

Opinion **Markets Insight**

The US risks a heavy price for cutbacks in research spending

Science funding cuts may hit long-term growth and reduce US appeal to foreign investors and talent

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Grants awarded for research may be sharply curtailed, affecting scientists throughout the country © National Institutes of Health

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Investors are usually focused on the near-term outlook for economic conditions or upcoming earnings reports. But now is a good time to consider the long-term consequences of changes in government policy. Although these may be difficult to price into markets, several actions by the Trump administration do not bode well for the US's investments in science and innovation.

Proposed cutbacks in government science personnel and spending have been large and wide-ranging. Although some have been held in abeyance by the courts, there have been big headcount reductions at the world-renowned National Institutes of Health, National Science Foundation and Centers for Disease Control among others. In addition, external grants awarded for research at universities may be sharply curtailed, affecting institutions and scientists throughout the country.

The US has led the world for several decades in its commitment to research and development, outspending all other countries. As the world's largest economy, this is not surprising but that gap has now shrunk. China accelerated its research spending over the past 20 years and is in second place a ranking that previously

spending over the past 20 years and is in second place, a ranking that previously went to Japan followed by Germany in third position. As a percentage of GDP, a metric that adjusts for ability to spend, the US lead has fallen notably. No longer first in the world, the US now ranks eighth.

Roughly 2 per cent of US federal spending is allocated to science and related R&D. This compares with about 12 per cent of the federal budget in the 1960s during the post-Sputnik space race and 5 per cent during the 1990s and early 2000s. There has also been a sharp reversal in the relative roles played by governmental and private expenditures. During the 1960s, the federal government paid for about two-thirds of all US R&D compared with 30 per cent by the private sector. More recently, the federal government has accounted for only 20 per cent of total R&D spending compared with 70 per cent by the private sector.

On the surface, it appears that the reductions in federal spending have been offset by increased funding from the private sector. A cloudier picture emerges when digging into the sectoral distribution or, importantly, the distinction between basic research and industry-oriented R&D. Basic research should be viewed as a common good, something where the ultimate use, commercial or otherwise, may not be known at the outset. Think about the US military and Nasa developing the basics of GPS navigation systems in the 1960s. R&D, on the other hand, is something closer to fruition and measurable commercial value. Not surprisingly, governmental expenditures prioritise basic research while corporate expenditures focus on the D, not the R.

Corporate R&D can be nimble and take advantage of successful innovation for profit and competitive advantage. The resulting cash flows can be deployed to fund additional R&D and corporate expansion. This has led to increased concentration of future opportunities as larger, already successful companies, tend to dominate. In the US, three sectors now account for about two-thirds of all private R&D — IT software and services, IT hardware and pharmaceuticals. Most remaining sectors have a smaller share of aggregate R&D than they did 15 years ago. The outlook for industries, nascent or otherwise, that depend on basic research has grown more uncertain with the recent government cutbacks. Small and mid-sized companies may be especially impeded. Also affected will be the industries intended to benefit from the green energy programmes now being defunded.

The concentration of financial capital opportunities — and consequent share price performance — enjoyed by a small number of industries is repeated in the access to human capital, particularly for skilled workers. H-1B visas, which are offered only for specific occupations, are highly restricted. About 50,000 companies applied

for specialty occupations, are highly restricted. About 53,000 companies applied for these visas in 2024. Ten companies, almost all of them in IT, took 30 per cent of the H-1Bs that were issued. The cumulative impact of an inadequate flow and narrow distribution of skilled workers cannot be underestimated. More than 60 per cent of the workers holding PhDs in science and engineering in the US are immigrants.

The full impact of the new policies might not be immediate but the effects on long-term economic growth and competitiveness could reduce the appeal of the US as a magnet for both inward foreign investment and highly skilled talent.

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