

Genesis and stabilization of hybrid local innovation networks: the German "BioRegios" case



Claire Champenois
Audencia Nantes Ecole de Management
Centre de Sociologie des Organisations

Journée d'étude CIRAC – CIERA – DFI
« Dynamiques institutionnelles nouvelles : réseaux territoriaux et soutien aux PME
dans le système d'innovation allemand »
Institut Historique Allemand de Paris, 1^{er} février 2008



1. BioRegio, a public program typical of recent changes in innovation policies

- Changes in analysis of knowledge production
 - New knowledge/ innovation created not by a single actor but through cooperation of heterogeneous actors (Etzkowitz&Leydesdorff, Powell,...)
 - Key role of local dynamics
- New trends in innovation policies (Larédo&Mustar, 2003; Mustar, 2003) :
 - Promotion of science-industry interactions
 - Promotion of academic entrepreneurship
 - Increasing role of regional public actors
- BioRegio: a paradigmatic illustration of these evolutions



1. BioRegio, a public program typical of recent changes in innovation policies

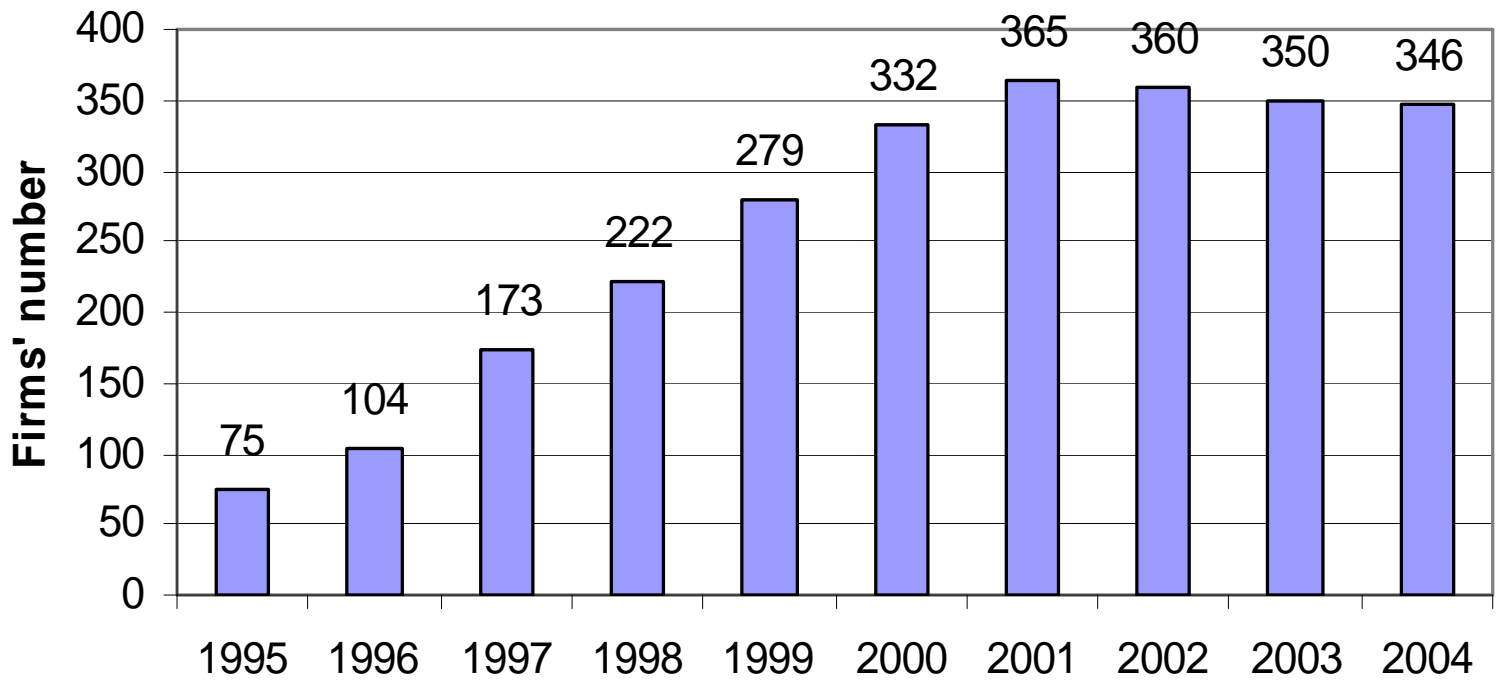
- BioRegio program:
 - Launched in 1995 by Federal Ministry of Research
 - Goals: Germany « Nr1 in Europe in biotechnology by the end of the millennium »; development of biotech clusters, increase in start-up creation, development of venture capital, improved acceptance of biotechnology
 - A « regionalized innovation policy » : regions asked to propose by end 1996 a local project for economic use of knowledge : start-up founding, science-industry interactions, ...
 - Autumn 1996: 17 participating regions
 - End 1996 : 3 winners (Heidelberg, Cologne, Munich) & special price for Iena



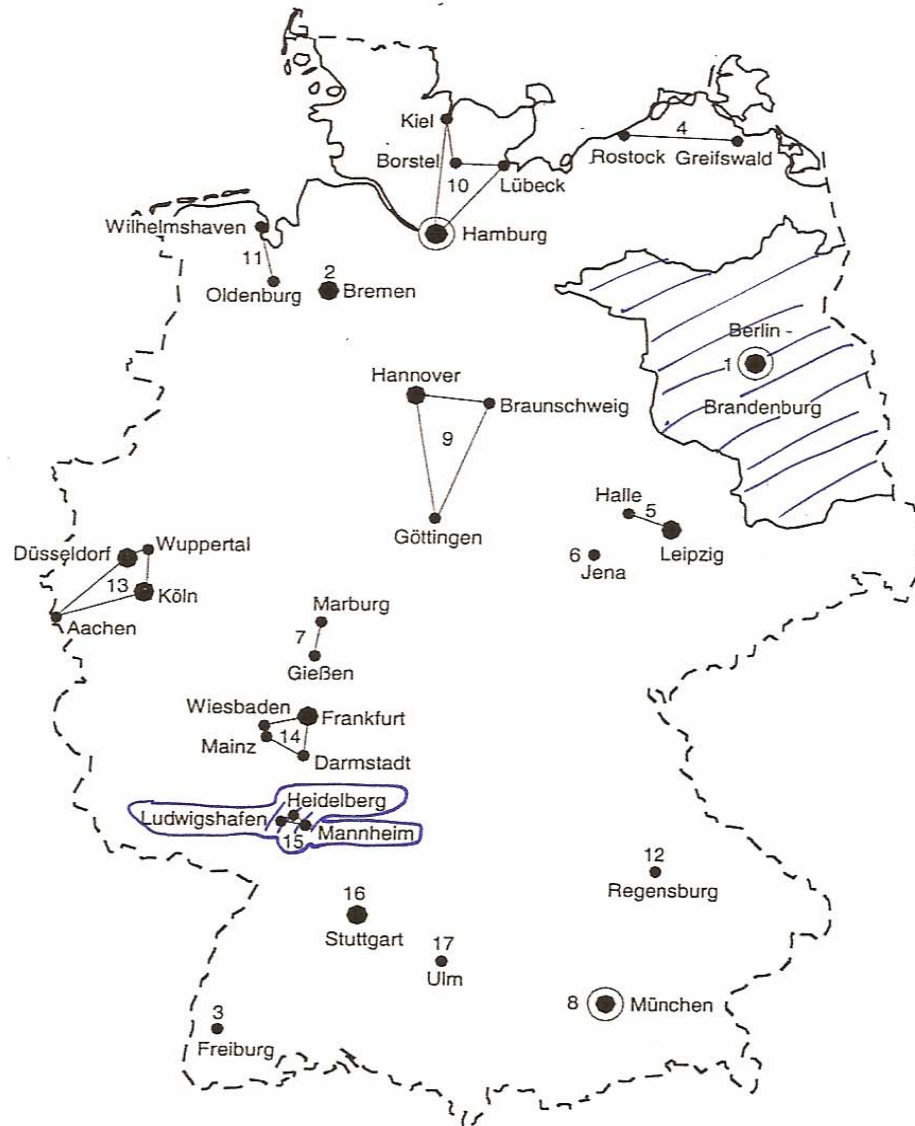
2. A very studied but still mysterious program

- Attention from innovation policy specialists (Dohse, 2000a&b, Eickelpasch & Fritsch, 2005), for:
 - A breaking new public action mode : contest between regions (« contests for cooperation »)
 - BioRegio's success:
 - Germany Nr1 in 2000; strong entrepreneurship dynamics in the 17 bioregios; significant surge in VC financing
 - A model-program in German innovation policy: generalization of contests as public action tools (BioChance, BioProfile, InnoRegio, EXIST,...)

Biotechnology firms in Germany (1995-2004)



17 BioRegio participating regions

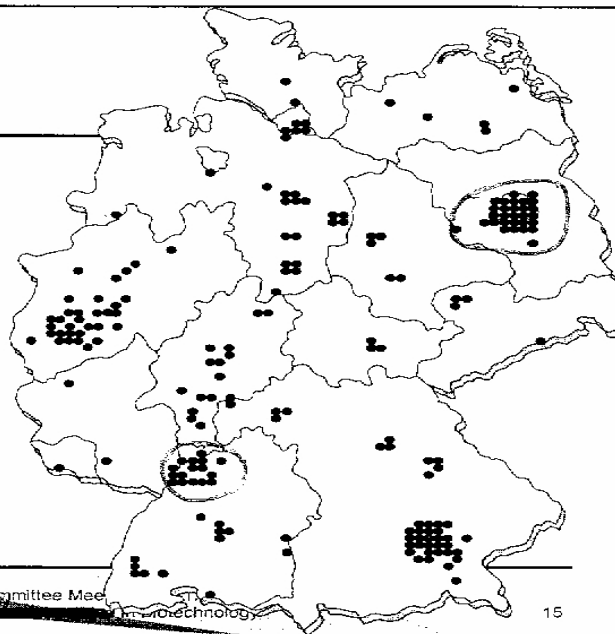


Core biotech companies in Germany 1995

Courtesy www.i-s-b.org
BMBF/

Steering Committee Meeting
in biotechnology

15

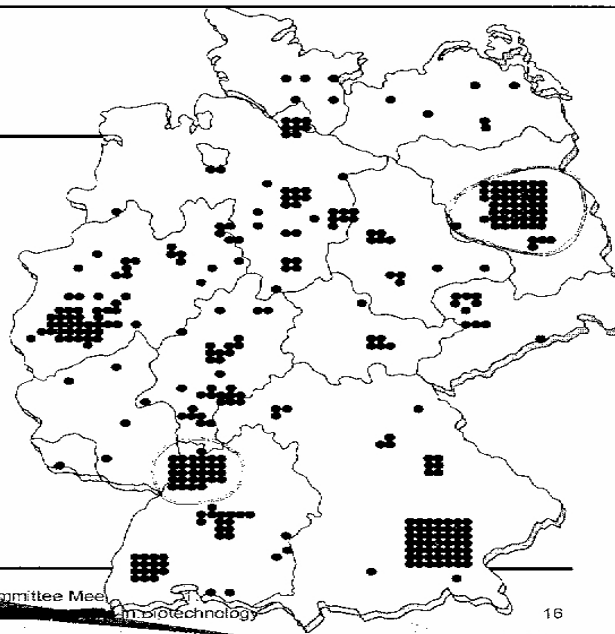


Core biotech companies in Germany 1999

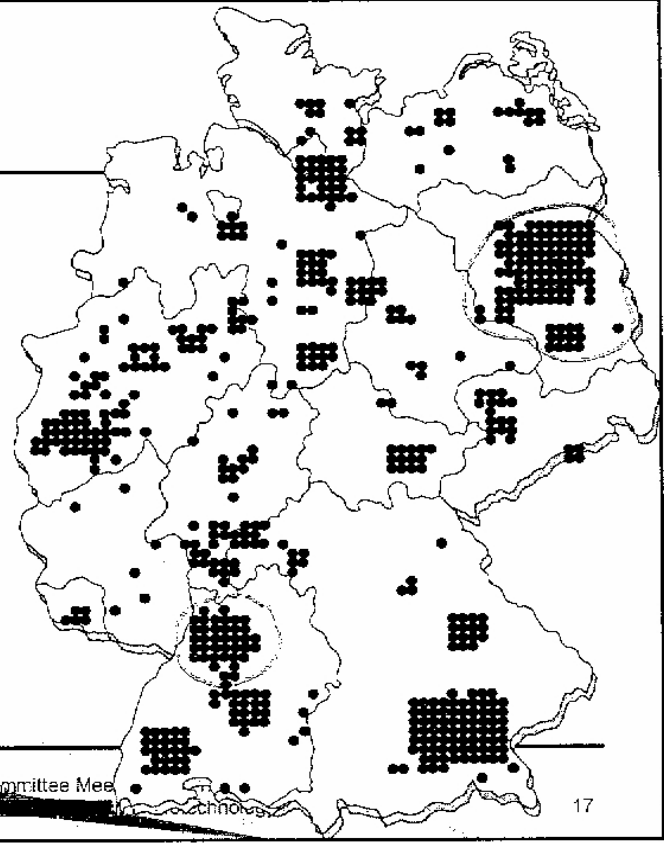
Courtesy www.i-s-b.org
BMBF/

Steering Committee Meeting
in biotechnology

16



Core biotech companies in Germany 2003

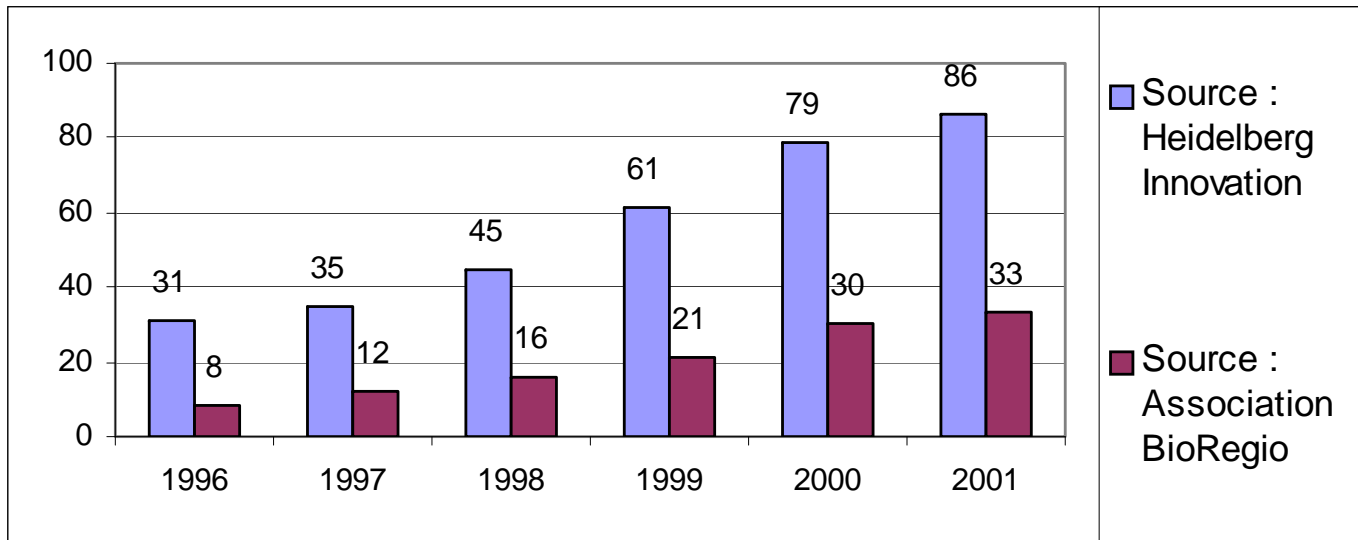


Courtesy www.ies-b.org
BMBE

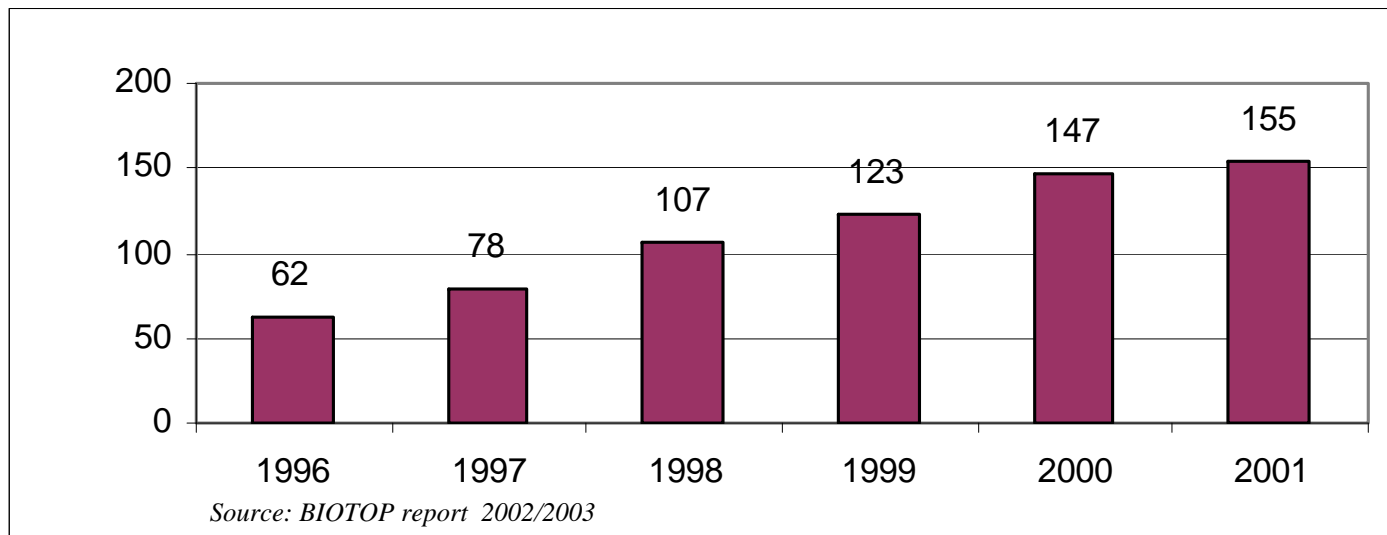
Steering Committee Meeting

Technos

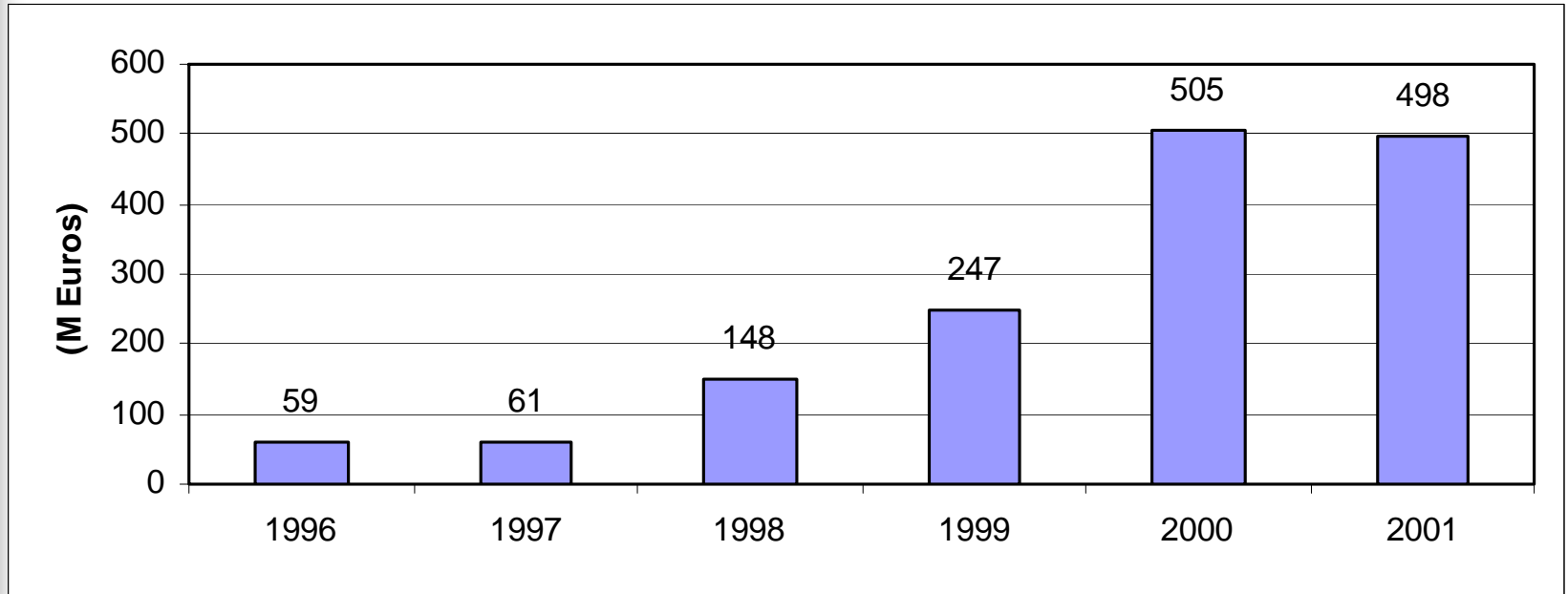
Number of biotechnology companies in the « Rhine-Neckar Triangle » (1996-2001)



Number of biotechnology companies in Berlin-Brandenburg (1996-2001)



Total amount of biotechnology investments made by VC companies based in Germany (1996 – 2001)



Sources : *European Private Equity and Venture Capital Association (EVCA),
Zentrum für Europäische Wirtschaftsforschung (ZEW).*



2. A very studied but still mysterious program

- Still to be explained:
 - Why does a similar entrepreneurial dynamics take place in winning as well as in losing regions?
 - What does the efficiency of this policy rely on?
- To answer:
Analysis of genesis and stabilization process of hybrid local networks that appeared with BioRegio



2. A very studied but still mysterious program

■ **Empirical data:**

- 157 interviews (Biotech firms, public authorities, universities/research institutes, financial institutions, pharma companies,...)
- 2 regions studied : Heidelberg and Berlin-Brandenburg
- Other data (BioRegio application files,...)

Répartition des entretiens réalisés par catégories d'acteurs

	Nombre d'organisations	Triangle Rhin-Neckar	Berlin	Autre	Nb d'entretiens
Entreprises de biotechnologies	42	21	20	1	67
Entreprises pharmaceutiques	6 <i>(dont syndicats : 2)</i>	2	3	1	7
Ministères	5 <i>Ministères de Land : 3</i> <i>Ministères fédéraux : 2</i>	-	3 <i>1</i> <i>1</i>	2 <i>2</i> <i>-</i>	10
Acteurs publics locaux de soutien	16 <i>Associations de promotion des biotechnologies : 2</i> <i>Fonds d'amorçage : 1</i> <i>Parcs / incubateurs : 4</i> <i>Service de Transfert de Technologies d'IESR : 5</i> <i>Autre : 3</i>	6 <i>1</i> <i>1</i> <i>1</i> <i>3</i> <i>-</i>	7 <i>1</i> <i>-</i> <i>3</i> <i>1</i> <i>2</i>	3 <i>-</i> <i>-</i> <i>-</i> <i>1</i> <i>2</i>	34
IESR	3	1	2	-	3
Institutions financières	24 <i>Sociétés de capital-risque : 18</i> <i>Sociétés de participation publiques : 4</i> <i>Banques : 1</i> <i>Business Angels : 1</i>	1 <i>1</i> <i>-</i> <i>-</i> <i>-</i>	10 <i>6</i> <i>2</i> <i>1</i> <i>1</i>	13 <i>11</i> <i>2</i> <i>-</i> <i>-</i>	32
Consultants / auditeurs	8	1	1	6	8
TOTAL	103	34	45	24	161

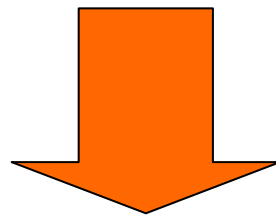
3. Genesis of hybrid local innovation networks (1995-1997)

- Generalized participation in conceiving an application for BioRegio, in the regions.

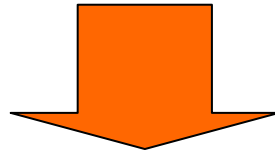
Explanation:

- Convergence of singular reasons motivating local actors' actions...
... allowed by the vagueness of BioRegio's objectives
- Preexisting professional networks

- Strong emulation within regions



3. Genesis of hybrid local innovation networks (1995-1997)



- Systems and organizations to sustain entrepreneurs are conceived, sometimes put in place, in the BioRegio application process
- After results, systems/organizations are implemented, even in loosing regions

Reason: action opportunity has emerged for the local social structure through contest application (modified *path-dependence*)



4. Stabilization of local innovation networks (1998-2004)

1998-2000: Networks' strengthening

- BioRegio derived organizations strengthened
- Support networks enriched
 - Technology transfer offices generalized within HERI
 - More numerous and more specialized technology parks
 - Emergence in the regions of other instruments to stimulate innovation
- Local support actors and systems prove able to play an intermediation role between firm's founders and their partners, especially with funding providers. Reasons:
 - Local dynamics initiated by Bioregio
 - VC companies « looking for » projects, because of context : stock market's increase; federal instruments to promote VC (tbg, KfW)



4. Stabilization of local innovation networks (1998-2004)

2001-2004: Survival of weakened networks

- Drastic context change:
stock markets crash; weakening of public support for VC
- Local support networks:
reorientating activities but still acting as intermediaries



5. Conclusion

Similarity of entrepreneurial dynamics in winning as well as in losing regions can be explained through:

- Genesis and stabilization of local hybrid innovation networks that facilitate access to resources for entrepreneurs on a more depersonalized way
- Embeddedness of these networks in a « fitting » environment: an environment that enables them to act as intermediaries

5. Conclusion

Lessons from BioRegio :

- To promote hybrid R&D projects, public action initially focused not on content of R&D projects but on structuration by local actors of ad hoc intermediating networks
- sense of timing (kairos)
 - ➔ hard to replicate

Comparison with french « pôles de compétitivité » ?

A vertical decorative bar on the left side of the slide, composed of various colored segments including shades of blue, teal, yellow, and black.

Thank you !