Market Strategies

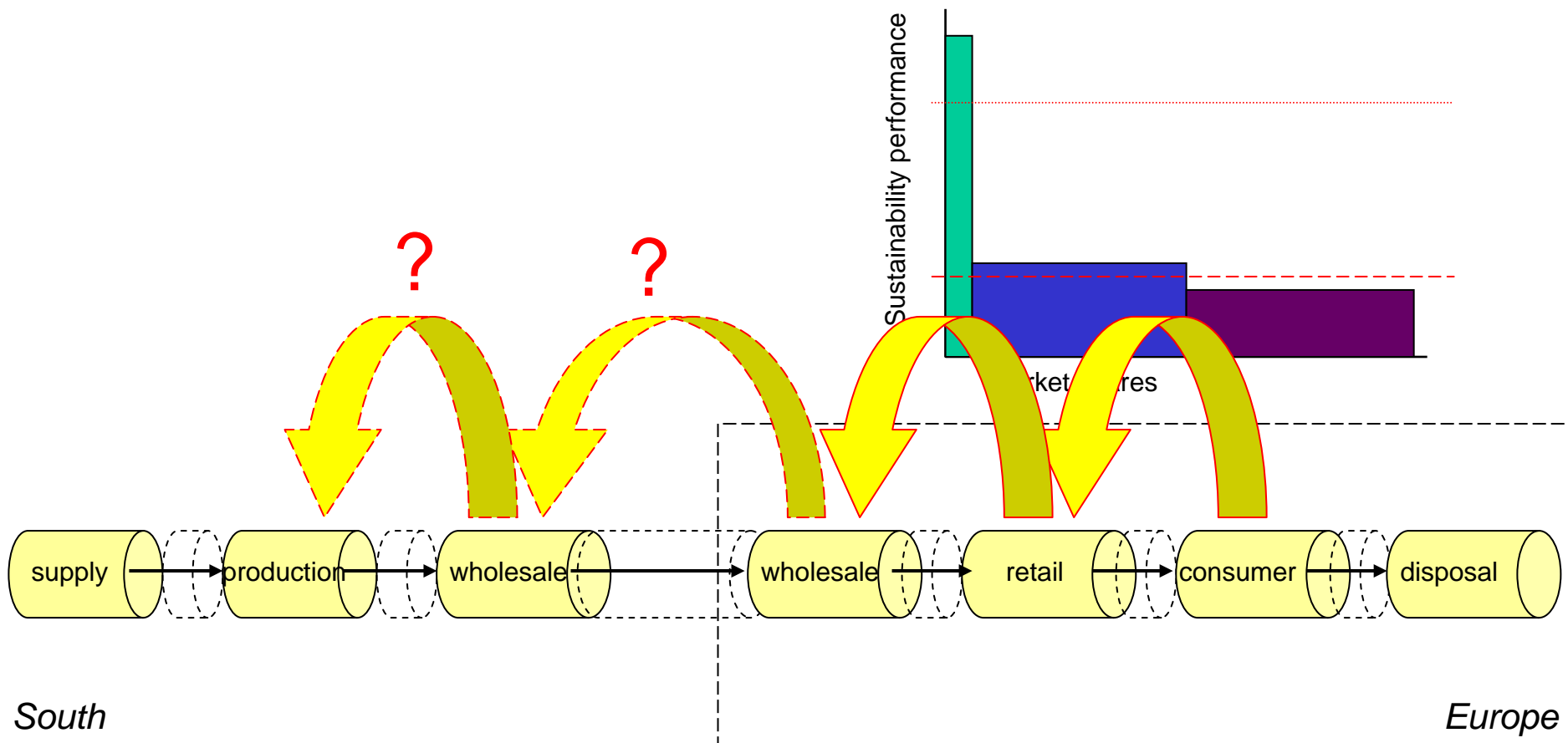


South

Europe

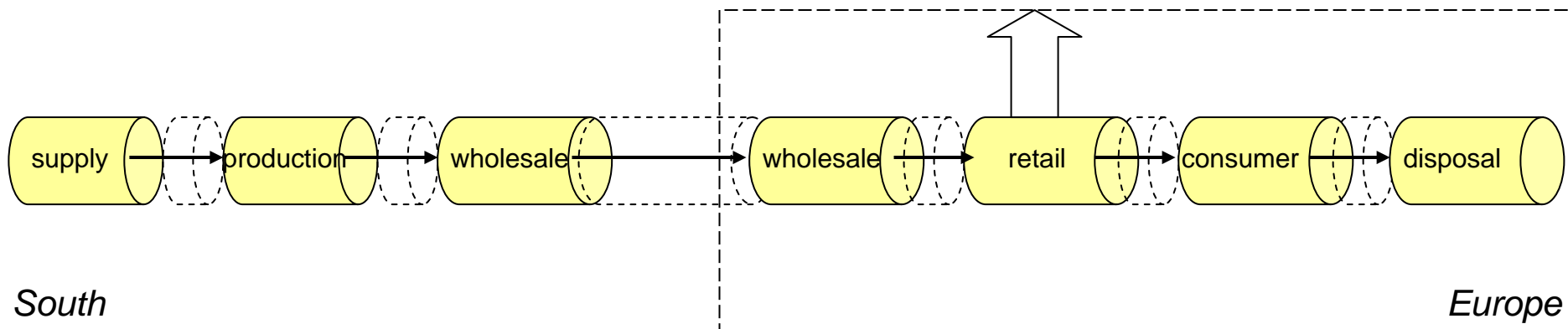
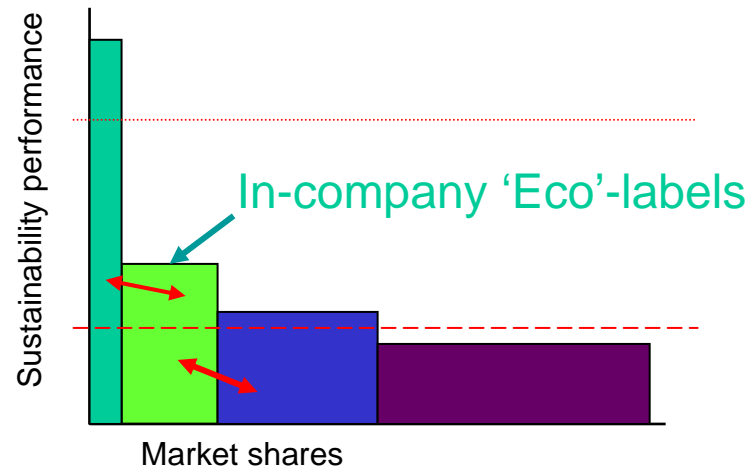


Market strategies on both sides?



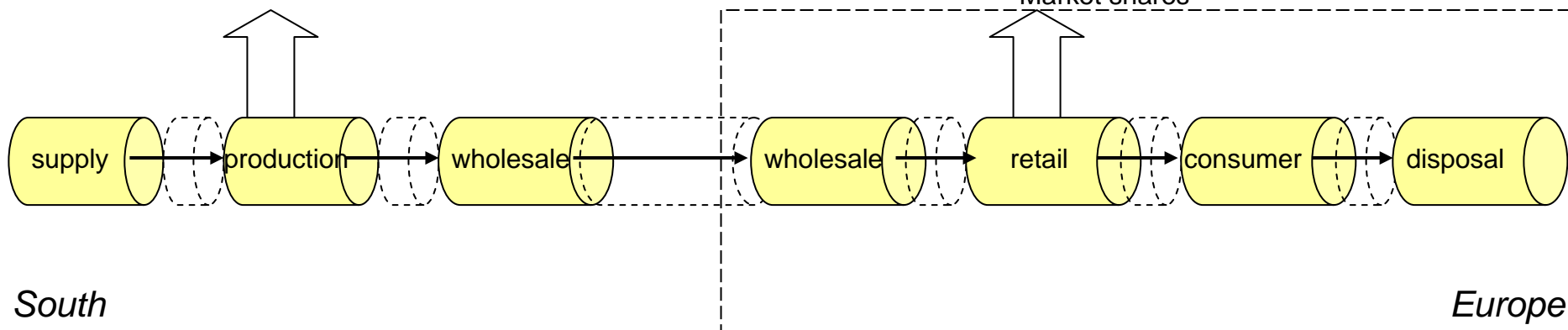
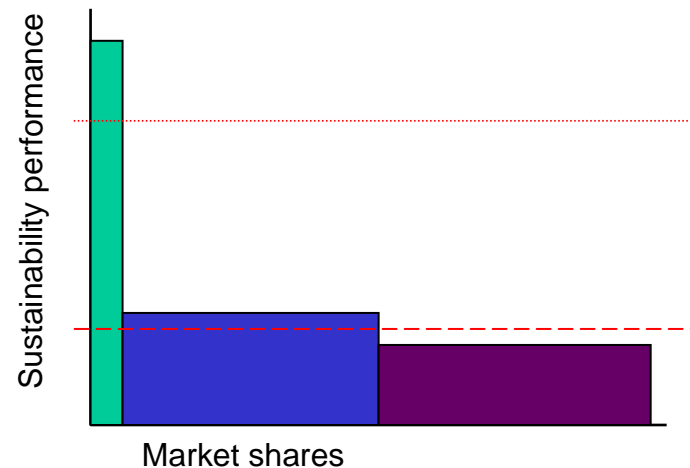
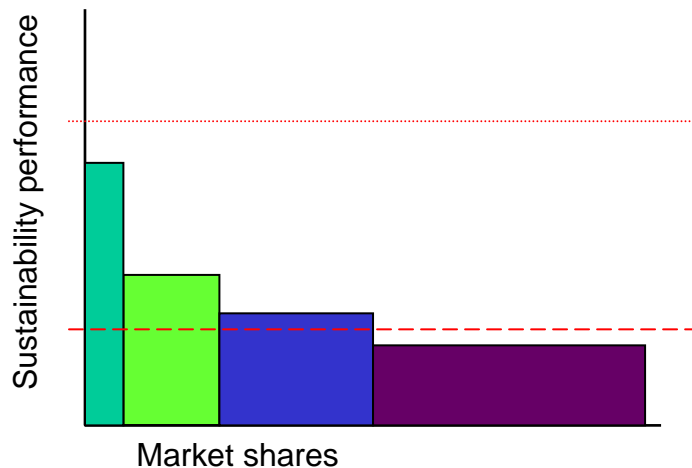


Responsive Market Strategies





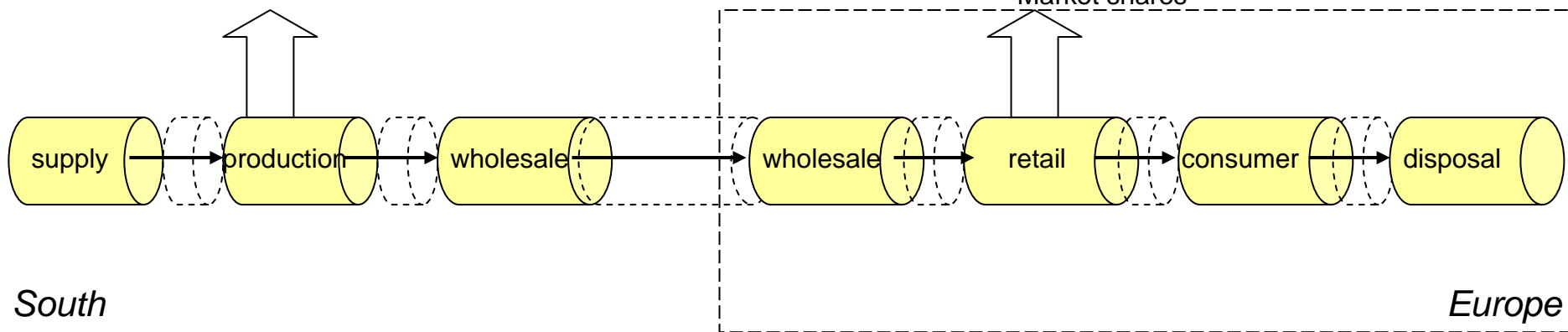
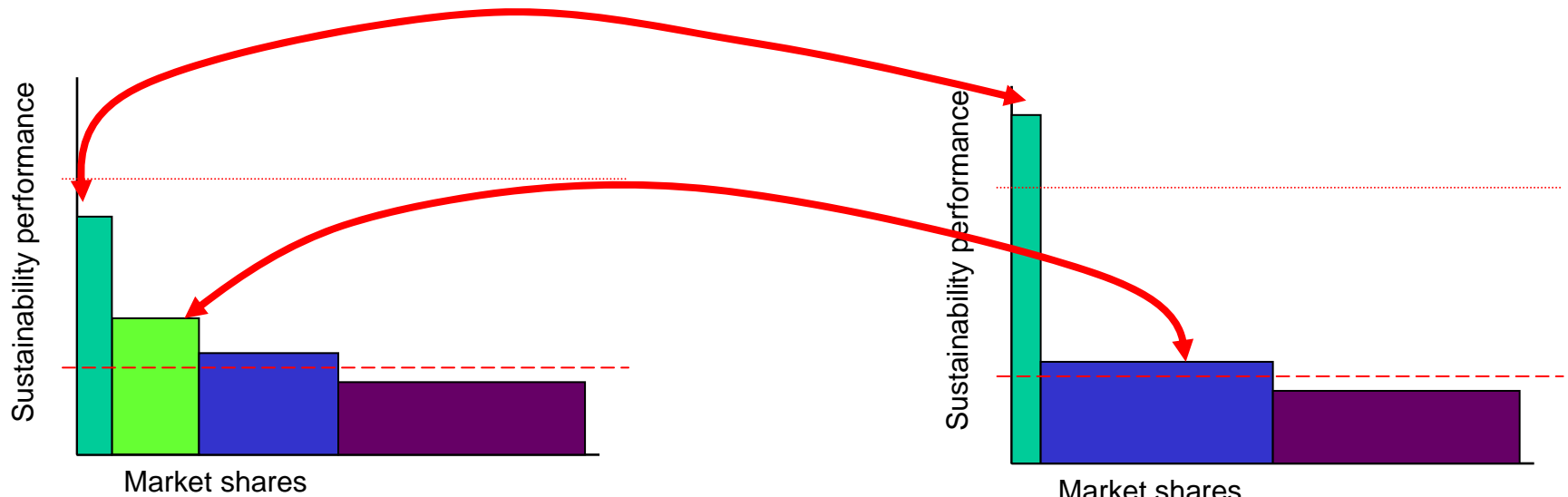
Market strategies at both sides?



South

Europe

Connecting market strategies at both sides?



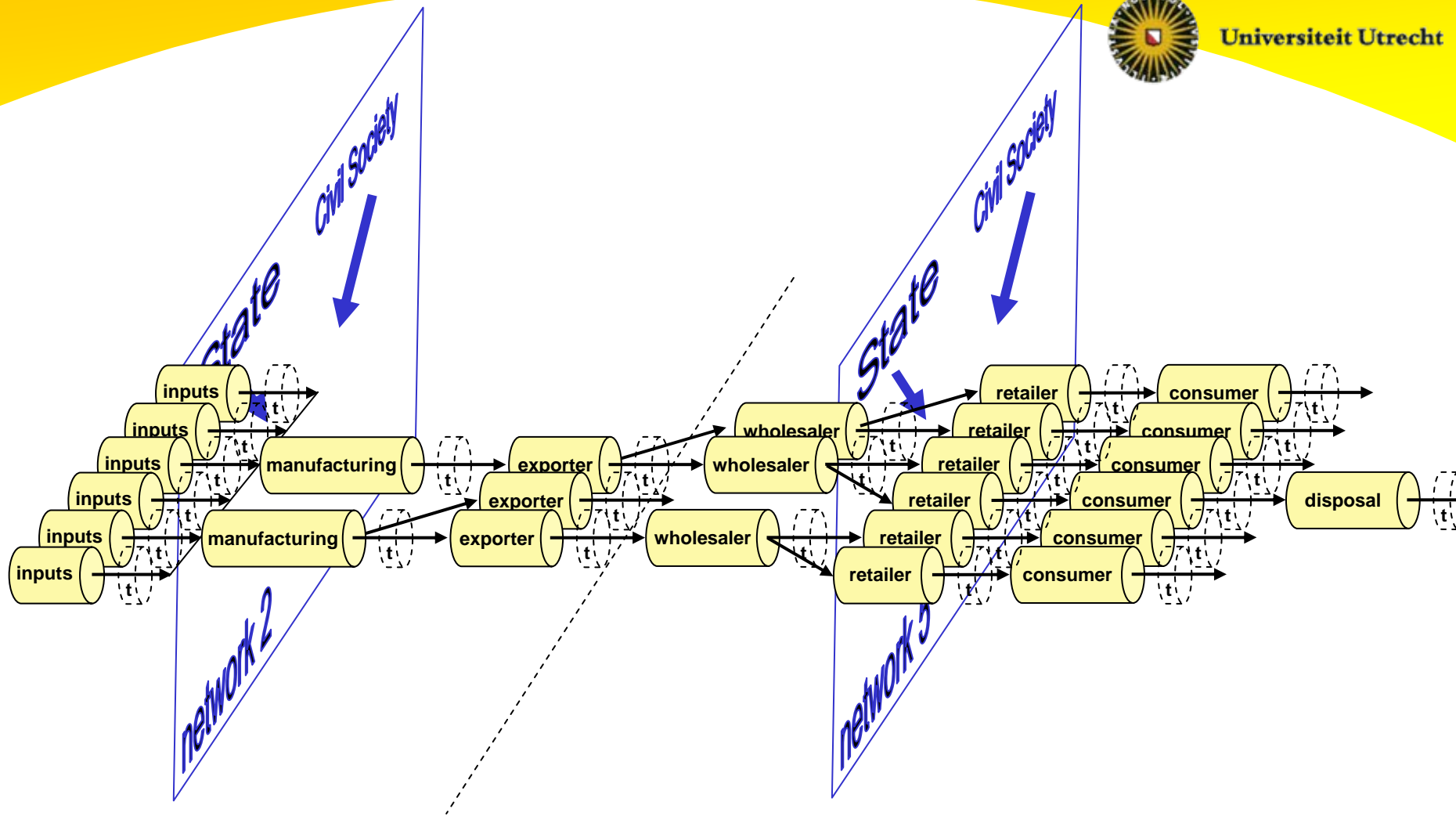


Integrating research in global product chains

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6. **relations** of actors inside the chain **with** connected **societal networks**;
- 7.





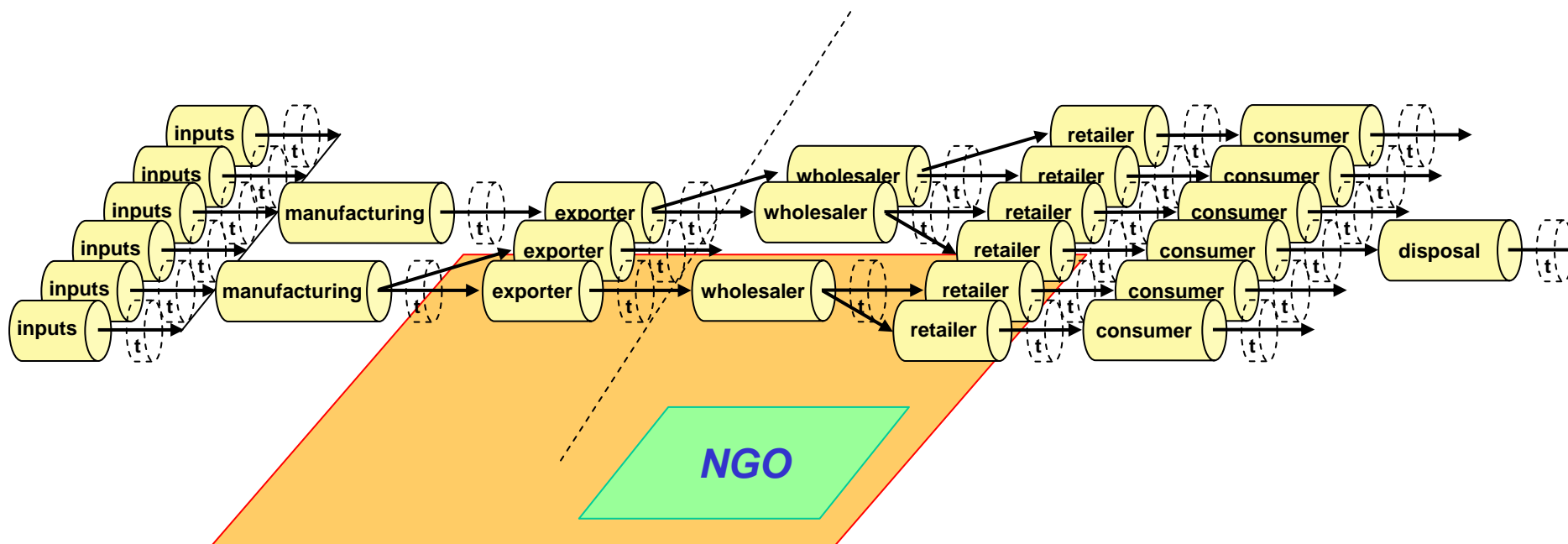
Developing country

Western country



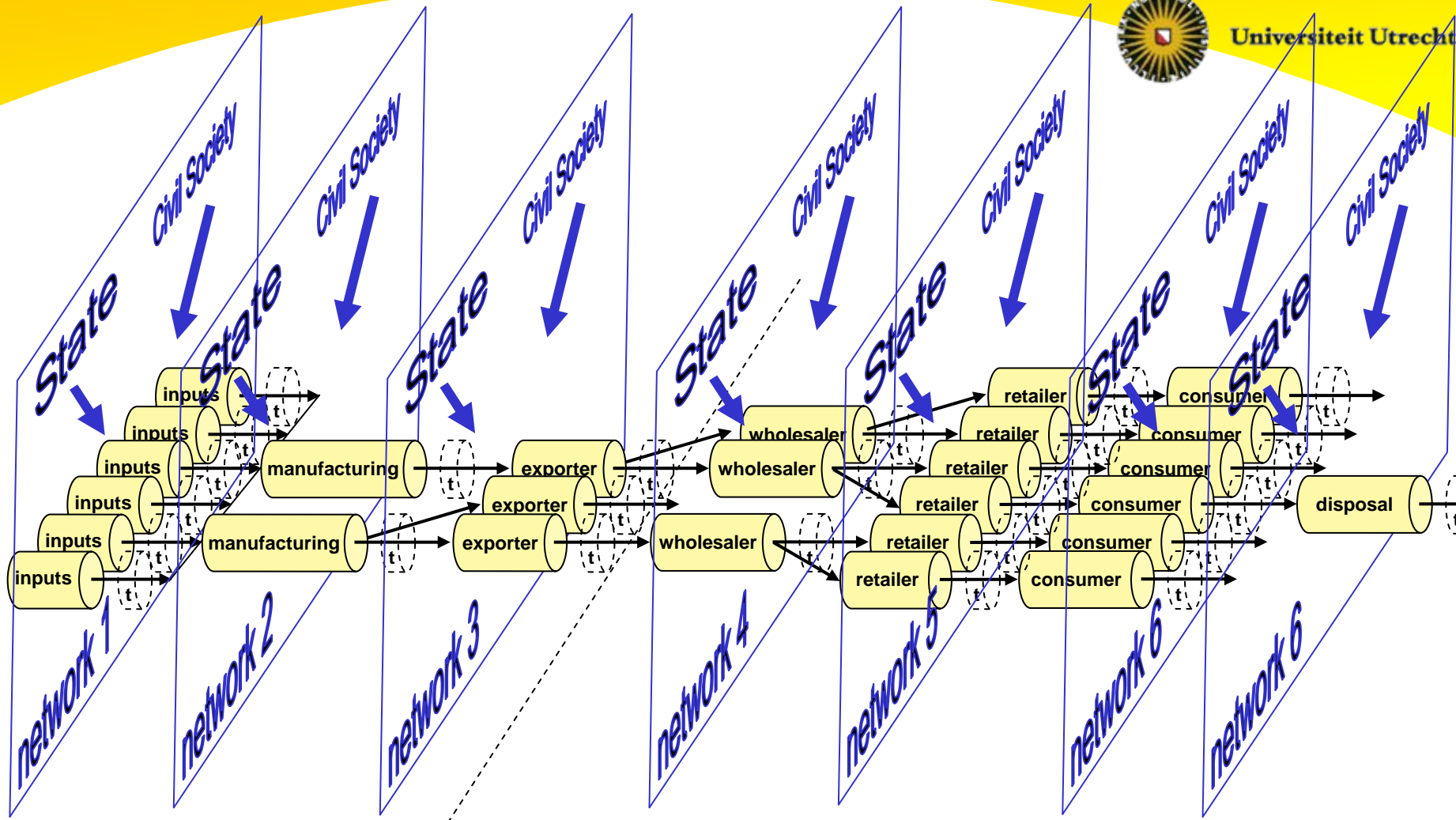
Developing country

Western country



Conditions for success of business & NGO partnerships

- organisational form, nature of activities
- transparency
- competition with other forms of SC governance



Developing country

Western country

Figure 3

Representation of a global product channel in its social networks





Integrating research in global product chains

At least 7 perspectives:

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4. forms of **organization** and interaction in **full chains**;
5. competition **between** comparable **chains**;
6. **relations** of actors inside the chain **with** connected **societal networks**;
7. **dynamics** between all global chains of a specific commodity **in time and in space**.

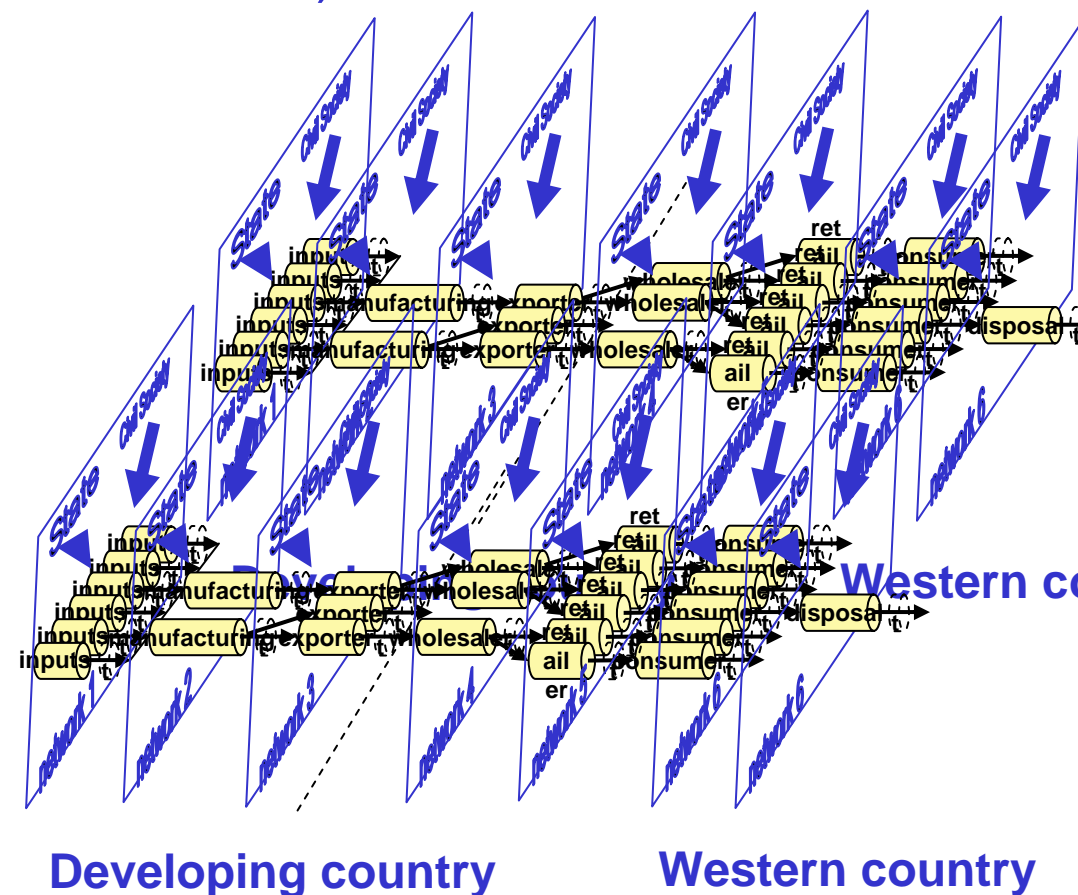




Netchain approach & dynamics

- Global Commodity Chains theory (Gerrefi)
- Global Production Networks Theory (Coe, Hess)
- Netchain approach (Lazzarini, 2001)

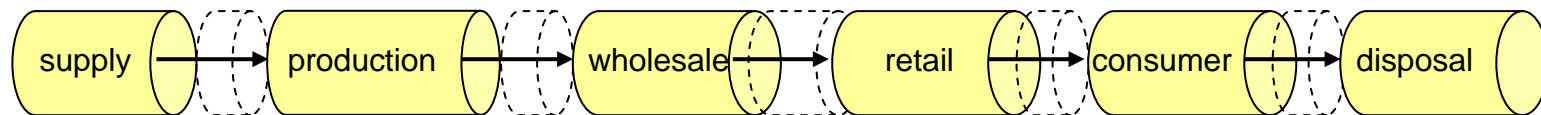
- Global competition
- Sustainability ???
- Comparing netchains between countries





Sustainable Product Chain Management

many dimensions



As physical-material entity

- physical flow of materials / (semi-)products
- environmental impacts: traces left at each 'link' of chain

As social entity

- interacting social actors
- accumulation of added value
- logistic efficiency of the product flow
- structuring of channel: power, rules of conduct
- distribution of fairness / justice
- embedded knowledge in productive practices



Table 1: Dimensions of channels in relation to perspectives



	dimensions							
<i>focal research perspectives</i>	physical flow of materials	environmental impacts at each 'link'	chain of interacting social actors	accumulation of added value	logistic efficiency	Structural features (rules, power)	distribution of fairness / justice	distribution of knowledge
environmental impacts	■	■						
individual firms					■			
firms interacting			■			■	■	
organization of chain			■	■	■	■	■	■
competition				■		■	■	
relations chain and networks						■	■	■
dynamics global chains				■	■	■	■	



Key Q's and levels of analysis

micro

Individual *variations in motivation & opportunities*
strategic choices? Required capacities (N versus S)

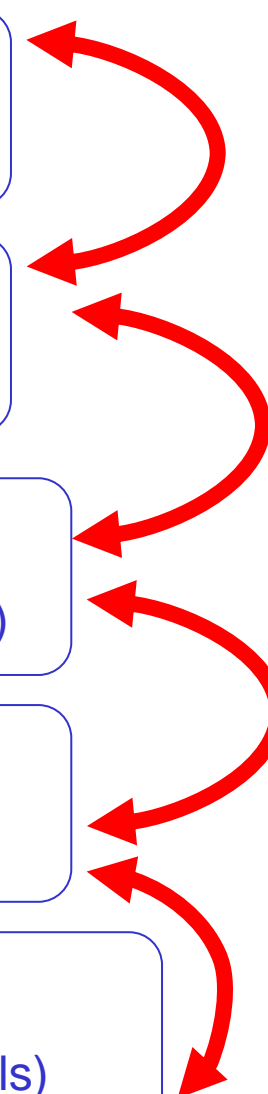
Interacting *variations in forms & methods*
conditions for success? Inclusiveness (N versus S)

Chains *variations in governance / competition in channels*
Structures? Formulation of SD concept (N versus S)

Netchains *roles of market, governments & civil society*
enabling strategies?? (N versus S)

Global *global dynamics, trends*
trade regimes, harmonizing SD norms (ecolabels)

macro





Thanks for the attention !!!

