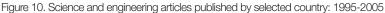
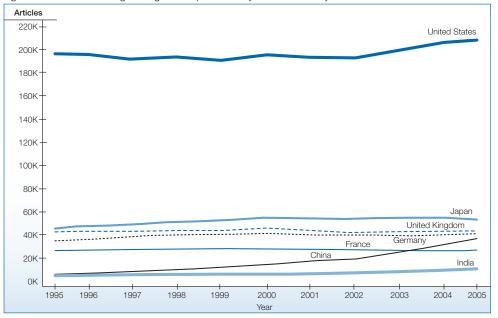
General Science and Engineering Indicators Knowledge Output

## U.S. science and engineering article output increased at an average annual rate of 1.3% between 2000 and 2005, after remaining flat between 1995 and 2000.







SOURCE: Appendix Table 5-34, Science and Engineering Indicators 2008, National Science Foundation.

NOTES: Articles on fractional-count basis, i.e., for articles with collaborating institutions from multiple countries/economies, each country/economy receives fractional credit on basis of proportion of its participating institutions.

## Why is This Indicator Important?

- Publication of research results in the form of articles in peer-reviewed journals indicates contribution to the knowledge bases of nearly all scientific fields and disciplines.
- In recent years, international use of this and related indicators has become widespread, as countries seek to assess their relative research output.

## **Key Observations**

- Between 1995 and 2005, world S&E article output grew at an average annual rate of 2.3%, reaching 710,000 articles in 2005.
- U.S. authors produced 205,000 articles in 2005, accounting for 29% of the world total.
  - The United States was followed by Japan with 8% and the United Kingdom, Germany, and China with 6% each.
- Chinese publications increased at an average annual rate of 16% between 1995 and 2005, surpassing France in 2003 and nearly equaling Germany and the United Kingdom in 2005.

## **Related Discussion**

- Despite growing at an average annual rate of 4.5% between 1995 and 2005, India accounted for a small fraction of the world's total output and lost rank in the fields of engineering, mathematics, and medical sciences (SEI 2008 Table 5-21).
- Between 1995 and 2005, the United States experienced gains on the index of highly cited articles (the share of the top 1% most frequently cited articles normalized by the share of all articles produced in the citation period) in all fields except chemistry and geosciences (SEI 2008 Appendix Table 5-39).