

# The Pharmaceutical Industry in Europe

## Key data

INDUSTRY (EFPIA Total) (1)	1990	2000	2006	2007
Production	63,010	123,282	182,339	190,000 (e)
Exports (2)	23,180	90,935	202,316	210,000 (e)
Imports (2)	16,113	68,841	157,941	161,000 (e)
Trade balance	7,067	22,094	44,375	49,000 (e)
R&D expenditure	7,766	17,849	24,759	26,000 (e)
Employment (units)	500,879	538,438	643,138	645,000 (e)
R&D employment (units)	75,760	88,524	106,974	107,000 (e)
Pharmaceutical market value at ex-factory prices	41,147	86,812	133,350	140,500 (e)

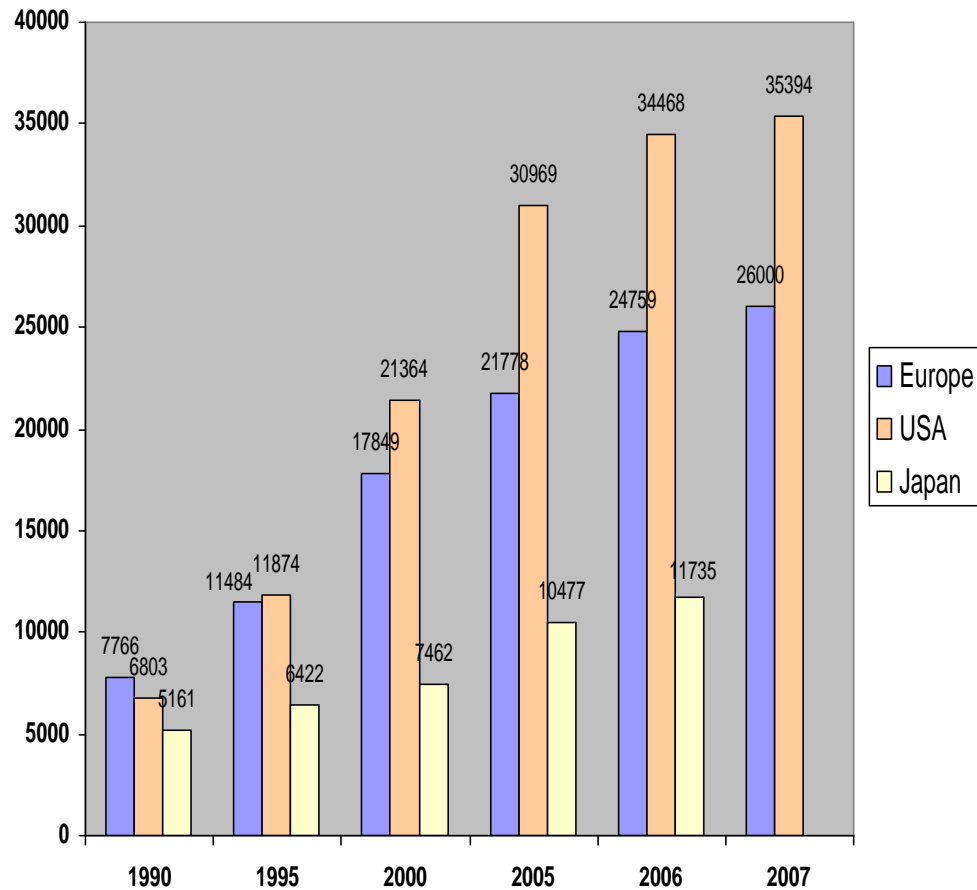
Values in € million unless otherwise stated

(1) Data relate to EU-27, Norway and Switzerland since 2005

(2) Data relating to total exports and total imports include EU-27 intra-trade (double counting in some cases)

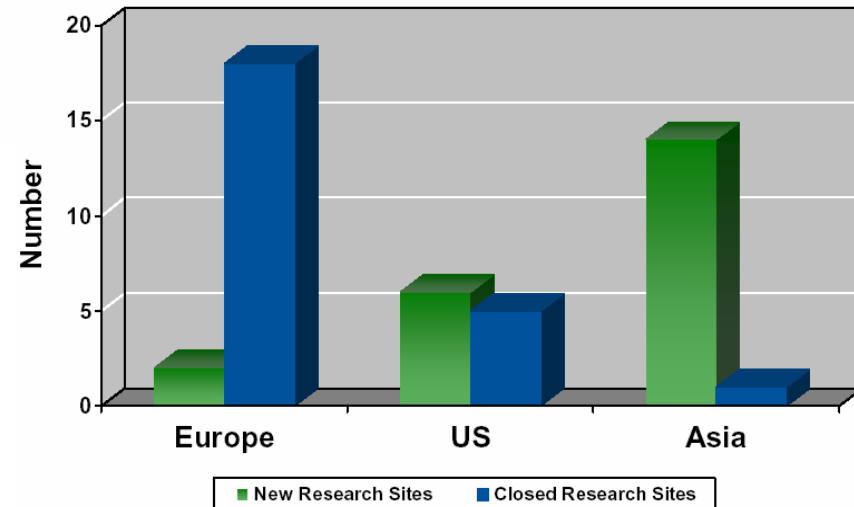
Source: EFPIA member associations (official figures) - (e): EFPIA estimate; Eurostat (EU-27 trade data 1995-2007)

# Pharmaceutical R&D expenditure 1990-2007 (million national currency units\*)

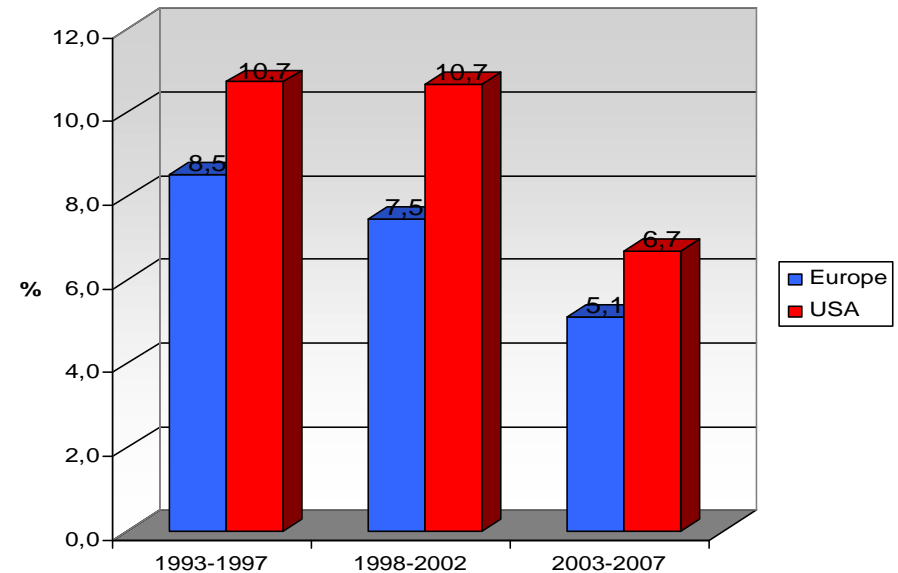


\* National currency units: Europe: € million; USA: \$ million; Japan: ¥ million x 100  
 Data 2007: estimate EFPIA & PhRMA  
 Source: EFPIA member associations, PhRMA, JPMA  
 Changes in research sites: data relate to 22 global companies –  
 Source: IMI (EFPIA Research Directors Group & IFPMA)

## Changes in Research Sites (2001 – 2006)

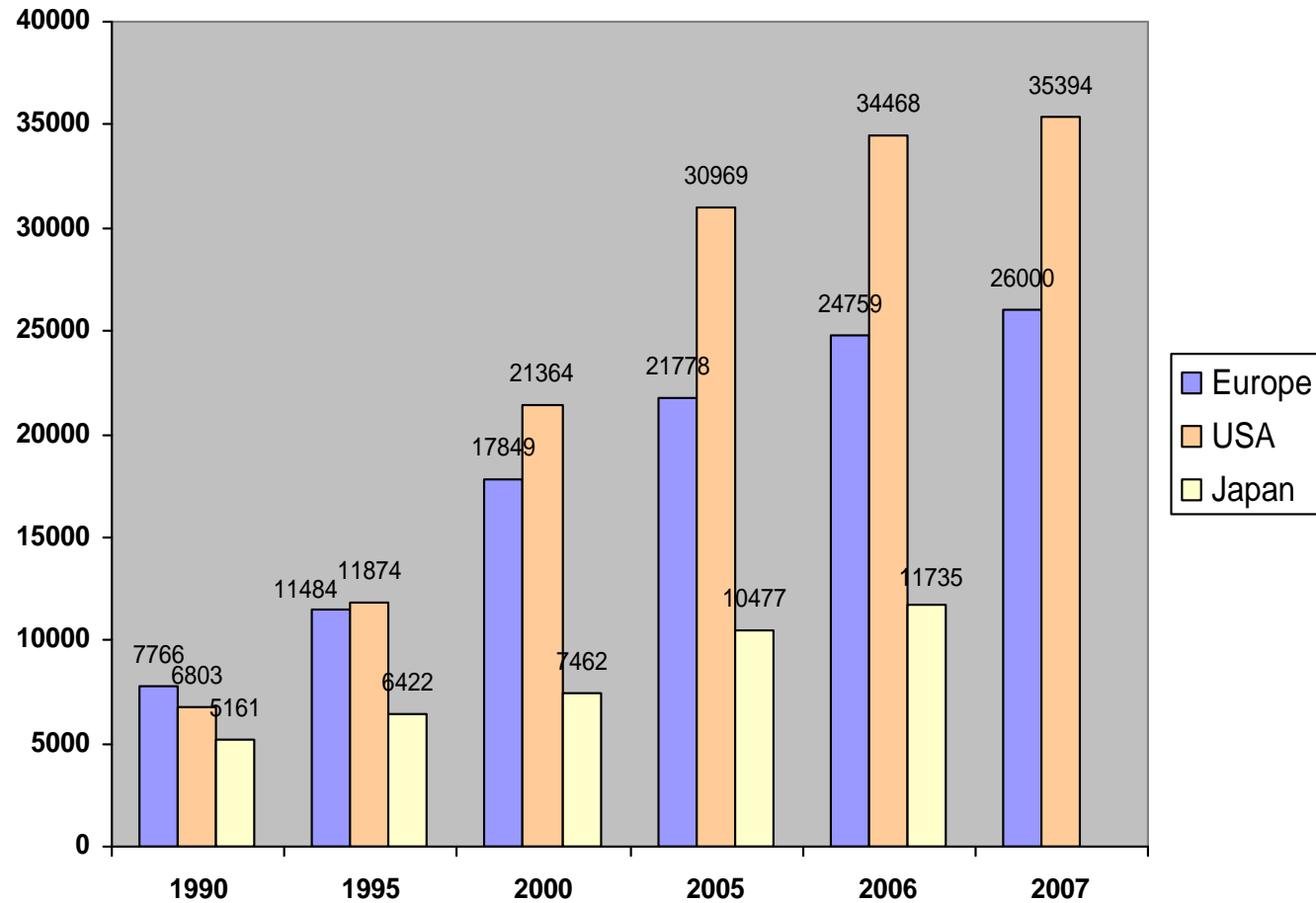


## R&D expenditure – Annual growth rate (%)



# Pharmaceutical R&D expenditure in Europe, USA and Japan, 1990-2007

Million of national currency units\*



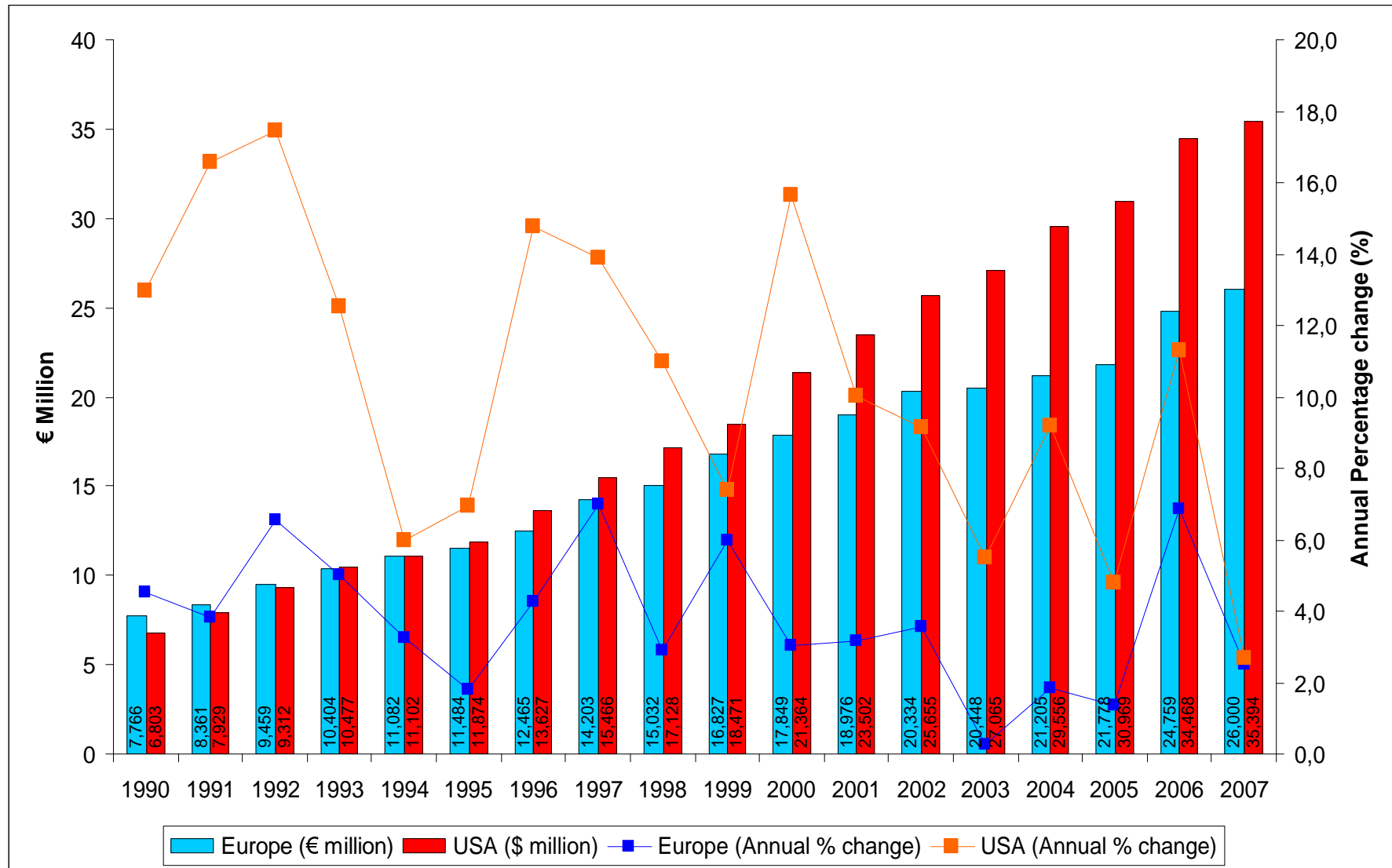
\* National currency units: Europe: € million; USA: \$ million; Japan: ¥ million x 100

Data 2007: estimate EFPIA & PhRMA

Source: EFPIA member associations, PhRMA, JPMA

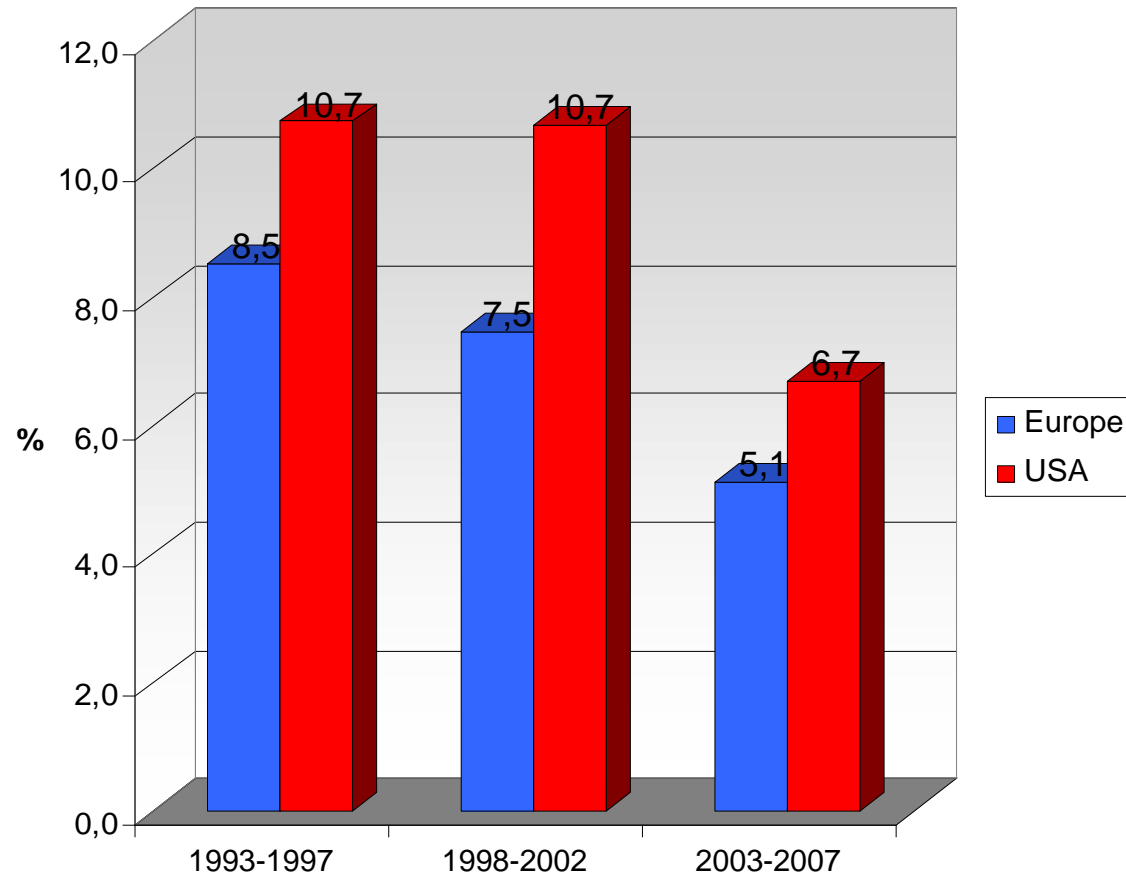
# Pharmaceutical R&D expenditure

## Value and Annual Growth rate



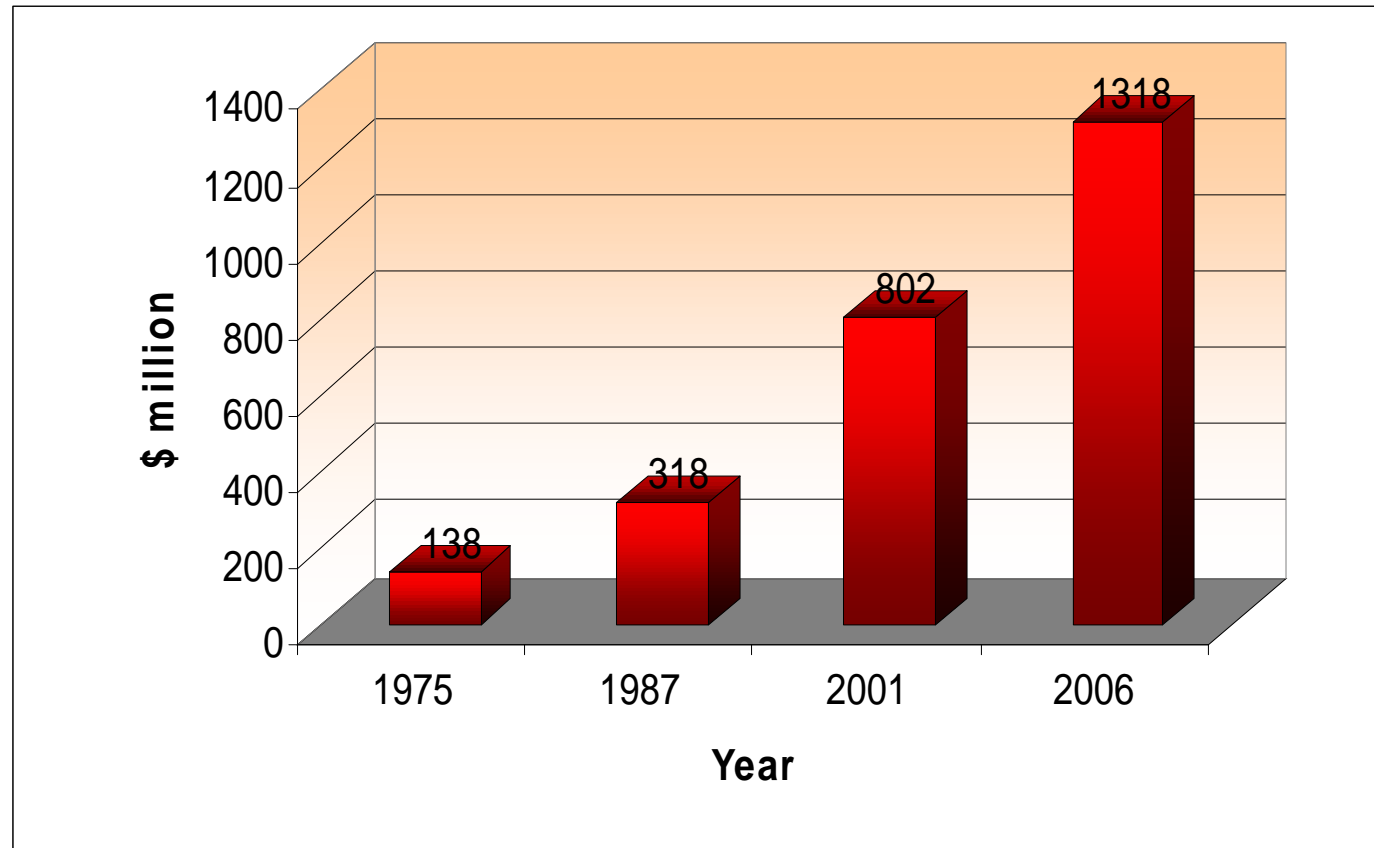
Source: EFPIA, PhRMA – 2007: estimate

# Pharmaceutical R&D Expenditure Annual growth rate (Europe vs USA)



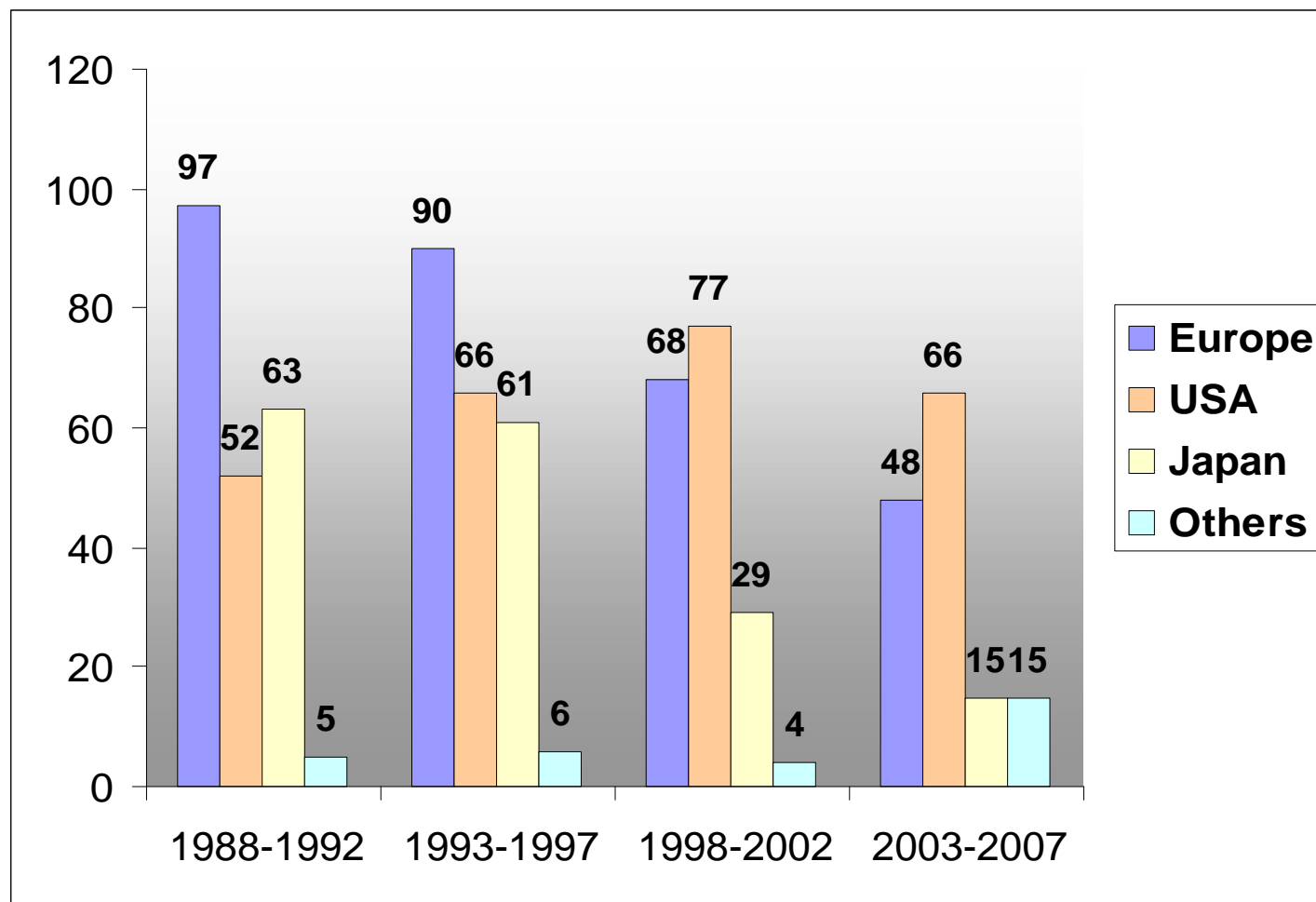
Source: EFPIA member associations, PhRMA, JPMA

# Estimated full cost of bringing a new chemical or biological entity to market (\$ million - year 2005 \$)



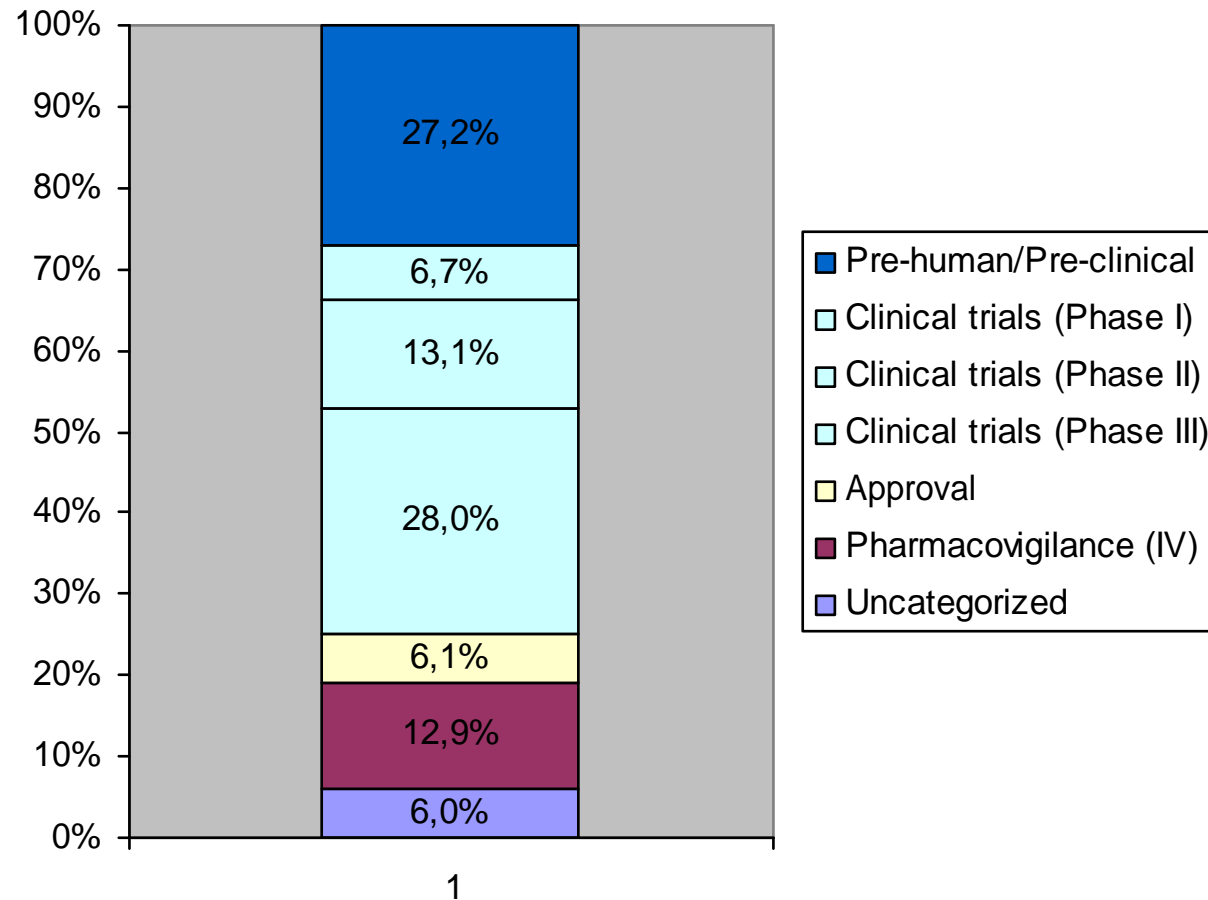
Source: J.A. Di Masi and H.G. Grabowski, 'The Cost of Biopharmaceutical R&D: Is biotech Different? Managerial and Decision Economics 28 (2007): 469-479

# New Molecular Entities 1988-2007



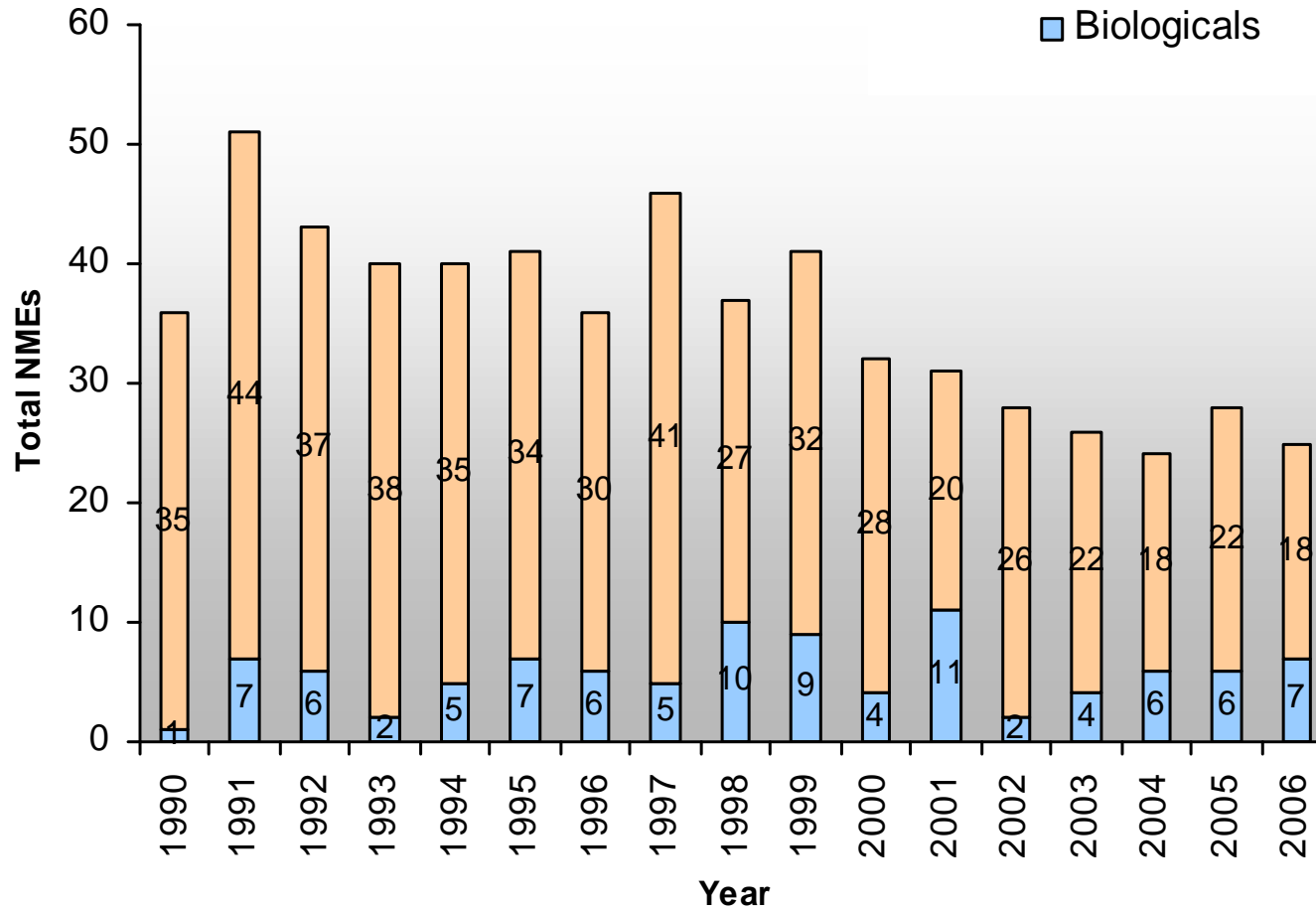
Source: SCRIP - EFPIA calculations (according to nationality of mother company)

# Allocation of R&D investments by function



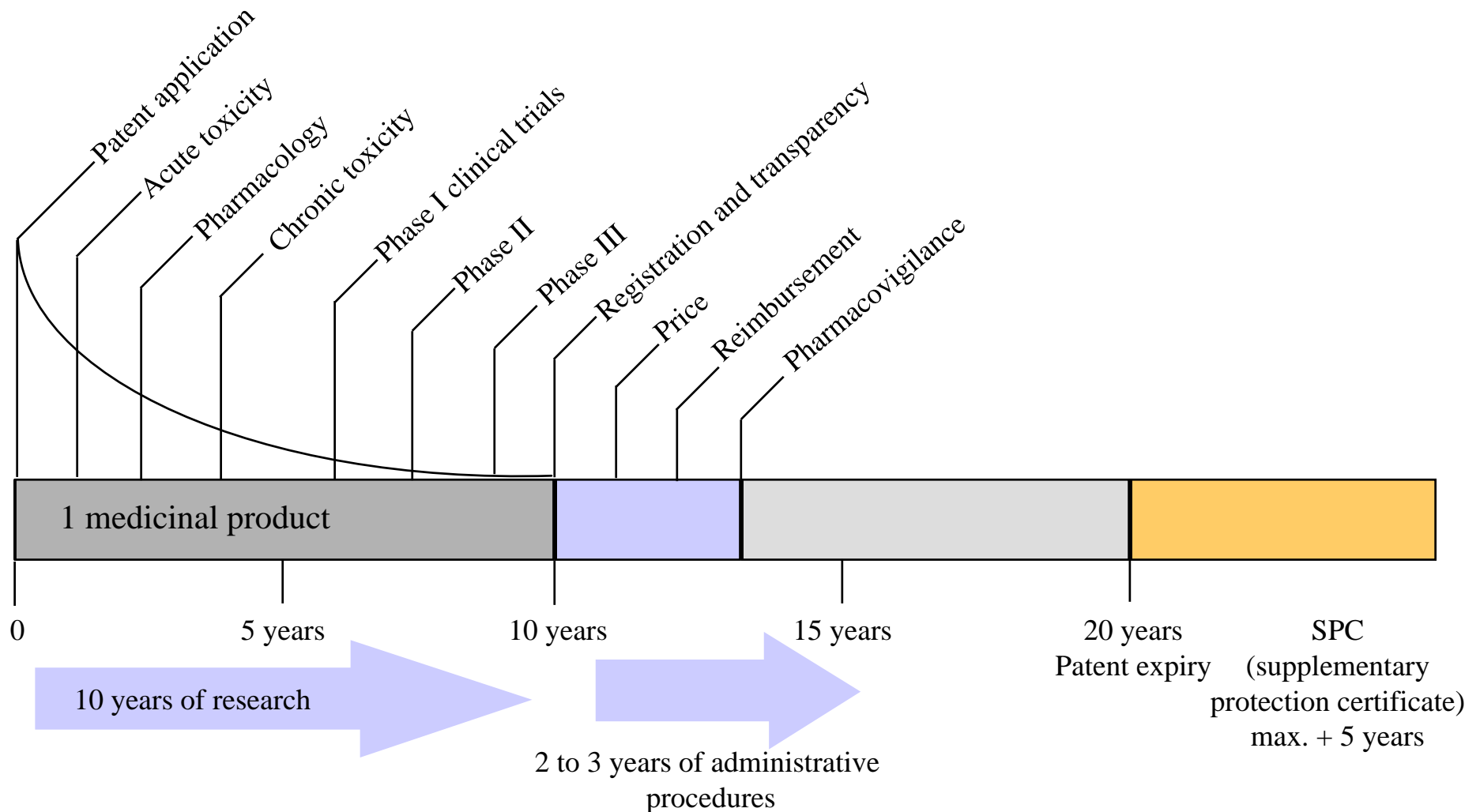
Source: PhRMA, Annual Membership Survey 2008 (percentages calculated from 2006 data)

# Number of new molecular entities (NMEs) first launched worldwide 1990-2006

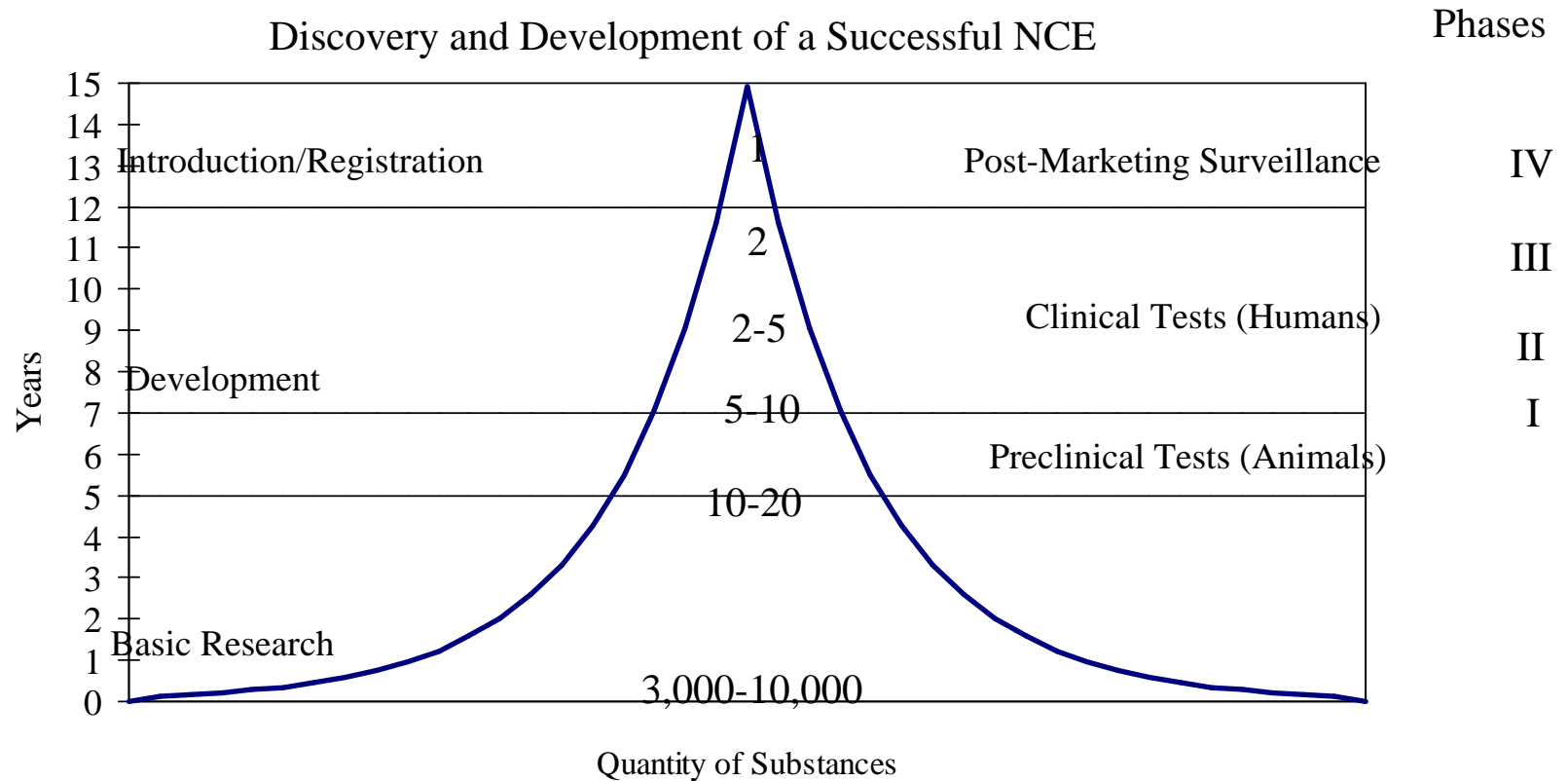


Source: CMR International

# ROUTE OF A NEW SUBSTANCE FROM DISCOVERY TO PATIENT'S ACCESS



# R&D: Scientific Risk



Source: Based on PhRMA analysis, updated for data per Tufts Center for the Study of Drug Development (CSDD) database.

# Biopharmaceuticals

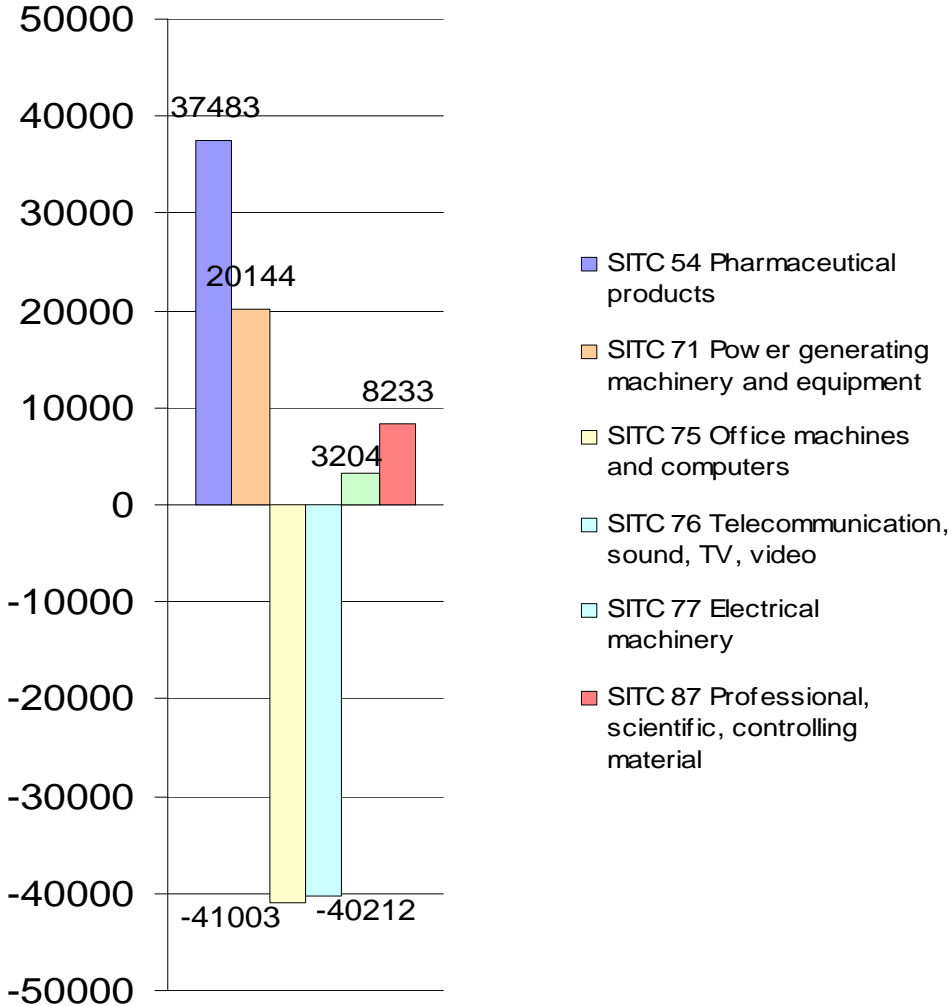
## Europe versus USA (2006)

	Europe	USA
Turnover (€ million)	9,147	44,154
R&D expenditure (€ million)	2,891	18,205
Net loss (€ million)	896	2,760
Number of public & private companies (units)	1,621	1,452
Number of employees (units)	32,470	146,100

Source: Ernst & Young, 'Beyond Borders, Global Biotechnology Report 2007' (data relate only to publicly traded companies)

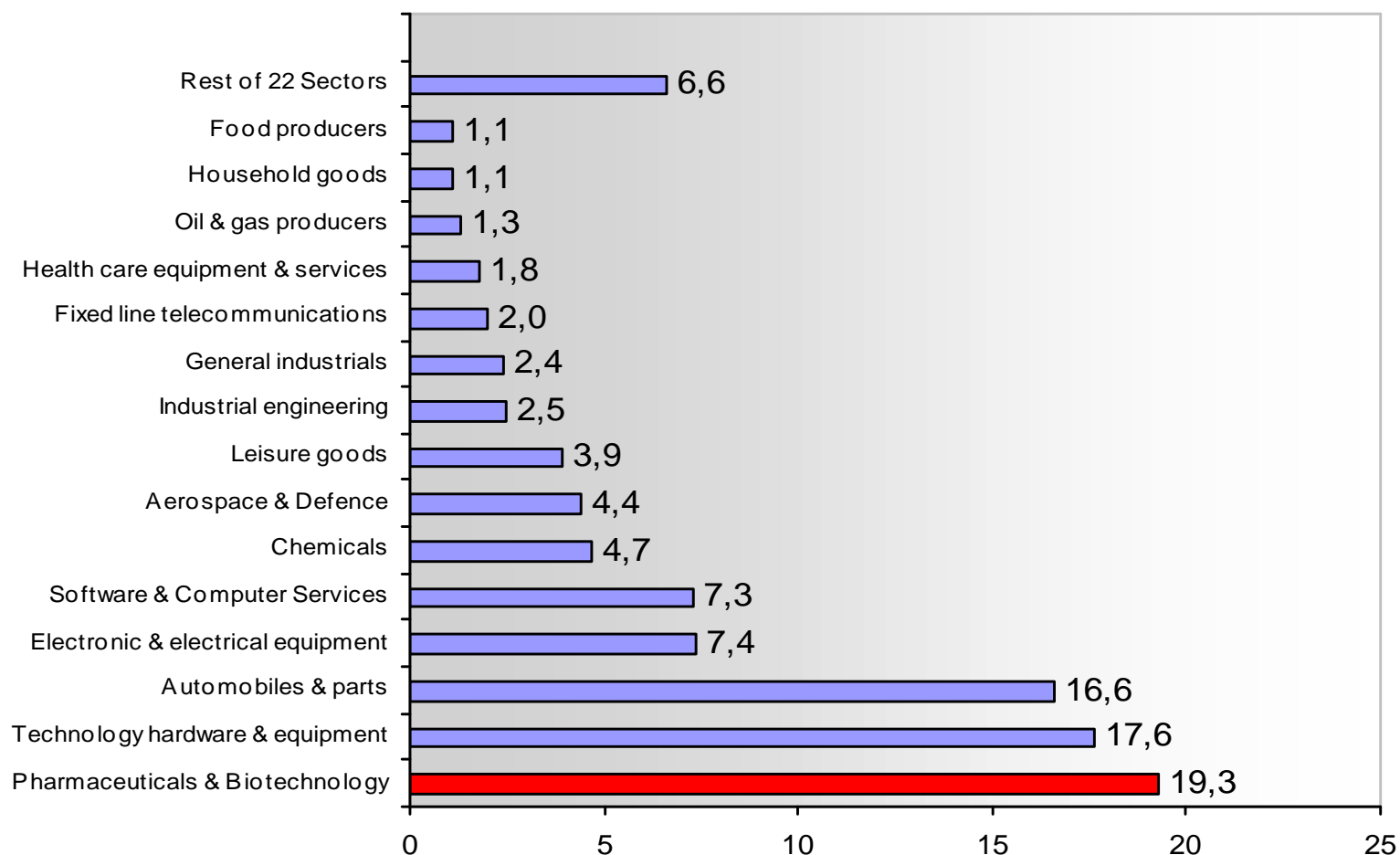
# EU- 27 Trade balance

## High technology sectors (€ million) - 2007



Source: Eurostat, External and intra-European Union trade, Monthly statistics, Issue number 4/ 2008

# Sector R&D investment as % of all sectors 2006



Note: Industrial Classification Benchmark set up by Financial Times Stock Exchange (FTSE) & Dow Jones

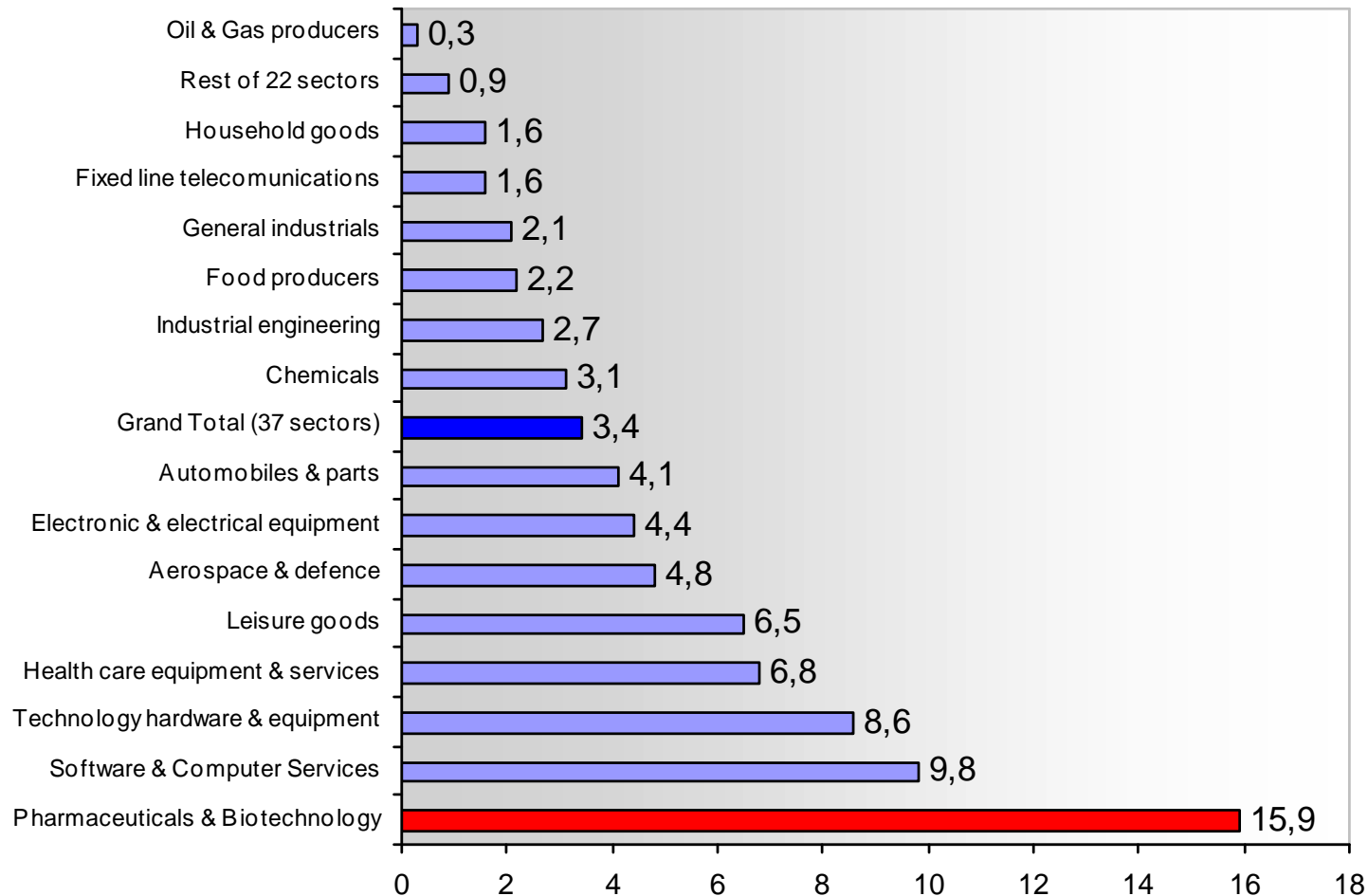
Data relate to the top 1,400 companies with registered offices in the EU, Japan, the USA and the Rest of the World, ranked by the size of their R&D investment (over € 23 million)

(over €24.91 million)

Source: The 2007 EU industrial R&D investment scoreboard, Joint Research Centre, Directorate General Research, European Commission

# R&D/ Sales ratio for industrial sectors (%)

## 2006

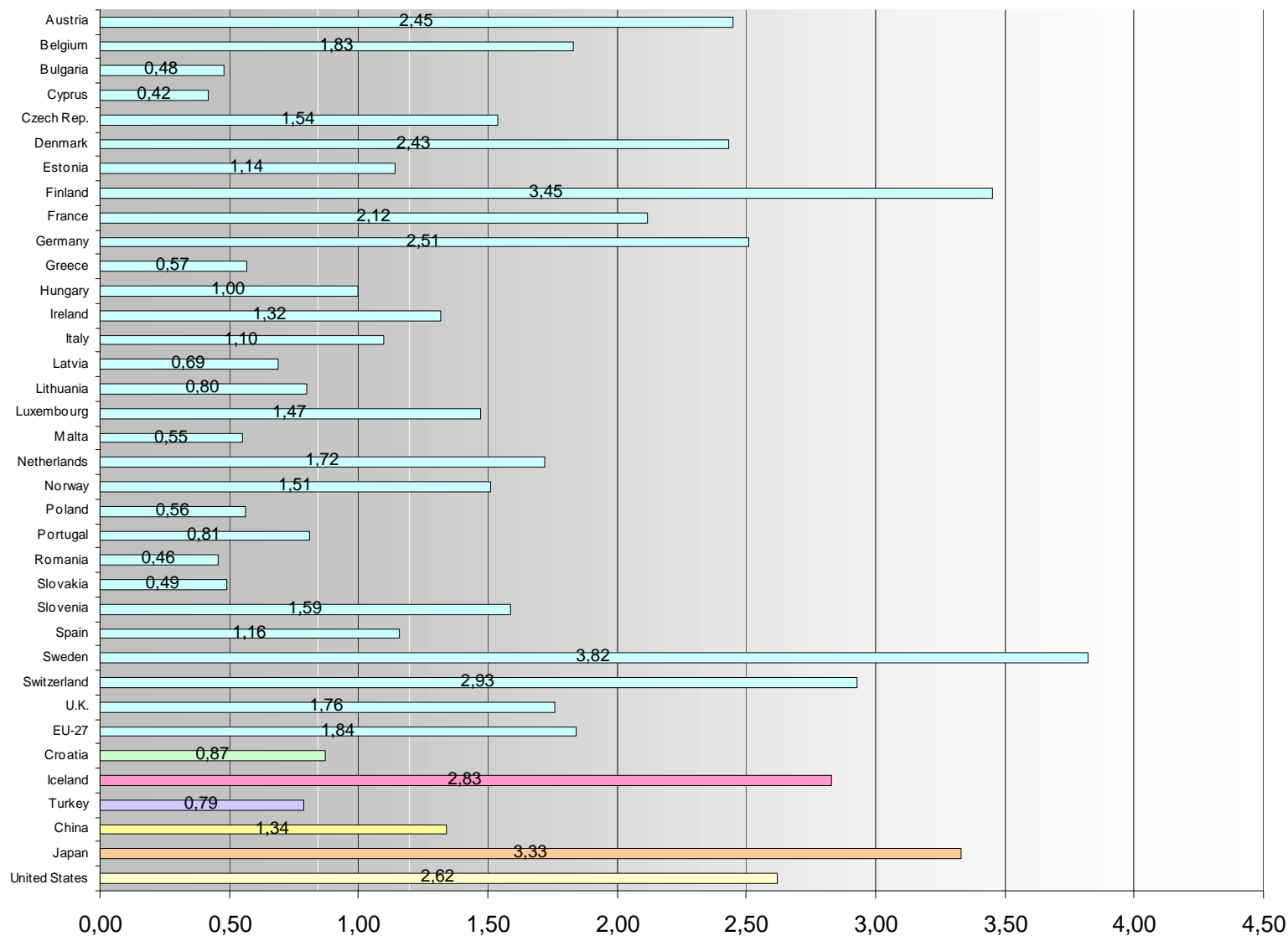


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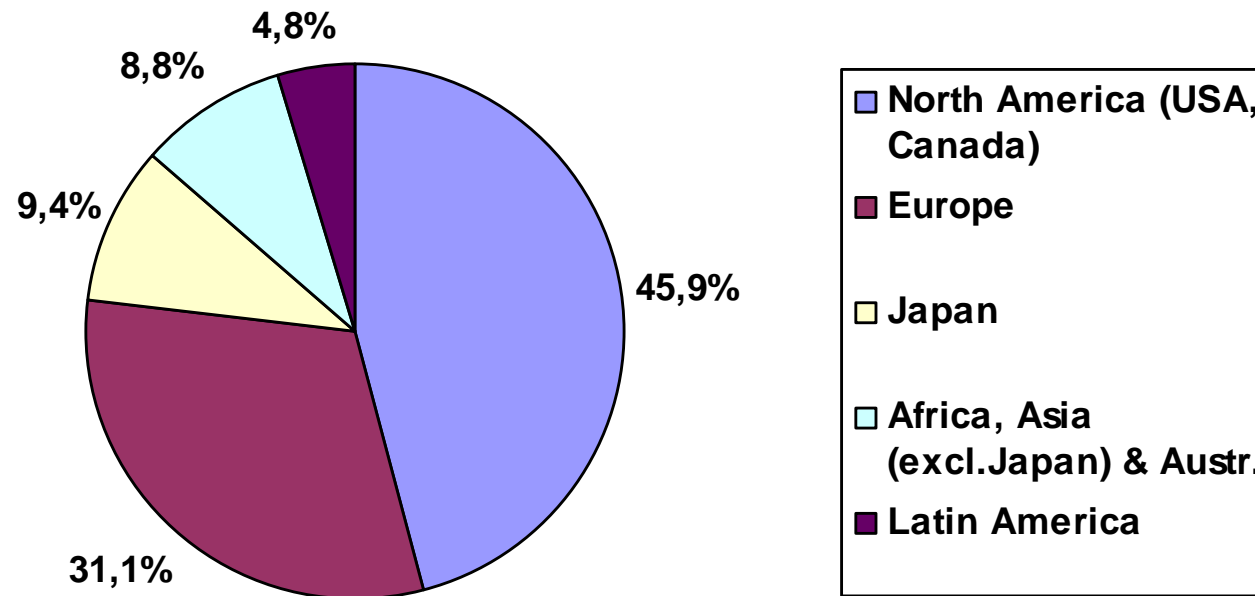
Source: The 2007 EU industrial R&D investment scoreboard, Joint Research Centre, Directorate General Research, European Commission

# R&D Expenditure as a percentage of GDP (2006)



Note: Iceland, Switzerland: 2004 data; China, Italy, Japan, Portugal, Turkey, United Kingdom, USA: 2005 data; EU-27: estimate  
 Austria, Cyprus, Denmark, Estonia, France, Germany, Greece, Luxembourg, Malta, Netherlands, Slovenia, Spain: provisional data  
 Source: EUROSTAT new release 342008, 10 March 2008; 'Science, technology and innovation in Europe', 2008 edition, EUROSTAT

# Breakdown of the world pharmaceutical market - 2007 sales

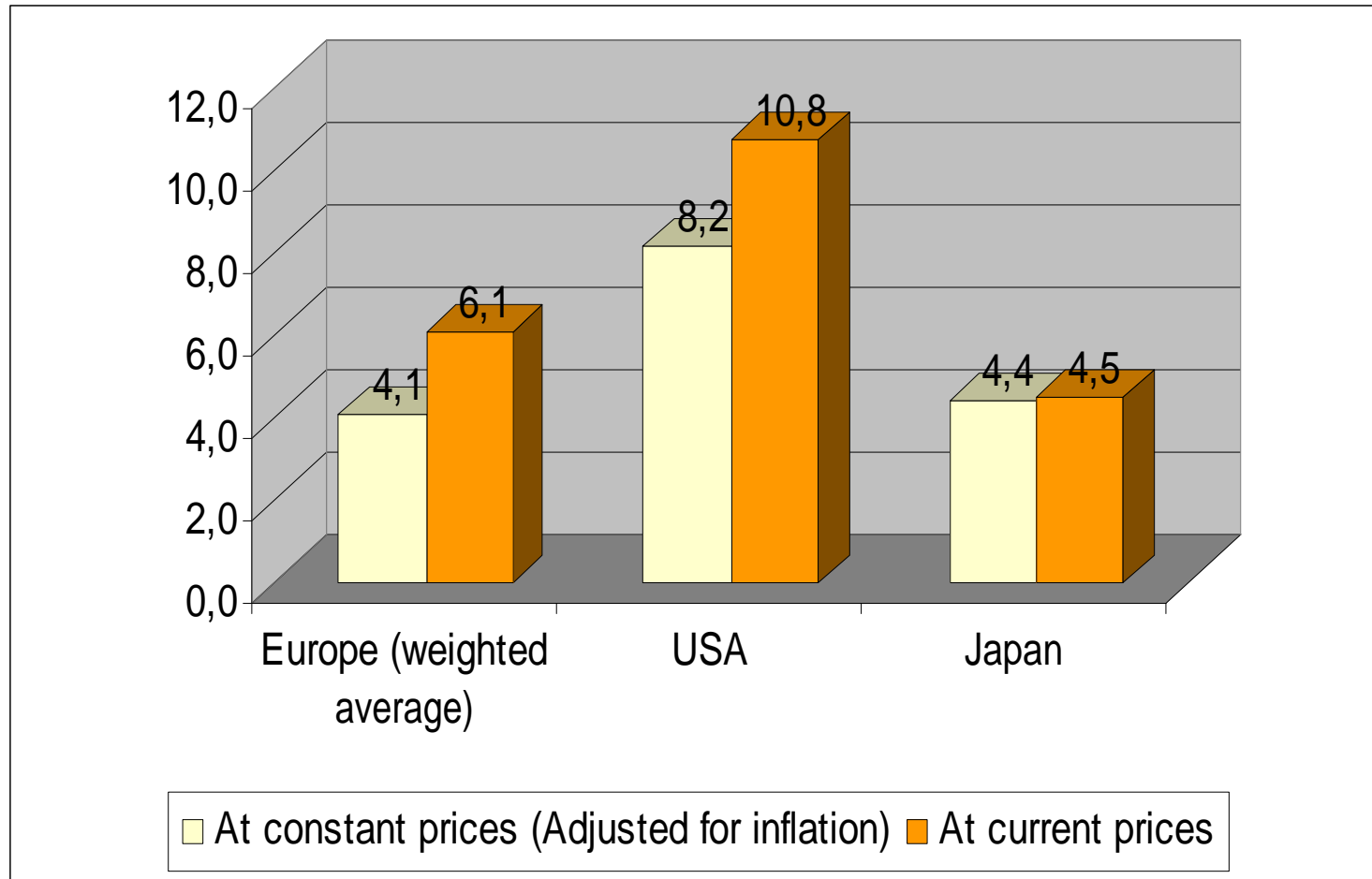


Note: Europe includes non-EU members and CIS markets

Source: IMS Health, February 2008 (data relate to the 2007 audited market at ex-factory prices)

# Total pharmacy market (at ex-factory prices)

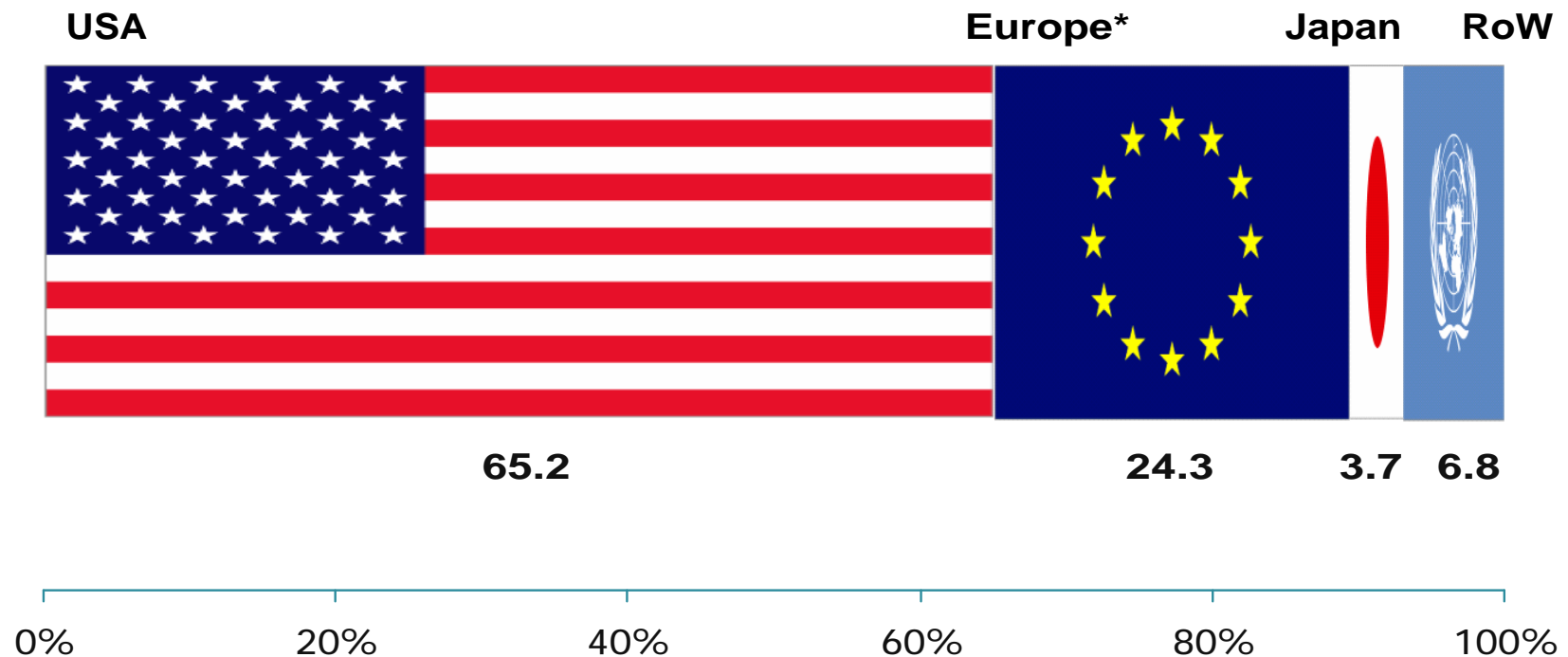
## Average annual growth rate 1996-2006



Source: EFPIA member associations, PhRMA, JPMA

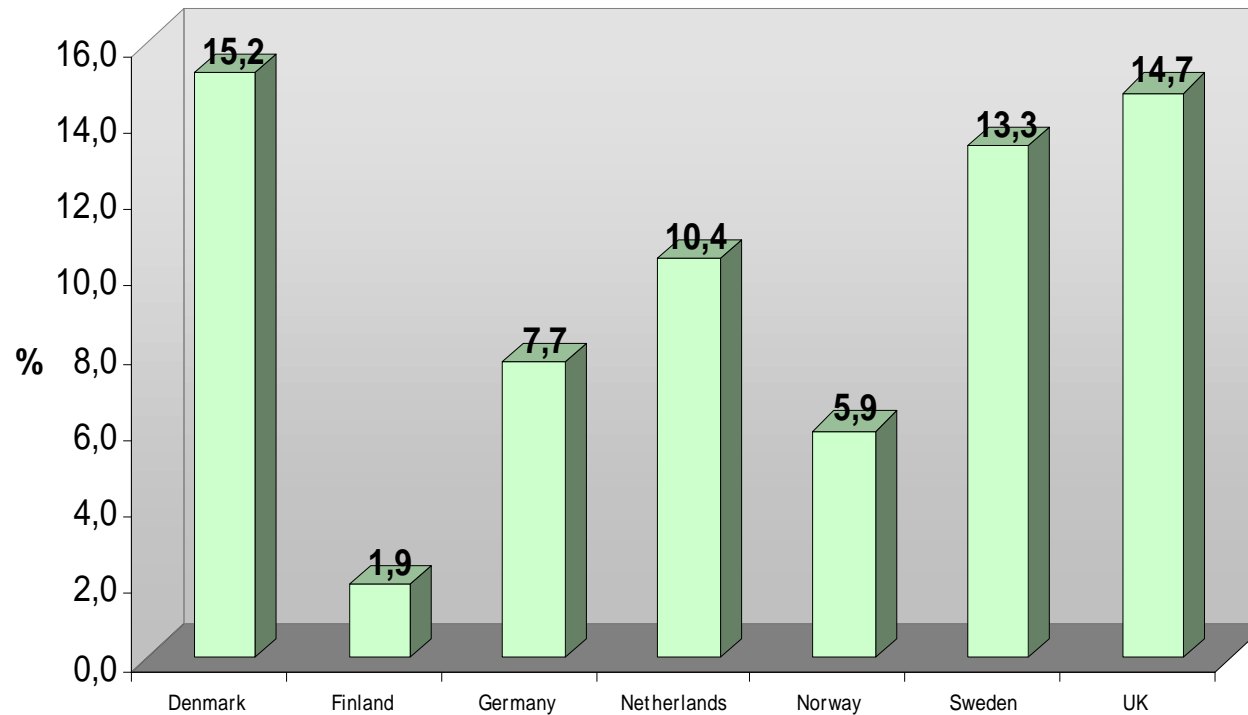
# Geographical breakdown (by main market s) of sales of new medicines launched during the period 2002- 2007

*Share of Global NCE Sales 2002-7 (% US\$ Const.)*



Source: IMS Health MIDAS MAT December 2007. Europe\* includes non EU members & CIS markets

# Share of Parallel Imports in Pharmacy Market Sales (%) - 2006



Note: Parallel trade was estimated to amount to € 4,300 million (value at ex-factory prices) in 2006.  
Source: EFPIA Member Associations