

Skills for the Future

Challenges for Higher Education

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Some popular statements

- *"It does not matter what you study, it is the degree that counts."*
- *"Employers always prefer the highest degree. This leads to a rat-race and diploma-inflation."*
- *"The world is changing fast. We therefore need generalists instead of specialists."*
- *"Through Internet graduates no longer need to have specific knowledge; they just need to know where to find it."*

Research questions

- What are the main developments on the labour market for HE graduates and how is this related to skills?
- Which formal characteristics affect graduate employability?
- Which skills affect graduate employability?

Contribution of this study

- Current information from employer surveys limited:
 - Too general (neglect specific skills).
 - Or too specific (focussing on a single sector).
 - Unrealistic: what is important? Everything!
- Result: employers want Jacks-of-all-trades.
- But: “You can’t always get what you want”.
- This study’s contribution:
 - More realistic picture by forcing employers to choose.
 - Combination of quantitative and qualitative methods.

Design of the study

- Literature review.
- Stated choice experiment: 900 employers in 9 countries.
- In-depth interviews with 120 employers in same 9 countries + 3 additional countries.
- Focus groups with stakeholders (6-8 in each country): HEIs, employers, Ministry etc.

Main developments and related skills

- Knowledge Society -> professional expertise
- Increasing uncertainty -> flexibility
- ICT revolution -> innovation and knowledge management
- High performance workplaces -> social and organisational skills
- Globalisation -> international orientation
- Changes in economic structure -> entrepreneurship

Stated choice: Example dating

Preference

- Charme: 35%
- Humour: 30%
- Intelligent: 25%
- Good looks: 10%

Choice

- David Niven
- Mr. Bean
- Einstein
- Brad Pitt

- Actions reveal 'true' preferences.
- Choice dependent on level.

Design stated choice experiment

- Simulation of selection procedure in two steps.
- Based on similar 6 job descriptions for specific sectors (e.g. engineer, financial specialist, legal specialist etc.)
- Step 1: choice job interview between 3 candidates based on CV attributes (e.g. field of study, work experience etc.).
- Step 2: hiring decision between 3 candidates based on reports from assessment centre on their skills.

Step 1: Which CV attributes are relevant?

Selecting candidates for job interviews: the signalling value of CV attributes

- **Degree** (bachelor's degree, master's degree, doctorate)
- **Match between field of study and job tasks** (exact, related, unrelated)
- **Relevant work experience** (No, 1 year, 2 years)
- **Study abroad** (No, partly, entirely)
- **Grades** (below average, average, above average, top 10%)
- **Prestige of university** (top ranked, average ranked)
- **Salary** (-25%, -10%, average, +10%, +25%)



Bachelor

Master

Of these 3 candidates, which one would you choose?
Remember this is a junior position for a recent higher education graduate.

<p>Degree: Bachelor (BA, BSc)</p> <p>Match of field of study and job tasks: Field of study related to job tasks but no exact match</p> <p>Relevant work experience: No</p> <p>Grade Point Average: Above average</p> <p>Type of university: Average ranked university</p> <p>Starting salary: Average for this position</p> <p><input type="radio"/></p>	<p>Degree: Master (MA, MSc)</p> <p>Match of field of study and job tasks: Field of study unrelated to job tasks</p> <p>Relevant work experience: 2 years</p> <p>Study abroad: Partly</p> <p>Grade Point Average: Average</p> <p>Type of university: Average ranked university</p> <p>Starting salary: 25% below average for this position</p> <p><input type="radio"/></p>	<p>Degree: Doctorate (Dr)</p> <p>Match of field of study and job tasks: Field of study matches job task completely</p> <p>Relevant work experience: 5 years</p> <p>Grade Point Average: Below average</p> <p>Type of university: Top ranked university</p> <p>Starting salary: 25% above average for this position</p> <p><input type="radio"/></p>
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Good field match

No field match

Please, click on the button under the candidate you would choose.
And then click on the arrow symbol to continue.



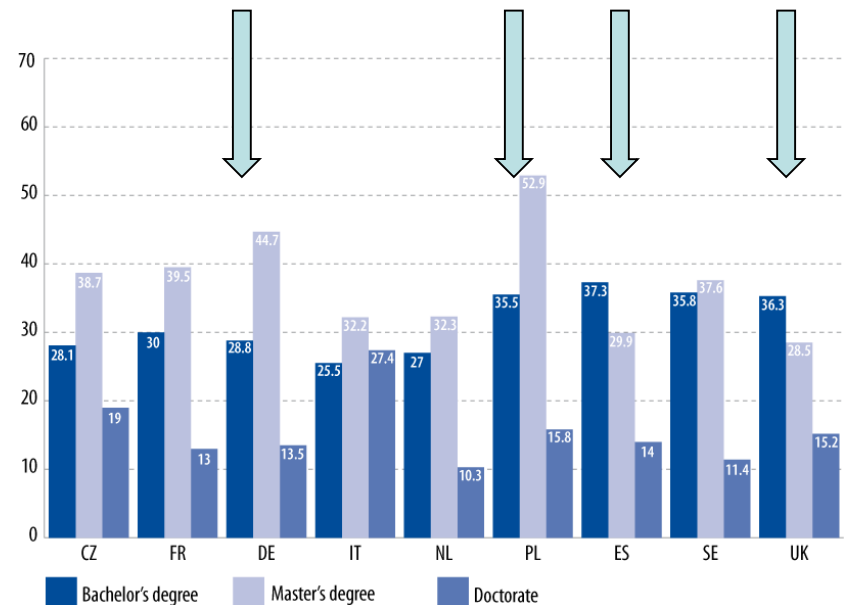
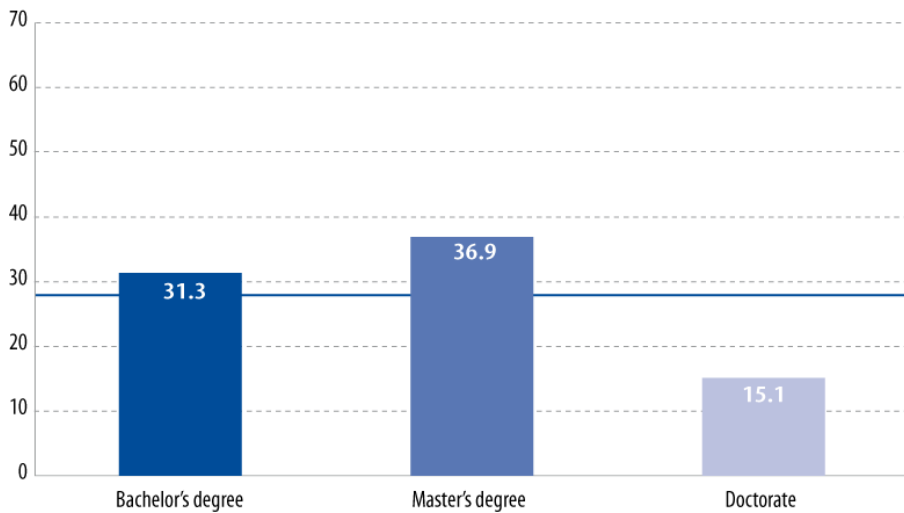
Most important: Field of study and work experience



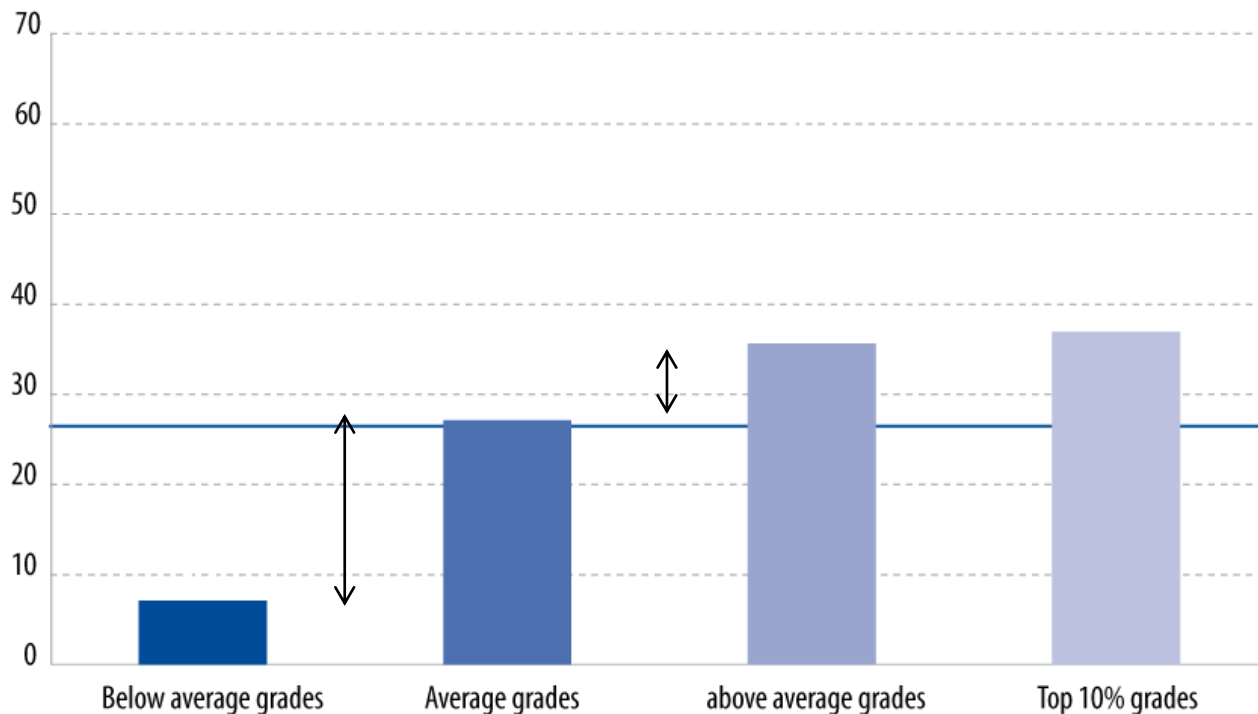
"The discipline is really a main indicator for how quickly someone is broken in."

"Work experience shows they can hit the ground running and get on with the job straightaway."

Signal bachelor's and a master's degree differs between countries

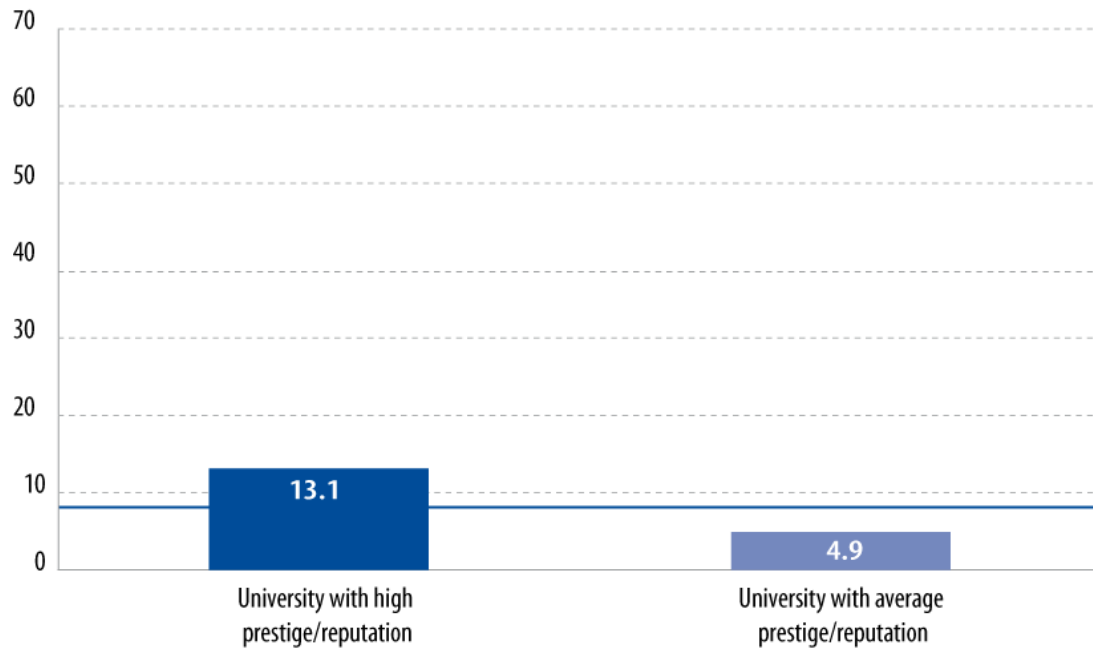


Grades are important: avoid being below average



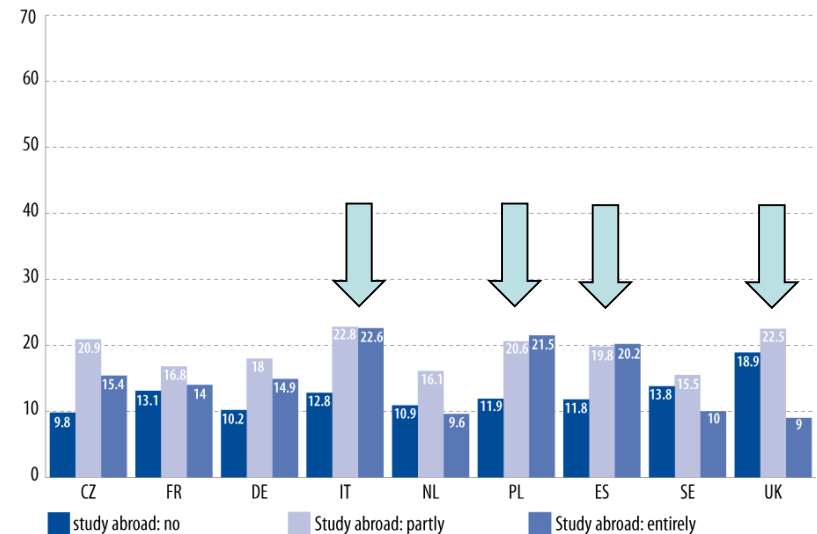
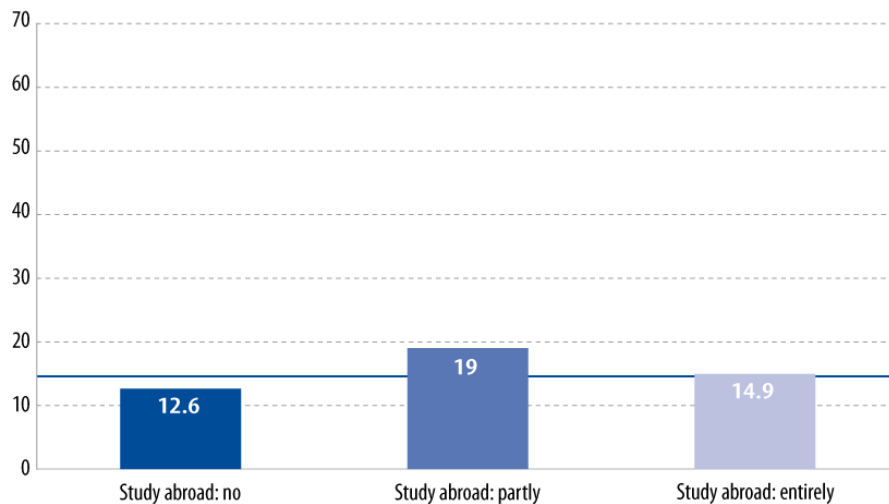
"People who don't have high grades in the right modules cannot do the job well."

Prestige of the university matters: Impact comparable to having above average grades vs. average grades



"There are universities that are extremely easy, and if on top of that the person doesn't have good marks, then this means it's not a very bright person."

Study abroad signals positive personality characteristics. But doing entire studies abroad doesn't pay off.



"Those who spent half a year abroad have a different state of mind, a certain openness."

Sometimes attributes can compensate

- Field of study-job mismatch can – to some extent – be compensated with relevant work experience.
- Not having a master's degree can be compensated with relevant work experience.
- Excellent grades important when you lack work experience. Conversely, work experience can compensate for having below average grades.

Step 2: Which skills are relevant?

Which skills are measured?

- 'Reports from assessment centre' on skills levels (top 25%, average, bottom 25%).
- Professional expertise
- General academic skills
- Innovative/creative skills
- Strategic/organizational skills
- Interpersonal skills
- Commercial/entrepreneurial skills
- **Salary** (-25%, -10%, average, +10%, +25%)



Of these 3 candidates, which one would you hire?
Remember this is a junior position for a recent higher education graduate.

Top academic,
bottom
professional

Starting salary: 0% below average for this position	Starting salary: Average for this position	Starting salary: 10% above average for this position	None of these
Professional expertise: Bottom 25%	Professional expertise: Average	Professional expertise: Top 25%	
General academic skills: Top 25%	General academic skills: Average	General academic skills: Bottom 25%	
Innovative/creative skills: Top 25%	Innovative/creative skills: Bottom 25%	Innovative/creative skills: Average	
Strategic/organizational skills: Average	Strategic/organizational skills: Bottom 25%	Strategic/organizational skills: Top 25%	
Interpersonal skills: Bottom 25%	Interpersonal skills: Top 25%	Interpersonal skills: Average	
Commercial/entrepreneurial skills: Average	Commercial/entrepreneurial skills: Bottom 25%	Commercial/entrepreneurial skills: Top 25%	

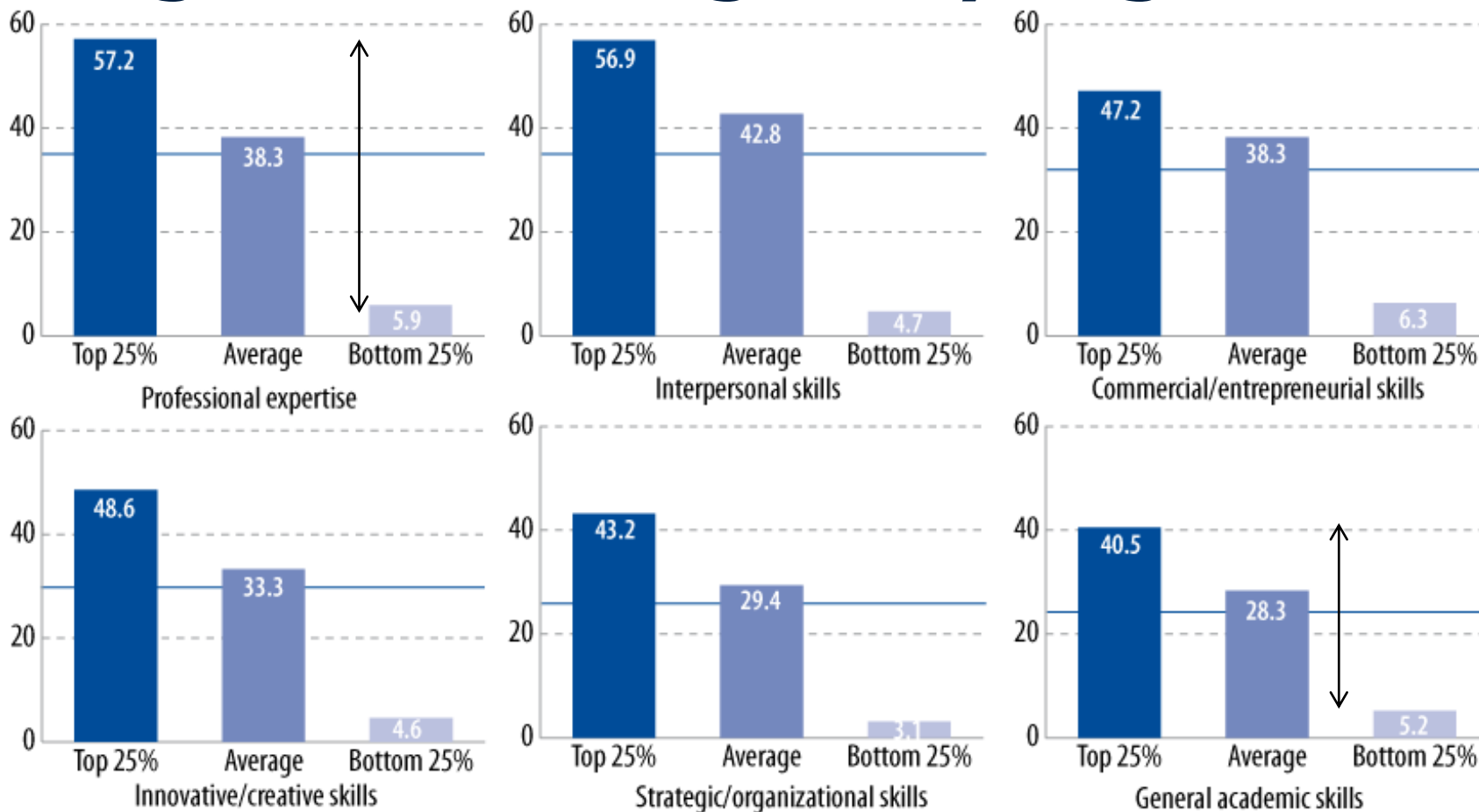
Top professional,
bottom academic

The candidate's skill level was assessed in reference to a group of candidates for similar positions.

Please, click on the button under the candidate you would choose.
And then click on the arrow symbol to continue.



Being below average very negative



Top level skills and bottom level skills

Skill	% of average salary	
	Top vs. average	Bottom vs. average
Professional expertise	17.3	-29.7
Interpersonal skills	12.9	-35.0
Commercial/entrepreneurial skills	7.4	-29.4
Innovative/creative skills	14.0	-26.3
Strategic/organizational skills	12.7	-24.1
General academic skills	11.2	-21.2

Top level skills and bottom level skills

Skill

% of average salary

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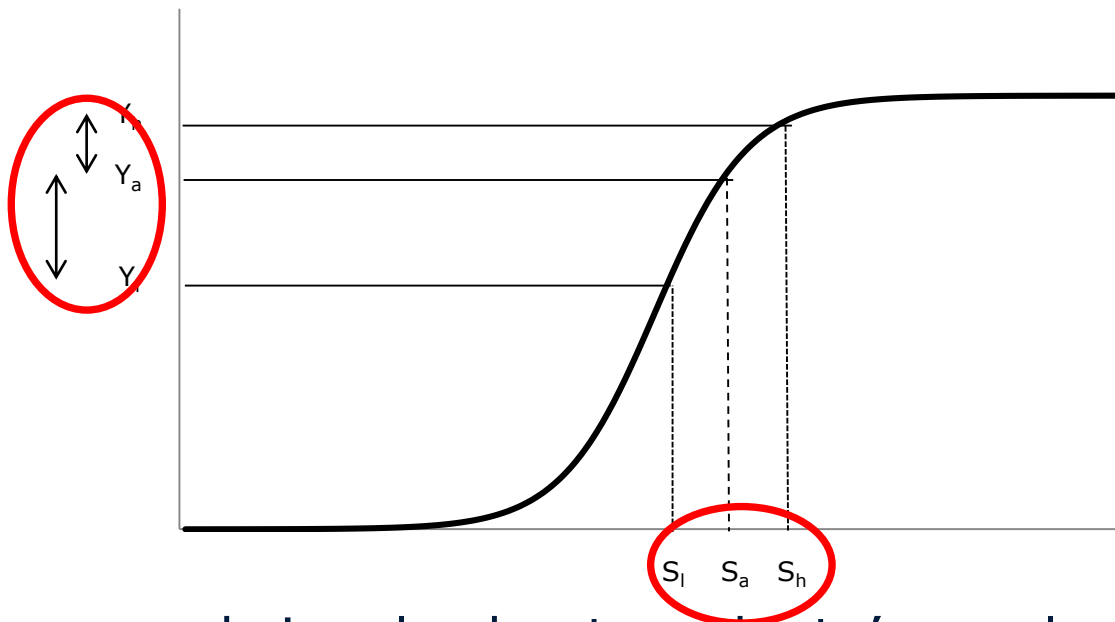
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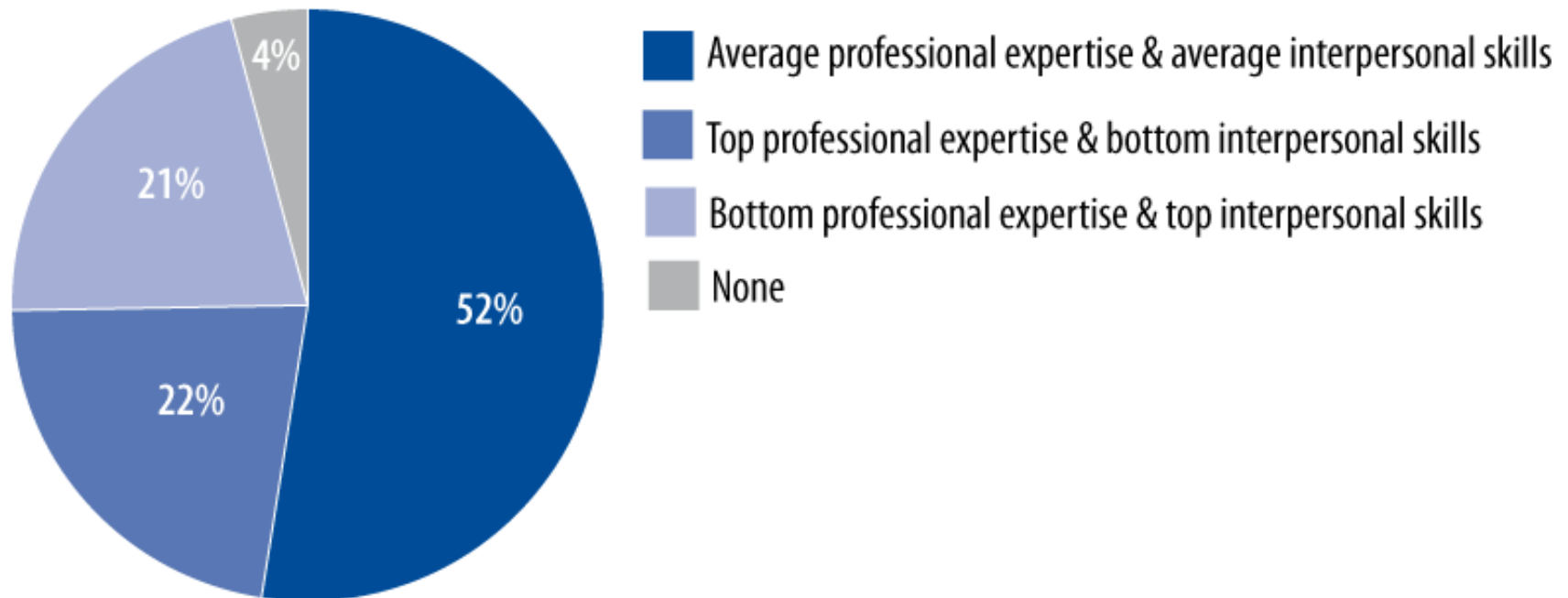
Why reliable signals are important

- The costs of underperformance are twice the possible benefits of above average performance.



- Therefore good signals about graduate's employability are so important: degree, field of study, work experience.
- Prefer average all-rounder over one-sided specialist.

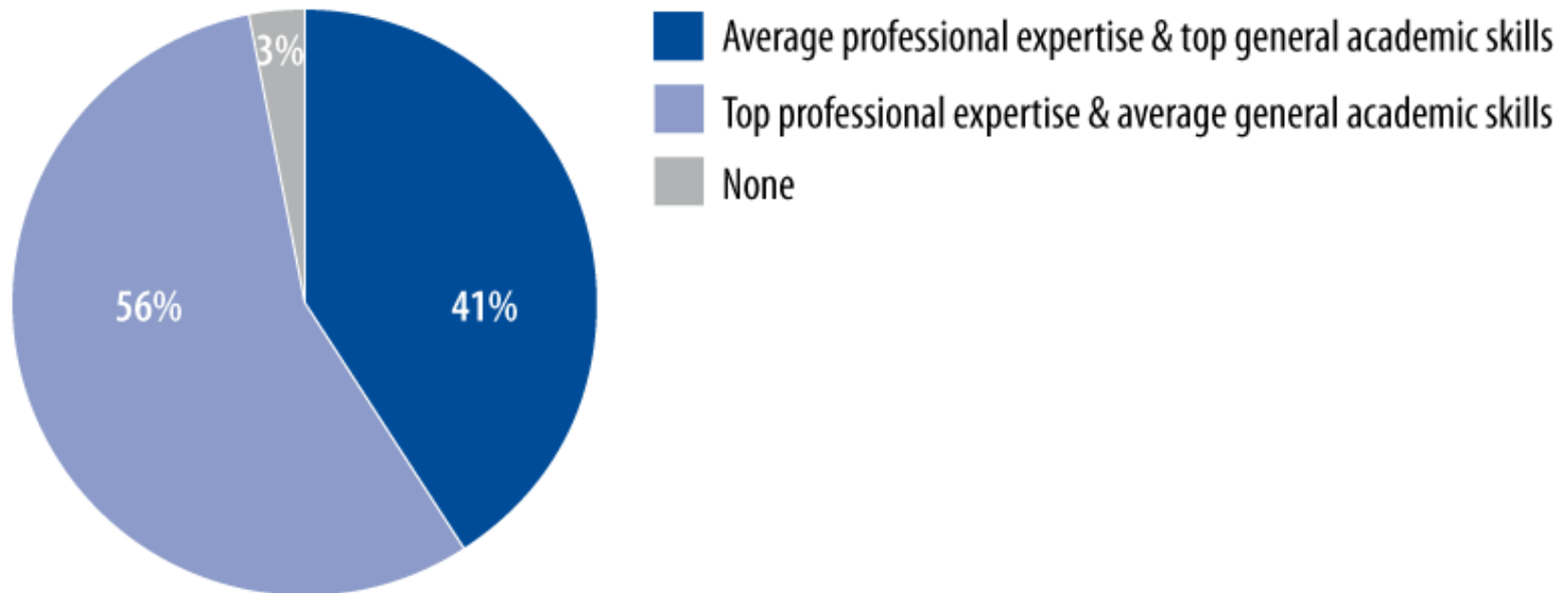
Average all-rounder preferred over one-sided specialist



On the role of professional expertise

- Professional expertise is THE driver of labour market success (even when working outside your own domain!).
- Combination of: subject-specific skills + general academic skills.
- The content is needed for development of academics skills, but the academic skills provide transfer value and ensure long-term employability.
- Specialisation should not be too narrow!
- Was, is and should be the prime focus of HE.

General academic skills cannot compensate for a lack of professional expertise



On the role of social skills

- Social skills are increasingly important
- High Performance Workplaces give workers high degree of autonomy.
- This requires: interpersonal skills + (self) management skills + strategic-organisational skills.
- But is HE the only or even the best place to develop them?

On the role of innovative and entrepreneurial skills

- Economic development in Western countries mainly dependent on innovative activities that have commercial value.
- Innovation requires not only creativity but also networking, strategic ICT skills and implementation skills.
- Entrepreneurship not restricted to self-employed.
- Not everybody needs to have this: room for specialisation.
- Can it be developed?

On the role of international orientation

- Graduates are increasingly working in an international, highly competitive world.
- HE has become more international oriented, but the world outside has developed even faster.
- Not only foreign language proficiency but also intercultural skills.

On the role of flexibility

- Graduates are faced with an insecure environment.
- Need to be able to deal with changes and uncertainties, ability to learn new things and to stay employable.
- Although flexibility is needed, it is not in itself rewarded: more 'insurance policy'.
- Strategic skills, innovative skills, or entrepreneurial skills needed to effectively deal with increasing uncertainty.

In sum: Rank order of CV attributes

- Study field/Relevant work experience
- Level of study program/Grades
- Prestige university
- Study abroad

In sum: Rank order of relevant skills

- Professional expertise (incl. general academic skills)/Social and organisational skills
- Innovative and creative skills/Commercial and entrepreneurial skills
- International skills
- Flexibility

Conclusions (1)

- Underperformance comes at great cost:
 - Costs of underperformance are twice the possible benefits of above average performance.
- Employers cannot simply pool the risks associated with variation in skills among graduates:
 - Prefer average all-rounder over one-sided specialist.
- Therefore good signals about graduate's employability are so important:
 - match between the field of study and the job tasks; relevant work experience; grades; prestige of the university.

Conclusions (2)

- Specific knowledge very important:
 - Basis for professional expertise.
 - Typical domain of HE.
 - Best predictor of short-term employability.
- General academic skills are considered to be well developed and are therefore not decisive:
 - HE successfully performs its screening and signalling function.
 - Typical domain of HE but general academic skills cannot be developed without content.

Conclusions (3)

- Strong role for interpersonal skills:
 - Underperformance detrimental.
 - But these can also effectively be developed elsewhere (e.g. team sport, student association).
- Some room for specialization: innovative/creative and commercial/entrepreneurial skills
 - Not everybody needs to have this.
 - Can it be developed?

Policy implications (1)

- Produce ideal mix of graduates instead of 'ideal' graduate.
- Never underestimate the relevance of specific knowledge.
- Innovative/creative and commercial/entrepreneurial skills crucial for economic development and therefore one of the major challenges for HE.

Policy implications (2)

- Make a good choice which skills should be developed in HE and which not.
- Time is limited, so we need to ask:
 - Is HE the most efficient environment to develop these skills?
 - What is the best age to develop these skills?
 - What is the trade-off between developing this skill instead of another?
- Need to know more about the skills production in education: research agenda needed.

These were all misconceptions

- *“It does not matter what you study, it is the degree that counts.”*
- *“Employers always prefer the highest degree. This leads to a rat-race and diploma-inflation.”*
- *“The world is changing fast. We therefore need generalists instead of specialists.”*
- *“Through Internet graduates no longer need to have specific knowledge; they just need to know where to find it.”*

Discussion

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- M. Humburg, R. van der Velden (2015), Skills and the Graduate Recruitment Process: Evidence from two discrete choice experiments, *Economics of Education Review*, 49, 24-41.
- M. Humburg, R. van der Velden (2017), What is expected of higher education graduates in the 21st century? In: C. Warhurst, K. Mayhew, D. Finegold and J. Buchanan (eds.), *The Oxford Handbook of Skills and Training*, Oxford University Press: Oxford Handbooks, pp. 201-220.
- The report “The Employability of Higher Education Graduates: The Employers’ perspective” is available at http://ec.europa.eu/education/library/study/2013/employability_en.pdf