



After the PhD

Career paths of STFC Students

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Used for.....

- Demonstrating impact
- Training and skills strategy
- Career information for current students

www.stfc.ac.uk/Grants/Studs/PostTrain/StudCareers.aspx



2009 survey

- 209 responses
- 21% were from women
- 49% astronomy, astrophysics & cosmology, 33% particle physics and 18% planetary science & solar research including space physics.
- 29% worked outside the UK
- All but nine had been awarded a PhD





Why do our students do a PhD?

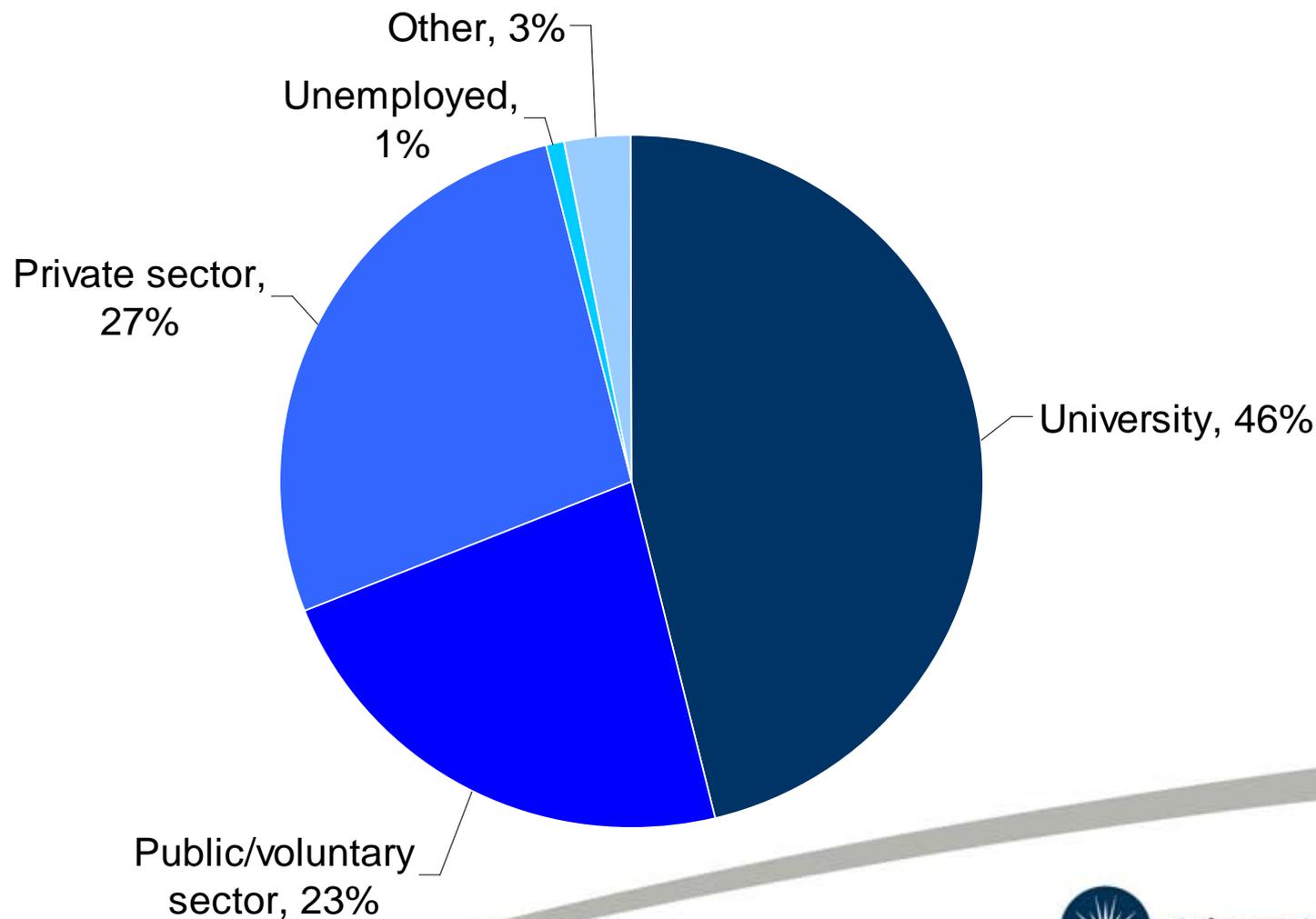
I ♥ my subject



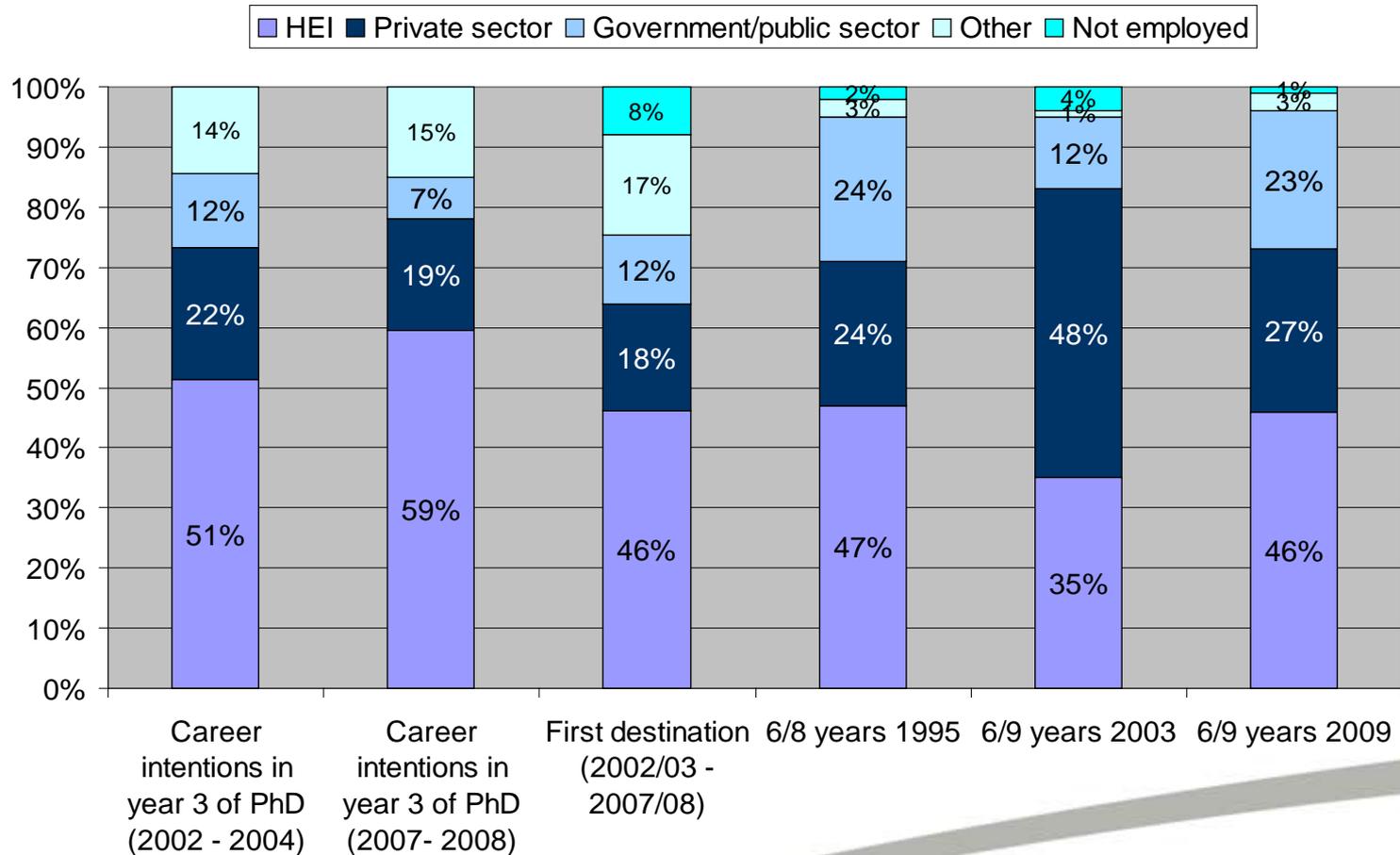
Science & Technology
Facilities Council



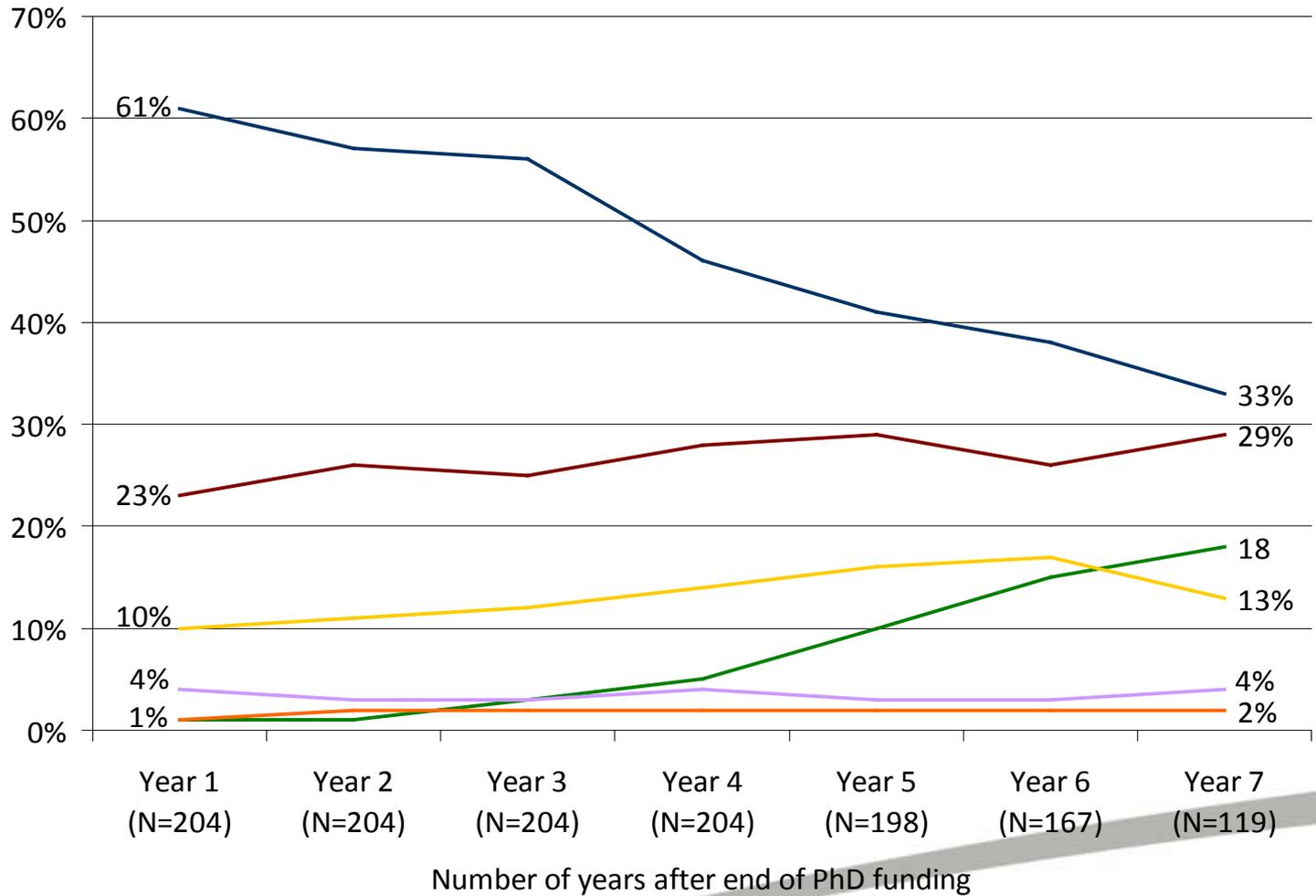
Sector split of careers



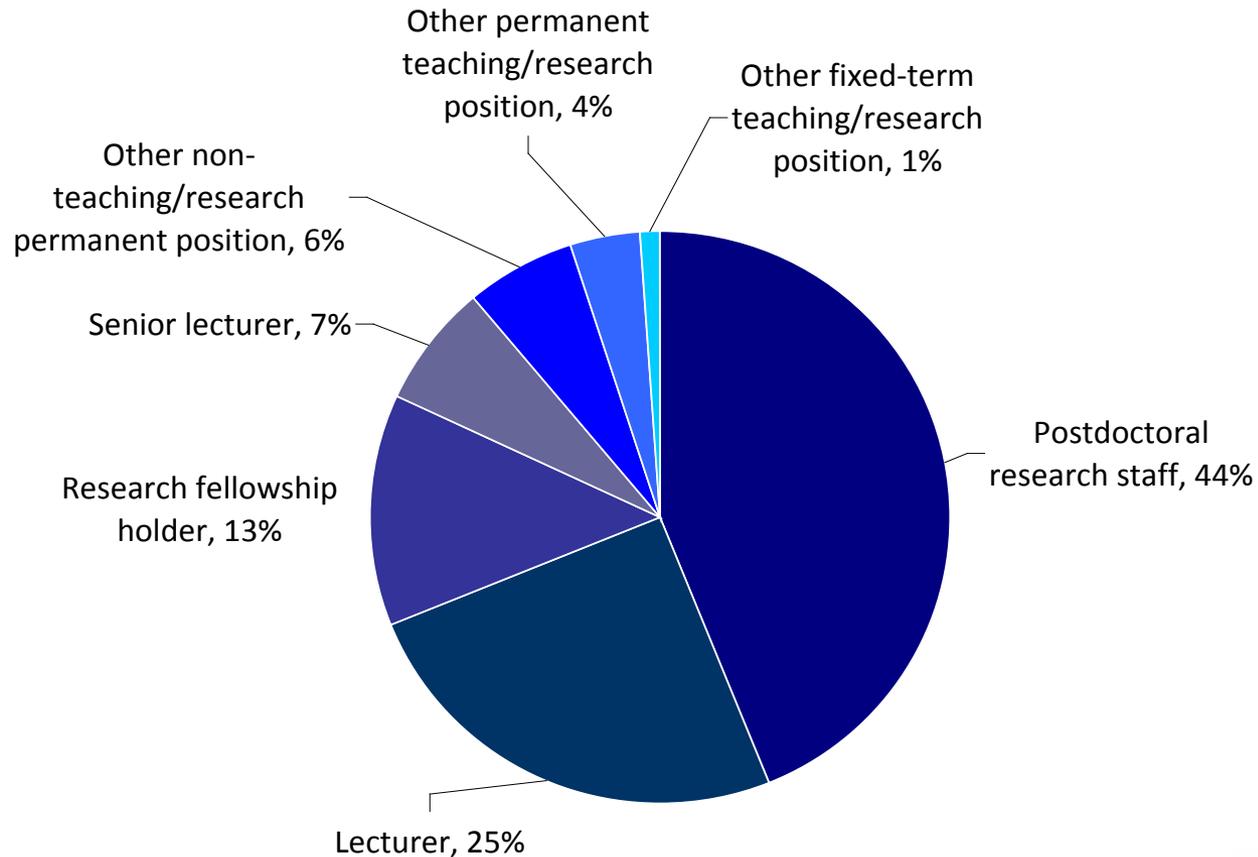
Comparison with other surveys



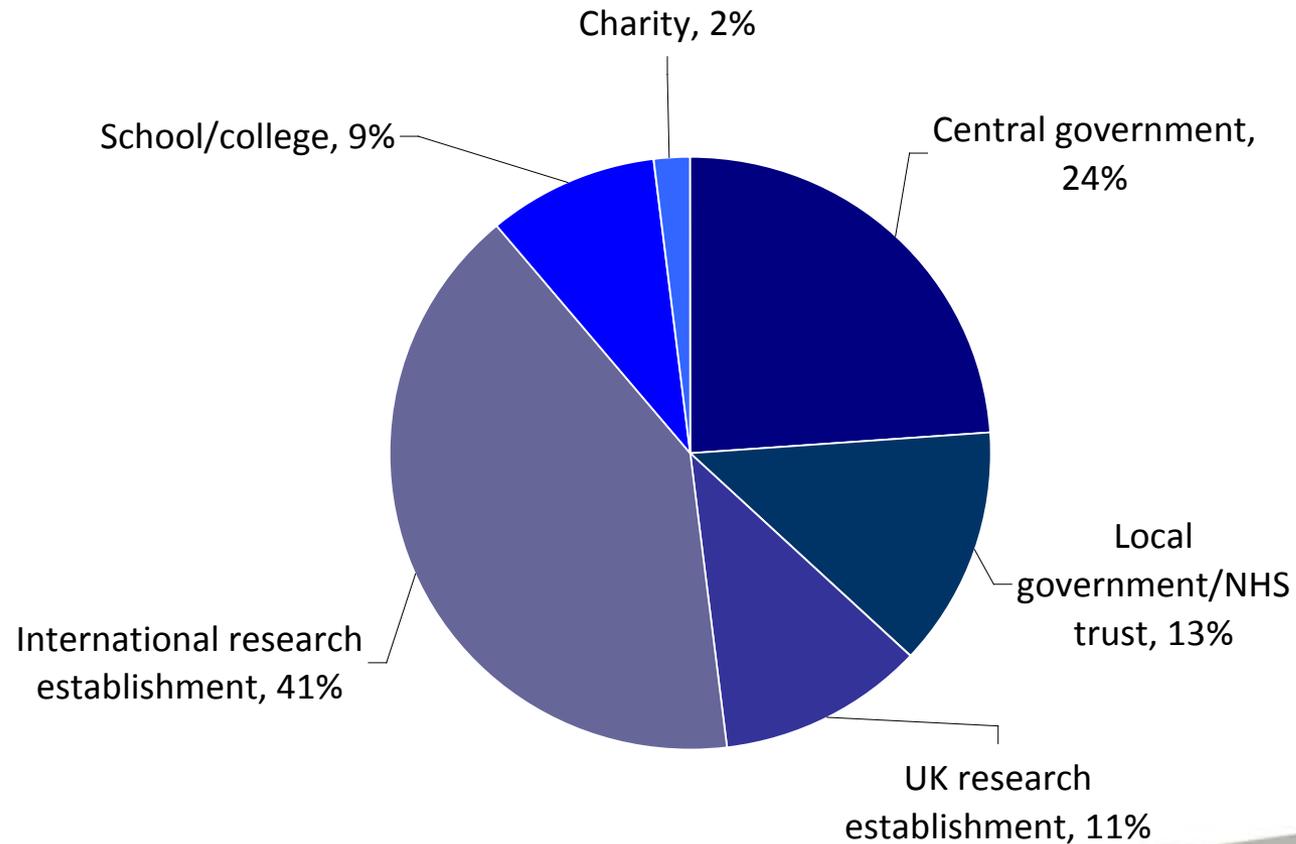
- Permanent teaching/research position
- Other university posts
- Public/voluntary sector
- Fixed term teaching/research position
- Private sector
- Other



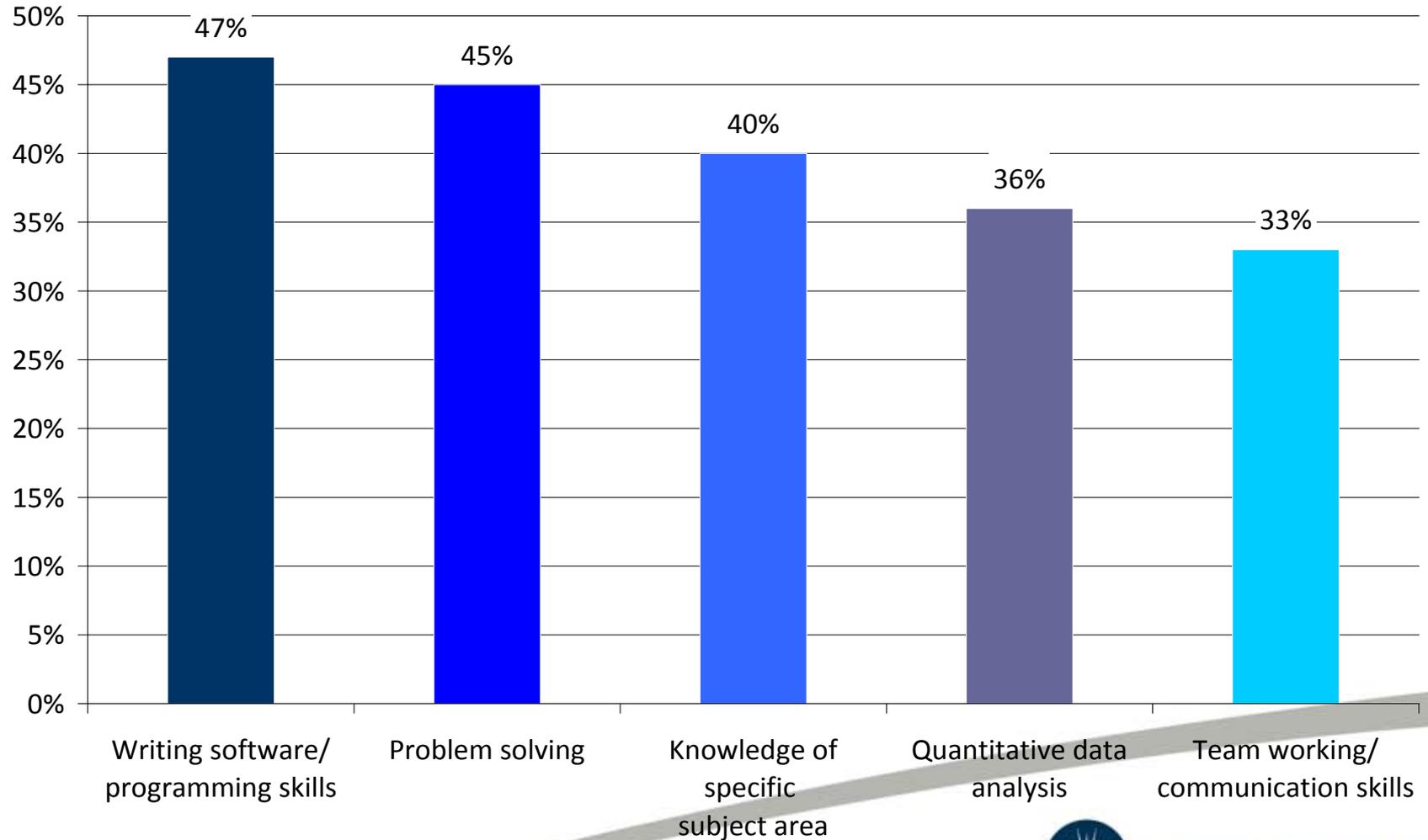
Employment in universities



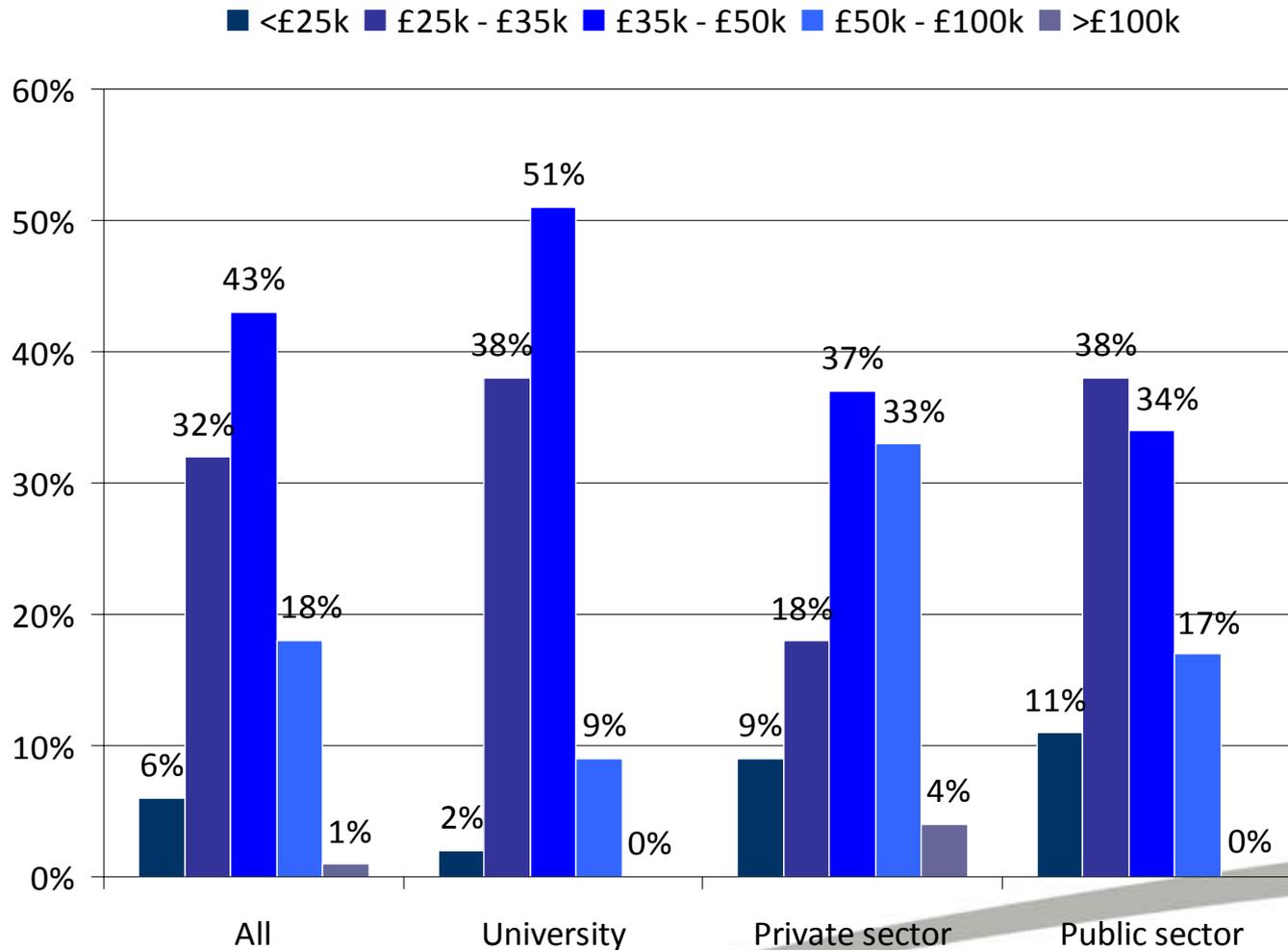
Public sector employment



Skills development



Salaries



2009 Salary benchmarks

- More than 90% earned more than the average worker in the UK (£25,816)
- 62% earned a similar or greater salary than the average professional worker in the UK (£36,260)
- In the private sector, 74% earn a similar or greater salary than the average professional worker in the UK



Christopher Parker, Senior Manager, Traded Credit Risk Systems at HSBC

PhD: Theoretical Physics, Imperial College, 1992 to 1995



"Develop and maintain contacts in and outside the fields in which you want to work. People move in and out of academia and industry, so the more people you know when you are looking for the next move, the more chance there is of finding the one that will be right for you. Implicit in this advice is that you have to look for the chance to change role, rather than expect it to come to you."

Career Path

I joined the Royal Bank of Scotland and worked as a Senior Developer within Group Risk Systems. After three years, I joined Credit Suisse as a Project Manager within Global Market Risk Technology. Then I moved to Citigroup where I worked for eight years as a Project and Programme Manager in Global Risk Architecture. In 2008, I joined HSBC.

What I do now

I work in the Group Risk function, which is responsible for Risk Management policy across all business lines and geographies. My role involves taking ownership of the credit risk management systems used for the Global Markets businesses within HSBC. These are responsible for measuring and monitoring exposures to our trading counterparties across the full range of interest rate, foreign exchange, commodity, equity and credit derivative products. I work with the users of the systems to identify their needs for new development, and with the technology teams that support and develop the systems to ensure these changes can be delivered in the most effective and efficient manner.

Skills

A PhD is not essential for my job but many people working in the field of risk management and quantitative finance have a scientific research background, although this is changing as universities offer more specialist degrees.

My work in the finance industry has used many of the skills gained during my PhD: problem solving, communication, researching documentation, analytical skills, data manipulation, computer programming, collaboration and planning. I work very closely with quantitative finance professionals, and have sufficient mathematical skills to understand their "language" and systems needs. I also learned about systems development from the bottom up during my employment in a number of banks. This allows me to act as a bridge between the people responsible for building risk management applications and those that define and use the risk models in the systems.

The high point of my career was achieving regulatory approval for two of the systems I have worked on. The first was the use of Credit Suisse's market risk system for regulatory capital in 2000. The second was for Citigroup's Basel II Counterparty Risk Capital model in 2007. As a fat bloke, I'm proud of my two London Marathon medals, but I am more proud of my family than anything I have achieved as a student, runner or finance professional.

Coreena Lofting, Senior Patent Attorney, British Telecom (BT)

PhD: Space Physics, Imperial College London, 1994 to 1997



"If you feel you lack a skill, ask around about courses and additional projects that might help you to develop wider experience, whilst still undertaking your PhD. This will definitely develop your "can-do" attitude and be something you can talk about to employers during interviews."

Career Path

After my PhD, I began training as a patent attorney at a private practice. I worked in small private practices for 2-3 years before joining Nortel Networks, where I stayed for another 2-3 years. In 2003, I joined BT and qualified as a professional UK and European Patent Attorney.

What I do now

I am now a Senior Patent Attorney at BT, heading up a small team of other attorneys which looks at particular areas of the business. My job involves liaising with research and technology teams to identify and protect intellectual property. It involves a mix of science and law as well as commercial skills.

Skills

Many patent attorneys have a PhD qualification and people with a PhD qualification are generally preferred by employers in the profession. It is a highly valued qualification in this field of work as apart from familiarity with a particular academic discipline the general skills you acquire through a PhD are very relevant to the job. For example, I need to be able to understand inventions created by people who are global experts at the forefront of research and development in their field. This requires assimilating very complex technical material and would be more challenging without the skills developed as part of my PhD. The experience of reviewing the content of academic papers has been really

useful for this, as have the general analytical skills I developed from working independently on assembling and distilling information as part of my PhD.

A PhD is a tremendous opportunity to develop not only specific subject knowledge but a broader set of transferable skills as well. My advice to current postgraduate students is to realise that these other skills are just as important as developing your academic knowledge and to actively pursue all opportunities that come your way through your PhD. I attended a CRAC Management Skills training course during my PhD which started me thinking about how my skills could be applied outside academia and this helped me understand how a prospective employer might regard me. It also helped me realise that I would need to think carefully about how to present myself to employers.

Many employers will question the ability of a PhD student to function better than other graduates in a business environment. It is a great advantage if you can demonstrate the additional experience acquired through your PhD that is relevant to business, for example, being able to manage projects, analyse complex information, work in a team, achieve goals and cope with the pressure of deadlines. These are transferable skills which are highly valued in the workplace, as are being reliable and self-sufficient.



“If you are applying for a job in an industry that is even moderately dissimilar to pure science, you should research it. I have interviewed dozens of postgraduates and many have been very underprepared. We do not expect you to be able to do the job straightaway, but some applicants seem to have little knowledge of what it is they are being interviewed for.”

“If you feel you lack a skill, ask around about courses and additional projects that might help you to develop wider experience, whilst still undertaking your PhD. This will definitely develop your “can-do” attitude and be something you can talk about to employers during interviews.”

“People who have developed a range of transferable skills during their PhD such as computer programming, quantitative analysis, team working, communication and self-motivation will always be in demand.”

“Make the most of being able to research a pure academic subject – it does bring rewards and skills that can be used in business – you just have to be a bit more creative about how you present them.”

“When you are undertaking a PhD, you tend to spend a lot of time working on your own or in small teams. In the commercial world, the ability to work in teams and to communicate with a range of people is really important. So grasp any opportunities you get to develop presentational and communication skills during your PhD, as they will really help you later.”



ability **able** acquired analysing analytical background
business **career** collaborators communication competitive complex
computer current data deal **developed**
different **essential** field finance gained helps
important information **job** knowledge
mathematical modelling particle **people** period **phd**
physics problem professionals provided qualification
research **skills** software systems
technical think today **training** understand
work