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## **Experience and Evidence<sup>1</sup>**

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When you came to Frankfurt some years ago to begin your studies, you had many lectures, seminars, exams, and new concepts ahead of you – but also new friendships, new environments and new ideas. Today, you have made it and have reached another milestone. You will be looking forward to being able to apply your knowledge to the real world, to not having to sit through any more tedious exams, and – not least – to earning your own money.

But this joy is no doubt also mixed with scepticism. Compared with just a few years ago, the job market situation will certainly be less of a concern for you. Demographic change means that you are all desperately needed to take on important tasks in our society. German unemployment is currently at its lowest level since reunification, and it is below the 5% mark for the first time since the early 1980s (Federal Employment Agency 2018). Many economists would call this full employment (Paqué 2012).

But nonetheless, a lot of people are worrying about the future. Global conflicts have multiplied, free trade is no longer as much of a given as it was a few years ago, it is becoming increasingly urgent that we seek solutions to the problem of climate change, we are faced with social issues such as a lack of equal opportunities, which could come to threaten our democratic structures.

How should society address these issues? Is social engagement worth it – or should we retreat into our private lives? What have you learned at university that will help you deal with the challenges of the future? Which career decisions are the right ones?

I cannot give a comprehensive answer to all these questions, but I would like to sketch how learning and using evidence can help making progress.

# 1 What have we achieved?

A new book by the Canadian-born US public intellectual Steven Pinker takes a rather optimistic – but by no means naive – perspective. In “Enlightenment Now”, Pinker shows that many of the problems discussed in the media and in societal debates are not backed by facts quite as they appear to be. Just this October, he presented his book at the German National Library here in Frankfurt. He proposes a counter to populist pessimism: “The Case for Reason, Science, Humanism and Progress” is the subtitle of his book. Pinker’s core message is this: today, we are not only living much longer and healthier lives than our predecessors – there are a whole host of other criteria against which we have made demonstrable progress (Pinker 2018).

It is well known that both prosperity, as measured by gross domestic product, and life expectancy have risen considerably over the past few centuries.<sup>2</sup> But have all countries benefited from these trends? And what about other, “softer” indicators of prosperity?

Research about “happiness” provides some novel and very interesting insights. Rising incomes, for example, contribute to individual well-being (Layard 2005), and more recent evidence also suggests this to be the case at the aggregate level (Stevenson and Wolfers 2008). This research also holds important lessons for policymaking aimed at improving societal welfare (Clark, Flèche, Layard, Powdthavee, and Ward 2018).

Progress has also been made in other fields such as education. Around 1800, not even one-fifth of the global population could read and write; in Germany, only one person in two was literate. Today, the global literacy rate is over 80% – in Germany, the figure comes to far more than 90%.

And not only are we living longer, but we also have more freedom to decide how we use our time. One hundred years ago, full-time employees in western Europe worked an average of just over 60 hours per week; today, less than 40. Countless household devices have reduced the time spent on housework from 60 to less than 20 hours per week since 1900. This is one of the reasons why even working mothers are today spending more time with their children than housewives did 50 years ago (Pinker 2018). Now – this does not mean that women should continue doing the housework, but that striking a good balance between work at home and on the job has become easier for both women *and* men.

## 2 An example of cultural learning

How have we made such progress? Through a constant learning process: through scientific findings, societal debates, changes to institutions and norms, and the re-assessment of existing knowledge and traditional procedures that this brings about. It's not just individuals who learn; societies also learn and improve over generations. Often, this “cultural knowledge” is not immediately apparent or comprehensible to an individual – but, as a whole, it moves us forward.

Joseph Henrich describes one example of this cultural learning phenomenon – the preparation of foodstuffs (Henrich 2016). Many foods are poisonous or at least damaging to the health in an unprocessed state. This is true of manioc, or yuca, for example. Consumption of the manioc root can lead to poisoning in the long term. But over time, indigenous peoples in the Amazon region have developed a complex refining system to reduce the toxins manioc contains. Manioc roots are scraped, grated, washed, separated into liquid and the mass of fibre and starch, and boiled or left to stand for several days. Each of these steps has been proven to reduce the hydrocyanic acid content of the roots.

To an outsider, these processes may seem strange and, to an extent, unnecessary. But at the same time, they demonstrate the advantage of cultural learning over individual learning. There are two crucial factors here.

First, simply boiling manioc can prevent the immediate, but not the long-term, toxic effects of the tuber. What this means is that you could eat cooked manioc over a certain period, but if, much later, symptoms of poisoning were to occur, it would be hard to establish a clear (or, in other words, causal) link to your diet.

Second, an individual would be hard pressed to develop and, in particular, review a multi-stage food preparation process. This is not least because the number of failed attempts one person could make is likely to be limited.

Thus, cultural learning complements individual experience: knowledge is passed down from generation to generation. Today, in much of what we do, we are benefiting from a very long-established wealth of knowledge and experience.

### **3 Applying experience and taking evidence-based action**

At first glance, learning and the use of experience in food preparation seem to have little to do with the pressing problems modern societies are dealing with. For many of the questions we currently face, we have no practical experience to fall back on. What will the future of work look like in the age of digitalisation? What reforms are needed in Europe? How can the global trade dispute be resolved? How to address climate change?

The answers to these questions require more than a simple paint-by-numbers approach. But “fake news”, turning to knee-jerk ideological responses and clinging to the ways of old are certainly not bringing us any closer to answering these ques-

tions, either. Societal and cultural learning processes, have, instead, much to do with applying experience and taking evidence-based action.

And it is exactly here that the tools provided by a university education come into play. Irrespective of the field that you will ultimately work in – logical thinking, evaluating facts, taking a structured approach to examining existing processes and being able to come up with new ideas will be key to a successful, enriching professional life. It is precisely these skills that a university education has given you.

Of course, this is easiest to see amongst those of you who will stay in academia. But that will be only a very small number. Last year at Goethe University, 43 students received a PhD in economics, while the same faculty awarded 327 Master's degrees and 839 Bachelor's degrees (Goethe University Frankfurt 2018).<sup>3</sup>

So what does the situation look like for those of you who will take different paths, pursuing a career in the corporate sector, in public administration, at non-profit institutions, or in politics? Is “science” not something that you can perhaps pursue in your free time but is in no way applicable to your specific professional field? If the answer to this question were “Yes”, it would mean that the university had not done its job.

As a matter of fact, the exact opposite is the case: evidence-based reasoning will be of direct use to you in many fields outside university in improving processes and separating good arguments from bad.

There are indeed a number of initiatives producing a greater quantity and quality of evidence in widely varying areas of society and the economy. “Evidence-based policy” has a role to play in putting decisions on an improved, fact-based footing.

## 4 Examples of evidence-based policy

Let me give you an example from an area that we at the Bundesbank are involved in – financial market regulation.

Last year, the G20 heads of state and government decided that the financial market reforms of the past decade should be systematically evaluated (FSB 2017). The first step was to develop a general framework, which is now being applied in stages. Areas of analysis include whether the derivatives market reforms implemented in recent years have worked as intended and the impact of financial reforms on infrastructure funding. Access to finance for small and medium-sized firms is being explored as part of an ongoing assessment. The next step will be to examine whether, thanks to the reforms, the problem of systemically important financial institutions being “too big to fail” and benefiting from government subsidies has been brought to heel.

You can view the findings of these studies on the Financial Stability Board's website.<sup>4</sup> Transparency and the public consultations carried out as part of the evaluations are indeed crucial. This is because supervisory authorities and central banks are public institutions that serve the common good and must, accordingly, be held accountable for their actions.

Evaluations based on scientific standards are already good practice in many other fields, such as labour market policy, family policy, development aid, or medicine. There are also numerous examples of evidence-based policy such as “What works?” centres in the United Kingdom and the use of cost-benefit analyses for policy initiatives in the United States.<sup>5</sup>

This is why the Bundesbank and the Leopoldina, the German National Academy of Sciences in Halle an der Saale, hosted a workshop in May of this year to set up an interdisciplinary dialogue between academics and practitioners (Buch and Riphahn

2018). There is more to come; you are invited to “stay tuned” and keep following our progress.

Despite the fact that expert knowledge is often met with scepticism, the outlook for evidence-based policy discourse is in fact bright. On the one hand, there are undoubtedly increasingly populist trends. Some 83% of individuals responding to a Eurobarometer survey regard “fake news” and online disinformation as a threat to democracy.<sup>6</sup> On the other hand, public trust in science remains high. According to a survey conducted in the United States by the Pew Research Center, public confidence in the scientific community has remained unchanged at its high level since the 1970s (Funk 2017). Research also shows that, in both Europe and the United States, the general public often trusts scientific experts more than the government (Osman et al. 2018). Furthermore, objective and transparent decision-making processes are important to the public (OECD 2017).

## **5 80,000 hours**

But back to you: around 80,000 working hours lie ahead of you. There are a great many ways to make good use of this time, and I am certain that you will take the right decisions. The “80,000 hours” project can help you here: launched by scholars at Oxford University, this project gives students information on how to make a difference with their careers.<sup>7</sup>

You do not necessarily need to work for a charitable organisation to make a difference in your own lives, in your families’ lives, or in society at large. The opposite might actually be true: instead of working for an organisation serving the common good that is badly managed or poorly designed, you might be better off working for a firm which does not, at first glance, pursue charitable objectives directly and donating part of your income instead to a well-managed and effective charity. For those majoring in finance, the financial sector will obviously be attractive and, in



fact, sound finance can contribute significantly to economic welfare. But, of course, we need to ensure that the financial sector behaves prudently and does not contribute to the risk of a financial crisis.

Alternatively, it may make sense to pursue various lines of work over the course of your professional life, perhaps with the goal of later becoming politically active once you have gained more experience. Angus Deaton, who was awarded the Nobel Prize for economics for his work on development economics and welfare theory, presents a similar argument. In his book “Great Escape: Health, Wealth, and the Origins of Inequality”, he reveals the path that he would recommend for graduate students – work in international organisations with the aim of serving the common good (Deaton 2015: Chapter 7).

No matter where you decide that your future career will take you, I have no doubt that each and every one of you will make a valuable contribution. The knowledge and skills afforded by a university education have provided you with the tools to make a difference with your “80,000 hours” – with the greater good in mind, too. As you do so, I wish you all good luck and every success!

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<sup>2</sup> Rosling, Rosling, and Rosling Rönnlund (2018) document these trends in their new book “Factfulness” and the accompanying website [www.gapminder.org](http://www.gapminder.org).

<sup>3</sup> See [http://www.muk.uni-frankfurt.de/72980617/jahrbuch\\_2017\\_deutsch.pdf](http://www.muk.uni-frankfurt.de/72980617/jahrbuch_2017_deutsch.pdf), pp. 74 f.

<sup>4</sup> See <http://www.fsb.org>.

<sup>5</sup> See <https://www.gov.uk/guidance/what-works-network> or Sunstein (2018).

<sup>6</sup> See <https://ec.europa.eu/digital-single-market/en/news/final-results-eurobarometer-fake-news-and-online-disinformation>.

<sup>7</sup> See <https://80000hours.org>.