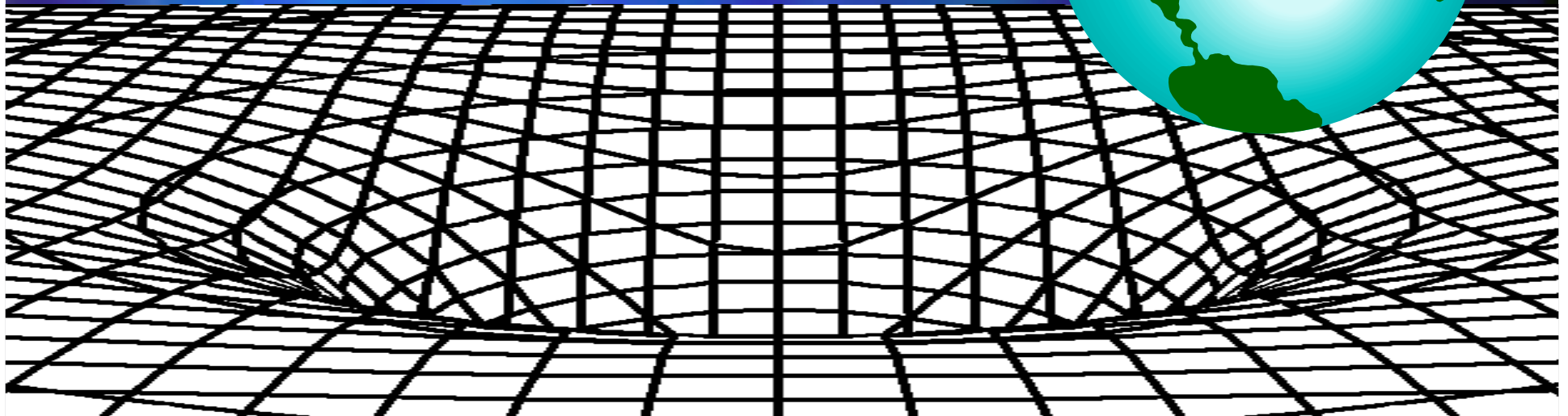


ET'08 Congress – May 13-16, Orlando FL

The Globalization Trap of the Aluminum Extrusion Industry

Bruno G. Rüttimann – ALCAN Engineered Products



Before Starting...

What do you think?

Is Globalization harmful?

Is Globalization beneficial?



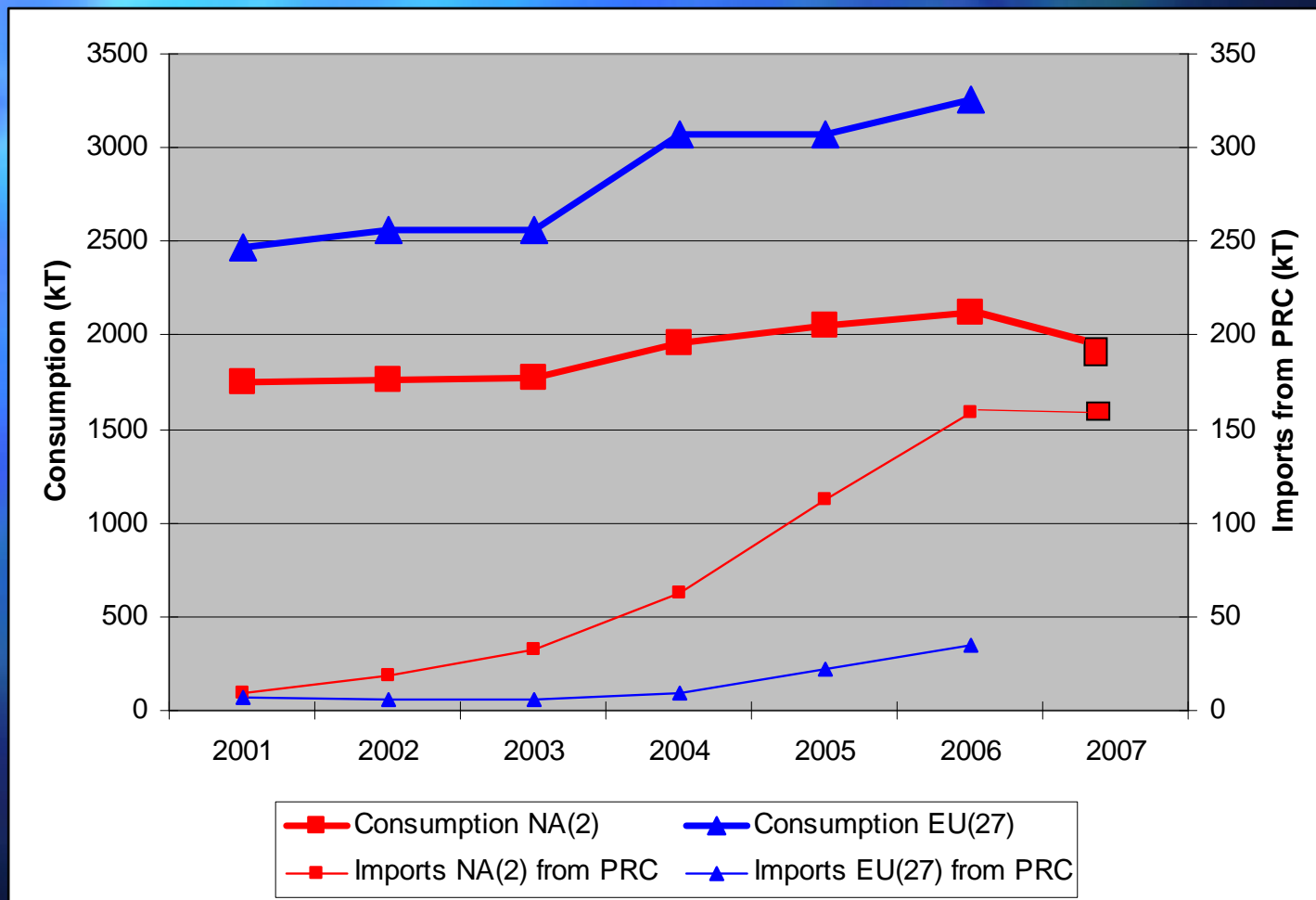
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- 1. Comparison of NA and EU Extrusion Market***
- 2. Interpretation of Globalization Patterns***
- 3. Enablers for a Globalizing Extrusion Industry***
- 4. Medium-Term Scenarios***
- 5. Short-Term Evolution of Globalization***
- 6. Possible Strategy Moves of Extruders***
- 7. Importance of Management Ethics***



1. Comparison of NA and EU Extrusion Market

Consumption and imports from PRC



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2. Interpretation of Globalization Pattern

Basic classification of business types

What have

Globalization of extrusions

Globalization of automotive

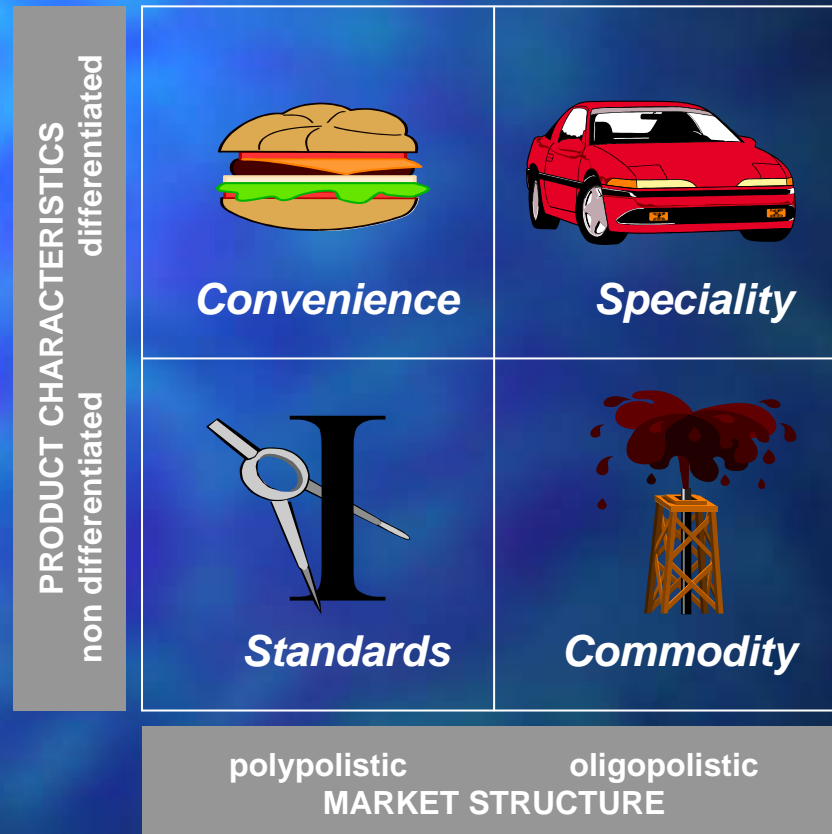
Globalization of primary aluminum

in common?



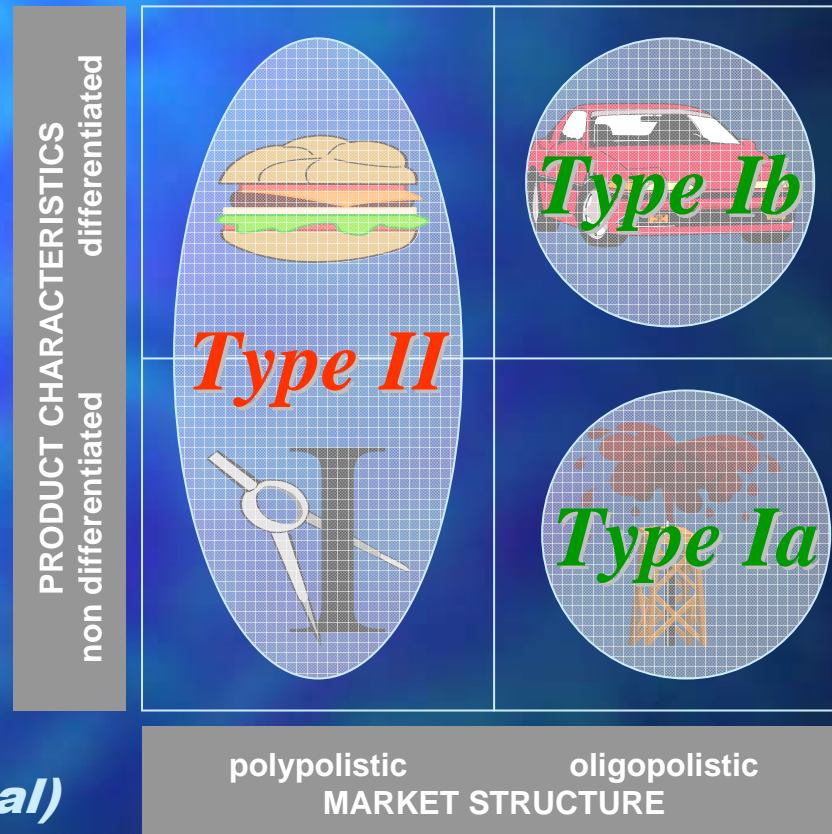
2. Interpretation of Globalization Pattern

Basic classification of business types



2. Interpretation of Globalization Pattern

The natural types of globalization



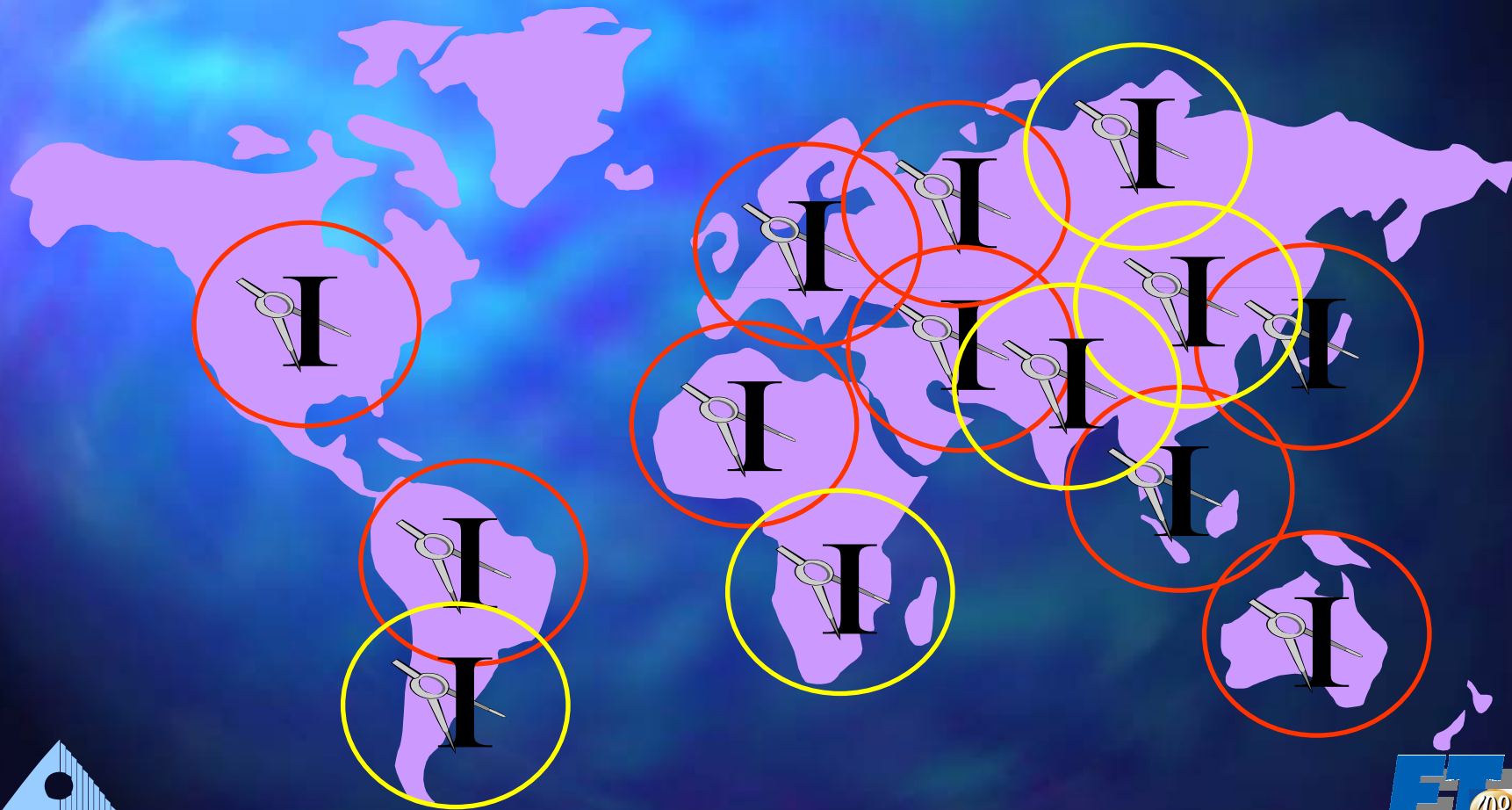
Type 1: material G. (physical)

Type 2: immaterial G. (financial)



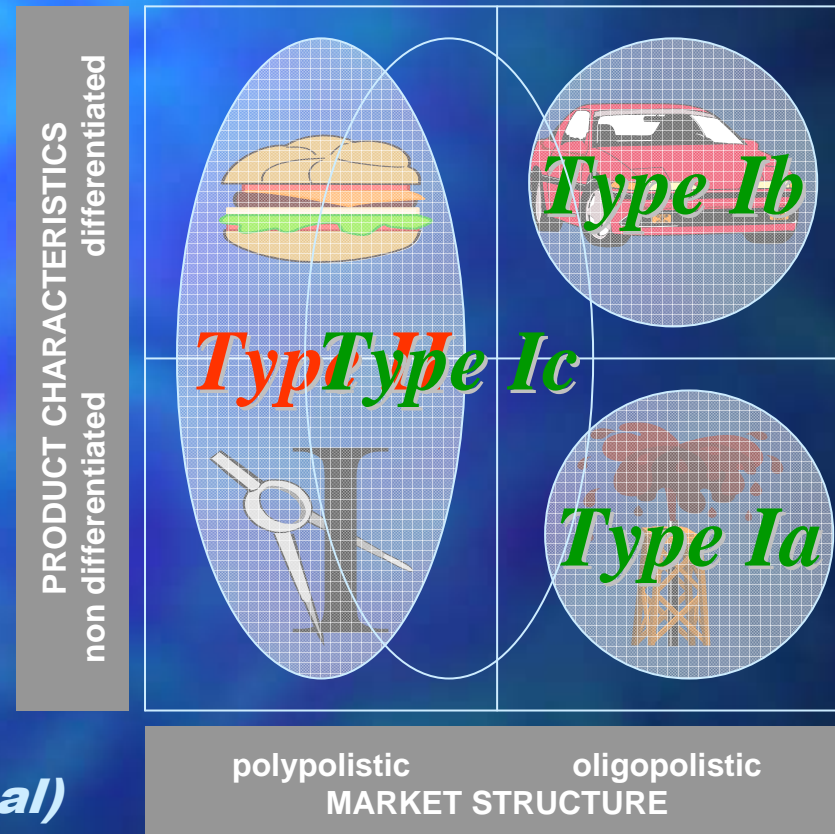
2. Interpretation of Globalization Pattern

Type 2: financial globalization (I)



2. Interpretation of Globalization Pattern

... An additional subtype is emerging



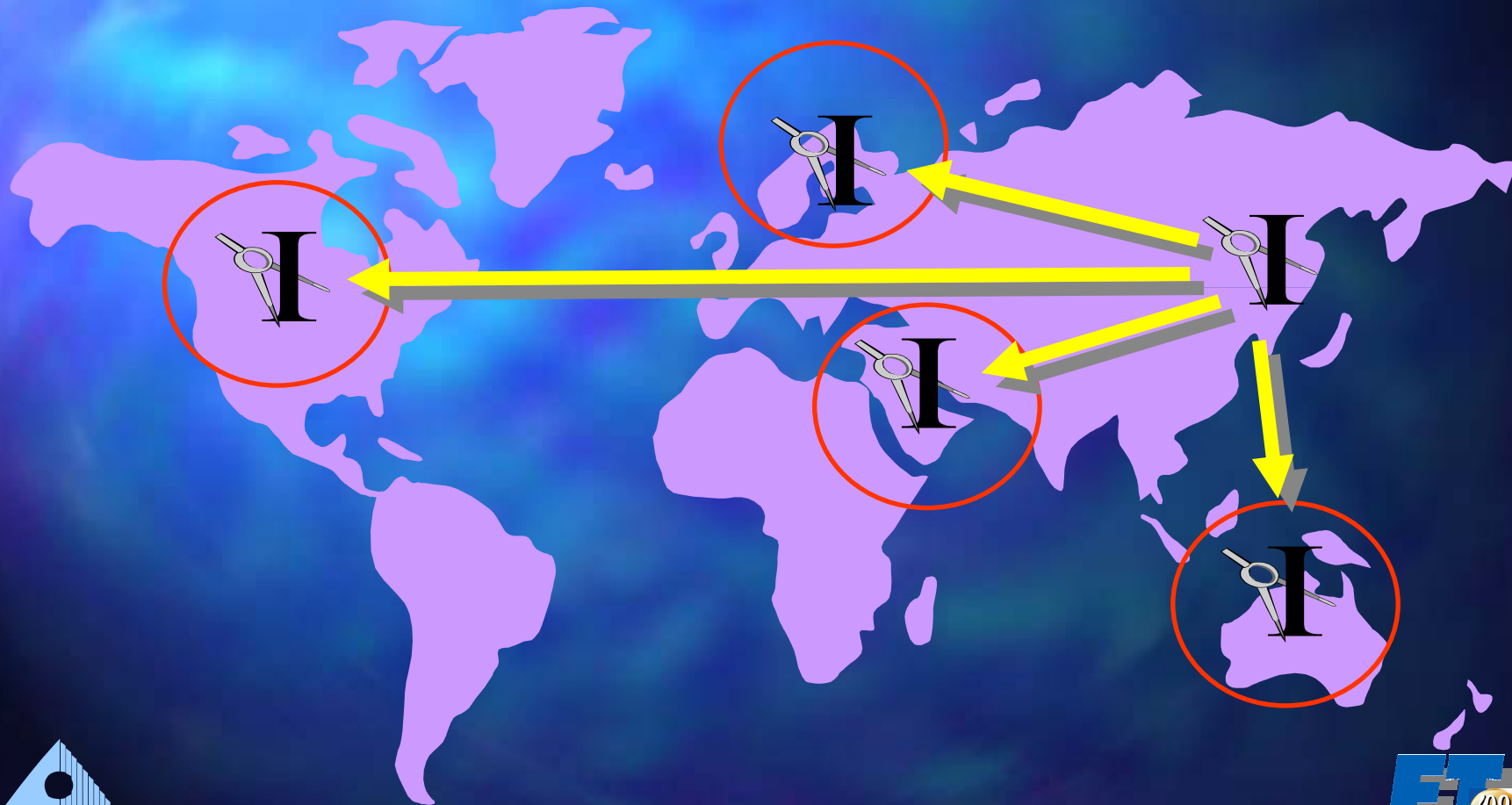
Type 1: material G. (physical)

Type 2: immaterial G. (financial)



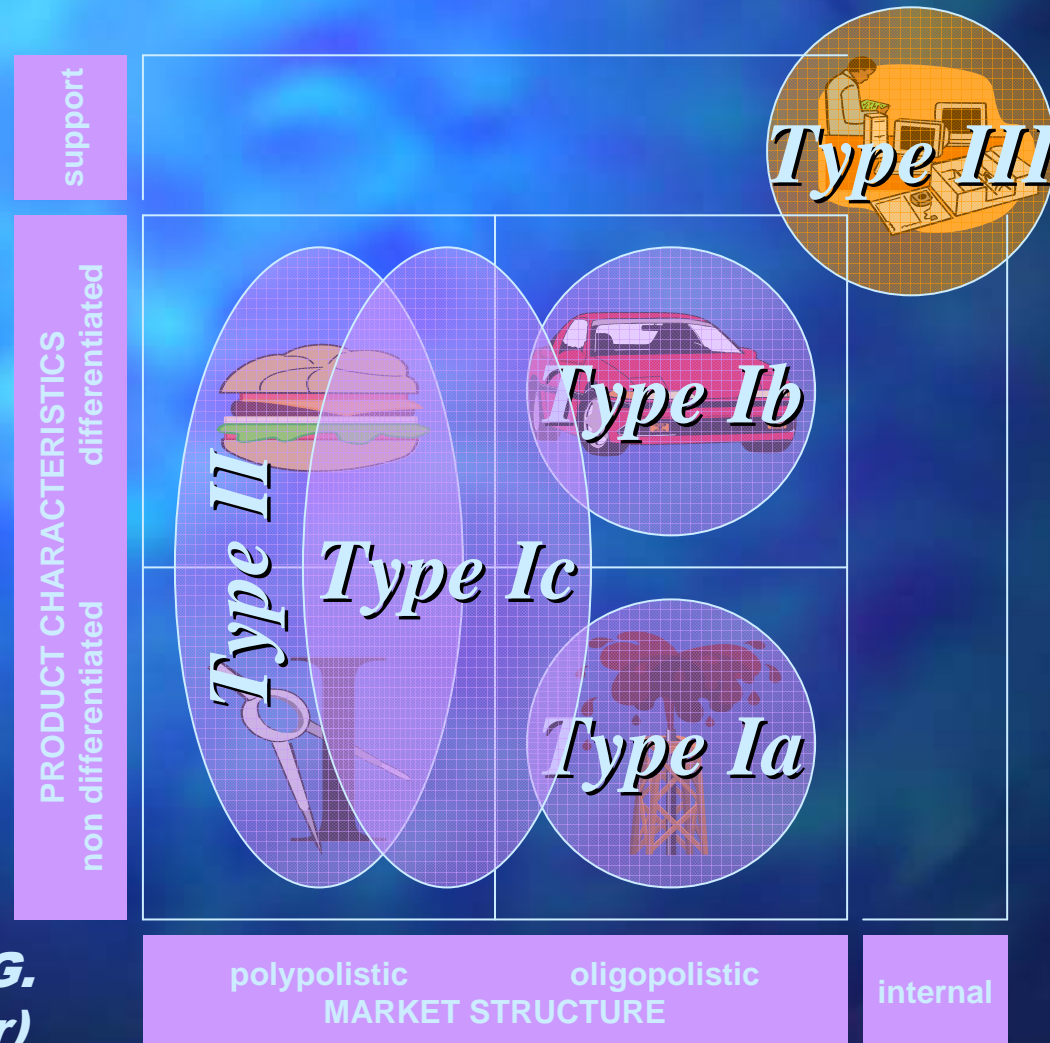
2. Interpretation of Globalization Pattern

Type 1c: opportunistic globalization (I)



2. Interpretation of Globalization Pattern

Type 3 within the context of the other globalization types



Type 3:

**service type G.
(human factor)**



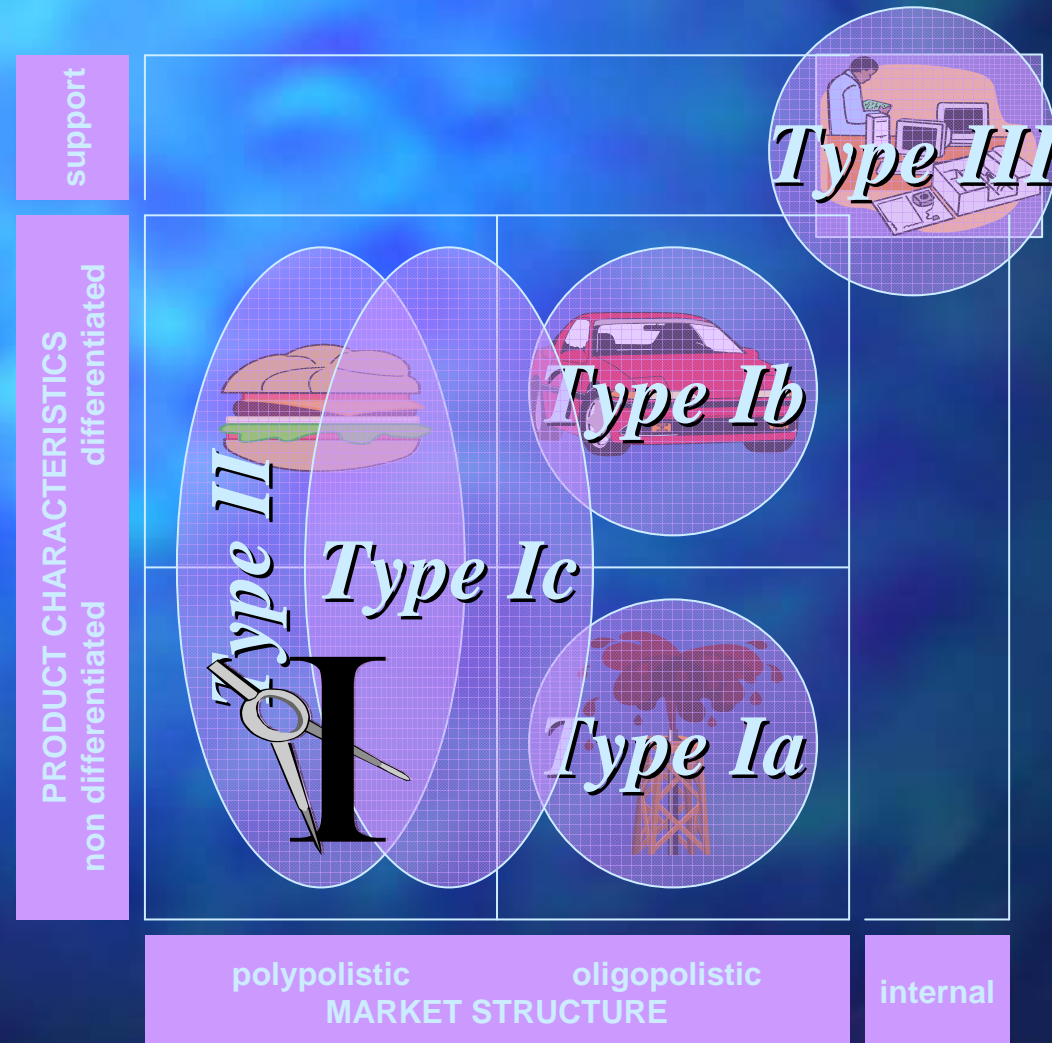
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Globalization Pertinent to Extrusions

Type 2 and 1c



3. Enablers for a Globalizing Extrusion Industry

Intrinsic and extrinsic enablers

- ***Intrinsic enablers***
 - ***Linked to the specific industry system***
 - ***Usually not influenced by government***

- ***Extrinsic enablers***
 - ***General local conditions favoring trade and FDI***
 - ***Not linked to the specific industry system***
 - ***May be influenced by government***

3. Enablers for a Globalizing Extrusion Industry

Intrinsic and extrinsic enablers

		GLOBALIZATION TYPE	
		Type 2	Type 1c
ENABLING DRIVER	Intrinsic	<ul style="list-style-type: none"> • <i>High growth rate in Z</i> • <i>Big market volume in Z</i> 	<ul style="list-style-type: none"> • <i>Price $p_K > p_Z$</i> • <i>Excess capacity in Z</i> • <i>Big market volume in K</i>
	Extrinsic	<ul style="list-style-type: none"> • <i>Government of Z encouraging FDI</i> 	<ul style="list-style-type: none"> • <i>Low labor cost in Z</i> • <i>Availability of raw material and energy in Z</i> • <i>Low transport cost</i>



CONTENT

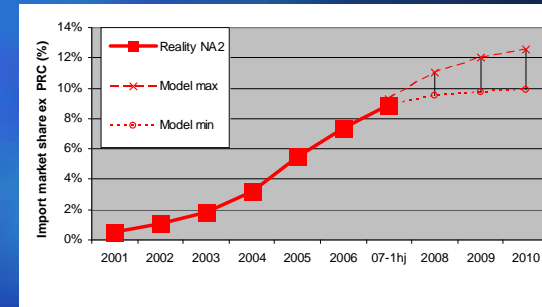
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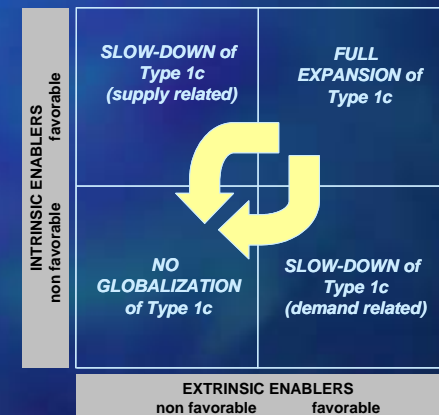
4. Modeling the Evolution of Globalization

Short and medium-term distinction

- **Short term forecast**
 - **Mathematical models**



- **Medium-long term forecast**
 - **Scenario modeling**



4. Modeling Medium-Term Globalization

Issues of scenario modeling

- ***Evolution of enablers***
 - ***Probability of occurrence***
 - ***Timeframe of occurrence***
 - ***Change of underlying structure***

- ***... therefore***
 - ***Only „black box“ modeling***
 - ***„white box“ modeling would go beyond the scope***

4. Medium-Term Scenarios

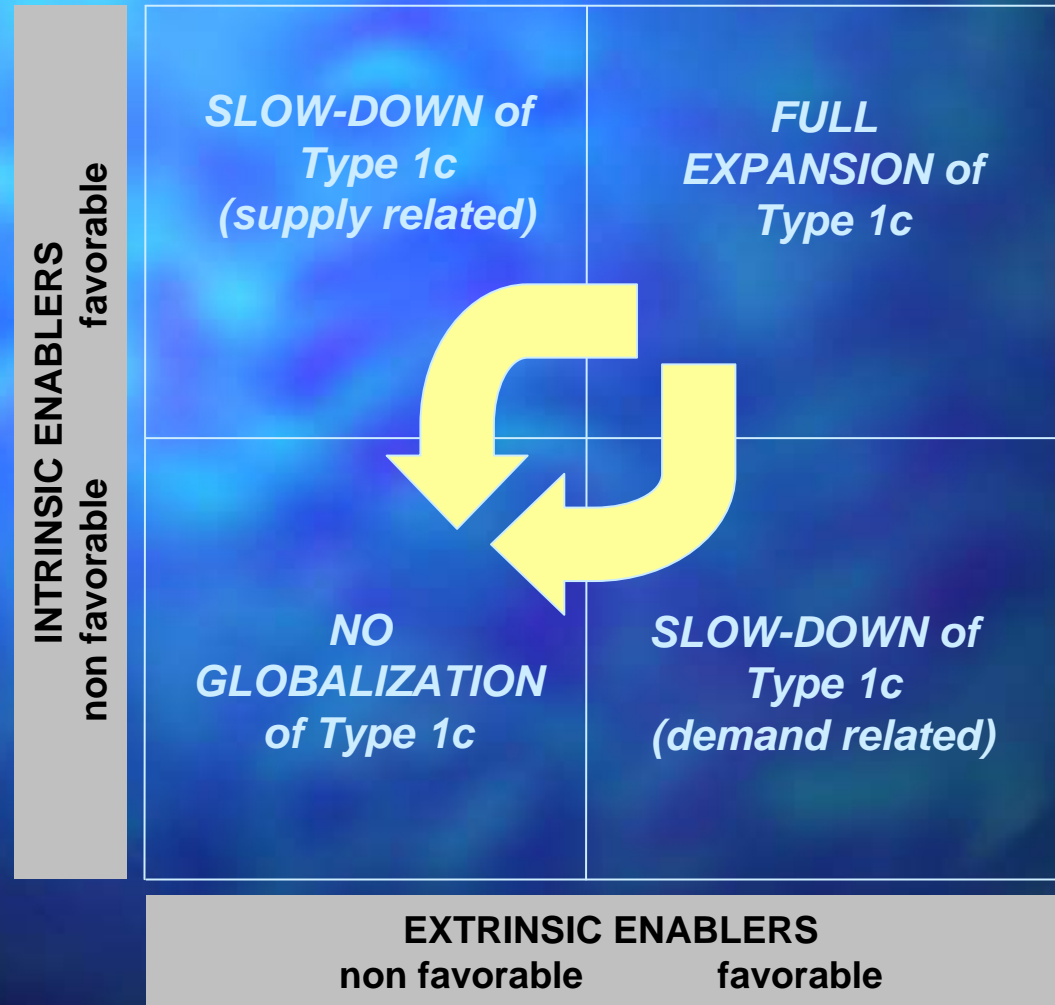
Enablers for a globalizing extrusion industry

		GLOBALIZATION TYPE	
		Type 2	Type 1c
ENABLING DRIVER	Intrinsic	<ul style="list-style-type: none"> • High growth rate in Z • Big market volume in Z 	<ul style="list-style-type: none"> • Price $p_K > p_Z$ • Excess capacity in Z • Big market volume in K
	Extrinsic	<ul style="list-style-type: none"> • Government of Z encouraging FDI 	<ul style="list-style-type: none"> • Low labor cost in Z • Availability of raw material and energy in Z • Low transport cost



4. Medium Term Scenarios

Enablers status influencing type 1c globalization



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5. Modeling Short-Term Globalization

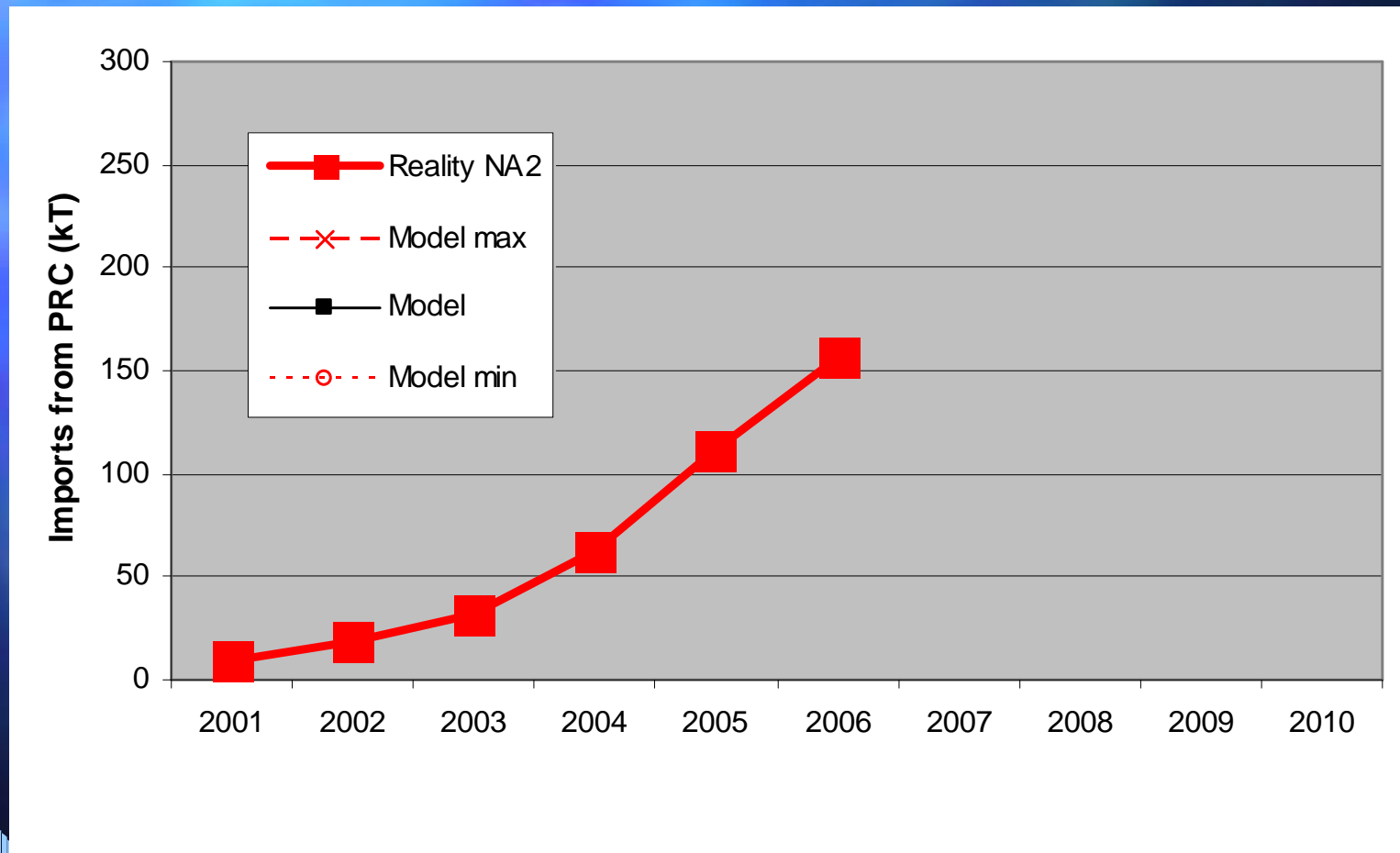
Issues of mathematical modeling

- ***Problems linked to modeling***
 - ***Type of model***
 - ***Estimation of parameters***

- ***Problems linked to forecast***
 - ***Timeframe***
 - ***Validity based on „ceteris paribus“***

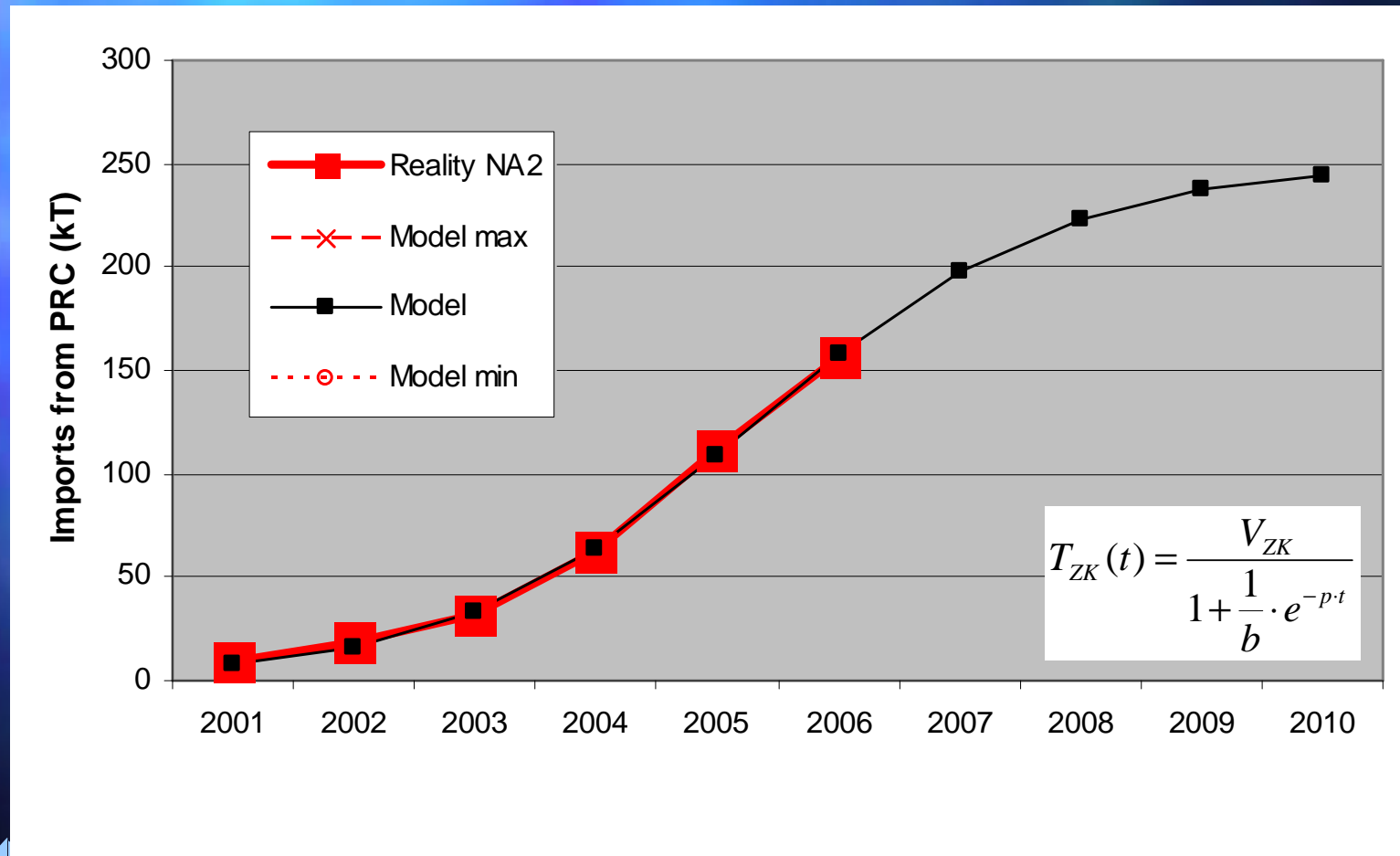
5. Modeling Short-Term Globalization

The NA type 1c globalization model



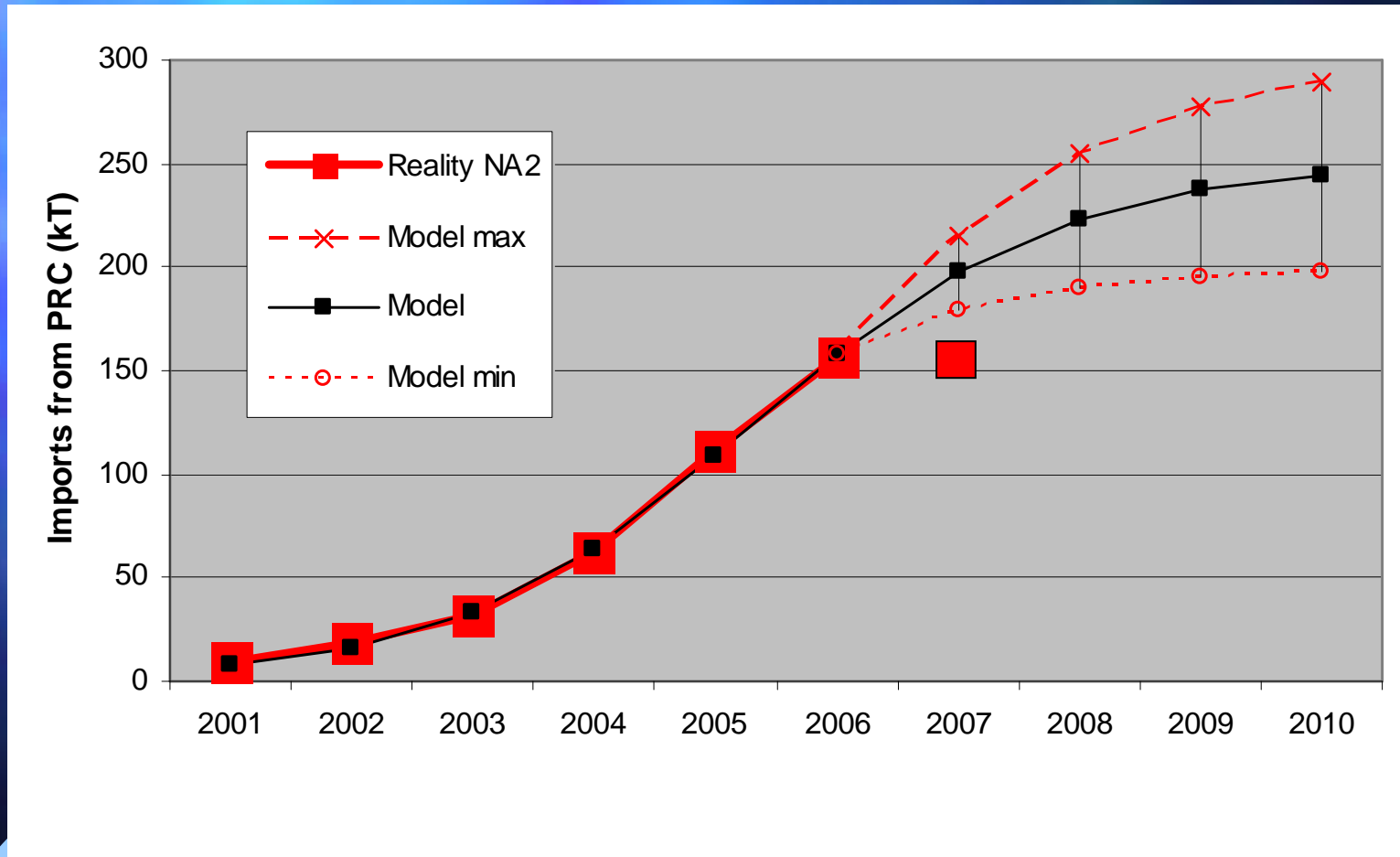
5. Modeling Short-Term Globalization

The NA type 1c globalization model



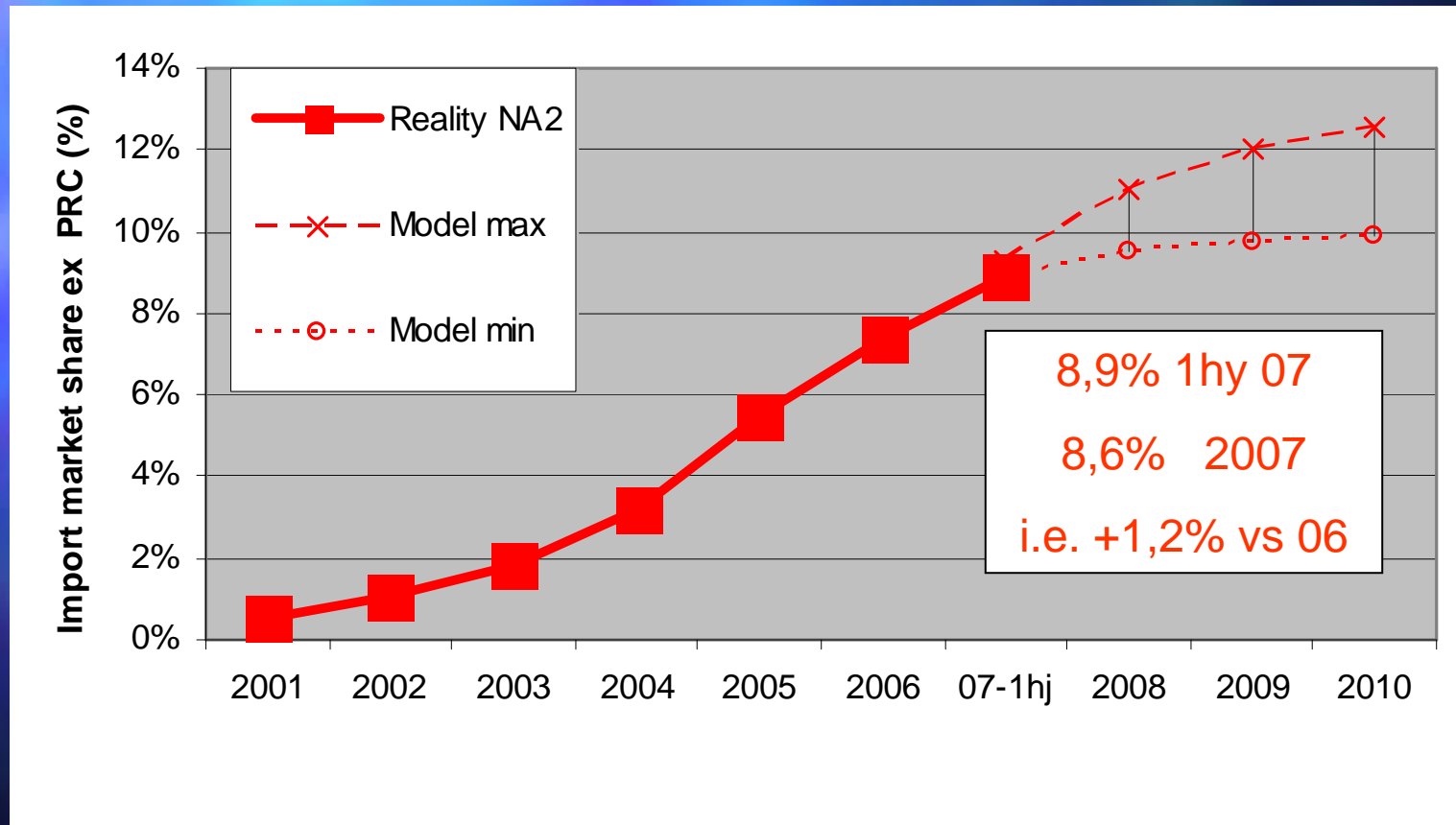
5. Modeling Short-Term Globalization

The NA type 1c globalization model



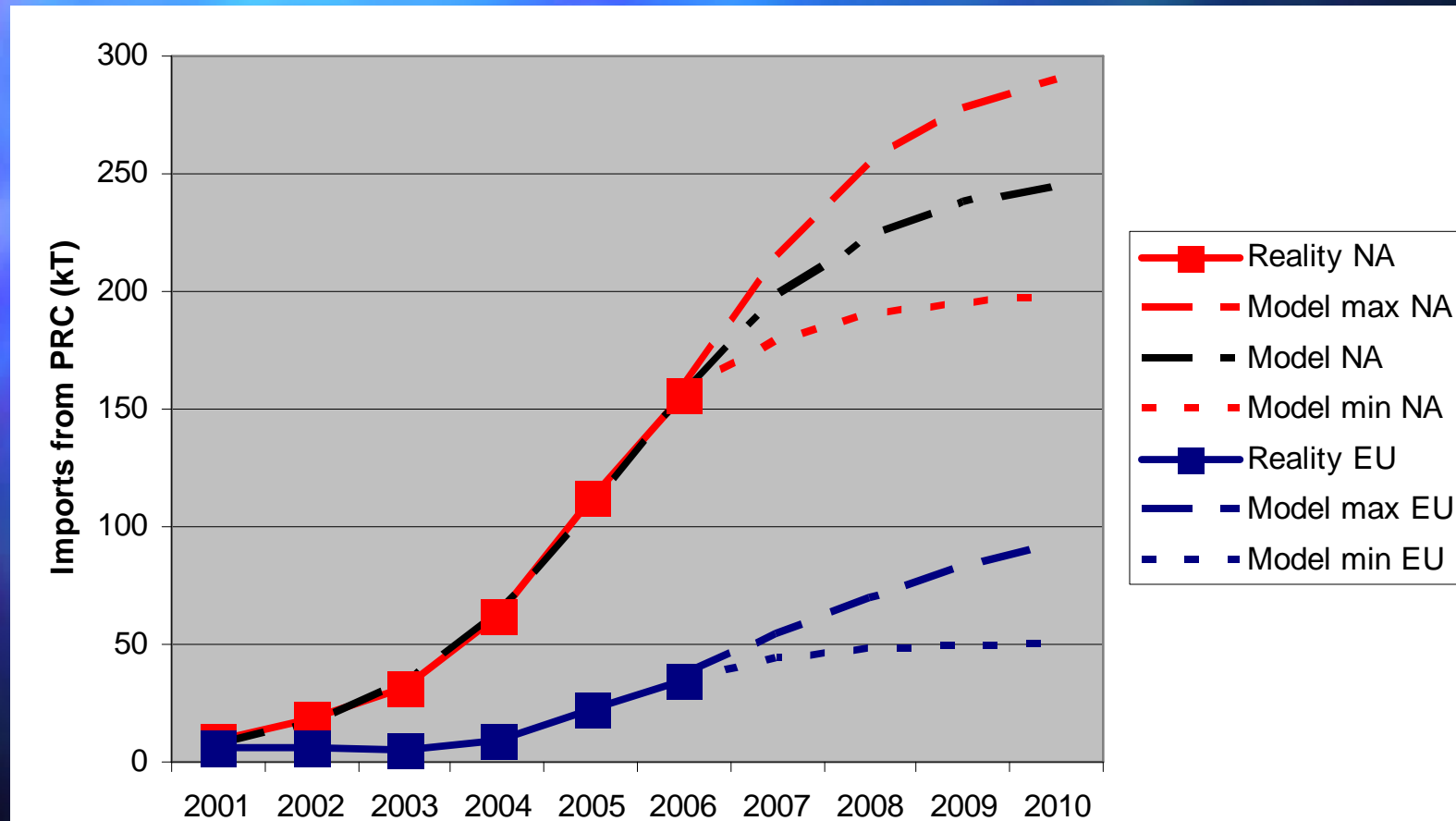
5. Modeling Short-Term Globalization

The NA type 1c globalization market share model of PRC



5. Modeling Short-Term Globalization

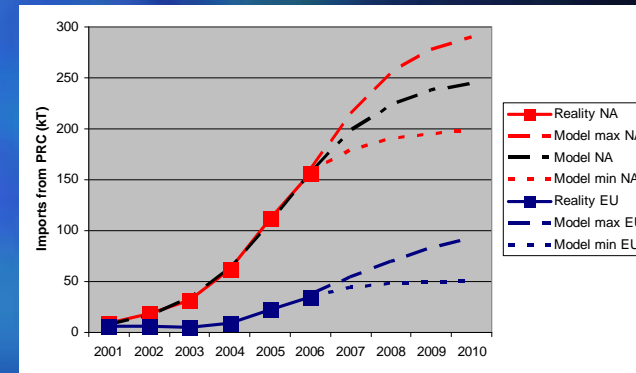
Comparison NA-EU import dynamic from PRC



5. Modeling Short-Term Globalization

The reasons for the differences between NA and EU

Main reason:



- **Eastern Europe with very competitive cost structure**
- **Geographic proximity favours supply from Eastern Europe**

Therefore:

- **It can be assumed that in EU the extrusion supplies from PRC will continue not to experience the same dynamics as in NA**

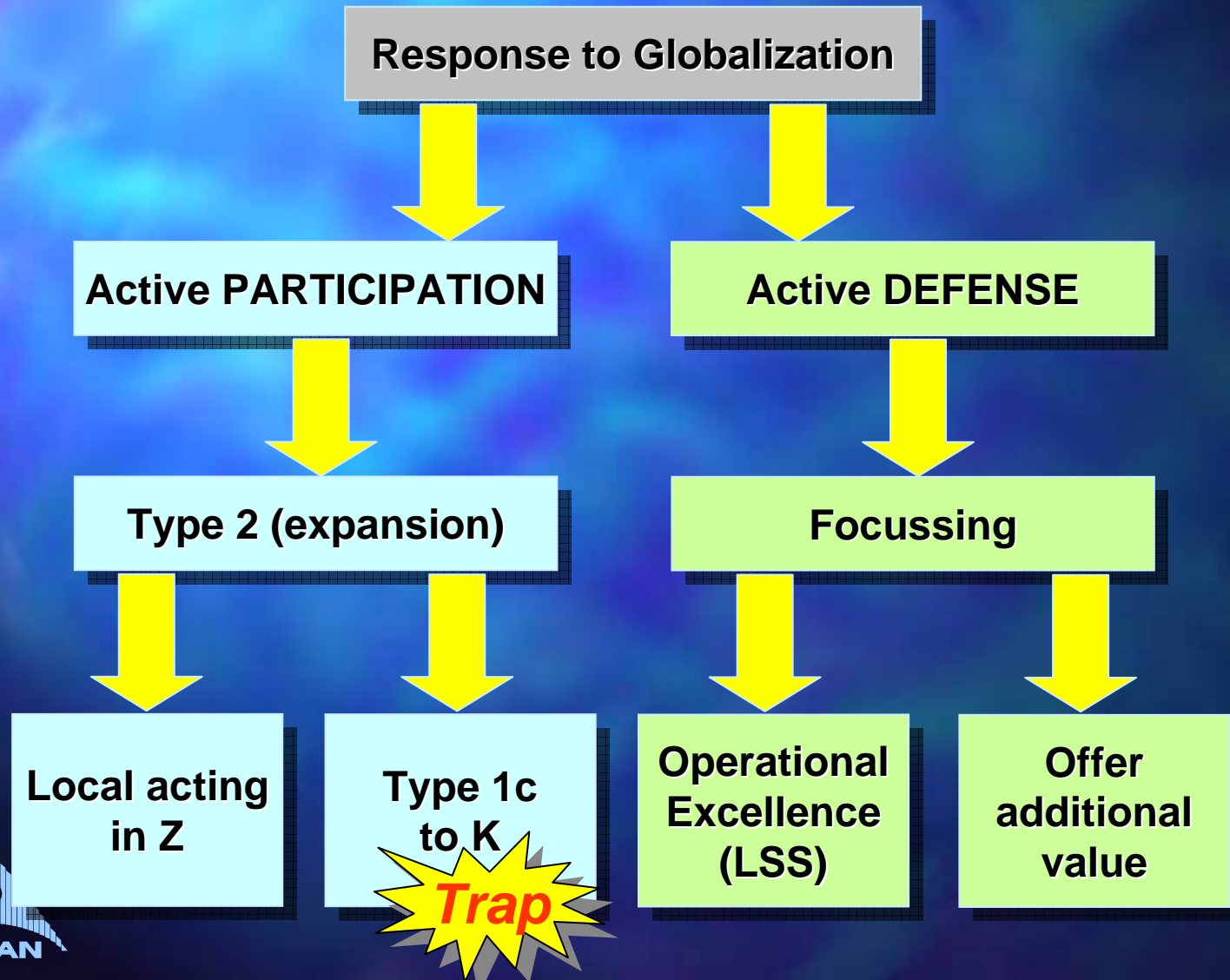
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6. Possible Strategy Moves of Extruders

...or how to face competition



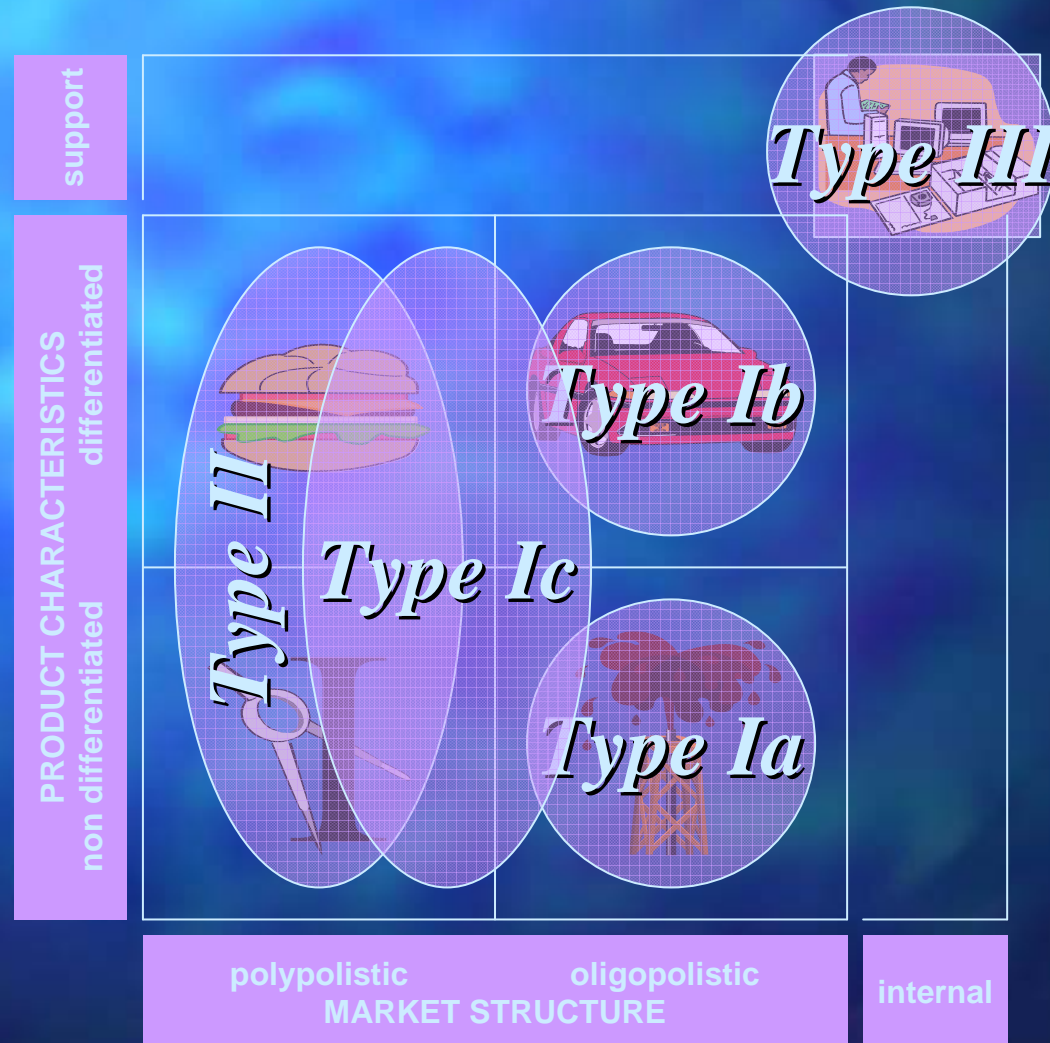
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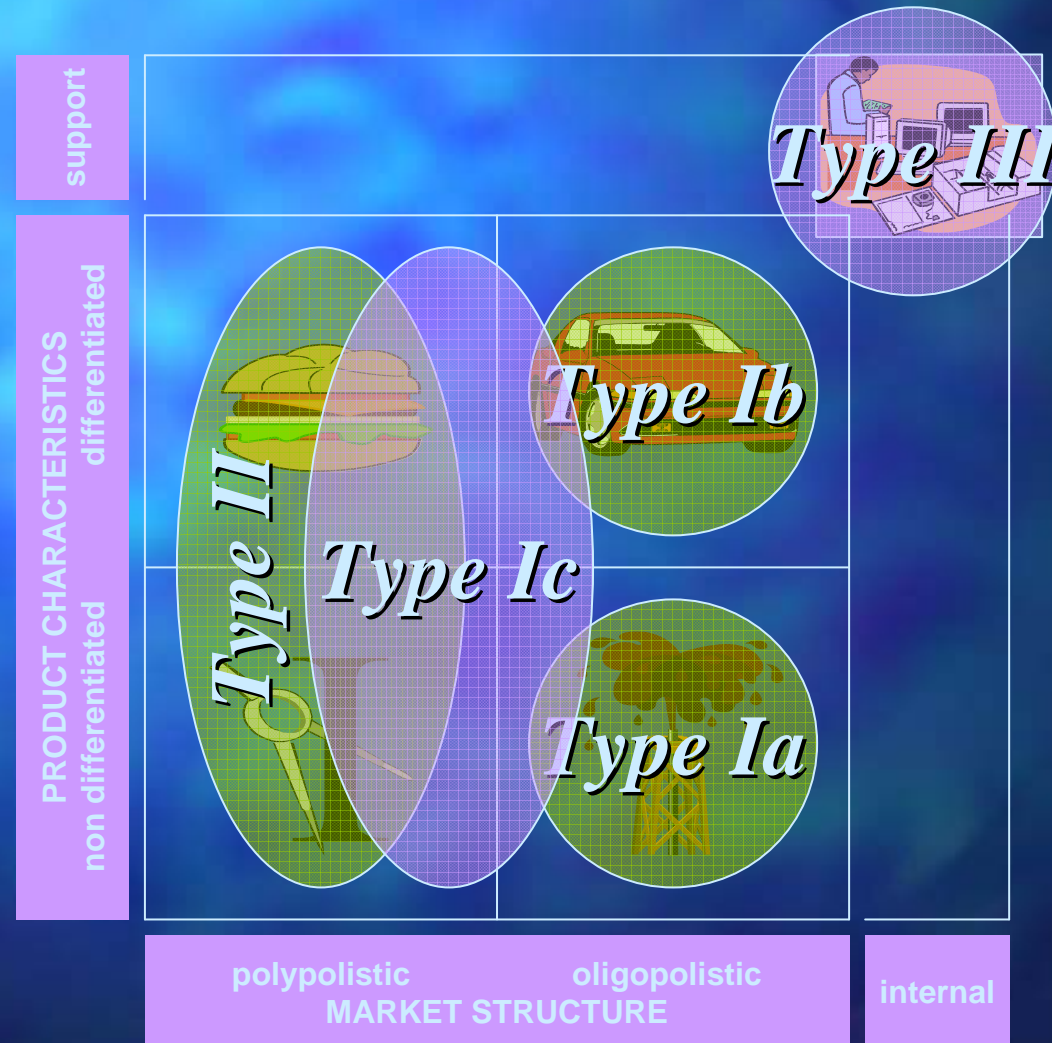
Globalization and Unemployment

Globalization is not equal to globalization



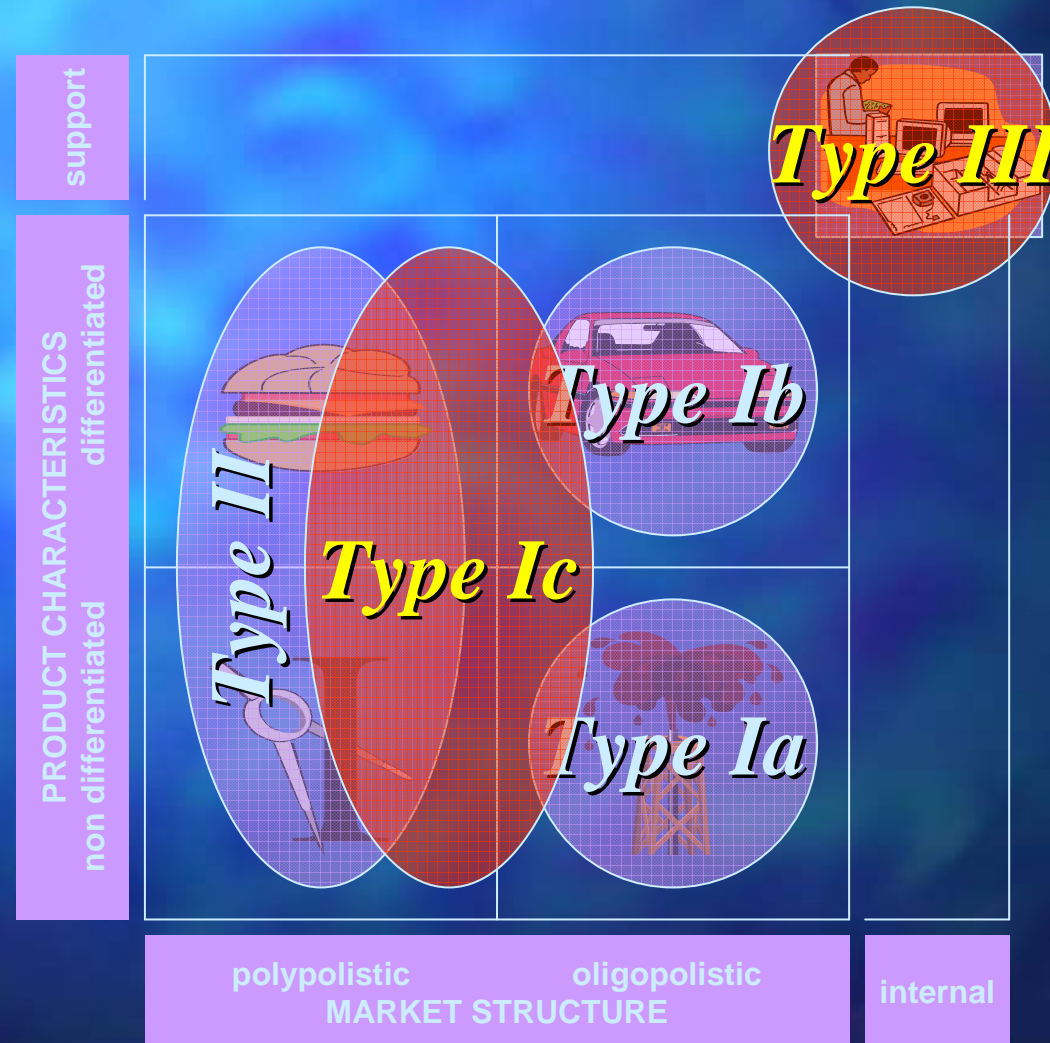
Globalization and Unemployment

The Natural Types of Globalization



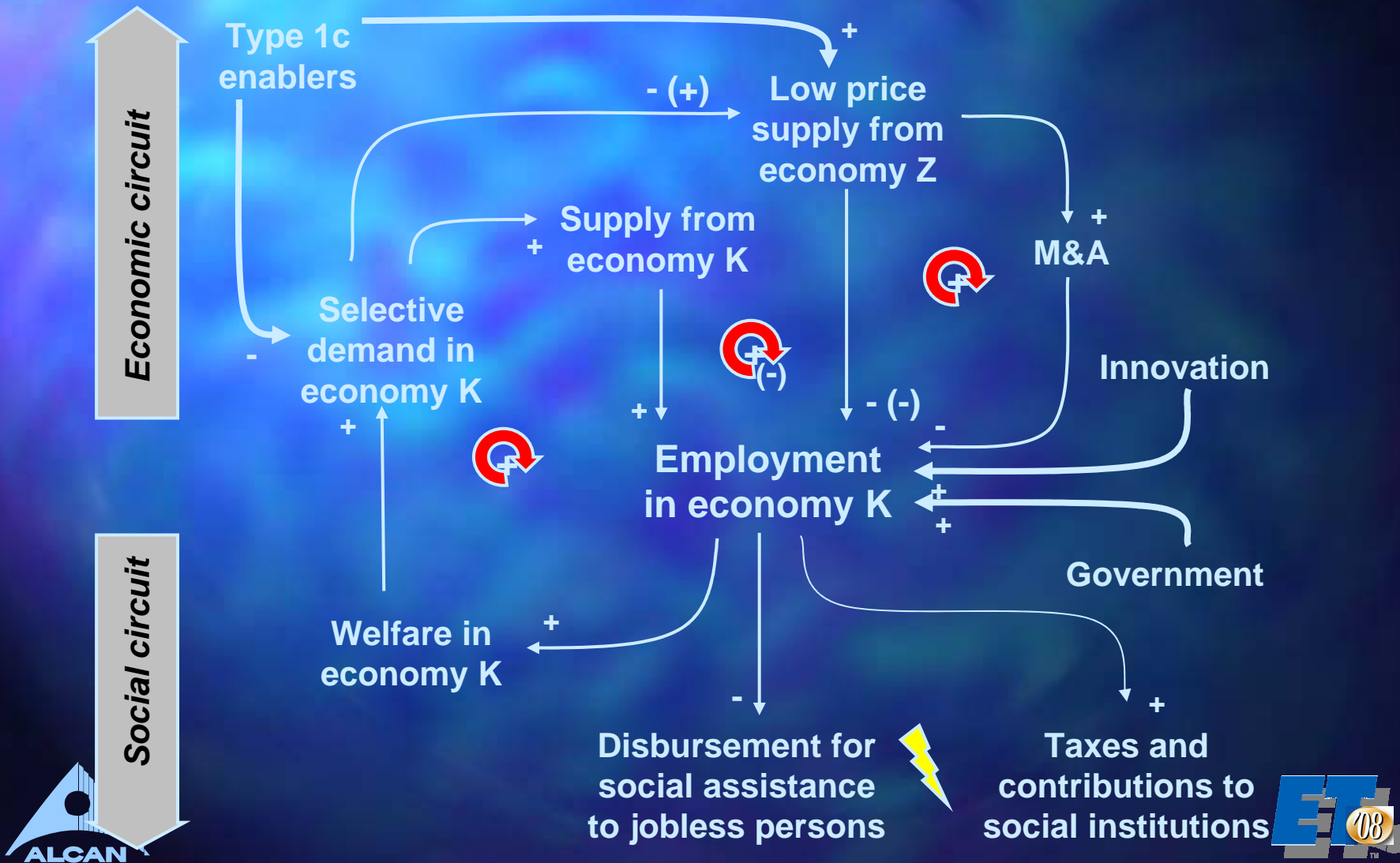
Globalization and Unemployment

The Transient Types of Globalization



7. Importance of Management Ethics

Dynamics determining unemployment



Modeling Economic Globalization

A Post-Neoclassic View on Foreign Trade and Competition

Bruno G. Rüttimann

Modeling Economic Globalization

A Post-Neoclassic View on Foreign Trade and Competition

