GLOBAL AND LOCAL ADVANTAGES OF MULTINATIONAL ENTERPRISES
Innovation Resources and Strategies

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STRUCTURE OF THE PAPER

1. INTRODUCTION
   - MNE-firms and the global economy
   - Models for characterisation of firms

2. RESOURCES, STRATEGIES AND PAYOFFS
   - Exogenous attributes, gifts from the past
   - Evolution and strategic choices
3. INNOVATION RESOURCES AND INPUTS
   - Resource base of MNEs
   - Networks of MNEs
4. INNOVATIONE RESULTS AND PAYOFFS
   - Innovativeness
   - New export products; Sales of new products; Patents
   - Profitability; Productivity

5. CONCLUSIONS
   - Location strategy
   - Strategy of building transnational links
   - Policy conclusions

A RESOURCE-BASE VIEW OF THE INNOVATING FIRM

RESOURCE BASE (1) Internal resources, (2) Interaction networks, (3) Local economic milieu

INTERNAL RESOURCES

- Knowledge-intensive labour
- Experienced-based routines for firm operation
- Experienced-based routines for R&D-activities
- Access to financial resources

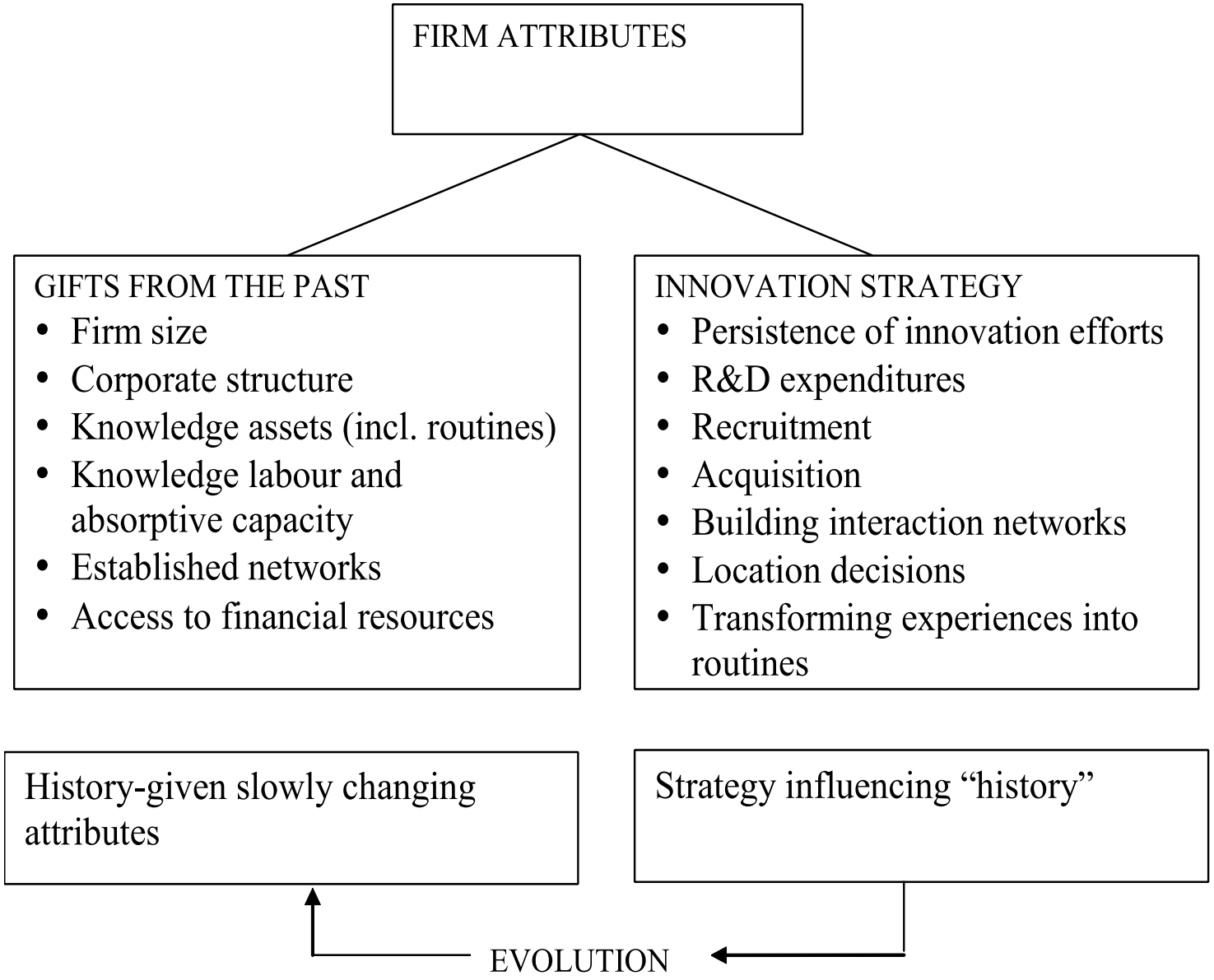
INTERACTION NETWORKS

- Bilateral and multilateral networks for knowledge flows
- Local and global networks for knowledge flows
- Internal networks of a company group
- Established export links
- Established import links

LOCAL ECONOMIC MILIEU

- Innovation activities of firms and other organisations in the local economy
- Knowledge intensity in the local labour market
- Outsourcing opportunities in the local economy

TEMPORAL SCALES AND MODELS OF THE FIRM



WHY ARE MNE-FIRMS DIFFERENT ?

CROSS-SECTION ANALYSES: Captures group differences (between differences) as firm attributes are slowly changing (seemingly invariant)

STRATEGIC ADVANTAGES OF MNE- FIRMS
Wider options to chose a spectrum of locations
Options to utilize internal networks of the company group
Capacity to coordinate global flows and orchestrate supply chains
Options to use scale and scope techniques to reduce distance costs
Wider options to commercialise innovation ideas

GLOBAL EVOLUTION OF SPATIAL TRANSACTION COSTS

- FALL FOR ROUTINE ACTIVITIES WITH LOW KNOSWLEDGE INTENSITY (Fosters off-shoring)
- REMAIN HIGH FOR NON-ROUTINE AND KNOWLEDGE-INTENSIVE ACTIVITIES (Fosters agglomeration)

MNE-firms in the Swedish Manufacturing Industries

- **MNE firms**
- 35% of the firms
- 76% of employment
- 90-95% of export value
- **Non MNE-firms**
- 65% of the firms
- 24 % of employment
- 5-10% of export

MNE-FIRMS IN A GLOBAL PERSPECTIVE

•MNE-FIRMS GROW FASTER THAN THE OVERALL ECONOMY
•MNE-FIRMS ORGANISE OVER ½ OF GLOBAL R&D AND 2/3 OF GLOBAL PRIVATE R&D
• 70 000 MNE-GROUPS and 700 000 MNE-FIRMS

TWO ANGLES OF ASSESSMENT

•RESOURCE BASE: INNOVATION RESOURCES AND INPUTS

- Internal resources
- Interaction networks
- Local economic milieu

•INNOVATION RESULTS AND PAYOFFS: DIRECT AND INDIRECT INNOVATION RESULTS

RESOURCE BASE OF MNE-FIRMS

	Non-affiliate	Uninational	DMNEs	FMNEs
Human capital[a]	21.2	19.1	21.1	18.0
R&D staff[a]	6.5	6.1	18.1	6.5
R&D intensity[b]	9.8	8.4	15.0	6.2
Share of innovative sales[b]	17.4	15.2	23.9	18.7

POTENTIAL KNOWLEDGE FLOWS IN NETWORKS FOR INTERACTION

GLOBAL CALLABORATIVE NETWORKS	MNE-firms	Other firms
Within the group	36 %	0 %
Scientific	16 %	4 %
Vertical	41 %	23 %
Horizontal	23 %	8 %
DOMESTIC CALLABORATIVE NETWORKS		
Within the group	23 %	8 %
Scientific	39 %	22 %
Vertical	49 %	39 %
Horizontal	38 %	24 %
TRADE NETWORKS		
Log import/employee (mean)	17.1	10.9
Log export/employee (mean)	17.1	10.1

PROBABILITY O F R&D COLLABORATION

	Science collaboration	Vertical collaboration	Global collaboration	Horizontal collaboration
DMNE	Positive ***	Positive ***	Positive ***	Positive ***
FMNE		Positive **	Positive ***	
Non-affiliated	Positive **	Positive **	Positive ***	
Uninational	Reference	Reference	Reference	Reference
Control variables				

Remark *** signifies ignificance at 1% level, ** at 5 % level . **Source: Johansson, Lööf and Olsson (2005), Johansson and Lööf, 2009)**

Twp sample t-test (Nearest neighbour matching)

COLLABORATION	FMNE vs NON-AFFILIATED	FMNE vs UNINATIONAL	FMNE vs DMNE
Science in Sweden		Positive ***	Negative ***
Vertical in Sweden		Positive ***	Negative ***
Horizontal in Sweden		Positive **	Negative ***
Global	Positive **	Positive ***	Negative ***

DIRECT AND INDIRECT INNOVATION RESULTS

DIRECT INNOVATION RESULTS:

- NEW PRODUCTS
- NEW EXPORT RODUCTS
- SALES OF NEW PRODUCTS
- PATENTS applied and granted

INDIRECT INNOVATION RESULTS / INNOVATION PAYOFFS

- PROFITABILITY: Gross profit per employee
- PRODUCTIVITY: Value added per employee

OBJECTIVE: To relate innovation results to (i) internal resources, (ii) interaction networks, and (iii) local economic milieu

INNOVATION STRATEGY AND LOCATION INFLUENCE

	PROBALITY OF BEING INNOVATIVE	R&D INTENSITY
STOCKHOLM REGION	Significantly higher	
DMNE-FIRM	Significantly higher	Significantly higher

INNOVATIVE FIRM = INNOVATION RESULTS AND/OR INNOVATION EFFORTS

FIRMS' FREQUENCY OF NEW EXPORT PRODUCT VARIETIES 1997-2003

	Innovation resources and networks
Export-based knowledge	(1) The firm's total number of active innovations 1997 (2) The firm's experiences of foreign-market sales 1997 (3)The firm's export intensity 1997
Import-based knowledge	(4) The firm's exposure to knowledge flows via own imports 1997 (5)Intensity of knowledge flows via imports 1997
Scale economies	(6)The size of the firm reflecting effects of scope economies 1997 (7)The productivity of the firm reflecting its scale economies 1997
Innovation and absorption capacity	(8)Knowledge intensity of the firm's labour force 1997 (9)Knowledge flows in internal networks of MNEs 1997
Regional milieu	(10)Export experiences among firms in each region 1997

INDUSTRIES' FREQUENCEY OF NEW EXPORT VARIETIES 1997-2003

Knowledge resources in the region	(1) Variety knowledge, recorded as the number of export varieties in an industry of a region. (2) Knowledge spillover from co-located export firms, recorded as the number of exporting firms in an industry of a region. (3) Foreign-market knowledge, recorded as the number of destination markets in an industry of a region
Communication opportunities in the region	(4) Localisation economies, recorded as export specialisation of an industry in a region. (5) Urbanisation economies, recorded as the size of a region (6) Metropolitan proximity, recorded as the region's distance to the nearest metropolitan region
Absorption capacity in the region	(7) Knowledge intensity, recorded as the share of the workforce with university education (3 years) of an industry in a region.

DIRECT INNOVATION RESULTS AND PAYOFFS INFLUENCED BY CORPORATE STRUCTURE AND LOCATION

DUMMY VARIABLES	Non-imitation	Innovation sales intensity	Total sales intensity	Labour productivity
Stockholm region		Positive ***	Positive ***	Positive **
DMNE firm	Positive ***	Positive **		
Not affiliated	Positive ***		Negative **	Negative **

INNOVATION RESOURCE BASE, STRATEGY AND PAYOFFS

RESOURCE BASE OF FIRMS ARRANGED IN STRATEGY GROUPS

	No R&D	R&D Occasionally	R&D Persistently
	N=762	N=535	N=470
	Mean	Mean	Mean
R&D investments [a]	0	70	111
Innovation payoffs			
Value added [a]	514	525	664
Gross profit [a]	239	250	353
Resource base			
Non Affiliate	0.378	0.287	0.143
Uninational	0.329	0.305	0.170
Domestic MNE	0.147	0.185	0.364
Foreign MNE	0.144	0.287	0.321
Physical investments	1,171	1,113	1,624
Ordinary labour	87	80	385
Knowledge labour	7	6	84

A GLOBAL ECONOMY OF MNEs

- GLOBALISATION AND AGGLOMERATION ARE MUTUALLY DEPENDENT
- GLOBALISATION IS A CONSEQUENCE OF MNE STRATEGIES
- URBAN AGGLOMERATIONS ARE PRINCIPLE NODES OF GLOBAL NETWORKS
- MNE-FIRMS DOMINATE FDI FLOWS, INTERNATIONAL KNOWLEDGE FLOWS AND INTERNATIONAL TRADE IN GOODS AND SERVICES

- NEW PRODUCTS, SALES OF NEW PRODUCTS, NON-IMITATION PRODUCTS AND PATENTS RELATE TO SIMILAR RESOURCE STRUCTURES AS D0 INNOVATION PAYOFFS
- MNE-FIRMS REFLECT NETWORK ADVANTAGES
- THE RESOURCE BASE OF INNOVATING FIRMS ARE RELATED TO CUMULATED EXPERIENCES (LEARNING)
- INTERNATIONAL KNOWLEDGE FLOWS ARE AT LEAST AS IMPORTANT AS LOCAL KNOWLEDGE FLOWS – PROVIDING MNE ADVANTAGES
- DMNEs ARE DIFFERENT FROM FMNEs

- POLICY CONCLUSIONS