

CAREERS

STRESS FACTOR: PhD studies may be hazardous to your mental health **p.383**

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start saving immediately and offered to help her implement a savings plan in which she could slowly bump up the amount of money she set aside every month. So she took Scott's advice (and later married him).

Now 37, she is an associate dean at Beckman and chair of the board of directors of the US National Postdoctoral Association (NPA) in Rockville, Maryland. In both positions, she advises graduate students and postdocs — and she has found that many of them, as was the case for her, aren't interested in saving money at this point in their careers. "You always think, I'll make more eventually. I'll do this later," Sleeth says. "People don't come to your classes to explain it to you. How would you know?" she adds, referring to the importance of starting a retirement investment plan early.

UNIVERSAL CHALLENGE

The problem is a common one across all employment sectors. But researchers are likely to find it even harder to start saving, thanks to their lengthy education and training, and their tendency to move from job to job — often across national borders.

Many financial advisers recommend that people save enough to replace 70–80% of their income, if they want to maintain their standard of living in retirement. In the United States and Canada, where the emphasis is on building your own retirement fund, that means setting aside money every month — even if it's only a tiny percentage of your take-home pay. For researchers in European countries and other regions where state-sponsored pensions are more common, it can mean saving — and keeping close tabs on — government-backed benefits. This is especially true for researchers who move between countries.

One piece of advice is paramount: start early. Interest and dividends build up gradually; so the sooner savings begin, the more time there is for gains to accrue. A person who invests an initial sum of US\$1,000 aged 25, and then puts away \$100 a month for 40 years at a 6% annual return, will have saved nearly \$200,000 by the time they reach 65. Someone who begins the same process at 45 will have accrued less than \$50,000. "Even if it's \$20 a month, you just need to get started," says Anthony Giordano, a financial adviser at Vanguard in Malvern, Pennsylvania. "With compound interest, if you start earlier, you can get ahead easier than if you started later and saved more."

Savings statistics for researchers at an early stage of their career are hard to come by. But ►

RETIREMENT

Dollars and sense

Don't delay – start saving early and fatten your pension pot.

BY ERYN BROWN

It seemed a strange question to ask over dinner, but Kate Sleeth's date, a financial planner called Scott, wanted to know: how were her retirement savings coming along?

They weren't, she told him. After completing her biology studies in the United Kingdom, Sleeth had moved to the United States to do

a postdoc at the Beckman Research Institute at the City of Hope, a comprehensive cancer centre in Duarte, California. She hadn't thought she'd be in the United States for long, so she wasn't saving any of her salary for retirement. "I just didn't see the point of starting my retirement here," Sleeth says now. "I'd move back to the UK and the money would be here."

Scott told Sleeth, then 31, that she needed to

► a 2016 survey in the United States revealed that in the general population, 42% of people aged 18–34 hadn't saved at all; another 30% had put away less than \$10,000. And in a 2012 Japanese survey, more than half of university researchers in their 20s and 30s said they didn't know whether they were eligible for retirement benefits. The study was conducted by Satoshi Watanabe, an economist and education specialist at Hiroshima University.

It's difficult for graduate students and postdocs to save when they can barely meet expenses. Steve Johnson, vice-president of university services at Garnett-Powers & Associates in Mission Viejo, California, which helps universities to set up benefits programmes, notes that many people earn a bachelor's degree and immediately land a job that offers them an established retirement savings plan. But PhD students face at least another five years of study, and in some cases a postdoc that could take another three or more years.

In many countries, the tangle of regulations that surrounds retirement investing only exacerbates the problem. In the United States, for example, many employer-backed retirement plans have vesting periods that bar savers from receiving certain benefits until they have remained on the payroll for a designated period — typically, several years. These benefits include employer contributions that match whatever the employee is paying into a savings scheme, up to a given percentage of salary.

MOVING SWIFTLY ON

Postdocs who aren't direct employees of the institutions where they work, because they are on a fellowship or are funded through a grant given to the head of their laboratory, are ineligible for employer contributions. But

even those who are eligible don't expect to stay long in any position. They assume, often correctly, that they won't be able to take advantage of benefits such as matched contributions — and so decide to delay saving so that they can pay more easily for rent, utilities and food. Not only that, but more than half the researchers in the United States come from abroad and, like Sleeth, might not see the value in navigating a sometimes bewildering patchwork of financial systems because they plan to return to their home countries.

In Germany, foreign students make up 55% of the rolls at the institutes that comprise the Max Planck Society, based in Munich. Martin Grund, a doctoral candidate who headed the Max Planck PhDnet forum for young researchers, says that he urges them to take advantage of the German pension system. They could be eligible for reimbursements if they move back home, he reminds them, and it might be worth their continuing to pay into the German system, even after they move. “The doctoral phase is a significant portion of the whole work life,” he says. “It should contribute substantially to the pension plan.”

Thinking about retirement can seem impossibly remote for young, busy and often cash-strapped researchers, says Julie Fabsik-Swartz, executive director of the NPA. “It's like, ‘Retirement?’ Most postdoc researchers can't think in those terms, because they are often so busy dealing with the day to day: ‘Is my family healthy? Can I pay the rent?’” she

says. “Those are the bigger issues because they're right in front of them.”

Young scientists also tend to ignore abstract financial issues in favour of their work, says Cindy Wilson, a financial planner at the investment firm TIAA in Pasadena, California, whose team has advised researchers at institutions including the California Institute of Technology in Pasadena and the Rand Corporation in Santa Monica, California. “Researchers are so focused that they don't take the time to spend on their personal finances,” she says.

COUNTRY VARIATIONS

The financial landscape shifts depending on the nation in which one lives or works. Researchers in the United States, the United Kingdom and Canada, in particular, fret about balancing immediate financial needs against future ones, and they must grapple with a system that expects them to fund their own retirement account (see ‘Grow your portfolio.’) In Japan, says Watanabe, a shift in management of the national universities in 2004 has meant that newer professors don't get the same government-backed retirement benefits that veteran faculty members enjoy. At the same time, he says, no robust system exists to promote personal savings for retirement. “We don't have the flexibility; we don't have very many choices,” he says.

In Chile, all workers contribute 7% of their salary to the pension system, says Juan Larraín, a biochemist and vice-president for academic affairs at the Pontifical Catholic University of Chile in Santiago. But, as in other countries, many PhD students and postdocs are paid through fellowships and aren't employees, which means they have to work out their own ways to save.

Retirement systems also vary among the 28 states of the European Union (EU), says Gerhard Duda, head of research in Germany and Europe for the German Rectors' Conference, an association of higher-education institutions. Workers may depend heavily on benefits regulated by the state or those organized by their employer — or they may rely on their own personal investments.

Mobility continues to pose a problem for researchers in the EU who try to save for retirement, notes Andreas Dahlén, policy officer at the Directorate-General for Research and Innovation at the European Commission (EC) in Brussels. According to a 2013 EC study, half of the 1.6 million researchers in the public sector in Europe have moved country, and their numbers are growing. And their pensions can't always move with them. “The countries all have different pension schemes,” says Janet Metcalfe, who heads Vitae, a UK-based organization that supports researchers' professional development. “A researcher will end up with small pension pots in many countries. You can imagine what a difficulty it is to

GROW YOUR PORTFOLIO

How to make the most of your assets

Cindy Wilson, a financial planner at the investment firm TIAA in Pasadena, California, works with many academic clients who would rather not have to worry about their investment portfolios — but she argues that early-career researchers need to plan even harder for their financial futures than do other young workers. Here's some advice that she offers in seminars and client meetings:

- Understand the retirement benefits you're entitled to, and maximize employer contributions. Do this first before settling loans or credit-card debt. Otherwise you're throwing part of your pay package away.
- Don't buckle under the temptation to spend a small pot of retirement savings that you might have accrued in a short-term job: even a few hundred dollars,

pounds or euros, for example, should be left alone — or transferred into another retirement account, if you live in a country where such an option is available.

- Is your field highly specialized? If so, keep a 12-month emergency fund on hand, rather than enough just for six months. You might have long waits between jobs.
- If you have other financial obligations looming — such as buying a house — don't throw aside retirement planning. Instead, consider accruing savings in a retirement account that also provides flexibility, such as Roth IRAs: these individual retirement arrangements, available in the United States, take after-tax contributions and offer tax-free growth; they also allow early withdrawal of contributions with no taxes or penalties. **E.B.**

MENTAL HEALTH

Degree and depression

A study of PhD students in Belgium adds to a body of research highlighting a harsh reality: PhD students are more likely to experience mental-health distress than other highly educated individuals, including those in the general population, employees and higher-education students. The study found that more than half of the respondents reported experiencing at least two mental-health problems in recent weeks, and 32% reported four or more symptoms (K. Levecque *et al. Res. Policy* **46**, 868–879; 2017). Common complaints included feelings of constant strain, unhappiness, worry-induced sleeplessness and an inability to enjoy everyday activities. About two-thirds of the respondents were in the hard sciences and one-third in the humanities or social sciences. There was no clear trend between area of study and risk of mental-health issues.

PhD students fared poorly relative to non-students, the study found. They were nearly 2.5 times more likely than highly educated people in the general population to be at risk of depression or another psychiatric disorder. PhD students were also about twice as likely as higher-education students in general to show red flags for such conditions.

Lead author Katia Levecque, who teaches industrial relations at Ghent University in Belgium, says that the results highlight the need for universities to offer counselling services and other resources to PhD students. In many cases, students need to look beyond their own departments for help. “Professors may be willing to support their students, but they don’t have the time or skill,” she says. “They’re also vulnerable to a lot of the same sorts of problems.”

Students who said that they struggled to balance work with their home life were especially likely to report psychiatric symptoms. Other predictors of distress include excessive workloads and a lack of control. Gail Kinman, an occupational-health psychologist at the University of Bedfordshire in Luton, UK, says that the findings complement her work revealing high levels of psychological distress in people working in UK higher education. Her research has found that academics are often more stressed than nurses and social workers and cannot mitigate it (G. Kinman, F. Jones and R. Kinman *Quality Higher Ed.* **12**, 15–27; 2006).

“Job demands are increasing, control is reducing and support from managers is diminishing,” she says. “Academics in the sciences may have a particularly difficult time.”



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combine them.” Researchers will lose out if they try to move investments, she adds, or if they leave a position before working long enough to qualify for pension rights.

There is a glimmer of good news for researchers in Europe who want a portable pension. For much of the past decade, the EU has been working to create a common market for research, encouraging member states to make it easier for people to take benefits with them across jurisdictions. One such effort, known as RESAVER, is creating a pan-European pension fund specifically aimed at organizations that employ researchers. The scheme will allow employees to work in numerous positions across Europe, but continue paying into a single pension fund. Once a research institution becomes a member of the fund, its scientists and other employees will be able to pay into it with no vesting period, and to carry their pension account with them to any other member institution. They’ll be able to track all their retirement savings in one place, avoiding the hassles — and financial losses — involved in piecing together far-flung investments.

MARKETING DRIVE

RESAVER has 21 founding institutions, but so far only one — Central European University in Budapest — is paying into the fund. Individuals taking part in the scheme should start paying in this month. Thierry Verkest, a partner in the international retirement and investment practice at Aon Hewitt, which advises RESAVER, thinks that Hewitt’s marketing efforts will pay off and that many other institutions will soon join. “We are

reaching out to hundreds of organizations,” he says. “It’s about attracting researchers in Europe, retaining them and getting them a decent pension.”

Some EU states have tried to address issues of pension portability on their own. In Germany, universities have set up offices to advise foreign researchers on visa, social security and retirement issues (such as how to collect retirement funds scattered across a variety of locations.) The country has also relaxed some rules under which tenured professors lost their special state-pension benefits if they left their public-sector professorships. Now, they can keep a larger share of their academic-pension payments if they switch to a position in the private sector. Duda is sceptical about RESAVER’s potential, but notes that the scheme has already had at least one positive outcome. “It put a lot of pressure on the member states to be more flexible,” he says.

Miguel Jorge, a chemical engineer and materials scientist, is hoping that RESAVER works out. He lectures at the University of Strathclyde in Glasgow, UK, but has pension savings scattered across the United States, the United Kingdom and his native Portugal. Relocation is part of the life of a researcher, he says, and will nearly always take precedence over retirement-savings goals. “You weigh retirement against career, and career wins out — even if it means losing money,” he says. “Retirement is something you put on the back burner.” ■

Eryn Brown is a freelance writer in Los Angeles, California.