

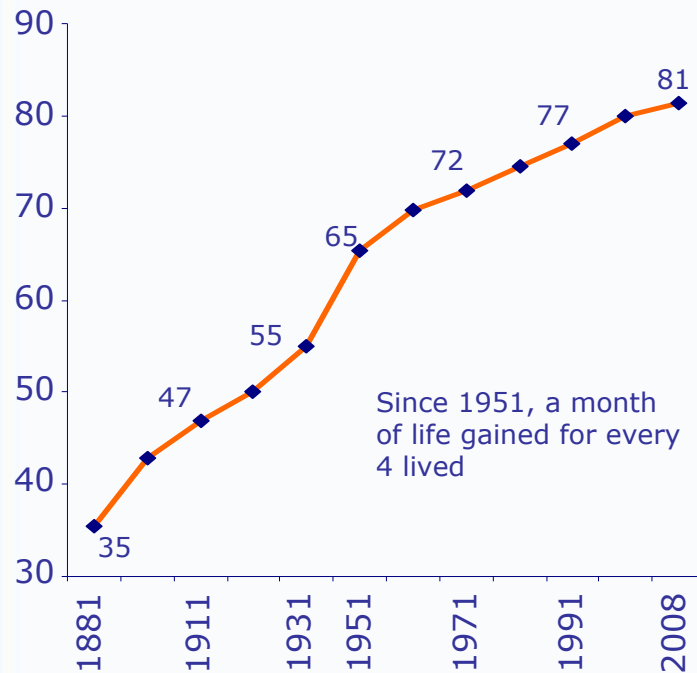


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Health and Value The Pharmaceutical Sector in Italy

Climbing life expectancy

Italy: life expectancy at birth
(average for men and women)

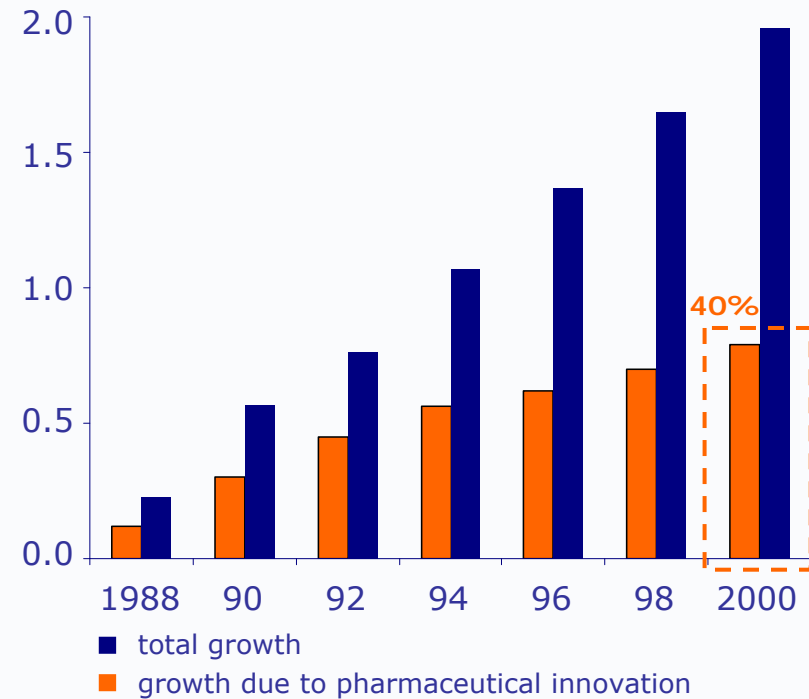


Source: Istat



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Increased average life expectancy in OECD countries and the pharmaceutical contribution
(growth since 1986, in years)



Source: International Journal of Health Care Finance and Economics, Lichtenberg (2003)

Climbing life expectancy

Italy: drop in standard death rate (deaths per 100 thousand inhabitants)

	1994 to 2006	1978 to 1994
All causes	-24.3%	-25.1%
Cardio-vascular	-34.0%	-37.3%
Cancer	-17.0%	3.7%
Respiratory	-24.4%	-38.6%
Digestive apparatus	-38.8%	-33.1%
Other causes	-11.0%	-31.9%

Source: Istat, OECD (2006 last available year)

Relative survival (%) for cancer pathologies (diagnosed between 1995 and 1999)

time from diagnosis	1 year	5 years
EU average	67.8	49.4
France	73.6	52.4
Italy	71.1	51.8
Germany	70.3	52.3
Spain	68.1	49.3
UK	63.9	45.6

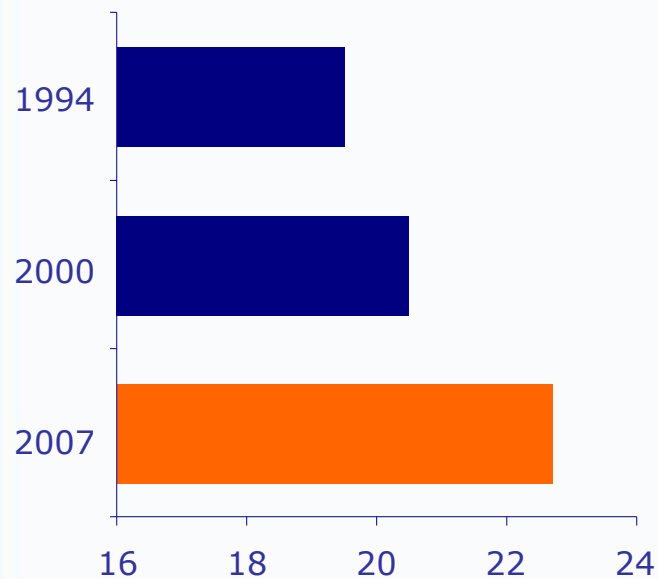
Source: European Observatory on Health
Systems (2008)



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In Italy a longer and healthier life

Over 65 and in good health (% of total)



An improvement that has made life better for 900 thousand Italians over-65

Source: OECD

Persons judging that pharmaceuticals have made a major contribution to: (% of total)

	2002	2008
Living with chronic pathologies	54.5	80.4
Better quality of life	60.2	75.9
Conquering deadly diseases	39.5	53.8

Source: Censis, Forum for the Biomedical Research (2008)



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Biotechnologies for Health in Italy

Italy: biotech medicinal products under development

(March 2009)

Clinical phase	136

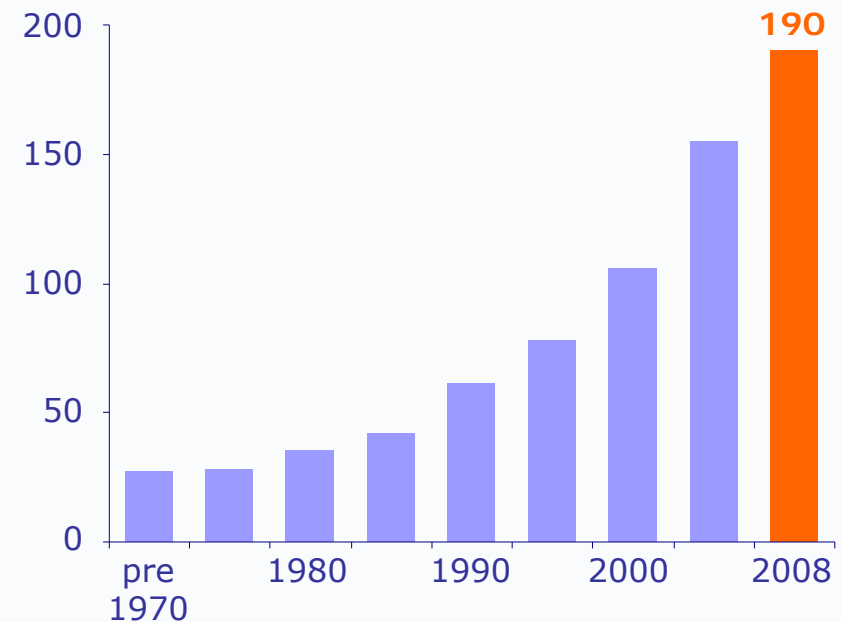
Antineoplastics and immune modulators	54
Central Nervous System	22
Cardiovascular	8

Preclinical phase	73

Discovery	49

Source: Blossom&Company-Assobiotec

Number of red biotech * companies in Italy



• Biotechnologies for health

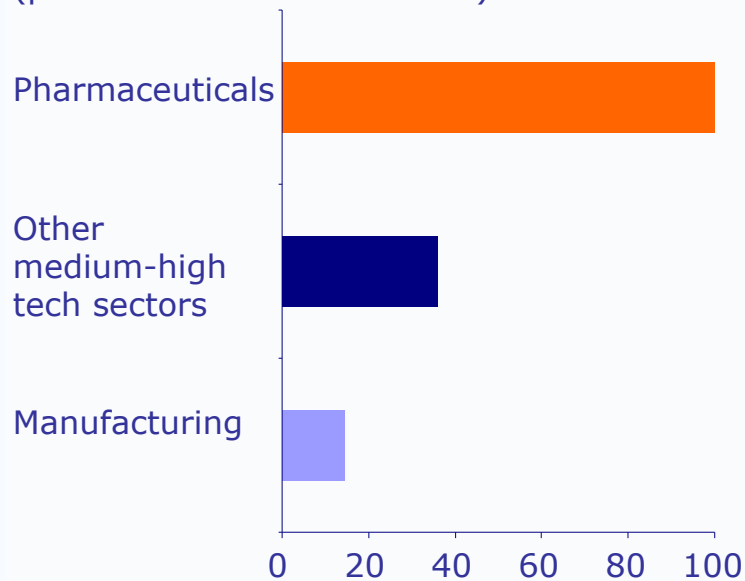
Source: Blossom&Company-CrESIT



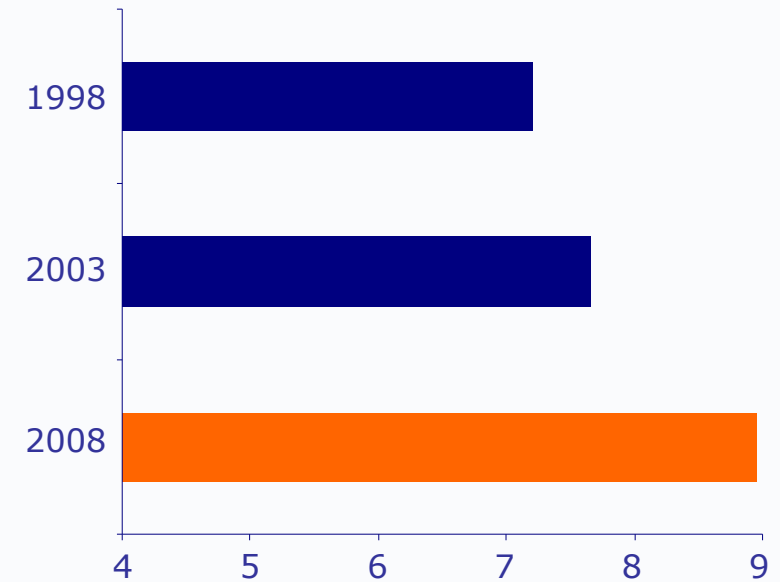
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Pharmaceutical companies make a fundamental contribution towards research in Italy

Intensity of R&D activities by sector
(pharmaceuticals index=100)



Pharmaceuticals: R&D employees as % of all employees



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Source: based on Istat data

The growing commitment to pharmaceutical research in Italy

R&D activities in the pharmaceutical industry in Italy

	Investments (millions of euro)	Employees (units)
2002	883	5,360
2008	1,200	6,230
% change 2002-2008	+36%	+16%
% of manufacturing industries	13.5%	10.2%

Source: based on Istat data

- Pharmaceuticals are the leading sector in Italy in terms of research intensity (compared to manufacturing, they account for 1.5% of total employment and 13.5% of R&D)
- More than 90% of pharmaceutical research is funded by companies
- R&D spending is growing faster than revenues
- Additional corporate investments for 1 billion euro are planned (Programme Agreements)
- Over 200 R&D projects by the largest Italian-owned companies and 186 patent applications based on research in Italy submitted by foreign companies since 2002



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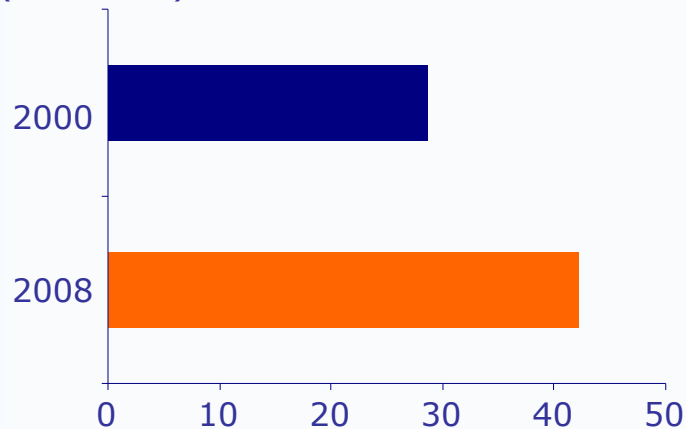
Growth in clinical trials in Italy

Growth in clinical trials between 2003 and 2008 in Italy

Total	+47%
Phases I and II	+69%
Phase III	+23%

- Clinical trials are vital for industrial growth, especially for the new models of Translational Research, in order to more effectively transfer laboratory results to clinical applications and production

Phase I and II clinical trials (% of total)



- For this reason the clinical phase can represent a factor of competitiveness for research and, consequently, it should receive incentives to reinforce the ties between public and private (e.g. tax credits for R&D)



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Source: AIFA (National Observatory on pharmaceutical Clinical Trials)

A network of increasingly focused and integrated research

- Increased research costs, greater complexity of R&D projects, and new scientific discoveries lead to greater specialisation and division of innovative work
- The drive to excellence in specific areas encourages the interdisciplinary nature of research, multiplying opportunities for everyone involved and determining the transformation of the R&D organisations of the large Groups into more flexible and specialised units
- *Research hunting*, identifying innovative ideas to develop thanks to the know-how of big companies, is strengthened both internally and externally

The source of innovation deemed the most efficient for the future of pharmaceutical R&D internationally

(% of the total of responding companies)

Outsourcing	41%
Biotech corporate acquisitions	39%
In-house research	20%

(survey among leading international pharmaceutical groups)



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Source: SCRIP

A network of increasingly focused and integrated research

In the new research model, new technologies offer the opportunity to do cutting-edge science while drawing from pharmaceutical companies the skills, know-how and the resources to make innovative therapeutic tools available

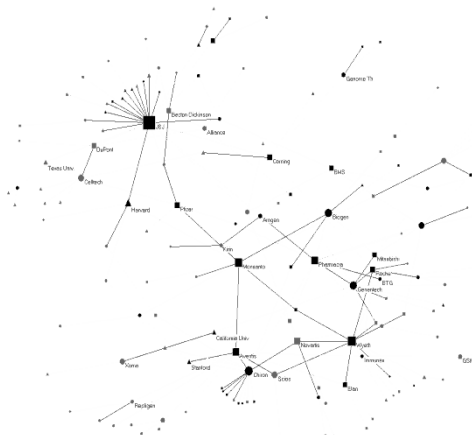


Until recently critical mass was indispensable

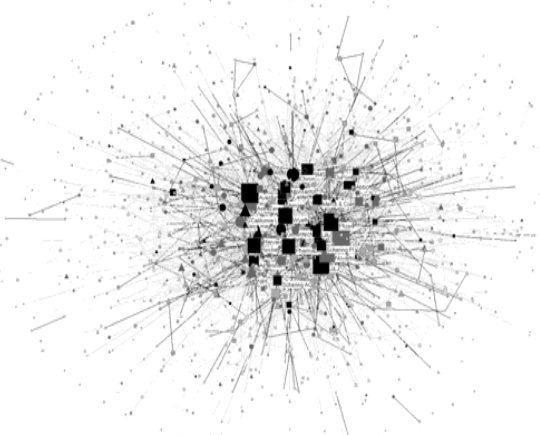
Today the competitiveness of the network, and no longer size alone, is decisive

The evolution of a research network model

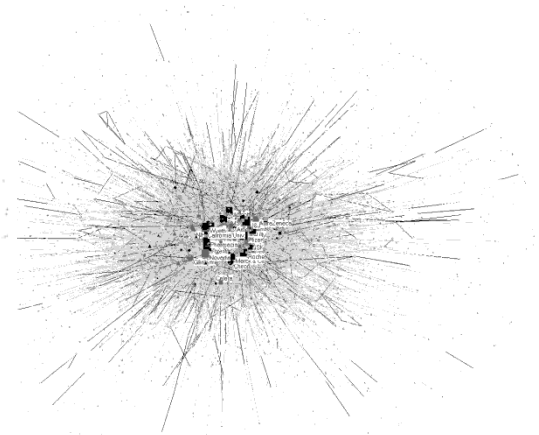
1985



1995



today



Italy that can benefit from this scenario to "export" *know-how*

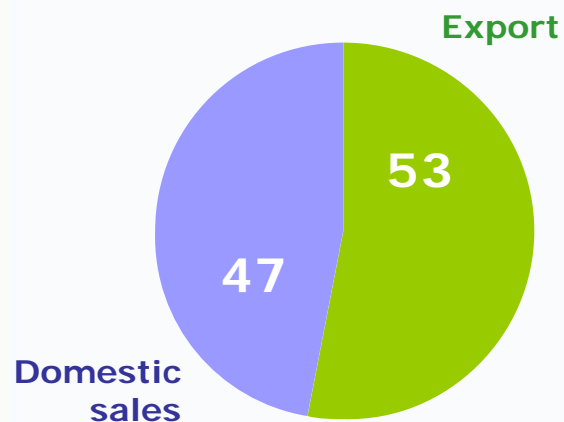


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Source: Cerm, ATA

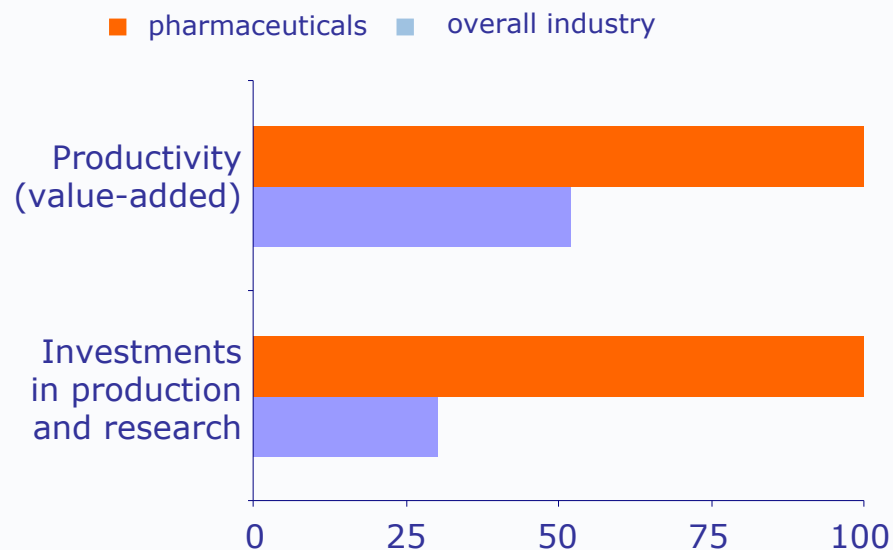
A sector at the centre of the knowledge economy

Pharmaceuticals: exports compared to domestic sales
(% of total production, 2008)



Source: based on Istat data

Values per employee in the pharma industry vis à vis overall industry
(pharmaceuticals index = 100)



Source: based on Istat data



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A sector at the centre of the knowledge economy

Key statistics of the pharmaceutical industry in Italy in 2008

- 69,500 employees, 90% graduates or with high-school certificates
- 6,230 R&D employees (9% of total, compared to industrial average of 1%)
- € 23 billion in production, 53% for export (12 billion)
- positive trade balance for pharmaceuticals for over 10 years (i.e. production greater than the domestic market), and amounted to € 522 millions in 2008 (with a surplus also for vaccines in 2008)
- € 2.3 billion in investments in production (1.1 billion) and research (1.2 billion)
- € 3.5 billion in directly-generated taxes and social contributions

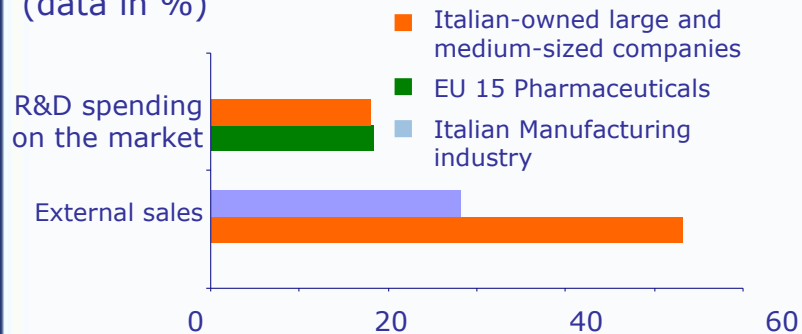


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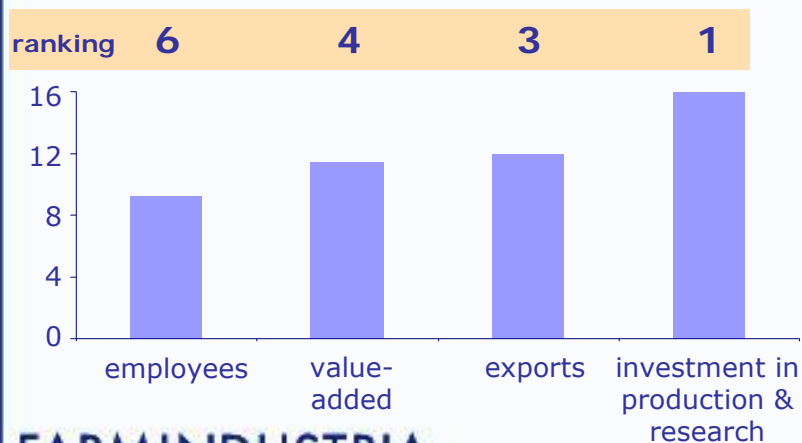
Source: Farmindustria

Companies are different but all are important

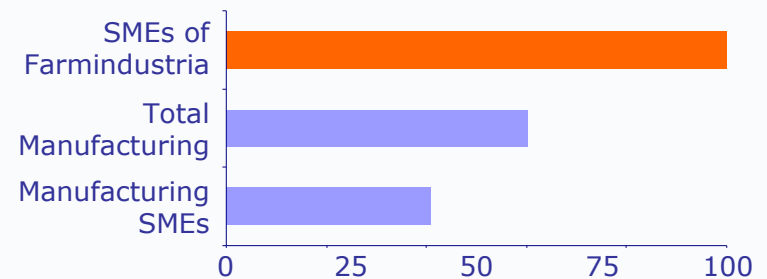
Characteristics of Italian-owned large and medium-sized pharmaceutical companies (data in %)



Foreign-owned companies: role of pharmaceuticals and sector positioning (% of foreign-owned total industry)



Investments by employee in production and research (Farmindustria SMEs index=100)



Sector results depend upon the growth strategies adopted by all companies operating in Italy

In terms of industrial presence and turnover, the presence of the companies is reasonably balanced: Italian-owned companies represent 35% of the total, foreign-owned companies, 65%

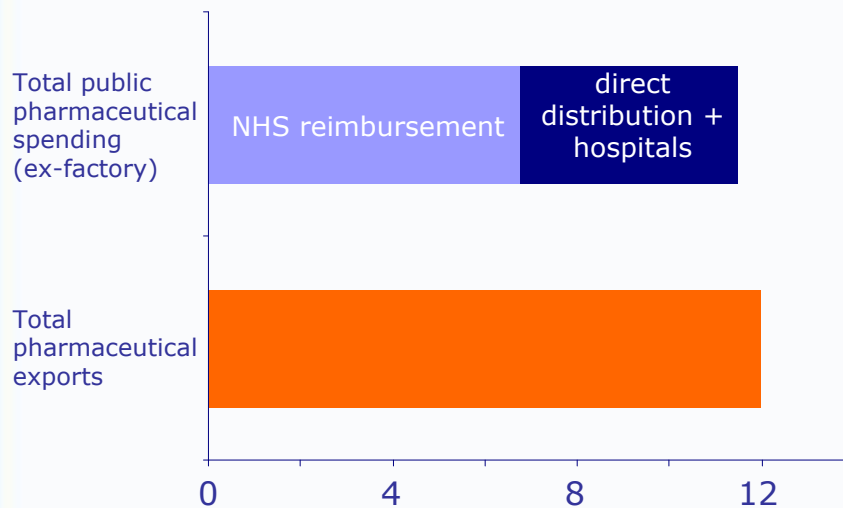


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Source: Istat, Farmindustria, EFPIA

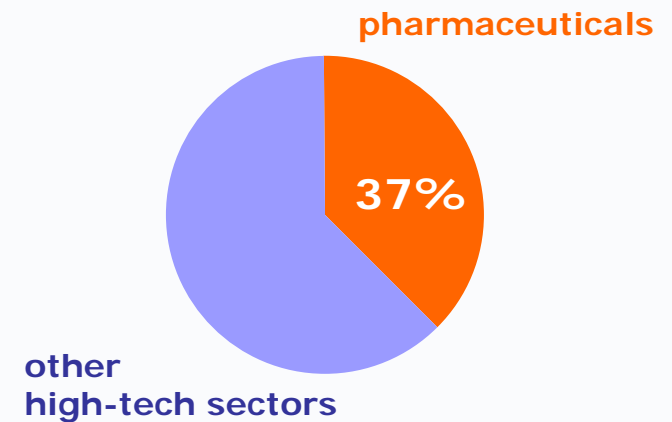
Internationalization as an engine of growth

Pharmaceutical export and total public pharmaceutical spending
(in billions of euro, 2008)



Note: pharmaceutical spending net of payback
Source: based on Istat and AIFA data

Pharmaceuticals share of total high-tech exports in Italy
(% of total)



Note: In addition to pharmaceuticals, the high-tech sectors include office equipment and IT tools, telecommunications equipment, medical equipment, optical and precision instruments, aircraft and space vehicles (sectors defined "high-tech intensive" in the annual Istat Report 2007)

Source: based on Istat data



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Why foreign companies invest in Italy

Competitive advantages of the Italian system

(survey submitted to managers of Chemical and Pharmaceutical Multinational Enterprises based in Italy)

Human Resources (managers, technicians, researchers)

Creativity, flexibility, problem solving
Adaptability and reaction to changes
Orientation for continuous improvement
Capability to work under pressure
Know-how in specific areas

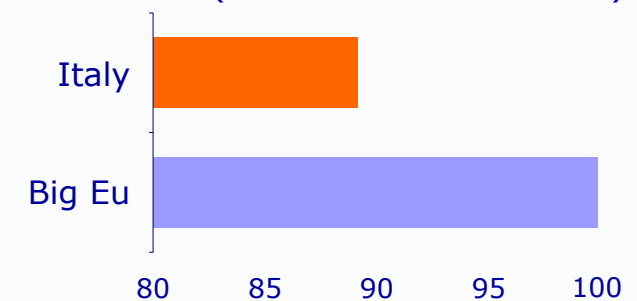
Excellence and quality in upstream sectors

Size and characteristics of the market

Research and Development

High quality graduates
Cost/quality competitiveness
Ability to interpret market needs
Applied research and product development

Labour cost in Life Sciences (index Eu countries=100)



Are you satisfied
with your company's
investments in the country?
(% of total)

YES 75%
NO 25%

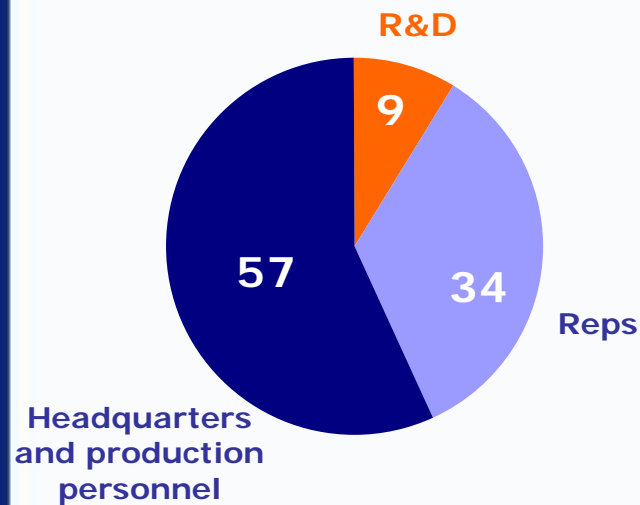


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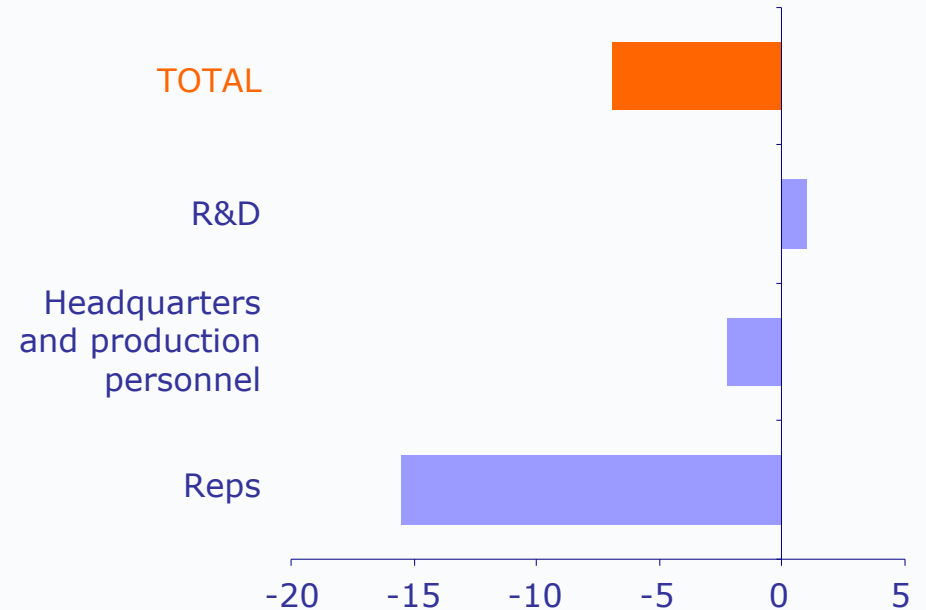
Source: Federchimica, Confindustria, KPMG

Pharmaceutical employment

Pharmaceutical personnel by function (% of total)



Pharmaceutical personnel by function (% variation in the 2-year period 2007-2008)



At an international level, the pharmaceutical industry is undergoing a phase of transformation. These phenomena, with worldwide repercussions on employment, impact Italy as well.

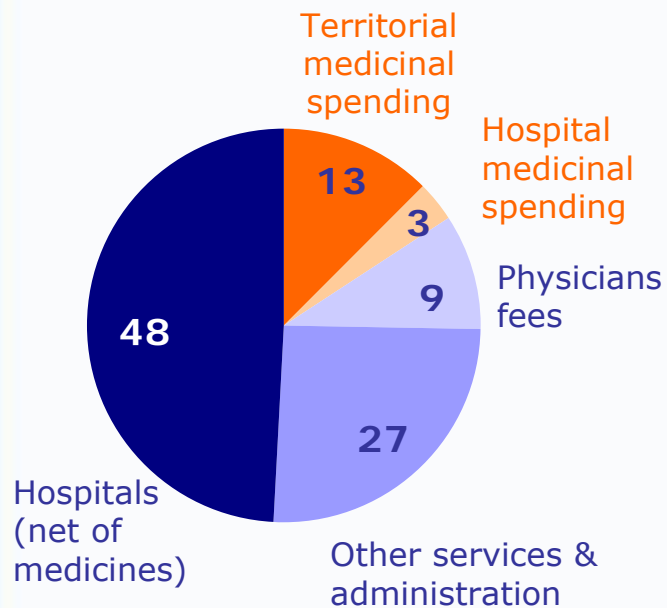


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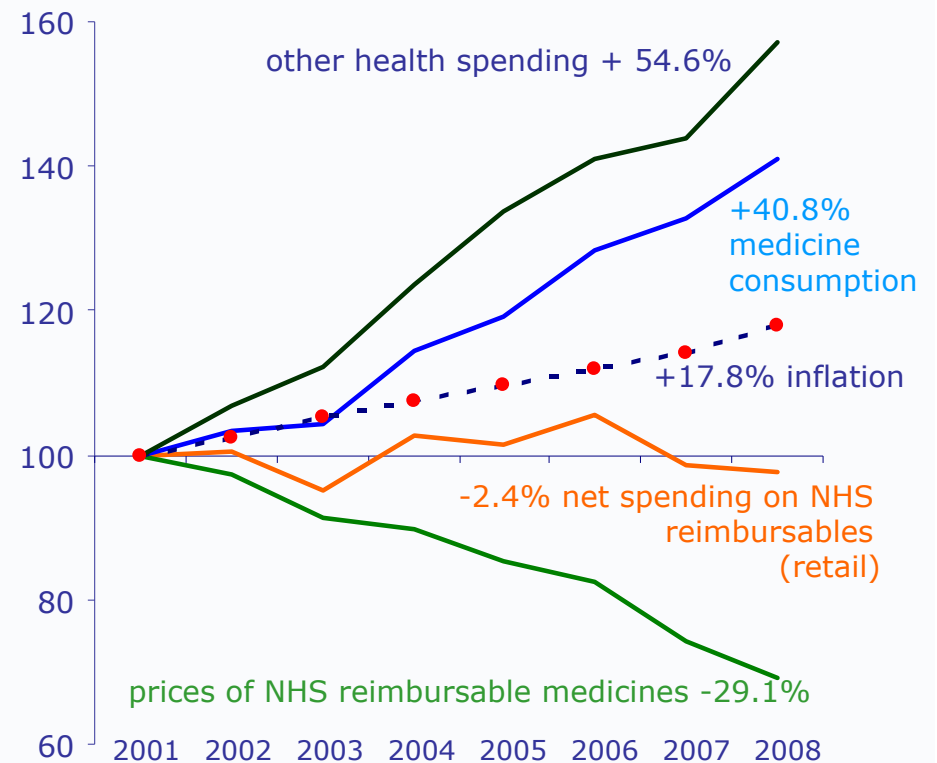
Source: Farmindustria

Pharmaceuticals within Italian public health spending

Composition of public health spending in 2008
(% of total)



Trend in health and pharmaceutical spending
(index 2001=100)

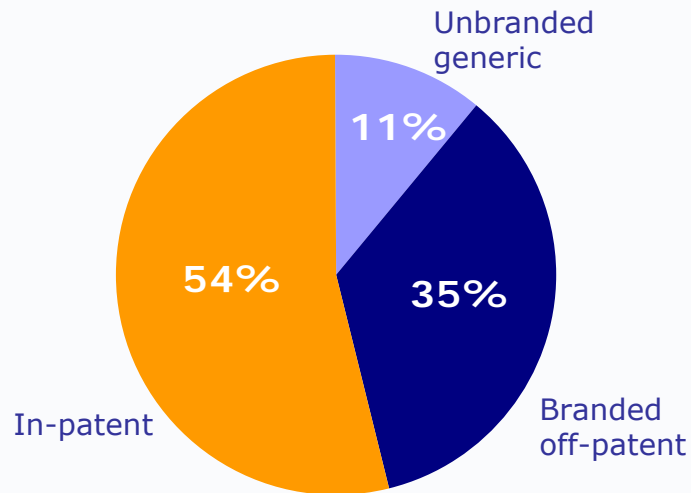


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Source: based on Istat and AIFA data

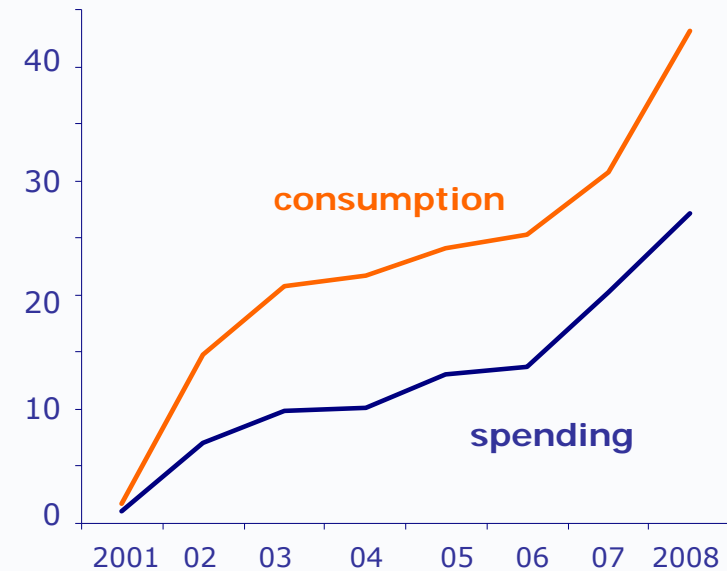
The market for generic pharmaceuticals in Italy

Consumption of reimbursable medicines by type
(% of total, December 2008)



Source: AIFA

% of net spending on reimbursable medicines (with reference to the "transparency lists")



Savings from generics to be reinvested in the pharmaceutical system

- Without creating "protected" markets
- Recognising **brand and patent value**, aspects demonstrating the industrial commitment and the research conducted by companies, as well as building patient trust
- In compliance with the physician's prescription



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Medicines and vaccines are an investment for more efficient and sustainable social support

- Through prevention (e.g. vaccines)
- By reducing the need for surgery (e.g. gastro-duodenal ulcers)
- By slowing degeneration and attenuating the symptoms of age-related diseases (such as Parkinson's or Alzheimer's)
- By shortening hospital stays (e.g. for chemotherapy, a trend underway for some time) or avoiding hospitalisation altogether for certain chronic illnesses
- By lessening the risk of disabling diseases



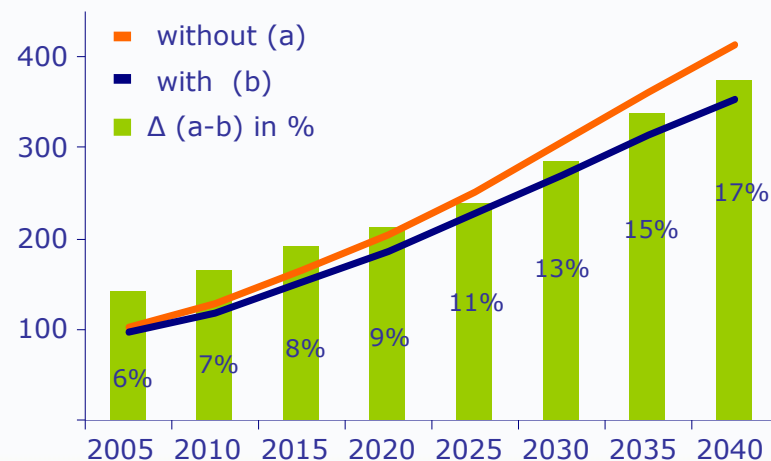
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Source: CER, "Il valore del farmaco" (2008)

Yearly cost reductions in Italy due to the use of pharmaceuticals in chronic diseases
(cardiovascular, respiratory, depression, Alzheimer's)

	billion €/year
Expenditure for medicines	6.2
<hr style="border-top: 1px dashed black;"/>	
Health costs avoided	6.4
Non-health costs avoided (fewer working days lost, lower social support payments)	6.0

Health spending with and without pharmacological therapy (billion €)



The balance of the presence of the pharmaceutical industry in Italy

Public pharmaceutical spending

In 2008 spending was 16.5 bln euro at public price* (equivalent to 11.5 bln at ex-factory prices)

Public incentives for R&D

The pharmaceutical industry in 2006 (**) received approximately 50 mln euro of public funding for R&D

Direct and indirect employment

69,500 direct employees (of whom 90% university graduates or with high-school diplomas), above 200 thousand when auxiliary industries are considered

Fiscal and export contributions

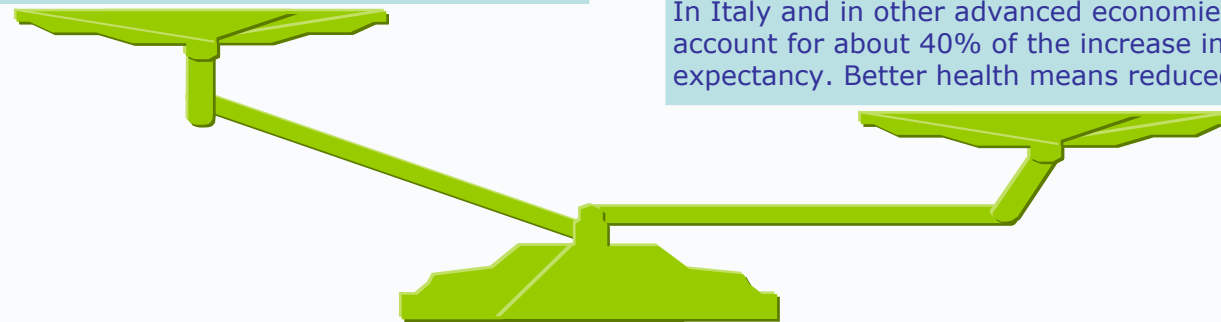
3.5 bln euro in directly generated taxes and social payments (5 bln if auxiliary industries are included). 12 bln in exports (53% of production)

Innovation and Research

2.3 bln euro in production investments (1.1 bln) and research (1.2 bln). Most important sector by R&D intensity. Companies financed over 90% of R&D

Benefits for Public Health

In Italy and in other advanced economies medicines account for about 40% of the increase in life expectancy. Better health means reduced health costs



* Net of payback

** latest available data, excluding financing for Programmatic Agreements



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