



Research Funding in Sweden

Karl-Erik Årzén



Objective

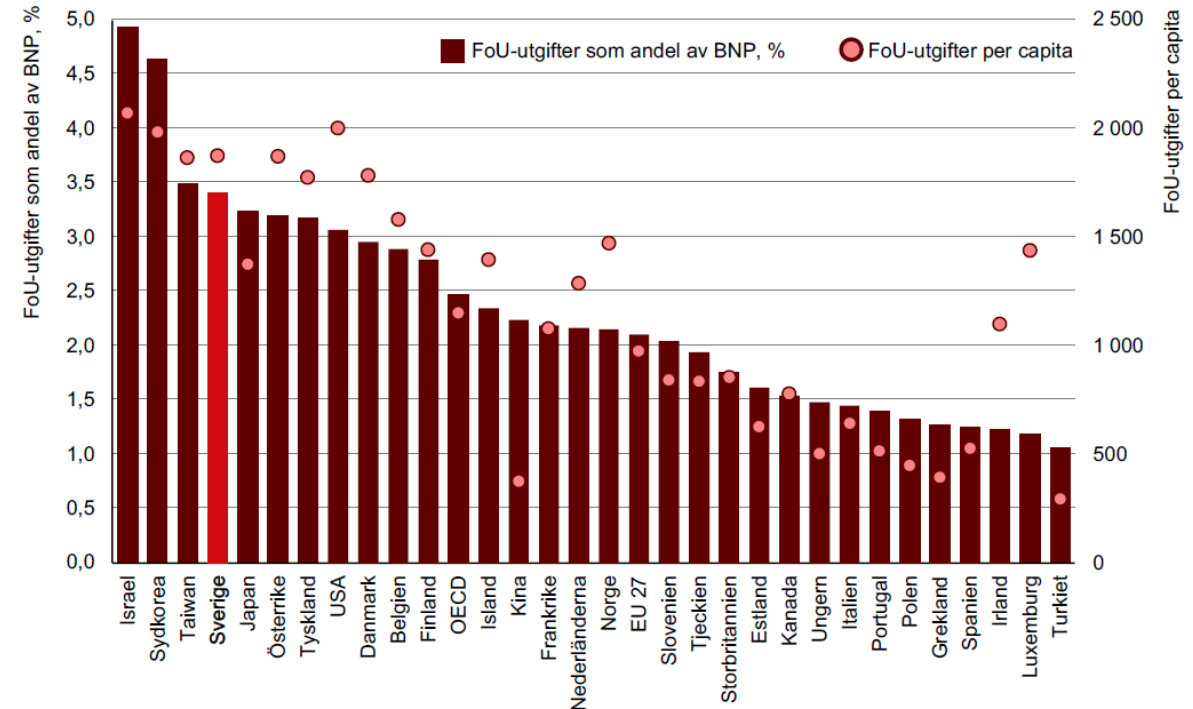
- To give an overview of the research funding situation in Sweden
- To give some good advice

Why?

- You have recently started as WASP recruitments
- WASP pays your salary for 4 years (5 years if 80% activity level)
- WASP pays your PhD student(s) and postdoc(s) for 4 years (5 years if 80% activity level)
- What happens after four years?
- WASP expects you to then be so well-established that you are able to obtain external research funding for your research group
- However, learning the Swedish Research Funding System takes time

Research Funding in Sweden

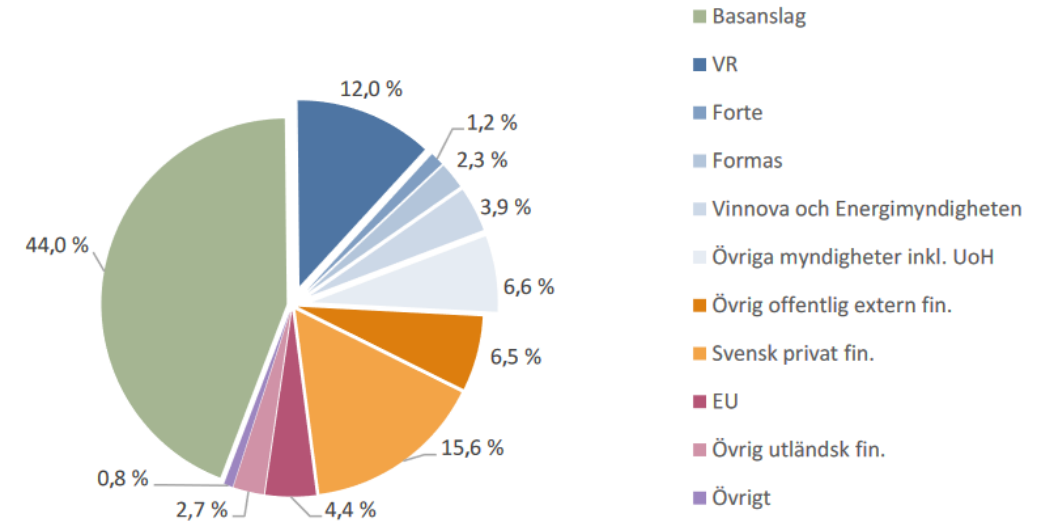
- Better than in many countries
- However, includes industrial R&D
- Also, due to WASP and the strategic research areas, the number of young faculty in the “WASP areas” has increased substantially during recent years



University Funding

Two sources:

- Government ("Basanslag")
 - Research
 - Education
- External Funding



In 2017 the external funding was in average 56% of the total funding

- Varies a lot between universities and areas
- At many WASP sites the level is around 60-70%

If a research group of department does not manage to obtain sufficient external funding, then that group will (after a while) disappear

Major External Funding Sources

- Swedish Research Council ("Vetenskapsrådet")
- Knut and Alice Wallenberg Foundation
- Swedish Foundation for Strategic Research ("SSF")
- VINNOVA
- Strategic Research Areas
- EU
 - Horizon 2030
 - ERC
- Others
 - FFI ("Vehicle Strategic, Research and Innovation")
 - KK-Foundation
 - Swedish Energy Foundation
 -



- Largest (and most prestigious) funding agency
- Basic research in all areas
- 7 BSEK / year
- Major instruments:
 - Annual Call
 - Project grants
 - Starting grants
 - 1 PI that can apply for funding for approx. 1 PhD student / Postdoc
 - 4 years
 - Can apply for maximum 1.5 MSEK / year but will only receive around 1 MSEK / year
 - Deadline March/April
 - Approx 20% success rate
 - Framework grants
 - 3-4 MSEK / year
 - Not every year
 - Distinguished professor grant (“Rådsforskare”)
 - 5 MSEK / year for 10 years
 - Not every year

VR Annual Call

- 8 Subject Areas
 - Subject area: Natural and Engineering Sciences
- 19 Review Panels
 - NT-P Systems and Electrical Engineering
 - NT-Q Computer Science
 - NT-R Computational Mathematics, Data Science, and Statistics
 - NT-S Mathematics

Wallenberg Foundations

- Knut and Alice Wallenberg Foundation – medicine, natural sciences, engineering sciences
- Marianne and Marcus Wallenberg Foundation – social sciences
- Marcus and Amalia Wallenberg Foundation – humanities
- + eight smaller foundations

Knut and Alice Wallenberg Foundation [KAW]

- One of Europe's largest private research foundations
- Around 2 BSEK / year
- Instruments:
 - Wallenberg Academy Fellows (WAF)
 - Career programme for young researchers
 - Nominated by the universities
 - 1-2 MSEK / year for 5 years
 - Wallenberg Scholars
 - Long-term funding for leading senior researchers
 - Nominated by the universities
 - 4 MSEK / year for 5 years
 - Research projects with high scientific potential
 - 15-40 MSEK for 3-5 years
 - Nominated by the universities
 - Strategic grants
 - Initiated by the Foundation or through discussion with representatives of the research community
 - E.g., WASP



KAW Strategic Programs

- WASP – 5.5 BSEK
- WASP-HS – 660 MSEK
- Data-Driven Life Science (DDLs) – 3.1 BSEK
- Material Science for Sustainability (WISE) – 2.7 BSEK
- Wallenberg Centre for Quantum Technology (WACQT) – 1.4 BSEK
- + some smaller ones

Swedish Foundation for Strategic Research [“SSF”]



- Funds research in science, engineering and medicine via grants totaling approximately 1 BSEK million annually.
- High-priority areas for SSF are:
 - Biotechnology, medical technology and other Life Science Technologies
 - Materials Sciences & Technologies
 - Information, Communication & Systems Technologies
- Several instruments, but the most relevant is:
 - Research Group Grants
 - Directed strategic calls (applications pre-screened by industry panel)
 - 5-6 MSEK / year for 5 years
 - Some recent calls:
 - Systems Biology
 - CyberSecurity
 - Future Software Systems
 - Computing and Hardware for ICT Infrastructures

VINNOVA



- Funds research and innovation projects
- Industrial motivation and/or participation important
- Around 1 BSEK / year

Strategic Research Areas (SRAs)

- Established in 2010
- 20 strategic areas (Materials Science, Transport, Cancer, Diabetes, Climate,)
- Information and Communications Technology
 - Two SRAs funded
 - The Next Generation (TNG) – KTH
 - ELLIIT – LiU, LU, Halmstad, Blekinge
- Tripled funding from 2020
 - Around 105-110 MSEK / year and center
- Currently
 - Digital Futures (continuation of TNG) – KTH
 - ELLIIT - LiU, LU, Halmstad, Blekinge

Overhead (“Indirect costs”)

- When you apply for funding you should be aware of how much overhead that you may charge and need to charge
- Overhead = **expenses necessary to support research**, which may not be attributable to a specific research project. Overhead costs provide general support for the university research environment. Examples include utilities costs, insurance, and research administration support services.
- Sometimes charged when you obtain external funding and sometimes when you spend external funding (e.g., use it to pay salaries)
- Often consists of four parts:
 - Central university overhead
 - Faculty/School overhead
 - Department/Division overhead
 - Rental costs
- The amount varies a lot, e.g., 40-70%
- Most funding agencies have a maximum amount that can be used for overhead, e.g., 17.5% for WASP
- The difference must be covered by other funds, typically government research funding (“medfinansiering”)

Some advice

- Learning to write a good proposal takes time – start writing and submitting proposals already now
- Ask for advice and feedback from your colleagues at the department
- If your department has a special research coordinator, then discuss with him/her
- Build up a network of peers both in academia and industry
- If you apply for basic research funding from, e.g., VR, then be very explicit on which research questions that you intend to solve and how you intend to solve them. Explain why you are the best person for this
- If you apply for more strategical research, then also be very explicit on why your proposal is strategic and what the project will lead to.

How to start

- If you are a junior faculty in WASP my advice is to go for these alternatives:
 1. WASP calls
 - Academic PhD student calls
 2. VR annual grant
 - Starting grant or Project grant
 3. Co-PI in SSF, WASP, ... large proposal
 4. Co-PI in an industrial VINNOVA project
 5. PI in large proposal