

4. Investment in Research and Development (R&D)

Prelims Syllabus: Budget

Mains Syllabus: GS-III Government Budgeting

Why in News?

- In an effort to stimulate investment in research and development (R&D), the Department of Science and Technology is mooting a fund that will match the contributions made by private companies in R&D.

About:


- The idea is to pool funds from a group of companies willing to invest in fundamental research, such as quantum computers or artificial intelligence, and whatever is invested government will match that.
- The scheme will be coordinated through the department's Science and Engineering Research Board, which funds a variety of basic science projects in several universities.

Research bill

In 2017, the global R&D spend was estimated to be \$1.7 trillion in PPP terms, with the United States, China and Japan being the top spenders. India's share was around 2.8%

India's top three R&D spenders in 2017-18

1. Department of Atomic Energy
2. Department of Space
3. Department of Science and Technology



Top three Indian companies who have contributed to R&D spend in 2017

1. SAP Labs India Private Limited	2. Mphasis Limited	3. Olympia Tech Park Private Limited
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Source: R&D Expenditure Ecosystem, EAC-PM

- Public sector institutions form the lion's share of India's investment in R&D. In 2004-2005, private sector accounted for 28% of India's research spend and in 2016-17 this increased to 40%. In most advanced economies, private R&D accounts for the bulk of investment in R&D.

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- It is well below that in major nations such as the U.S. (2.8), China (2.1), Israel (4.3) and Korea (4.2), according to a 2019 report by the Economic Advisory Council to the Prime Minister.

What is the Concern?

- As a lower middle-income country, it is not surprising that India's spending on R&D lags upper-middle income and high-income countries such as China, Israel, and the U.S.
- However, it currently under spends even relative to its income level.
- In fact, in 2015, there was a sizeable decline in R&D spending even as GDP per capita continued to Rise.

