

Facoltà di Economia
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Corso:

Economia Industriale e dell'Innovazione

Docente
Prof. Riccardo Cappellin

LEZIONE 8

IL PROCESSO DI SVILUPPO NEI SISTEMI PRODUTTIVI REGIONALI

Riccardo Cappellin, Corso di Economia Industriale e dell'Innovazione, Università di Roma "Tor Vergata"

Tre approcci alla crescita economica

1) La crescita economica secondo un modello d'offerta:

$$\frac{Y}{P} = \frac{Y}{L} * \frac{L}{P}$$

Y = prodotto
P = popolazione
L = occupazione

Il prodotto pro-capite dipende dalla produttività e dal tasso di occupazione della popolazione.

Implicazioni di politica economica:

maggiore flessibilità del lavoro – minori salari e **maggiore produttività** –
maggiore domanda di lavoro – maggiore capacità produttiva – **maggiori esportazioni** – surplus commerciale – rivalutazione del cambio –
cambiamento della specializzazione produttiva e processi di
ristrutturazione e di riconversione produttiva – necessità di maggiore
flessibilità del lavoro

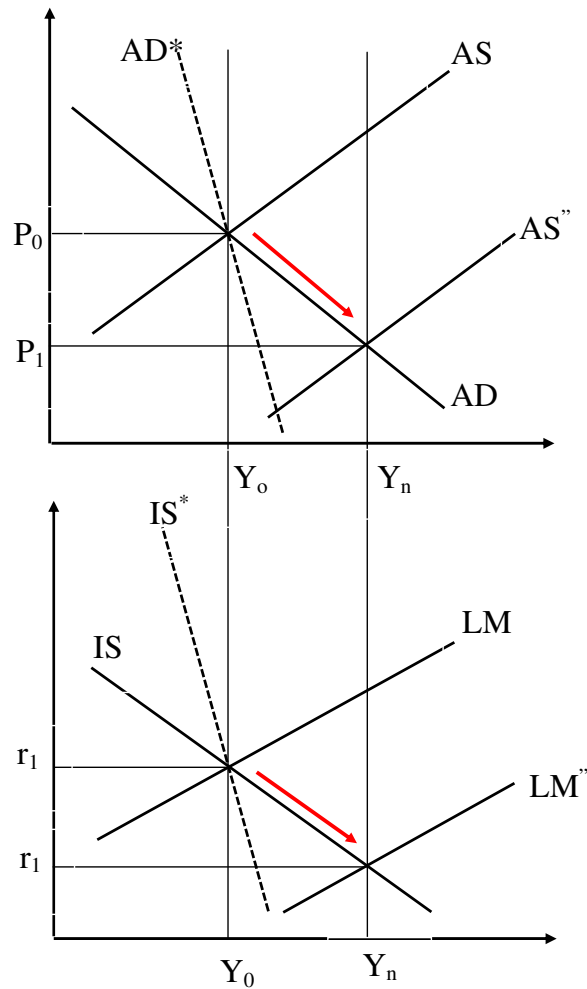
2) La crescita economica secondo un modello da domanda:

$$Y = C + I + G + X - M$$

Implicazioni di politica economica:

crescita del prodotto – **sfruttamento delle economie di scala** - **maggiore produttività** – maggiore competitività – **crescita delle esportazioni** –
crescita del prodotto

THE GROWTH OF GDP AND FISCAL AND MONETARY POLICIES: THE RIGIDITY OF INVESTMENT



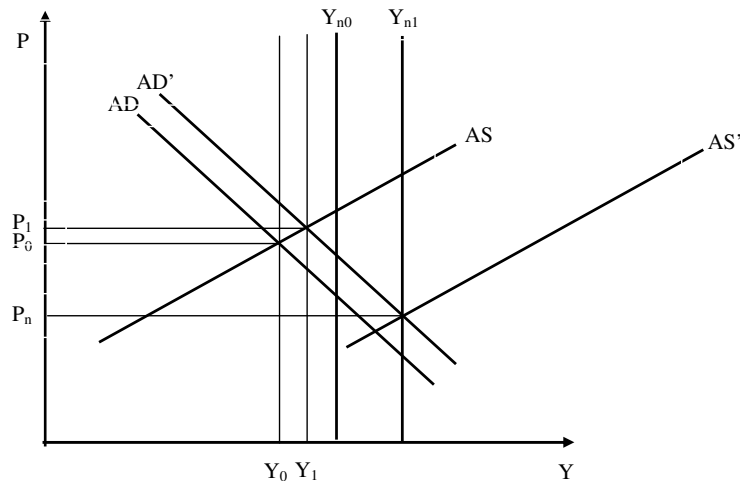
ACCORDING TO THE NEO-LIBERAL MODEL THE FLEXIBILITY OF PRICES AND WAGES BRINGS BACK THE ECONOMY TO FULL EMPLOYMENT (Y_n)

IF INVESTMENTS ARE RIGID TO THE INTEREST RATE, THEN THE (IS*) AND (AD*) CURVES ARE RIGID

An expansionary monetary policy does not increase GDP, as the decrease of the interest rate does not increase investments. **The AD curve is vertical and does not shift with monetary policies.**

The structural reforms of the labor market decrease the wages but do not increase employment as they also decrease the labor incomes, the consumption and the aggregate demand. The **joint shift down of the AS and the AD curves** decreases the prices and creates a deflation, but **do not increase the employment.**

1. IL MODELLO AD-AS



Nel modello tradizionale AD e AS una politica di investimenti nei settori HT finanziata con deficit spending sposterebbe la AD e determinerebbe un aumento del reddito a Y_1 . Ma sposterebbe il reddito potenziale a Y_{n1} e quindi la disoccupazione aumenterebbe o resterebbe la stessa ($Y_{n1} - Y_1$) che prima ($Y_{n0} - Y_0$).

L'unico modo per assicurare una riduzione della disoccupazione è ridurre i prezzi e i salari fino al livello P_n , dato che questo aumenterebbe la offerta reale di moneta, ridurrebbe i tassi di interesse e aumenterebbe gli investimenti privati e la domanda aggregata.

L'aumento della capacità produttiva nei settori HT non ha alcun effetto sul reddito nel breve periodo e si deve attendere una riduzione dei salari e dei prezzi.

3) Un approccio non aggregato: tre interpretazioni della crescita economica compatibili con il modello dei network territoriali.

$$\frac{Y}{L} = \sum_i \frac{Y_i}{L_i} * \frac{L_i}{L} \quad i = \text{settore } i$$

La produttività media dell'economia dipende dalla produttività dei singoli settori e dalla quota dei settori a più alta produttività sul totale della occupazione.

$$\Delta Y = Y_{\text{imprese nate}} + \text{Diff. } Y_{\text{imprese persistenti}} - Y_{\text{imprese morte}}$$

La crescita del prodotto nazionale dipende dalla produzione nelle nuove imprese, più la variazione positiva o negativa delle produzioni nelle imprese persistenti, meno la produzione nelle imprese che sono scomparse.

$$\Delta (Y/N) = f(\Delta \text{ conoscenze})$$

La crescita delle produttività dipende dal processo di crescita della conoscenza e questo ultimo dipende da fattori diversi, tra i quali possono essere indicati: competenze individuali, diversità degli attori, costi di transazione e sviluppo delle reti materiali ed immateriali, investimento privato e pubblico in RS e nei processi di apprendimento.

Da questi tre approcci possono essere ricavate le seguenti implicazioni di politica economica:

- E' necessario promuovere la **riconversione** delle risorse dai settori a minore a quelli a maggiore produttività
- E' necessario promuovere la crescita di produzioni in **imprese nuove** che compensino la diminuzione della produzione nelle imprese che vengono chiuse e quella eventuale nelle imprese che permangono.
- E' necessario aumentare la produttività e promuovere l'**innovazione** delle singole imprese e dei singoli settori tramite una maggiore velocità dei processi di **apprendimento** e di creazione delle **conoscenze**.

LA CRISI DEGLI INVESTIMENTI

	2008	2014	2014/ 2008	2014-2008	Quota sul PIL	Peso sulla variazione del PIL
Prodotto interno lordo ai prezzi di mercato	1.670.241,95	1.537.258,07	-8,0%	-132.983,88	100,0%	-8,0%
Spesa per consumi finali delle famiglie residenti e delle istituzioni sociali private senza scopo di lucro al servizio delle famiglie	983.461,09	918.032,13	-6,7%	-65.428,96	59,7%	-3,9%
Spesa per consumi finali delle amministrazioni pubbliche	324.581,82	313.864,36	-3,3%	-10.717,46	20,4%	-0,6%
Investimenti fissi lordi	357.274,63	259.093,98	-27,5%	-98.180,65	16,9%	-5,9%
Importazioni di beni e servizi fob	-445.035,53	-400.107,73	-10,1%	44.927,80	-26,0%	2,7%
Esportazioni di beni e servizi fob	441.173,49	448.899,10	1,8%	7.725,61	29,2%	0,5%

Variazione sullo stesso trimestre dell'anno precedente									
	T1-2013	T2-2013	T3-2013	T4-2013	T1-2014	T2-2014	T3-2014		
prodotto interno lordo ai prezzi di mercato	-2,46%	-2,24%	-1,83%	-1,16%	-0,33%	-0,37%	-0,52%		
importazioni di beni (fob) e servizi	-4,95%	-4,12%	-1,70%	0,52%	-0,05%	1,76%	-0,69%		
spesa per consumi finali delle famiglie	-3,42%	-3,42%	-2,45%	-1,58%	-0,28%	0,45%	0,43%		
spesa per consumi finali delle amministrazioni pubbliche	-1,35%	-0,33%	-1,45%	0,39%	-0,31%	-0,43%	0,18%		
investimenti fissi lordi	-7,57%	-6,17%	-4,26%	-3,44%	-1,43%	-2,17%	-3,08%		
esportazioni di beni (fob) e servizi	1,25%	0,39%	0,37%	1,43%	1,48%	2,45%	1,32%		

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Tabella 4				
Investimenti fissi lordi per tipo di bene (valori concatenati con anno di riferimento 2010)				
Beni	2013/ 2008	2013-2008	Quota	
totale beni fissi	-23,10%	-82.413,46	100,00%	
mezzi di trasporto	-26,10%	-6.581,48	8,00%	
apparecchiature per informatica e telecomunicazioni	-11,60%	-1.386,09	1,70%	
altri macchinari e attrezzature, aramenti	-23,80%	-19.510,41	23,70%	
abitazioni (inclusi i costi di trasferimento di proprietà)	-25,30%	-25.008,52	30,30%	
altre costruzioni (inclusi i costi di trasferimento di proprietà)	-28,60%	-27.474,17	33,30%	
prodotti di proprietà intellettuale	-5,90%	-2.555,83	3,10%	

Tabella 5

Investimenti fissi lordi per settore istituzionale (milioni di euro a prezzi correnti)			
Settore istituzionale	2013/2018	2013-2008	Quota
S1: totale economia	-16,80%	-	100,00%
S11: società non finanziarie	-14,60%	-	44,09%
S12: società finanziarie	-36,60%	-1.931,40	3,33%
S13: amministrazioni pubbliche	-21,10%	10.255,00	17,66%
S1M: famiglie e istituzioni sociali private senza scopo di lucro al servizio delle famiglie	-17,30%	-	34,93%

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Nel processo di crescita ha un ruolo determinante l'investimento, che opera sia dal lato della offerta che dal lato della domanda. Questo può essere rappresentato dalla sequenza dei seguenti effetti:

- Innovazione, redditività degli investimenti e strumenti di finanziamento privato o pubblico.** Nel caso di **investimenti privati**, gli investimenti devono essere finanziati non con sussidi pubblici ma dalle banche e da intermediari finanziari specializzati. Questo richiede che le nuove produzioni di beni e servizi innovativi siano **finanziariamente convenienti**. I nuovi beni e servizi, se di elevata qualità e innovativi, potranno essere pagati alle imprese private dai **cittadini che li acquisteranno sul mercato** eventualmente a prezzi regolamentati. Nel caso di **investimenti pubblici**, potranno essere finanziati con il **pagamento di tasse di scopo o imposte sul reddito** da parte dei cittadini e la crescita futura del PIL e delle entrate fiscali consentiranno di ripagare l'esborso iniziale.
- L'effetto keynesiano.** Gli investimenti attivano il moltiplicatore keynesiano dei redditi e quindi aumentano la **domanda aggregata** e il PIL,
- L'effetto di offerta.** Gli investimenti permettono la creazione di **nuova capacità produttiva** nei settori produttivi innovativi e consentono la **crescita dell'occupazione** in tali settori. Inoltre, le nuove produzioni create distribuiscono **magiori redditi** ai fattori di produzione: lavoro e capitale, e questi redditi **sostengono la domanda** aggregata e anche la domanda delle stesse nuove produzioni.

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THE PROFITABILITY OF INVESTMENTS

For the private investors a **necessary condition for investment is the profitability of the investment project** and new productions should be competitive either because produced at lower costs (process innovation) or because they have a superior quality (product innovation) than the competitive productions. But also for the public institutions social benefits should be higher than social costs.

Innovation becomes a crucial factor for investment decision in two perspectives: first as the **new productions** should be an innovation or be **different with respect to the existing productions**, and second because innovation has a key role in **determining the internal rate of return of an investment project (IRR)**. This latter is linked to innovation, as **innovation may imply an increase of revenues, a decrease of the costs of the investment** and also a **decrease of the time required for its completion or an extension of the time of life span of the revenues** linked to a new production.

Moreover, innovation requires that **adequate financial resources** should be allocated to the **investment in R&D**, in the **training of the labour resources**, in the **technical/economic/financial design** (project capability) and in the creation of technological and economic and financial **collaborations with the other actors of the regional and national system of innovation (NIS)**.

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A MODEL OF INNOVATION AND INVESTMENT LED GROWTH

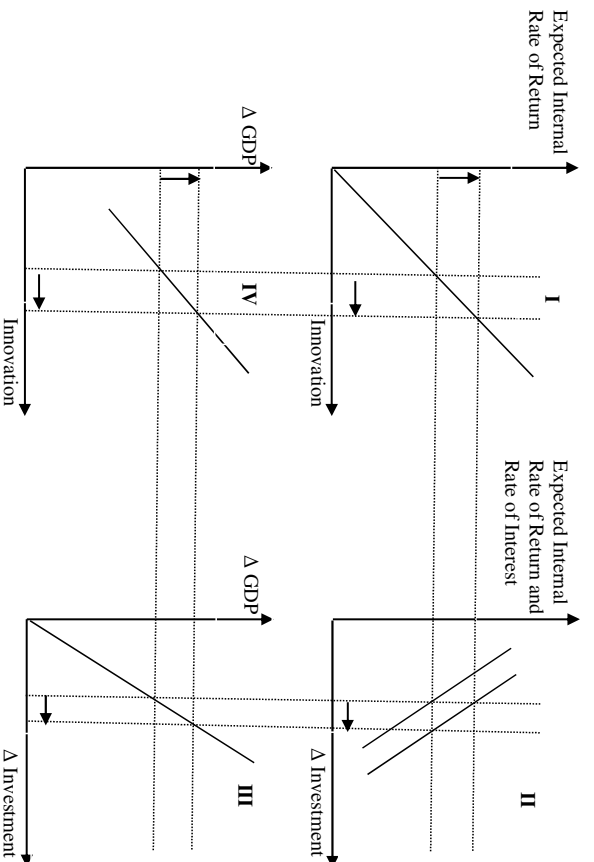


Figure 3 – A model of innovation and investment led growth

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According to a the model of innovation and investment led growth illustrated in the paper, a greater immaterial investment in R&D, education and project design and planning leads to greater innovation, this latter is the factor leading to an increase of the propensity to invest by the firms and then the investment leads to an increase of GDP, which may be compatible with the constraint of the equilibrium of the balance of payment.

The model indicates **two basic instruments of industrial policy**, which may be used by the government:

- a) the use of various fiscal subsidies and coordination measures which may affect **the sectoral distribution (s) of investment**, which goes to increase the production capacity in **the domestic or in the exporting sector**,
- b) the use of public expenditure and various programs, aimed at increasing **the required preliminary investment in R&D, education and project design and planning effort**, as that immaterial investment affects the flow of innovation, **which increases the profitability (IRR) of the fixed investment** by the private firms in the various sectors.

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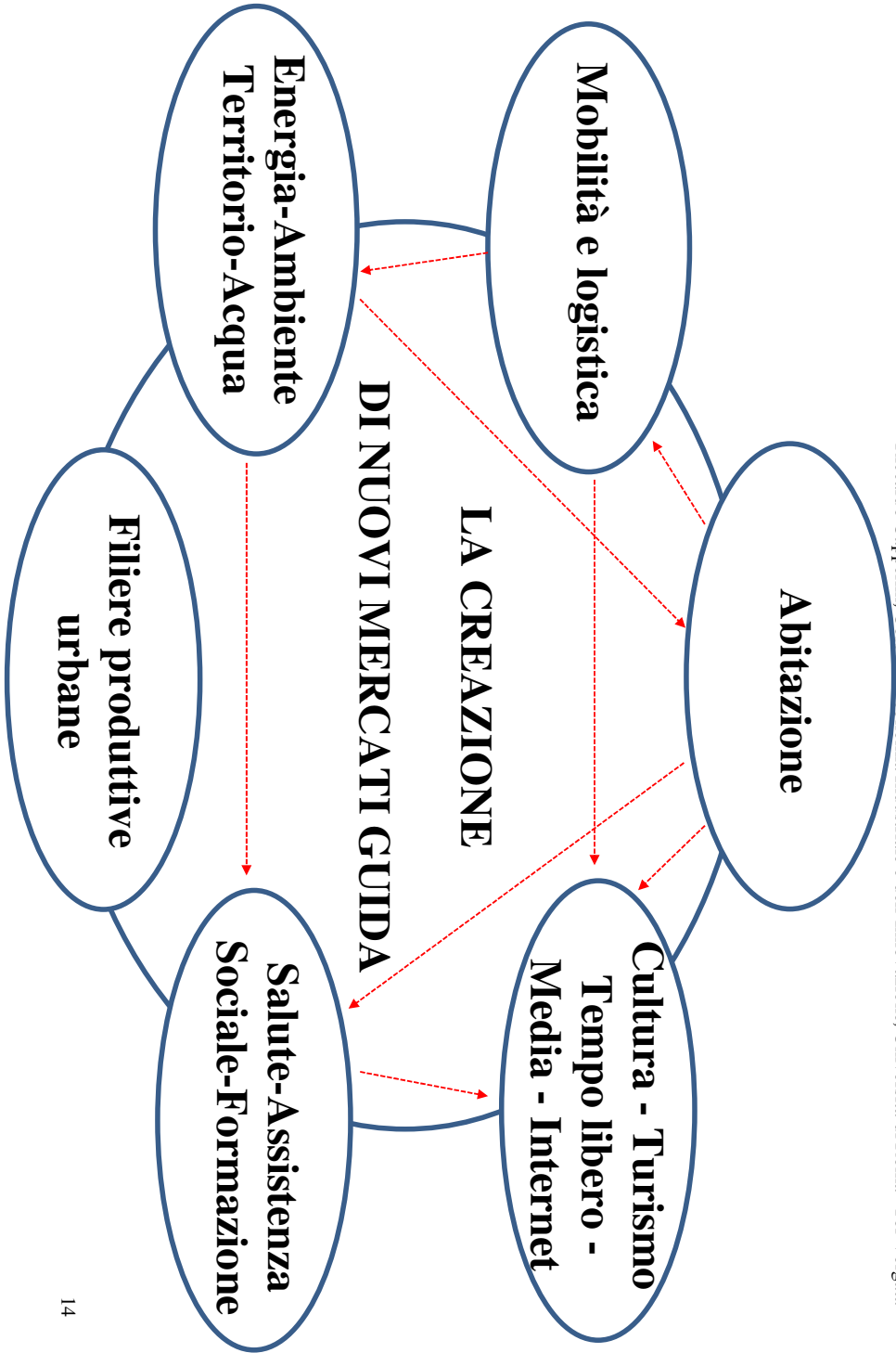
UN APPROCCIO CROSS-SETTORIALE ALLA CRESCITA

La crescita dipende dalla creazione di nuovi comparti produttivi e di nuove imprese, dalle innovazioni di prodotto e di processo e organizzative interne alle imprese e da **una forte integrazione delle singole imprese** sia nelle filiere produttive globali che nel sistema produttivo territoriale.

Le politiche industriali tradizionali (le “politiche industriali per fattori”), come la distribuzione di aiuti fiscali alle PMI (minore IRAP) possono servire a margine o come sfondo per **la parte meno dinamica dell'economia**, mentre solo **politiche industriali strategiche e selettive** possono sostenere **le produzioni più innovative e dinamiche**, che siano in grado di trainare l'economia complessiva. In altri termini, è necessario passare dal modello della “crescita equilibrata” a quello dello “sviluppo squilibrato” a la Hirschman o Perroux, che mira al cambiamento non solo tecnologico ma anche dei bisogni degli utilizzatori e delle relazioni tra le istituzioni e i cittadini.

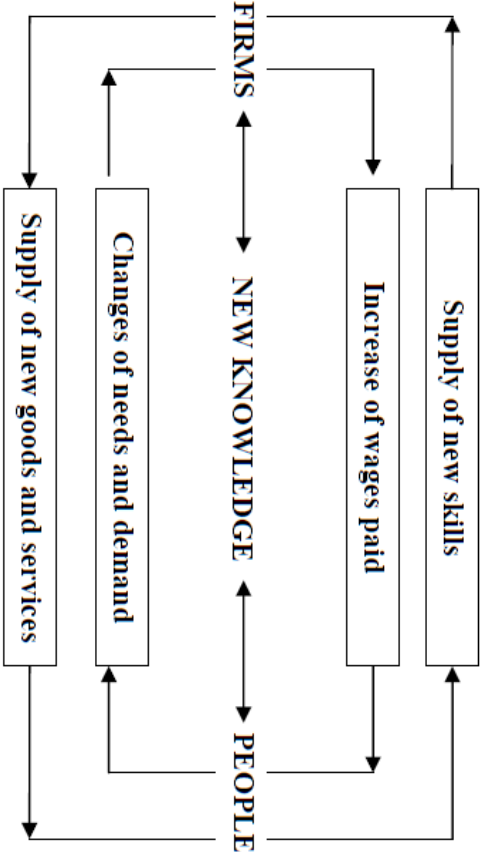
La crescita economica dipende da **un processo dinamico in cui interagiscono sia la domanda che l'offerta delle nuove produzioni** (Cappellin 2014a, 2014b). Da un lato lo sviluppo di nuove capacità produttive nei beni e servizi innovativi da parte delle imprese più innovative stimola la domanda finale da parte dei consumatori e la domanda intermedia delle imprese a sperimentare tali nuovi beni e servizi. D'altro lato, **l'emergere di nuovi bisogni da parte delle comunità di utilizzatori innovativi (“lead users”)** e delle imprese, che hanno bisogno di nuovi prodotti intermedi traina la domanda di mercato e induce i produttori a modificare le produzioni di beni e servizi tradizionali. **I veri driver della crescita in una “nuova politica industriale” sono la conoscenza, gli investimenti, le nuove preferenze dei consumatori e la governance dei cambiamenti e delle relazioni tra gli attori economici.**

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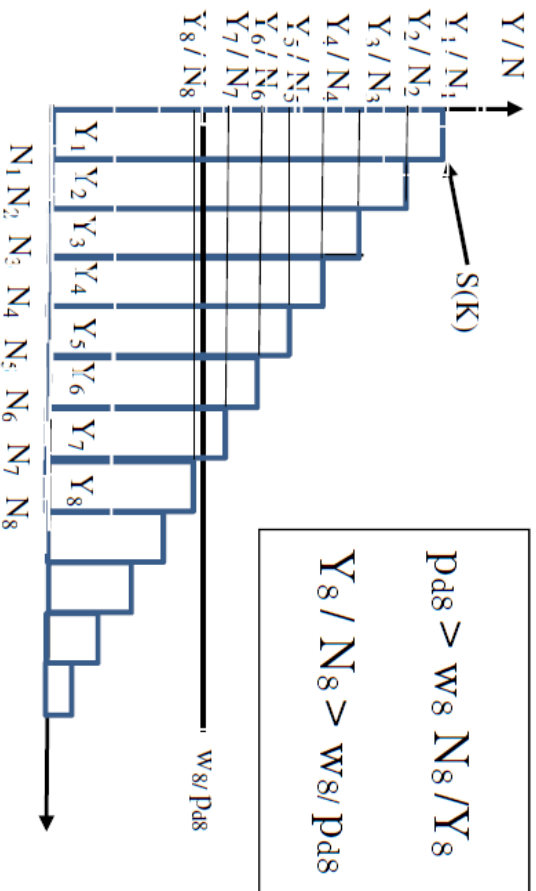
Figure 2: The Process of Urban Growth and the Creation of New Needs and New Skills



**LA STRUTTURA “SQUILIBRATA” DELLA
DOMANDA: LEAD USERS - UTILIZZATORI TRADIZIONALI
(INNOVATION DEMAND LEAD)
OFFERTA: IMPRESE INNOVATIVE - IMPRESE TRADIZIONALI
(INNOVATION TECHNOLOGY PUSH)**

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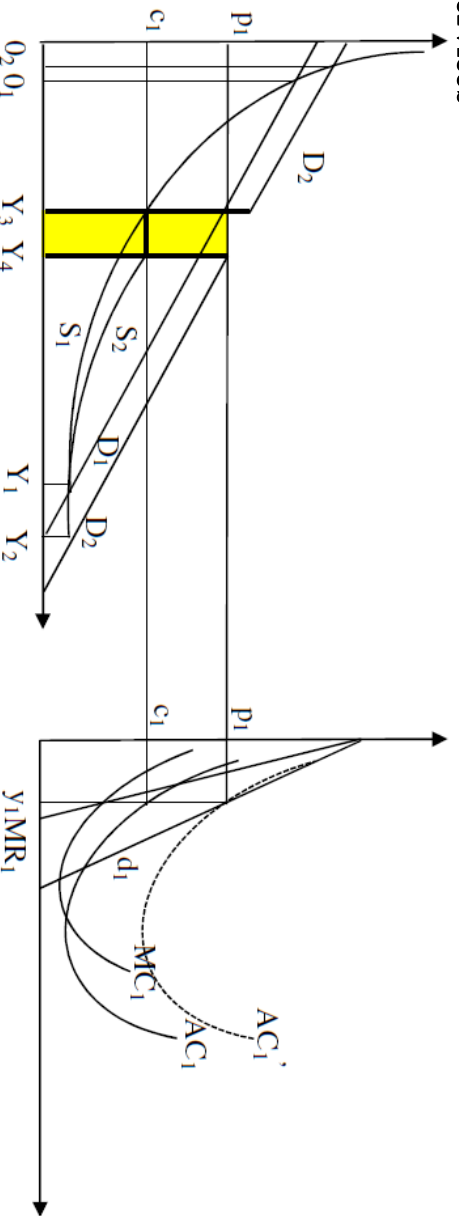
The cross-sectoral supply side of the economy and the employment and GDP levels



Since the conditions for profitability indicated above are not satisfied, the sector 8 is **eliminated from the economic production range**: due to a too low productivity (Y/N) or to a too high unit labor cost (w), given the actual market price (p).

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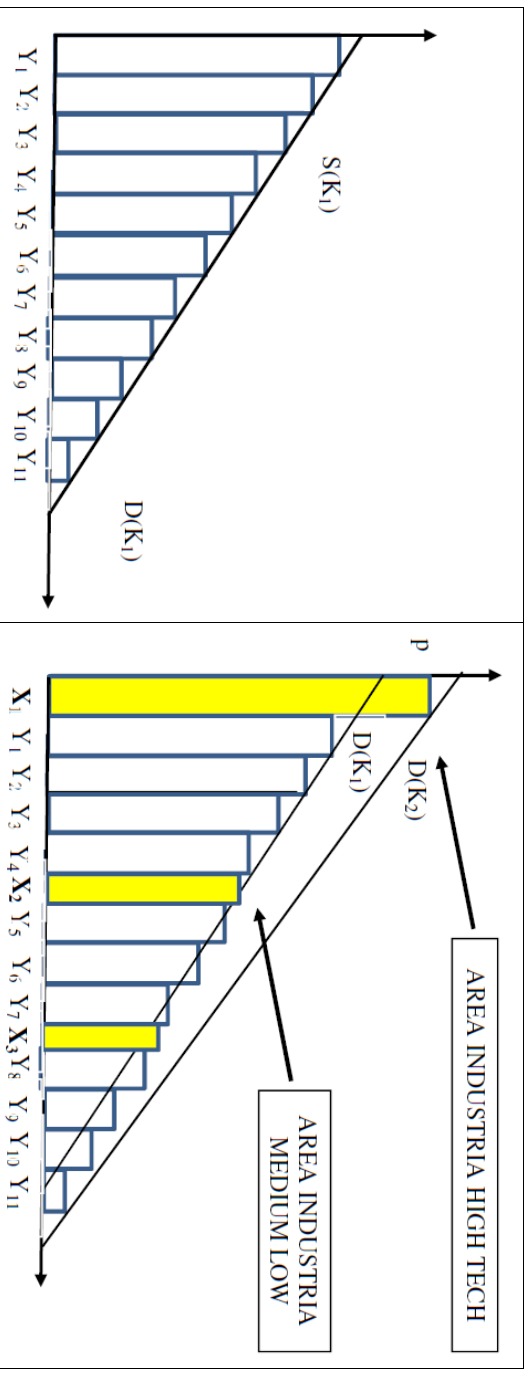
The effect of investment on the creation of new productions: private or collective goods or services



The **expectations by the innovative firms** on the new needs by the citizens and on the possible growth of new productions may lead the firms to the **design of innovative investment projects** and to demand new funds to the financial markets. Once **these projects are realized** they **increase the supply of new productions**. Moreover, the revenues created by the new jobs and the investment made in order to create them are capable to **sustain the overall cross-sectoral demand** and to increase the revenues of the firms in the various sectors of the economy. That may also leads **validate the expectations** by the innovative firms that **market price of new product and services will be greater than their production costs**.

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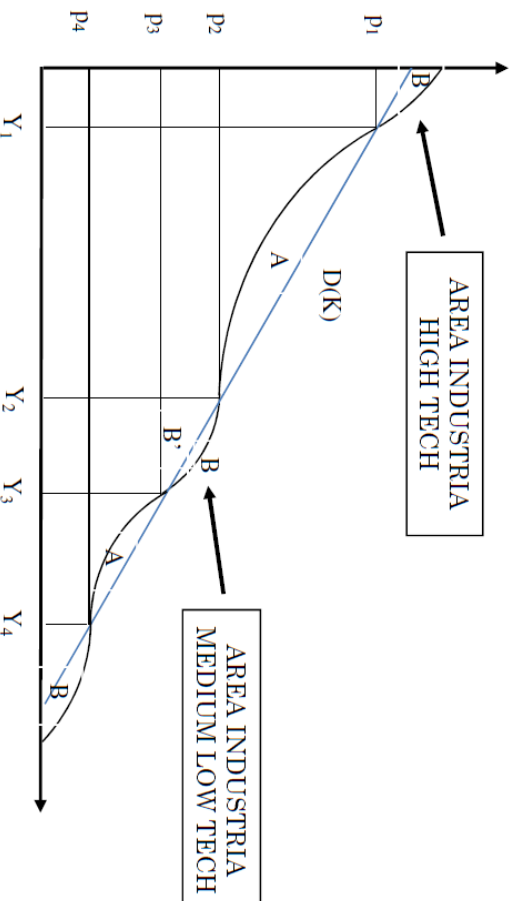
The creation of new sectors is determined by a shift of the cross-sectoral demand and supply



- 1) An increase of the knowledge and of the needs by the users and also an increase of the total investments by the firms determine **an upward shift of the cross-sectoral demand**.
- 2) The investment and the increase of production capabilities determine **a shift of the curve S to the right** and the production of the new goods and services (X_i), additional with respect to the previous productions (Y_i). **The new productions develop "at the margins" of existing productions.**

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The cross-sectoral demand and supply schedules in the general case



The areas A and B between the cross-sectoral demand and the cross-sectoral supply curves respectively indicate when "ex ante" the expected market price is greater (A) or lower (B) than the unit production cost for the various sectors.

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**A SCHUMPETERIAN APPROACH:
THE MODEL OF CROSS-SECTORAL DEMAND AND SUPPLY**



**INDUSTRIAL POLICIES PROMOTE A DYNAMIC BALANCE
BETWEEN THE NEW DEMAND BY THE INNOVATIVE CONSUMERS AND
THE NEW SUPPLY BY THE INNOVATING FIRMS**

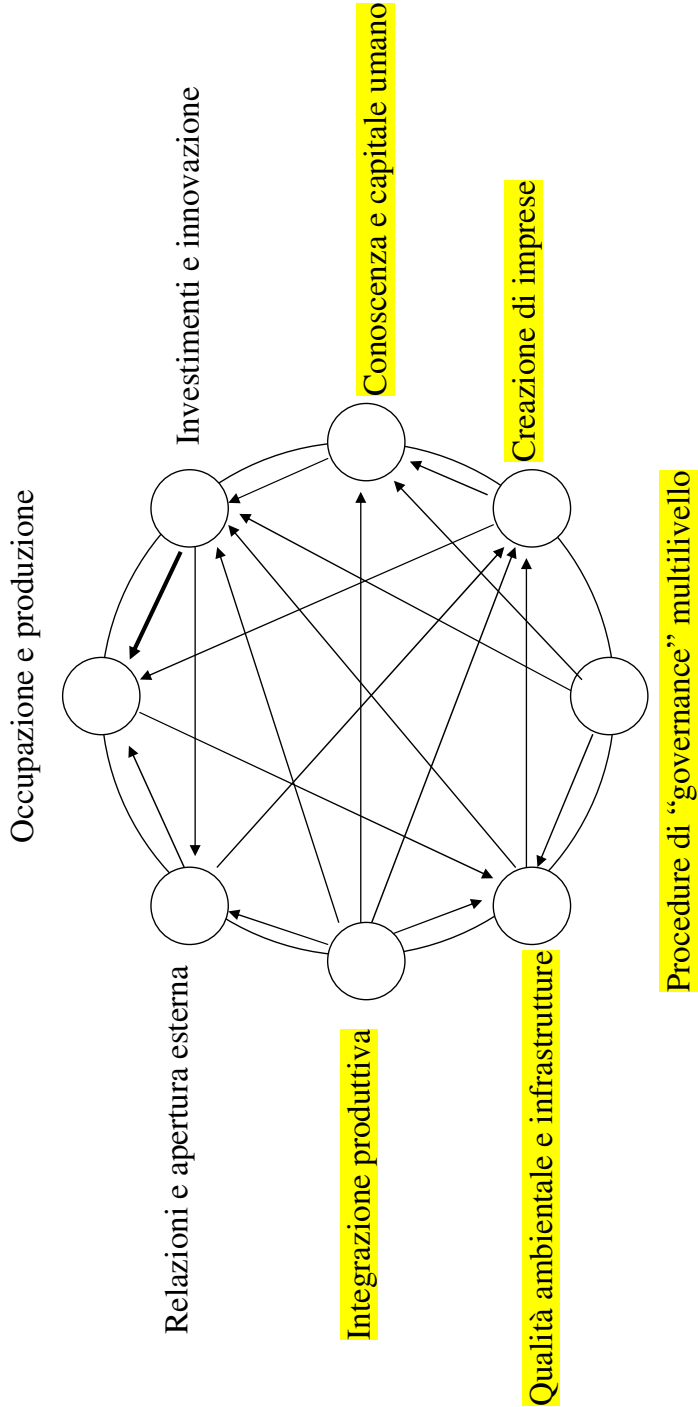


Figura 1: Fattori e relazioni nello sviluppo locale

Cappellin, R. and Wink, R. (2009), **International Knowledge and Innovation Networks: Knowledge Creation and Innovation in Medium Technology Clusters**. Cheltenham: Edward Elgar Publishing.

http://books.google.it/books?id=1BpcJGekx18C&printsec=frontcover&source=gbs_navlinks_s#v=onepage&q=&f=false

Cap. 4.11, pp. 123-127

11. The role of networking and knowledge creation in regional development

The process of economic development is the result of the tight interaction between the following **eight blocks of variables (Cappellin, 2003)**:

- growth of regional product and employment,
- interregional and international networking and competitiveness,
- local networking between the various sectors and firms,
- birth, growth and closure of local firms,
- investments, product and process innovation, productivity increase,
- knowledge creation, learning processes, competencies and human capital,
- quality of the physical environmental,
- policy framework and multi-level governance.

Increased networking between local firms and sectors promotes interactive learning, knowledge creation and the growth of human capital (**figure 7.1**). These latter processes promote investments, innovation and then the productivity increase within firms. That promotes international competitiveness and exports, which determine output and employment growth. This latter promote the creation of new firms, which further increase the local networks and the process of interactive learning and the growth of local know how. These latter processes are also stimulated by the international openness and the contacts with actors external to the region. Environmental quality is affected by the growth of the regional economy and it facilitates the networking between local firms through the provision of infrastructures and it facilitates the growth of knowledge

creation by attracting qualified workers in the region. Finally, policies adopted in a multilevel governance framework through the negotiations between the various local actors may affect directly and indirectly all the above indicated variables and processes.

This model may also be used to explain why the openness to the international economy may determine the crisis of a local economy and a spiral of cumulative decline, as often indicated by the critics of the

The case of the old industrialized regions (figure 7.2).

The case of many economic lagging regions (figure 7.3).

In the perspective of the knowledge economy, it is important to facilitate the reciprocal interactions between the process of learning and knowledge creation and all the other variables, indicated in the figure 7. In particular, increased knowledge promotes greater international openness, through the participation to international innovation programs and international technology transfers. Increased knowledge promotes regional networking through the diffusion of technology spill-over, and it is promoted by it through the creation of local innovation networks. Increased knowledge promotes the turnover of firms, as it stimulates the creation of science start-ups, while these latter increase the diversity of the industrial environment and stimulate the creation of new knowledge. Finally, increased knowledge promotes investments in structures and the adoption of innovation, as it provides the capabilities to design new projects and it is promoted by the investments in R&D and the demand of new competencies.

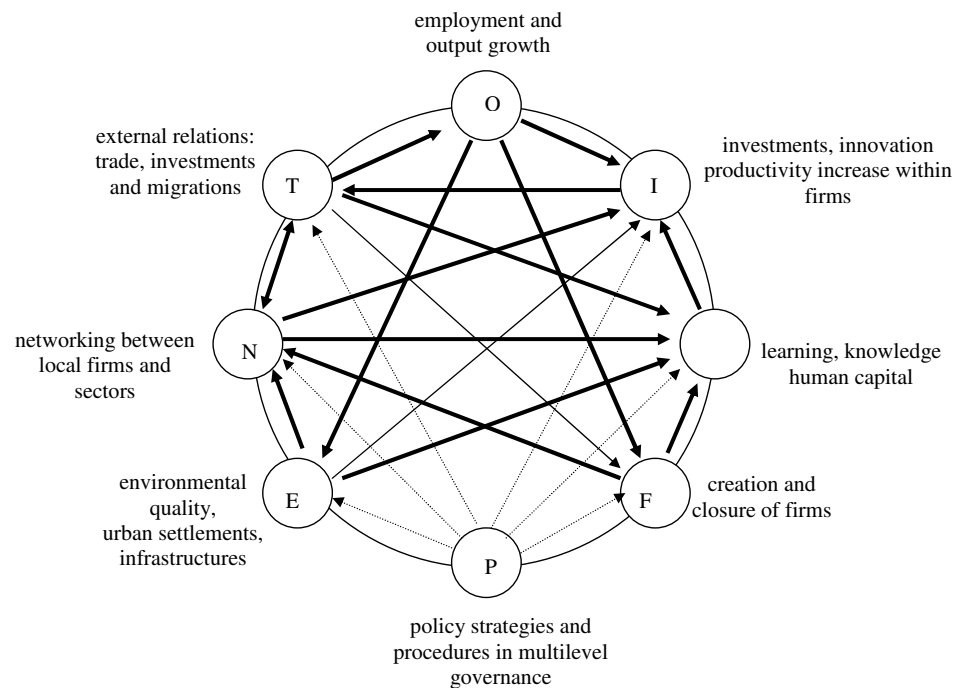


Figure 7.1: Factors and key links in the process of socio-economic development

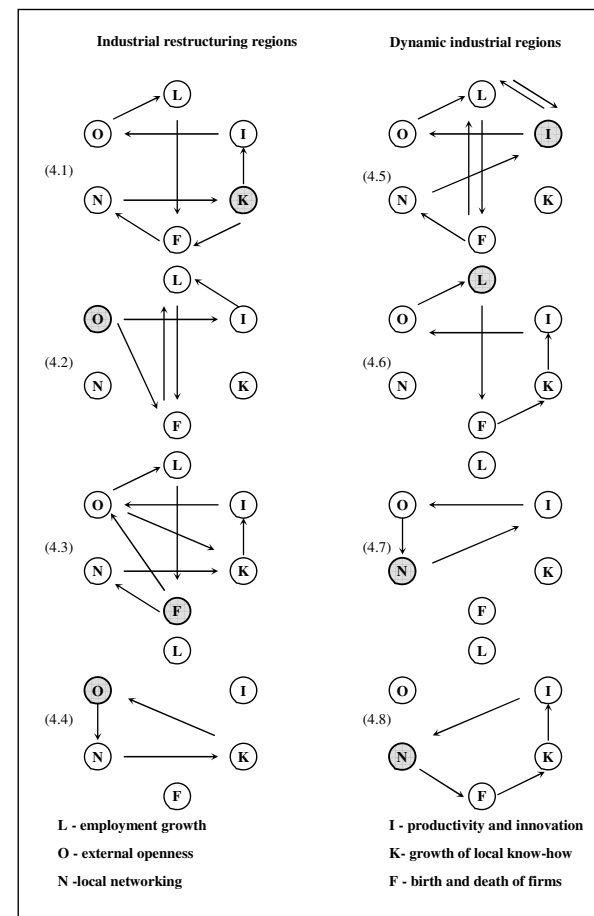
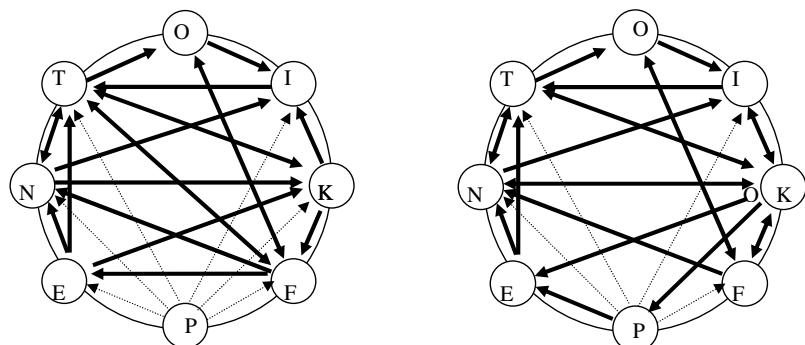


Figure 10: Sviluppo regionale, apertura esterna e networks locali

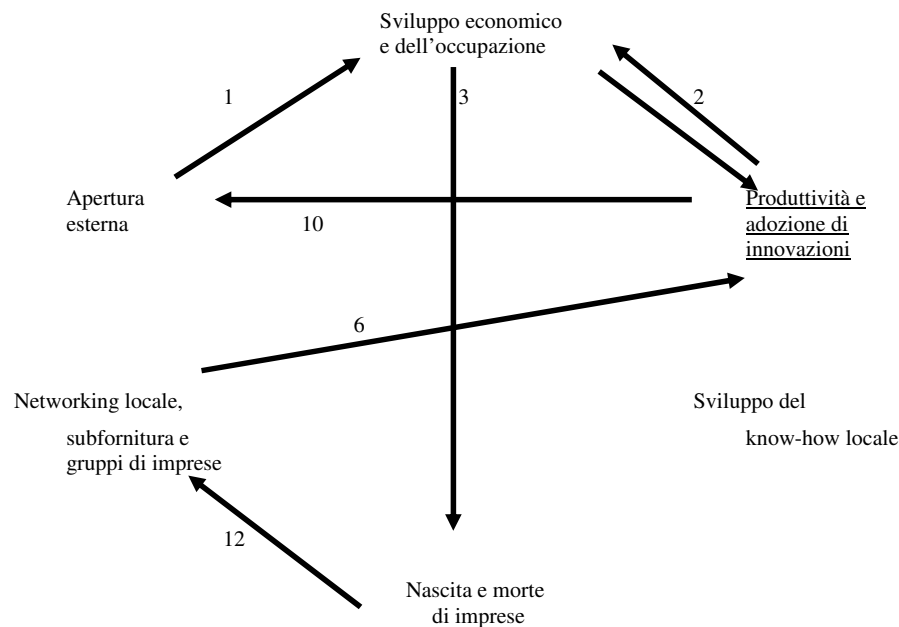


Figura 2: Effetti cumulativi dello sviluppo delle capacità innovative

L'adozione di innovazioni di processo e la crescita della produttività porta ad una diminuzione della domanda di lavoro ed ad un aumento dei profitti delle imprese con effetti positivi sull'investimento e soprattutto sulla creazione di nuove imprese, che permettono un reimpiego della forza lavoro e delle risorse produttive provvisoriamente inutilizzate. Il mantenimento di bassi tassi di disoccupazione determina un elevato consenso sociale e attenua le resistenze all'adozione di innovazioni da parte dei lavoratori e quindi sostiene la crescita della produttività (effetti: 2b-3a-3b-2a).

La creazione di nuove imprese promuove l'integrazione-diversificazione del sistema produttivo locale, che a sua volta riduce gli ostacoli all'adozione di innovazioni nelle imprese. Questa determina un aumento della competitività e quindi dell'occupazione locale (effetti 2b-3a-12a -6b -10b-1a-2a).

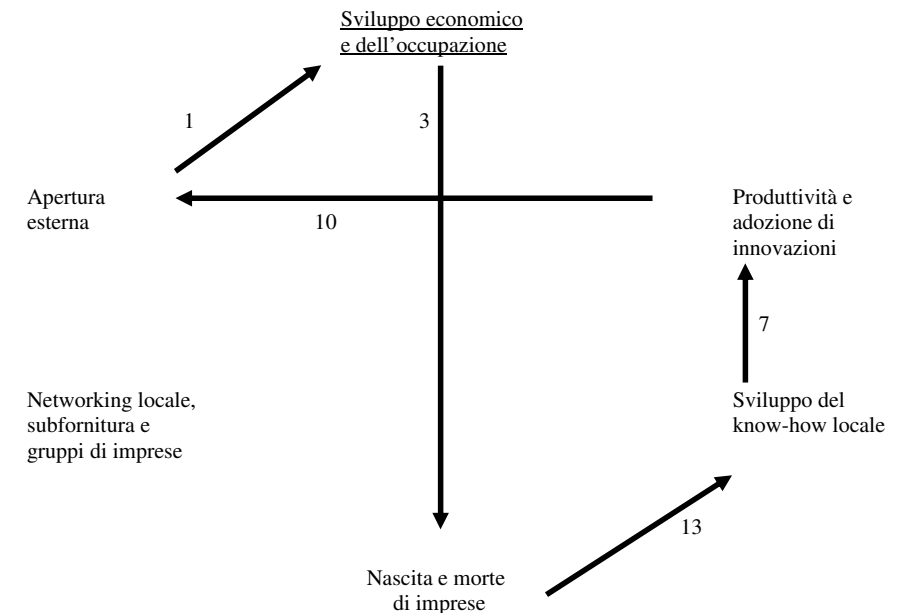


Figura 3: Effetti cumulativi della crescita dell'occupazione e della produzione

Lo sviluppo dell'economia locale stimola la domanda a scala locale di servizi alla popolazione e di subfornitura specialistica alle imprese esistenti e favorisce quindi la creazione di nuove imprese. L'elevata numerosità delle imprese esistenti comporta una maggiore competizione tra le stesse, una maggiore diversificazione delle capacità tecnologiche e organizzative e chiaramente lo sviluppo delle capacità imprenditoriali locali. Questo stimola l'adozione di innovazioni di prodotto, la qualificazione delle produzioni locali e la competitività delle imprese locali sui mercati esterni e quindi la crescita delle esportazioni che rappresentano la componente cruciale della domanda delle produzioni locali e dello sviluppo locale (effetti: 3a-13b-7b-10b-1a).

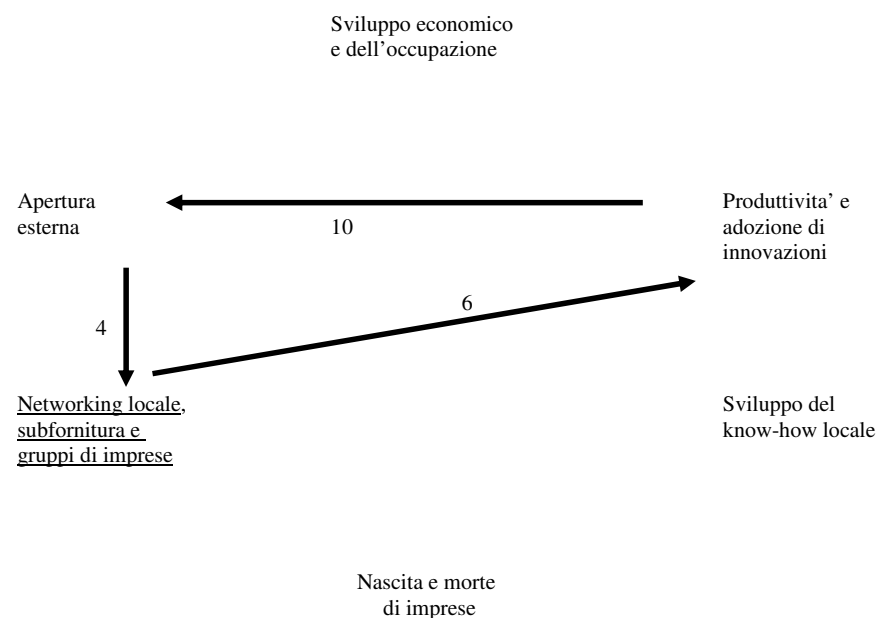


Figura 4: Effetti cumulativi della cooperazione tra le imprese locali

La stretta integrazione tra le imprese locali nelle relazioni di subfornitura e la complementarietà tra le imprese locali aumenta l'efficienza del sistema produttivo locale e favorisce i processi innovativi e quindi la competitività delle esportazioni locali. D'altro lato, la maggiore apertura verso l'economia internazionale stimola la cooperazione tra le imprese locali per fare fronte alle sfide della competizione internazionale (effetti: 6b-10b-4b)

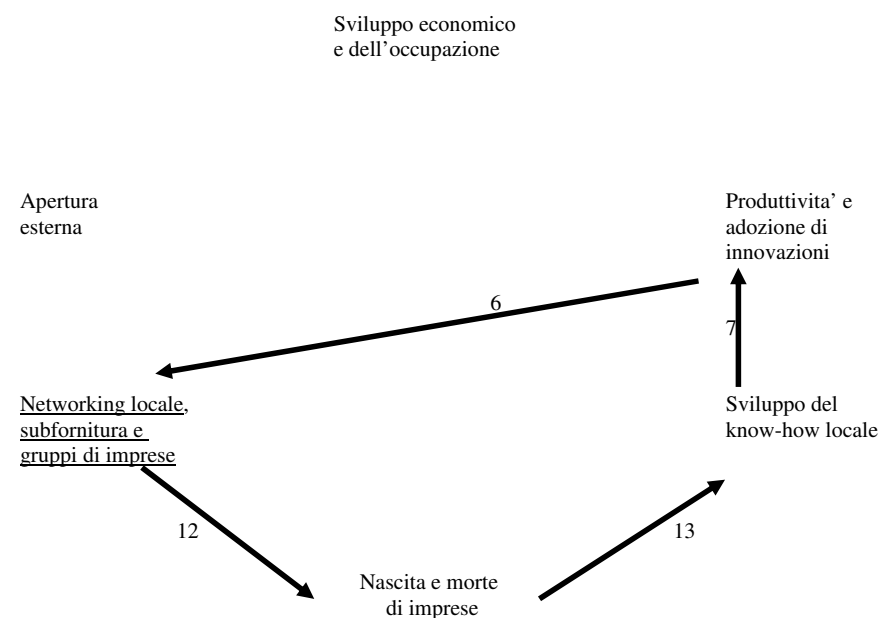


Figura 5: Effetti cumulativi della cooperazione tra le imprese locali

Lo sviluppo delle reti di subfornitura e del networking tra le imprese locali facilita la nascita di nuove imprese e promuove la diversità del know-how tecnologico e produttivo e delle capacità imprenditoriali, che favoriscono la dinamica innovativa. D'altro lato l'accelerazione del processo di cambiamento tecnologico a sua volta stimola la cooperazione o il networking tra le imprese locali, tramite uno sviluppo ulteriore dei processi di esternalizzazione e delle relazioni di subfornitura (effetti: 12b-13b-7b-6a).

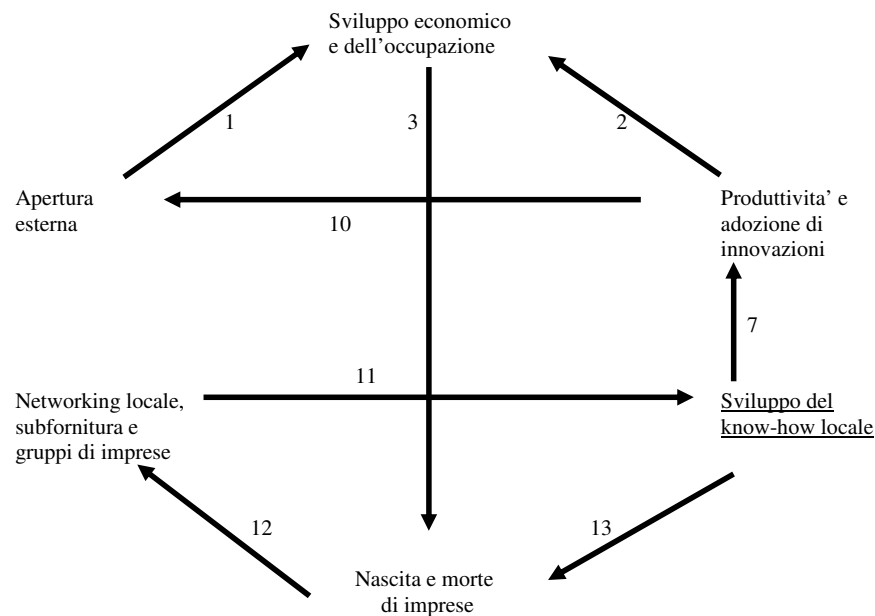


Figura 6: Effetti cumulativi dell'esaurirsi del know-how locale

Il progressivo inaridirsi del know-how produttivo locale dovuto al fatto che esso si basa essenzialmente su processi di apprendimento interni alle singole imprese e non su espliciti investimenti in ricerca né sull'utilizzo di corsi di formazione continua dei lavoratori riduce le innovazioni e la dinamica della produttività. Questo comporta una minore competitività delle produzioni locali, una maggiore dipendenza tecnologica dall'esterno e quindi un minore tasso di crescita delle esportazioni e del prodotto lordo locale. D'altro lato, la minore dinamica della produttività delle risorse endogene locali riduce le capacità produttive locali e comporta un minore tasso di crescita del prodotto (effetti 7b, 2b, e 10b, 1a, 3a).

Inoltre, l'indebolirsi delle capacità tecnologiche e imprenditoriali locali e la minore crescita dell'economia locale comportano una riduzione del tasso di natalità delle imprese e soprattutto delle imprese tecnologiche

amente innovative ed un aumento del tasso di mortalità. Questo determina una crescente concentrazione settoriale tra le imprese e quindi l'adozione di forme di tipo gerarchico che indeboliscono il processo di "networking" locale.

Infine, anche la forte concorrenza tra le imprese che operano in produzioni molto simili riduce le possibilità di cooperazione produttiva e tecnologica locale. Questo forte individualismo ostacola uno sforzo congiunto nello sviluppo del know-how produttivo locale in termini di attività di ricerca congiunta e l'adozione di innovazioni importanti nei prodotti (effetti 13a, 12a, 11a).

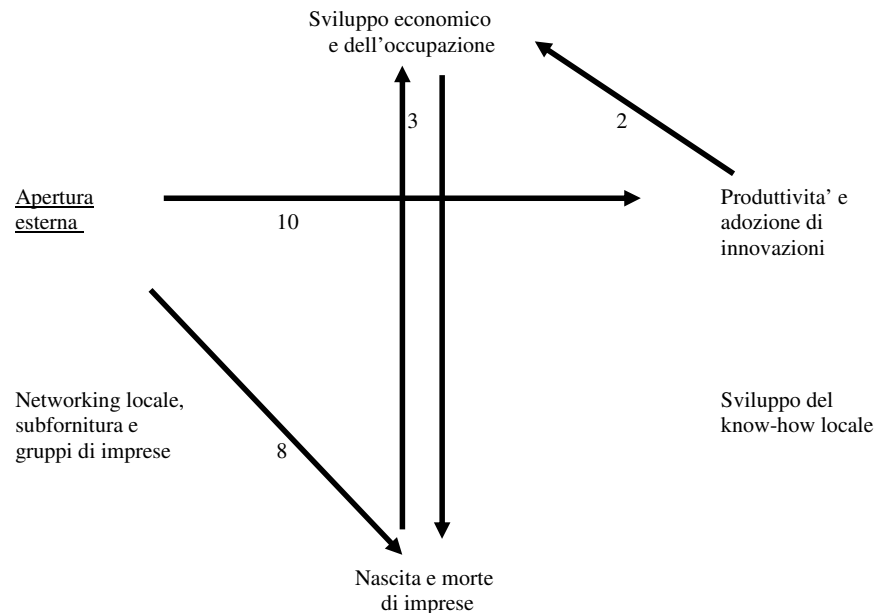


Figura 7: Effetti negativi della globalizzazione sull'economia locale

Il processo di globalizzazione e la crescente concorrenza internazionale possono da un lato determinare la crisi di alcune imprese locali e dall'altro costringere le imprese esistenti a processi di ristrutturazione, con effetti negativi sulle capacità produttive e sull'occupazione locale. (effetti 10a, 2b, e 8b).

In termini negativi sulla nascita di nuove imprese può agire anche la concorrenza esercitata sul mercato del lavoro locale del pendolarismo verso le aree contigue con maggiore tasso di sviluppo. Questo comprime le motivazioni soprattutto da parte dei giovani ad una scelta imprenditoriale.

Questo mette in modo un processo moltiplicativo negativo sui redditi e sull'occupazione tramite la crisi di molte imprese rivolte al mercato locale (3a e 3b). In particolare i quadri tecnici ed i lavoratori licenziati dalle imprese che hanno chiuso possono essere indotti a creare imprese molto piccole che conducono una vita relativamente precaria, senza un mercato consolidato e un know-how distintivo.

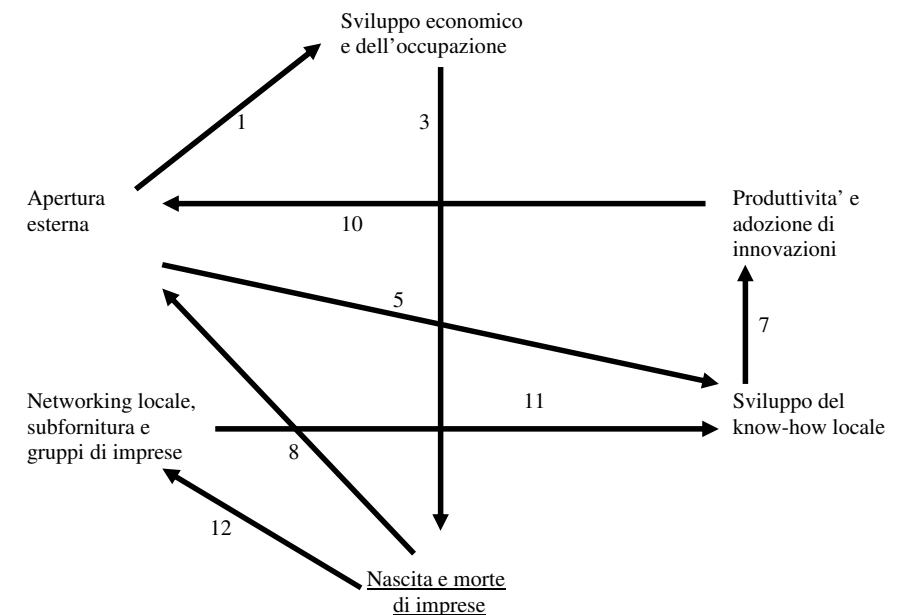


Figura 8: Effetti cumulativi della crisi di imprese locali

La chiusura di alcune di grandi imprese e di molte imprese intermedie mette in crisi il sistema della fornitura, introduce un elemento di rottura nell'organizzazione della rete di rapporti tra le imprese locali.

Questo limita lo sviluppo del know-how tecnologico e la diversificazione dello stesso, rispetto a quello che sarebbe necessario per poter introdurre innovazioni più sistematiche e profonde nelle produzioni tradizionali.

Inoltre, la crisi di alcune imprese locali che attivavano forti flussi di esportazioni comporta una rottura delle relazioni con l'esterno. Anche lo sviluppo inadeguato delle esportazioni e l'orientamento sempre maggiore verso il mercato locale rende più difficile lo sviluppo di rapporti di collaborazione tecnologica con imprese estere, che sarebbe cruciale in un settore condizionato dai rapidi sviluppi delle tecnologie elettroniche e informatiche.

Questo ripiegarsi delle imprese locali su modelli di tipo localistico riduce la velocità di adozione delle innovazioni. La minore adozione di innovazioni determina una minore competitività delle produzioni locali e quindi un rallentamento del tasso di crescita, che a sua volta ostacola la nascita di nuove imprese e quindi isola ancora di più l'economia locale (effetti 5a, 7b, 10b, 1b, 3a, 8a).

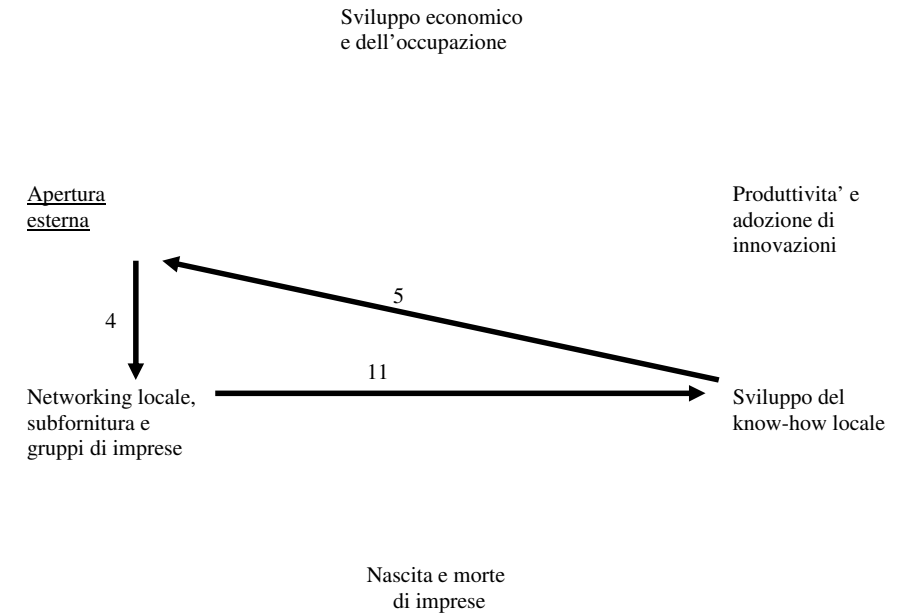


Figura 9: Effetti cumulativi della crescente dipendenza esterna

L'acquisizione di imprese locali da parte di gruppi internazionali comporta una crescente dipendenza dall'esterno e indebolisce il ruolo degli attori locali. Ne segue una riduzione delle forme di cooperazione a scala locale che porta ad un ulteriore indebolimento del processo di produzione autonoma delle conoscenze a scala locale, che aumenta la dipendenza dall'esterno (effetti 4b, 11a, 5b).

Cappellin, R. (2013), Regional research in Italy and the role of institutions: new industries and sustainability, paper presented at the International Conference on: The Mediterranean cities between local development and international cooperation, University Parthenope, Naples, 15 April 2013.

2. A geographical perspective of national growth

The process of national growth has different characteristics in the various areas. Italian territory is organized in 20 Regions, 110 Provinces and 8.012 Municipalities. For research purposes the National Statistical Office (http://www3.istat.it/salastampa/comunicati/non_calendario/20051216_00/) subdivides the national territory in 686 labour market areas. As indicated in figures 2.2 most of areas, especially in North and Central Italy, have a clear industrial specialization, while the major urban areas have a high sectoral diversification and other areas, especially in South Italy do not have a clear sectoral specialization. Figure 1 indicates that many areas have a tourist specialization and among them there are not only mountain or coastal areas but also urban areas.

Urban areas define corridors along the major transport routes, as indicated in figure 1, and the spatial concentration of population is very uneven in the various areas. However, almost 46% of the national population is concentrated in small municipalities with less than 10.000 inhabitants and cities with more than 250.00 inhabitants represent only 15% of population. The spatial diffusion of industrial activities is even greater than that of population and the largest municipalities represent only 11% of industrial employment.

The patterns of development in the industrial, urban and rural areas of Italy and of the Arab countries: Egypt, Tunisia and Morocco, illustrates the changes in the structure of the territory during the various development phases of the national economy.

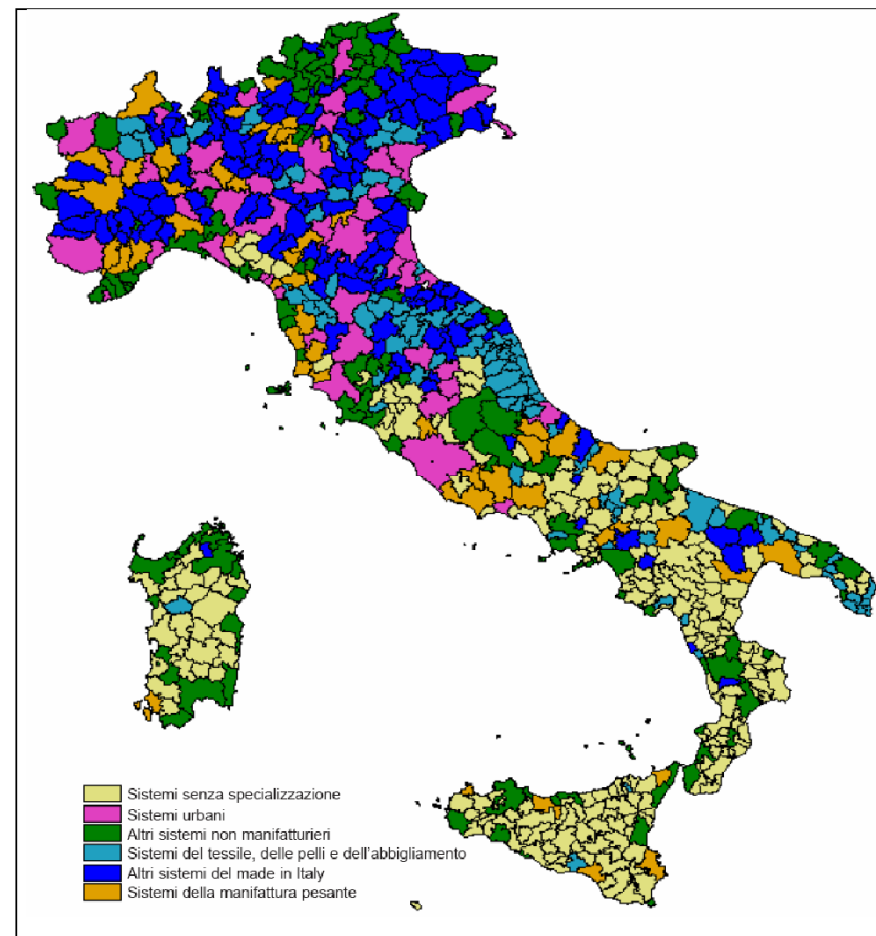
In Italy, the industrial areas or so called "industrial districts" are characterized by clusters of SMEs. Italian SMEs have evolved in the last three decades and now have decentralized productions in distant countries, are increasingly organized in financial groups and sectoral supply chains led by medium or large firms, have integrated advanced services with material manufacturing activities and have developed extensive technological cooperations with universities and also with foreign firms. Many studies on the industrial and technological transformation of these areas are published in the books of the AISRe series by Franco Angeli Editor.

The urban and metropolitan areas in Italy are characterized by a post-industrial transformation. The quality of life in Italian cities is indicated by their capability to attract a great share of the tourist flows. Italy (165.2) is second only to Spain (213.3) for the total nights spent (million nights) by non residents and France (120.4) is third (source: Regional Yearbook 2102, Eurostat http://ec.europa.eu/eurostat/portal/page/portal/product_details/publication?p_product_code=KS-HA-12-001). The economy of the largest cities is increasingly specializing into the knowledge economy or in post-industrial activities. They are characterized by an increasing decentralization of industrial activities, by a decrease of population and also by increasing social problems, as indicated in a recent book of the Torino 2011 AISRe congress published in the AISRe series by Franco Angeli Editor. On the contrary, many cities especially in the regions of Center and South Italy are not characterized by an industrial heritage and have many similarities with other Mediterranean cities in Arab speaking cities. In all cities a crucial problem is to create new jobs for the workers dismissed by the old large industrial plants which are closing and to promote a specialization in the more modern knowledge intensive private and public services and a reconversion from the traditional activities of the retail trade sector.

The rural and mountain areas of the Alps and the Apennines have been characterized by depopulation and emigration toward the urban areas during the 50'ties and 60'ties. Instead, they are rediscovering an

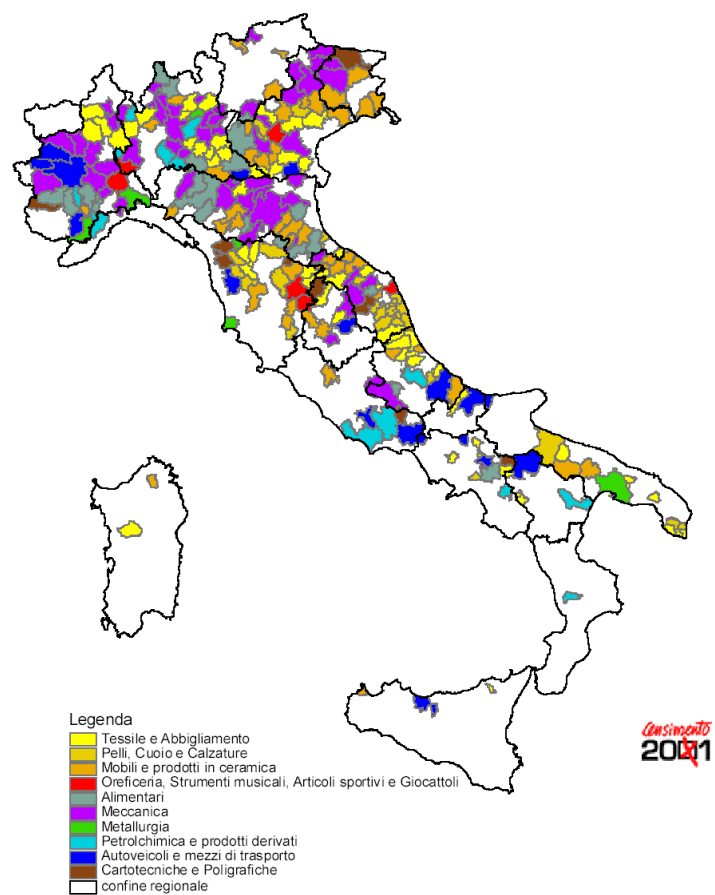
autonomous economic and social development related to tourism and other modern activities during the at least the last two decades. The development in these areas and especially of the rural areas and mountain areas in Apennines and in South Italy can be rather similar to those of the interior areas in Arab countries. The transformation of the rural areas close to the urban centers and the conflicts between agricultural and residential/tourist or industrial use may also be similar. Various Italian studies on these issues are published in a recent book of the AISRe series by Franco Angeli Editor (in print).

Fig. 2.2 – Sistemi locali del lavoro per sotto-classe di specializzazione



Fonte: elaborazioni su dati Istat, 8° Censimento generale dell'industria e dei servizi

cartogramma 10: SLL 2001 – Manifatturieri per tipologia produttiva



cartogramma 11: SLL 2001 – Turistici

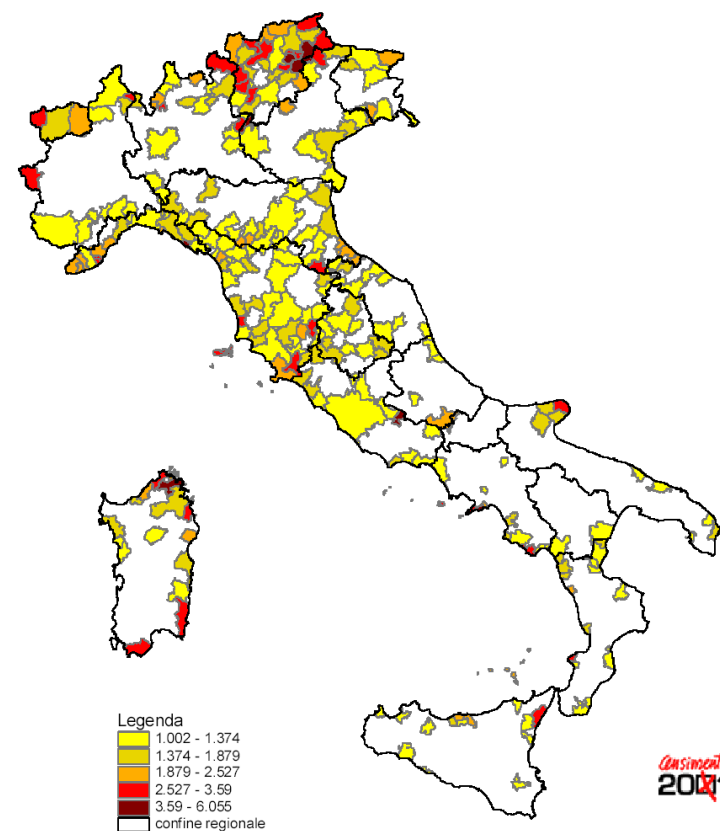
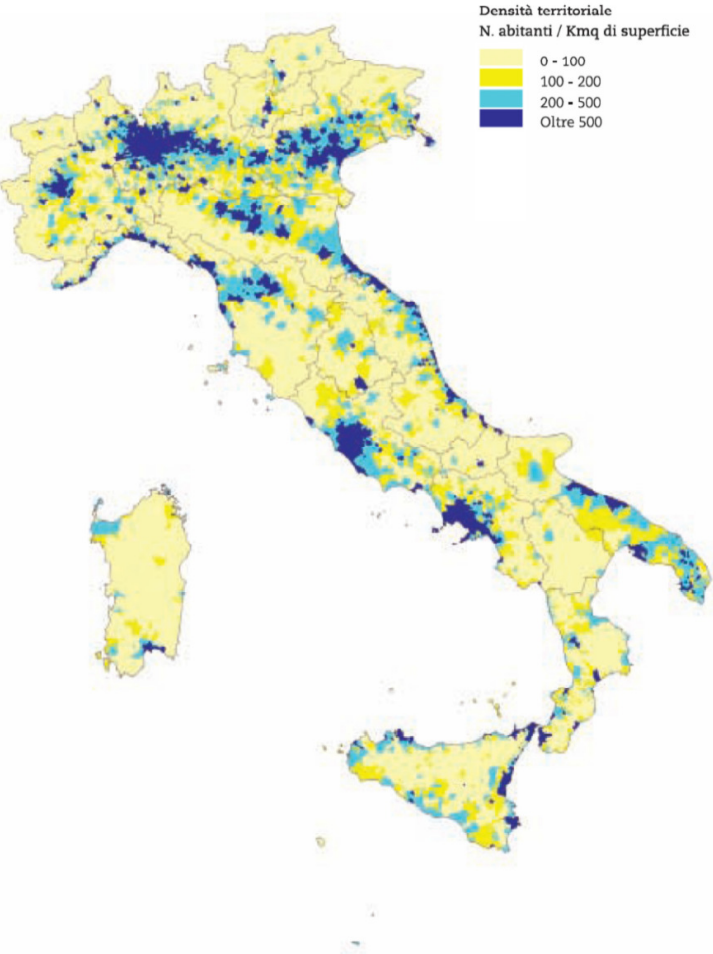


Figura 1 La densità territoriale dei comuni italiani, 2008



Fonte: elaborazione Cittalia su dati Istat (2008)

Tabella 2 La densità territoriale dei comuni italiani, per classe di ampiezza demografica, 2008

Classe di ampiezza dei Comuni	Superficie territoriale Km ²	Popolazione residente 2008		Densità territoriale (Ab./Km ²)
		Valore assoluto	Percentuale	
0 - 1.999	83.882	3.394.918	6%	40
2.000 - 4.999	78.944	6.977.613	12%	88
5.000 - 9.999	50.451	8.468.283	14%	168
10.000 - 19.999	35.809	9.476.722	16%	265
20.000 - 59.999	32.923	13.419.578	22%	408
60.000 - 249.999	16.024	9.251.597	15%	577
> 250.000	3.303	9.056.357	15%	2.742
ITALIA	301.336	60.045.068	100%	199

Fonte: elaborazione Cittalia su dati Istat (2008)

Tabella 57 Il numero degli addetti nelle unità locali nei comuni italiani, per classe demografica, 2006

Classi di ampiezza dei Comuni	Numero di Addetti alle Unità Locali					
	Industria in senso stretto	Costruzioni	Commercio	Alberghi e ristoranti	Altri servizi	Totale
0 - 1.999	-	-	-	-	-	-
2.000 - 4.999	-	-	-	-	-	-
5.000 - 9.999	788.965	262.729	386.129	130.880	457.409	2.026.113
10.000 - 19.999	934.985	304.131	534.779	166.789	683.633	2.624.316
20.000 - 59.999	984.233	384.516	818.123	212.937	1.221.567	3.621.376
60.000 - 249.999	601.085	278.955	640.679	172.300	1.306.434	2.999.454
> 250.000	408.746	233.566	628.217	219.681	1.835.074	3.325.283
ITALIA	3.718.015	1.463.897	3.007.928	902.587	5.504.116	14.596.543

Fonte: elaborazione Cittalia su dati Istat-ASIA (2006)

Source: http://www.cittalia.it/images/file/COMUNI_ITALIANI10_1.pdf

3. A network approach in the analysis of regional growth

Differently from a traditional geographic perspective, the literature on Regional Science indicates that the spatial structure is not the result of the impact or the localization of the national economic growth on the territory, but rather that spatial or regional factors are important factors in determining the size and patterns of national economic growth.

Thus regional and urban policies and strategies have a great importance in promoting national economic growth and the regions and cities should have a greater role in determining the national development strategy.

From a methodological perspective it is clearly a challenge to illustrate that the theories and the policy strategies which have been developed in Europe during the last fifty years are relevant not only for explaining and stimulating growth in a wide variety of European regions, from large metropolis such as London or Paris to rural areas in Portugal or Greece, but also as a reference guide for designing the development policies in the urban, industrial and rural areas of South Mediterranean countries, such as Egypt, Tunisia and Morocco.

Moreover, the analysis of new types of regions and countries and the comparison with the most similar cases in Europe lead to adapt previous theoretical approaches and to extend them into new specific fields.

According to a traditional demand model (Keynesian and planning approach), the economic growth is driven by the competitiveness and the expansion of the production capacity in the export sectors, the attraction of foreign investments or by the increase of the internal demand driven by an increase of public services and public investments. To this purpose the government should expand public expenditure and increase the money supply and decrease interest rates.

According to a supply model (neoliberal approach), the economic growth proceeds spontaneously according to the increase of productivity and government should only remove the constraints which may be represented by excessive public deficit, public debt and expenditure on interest on public debt, imbalance in the external trade and amount of foreign reserves, and contain the inflation rate and adjust the exchange rate.

A regional and industrial model (local networks approach) is based on a local endogenous approach, which differs from the previous aggregated approaches because it considers the economy and society as a complex system made by many actors linked by network relations.

In fact according to many contributions in Regional Science research, local development has an endogenous character or it is not only determined by the exports of local productions, the immigration of people with advanced competences or the capability to attract investments and firms from the other regions, but also by the capability to promote the full use of the local, human and productive, resources and the synergic relationships between the various sectors and the various local actors, institutions and development factors existing within a given "local production system".

According to this "model of territorial networks" (Cappellin and Wink, 2009) a local production system is made by actors, firms and institutions which interact between themselves, reciprocally adapt and learn from each other. Economic growth is linked to change and innovation. Thus it is linked to the shift of employment from the less productive sectors to the more modern sectors, to the birth of more competitive firms and to the closure of old and inefficient firms within each sector and also from the reallocation of

the internal material and immaterial resources within the firms from the less efficient processes and from the less profitable products to the more innovative processes and products.

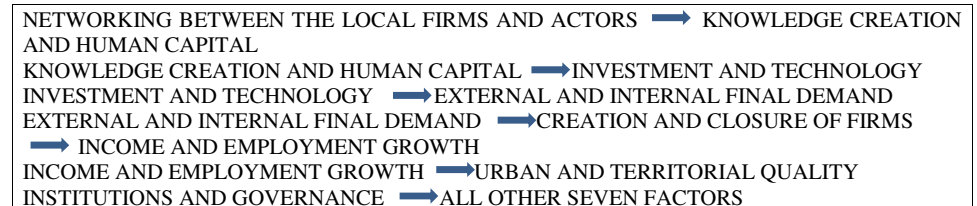
Three related conceptual tools are crucial in this "system or local network approach" to economic development:

- cognitive and institutional proximity between the actors;
- territory and infrastructures, as the physical support space of the economic and social system;
- institutions, social capital and governance of the relationships between the actors.

In particular, regional income and employment growth is determined by seven factors:

- 1) the stimulus coming from the external openness and the foreign demand as also from the changes in the internal final demand,
- 2) the growth of the production capacity linked to the use of new technologies, the innovation and the investment,
- 3) the process of knowledge creation and learning which improve the human and organizational capital in the local firms,
- 4) the process of firm turnover of the firms or the creation of new firms and the closure of old firms,
- 5) the network relations between the local firms and actors, due to flows of technological and organizational information, capital and people,
- 6) the characteristics of the regional territory and of the regional urban system, the structure of the transport networks and the urban and territorial quality,
- 7) the institutions, the social capital and the forms of governance of the relationships between the various local private and public actors.

The analysis of regional development in Europe indicate that these seven factors interact between them and lead to a continuous increase of employment, production and also of the quality of life in the area.



In fact, an increase of the network relations between the local firms leads to the development of learning processes by the workers and entrepreneurs and to the creation of new knowledge. That promotes innovation, the change of technologies and new investments in the firms.

That increases and attractiveness of the local economy and the growth of exports and the attraction of foreign capitals as also of external entrepreneurial capabilities.

Networking between the local firms and actors stimulates the growth of new firms in new productions and these firms substitute the firms which naturally close being specialized in obsolete productions.

Table 1

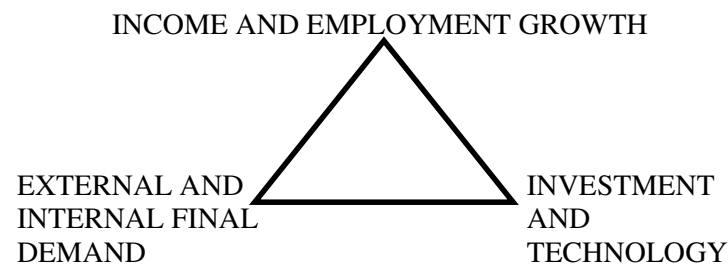
THREE MODELS OF DEVELOPMENT

DEMAND DRIVEN MODEL: Keynesian and planning approach

Income growth is determined by the growth in exports, imports, private and public consumption and private and public investments and economies of scale insure greater productivity and international competitiveness

SUPPLY DRIVEN MODEL: neoliberal approach

Percapita income growth is determined by productivity, employment and population growth and by external and internal financial constraints (external deficit and public deficit and "competition-flexibility and structural reforms").



REGIONAL-INDUSTRIAL MODEL: local networks approach

Income and employment growth is determined by 7 factors:

- external and internal final demand,
- investment and technology,
- knowledge creation and human capital,
- creation and closure of firms,
- networking between the local firms and actors,
- urban and territorial quality,
- institutions and governance.

The economic development of the region modifies the structure of the territory, determines the sprawl of the urban centers and stimulates the improvement of the transport infrastructures, but it may also have negative effects on the natural environment and on the quality of life in the urban areas.

Finally, local policies and the governance of the relations between the local actors should not only positively intervene on the individual factors indicated above, but they should also adjust the relationships between these factors in order to activate a virtuous cycle of development.

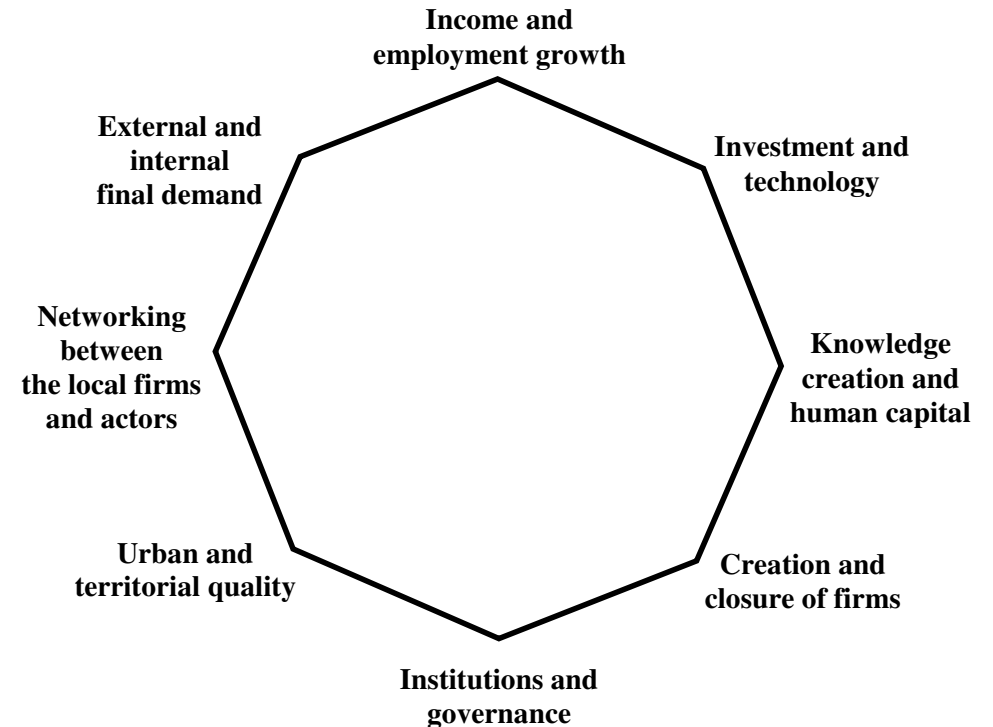


Figure 1
The local network model of regional development
Source: Cappellin and Wink, 2009

In particular, the first three variables in this local network model of regional development:

- a) income and employment growth,
- b) external and internal final demand,
- c) investment and technology.

are considered also in the more traditional demand model and in the supply model, which usually highlights the following relationships.

First, according to a demand perspective, investment and innovation determine international competitiveness and exports and these latter determine income and employment growth, which on their turn stimulate investments and innovation.

On the other hand, according to a supply perspective, investment and innovation increase production capacity and employment and that leads to an increase of exports in perfectly competitive markets and to the increase of foreign reserves and flows of international capitals which lead to greater investments and innovation.

While traditional theories have focused on the role of exports as the driver of regional growth, the internal demand, such as investment in housing and infrastructure or personal consumption, can also be a crucial autonomous factor of employment and GDP growth especially in large urban areas (Cappellin 2012b).

In fact, the analysis of economic growth in the Arab countries clearly indicates the importance of external and internal demand. The flows coming from outside, such as the increase of international tourism or the income remittances of emigrants in European countries have a clear importance as factors leading to local development. The exports of agricultural goods and of manufacturing products are also a driver of regional economic growth. Moreover, it is important to promote the development of many modern small and medium size firms (SMEs) capable to compete in the international markets.

However, also the importance of internal demand is increasing, as the growth of population and the growth of the average percapita income lead to an increasingly greater local market, especially in the largest cities, and to a greater demand for a wide variety of consumer goods, from soap to air conditioning, and also of modern personal services, such as entertainment, beauty, sports or health. That leads to the creation of new firms and of new jobs. In this perspective, also an increase of the demand and supply of public services, such as transport, education and health, may represent a driver of national growth, although it has to be financed by an appropriate increase of government taxes. Thus, the individual and social needs for a better quality of life may be a stimulus for the development of new productions and employment.

However, what makes the regional/industrial model different from the two aggregated model of demand driven or supply driven growth are the other five variables indicated in the figure 1: knowledge creation and human capital, creation and closure of firms, networking between the local firms and actors, urban and territorial quality, governance and institutions. These variables are especially important in the growth of the urban, industrial and rural areas in the European countries and also in the Arab countries.

KNOWLEDGE CREATION AND HUMAN CAPITAL

- ➡ CREATION AND CLOSURE OF FIRMS
- ➡ INVESTMENT AND TECHNOLOGY
- ➡ NETWORKING BETWEEN THE LOCAL FIRMS AND ACTORS
- ➡ EXTERNAL AND INTERNAL FINAL DEMAND
- ➡ URBAN AND TERRITORIAL QUALITY

First, the knowledge creation and the human capital is the key factor in determining the birth of new firms and the growth of the existing firms, as also in hindering the closure of old firms.

Often the growth of firms is not limited by the constraints of financial funds for investment but by the lack of knowledge of the entrepreneurs and the workers, as that hinders the adoption of modern technology, which would insure the profitability of investments.

In that perspective, knowledge creation and the human capital play a crucial role in the transformation of the firms in the informal economy which may be considered as the incubator of modern activities. That requires a gradual learning processes and the complex combination of tacit with codified knowledge and of artistic, organizational, engineering and scientific knowledge.

Knowledge and learning are the result and also stimulate the networking between the local firms and actors in the framework of "innovation networks", as the increase of the capabilities of the external suppliers leads firms to increase the outsourcing of the non strategic activities to the former. That leads to a continuous diversification and growth of the local economy, as in the Marshall's districts (Cappellin, 2012).

Knowledge creation and learning are also important in the continuous changes of the preferences and needs of the final users and citizens and that may stimulate the growth of new firms new public services, such as health, culture, leisure services.

Finally, knowledge creation and learning are important in the management of many public services and in the design of public policies and that has a positive impact on urban and territorial quality.

CREATION AND CLOSURE OF FIRMS

- ➡ INCOME AND EMPLOYMENT GROWTH
- ➡ INVESTMENT AND TECHNOLOGY
- ➡ NETWORKING BETWEEN THE LOCAL FIRMS AND ACTORS

Second, the creation and closure or turnover of firms, is crucial in order to allow an increase of employment and a decrease of unemployment rates between the youths. The creation of new firms is occurring first of all in the informal economy and then these firms gradually move into the formal economy, as they become more efficient and adopt technological and organizational innovation.

The creation of new more productive firms and the closure of less productive firms is stimulating the adoption of innovation and of new technologies.

The creation of new firms is also related to the increasing outsourcing of specific production phases from existing firms, to the diversification of the production systems, and to the creation of network relationships between the firms.

NETWORKING BETWEEN THE LOCAL FIRMS AND ACTORS

- ➡ KNOWLEDGE CREATION AND HUMAN CAPITAL
- ➡ EXTERNAL AND INTERNAL FINAL DEMAND
- ➡ URBAN AND TERRITORIAL QUALITY
- ➡ CREATION AND CLOSURE OF FIRMS

Third, the networking between the local firms and actors is leading to various forms of interactive learning and creation of new knowledge, which is the prerequisite for innovation and adoption of new technologies within the firms.

The networking between the local firms and actors is related to the development of the "social capital" or the "relational capital", such as various forms of associations, and it increases the social integration and it decreases social disparities. These associations are crucial for the management of "common goods", such

as water and green areas, and also for the production of specific “club goods”, such as private health and education services. That is especially important as there is a continuous evolution of the social needs of the citizens and these types of goods are important in order to tackle the problems of urban poverty and unemployment.

The networking between people is also leading to changes in the final demand by the citizens and by the firms. In fact, major factors of economic and also political changes are the changes of customs by the people and especially those of young people. The changes of the way of life and the request of a greater political freedom are the result of the impact by international tourism, the emigration to European countries and the diffusion of international TV, movies, music and Internet, as also by the increasing university education among the youths and the woman.

The process of networking and the combination of market and non-market relationships allow the gradual development of new services and soft infrastructures, which were initially produced within the family or the communities and then evolve into specialized market activities.

The networking between the actors requires and stimulates the development of public services and of modern bank and credit institutions, which perform the role of soft or immaterial infrastructures in the relationships between the local actors.

URBAN AND TERRITORIAL QUALITY

→EXTERNAL AND INTERNAL FINAL DEMAND

→NETWORKING BETWEEN THE LOCAL FIRMS AND ACTORS

→CREATION AND CLOSURE OF FIRMS

Fourth, an increase of urban and territorial infrastructures, such as: energy production, ports and highways, and also housing, hospitals and schools, is leading to a greater public expenditures and this latter stimulates production and employment in the public sector and in the economy.

An increase of urban and territorial infrastructures facilitates the cohesion among actors, increases the networking between the local actors and it decreases social inequalities and improves the quality of life.

An increase of urban and territorial infrastructures decreases the agglomeration diseconomies, allows the availability of industrial areas and it facilitates the formation of new firms.

An increase of urban and territorial infrastructures can be financed by greater taxes on income and employment growth but it should also be complemented by the design of more effective taxes on the huge and increasing land rents which are accruing to the real estate sector and determine huge wealth and income disparities, but may also become a key source of infrastructure financing.

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Corso:

Economia Industriale e dell'Innovazione

Docente

Prof. Riccardo Cappellin

LEZIONE 8

IL PROCESSO DI SVILUPPO NEI SISTEMI PRODUTTIVI REGIONALI

ALLEGATI

Gli allegati non fanno parte del programma d'esame ma servono per contestualizzare i concetti teorici illustrati nelle lezioni

NOTE ALLE FIGURE

1. Lo sviluppo economico è stato più rapido nelle aree caratterizzate dalle PMI e dai distretti industriali
2. I settori di specializzazione delle aree più dinamiche possono essere sia i settori terziari che quelli industriali e perfino l'agricoltura
3. Tra le aree più sviluppate in Europa sono quelle che definiscono una direttrice di sviluppo (cfr. "banana" della Datar) da Londra a Milano
4. La deflazione dei dati espressi a prezzi correnti utilizzando gli indici di parità di poteri d'acquisto rende solo più confuso il quadro complessivo. L'uso di questi indici sembra sempre meno giustificabile dopo l'adozione dell'Euro e l'omogeneizzazione dei prezzi dei beni industriali a scala europea. L'Italia centro-settentrionale è tra quelle con maggiori standard di ricchezza pro-capite.
5. Il grafico permette di distinguere le disparità di reddito tra i diversi paesi della UE e le disparità regionali all'interno dei singoli paesi. Esistono forti disparità tra i paesi dell'Europa Occidentale e i paesi dell'Europa Orientale. Le disparità regionali sono forti all'interno di tutti i paesi.
6. Gli indicatori della produttività pro-capite sono molto simili a quelli delle disparità di sviluppo ed indicano che i differenziali di produttività sono il principale fattore delle disparità di prodotto procapite. Ne emerge la necessità di politiche europee per la modernizzazione del sistema produttivo dei paesi nell'Europa Orientale e nel Sud Europa.
7. I livelli salariali sono fortemente correlati con quelli della produttività per addetto, sia perché una maggiore produttività consente di pagare maggiori salari, sia perché maggiori salari costringono le imprese ad adottare tecnologie produttive più efficienti. I livelli salariali in Italia sono particolarmente bassi, così come anche la produttività per addetto.
8. Le aree più dinamiche a scala europea non sono le aree più centrali ma quelle nell'Europa orientale e diverse aree periferiche
9. La densità delle attività industriali per Km² è molto forte in Italia, Germania e Regno Unito, determinando una forte congestione
10. La specializzazione terziaria caratterizza le regioni del Nord Europa e le aree metropolitane. La specializzazione industriale è molto forte in Germania e Italia e in particolare nelle regioni contigue all'arco alpino, ma anche in molti paesi

dell'Europa Orientale. La specializzazione agricola caratterizza vaste aree nell'Europa Orientale e del Sud Europa.

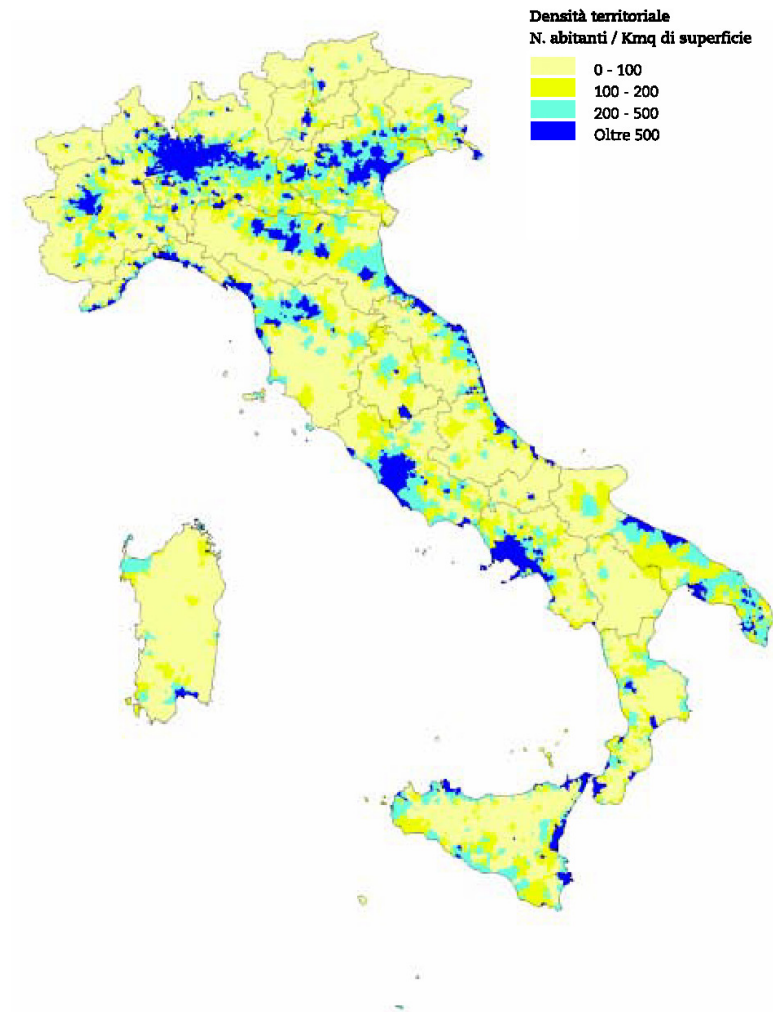
11. La crescita della popolazione è connessa soprattutto con l'intensità delle immigrazioni extracomunitarie
12. Le regioni meno ricche sono nell'Europa Orientale e Meridionale e le regioni più ricche sono lungo un asse Nord-Sud da Londra a Milano e ove sono le grandi città
13. I tassi di disoccupazione sono un buon indicatore del livello relativo di sviluppo economico oltre che un problema sociale urgente per la politica regionale europea
14. I tassi di crescita del prodotto anche misurato a parità dei poteri di acquisto non rivelano un andamento chiaro a livello regionale e rispecchiano gli andamenti delle economie nazionali che dipendono da fattori macroeconomici
15. Più significative sono le disparità regionali della crescita dell'occupazione che indicano le regioni più dinamiche
16. La composizione settoriale è importante per spiegare gli andamenti dell'occupazione.
17. Le industrie meccaniche si concentrano in Germania, Italia e paesi dell'Est.
18. Le aree specializzate nell'industria a media e alta tecnologia sono ancora più concentrate e definiscono il cuore industriale dell'economia europea.
19. Le aree specializzate nell'industria tessile e dell'abbigliamento sono prevalentemente in Italia, Spagna e nei paesi dell'Europa Orientale.
20. I settori terziari sono più sviluppati nelle regioni che sono più ricche.
21. I settori dei servizi basati sulla conoscenza sono concentrati nelle maggiori aree urbane.
22. La distribuzione regionale delle spese in RS è simile a quella della produttività cui è legata da una relazione interdependente.
23. I livelli di inquinamento sono maggiori nelle aree urbane e nelle aree industriali.
24. Gli assi di trasporto organizzano il territorio europeo e collegano le regioni confinanti in aree relativamente omogenee.

25. Le regioni turistiche non sono solo quelle specializzate nelle attività turistiche e dove sono carenti altre attività produttive ma anche le aree urbane in cui gli arrivi turistici sono consistenti ma sono presenti molte altre attività produttive.

<http://www.cittalia.com/images/file/comuni2009.pdf?phpMyAdmin=95af31fc7e586d80e7d664a36f07b8b6>

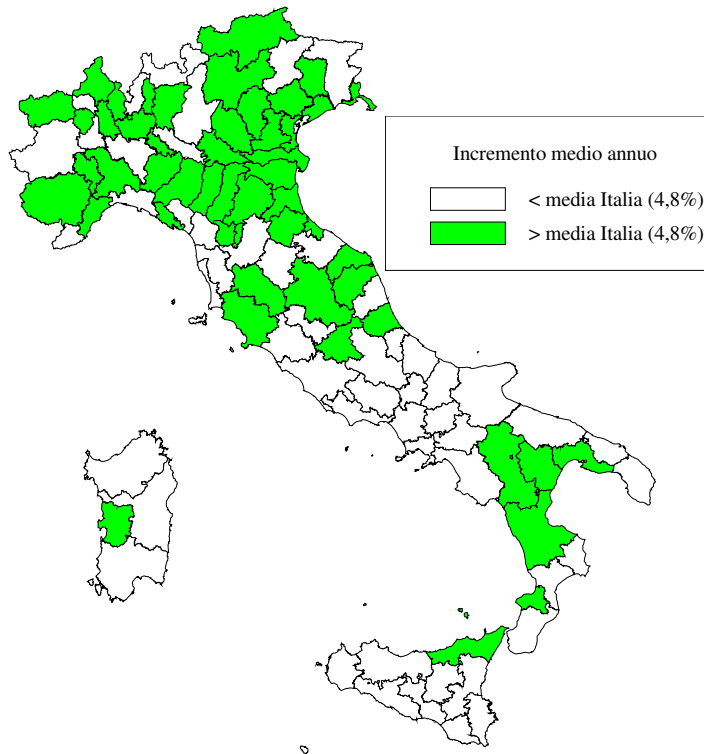
I Comuni italiani 2009 27

Figura 1 La densità territoriale dei comuni italiani, 2008



Fonte: elaborazione Cittalia su dati Istat (2008)

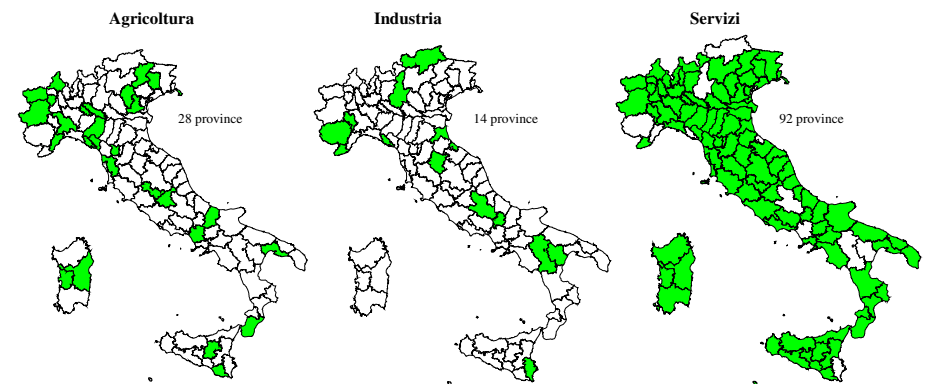
Average yearly increase of value added at current prices in the period 1991- 1999



Nota 1:

Lo sviluppo economico è stato più rapido nelle aree caratterizzate dalle PMI e dai distretti industriali

Provinces where share of the sector considered on total value added is increased in the period 1991-1999



Source: Istituto G. Tagliacarne, I dati del reddito provinciale. Il bilancio dell'ultimo decennio: Crescono i divari di sviluppo territoriale

Nota 2:

I settori di specializzazione delle aree più dinamiche possono essere sia i settori terziari che quelli industriali e perfino l'agricoltura



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels,
SEC(2006)

COMMISSION STAFF WORKING DOCUMENT

Accompanying the

**Green Paper on Territorial Cohesion
Turning territorial diversity into strength**

{COM(2006) ...}

http://ec.europa.eu/regional_policy/consultation/terco/paper_terco_annex.pdf

3. DEFINITION OF TERRITORIES

The main objective of cohesion policy is to reduce disparities between regions, defined at the NUTS2 level, the level at which eligibility for support (though not for the Cohesion Fund) and the distribution of financial resources is also defined, though operational programmes may be designed at a higher level (either NUTS1 or national).

One of the most interesting ideas arising from the concept of territorial cohesion is that there may be other territorial levels (intra-regional or supra-national) which might be relevant for policy intervention. The second section of the Green Paper is, therefore, based on a more finely defined unit than NUTS2. Indeed, the Green Paper uses different classifications of NUTS3 regions in the analysis of settlement patterns. This section briefly explains how they were created.

3.1. Settlement pattern

The settlement pattern is based on three types of area:

3.1.1. Agglomerations: Urban Audit Larger Urban Zones (LUZ)

All the larger urban zones were defined by Eurostat in cooperation with the National Statistical Institutes. The objective was to find the group of LAU2s (local administrative units at level 2, formerly known as NUTS5) that most closely corresponds to a commuting area or a functional urban area.

The principle is that if a LAU2 has at least 20% commuting to the central city it is included in the LUZ. In some cases, the central city consists of multiple LAU2s, depending on job densities. In dense conurbations, one LUZ may include multiple cities such as in the Ruhr area³.

3.1.2. Cities with at least 100 000 inhabitants

The Urban Audit covers all EU cities with over 100 000 inhabitants. These cities were identified using a harmonised approach across the EU as a whole, taking account of where a city is part of a large LAU2 and where it is spread over multiple LAU2s. As a result, this approach corrects for the distortions created by only allowing for densities (as in the case of OECD) or the size of individual LAU2s (as the case of the UN).

3.1.3. Cities with between 50 000 and 100 000 inhabitants

The Urban Audit includes 121 towns and cities with a population of between 50 000 and 100 000, but it includes by no means all of them. As a result, data for these cities had to be complemented by another source of information: the urban morphological zones (UMZ), as defined by the European Environmental Agency, supplemented by the disaggregated population grid of the Joint Research centre (JRC) combined with a grid of registered population in Sweden and Finland⁴.

These sources of information enable UMZs to be identified with populations of between 50 000 and 100 000 which are at present not captured by the urban audit. The UMZs⁵ have the same advantage as the urban audit cities in the sense that they enable both cities within a large LAU2 or a city spread over several LAU2 to be identified.

3.1.4. Small and medium-sized towns

Small and medium-sized towns with a population of between 5 000 and 50 000 were also identified using the UMZs and population grids as well as by drawing on the ESPON project, "The role of small and medium-sized towns"⁶.

The benefit of this approach is that it provides a more nuanced and realistic indication of the share of a population living in an urban area. For example, the *World Urbanization Prospects, Revision 2005* estimates that 73% of the EU27 population lives in an urban LAU2, while the approach adopted here produces an estimate of 57% of the EU population living in cities or agglomerations of over 50 000 and another 14% living in small and medium-sized towns.

3.2. The OECD Urban-Rural Classification

The OECD Urban-Rural classification has three steps:

The first step consists in classifying LAU2 as rural if their population density is below 150 inhabitants per square kilometer.

The second step consists in aggregating this lower level into NUTS3 regions and classifying the latter as predominantly urban, intermediate and predominantly rural using the percentage of population living in local rural units.

A NUTS3 region is classified as:

- Predominantly Urban (PU), if the share of population living in rural local units is below 15%;
- Intermediate (IN), if the share of population living in rural local units is between 15% and 50%;
- Predominantly Rural (PR), if the share of population living in rural local units is higher than 50%

In a third step the size of the urban centres in the region is considered:

- A region classified as predominantly rural by steps 1 and 2 becomes intermediate if it contains an urban centre of more than 200 000 inhabitants representing at least 25% of the regional population.

As in the 4th Cohesion Report, predominantly rural regions are divided according to travel time to the nearest city with 50 000 or more inhabitants. If more than half the population lives over 45 minutes drive away, the region is classified as remote, otherwise it is classified as close to a city⁷.

3.3. Metro regions based on functional urban areas

To analyse metropolitan regions using NUTS3 data, metro regions were created based on Urban Audit's Larger Urban Zones (see above). To ensure that the metro regions are sufficiently representative of the wide diversity of cities and their sizes within EU Member States, all of the LUZ with more than 250 000 inhabitants were included.

To identify which NUTS3 regions to include in a metro region, a threshold of 40% or more was used. In most cases NUTS3 regions had far higher shares of their population living inside the LUZ. In a few cases, a NUTS3 region which contain a LUZ of more than 250 000 inhabitants but had less than 40% of their population within a LUZ were added to ensure that all agglomeration over 250 000 inhabitants could be included. (see Map 3.2)

Since this is a functional and not physically or morphological definition, metro

regions contain areas with a low population density. As a result, a small number of NUTS3 regions that are classified as predominantly rural by the OECD are included in the metro regions. For example, the metro region of Poznań includes the surrounding region Poznański, which the OECD approach classifies as rural. More research is required to find an appropriate method to combine metropolitan regions with a classification of rural regions.

3.4. Island Regions

For analytical purposes, island regions are defined as NUTS3 regions composed completely of one or more islands, an island being defined according to the criteria used in the Eurostat publication "*Portrait of the Islands*" and in the DG REGIO study on island regions 2003-2004. These criteria are:

- Minimum surface area of 1 square km
- Minimum distance between the island and the mainland of 1 km
- Resident population of 50 or more
- No fixed link (bridge, tunnel or dyke) between the island and the mainland
- No Member State capital on the island

3.5. Mountain Regions

Mountain regions are defined as NUTS3 regions with at least 50% of their population living in topographically defined mountain areas, as identified in the DG REGIO study on mountain areas in Europe (2004)⁸.

3.6. Sparsely Populated Regions

Sparsely populated areas are defined as NUTS3 regions with a population density of less than 12.5 inhabitants per square km⁹.

3.7. Border Regions

Internal border regions are NUTS3 regions eligible for cross-border cooperation under Structural Funds 2007-2013.

External border regions are NUTS3 regions eligible for cross-border cooperation under the Instrument for Pre-accession Assistance (IPA) or the European Neighborhood and Partnership Instrument (ENPI).

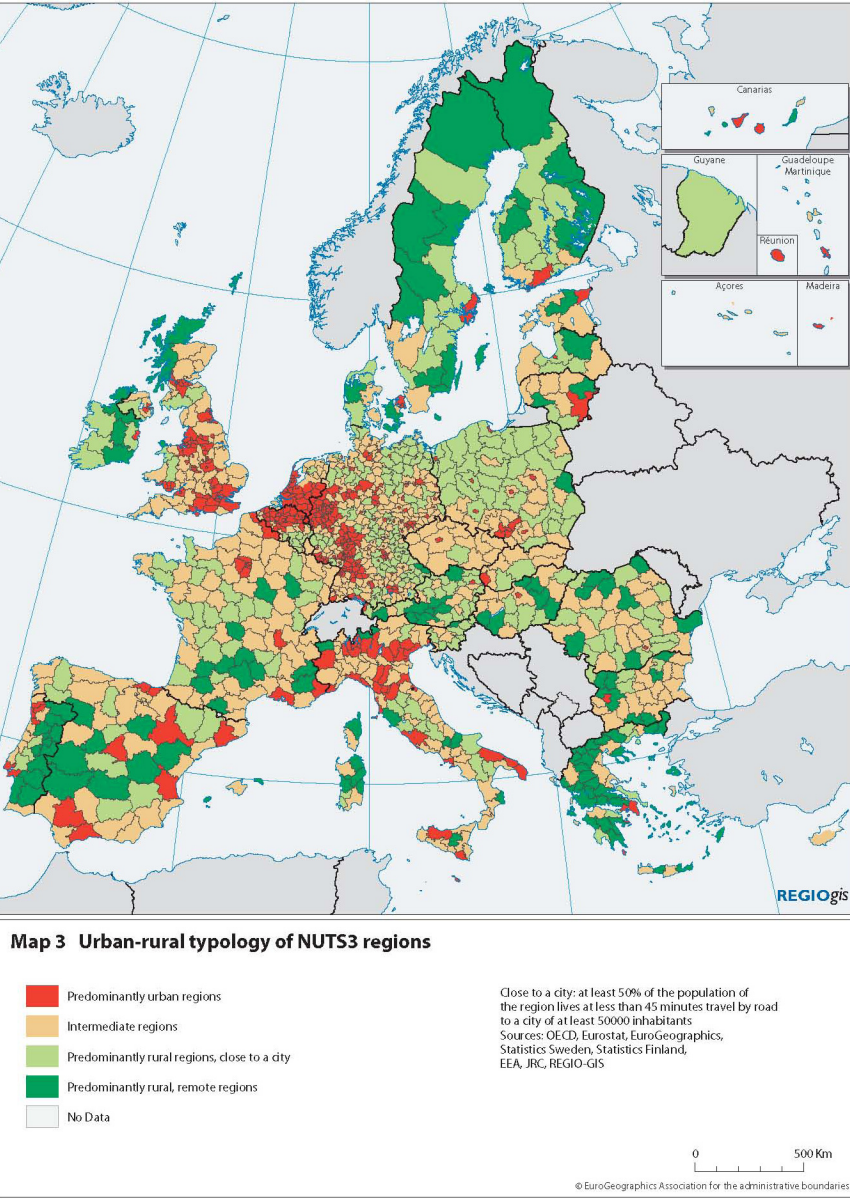
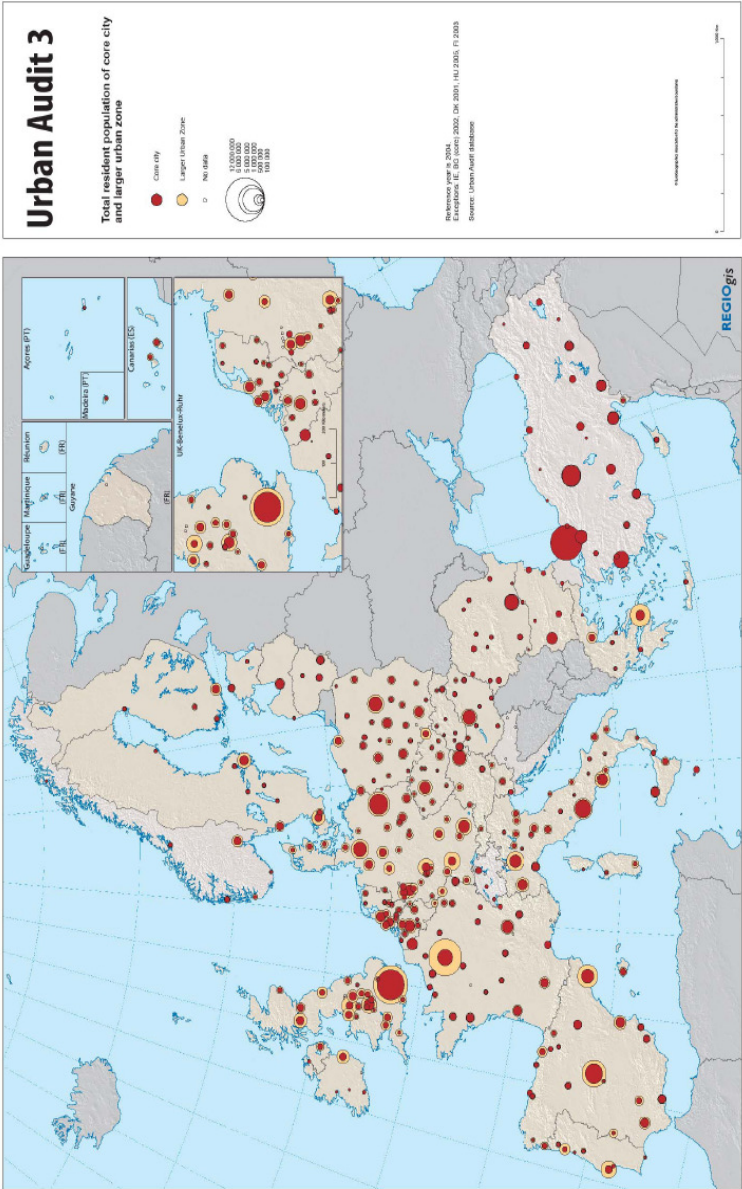
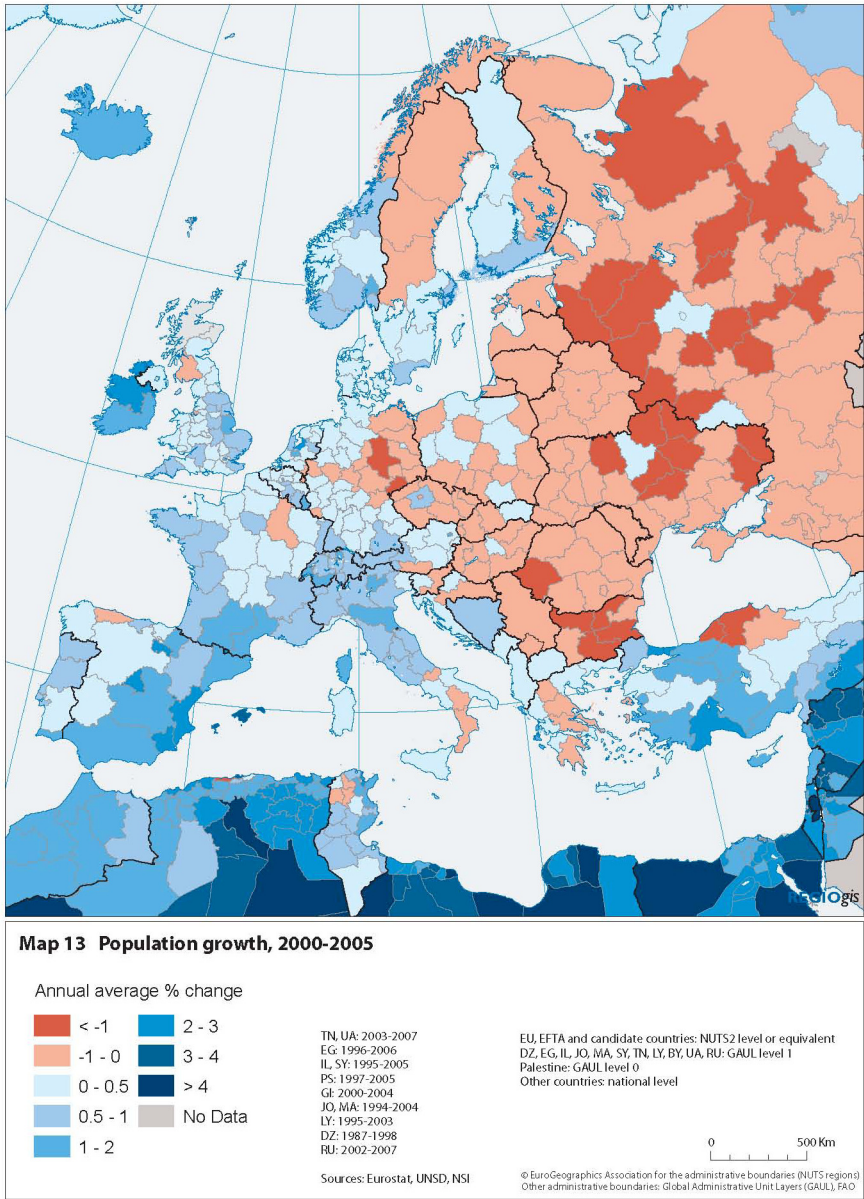
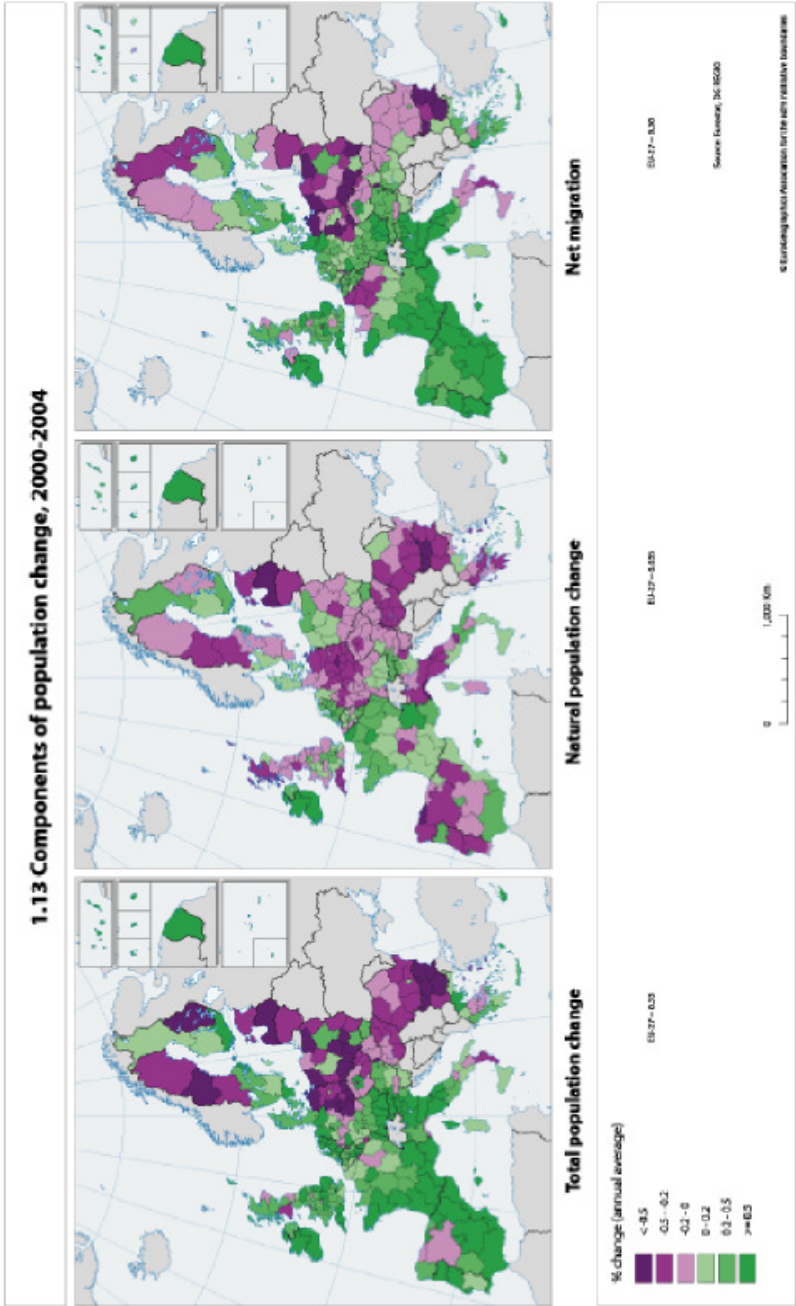


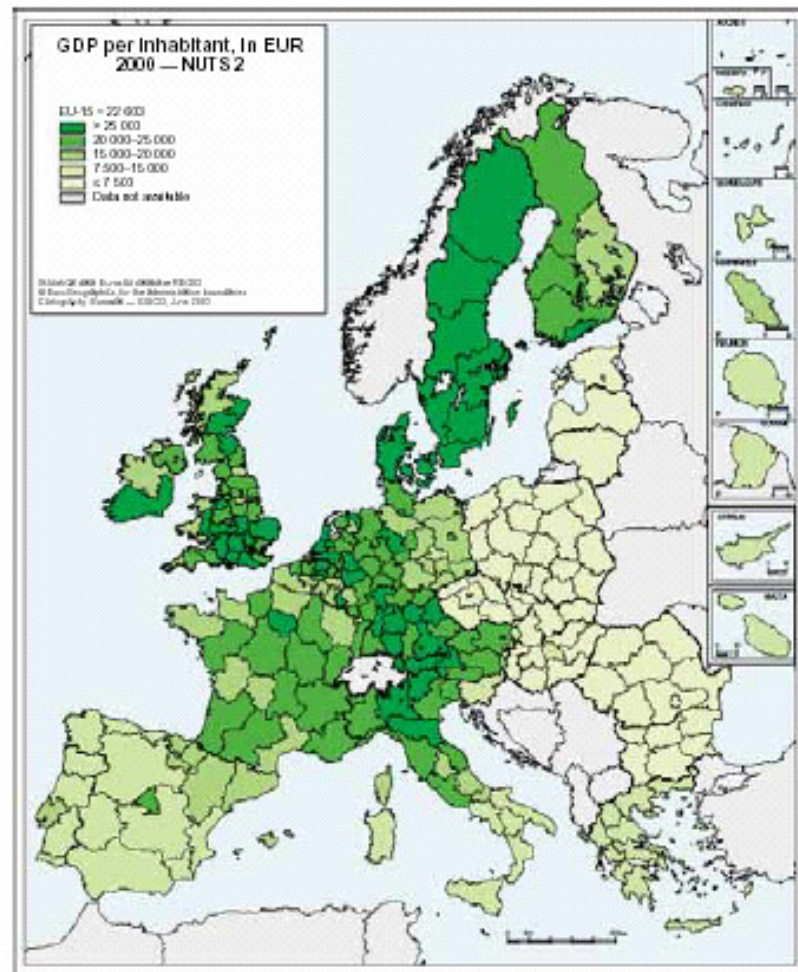
Figure 2. Urban Audit cities





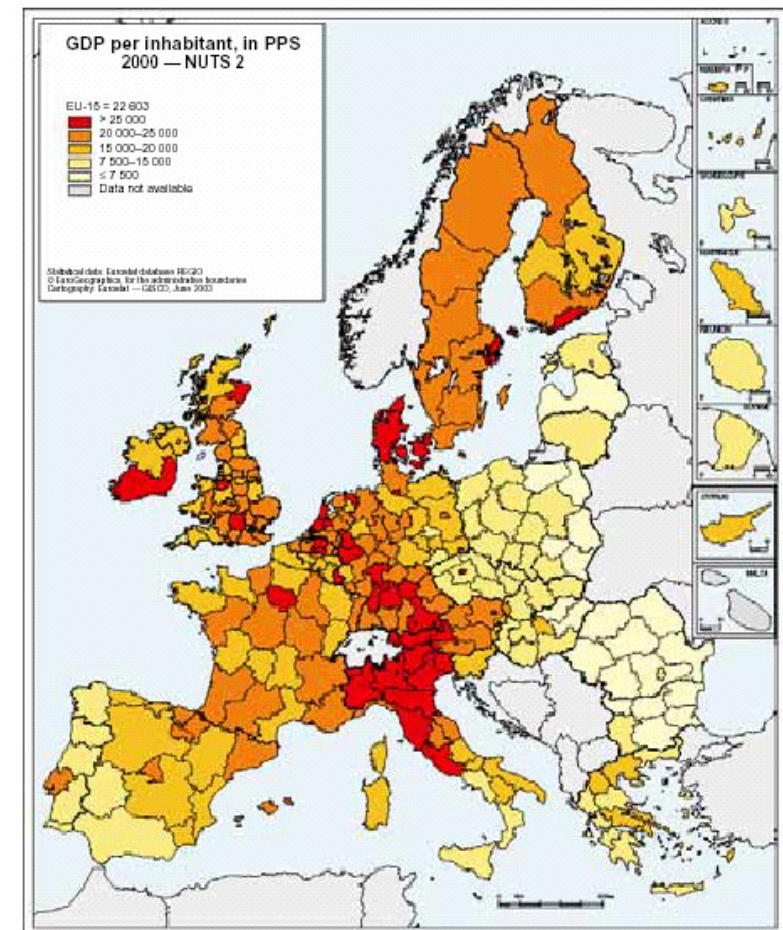
Riccardo Cappellin, Corso di Economia Industriale e dell’Innovazione, Università di Roma "Tor Vergata"





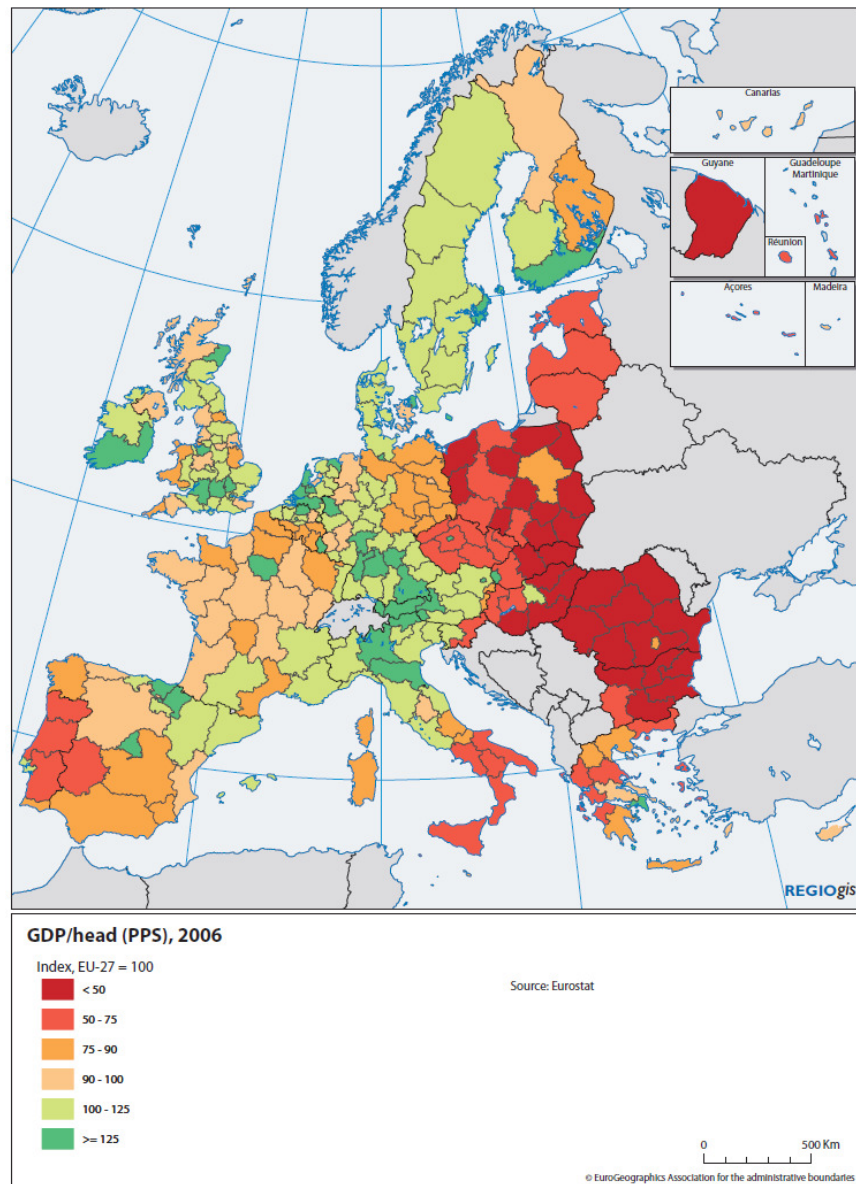
Map 3.1

Nota 4: Tra le aree più sviluppate in Europa sono quelle che definiscono una direttrice di sviluppo (cfr. “banana” della Datar) da Londra a Milano

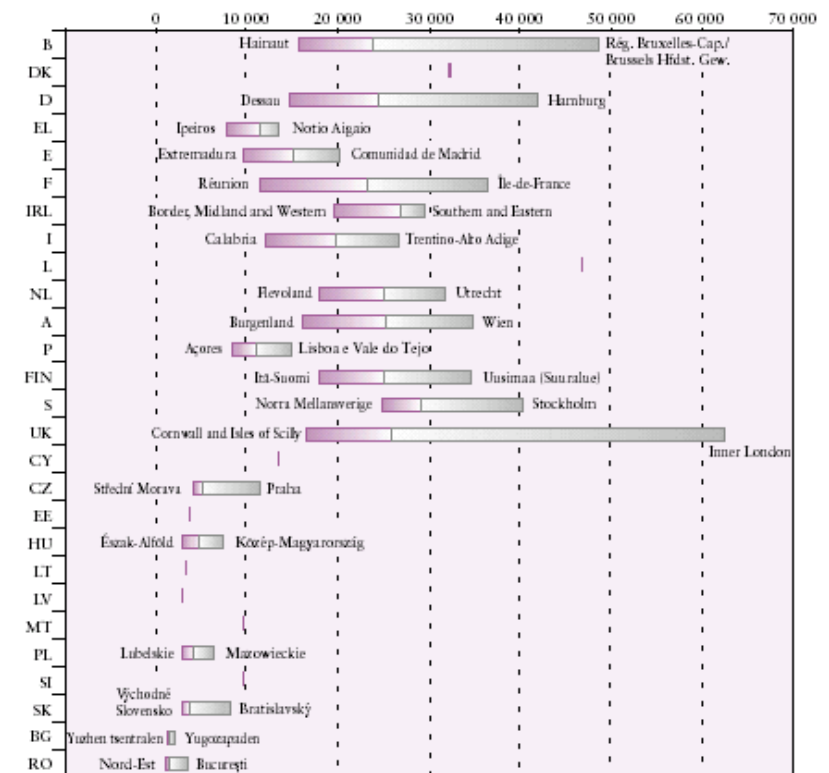


Map 3.2

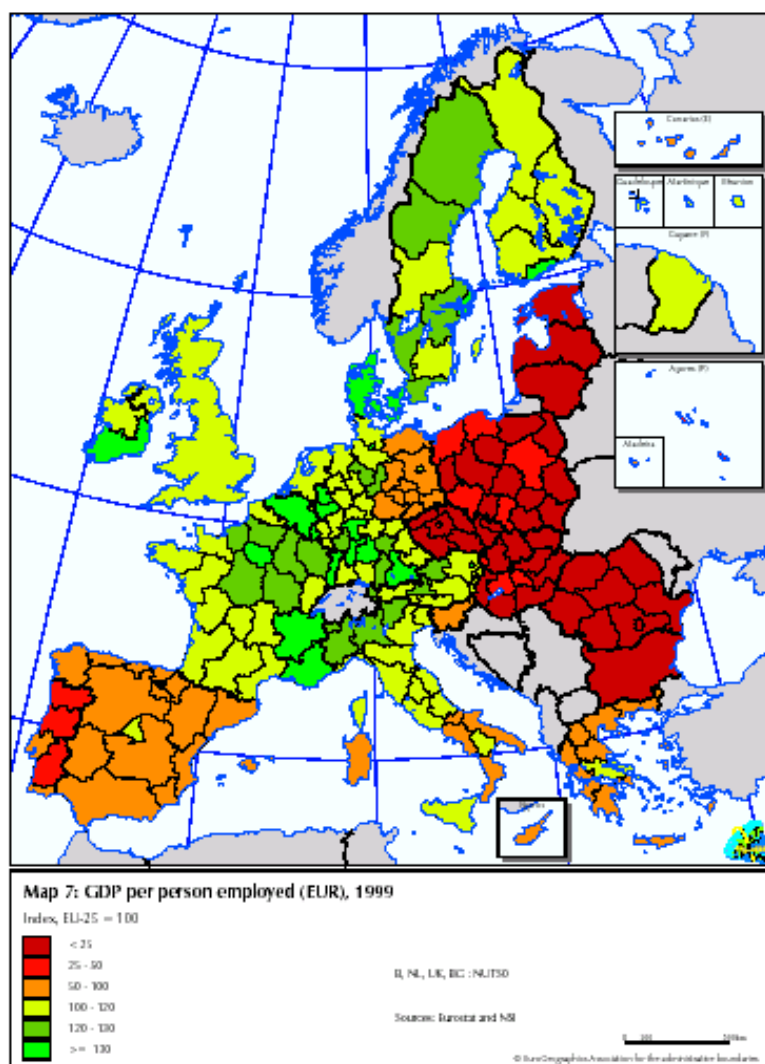
Nota 5: La deflazione dei dati espressi a prezzi correnti utilizzando gli indici di parità di poteri d'acquisto rende solo più confuso il quadro complessivo. L'uso di questi indici sembra sempre meno giustificabile dopo l'adozione dell'Euro e l'omogeneizzazione dei prezzi dei beni industriali a scala europea. L'Italia centro-settentrionale è tra quelle con maggiori standard di ricchezza pro-capite.



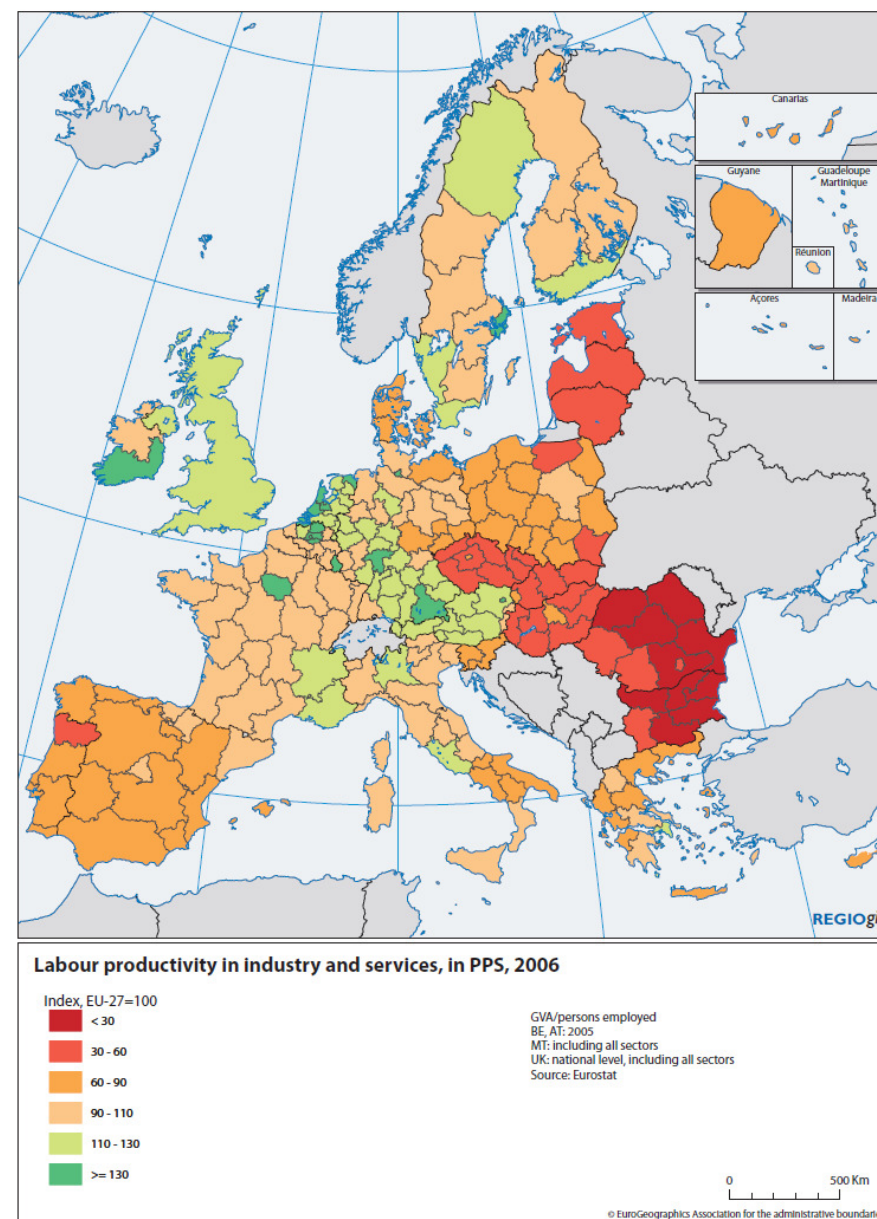
Graph 3.2 — Gross domestic product, NUTS level 2, 2000 (million EUR per capita)



Nota 6: Il grafico permette di distinguere le disparità di reddito tra i diversi paesi della UE e le disparità regionali all'interno dei singoli paesi. Esistono forti disparità tra i paesi dell'Europa Occidentale e i paesi dell'Europa Orientale. Le disparità regionali sono forti all'interno di tutti i paesi.



Nota 7: Gli indicatori della produttività pro-capite sono molto simili a quelli delle disparità di sviluppo ed indicano che i differenziali di produttività sono il principale fattore delle disparità di prodotto procapite. Ne emerge la necessità di politiche europee per la modernizzazione del sistema produttivo dei paesi nell'Europa Orientale e nel Sud Europa.



data: <https://circabc.europa.eu/d/d/workspace/SpacesStore/b3e7b432-6ec4-47e3-af25-3596eb306857/09006.xls>



Unemployment rate, 2007

% of labour force

- < 4.3
- 4.3 - 5.9
- 5.9 - 7.7
- 7.7 - 9.6
- >= 9.6
- No Data

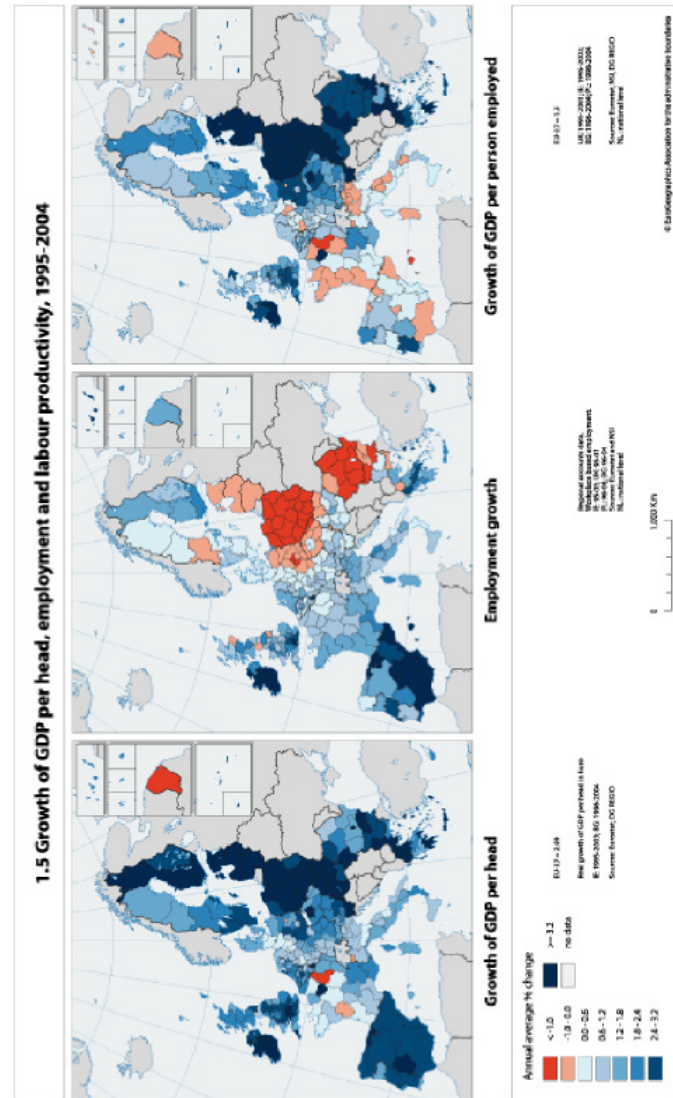
EU-27 = 7.2
Source: Eurostat

0 500 Km

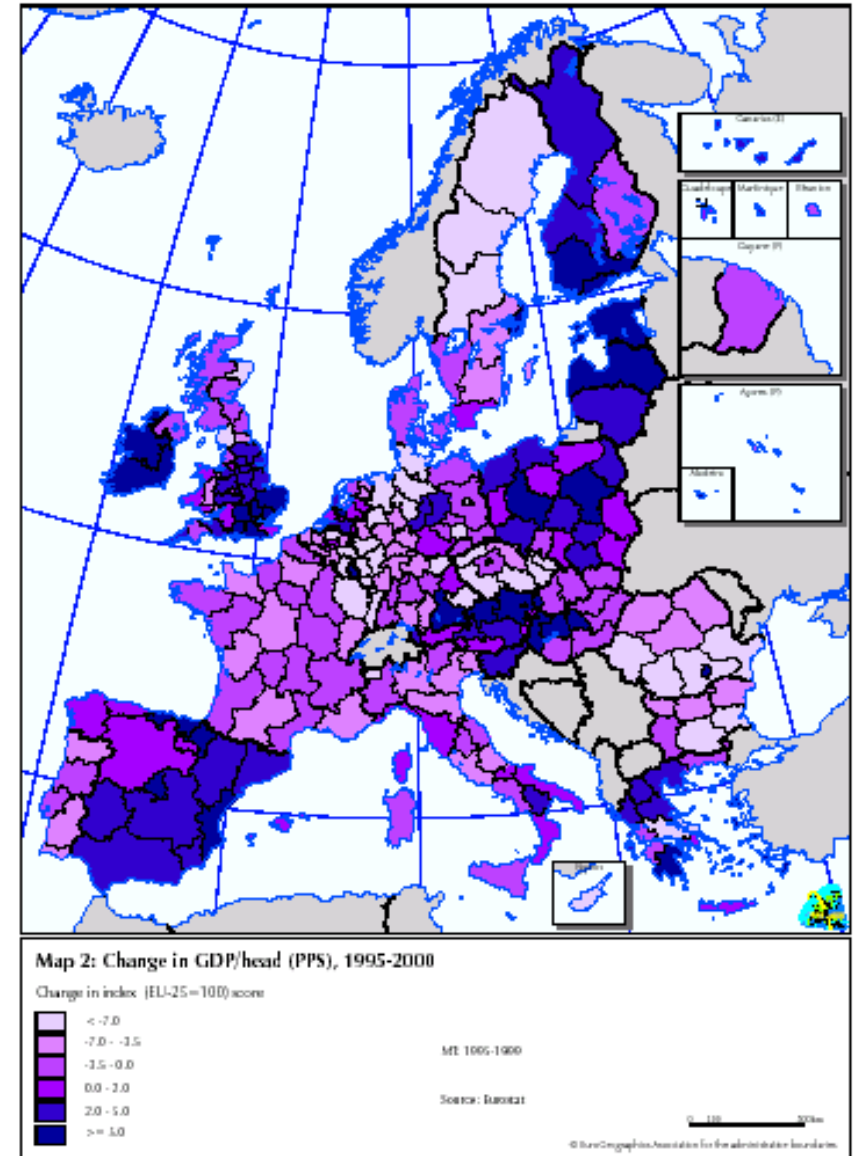
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Chapter 1 — Economic, social and territorial situation and trends

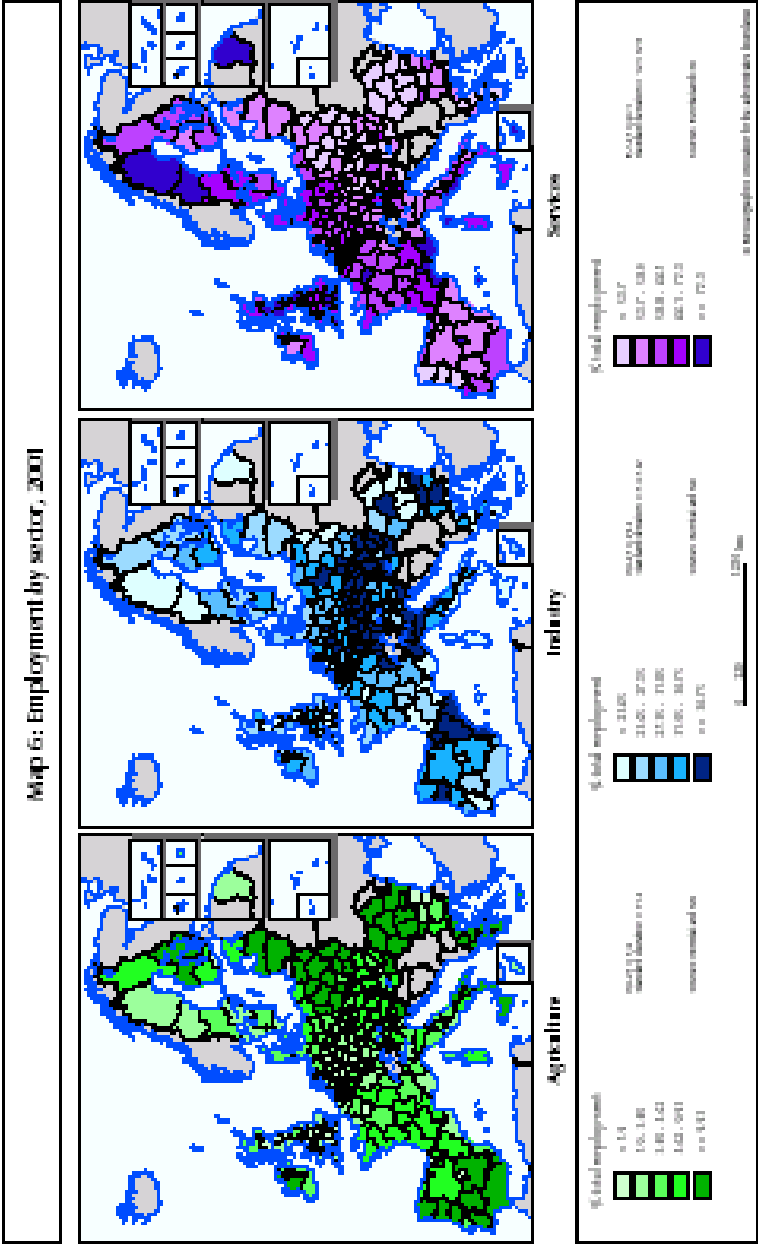
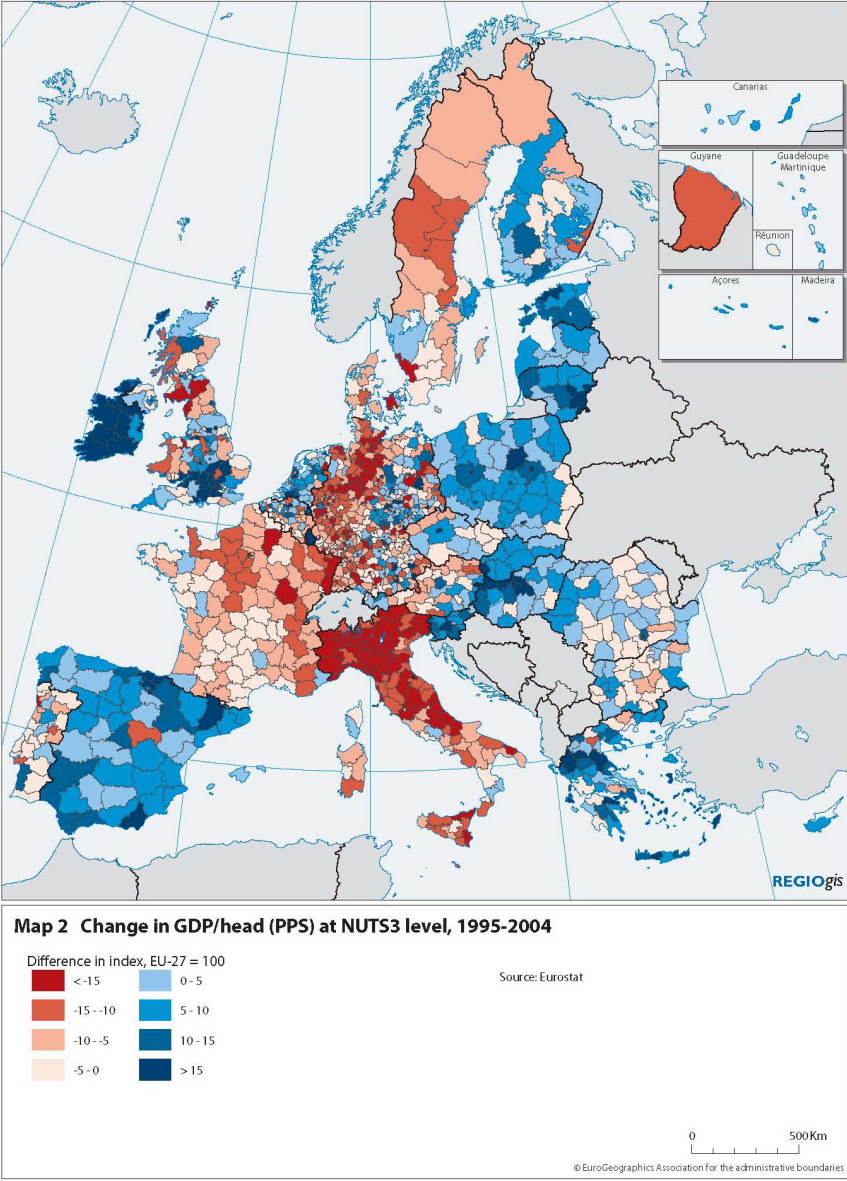


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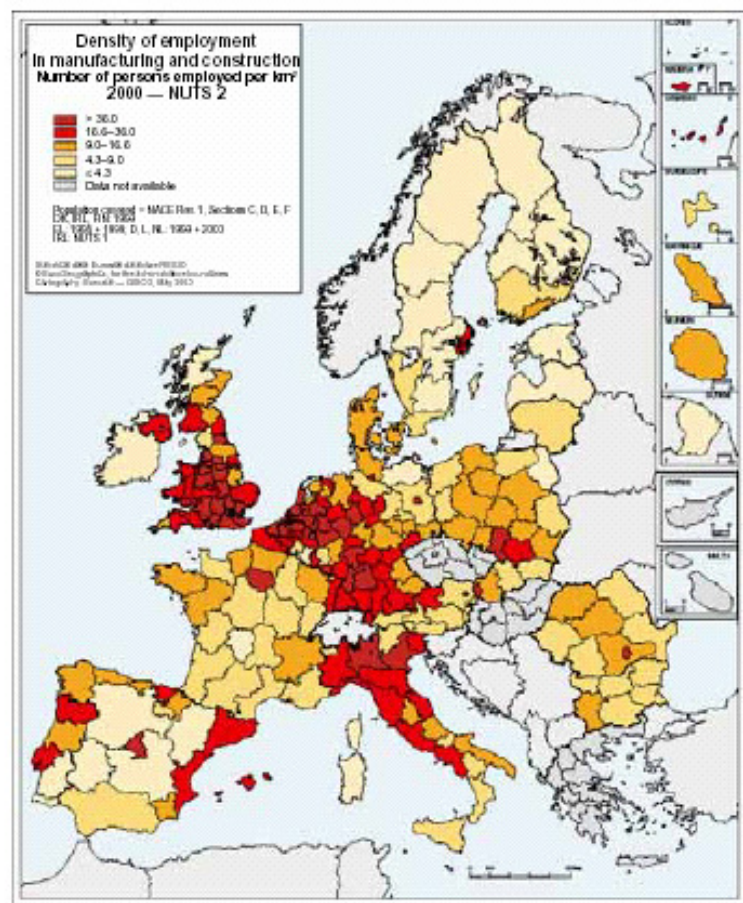


Nota 3: Le aree più dinamiche a scala europea non sono le aree più centrali ma quelle nell'Europa orientale e diverse aree periferiche

75

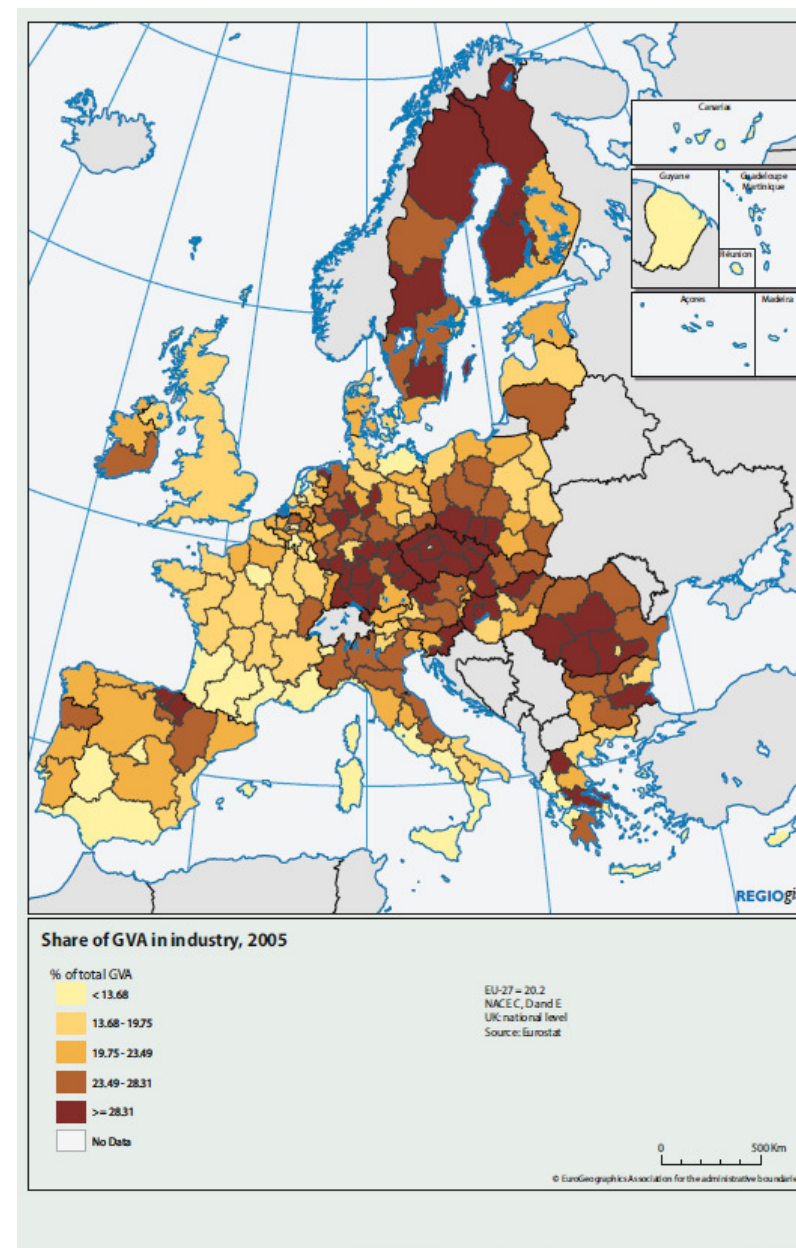


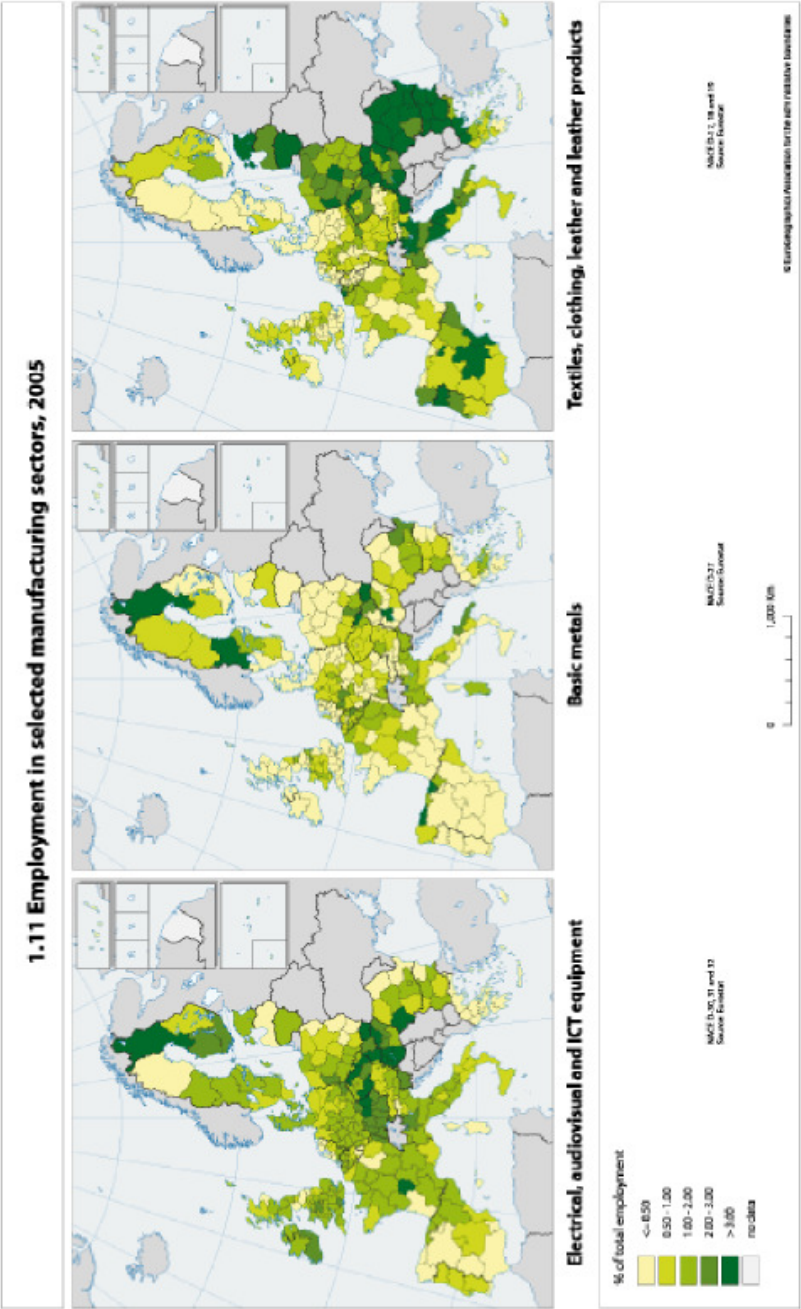
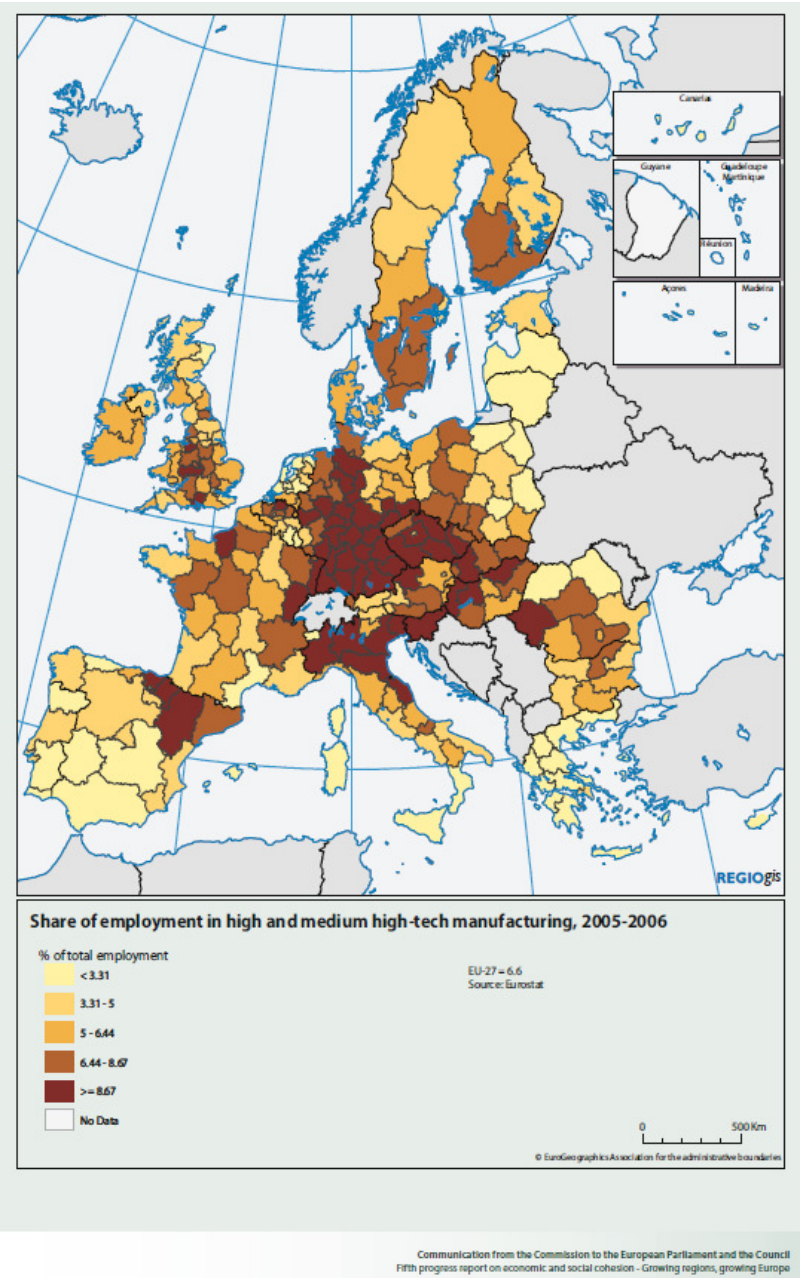
Nota 10: La specializzazione terziaria caratterizza le regioni del Nord Europa e le aree metropolitane. La specializzazione industriale è molto forte in Germania e Italia e in particolare nelle regioni contigue all'arco alpino, ma anche in molti paesi dell'Europa Orientale. La specializzazione agricola caratterizza vaste aree nell'Europa Orientale e del Sud Europa.

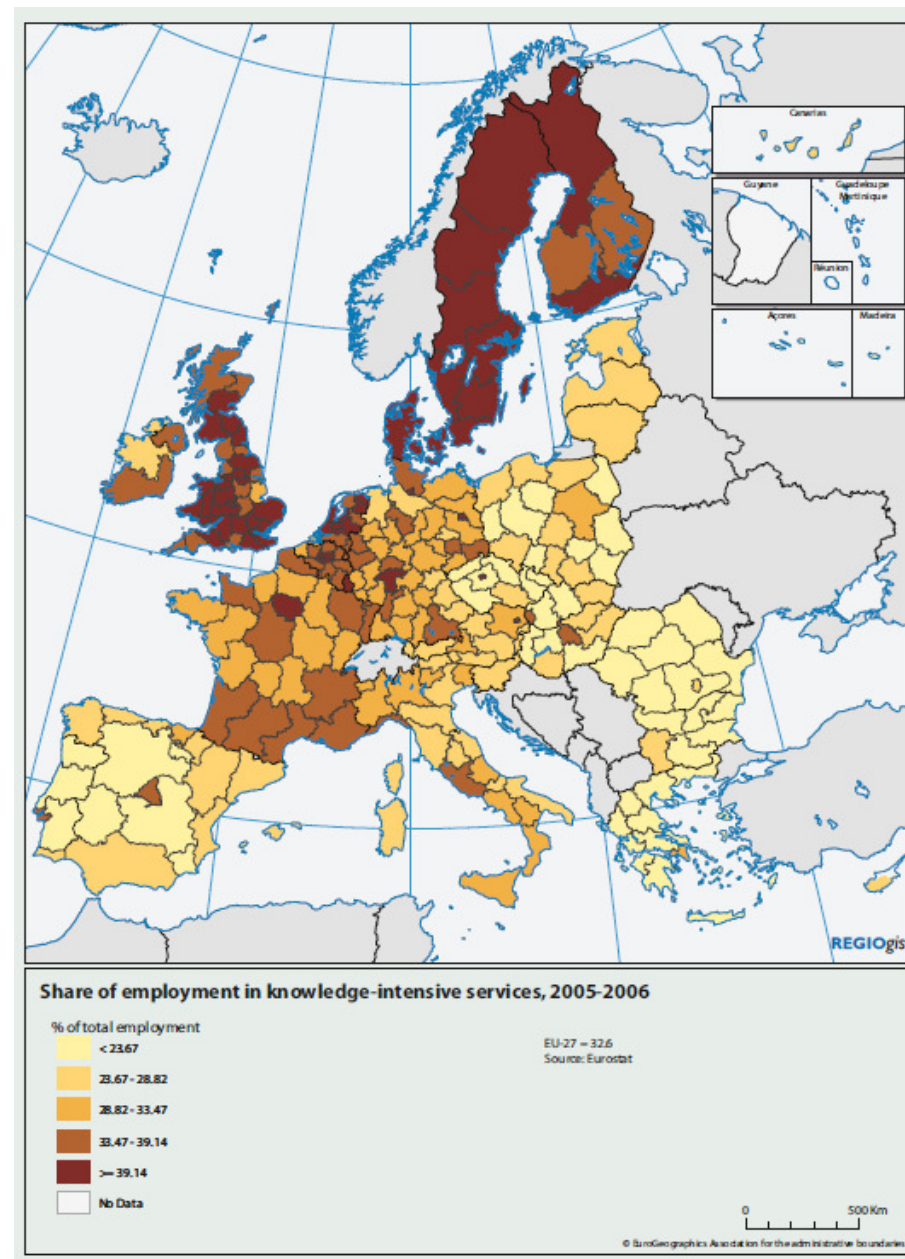
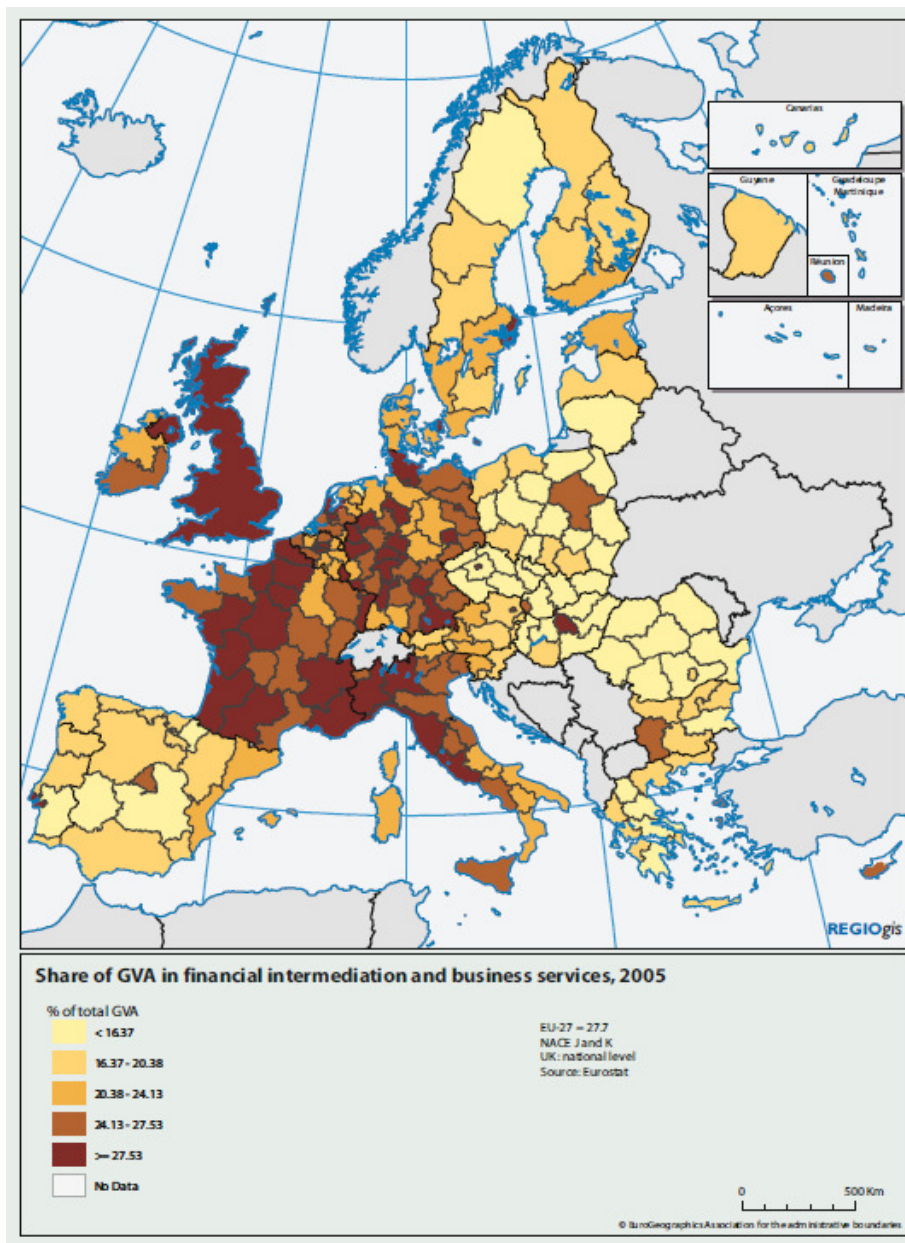


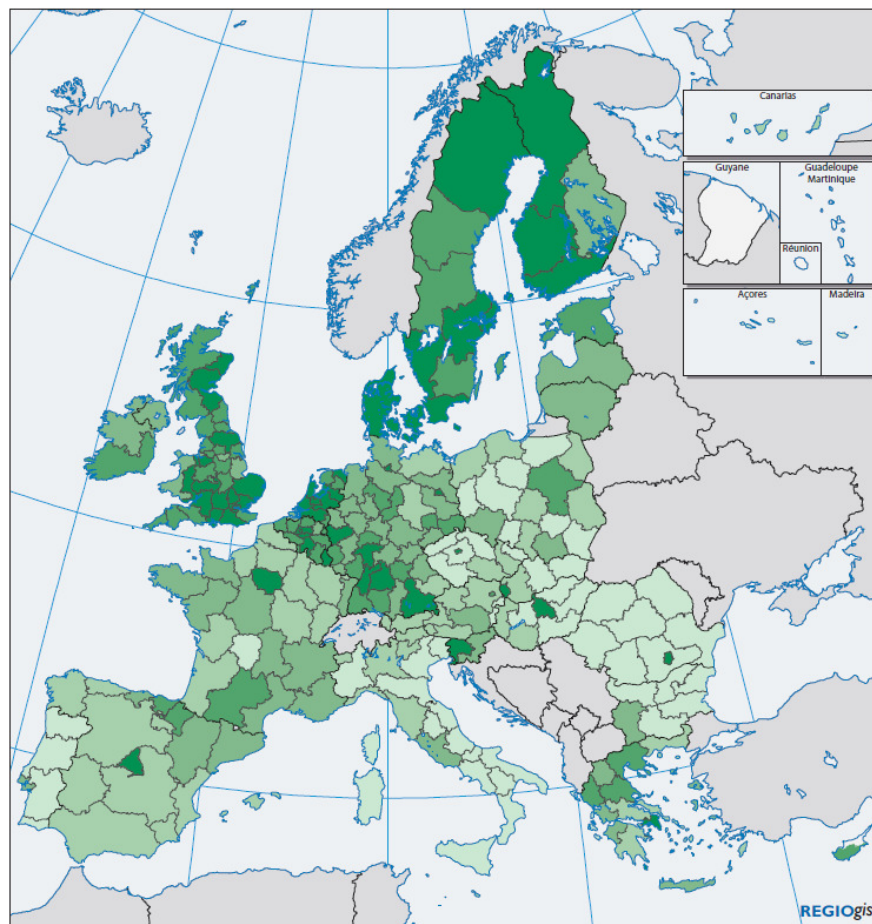
Map 7.3

Nota 9: La densità delle attività industriali per Km² è molto forte in Italia, Germania e Regno Unito, determinando una forte congestione

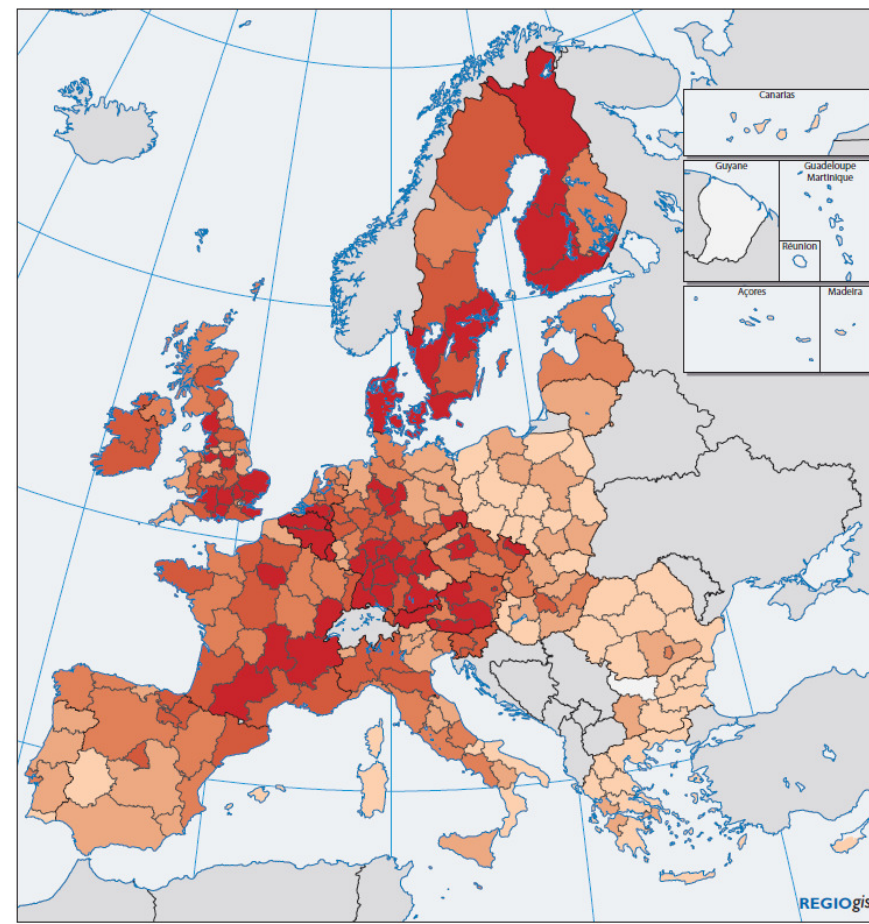




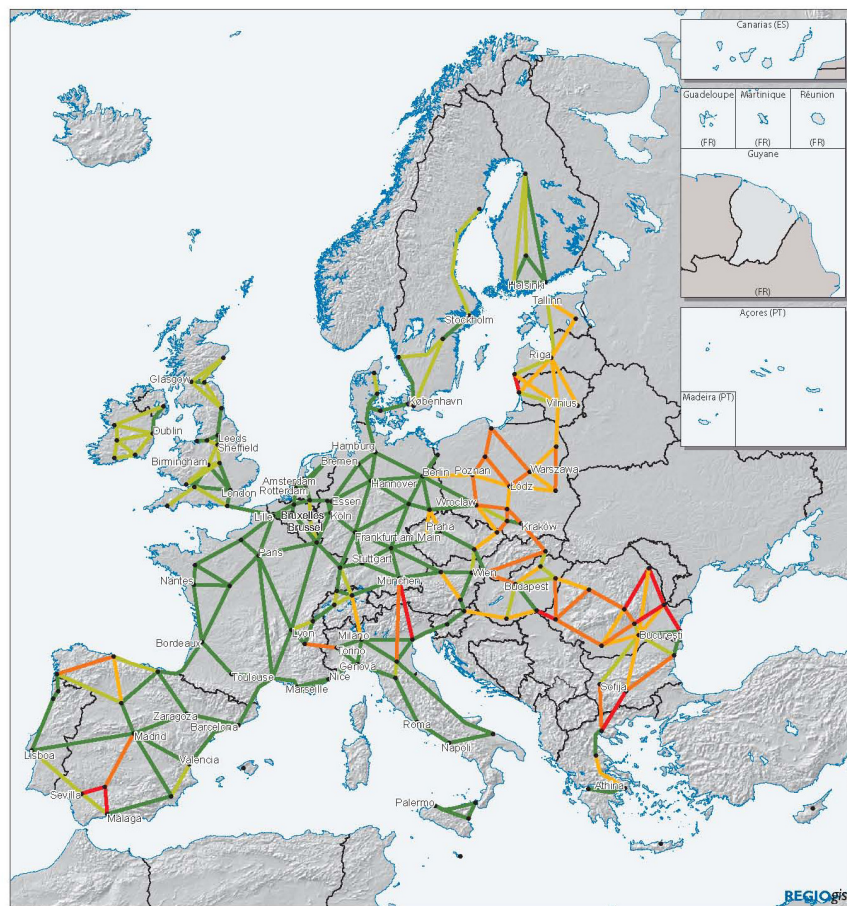




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Map 8 Road efficiency between major urban agglomerations

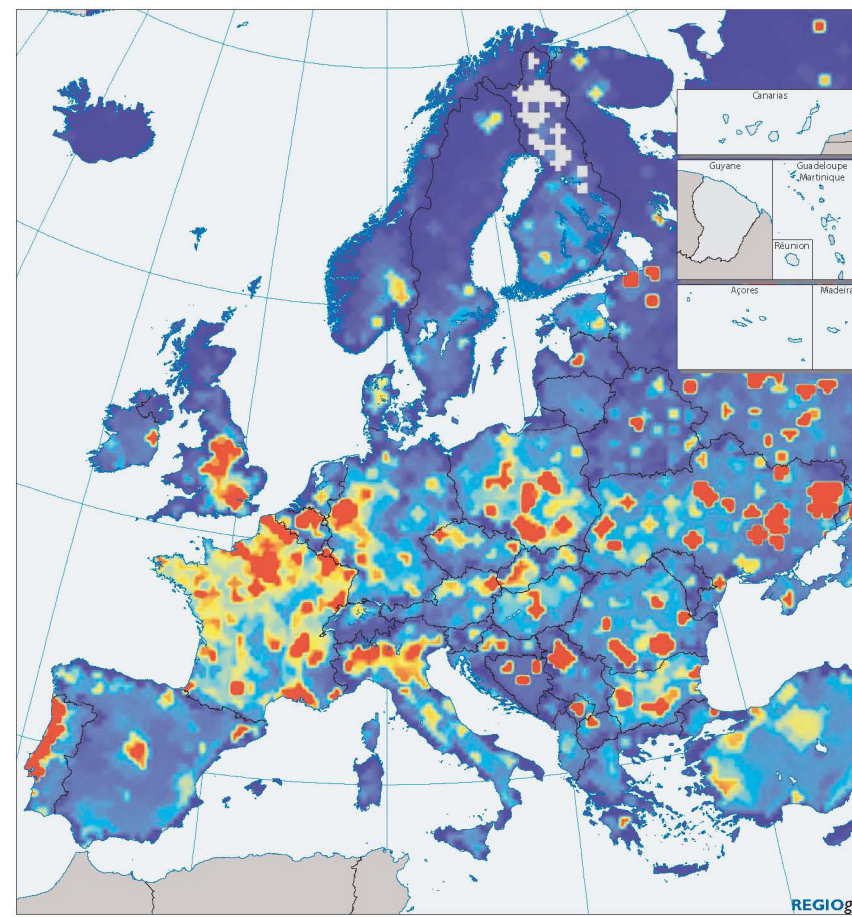
km/h

- < 60
- 60 - 70
- 70 - 80
- 80 - 90
- > 90

Sources: Eurostat, EuroGeographics Association, REGIO-GIS

0 500 Km

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Map 7 Emissions of PM 2.5, 2006

Mg

High : 49632

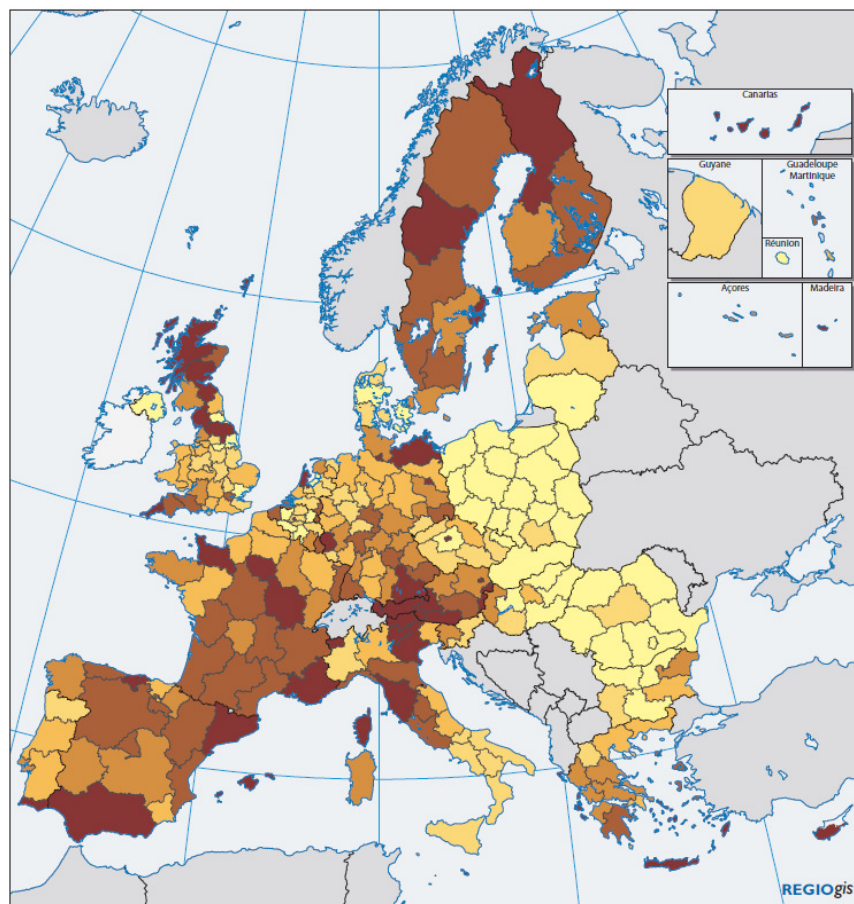
Low : 0

No Data

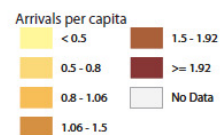
Source: EMEP

0 500 Km

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Arrivals in Hotels and similar establishments, 2007

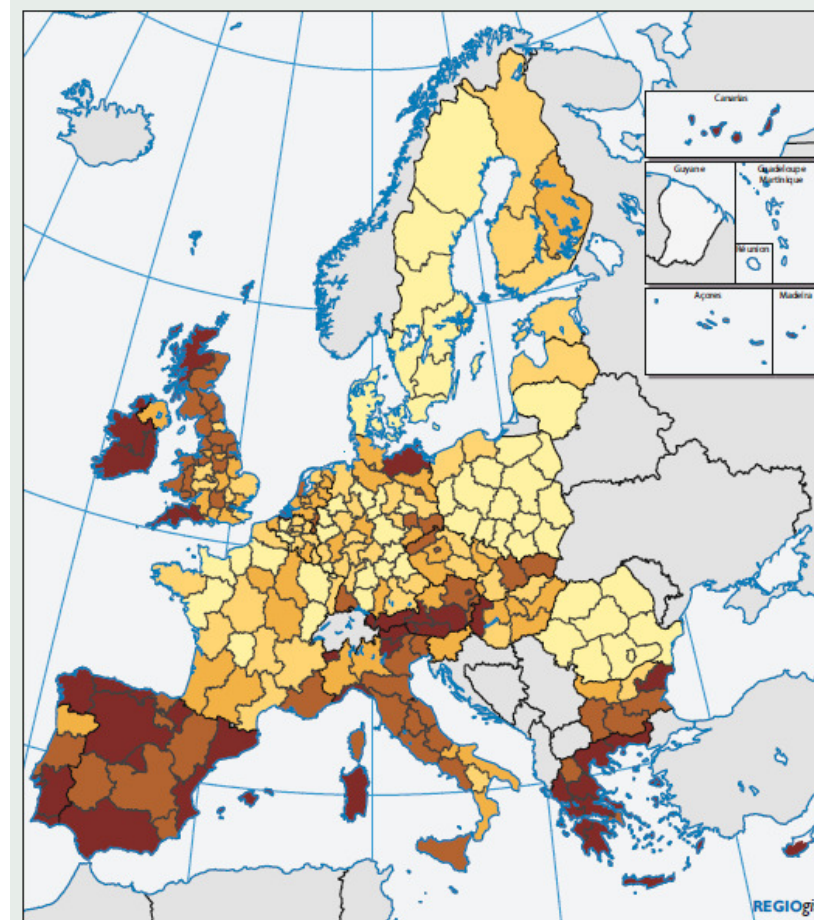


Source: Eurostat

0 500 Km

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data: <https://circabc.europa.eu/d/d/workspace/SpacesStore/30284270-4b68-4cac-828e-7167735af790/09005.xls>



Share of employment in hotels and restaurants, 2005-2006



EU-27 = 4.1
NACE H
Source: Eurostat

0 500 Km

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Communication from the Commission to the European Parliament and the Council
Fifth progress report on economic and social cohesion - Growing regions, growing Europe