

# 18.2 US ACCOUNTS FOR MORE THAN HALF OF WORLD PHARMACEUTICAL R&D SPENDING\*

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## Abstract

Among the top 10 global funders of pharmaceutical R&D, the United States accounts for more than 50 percent to 65 percent of total spending.

The U.S. dominance in pharmaceutical research can be measured in two ways. First, among the 10 countries that rank highest in pharmaceutical R&D expenditures, the U.S. share has ranged from more than 50 percent to 65 percent of the collective R&D spending by this group (figure 18.2a). This has been true since at least 1990. Unfortunately, information is available for only four of these countries for 1980; thus, it is not possible to attain certainty about the U.S. share that long ago.

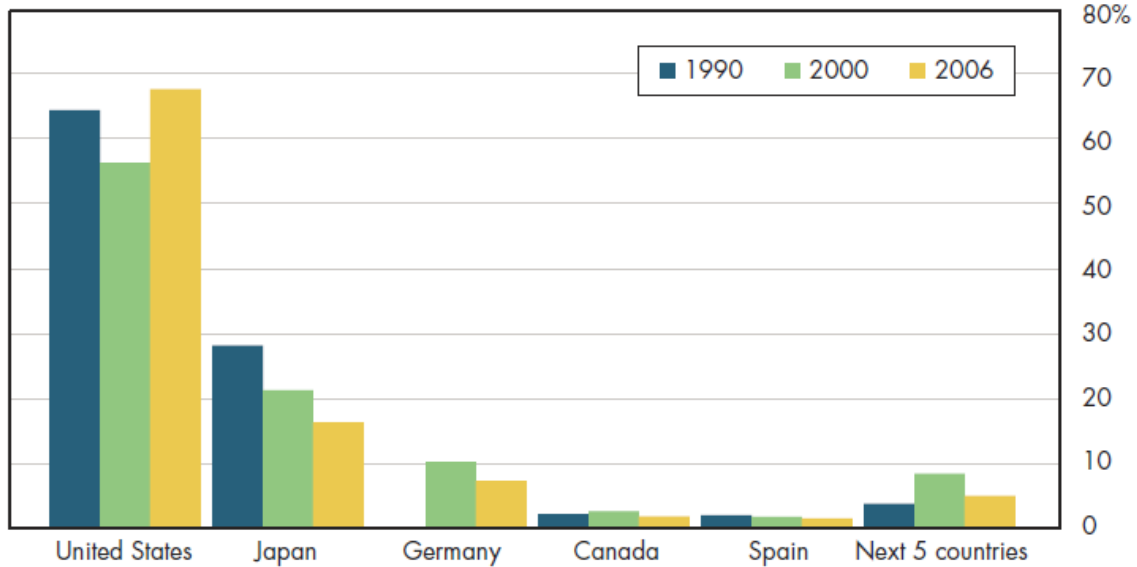
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**18.2a Among the top 10 global funders of pharmaceutical R&D, the United States accounts for more than half to two-thirds of total spending**

*Percentage of aggregate R&D expenditures*



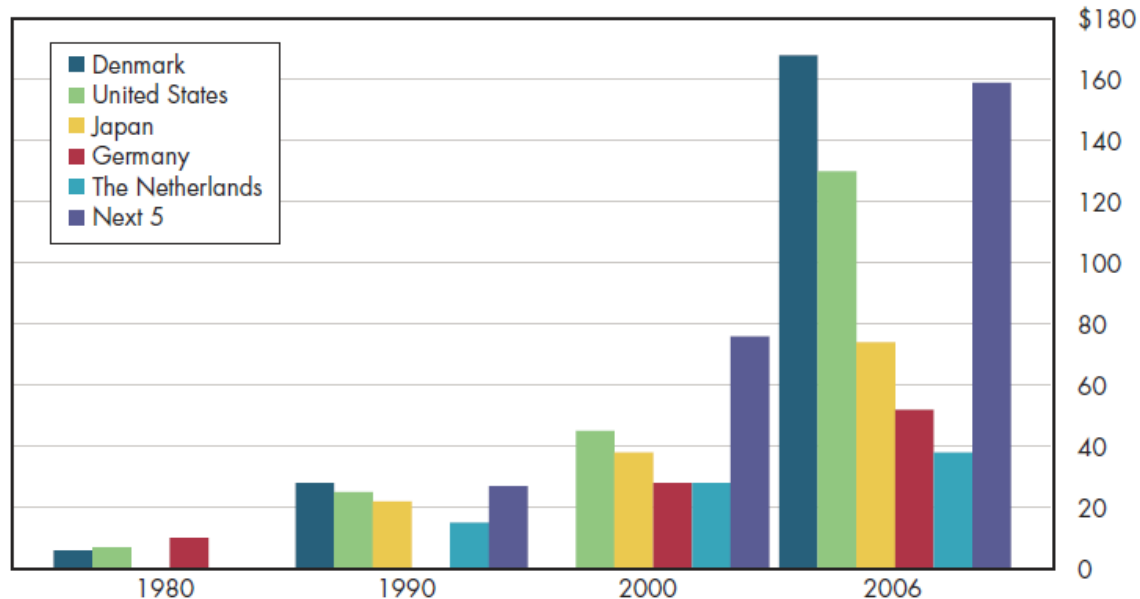
Top 10 global funders of pharmaceutical R&D  
(listed [left to right] by 2006 R&D expenditures in U.S. dollars PPP)

Note: Data not reported for selected years in selected countries. Shares are of summed totals for countries that reported data.

Of course, the United States has a substantially larger population than any of the others on this list. Thus, an arguably better comparison examines pharmaceutical R&D spending per capita (figure 18.2b). Doing so reveals that only Denmark has higher relative spending on pharmaceutical R&D than does the United States; in 2006, Denmark ranked sixth on the top-ten list cited (figure 18.2a).

## 18.2b On a per capita basis, U.S. spending on pharmaceutical R&D is exceeded only by Denmark

Per capita pharmaceutical R&D expenditures (U.S. dollars, PPP)



Some demand-side factors might affect where pharmaceutical companies are located. However, location decisions of major pharmaceutical companies also are driven by the availability and cost of the scientific research personnel required to conduct R&D, and by government regulations that affect how R&D is conducted.

Another factor that has fueled U.S. pharmaceutical R&D relates to generic competition. The Hatch-Waxman Act enacted in 1984, designed to promote the use of generics, and the rise of managed care formularies have been cited as the principal drivers of growth in the U.S. generic drug industry. Unless there are externalities (my taking a drug benefits or harms someone else's health), competition should lead to the desired result of pushing drug prices down to the marginal cost of producing them. It likewise will encourage a socially optimal level of consumption, that is, where the marginal benefit of consumption equals the marginal cost of supplying a drug. Numerous studies have shown that following the expiration of patents, prices fall toward marginal costs (the more generic competitors, the more prices fall). Generic competition thus forces brand-name pharmaceutical manufacturers to invest in R&D to ensure a steady pipeline of new products under development.

## 1 Downloads

Download PowerPoint versions of both figures.

- Figure 18.2a Image Slide (as it appears above)<sup>1</sup>
- Figure 18.2a Editable Slide (can be formatted as desired)<sup>2</sup>
- Figure 18.2b Image Slide (as it appears above)<sup>3</sup>
- Figure 18.2b Editable Slide (can be formatted as desired)<sup>4</sup>

<sup>1</sup><http://https://hub.mili.csom.umn.edu/content/m10076/latest/18.2aIMG.ppt>

<sup>2</sup><http://https://hub.mili.csom.umn.edu/content/m10076/latest/18.2aDATA.ppt>

<sup>3</sup><http://https://hub.mili.csom.umn.edu/content/m10076/latest/18.2bIMG.ppt>

<sup>4</sup><http://https://hub.mili.csom.umn.edu/content/m10076/latest/18.2bDATA.ppt>

## 2 References

- A. Organisation for Economic Co-operation and Development.