

SIDEBAR

Revisions to Global Research and Development

Global measures of R&D in this report were substantially revised from those reported in previous years of *Science and Engineering Indicators*. These data revisions were mostly due to 2020 revisions of the estimates of purchasing power parity (PPP), a measure that enables direct comparisons of R&D expenditures across countries. Although the PPP revisions resulted in comparatively large changes to the magnitude of China's R&D expenditures, the overall growth in China's R&D performance compared with other countries was similar to that before the PPP revisions.

The World Bank (2020) produces PPP estimates and periodically revises them to incorporate new and better-quality information and improved methods (for more details on the 2020 PPP revisions, see the forthcoming *Indicators 2022* report, "[2022] Research and Development: U.S. Trends and International Comparisons"). The OECD (2020) incorporated the revised PPP estimates for all years of the Main Science and Technology Indicators, the primary source of the cross-national comparisons of R&D performance in *Indicators 2022*. Hence, all global estimates of R&D performance reported in *Indicators 2022* were also revised to maintain comparability of estimates over time. According to the OECD (2020), the gap in R&D expenditures between China and the United States is more pronounced after incorporating the 2020 PPP revisions because the relative price of investment had been underestimated prior to the 2020 PPP revision.

These latest PPP revisions had a more sizeable effect on China than on other countries. For example, *Indicators 2020* reported that the 2017 share of global R&D was 25% (\$549 billion) for the United States and 23% (\$496 billion) for China. In this report, the 2017 shares were revised to 27% (\$556 billion) for the United States and 20% (\$421 billion) for China. Overall, the PPP revisions affected the measure of R&D expenditures for China. However, as shown in past reports, China is still advancing from a smaller base compared with the United States, and the rate at which China expanded R&D prior to 2017 was much faster than that of the United States and other developed nations.