

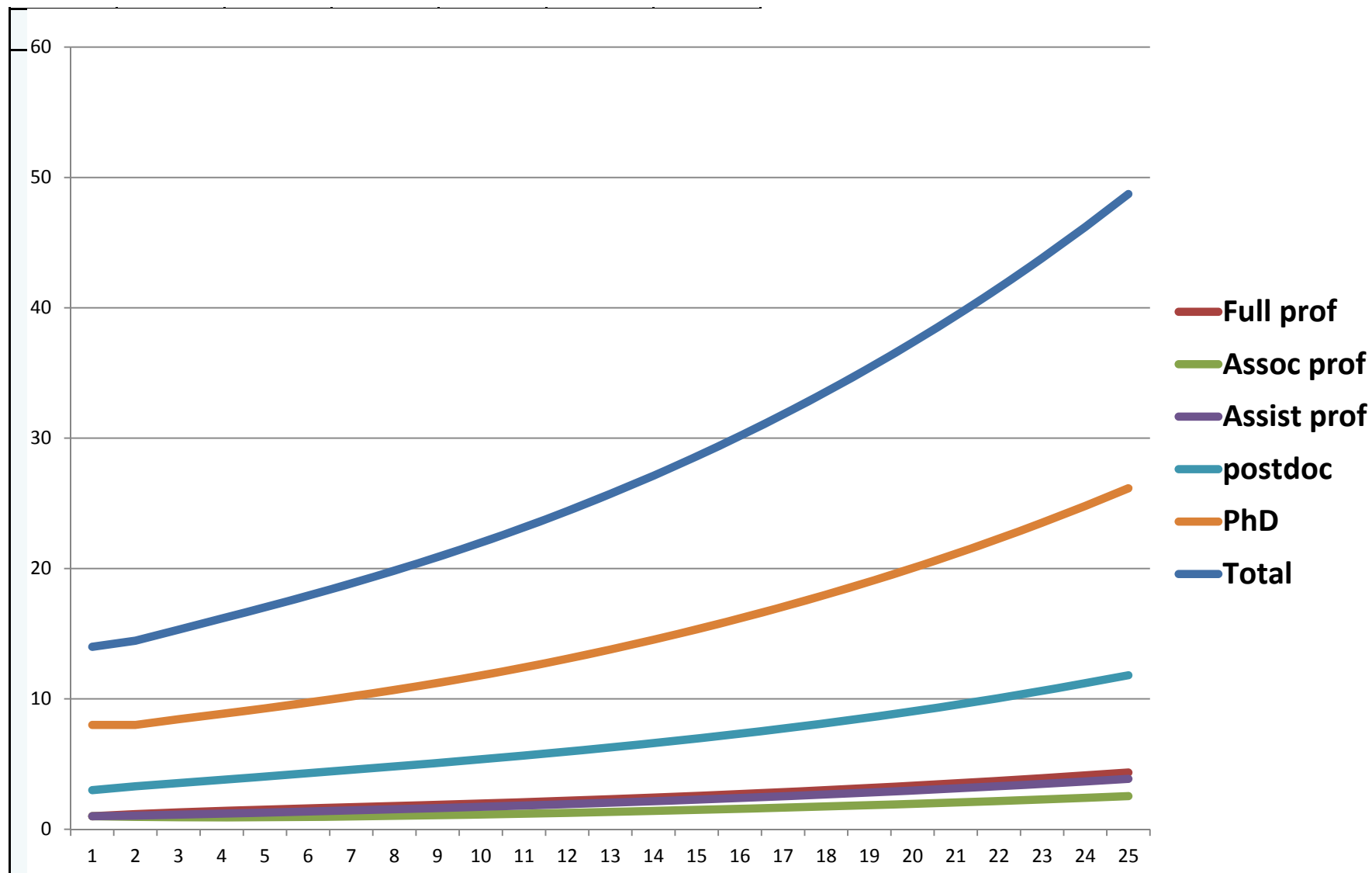


Academic careers

Tokyo, 4-12-2013

Barend van der Meulen

Science grows exponential



Outline

- War on Talent: globalisation of talent careers
- Analysing academic career systems: the case of the Netherlands
- Conclusions: how to survive after a PhD

Part 1 War for talent

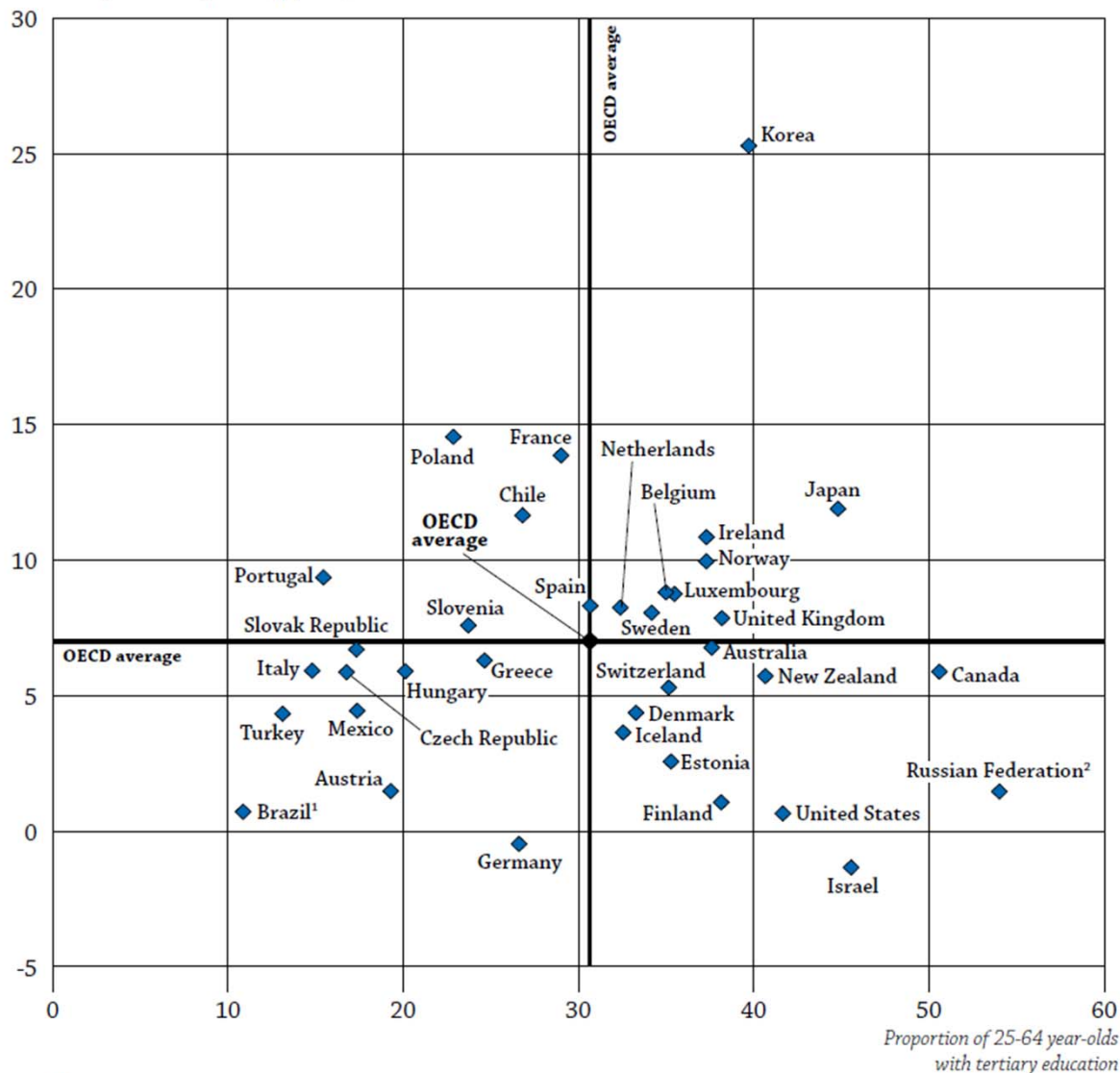
The growth of higher education

- The job market for higher educated is more and more international - especially at the top
- Higher education has increased and will increase because of the growing middle class

OECD average:

- 32% of population has higher education
- In cohort 25-34 7% more higher educated cohort 25-64

Difference between the populations of 25-34 and 25-64 year-olds with tertiary education (percentage points)



1. Year of reference 2009.

2. Year of reference 2002.

Source: OECD. Table A1.3a. See Annex 3 for notes (www.oecd.org/edu/eag2012).

StatLink <http://dx.doi.org/10.1787/888932661516>

The Global Auction

- Abundance of talent
- Selection continues and training for the selected ones
 - Within and outside universities
 - in public and private sector
- After the PhD: flexibility required – even if you go for a stable career in one discipline, company or government;
- There are winners, ...
- And so there are losers too: high education – low income.
- International debate about the value of the PhD.

Academic career programs in Europe

Land	Organisatie	Naam	Omvang beurs		Carrière-voorwaarde (max. aantal jaren na promotie)	Omvang schema	
			Duur	Bedrag (k€)		Aantal	Relatief*
Belgium	FWO	Postdoctoraal onderzoeker	3 jaar	Geen bedrag genoemd	6 jaar	Totaal 763 per 1-10-2011	Totaal mandaten 44% (incl. predoctoraal)
Denmark	DFF	Saupere Aude Postdoc grants	3 jaar	540	8 jaar	45 (2011)	10,3% (2011)
UK	ESRC	Future Research Leaders	3 jaar	360	4 jaar	~70 per jaar	
Finland	Academy of Finland	Postdoctoral researcher funding	3 jaar	Gem. 280	0-4 jaar	152 (2011)	12,4 % (2011)
Netherlands	NWO	Veni	3 jaar	250	0-3 jaar	159 (2011)	8,8% (2011)
Sweden	Vetenskapsrådet	Junior researchers	5 jaar	Min. 35	0-7 jaar		
Switzerland	SNSF	Ambizione	3 jaar	490	5 jaar	51 nieuw 18 vervolg (2011)	7,9% van budget

Part 2 Research careers in the Netherlands

The academic career system: key questions

We assume that academic careers are a result of several career games:

- How do we perceive the career*?
- Analysing career “systems”
 - Who are the main actors in an academic career?
 - What are the “games” [and the rules of the games]?
 - What are the actor strategies?

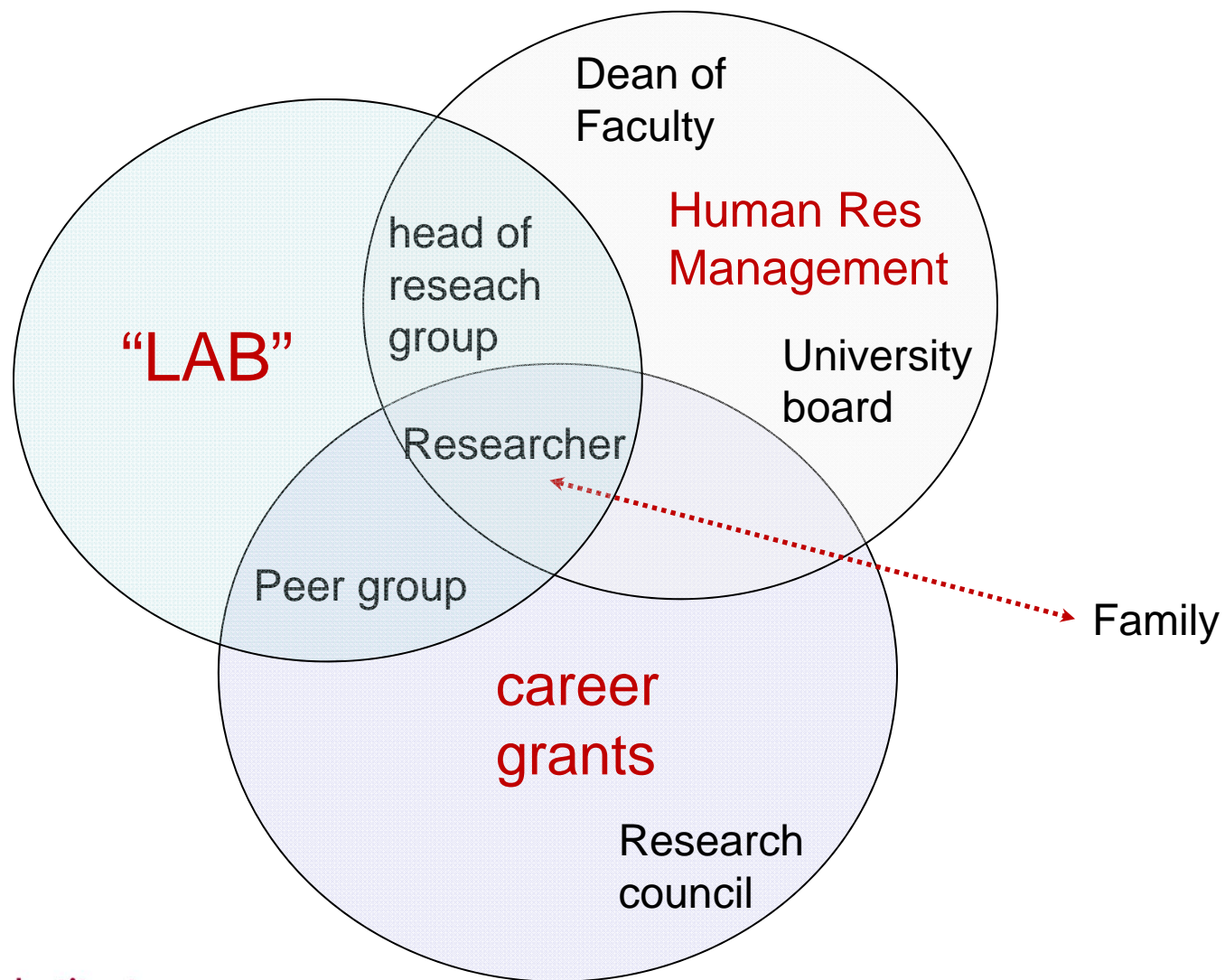
*Note: here career is not just the succesfull one that someone makes him/herself, but also the succesive jobs someone not so succesfull has.

Talent selection & -development in the Netherlands

Result of “*strategies*” of

- Individual researchers since they have their PhD:
 - Career preferences
 - Individual situations (family,)
- Professors
 - Scientific management van *research group*
- University as organisation
 - Uncertainty reduction about quality and performances of tenured staff
 - Increased coaching and training of staff
- NWO
 - Selection of best researchers
- And family

For the Netherlands



Analysis: Five steps

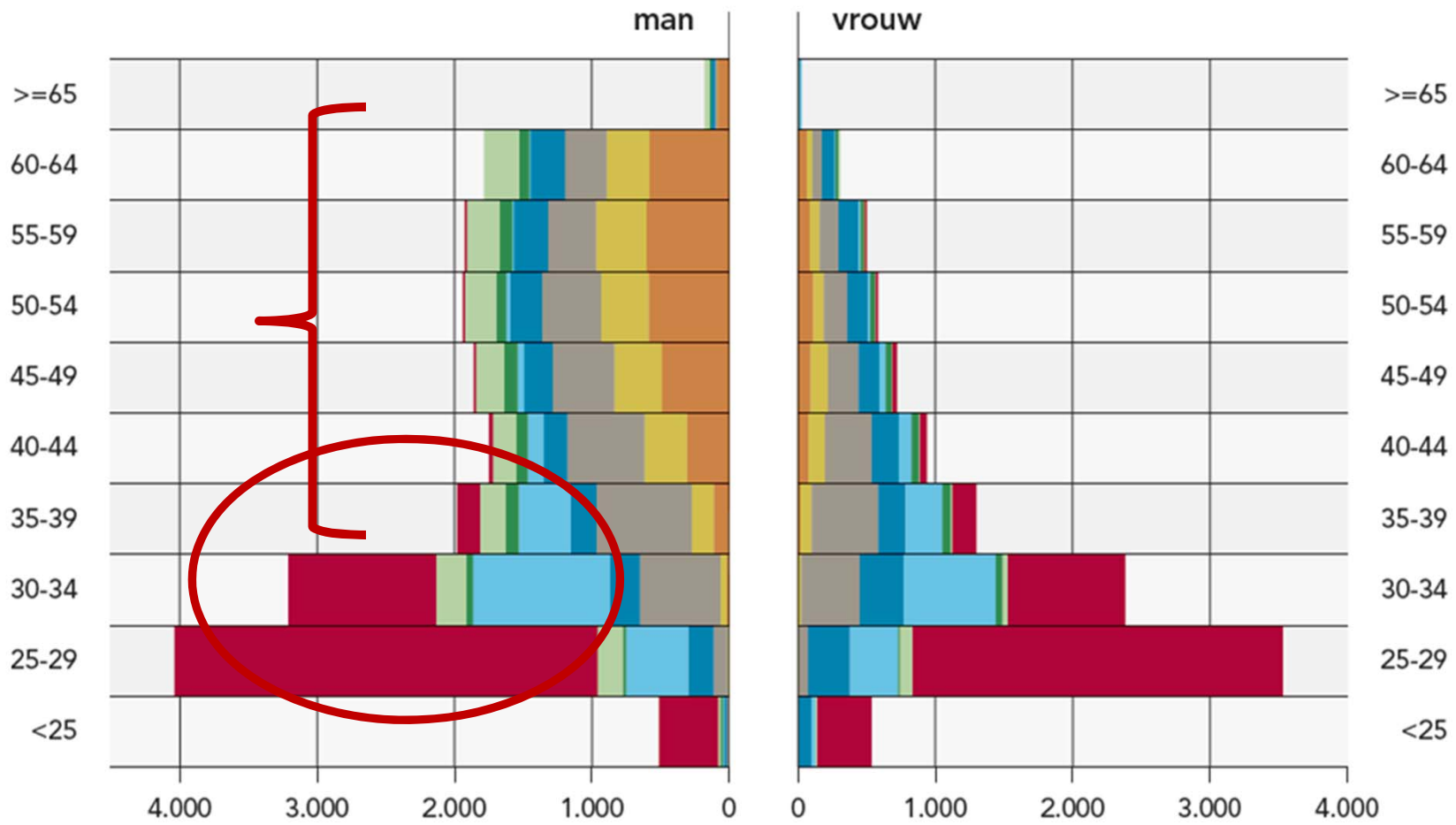
1. Size of the “system”
2. Talent selection within universities
3. Career strategies of the researchers
4. Talent selection within research council
5. Interactions between the two.

1. Academic career house

- How much scientific staff and in which positions?
- What is the internal and external mobility?

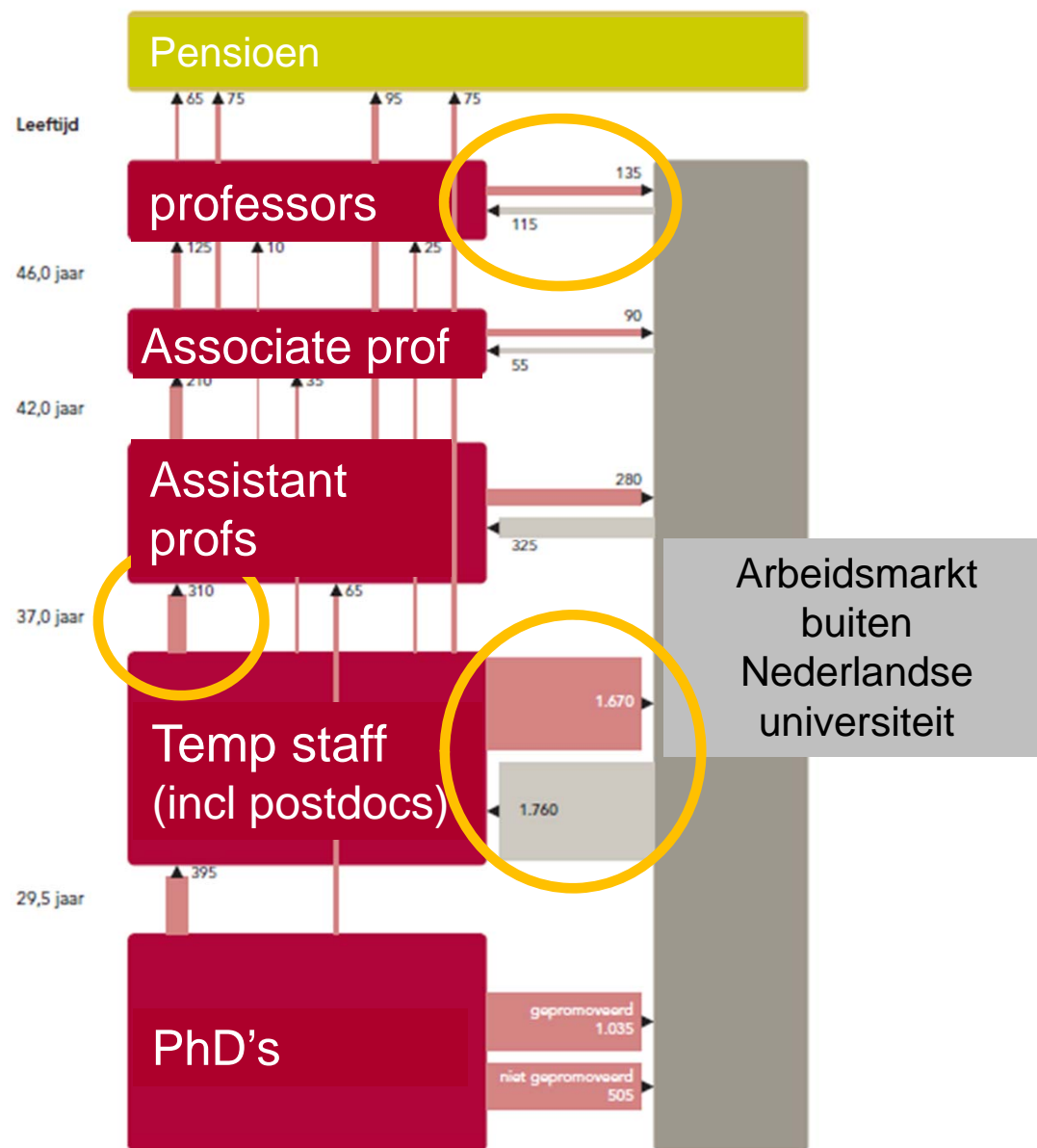
[NB: academic career policies use the metaphor of a pyramid]

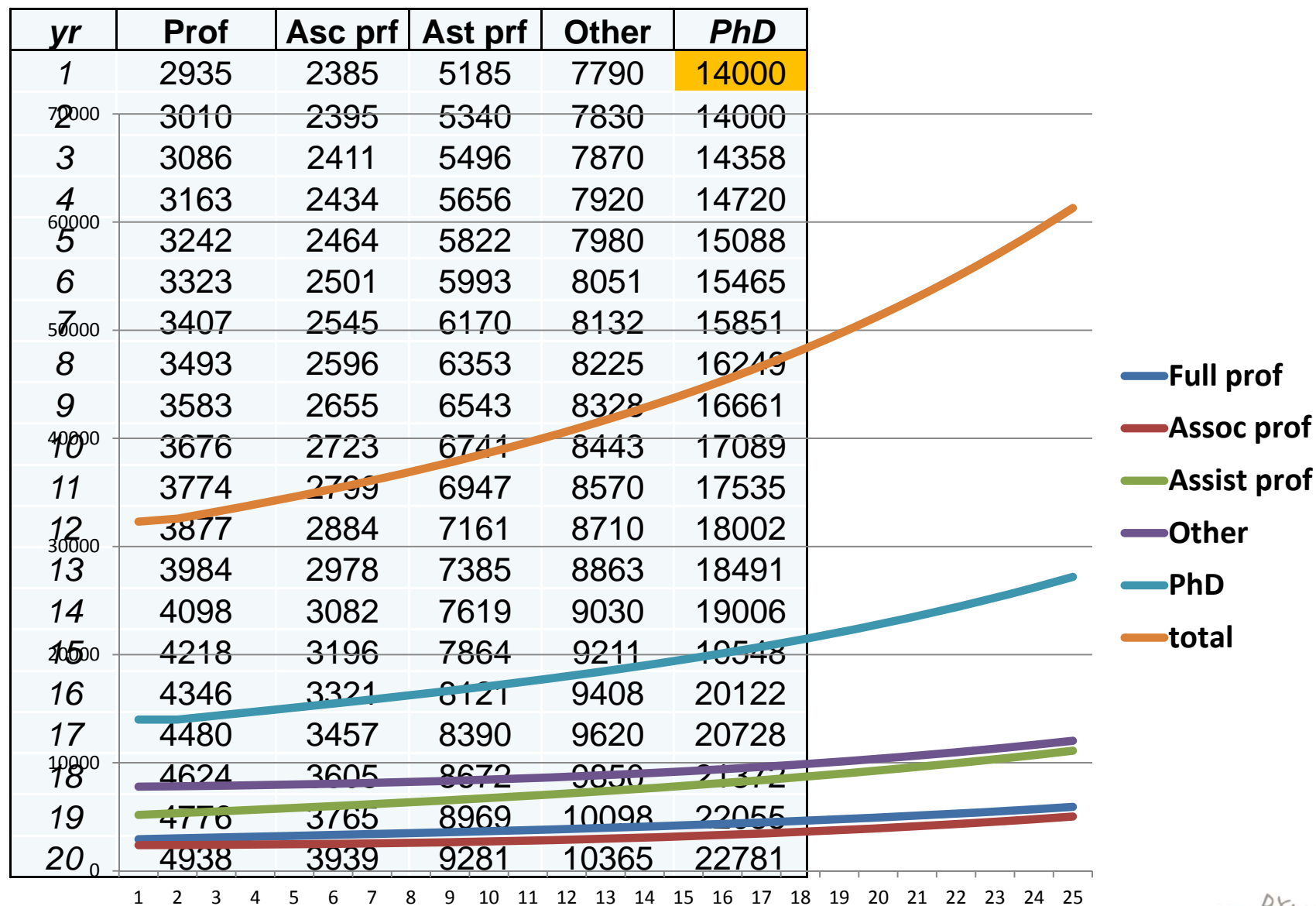
Figuur 1 Het academisch carrièrehuis naar leeftijd, functie en geslacht



- Hoogleraar
- Universitair docent
- Postdoc
- Overig WP
- Universitair hoofddocent
- Docent
- Onderzoeker
- Promovendus

Figuur 3 Belangrijkste arbeidsmarktbevingen, gemiddelde per jaar in aantal personen (periode 2003-2011)³





Postdoc phase is a crucial one

- Not a formal category, but more and more have “postdoc” position. 40% increase between 2005 and 2010
- New transition period of ~7 years between education and tenured academic period
- Limited throughput to tenure positions. Substantial mobilities with other organisations (non academic or/and non Dutch univ)

Crucial for both individual and the talent selection policies

Step 2 Internal talent selection in universities (1)

- Traditional responsibility of professor, accountable to dean. (professional control of job entry) “Lab” focused
- Selection based on mix of:
 - “Professional qualities”: scientific performances (incl research skills)
 - Social skills: contribution to group and “lab” culture
 - Personal qualities: motivation, creativity,
- With risk of inbreed, old boys networks etc.

Internal talent selection in universities (2)

- HRM has become part of university policies
 - Support for young researchers to apply for new (career) grants
 - Coaching schemes for young researchers
 - Management courses for young team leaders and professors
- Selection increasingly through procedures and by criteria set at university level:
 - *increased transparency, but who sets criteria and what*
- Less professional control – more management control

- *If there is plenty of talent, university rules the game*

Step 3. Position of postdoc talents

- Pairwise comparison of researchers who stayed in research system and who left. Both seen as talent when postdoc
- Interviews about career choices
 1. Job uncertainty is high
 2. Talent leaves university because:
 1. promises made can often not be made true
 2. Good offers from other employers
 3. Family matters
 3. Those who make it, perceive it as being lucky

Postdoc (UMC , interview 2011):

'... you really need to be determined to go for research, to stay in research, because there are only few tenure positions. En often there are postdoc positions just for 2-3 years ... and then you are more or less just busy caring for results that can be written down, to have output and then be able to submit new grant proposals. I am glad, I go into the clinic soon and don't need to worry about that sort of things. Other people tell the same. They go to industry because they really loose their motivation when in fact they are mainly busy with raising funds for themselves, and I think, they many times do not have time to do the real research, just because you are always thinking about that stupid money.'

courtesy: Inge van der Weijden

Step 4: Career grants The Netherlands

- **VENI** < 3y after PhD to set up own postdoc project
~160 per year | 250.000€ | 3 years period
- **VIDI** < 8y after PhD to set up own research line
~ 90 per year | 800.000€ | 5 years period
- **VICI** < 15y after PhD to set up own research team
~ 30 per year | 1,5M€ | 5 years period

- Selection procedure?
- What are the costs?
- Are those selected indeed the bests?

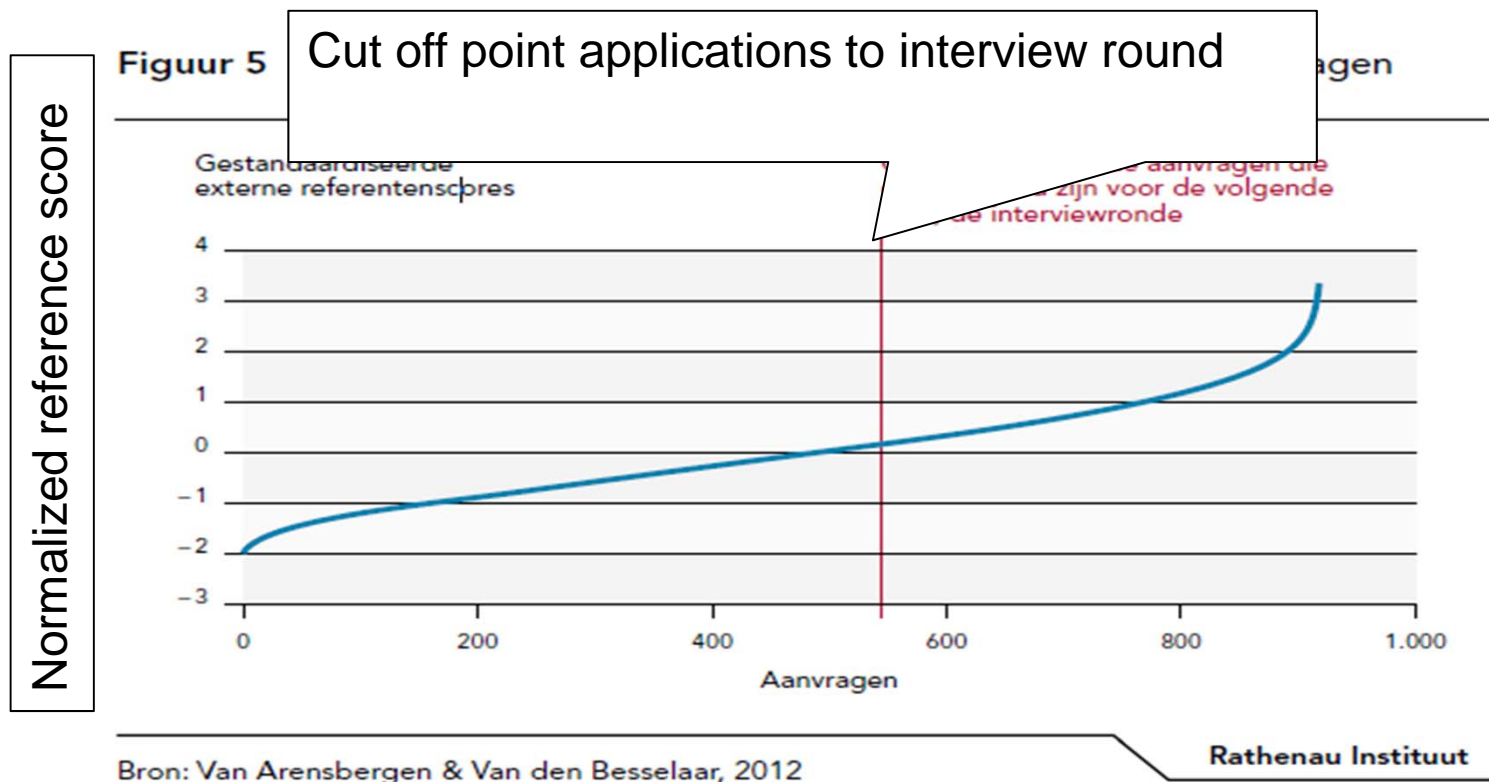
Selection procedure VENI

1. Check Application complete & correct	100%
2. Preselection by commission	61%
3. Peer review + respons applicants	
4. First selection by panel	35%
5. Interview and final selection	18% acceptance

Costs of selection procedure VENI (2011)

0. Writing applications	100%	8,6 M € (953x 9.000€)
1. Check Application complete & correct	100%	
2. Preselection by panel	61%	216k € 120 members * 3 days
3. Peer review + respons applicants		150k€ 2 peers per application * 2 hours
4. First selection by panel	35%	108k€ 120 members * 1,5 days
5. Interview and final selection	18%	396k€ 120 members * 5,5 days
Total budget allocated		40M€
		9,5M€

Selection uncertainty

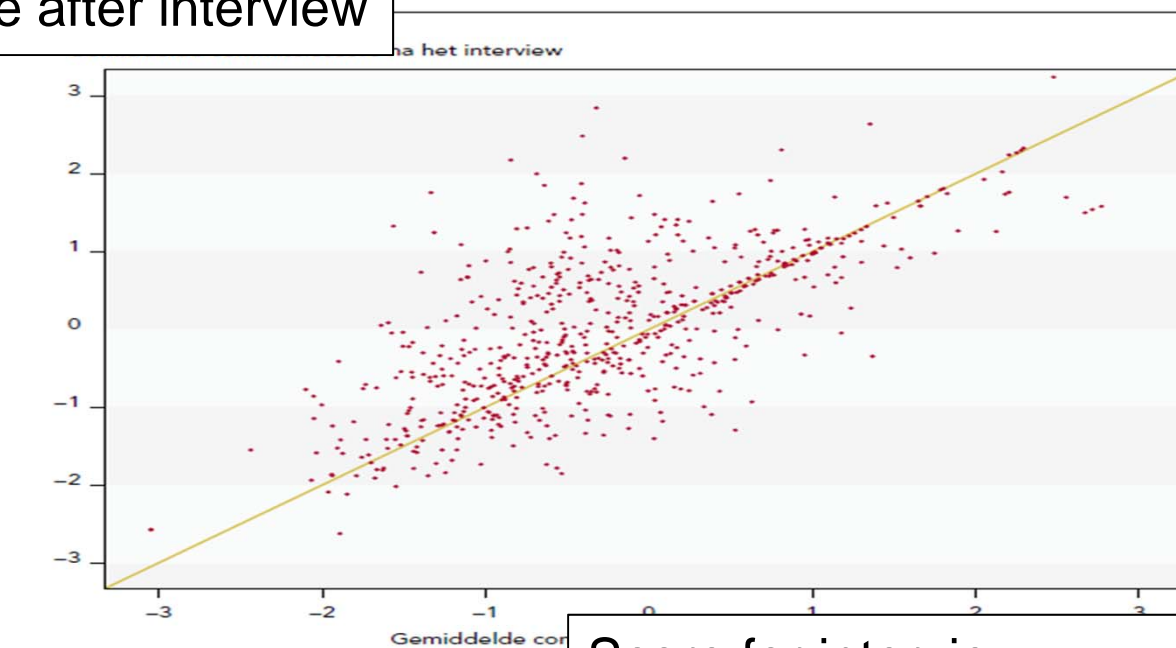


Difference between someone who gets a grant and someone not is marginal around the cut off point.

Selection Uncertainty

Figuur 4 Aanvragen geordend op basis van gemiddelde commissiescore

Score after interview



Score for interview

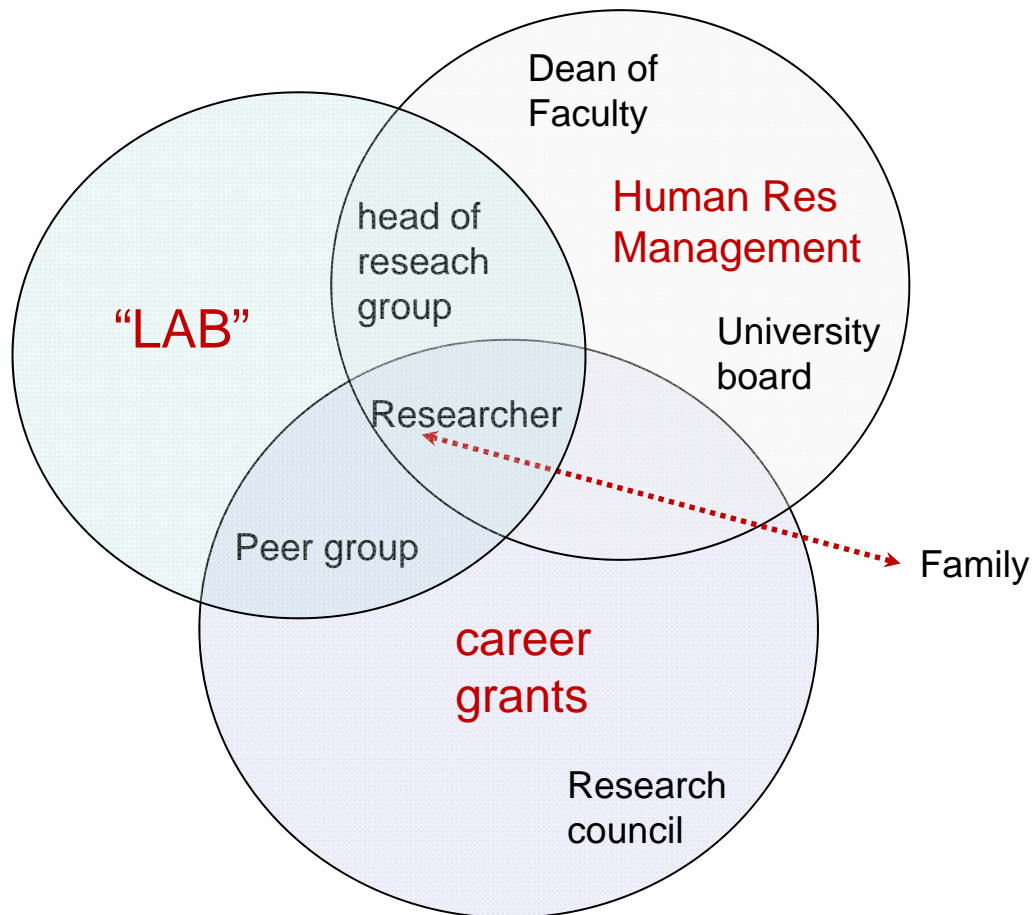
Bron: Van Arensbergen & Van den Besselaar, 20

3. Publication en citation performance of top researchers not granted is not different from researchers granted

Step 5 Result of the combined strategies

- Job uncertainty of individual researchers has increased strongly
 - Long period between PhD and tenure position
- Because of quality of education and transparency of criteria there is much talent and a strong competition;
- Universities can impose performance criteria quite easily;
- Professors are in an ambiguous position and perceive a discrepancy between performance criteria university and those of the lab.
- Career grants are perceived as an essential criteria for tenure
- Selection procedure NWO though creates artificial division between haves and have not..

System effects and second order effects



1. Tension between "Lab" policies and HRM
2. Talent policies create more talent
3. HRM dependent on career grant
4. Career grants not just for the best

Part 3 How to survive after your PhD

In conclusion

- PhD's are not special anymore
- There are much more PhD's than research positions
- Many PhD's move into postdoc positions
- Postdoc phase is a high stake competition with much more losers than winners
- Postdoc phase is not preparing well for non-academic jobs

- So what to do: Two questions ; some advice

How did you get were you know are?

1. Did you become PhD student because
 1. you want a PhD
 2. you want to be a scientist
 3. you want a job
 4. you want to be a student for some more years

If you have crossed '3' or '4' avoid that you give the same answers when you have a "postdoc position".

Scientist or researcher or something else

2. What do you like most about your work

1. Being a PhD student
2. Doing research
3. Being a scientist and explore new ideas, go to conferences, discuss, publish etc.
4. None at all.

If you have crossed “3”: use all the talent programs and facilities of the universities as much as you can.

And find a scientific mentor asap (if your professor isn't yet)

What if you don't want a scientific career?

- Do not despair. You don't have to be a loser.
- Most of your peers will not have it and the sooner you realise it, the better you will enter the job market
- Start today to complement your scientific training and explore other skills and interests (without losing track of your PhD)
- Do not expect your professor to support you in your career;
- Instead look around and talk to friends of friends and family of family
 - about their jobs
 - about your motivation and competences
- **Find a coach for your non academic career.**

