

Sustainability, globalisation and regional innovations systems

Innovation

Can environmental regulation be replaced by innovation?

Trade

Can sustainability be attained through international trade?

Location

Will sustainability become an FDI location factor?

Policy

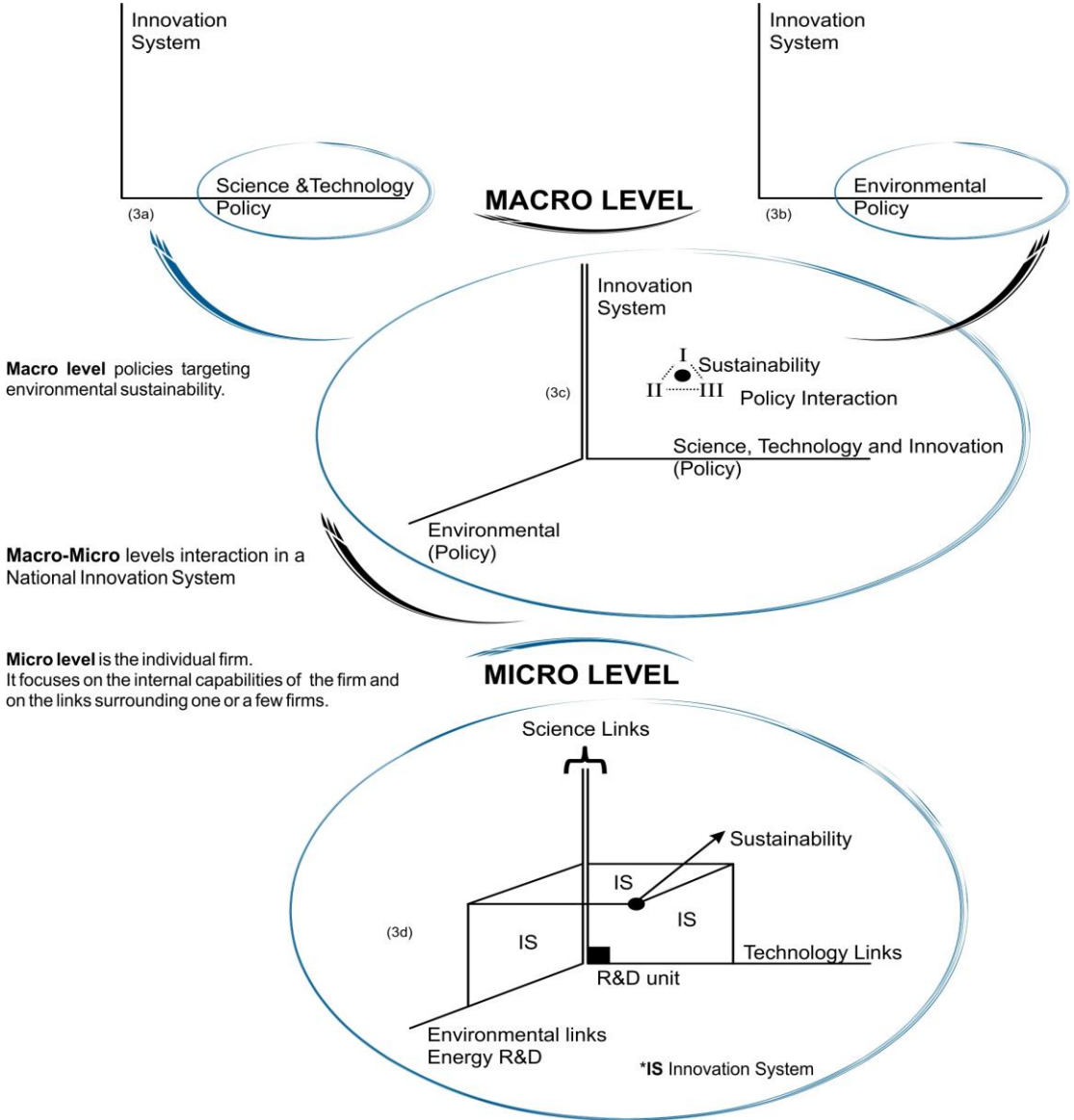
Will sustainability policy at national and regional level be effective in an era of globalisation?

How?

Compelling examples

- Compelling 1: The rise of motorism in China
- Compelling 2: Multinationals as carriers of dematerialisation
- Compelling 3: Metropolitan sustainable development as location factor
- Compelling 5: University technology transfer offices as globalisers
- Compelling 5: MNEs more effective than SMEs for sustainability?

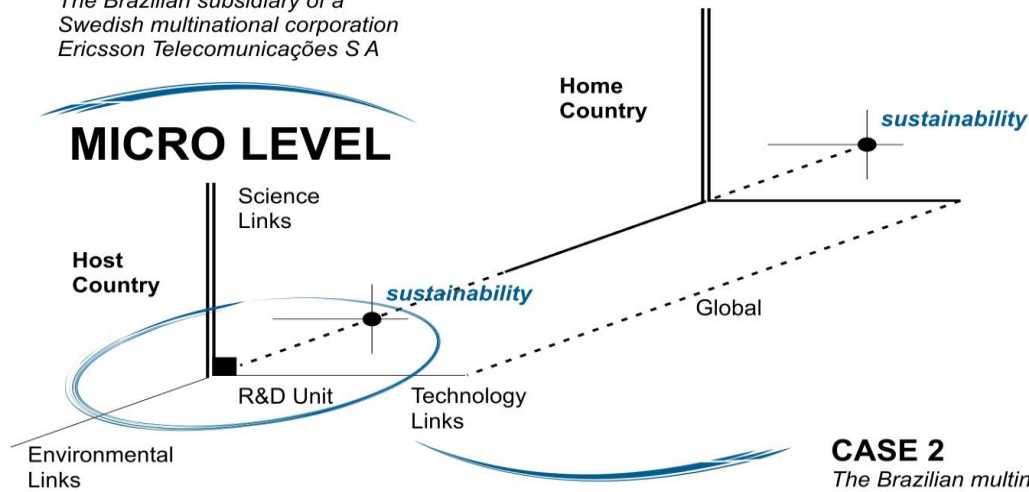
Linking science & technology policy and environmental policy, Santos (2012)



Framework for the globalisation of national innovation systems, Santos (2012)

CASE 1

The Brazilian subsidiary of a Swedish multinational corporation
Ericsson Telecomunicações S A

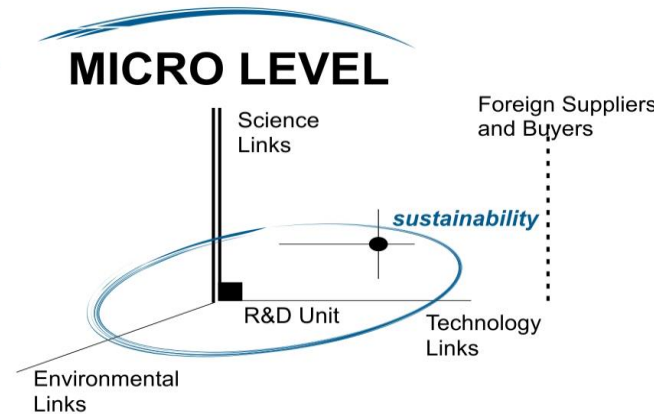


Science-based Sector



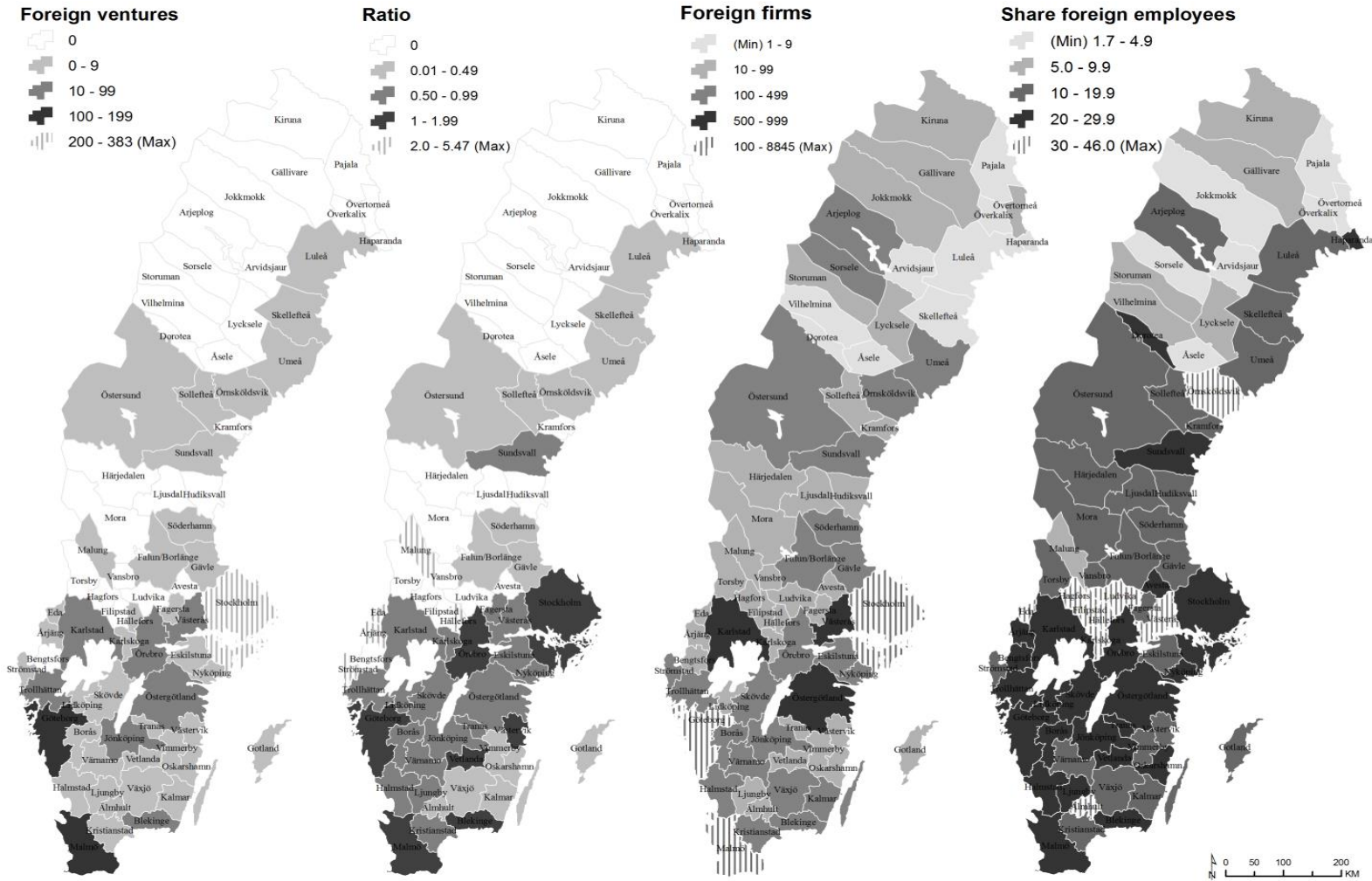
CASE 2

The Brazilian multinational corporation (BMNC)
Usiminas S.A



Scale Intensive Sector

FDI according to Falck (2012)



Explaining the location of FDI ventures

Variable	Abb.	Description	Sign	Source
Local market size	LM	Regional share of GDP	+	Statistics Sweden, 2001, and SAGPA (travel distances in minutes in november 2011)
Market access	A	Sum of regional shares of GDP in the unchosen destinations within the nation weighted by their distance to the chosen location (b=0.003)	+	Statistics Sweden, 2001
Industry agglomeration	IA	Sector/Industry share of total employment in the private sector in region	+	Statistics Sweden, 2001
Diversity	DI	Sum of square sectoral/industrial employment share in region, SNI/SIC 5 digits (839 industries)	-	Statistics Sweden, 2001
Foriegn agglomeration	FA	Industry-specific share of employees in foreign firms of total employment in the private sector in region	+	Statistics Sweden, 2001
Transport infrastructure	TP	Average of distance in minutes (log value) from each region to the nearest International airport (Arlanda, Landvetter, Kastrup) by road or road and domestic flight	-	SAGPA, travel distnaces in minutes in november 2011
Labour costs	LC	Average wage per employee the same in sector/industry as the investor, in 1000 SEK	-	Statistics Sweden, 2001
Human Capital	HC	Share of dayactive employees (25-64y) with 3 years or more of postsecondary education	+	Statistics Sweden, 2001

SAGPA=Swedish Agency for Growth Policy Analysis

Environmental innovation potential	EIP	Patents and/or start-ups in environmental sectors
Environmental regulatory environment	ERI	Positive incentives for sustainability (e.g. congestion tolls)

Some tentative reflections

- Climate change as a global challenge will call for global policy coordination – from financial systems via environmental protocols to trade in R&D and innovation
- Complexity and interconnectivity of global economic system will make policy at regional and national level both more difficult and more challenging – SWOT analyses needed
- Diffusion models of innovation will need to be adapted to the networked economy – more case studies needed
- FDI research needs to be boosted when the world is flat, structural change more rapid, and dematerialisation is starting to create opportunities