Status report 2022

Research in Sweden

investments and quality, focus life science

FORSKA SVERIGE
FÖR HÄLSA OCH VÄLSTÅND

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Research!Sweden (2022) Status report 2022, Anna Nilsson Vindefjärd (ed.), Linnéa Garoff (project manager)

Foreword

The public costs for health care are constantly increasing. Between the years 2016 and 2020 the cost increased by about SEK 22.6 billion per year on average, and amounted to approximately SEK 573 billion in 2020, corresponding to 11 percent of Sweden's GDP. With the help of research and development, not least in precision health, we can both prevent and treat diseases more effectively. This is necessary to be able to respond to the increasing costs and, above all, to improve care and health for the public.

It is therefore very worrying that funding of medical research is decreasing in Sweden. In 2020, the government budget dedicated to medical research and development (R&D) in medicine was 0.18 percent of GDP. That is equal to 1.6 percent of every SEK spent on healthcare. Based on preliminary statistics from SCB, these investments are estimated to decrease to 0.17 percent of GDP in 2021 and to 0.16 percent in 2022.

The reduction is also visible in absolute numbers. SCB statistics over time shows that the governmental grants for civil R&D increases overtime, but the funding for R&D in medicine has been stagnating since 2018. Between the years 2010-2014 and 2014-2018, grants for R&D in medicine and health increased in average with 4.9 and 5.8 percent per year, respectively. The corresponding increase between 2018-2022 was 0.1 percent per year.

This development can incur serious consequences. It also goes against public opinion. According to Research!Swedens opinion poll in 2022, 89 percent of the public thinks it is important that Sweden is a world leading nation in medical research. They give the following main reasons: research is needed to develop new diagnostics and treatments, as well as to improve the healthcare system. 81 percent of the public also thinks that it is a good suggestion to increase the governmental investments in medical research to an equivalent of 4 percent per SEK spent on healthcare.

Considering the great benefit medical research brings to the citizens' health, to the economy and to strengthen Sweden as a life science nation, we want to urge our new government to increase the investments in medical research for health as soon as possible.

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Secretary general, Research!Sweden

Photographer: Elisabeth Olsson

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Chair, Research!Sweden

Innehållsförteckning

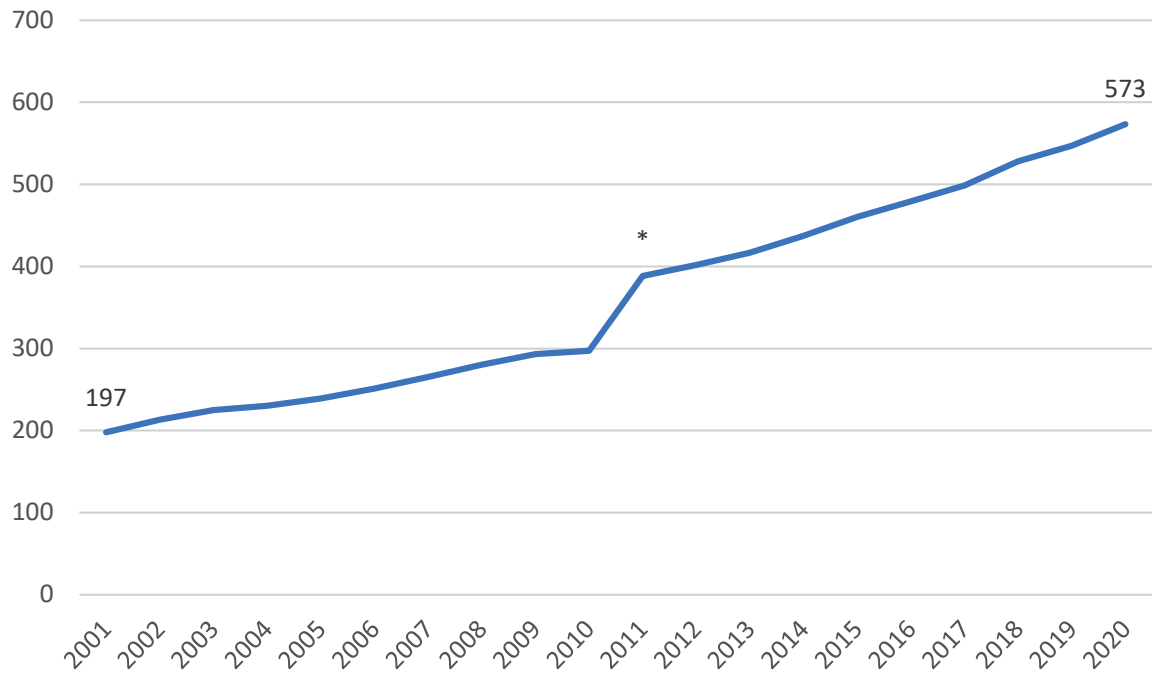
In this report we provide an overview of the latest available data for each indicator. The reported years may differ between the various indicators.

Healthcare costs

1. The public costs for healthcare are increasing in Sweden (approx. SEK 573 billion in 2020). Over 80 percent of the healthcare costs are estimated to be an effect of chronic diseases that mainly affect the elderly. The number of individuals aged 80 years or more are expected to increase by 45 percent by the year 2030.

Public cost for healthcare

(billions SEK)



* In 2021, the concept of healthcare was expanded, which means that the time series contains a break. Data for the period 2001-2010 are therefore not fully comparable with the period 2011-2019. The public healthcare costs include expenditures by the state, municipalities, regions and regionally owned companies. Current prices.

SCB (2022) *Hälsoräkenskaper, Totala hälso- och sjukvårdsutgifter efter hälso- och sjukvårdsändamål (HC) och finansiär (HF), år 2001–2020*

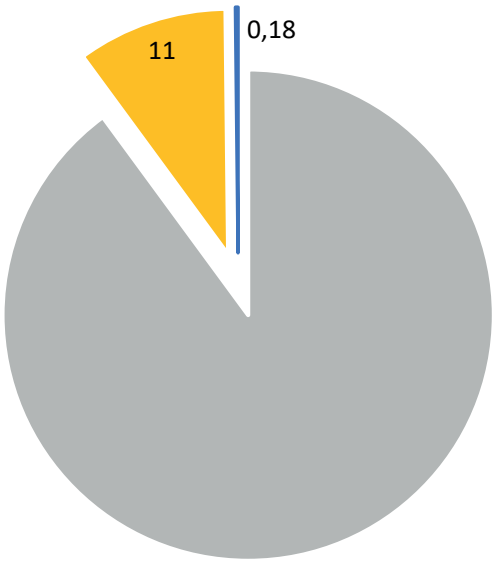
Vårdanalys (2014) *VIP i vården – Om utmaningar i vården av personer med kronisk sjukdom*

SCB (2022) *Sveriges framtida befolkning 2022–2070, Demografiska rapporter 2022:4*

2. The total healthcare costs in 2020 amounted to 11 percent of GDP. At the same time 0.18 percent of GDP was invested in medical research by the government. In 2021, the government budget allocations for R&D in medicine are estimated to correspond to 0.17 percent of GDP Based on preliminary statistics, the government budget allocations for R&D in medicine are estimated to decrese to 0.16 percent of GDP in 2022.

Government budget allocations for R&D in medicine (blue) and the costs of healthcare (yellow) as a percentage of GDP (2020)

(% of GDP)



The total healthcare cost includes expenditures by the government, municipalities, regions, and regionally owned companies, voluntary health care insurance, household non-profit organizations, companies, and household out-of-pocket expenses. Current prices.

SCB (2022) *Hälsoräkenskaper, Totala hälso- och sjukvårdsutgifter efter hälso- och sjukvårdsändamål (HC) och finansiär (HF), år 2020*

SCB (2022) *Offentliga budgetanslag för FoU, mnkr efter socioekonomiska mål enligt NABS 2007, år 2020*

Konjunkturinstitutet (2022) *Prognosdatabasen, Försörjningsbalansen och BNP, år 2020. Data uthämtad 3 okt år 2022*

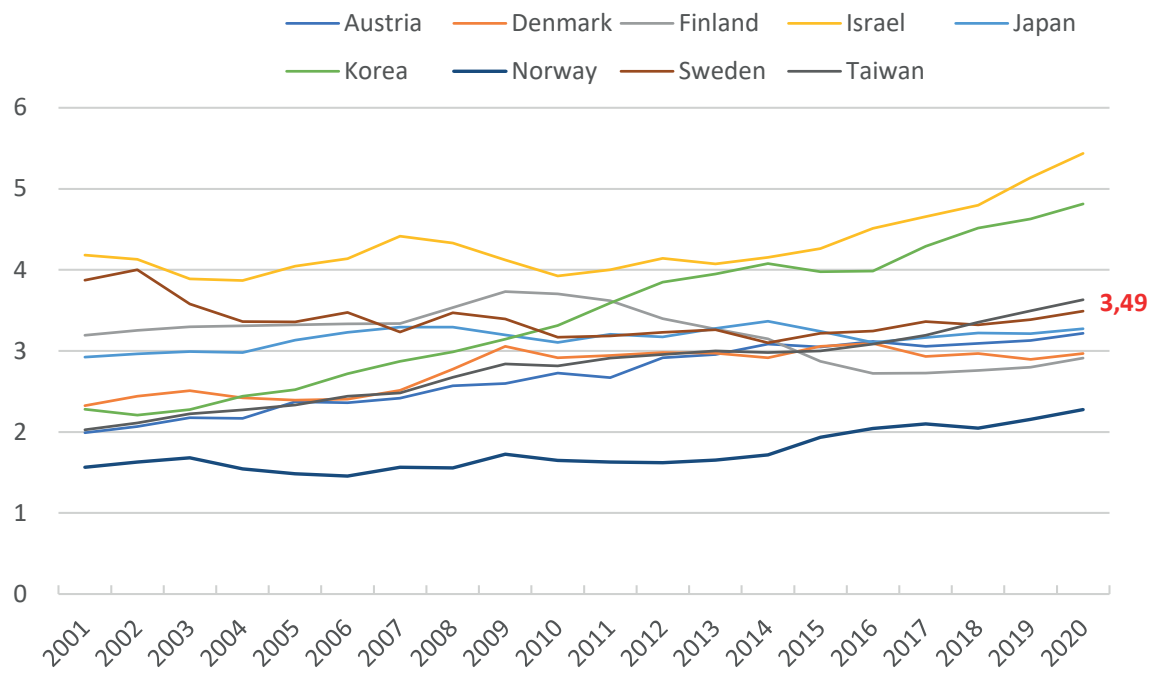
SCB (2021) *Forskning och utveckling i Sverige 2020 – preliminär statistik*

Investments in research and development

3. The total investments in research and development in Sweden decreased from 3.9 to 3.5 percent of GDP between 2001 and 2020. The investments amounted to approximately 176 billion SEK in 2020. Sweden has among nine comparable countries moved from second to fourth place between 2001 and 2020. According to preliminary statistics from SCB, investments in Sweden are estimated to decrease from 3.5 to 3.4 percent of GDP in 2021.

Total R&D investments – *international comparison*

(% of GDP)



OECD (2022) *Main Science and Technology Indicators, Gross domestic expenditure on R&D (GERD) as percentage of GDP*

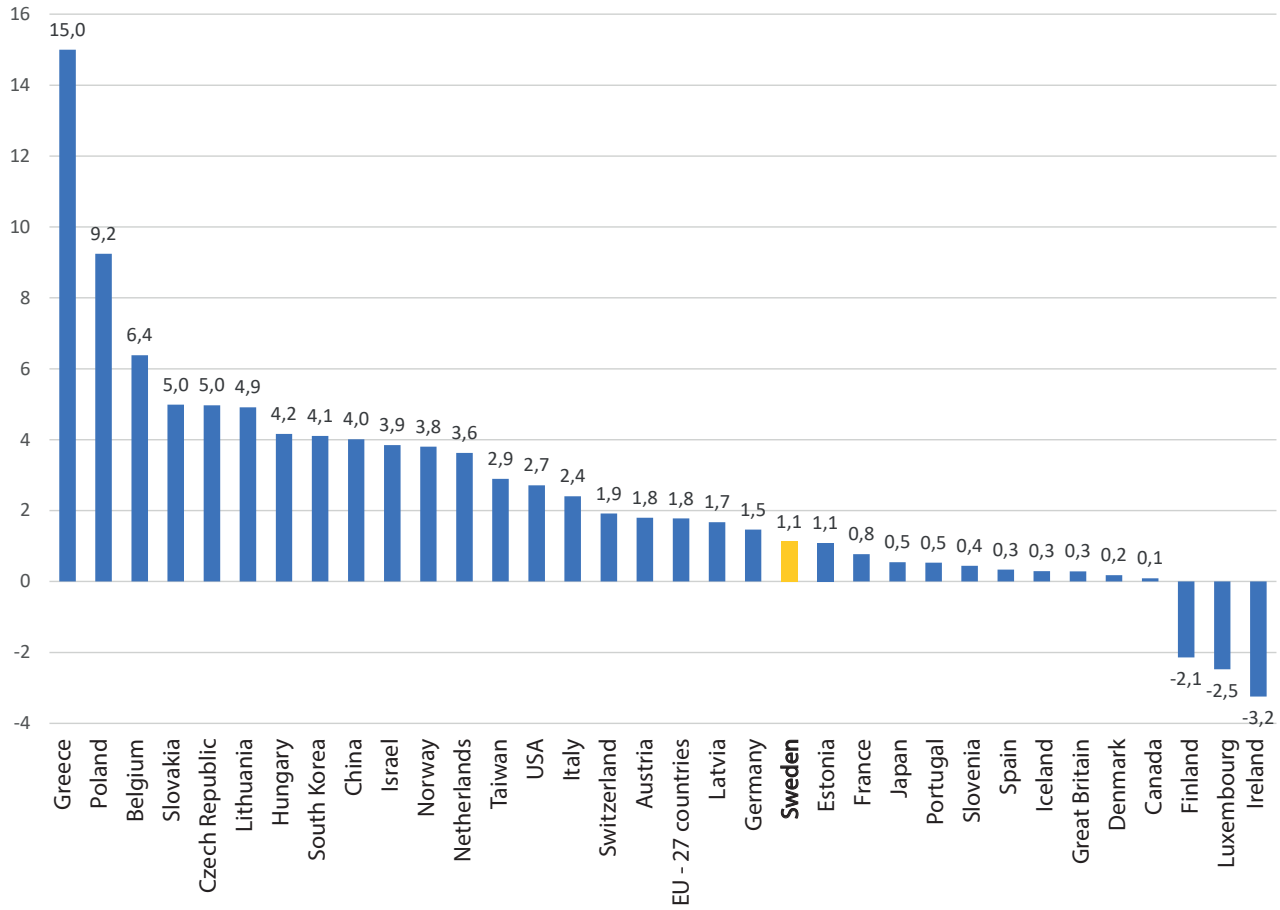
OECD (2022) *Main Science and Technology Indicators, Gross domestic expenditure on R&D (GERD) in national currency*

SCB (2022) *Forskning och utveckling i Sverige 2021 – Preliminär statistik*

4. Sweden has had a weak growth of total investments in research and development as a share of GDP between 2010 and 2020. Sweden ranks 22 out of 34 in an international comparison.

Average annual growth of total R&D as a share of GDP – *international comparison*

(% transformation)



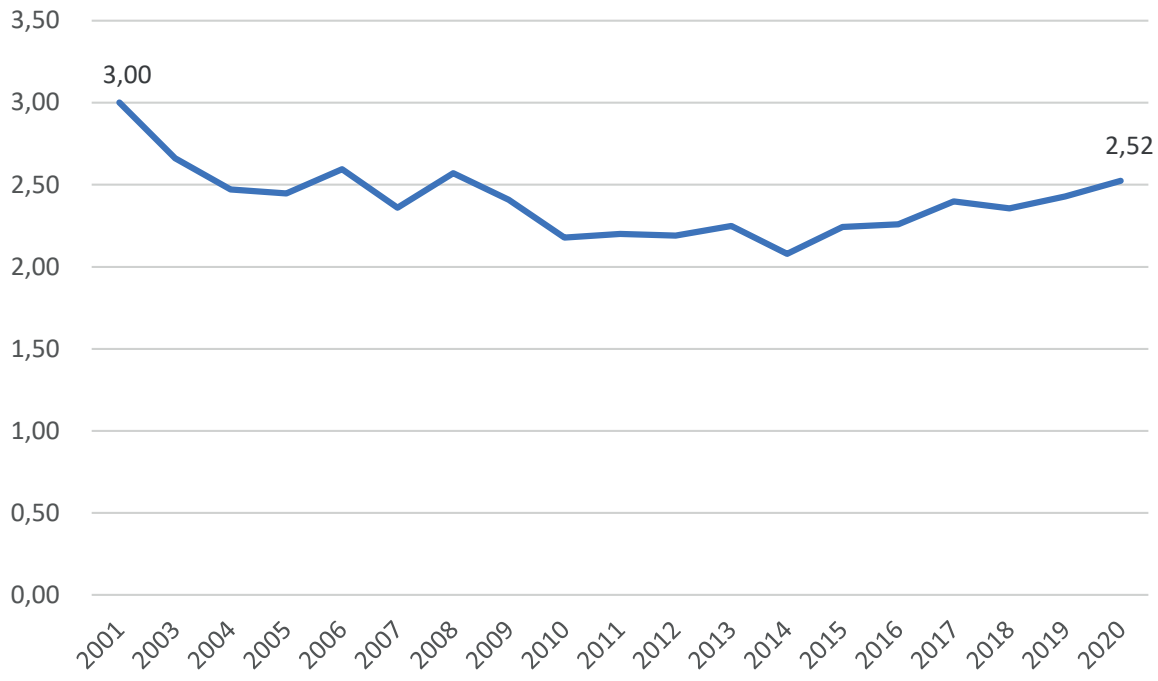
The average growth rate refers to the period 2010-2020 or the nearest available data (Switzerland 2008-2019, Iceland 2011-2020, Great Britain 2009-2019).

OECD (2022) *Main Science and Technology Indicators, Gross domestic expenditure on R&D (GERD) as percentage of GDP*

5. Companies' investments in research and development in Sweden have decreased from 3.0 percent of GDP in 2001 to 2.55 percent in 2020. In 2020, investments were approximately SEK 127 billion.

The companies R&D investments

(% of GDP)



Investments refer to companies' expenditure on research and development, which is presented at the OECD. Data are missing for the year 2002.

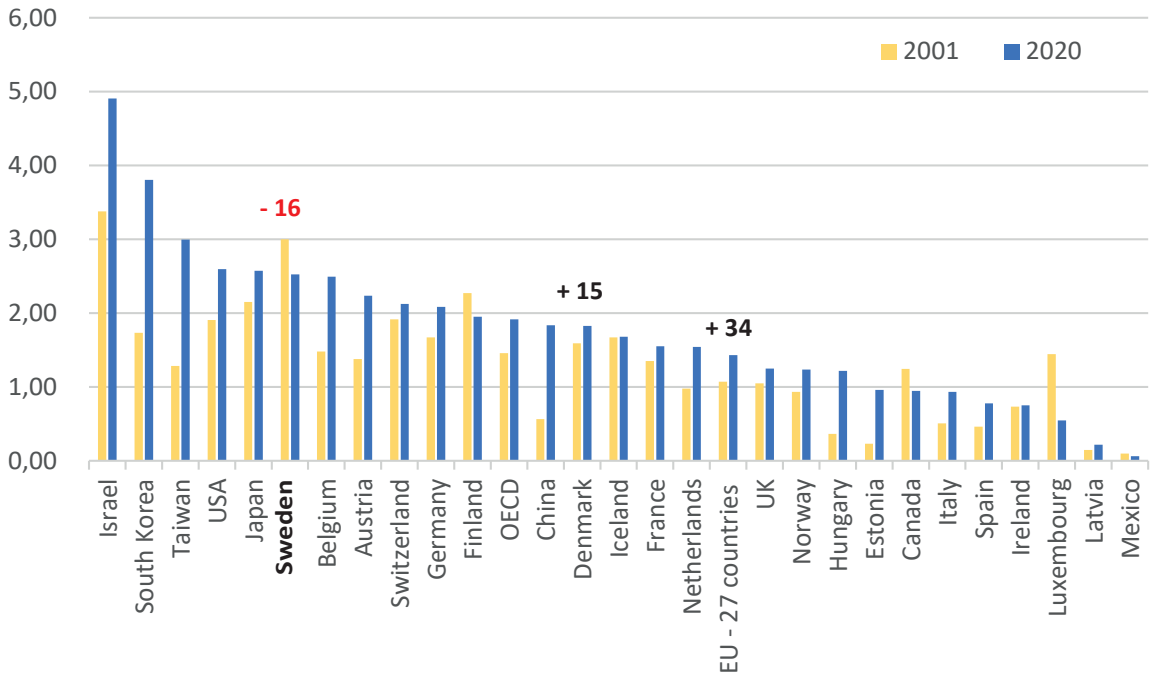
OECD (2022) *Business enterprise expenditure on R&D (BERD) as a percentage of GDP, year 2001 – 2020*

OECD (2022) *Business enterprise expenditure on R&D (BERD) in national currency, year 2020*

6. Companies' investments in research and development as a share of GDP in Sweden decreased by 16 percent between the year 2001 and the year 2020, while it increased in many other countries. In Denmark, companies' investments increased by 15 percent and throughout the EU, companies' investments increased by 34 percent during the same period.

Companies' R&D investments – *international comparison*

(% of GDP)



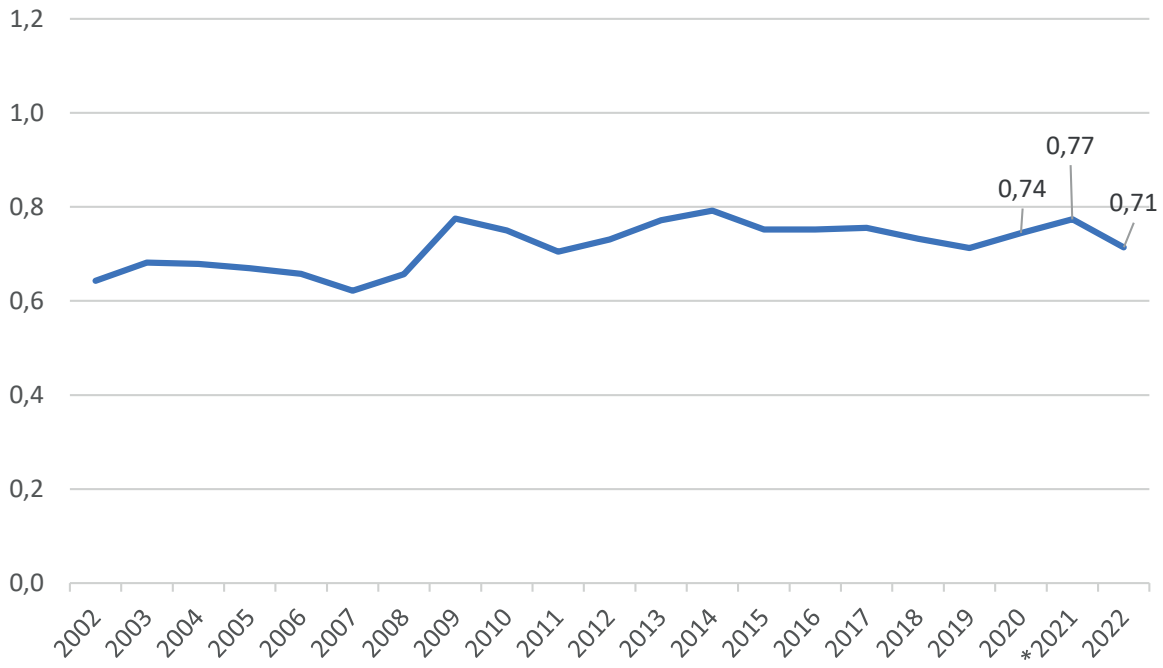
The figures show the difference in percentage between the year 2001 and the year 2020, or the nearest available year. Switzerland: 2004 – 2019, Austria: 2002 – 2020, Luxembourg: 2003 – 2020.

OECD (2022) *Main Science and Technology Indicators, Business enterprise expenditures on R&D (BERD) as percentage of GDP*

7. The governmental investments in civil research and development as a share of GDP for the year 2022 is forecasted to 0.73 percent. The investments are estimated to amount to approximately 42.5 billion in 2022, which is an increase of SEK 275 million compared to 2021.

Government investments in civil R&D

(% of GDP)



Civil research and development do not include funds for defense.
*In 2021, the forecast was adjusted according to the governmental budget presented in April, unlike other years forecasts which are based on the budget presented in autumn.

SCB (2021) *Forskning och utveckling i Sverige 2020 – preliminär statistik, år 2021*

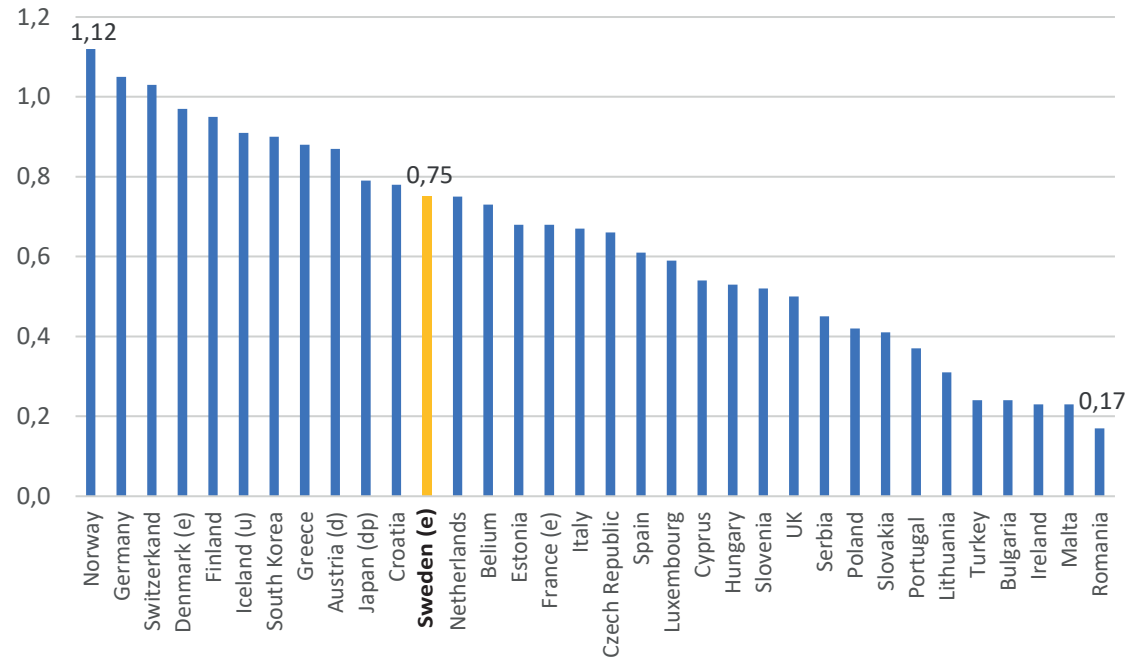
SCB (2022) *Statsbudgetanalysen, FoU-medel och FoU-andelar i statsbudgeten, år 2002–2022*

Konjunkturinstitutet (2022) *Prognosdatabasen- Försörjningsbalans och BNP, år 2002–2022. Data uthämtad 3 okt år 2022*

8. In two years, Sweden has dropped by 3 placements and was in joint 12th place in an international comparison of 34 countries in governmental investments in civil research and development as a share of GDP in 2020.

Government investments in civil R&D – *international comparison*

(% of GDP)



d = deviant definition
e = estimated value
p = preliminary
u = low reliability

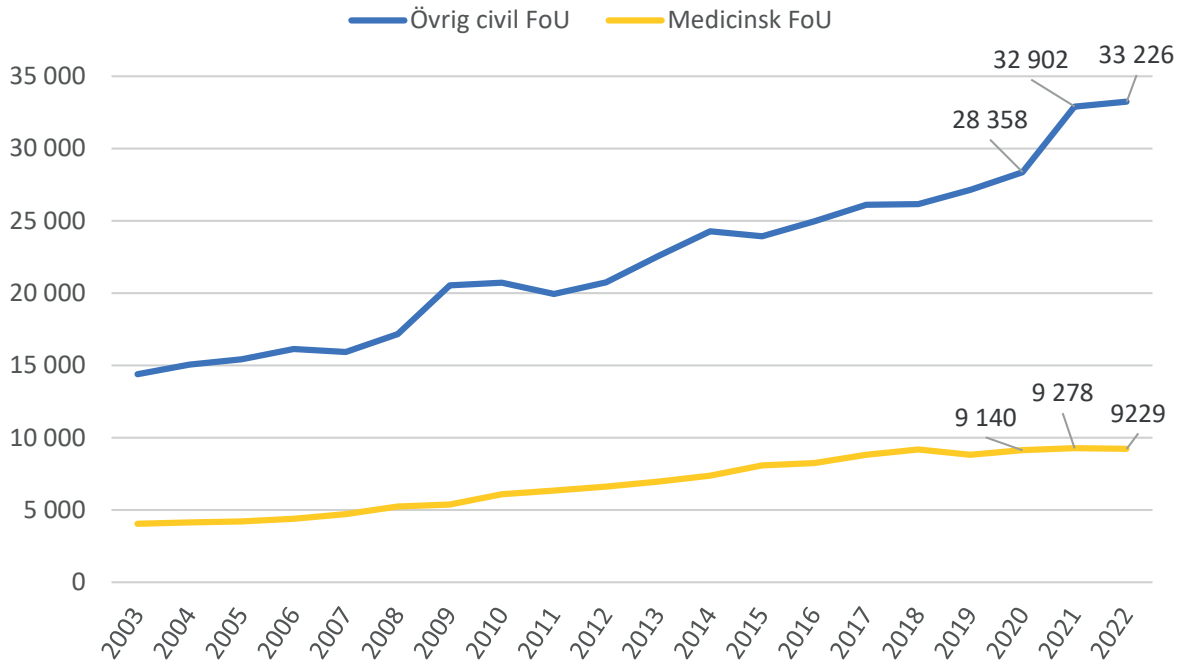
Figures given refer to the year 2020 or nearest available year (Iceland: 2019, South Korea; 2019).

Eurostat (2022) *GBARD by NABS 2007 socioeconomic objectives*

9. In 2022, the governmental grants to civil research and development are estimated to increase by SEK 275 million compared to the year 2021. On the other hand, funding for R&D in medicine and health science is expected to decrease with SEK 49 million, which means a decrease of 0.53 percent. The grants for other civilian R&D are estimated to increase by SEK 324 million, or 0.98 percent, from 2021.*

Government investments in R&D in medicine and health sciences and other civilian R&D

(million SEK)



Other civil research and development consists of grants excluding R&D in medicine and health sciences, as well as defense.
*In 2021, the forecast was adjusted according to the spring change budget, unlike previous years where the forecasts are based on the autumn budget. The amount of SEK 9,278 million includes the increase of SEK 298 million that the government presented in the budget in April, as well as extra budget changes.

SCB (2022) *Statsbudgetanalysen, FoU-medel och FoU-andelar i statsbudgeten, år 2003 – 2022*

SCB (2022) *Statsbudgetanalysen, Beräknade FoU-medel i statsbudgeten efter utgiftsområde och underindelning av ändamålet allmän vetenskaplig utveckling, år 2003 – 2014*

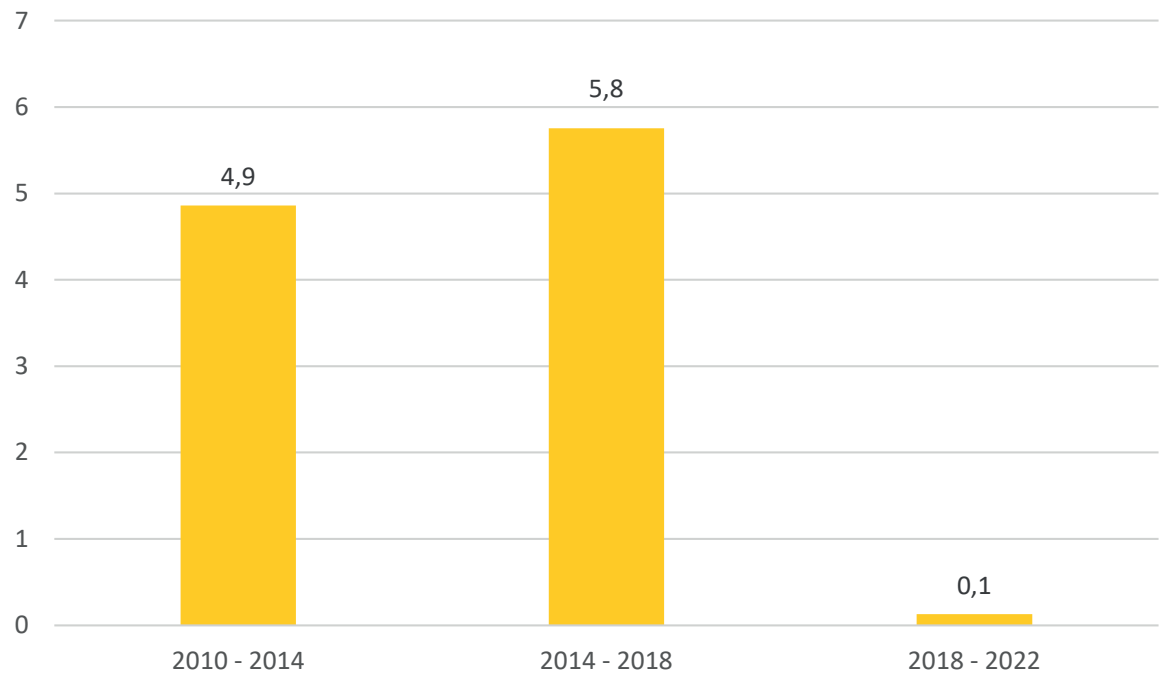
SCB (2022) *Statbudgetanalysen, Offentliga budgetanslag för FoU efter utgiftsområde (särskild gruppering) och socioekonomiska mål, år 2015 – 2022*

SCB (2021) *Forskning och utveckling i Sverige 2020 – preliminär statistik*

10. The average annual increase in governmental funding for R&D in medicine and health sciences fell by more than five percent during the last election period.

Average annual increase in funding for R&D in medicine and health sciences over the last three terms of office.

(percent)



The calculation is based on SCB statistics on governmental grants for research and development in medicine and health sciences.

The relative changes in the absolute amount of the grants have been calculated for each year in comparison with the previous year, in percentage. The changes have been summarized in an average value for the respective mandate period.

SCB (2022) *Statsbudgetanalysen, Beräknade FoU-medel i statsbudgeten efter utgiftsområde och underindelning av ändamålet allmän vetenskaplig utveckling, år 2010 – 2014*

SCB (2022) *Statsbudgetanalysen, Offentliga budgetanslag för FoU efter utgiftsområde (särskild gruppering) och socioekonomiska mål, år 2015 – 2022*

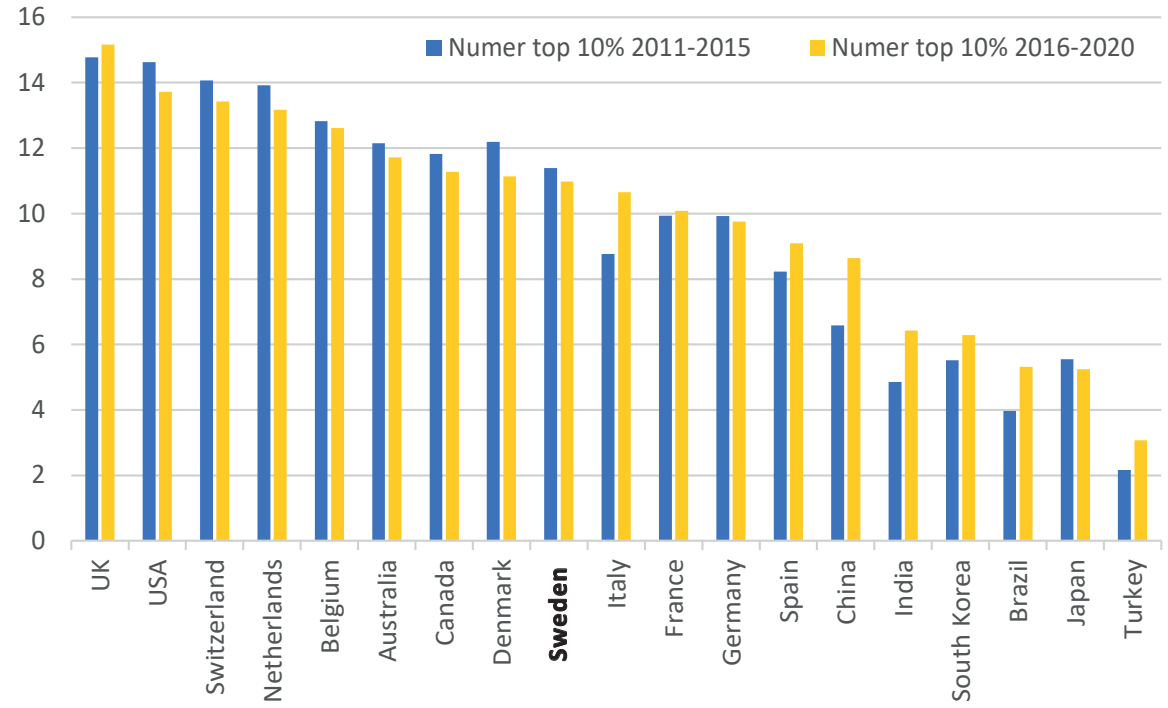
SCB (2021) *Forskning och utveckling i Sverige 2020 – preliminär statistik*

Scientific quality

11. Among the countries with the most scientific publications in medicine and health, Sweden lies in ninth place in terms of scientific quality, measured as the percentage of highly cited publications. During the periods 2011-2015 and 2016-2020, Sweden's shares of highly cited publications were of around 11 percent, which is above the world average of 10 percent.

Scientific quality in medicine and health – *international comparison*

(percentage of publications among the 10 percent most cited)



The percentage of highly cited scientific publications corresponds to the percentage of a country's publications found among the 10 percent most cited scientific publications in the world. The number of citations is counted over a three-year period, from the year the article was published and the two subsequent years.

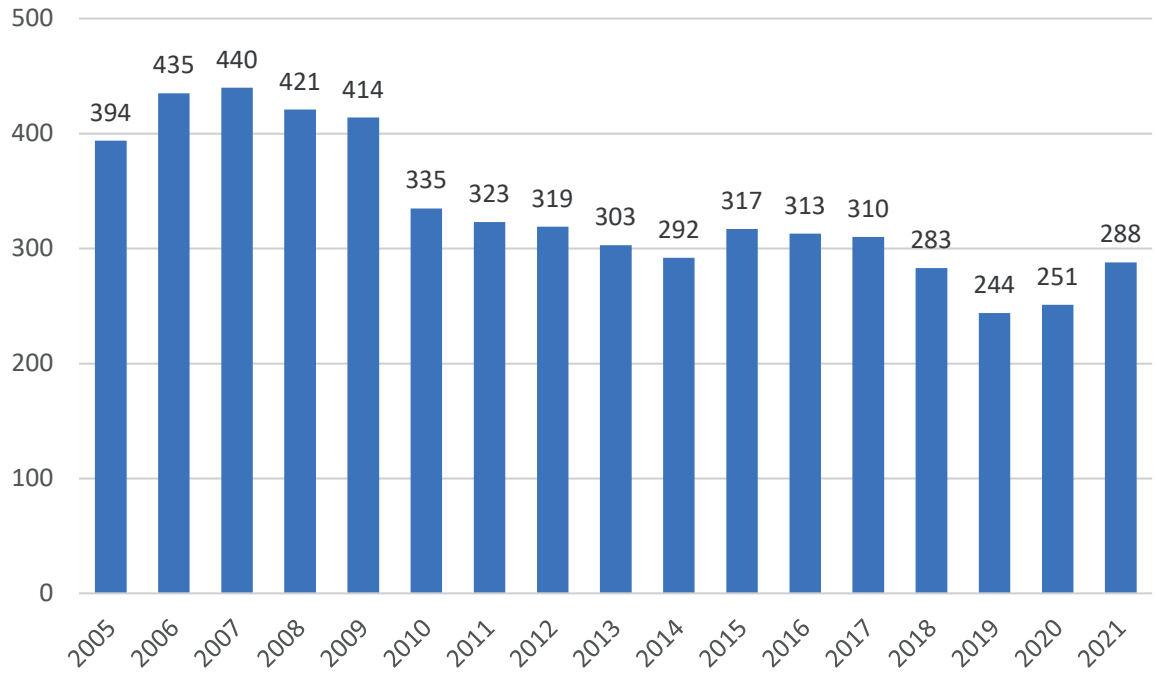
Bearbetat underlag från Vetenskapsrådet (2022) *Statistikunderlag om Vetenskapsrådets utlysningar samt om FoU i högskolan – Ämnesrådet för medicin och hälsa*

Clinical trials

12. The number of received applications for clinical drug trials to the Swedish Medical Products Agency has decreased by 35 percent between the years of 2007 and 2021. In 2021, 37 more applications were received than in the year before, corresponding to an increase of 15 percent between the years 2020 and 2021.

Number of applications for clinical drug trials

(Number)



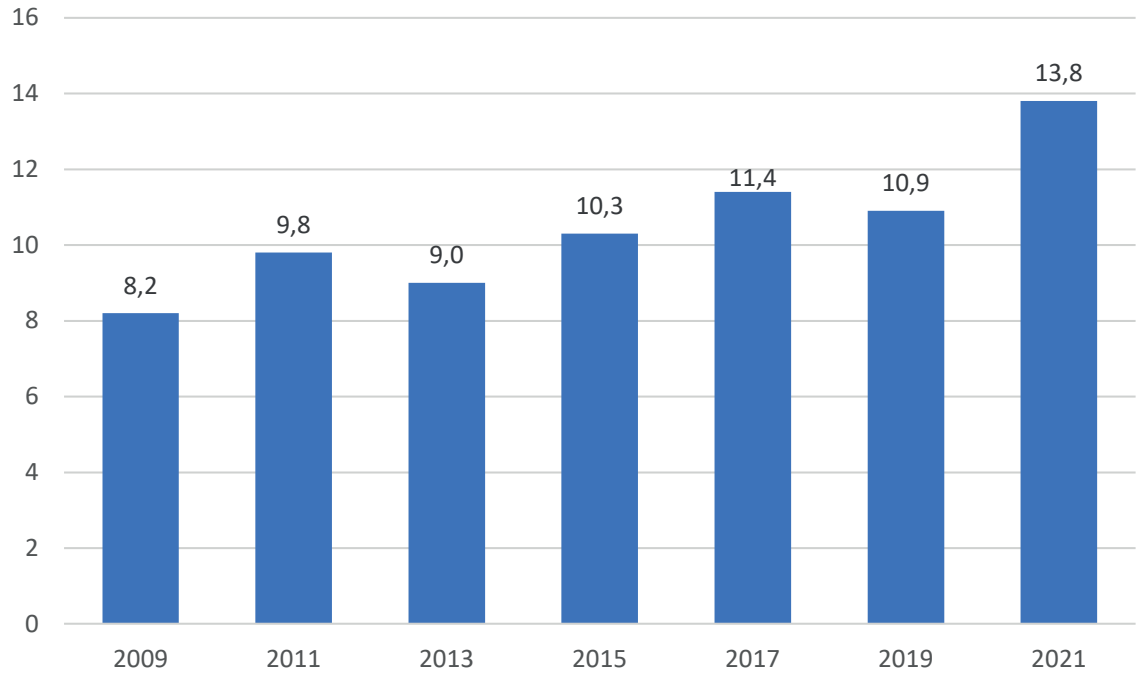
Läkemedelsverket (2022) *Årsstatistik för kliniska läkemedelsprövningar Sverige 2021*

Pharmaceutical companies

13. Pharmaceutical companies' investments in research and development in Sweden have increased in recent years and amounted to SEK 13,8 billion in 2021.

The pharmaceutical companies' R&D investments

(billions SEK)



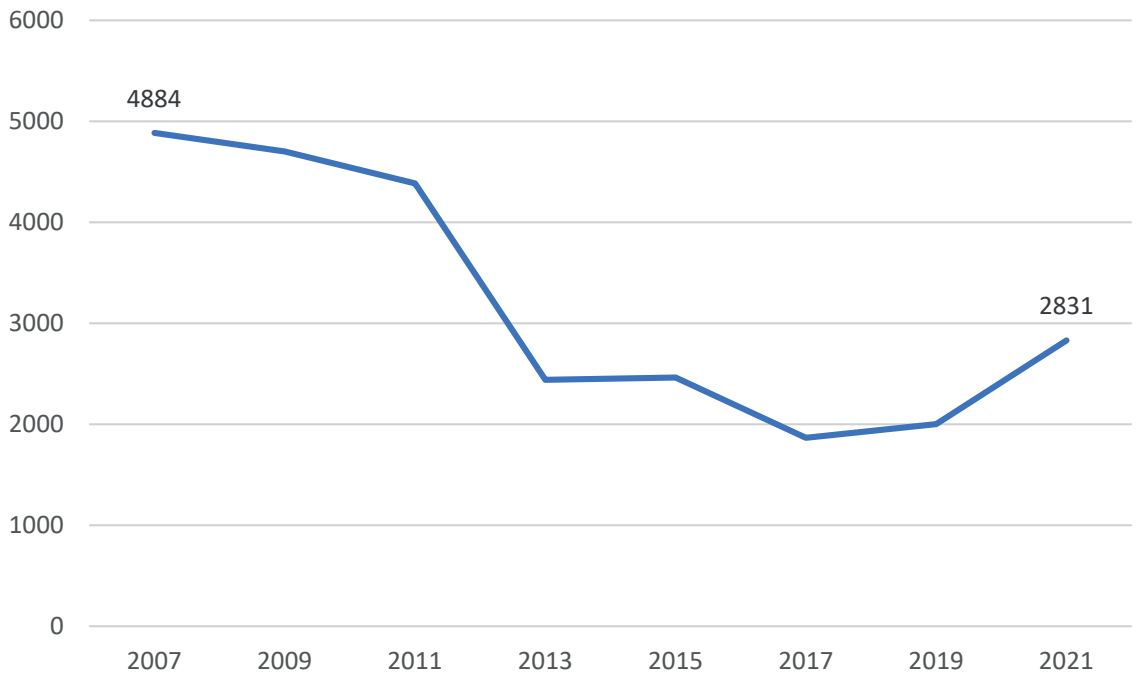
By pharmaceutical companies we mean companies in the industry branch 21, basic pharmaceutical products and medicines (as defined by SCB).

SCB (2022) *Utgifter för egen FoU, löpande priser efter produktgrupp SPIN 2007, typ av utgift och vartannat år, 2009–2021*

14. The number of man-years of work devoted to in-house research and development in pharmaceutical companies in Sweden decreased by 62 percent from the year 2007 to the year 2017. In recent years there has been an increase, from 1,866 man-years of work in 2017 to 2,831 in 2021.

Number of man-years

(number)



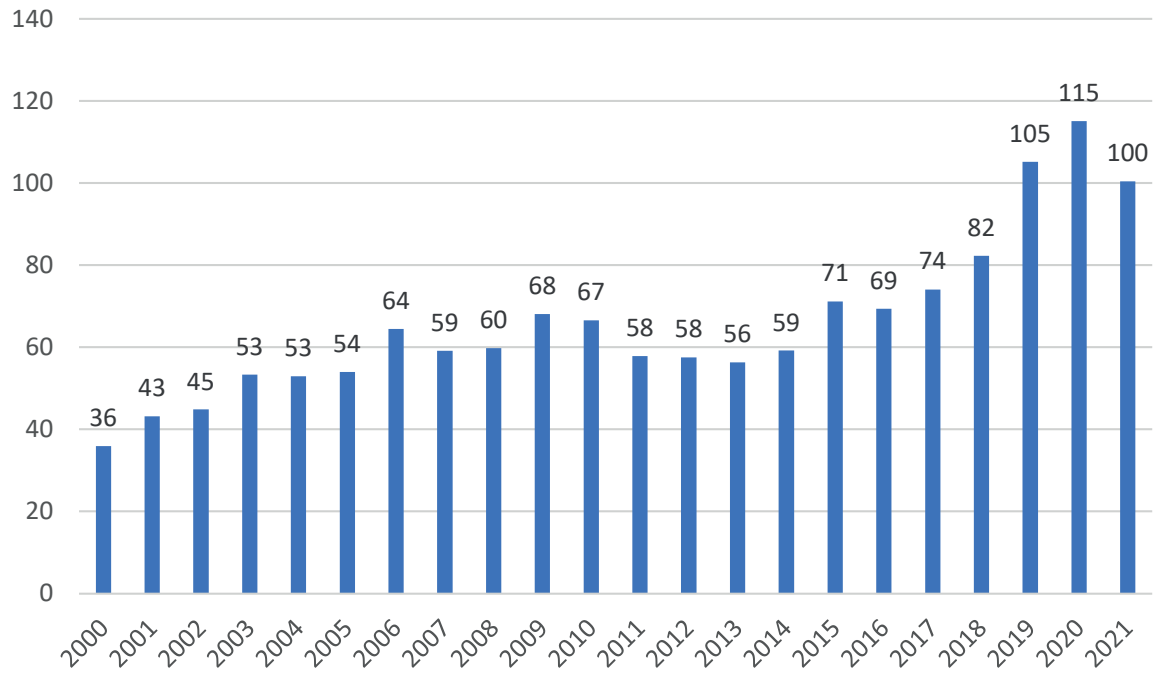
Companies' man-years for internal R&D according to type of industry, every other year, 2007 – 2019. One man-year corresponds to a full-time employee during one year. "Pharmacuetical company" refers to companies within industry 21, Pharmaceutical basic products and medicines (as defined by SCB). Internal R&D employees refers to employees of companies that conducts R&D. Employees hired from another company (e.g. consultants) are not included.

SCB (2022) *Intern FoU-personal i företagssektorn efter näringsgren SNI2007, kön och yrke, vartannat år 2007–2021*

15. Sweden's export of pharmaceuticals has increased in value by approximately 180 percent between the years 2000 and 2021. Amounted to a value of SEK 100 billion in 2021. From January to July 2022, exports of pharmaceuticals from Swedish production facilities amounted to almost 70 billion SEK. That is approximately 20 billion more than the same period in 2021.

Sweden's pharmaceutical exports

(billions SEK)



Medicines refers to product group 54, medical and pharmaceutical products, as defined by SCB.

SCB (2022) *Varuexport. Bortfallsjusterat, tkr efter varugrupp SITC, år 2000–2021*

SCB (2022) *Ökade priser drar fortsatt upp värdet för varuhandeln. Statistiknyhet från SCB 2022-08-29*

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Research!Sweden is a non-profit foundation with the mission to inform and raise awareness of the importance of medical research – for health and prosperity. We act as an independent think-tank, contributing with factsheets, films, analyses, policy proposals and much more.

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