



rijksuniversiteit  
 groningen



p.h.pellenbarg 19-3-2009 | 1

# Location factors for mobile investment: theory and practice

Prof.dr. P.H. Pellenbarg

Faculty of Spatial Sciences, University of Groningen

*Urban and Regional Studies Institute URSI*

*Guest Lecture Hanzehogeschool Groningen*

*March 19, 2009*



# Agenda

- › **Theories on firm location** .....
- › Long term change in firm location choice
- › Europe a level playing field?
- › Big and small firms: FDI versus SME's
- › Initial location versus re-location
- › Stages in the decision making process (Louw, Buck)
- › Foreign firms in Northwest Europe
- › Foreign firms in the Northern Netherlands
- › Results of empirical research
- › Some advice from consultants
- › Conclusions



**Practice**

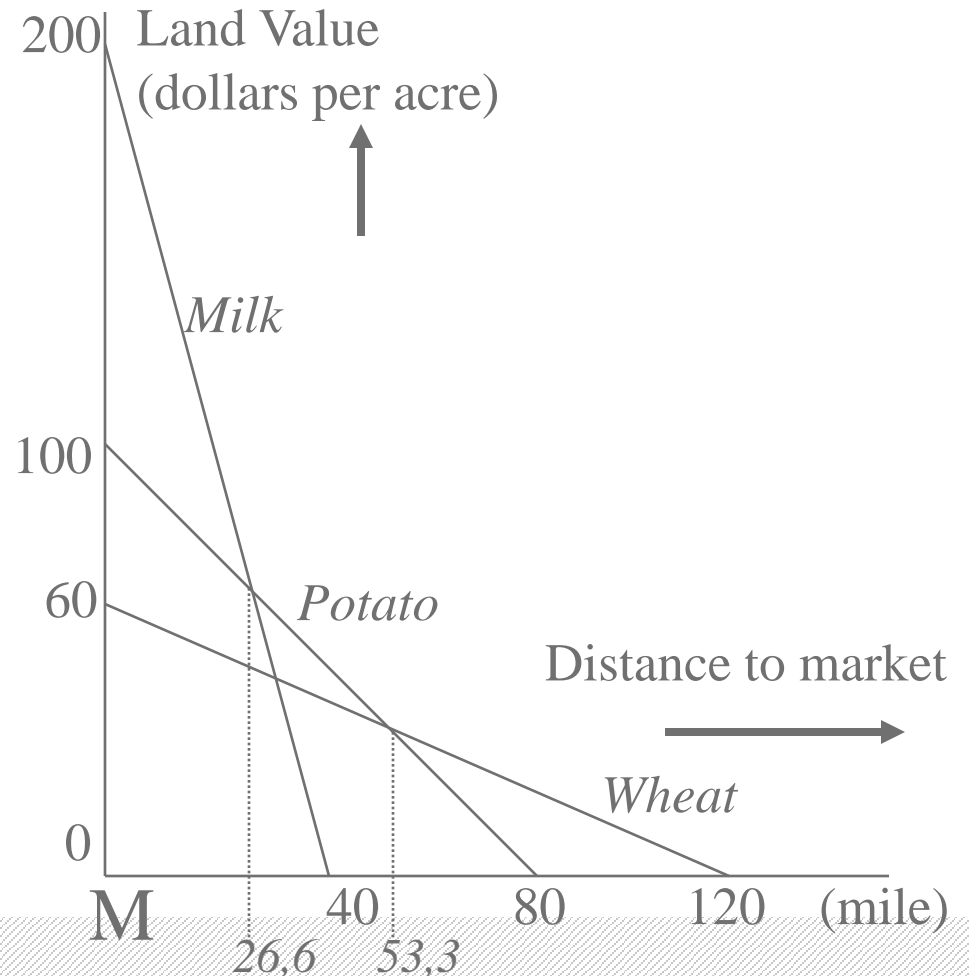


# Theories on firm location

- > **Neo-classical location theories:**  
Von Thünen (agriculture) Weber (manufacturing),  
Christaller (services), Lösch, Smith....
- > **Theories on regional economic development:**  
Rostow/Taaffe, Myrdal, Perroux, Friedmann, Vernon,  
Hakanson, Dicken
- > **Modern theories on spatial-economic development:**  
behavioural theories  
institutional theories  
evolutionary theories



# Von Thünen: land value and distance to market determine agricultural land use

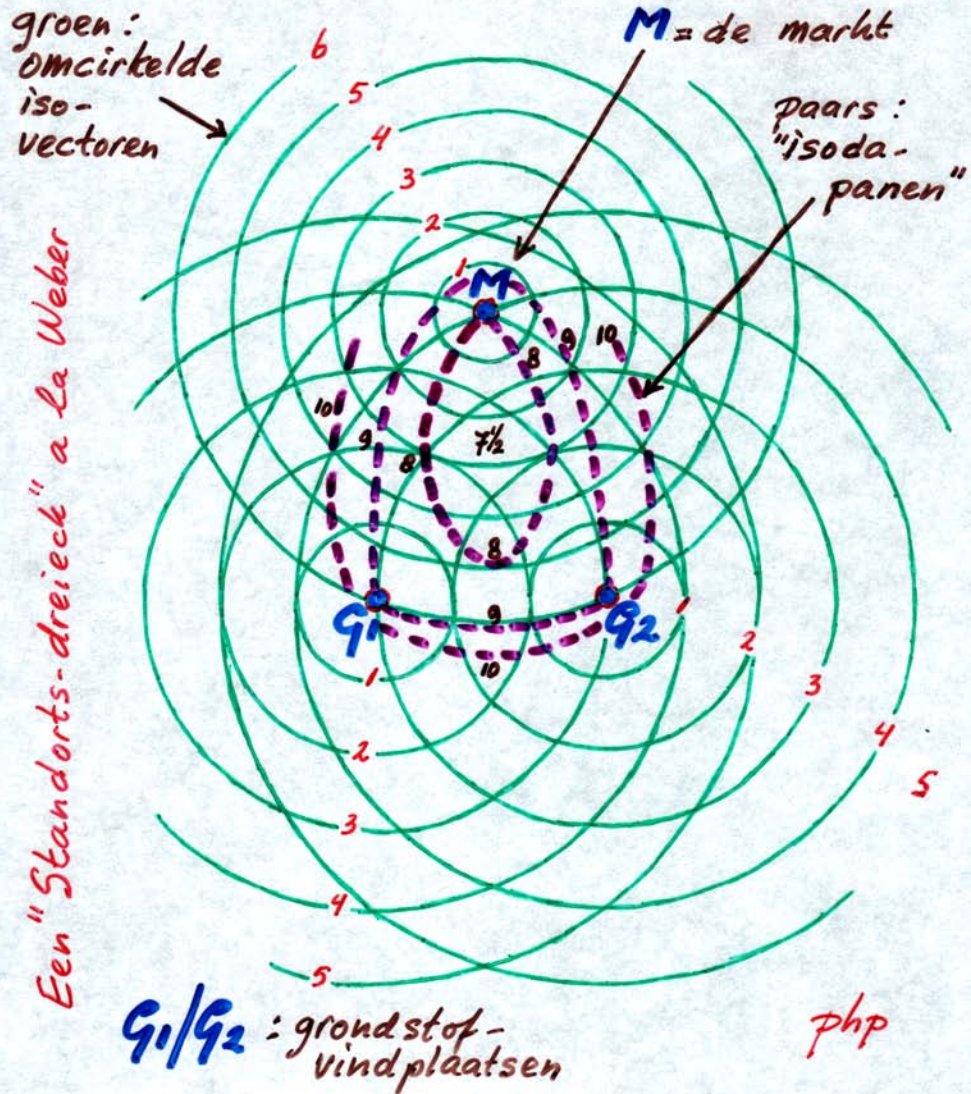


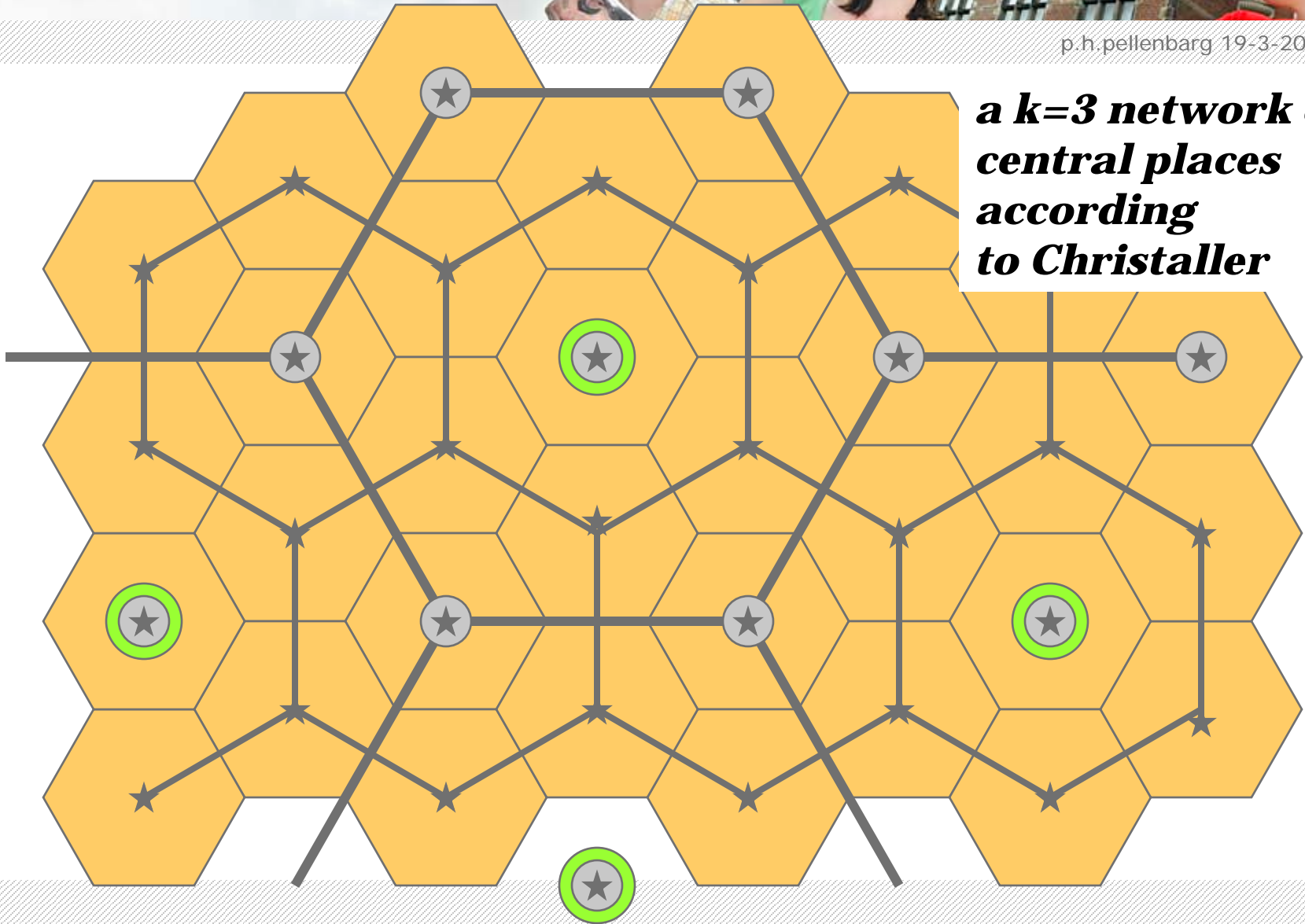


# Alfred Weber's theory

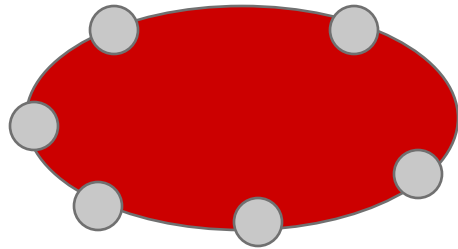
The optimum location is where the total of all transport costs is minimal

produkt  $P$ , 3 ton per eenheid  
 $G_1$ : Reinmaterial, 2 ton per eenheid  $P$   
 $G_2$ : 1 ton per eenheid  $P$  + 1 ton afval  
 $\rightarrow 2G_1 + 2G_2 = 3P$   
 $\rightarrow M = \frac{2+2}{3} = 1,3$

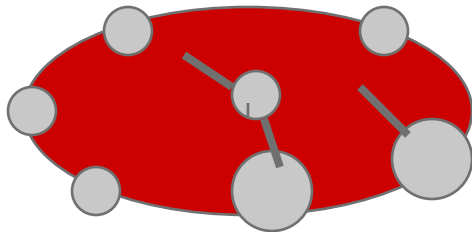




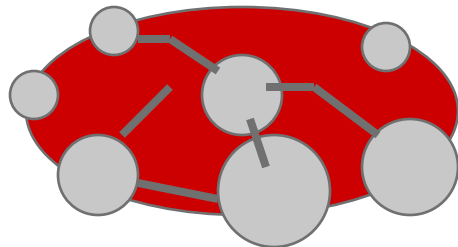
**a  $k=3$  network of central places according to Christaller**



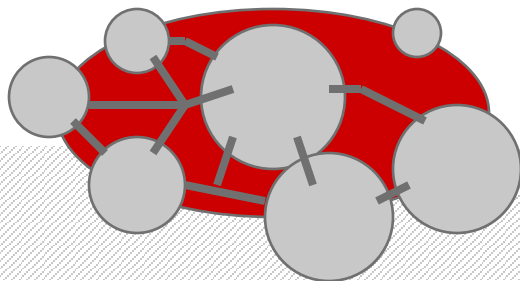
Traditional society



Take-off

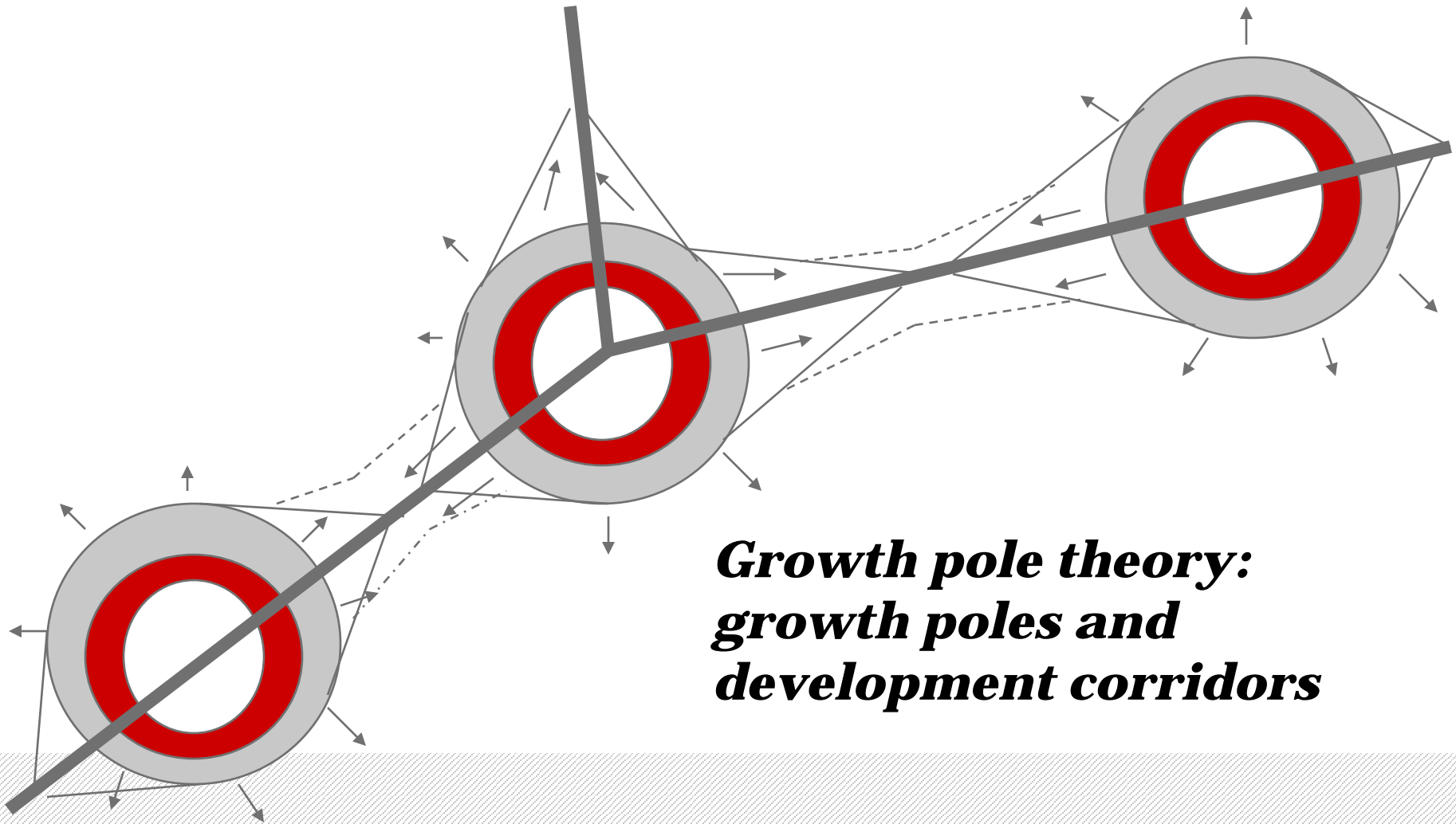


Drive to maturity



Mass consumption

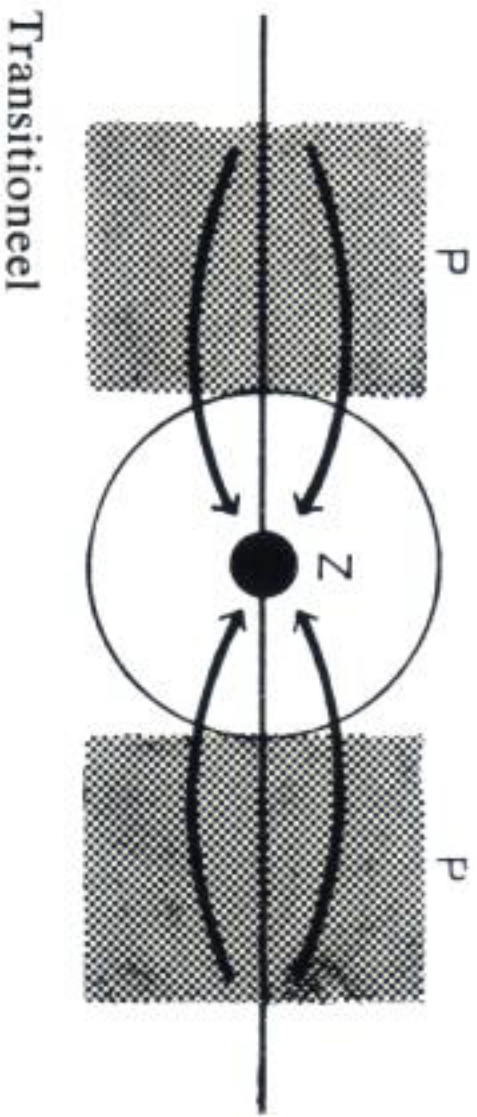
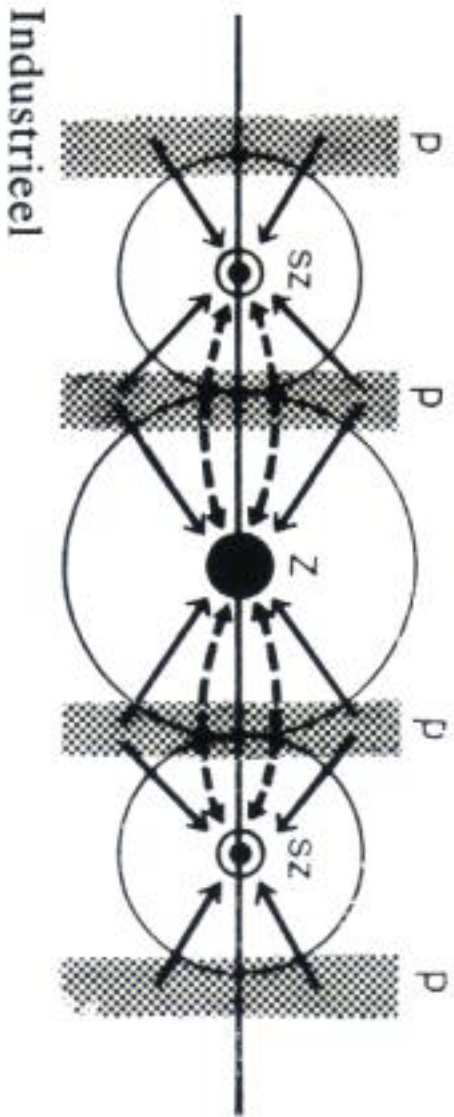
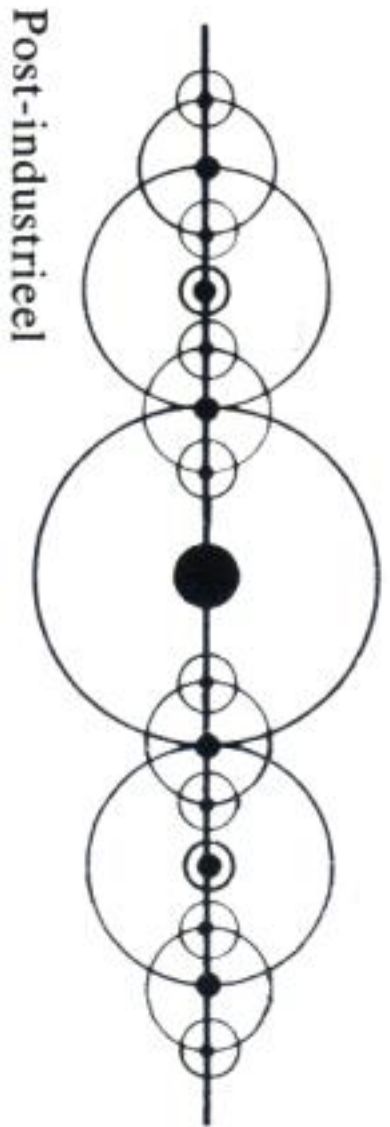
***The Rostow/Taaffe  
model of regional-  
economic development***



***Growth pole theory:  
growth poles and  
development corridors***

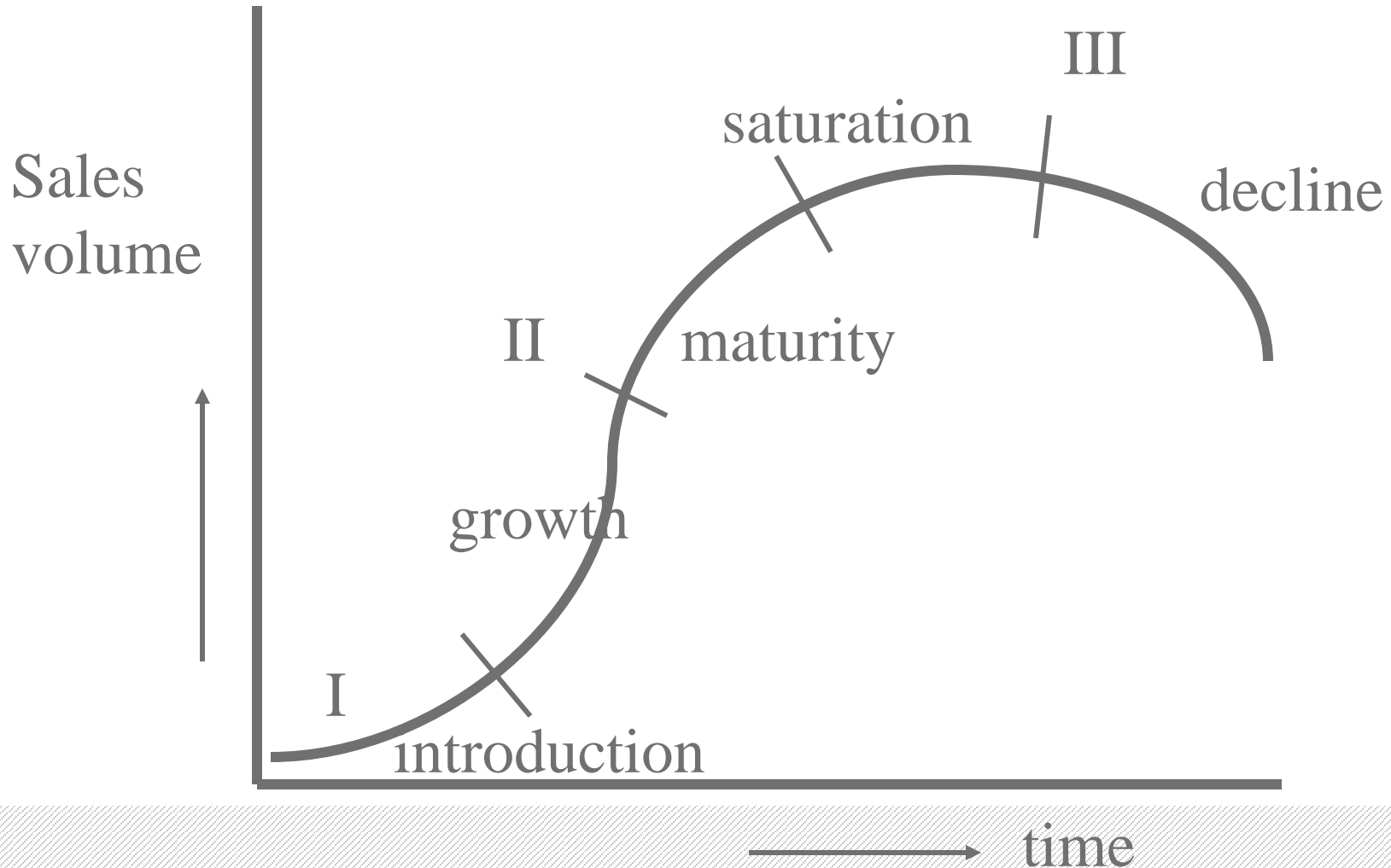


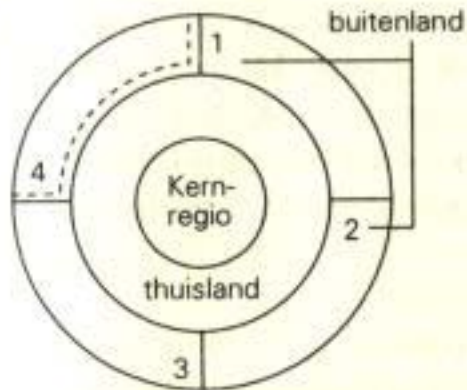
# ***Friedmann's four stages theory***



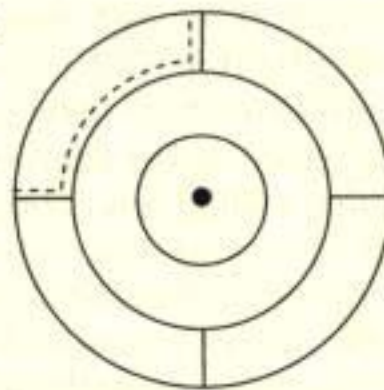


## The Product Life Cycle Theory

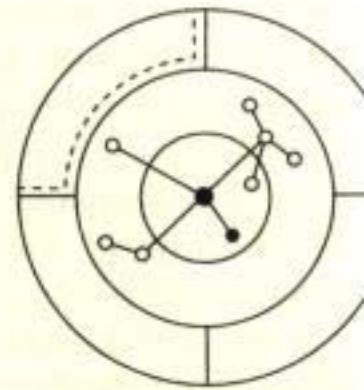




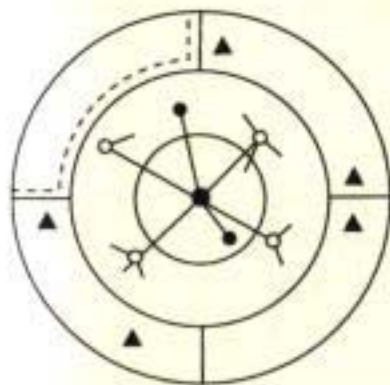
de aktie-ruimte van de onderneming



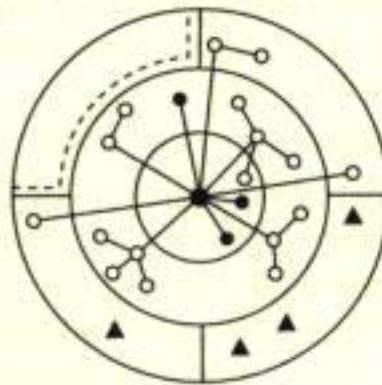
fase 1  
onderneming met één vestiging



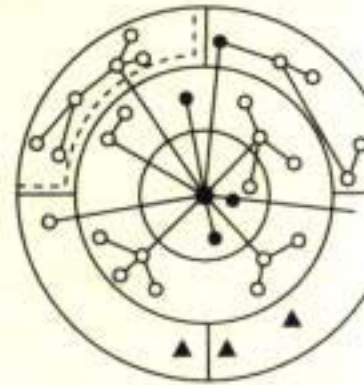
fase 2  
penetratie van de nationale markt



fase 3  
export door handelsagenten



fase 4  
de vestiging van buitenlandse handelsvestigingen



fase 5  
de multinationale industriële onderneming

----- handelsbarrière

● hoofdvestiging

○ handelsvestiging

● produktie-vestiging

▲ handelsagent

# Hakanson's spatial development model



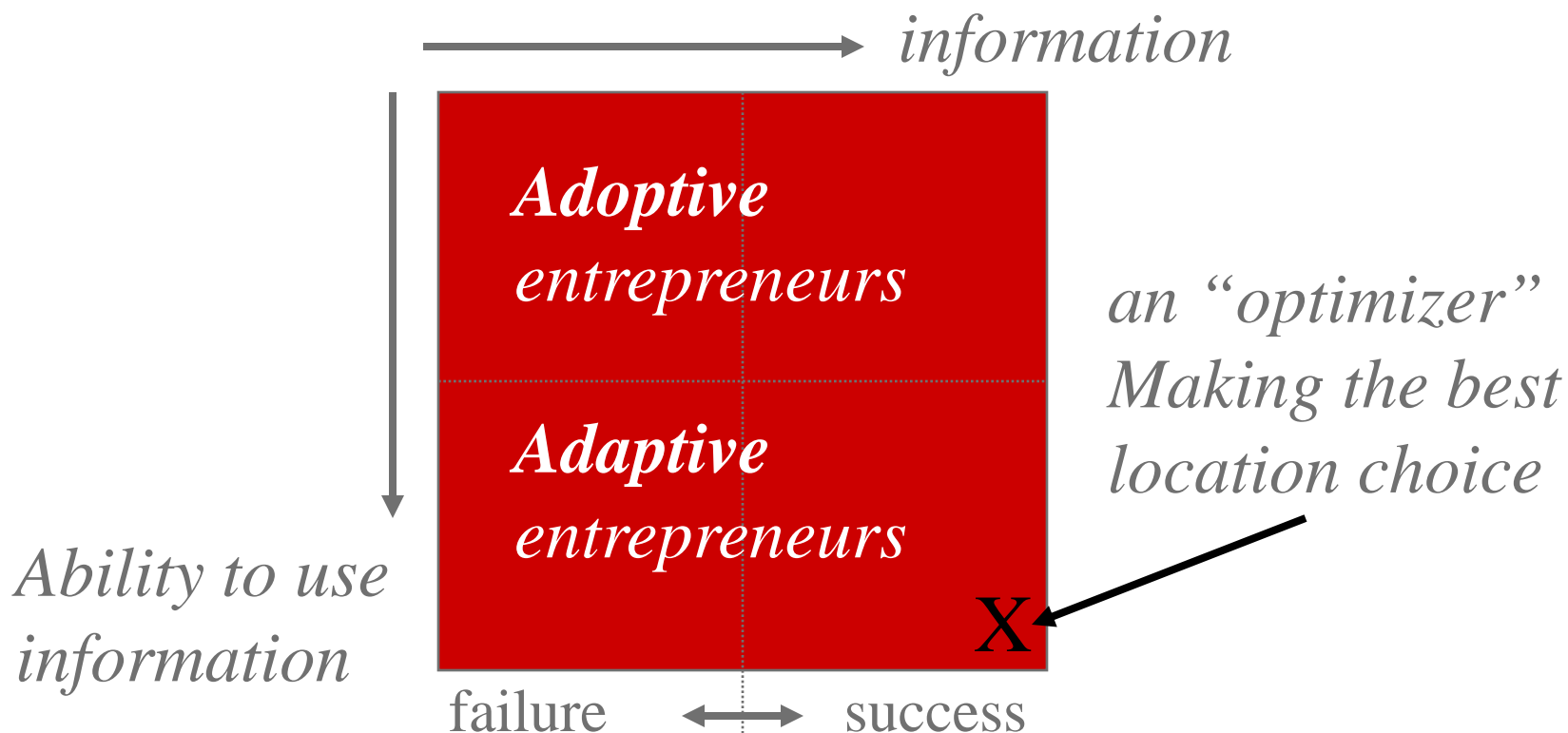
(cost of) *transport* is in one way or another the crucial factor in all neo-classical location theories and regional economic theories. Next to this, especially *labour* costs are important in these theories





## Modern theories:

# The “behavioural matrix” of Allan Pred\*



> \*A. Pred (1967) *Behavior and Location*



## ***The newest theoretical approaches: the **institutional** and the **evolutionary** approaches in economic geography***

- › *Institutional: economic growth is the product of innovation, and the raw material for innovation is information. Embeddedness, clusters, cultural influences*
- › *Evolutionary: economic development is path dependent, coincidence determines new developments on new locations*
- › *In modern theories, the accent on transport and labour cost as determinants of location choice fades away*



# Agenda

- › Theories on firm location
- › **Long term change in firm location choice**
- › **Europe a level playing field?**
- › Big and small firms: FDI versus SME's
- › Initial location versus re-location
- › Stages in the decision making process (Louw, Buck)
- › Foreign firms in Northwest Europe
- › Foreign firms in the Northern Netherlands
- › Results of empirical research
- › Some advice from consultants
- › Conclusions



**Practice**



## Changing location tendencies

### **DOMINANT LOCATION FACTORS 1900/1950/2000**

- > *100 years ago:*
  - transport costs
  - labour costs
- > *in the nineteen fifties:*
  - agglomeration factors
- > *anno 2000:*
  - knowledge and technology
  - living climate
  - environmental issues
  - government rules
  - image & representation

from :  
economic  
and technical factors



to :  
social and  
economic factors

*(Pellenbarg 1999)*





# Europa als stedelijk vestigings- milieu:

*'a level  
playing  
field'?*

**Bron:  
Vrij Nederland**





# Agenda

- › Theories on firm location
- › Long term change in firm location choice
- › Europe a level playing field?
- › **Big and small firms: FDI versus SME's**
- › **Initial location versus re-location**
- › Stages in the decision making process (Louw, Buck)
- › Foreign firms in Northwest Europe
- › Foreign firms in the Northern Netherlands
- › Results of empirical research
- › Some advice from consultants
- › Conclusions



**Practice**





## Big and small firms:

Big: the world of multinationals and FDI: rational  
Small: location choice by SME's: less rational

## Initial choice versus relocation:

Initial location choices: location is not always an issue  
Relocations: location is problem nr. 1

relocations : best source of knowledge of location factors



# Agenda

- › Theories on firm location
- › Long term change in firm location choice
- › Europe a level playing field?
- › Big and small firms: FDI versus SME's
- › Initial location versus re-location
- › **Stages in the decision making process (Louw, Buck)**
- › Foreign firms in Northwest Europe
- › Foreign firms in the Northern Netherlands
- › Results of empirical research
- › Some advice from consultants
- › Conclusions

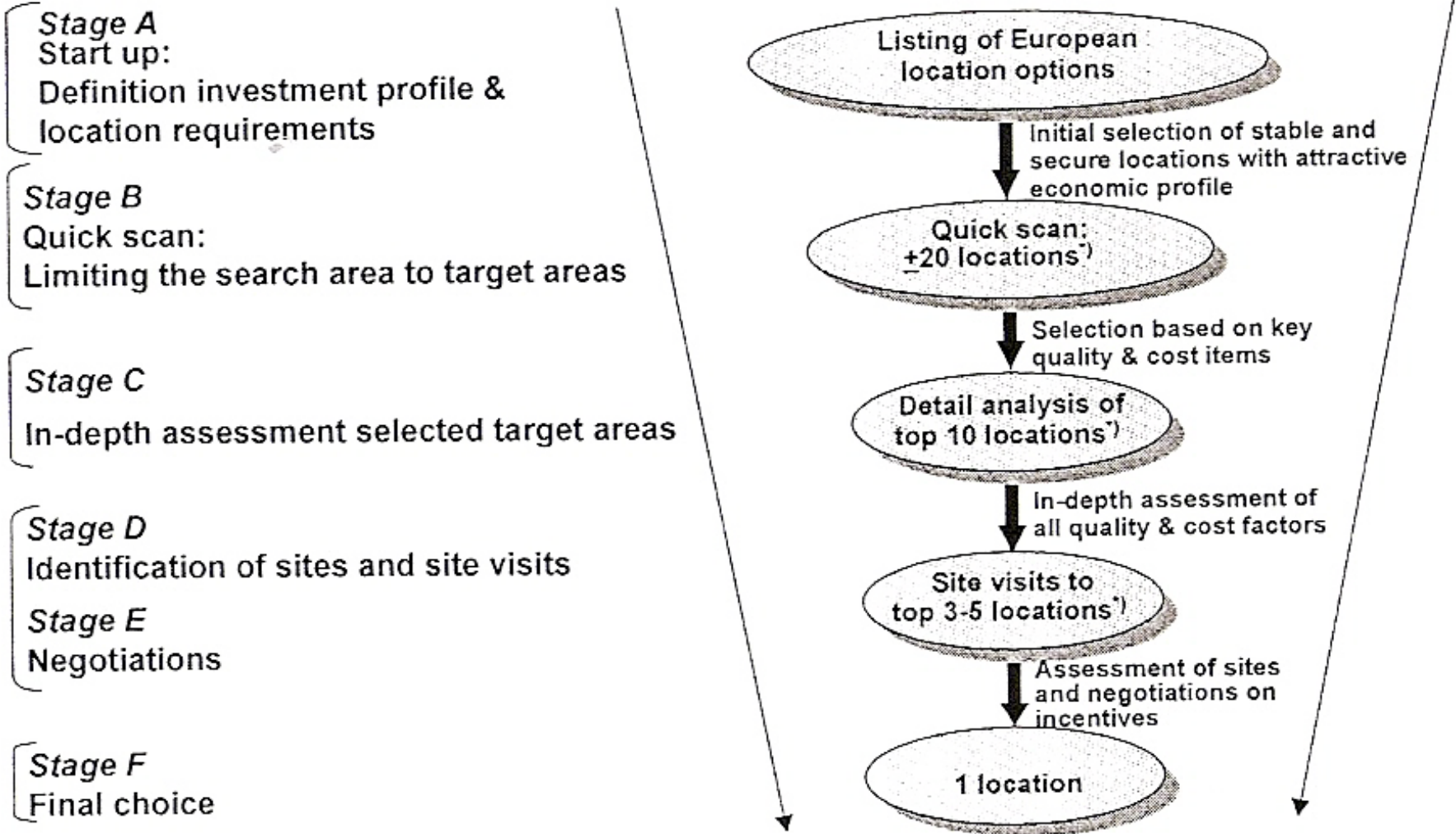


**Practice**



# Stages in the location choice of MNC's (Buck)

Site selection process: narrowing down from European to site level



<sup>1)</sup> : Indicative number



## Phases in the relocation decision process according to Louw (1996)

	<i>Phase</i> (% of all mentioned factors, per phase)			
<i>Factor type</i>	Orientation	Selection	Negotiation	Total
Engineering	15.2	12.3	7.1	11.9
Functional	19.4	18.4	7.1	16.1
Technical	3.1	4.2	2.0	3.4
Financial	12.2	14.2	<b>52.5</b>	22.5
Location	<b>43.9</b>	<b>36.0</b>	12.1	32.3
Other	6.1	14.6	19.2	13.8
Total	100.0	100.0	100.0	100.0



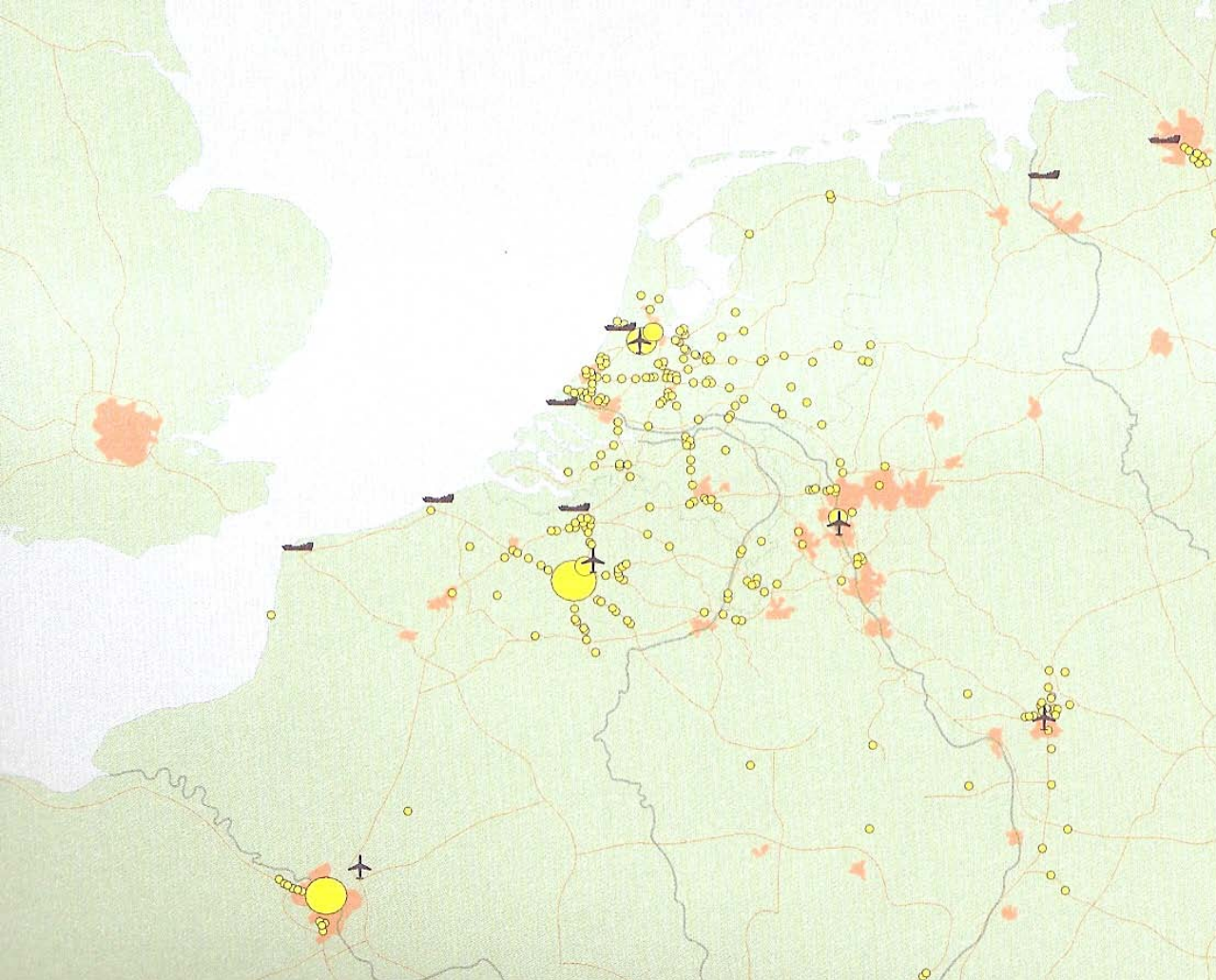
# Agenda

- › Theories on firm location
- › Long term change in firm location choice
- › Europe a level playing field?
- › Big and small firms: FDI versus SME's
- › Initial location versus re-location
- › Stages in the decision making process (Louw, Buck)
- › **Foreign firms in Northwest Europe**
- › **Foreign firms in the Northern Netherlands**
- › Results of empirical research
- › Some advice from consultants
- › Conclusions



**Practice**

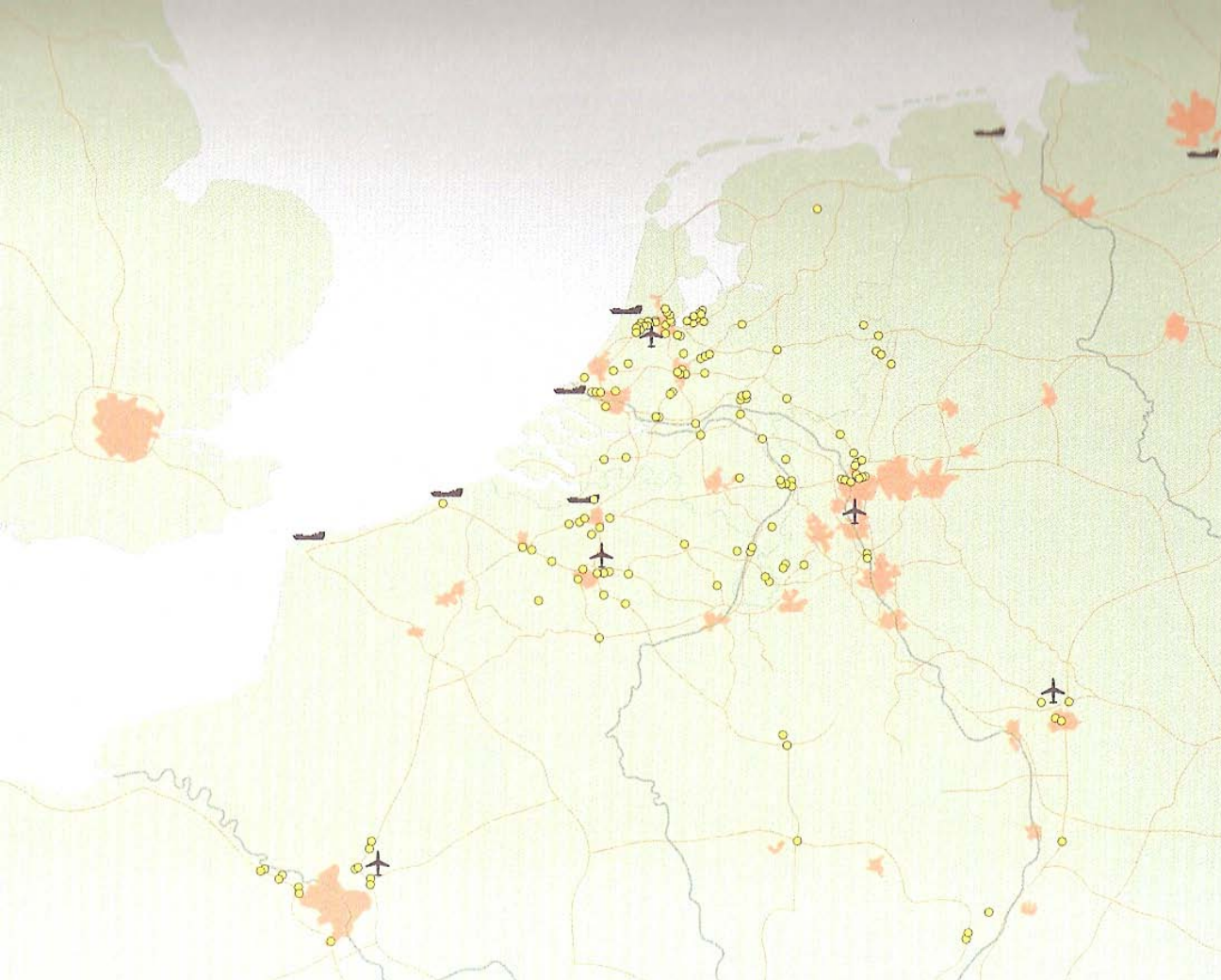




US and Japanese  
firms in NW Europe

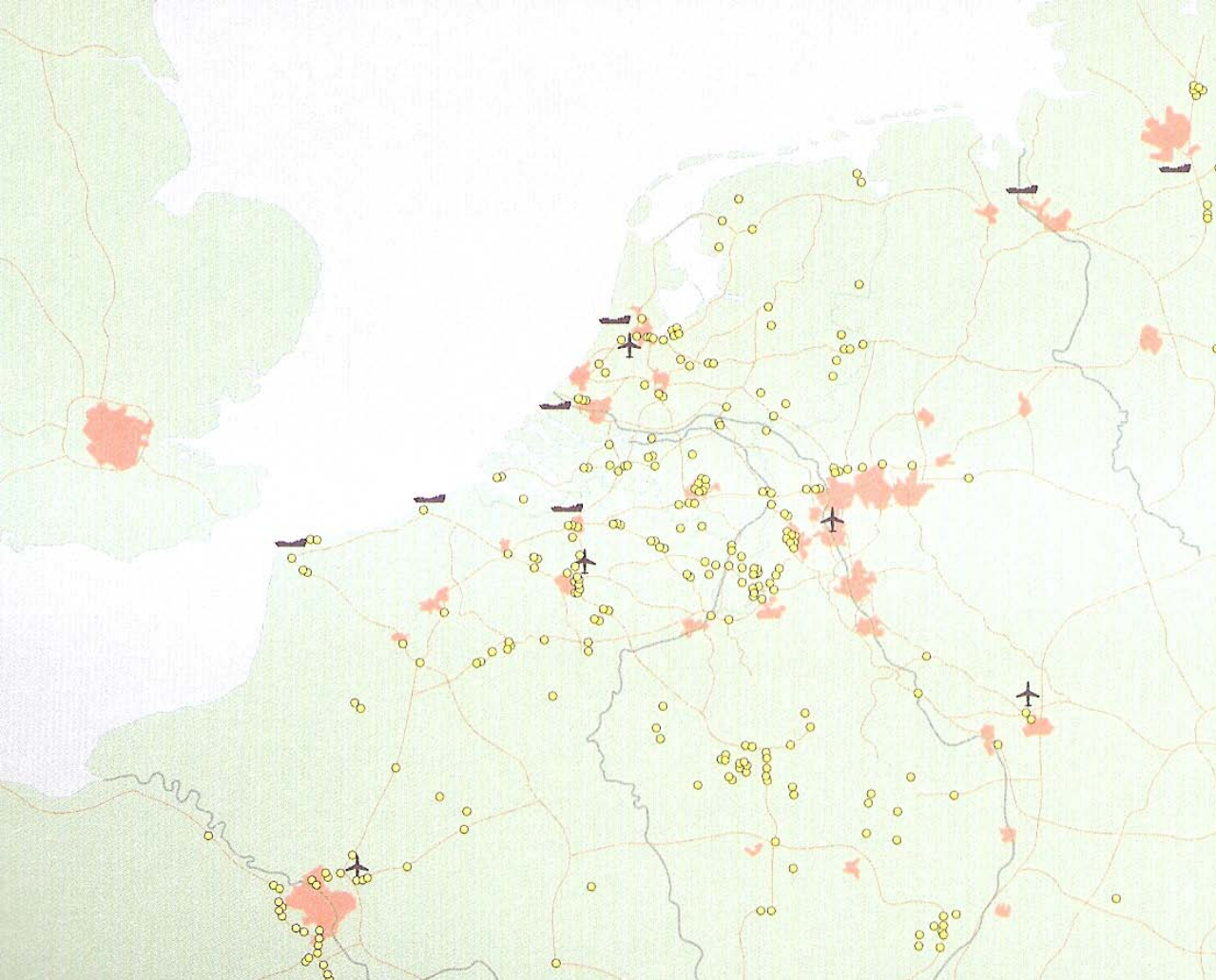
Headquarters





US and Japanese  
firms in NW  
Europe

Distribution  
centres



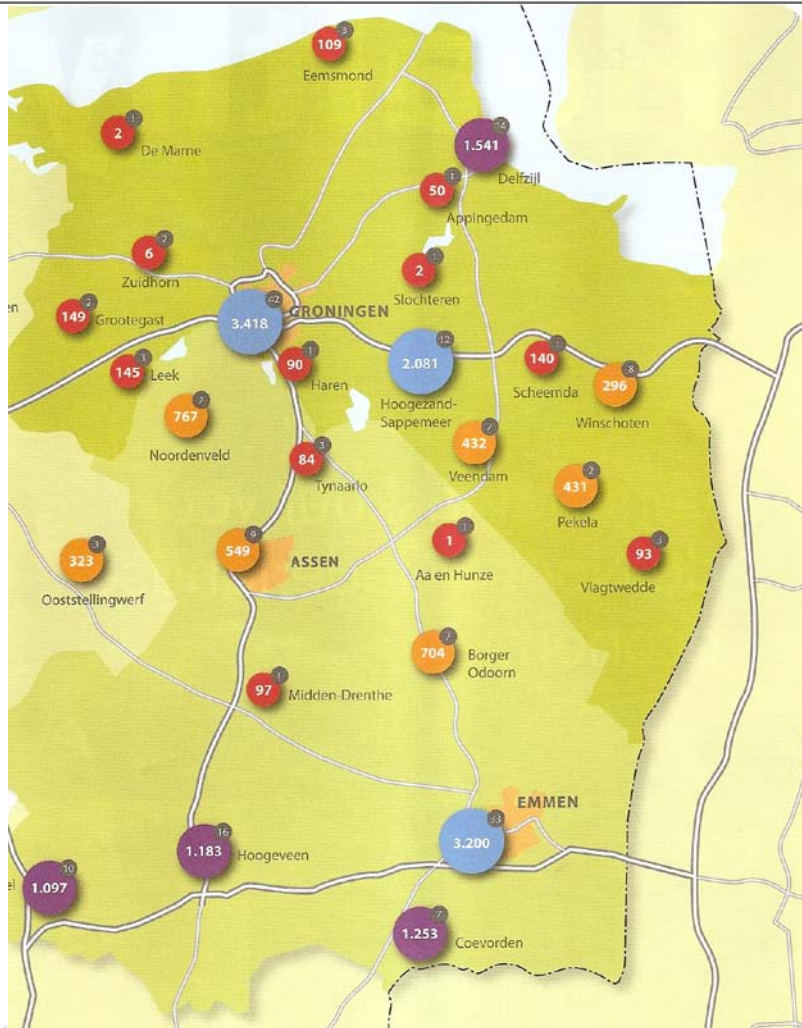
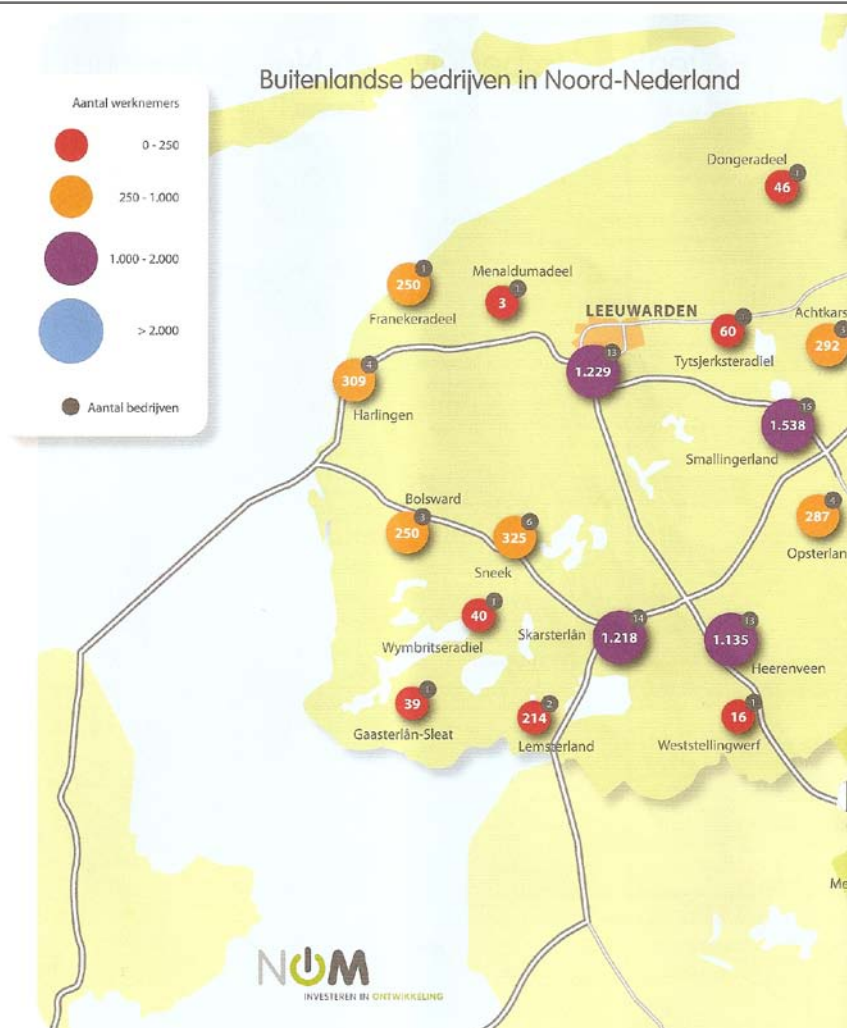
US and Japanese  
firms in NW Europe

Production  
facilities





# Foreign firms in the Northern Netherlands





# Agenda

- › Theories on firm location
- › Long term change in firm location choice
- › Europe a level playing field?
- › Big and small firms: FDI versus SME's
- › Initial location versus re-location
- › Stages in the decision making process (Louw, Buck)
- › Foreign firms in Northwest Europe
- › Foreign firms in the Northern Netherlands
- › **Results of empirical research**
- › Some advice from consultants
- › Conclusions



**Practice**



## Evidence from empirical research on firm location factors

- › International research: *multinationals*
- › International research: *SME's*
- › National research: i.e. *Finland&Portugal*
- › National research: examples *Netherlands*
- › Focus on *relocating* firms
- › Can the researcher 'steer' the entrepreneur's answers?



# New location factors for mobile investment in Europe

FAKTOR/SEKTOR	<i>trad.ind.</i>		<i>mod.ind.</i>		<i>EHQ's</i>		<i>EDC's</i>		<i>Diensten</i>		<i>R&amp;D</i>	
NATIONALMARKT	Ns	rs	Ns	--	ns	--	ns	--	Ns	rs	ns	--
EUROPAISCHE IT.	NG	rG	NG	rG	Ns	--	NG	--	NG	rG	NG	RG
AHNLICH.BETRIEBE	--	--	--	RG	ns	--	--	--	ns	rs	NG	RG
ANWES.DIENSTEN	--	--	--	rs	ns	--	--	rs	ns	rs	nG	rs
VERFUGBARE SITES	--	rs	--	rs	--	--	--	rs	--	--	--	--
STEUERNIVEAU	--	--	ns	--	Ns	--	ns	--	ns	--	--	--
FREMDSPRACHEN	ns	--	nG	--	Ns	--	Ns	--	Ns	--	--	--
BENEHM.BEHORDE	ns	RG	ns	RG	ns	rG	ns	--	ns	--	Ns	Rs
SUBVENTIONEN	ns	Rs	ns	Rs	--	--	ns	--	ns	--	ns	rs
ARBEITSKRAFTE	ns	Rs	ns	Rs	--	--	ns	--	ns	rs	ns	Rs
ARBEITSQUALITAT	--	rG	NG	RG	Ns	Rs	nG	rG	NG	RG	NG	RG
ARB.MENTALITAT	ns	rs	ns	rs	--	--	ns	--	--	--	--	--
GRUNDKOSTEN	ns	Rs	ns	Rs	Ns	--	ns	--	ns	Rs	Ns	--
ARBEITSKOSTEN	Ns	Rs	ns	rs	--	--	ns	--	Ns	Rs	ns	--
QUALI. WEG/BAHN	Ns	Rs	NG	RG	ns	Rs	NG	RG	NG	RG	nG	rG
NAHE SEEHAFEN	ns	rs	ns	rs	--	--	NG	RG	--	--	--	--
NAHE FLUGHAFEN	ns	rs	nG	rG	NG	RG	NG	RG	NG	RG	nG	rG
QUALI. TELECOM	ns	rs	nG	rG	NG	RG	NG	RG	NG	RG	nG	rG
KULTURFAKTOREN	ns	rs	ns	rs	ns	--	--	--	--	rs	--	--
SCHULE EXPATS	--	--	nG	RG	nG	RG	--	rs	--	rG	--	rG
BILDUNGSBEDING.	--	--	--	rG	--	rG	--	--	--	rG	--	rG
ERHOLUNGSBED.	--	--	--	rG	--	rG	--	--	--	rG	--	rG
ATTRAKTIV.REGIO	--	--	--	RG	--	RG	--	rG	--	rG	--	RG

Based on  
interviews  
with managers  
of MNC's all  
over Europe

N = National/kritisch, n = national/wichtig

R = Regional/kritisch, r = regional/wichtig

G = Zuwachsend, s = stabil

# Importance of location factors for business sectors

FAKTOR / SEKTOR	2/3	4	5	6	7	8	9
MARKTNAHE	+	++	++	+	+	+	+
ZULIEFERER IDEM	0	0	0	0	0	-	0
ROHMATERIALEN	0	++	0	-	-	-	-
ARBEIT: TECHNIKER	+	+	+	+	+	0	0
ARBEIT: KAUFMANNE	+	+	0	+	+	0	+
ARBEITSMENTALITAT	++	++	++	++	++	++	+
STRASSEN: INTERNATIONAL	+	-	0	+	+	0	+
STRASSEN: NATIONAL	+	-	+	+	++	+	-
BINNENSCHIFFFAHRT	-	--	0	--	0	--	+
EISENBAHNEN	-	-	-	-	0	--	-
LUFTHAFEN: NATIONAL	0	-	-	0	0	0	--
LUFTHAFEN: REGIONAL	-	-	-	-	0	-	--
SEEHAFEN	-	--	0	-	0	-	-
GRUNDKOSTEN	+	+	+	+	+	+	+
AUSBAU-MOGLICHKEITEN	+	+	+	+	+	+	+
REPRESENTATIVITAT	+	+	+	+	+	+	+
TELEKOMMUNIKATION	0	--	0	0	0	0	+
SUBCONTRACTORS	0	+	0	0	0	0	0
TRANSPORTBETRIEBE	+	-	0	+	0	0	0
UNIVERSITATEN/R&D	0	0	0	0	-	0	+
SUBVENTIONEN	+	0	+	+	+	0	0
BENEHMEN BEHORDE	+	+	++	++	+	+	+
UMWELTSCHUTZ	0	-	0	0	0	-	0
QUALITAT WOHNEN	0	+	0	+	0	+	0

Based on  
a survey  
among  
sme's in  
The Neth.  
and North  
Germany

(QUELLE: AEGIS--PROJECT, FRW/RUG 1993)



# Finland

*Silander, Tervo & Niitykangas, Evaluation of regional policy from the viewpoint of the locational behaviour of firms, ERSA Dublin 1999).*

- > Continuation of the BCI/NEI study New location factors for mobile investment
- > Pure *cost factors* (cost of premises, land costs and building costs, labour costs and taxes) are becoming *less important*. Idem investment premiums.
- > *Labour* is important. Especially level of skills, productivity and stability. All quality aspects, no costs!
- > Most important and growing are the “*business factors*”: presence of *other firms* (suppliers, customers, subcontractors), the availability of good *business locations*, and (surprise) also factors like *water quality* and facilities for *water purification*.
- > ***Infrastructure and residential quality*** are secondary factors, but their importance is growing
- > Qualities of the R&D environment (universities and colleges, technological institutes, knowledge services, consultants) are relatively unimportant, but their importance doubled in 5 years time



# Portugal

*Adelheid Holl, Transport as a location factor: new start-ups and relocations in Portugal, ERSA Dortmund 2002).*

- › Holl analysed the spatial pattern of new firms and firm movements in manufacturing industry, in the period 1986-1997
- › Through a logit model accessibility data (gathered with GIS) and firm locations were compared
- › All firms prefer locations centrally in the market and with a highly skilled labour market. If possible with low wages
- › **Road infrastructure** has a significant influence on location choice
- › Nearness of interregional road connections has a special influence on firm *migrations*





## The NETHERLANDS

### Importance of location factors on local/regional/national level

Level:	NATIONAL	REGIONAL	LOCAL
> Locations available	+	+	+
> Infrastructure/logistics	+	+	+
> Residential quality	+	+	0
> Regional policy (premiums)	+	+	0
> Energy/Water supply	+	+	0
> Suppliers/knowledge	+	+	0
> Labour market	+	+	0
> Regulations	+	0	0
> Tax climate	+	0	0
> Market situation	+	0	0



# The NETHERLANDS

## Most important location factors *per sector*, regional and local levels

INDUSTRY	TRADE	TRANSPORTATION	SERVICES
1. Road accessibility	Road accessibility	Road accessibility	Parking
2. Load&discharge	Load&discharge	Parking	Road accessibility
3. Parking	Parking	Load&discharge	Workforce
4. Workforce	Premises	Telecom facilities	Premises
5. Premises	Telecom facilities	Workforce	Telecom facilities
6. Telecom facilities	Workforce	Premises	Representative site
7. Land rent/price	Land rent/price	Land rent/price	Publ.trans.access.
8. Expansion possible	Representative site	Representative site	Land rent/price
9. Representative site	Expansion possible	Telecom services	Quality landscape
10. Publ.trans.access.	Publ.trans.access.	Expansion possible	Expansion possible
<b>Source: B&amp;A 1997</b>			



## NETHERLANDS

### Most important push-factors for relocated firms, % of all firms (N=1194)

> Lack of space	41,5	
> Commercial reasons		16,3
> Accessibility/location		10,2
> Merger/take over		6,5
> Premises not functional	4,9	
> Environmental demands/local government	4,6	
> Location ownership situation		4,5
> High costs		3,3
> Representativity		2,4
> Commuting distances		2,3
> Premises to large		1,8
> Parking possibilities		1,7
	Total	100,0



## NEDERLAND

### Belangrijkste push-factoren (% bedrijven)

#### 1e verhuisreden/2e verhuisreden

> Lack of space	41,5	12,7
> Commercial reasons	16,3	10,8
> Accessibility/location	10,2	24,9
> Merger/take over	6,5	1,8
> Premises not functional	4,9	11,8
> Environ.demands/local government	4,6	5,9
> Location ownership situation	4,5	3,3
> High costs	3,3	5,7
> Representativity	2,4	13,8
> Commuting distances	2,3	3,9
> Premises to large	1,8	1,3
> Parking possibilities	1,7	4,1
Total	100,0	100,0





## The NETHERLANDS *Top-4 location factors* (% of firms for which factor is important/very important)

SECTOR/ RATING	1e	2e	3e	4e
<b>INDUSTRY</b>	Good labour mentality	Government's positive attitude	Sufficient medium skilled workforce	Long term expansion possibilities
<b>WHOLESALE</b>	Good labour mentality	Government's positive attitude	Representative location	Accessibility to national motorways
<b>TRANSPORT</b>	Good labour mentality	Low land prices	Government's positive attitude	Accessibility to national motorways
<b>BUSINESS SERVICES</b>	Representative location	Good labour mentality	Government's positive attitude	Sufficient high skilled workforce



## Conclusions empirical studies:

- > Large difference in outcomes!
- > Can the researcher make the interviewee say anything he wants?
- > How can we reach more certainty?
  - 1) repeated surveys, with
  - 2) fixed questions, and
  - 3) fixed response groups (panels)
  - 4) non-structured interviews
- > Examples of these approaches in FRW research projects



## A comparison in time: 1977-1988-1999 the top-5 **PUSH** factors

1977	1988	1999
Expansion space	Expansion space	Expansion space
Organisation asp	Organisation asp	<u>Unrepr. building</u>
Bad premises	Local traffic situ	Bad premises
Lease expires	Future exp. pos.	Organisation asp
Unrepr. building	Bad premises	Accessibility



## A comparison in time: 1977-1988-1999 the top-5 **PULL** factors

1977

1988

1999

Expansion poss.	(market)location	<u>Represent.build.</u>
Organisation asp	Expansion poss.	Prox.client/suppl
Premises avail.	Local traffic situ	Expansion poss.
(market)location	Price land/prem.	(market)location
Local traffic situ	Represent.build.	Premises avail.





## Location factors mentioned during (non structured) interviews (weighed, as % of the answers given)

	LOCAL	REGIONAL	NATIONAL	INTERNAT.	TOTAL
<b>CENTRAL LOCATION</b>	0,0	0,6	21,1	0,2	22,0
<b>INFRASTRUCTURE</b>	3,3	2,6	6,6	0,1	12,6
<b>ACCESSIBILITY</b>	2,6	1,5	2,3	0,0	6,4
<b>REGIONAL ATTACH.</b>	1,0	0,4	9,5	0,0	10,8
<b>QUALITY PREMISES</b>	7,8	1,8	0,8	0,0	10,4
<b>REAL ESTATE PRICES</b>	2,0	1,5	1,0	0,1	4,6
<b>GOVERNMENT</b>	1,9	1,6	3,8	0,9	8,2
<b>LABOUR MARKET</b>	0,0	0,2	4,8	0,0	5,0
<b>AGGLOMERATION</b>	1,3	6,1	4,9	0,0	6,7
<b>MENTALITY</b>	0,0	0,2	7,6	0,2	8,0
<b>ENVIRONM.FACT.</b>	0,3	0,2	3,3	0,1	3,7
<b>TOTAL</b>	19,0	11,1	67,5	1,4	100,0



# Agenda

- › Theories on firm location
- › Long term change in firm location choice
- › Europe a level playing field?
- › Big and small firms: FDI versus SME's
- › Initial location versus re-location
- › Stages in the decision making process (Louw, Buck)
- › Foreign firms in Northwest Europe
- › Foreign firms in the Northern Netherlands
- › Results of empirical research
- › **Some advice from consultants**
- › Conclusions

**Practice**



## In totaal: 12 deelmarkten

Type	A Hoogwaardige industrie	B Traditionele industrie	C Distributie	D Zakelijke dienstverlening
<b>Herkomst bedrijven</b>				
I Oprichtingen van nieuwe bedrijven				
II Uitbreidingen ter plekke		Concurrentie in de regio		
III Verplaatsingen				
A Binnen de regio				
B Uit overig Nederland				
<b>IV Nieuwe nevenvestigingen</b>		Concurrentie in Nederland		
A Uit overig Nederland				
B Uit buitenland				
		Concurrentie in Nederland en buitenland		

**Buck (BCI) says:  
first identify the type  
of business and the  
origin of the plant  
which is to be  
(re)located**



## Belang van categorieën locatiefactoren (1= hoogste prioriteit)

Categorieën	A	B	C	D
	Kleinschalige Hoogw. Prod. vestigingen	Overig (trad) prod. vest.	Logistieke Centra	Bovenreg. zakelijke dienstverl.
I Economisch profiel	3	3	3	3
II Marktaspecten	2	2	①	3
III Belastingen	2	2	2	①
IV Regelgeving	3	3	3	4
V Arbeidsklimaat	①	①	2	①
VI Toeleveranciers & Kennis	①	①	2	3
VII Nutsvoorzieningen	4	2	4	4
VIII Stimuleringsmaatregelen	2	2	2	3
IX Woon- en leefklimaat	3	4	4	2
X Infrastructuur & Logistiek	2	2	①	①
XI Vestigingslocaties	3	2	2	2

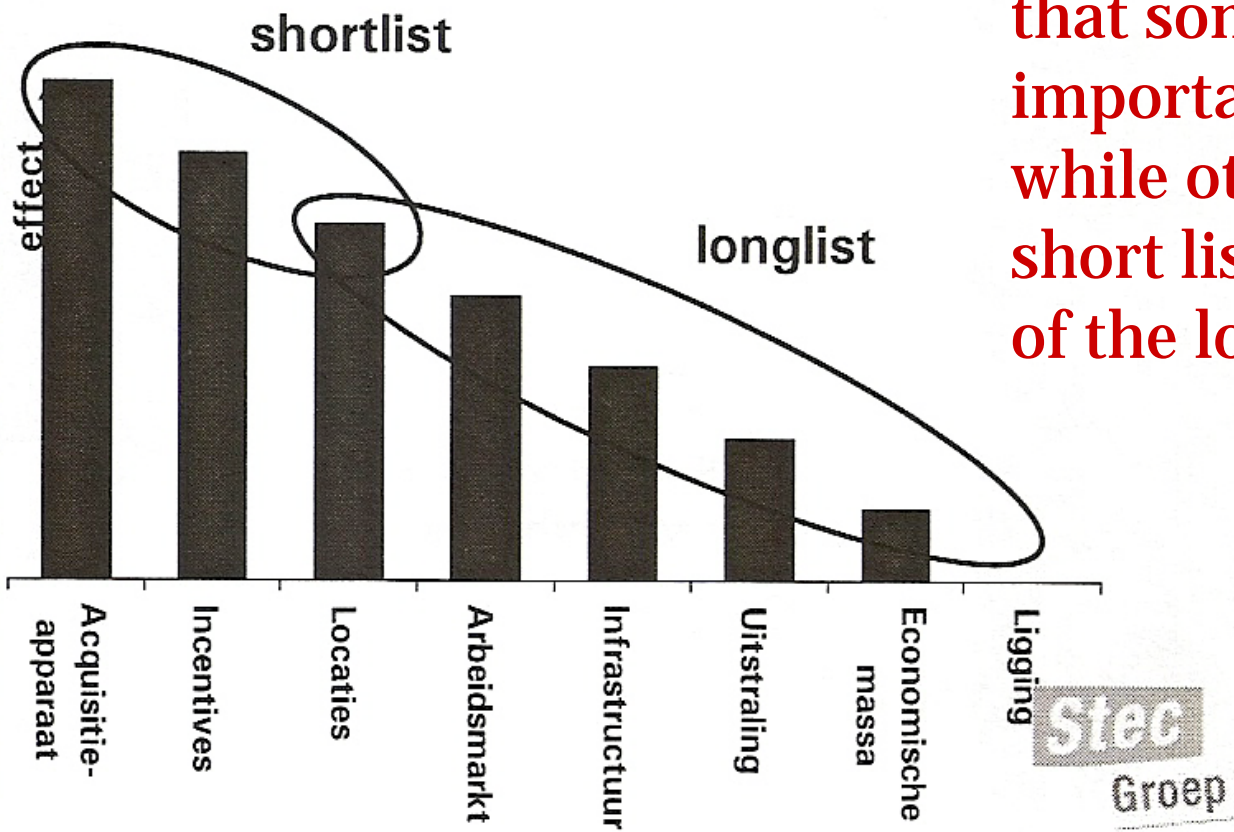
**Then, depending of the type of business,  
these are the location factors of prime concern**





## TE BEÏNVLOEDEN FACTOREN

Remember, STEC adds, that some factors are only important for the long list, while others dominate the short list (in the final phase of the location decision)





# Agenda

- › Theories on firm location
- › Long term change in firm location choice
- › Europe a level playing field?
- › Big and small firms: FDI versus SME's
- › Initial location versus re-location
- › Stages in the decision making process (Louw, Buck)
- › Foreign firms in Northwest Europe
- › Foreign firms in the Northern Netherlands
- › Results of empirical research
- › Some advice from consultants
- › **Conclusions**



**Practice**



# Conclusions

- › Theories differ widely in their mentioning of location factors
- › The long term trend is from hard to soft location factors
- › Sector, type, origin, and size of the firm make a lot of difference
- › Stages in the decision process: different phases, different factors
- › Empirical research: varying answers about factor importance
- › Location consultants have practical answers for location problems





Thank you!