



**NHS**

Health Education North West

**PASS**

PREDICTING AND SECURING SUCCESS



# Provider profiling

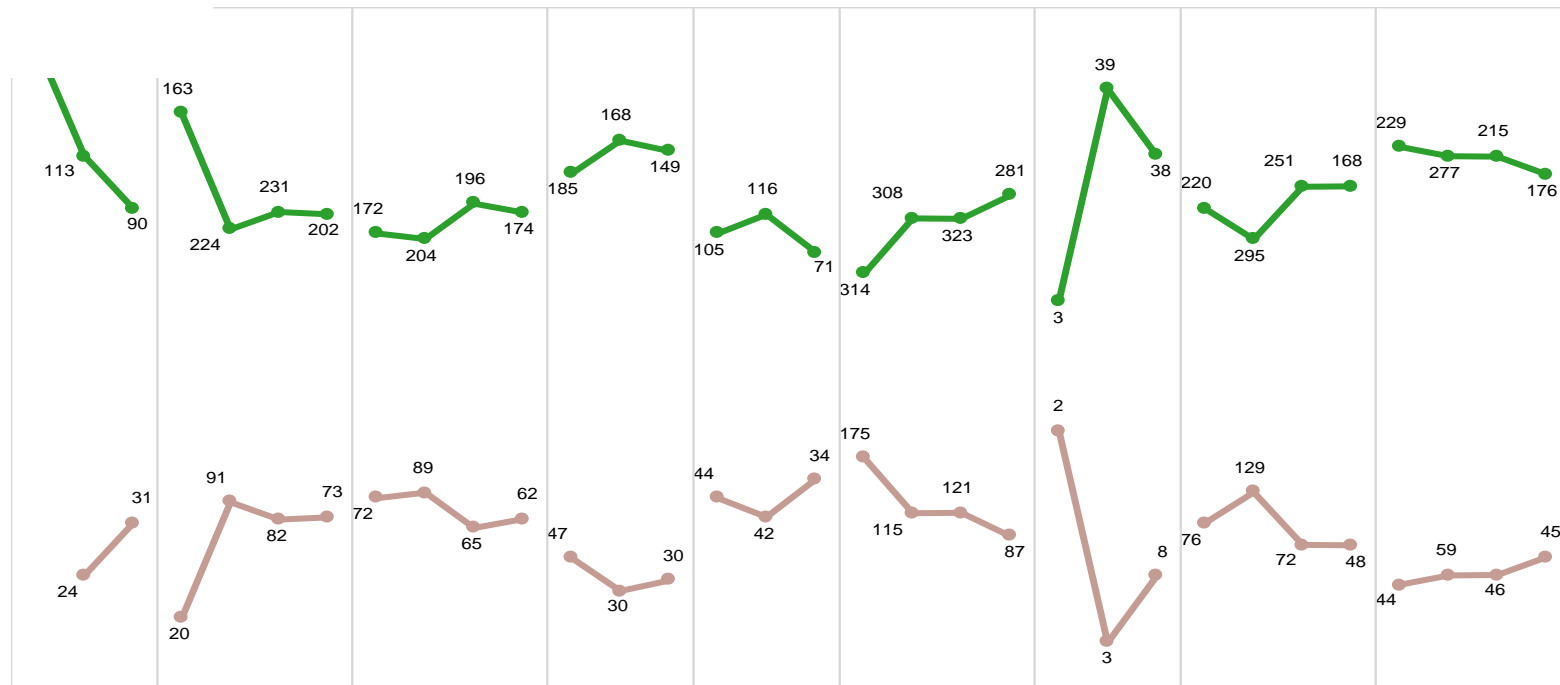
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TO REDUCE AVOIDABLE ATTRITION

# Apparent success changes over time

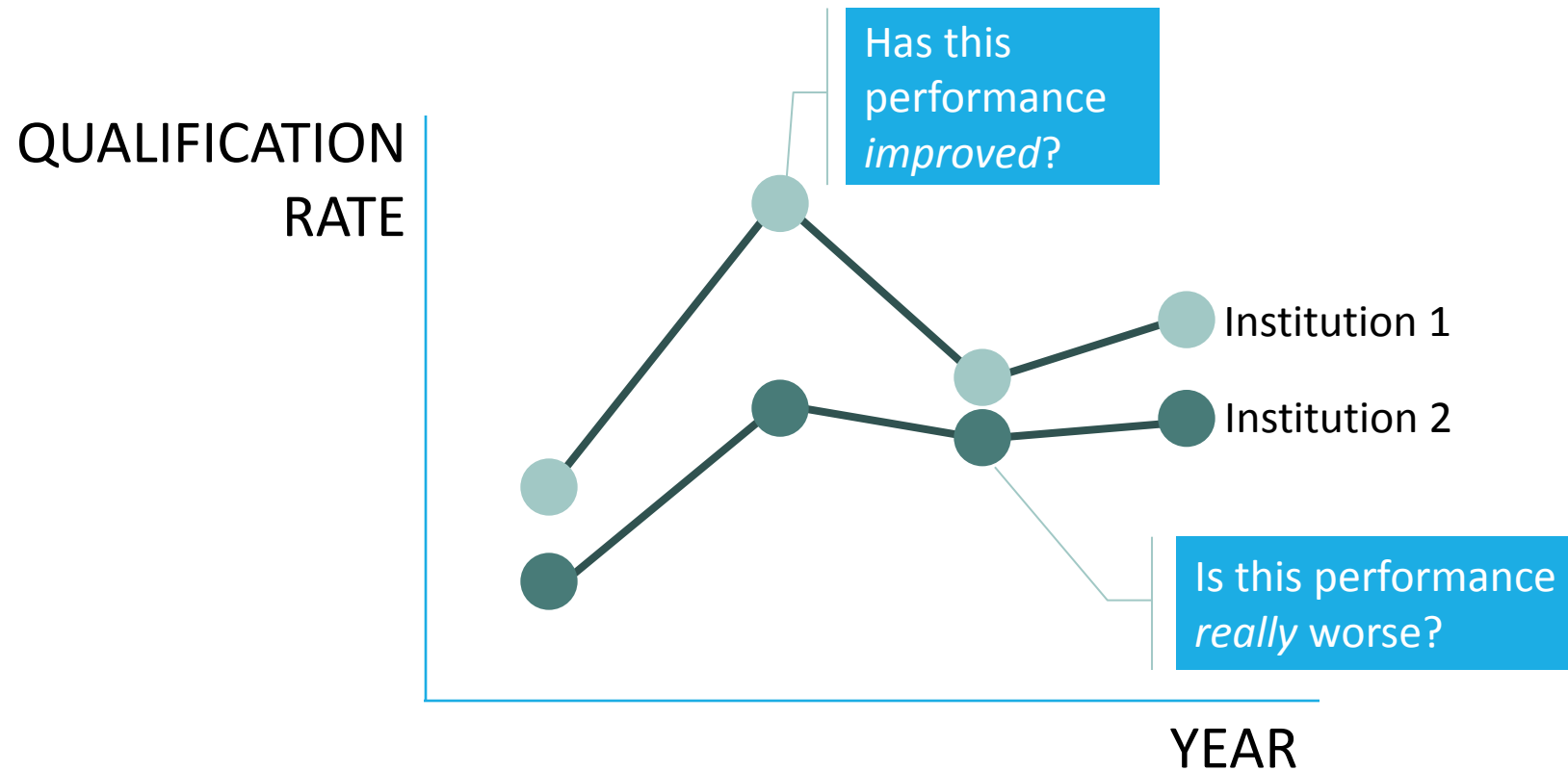
Qualification & discontinuation rates of students on Adult Nursing  
(starting between 2008 and 2011)

Qualify



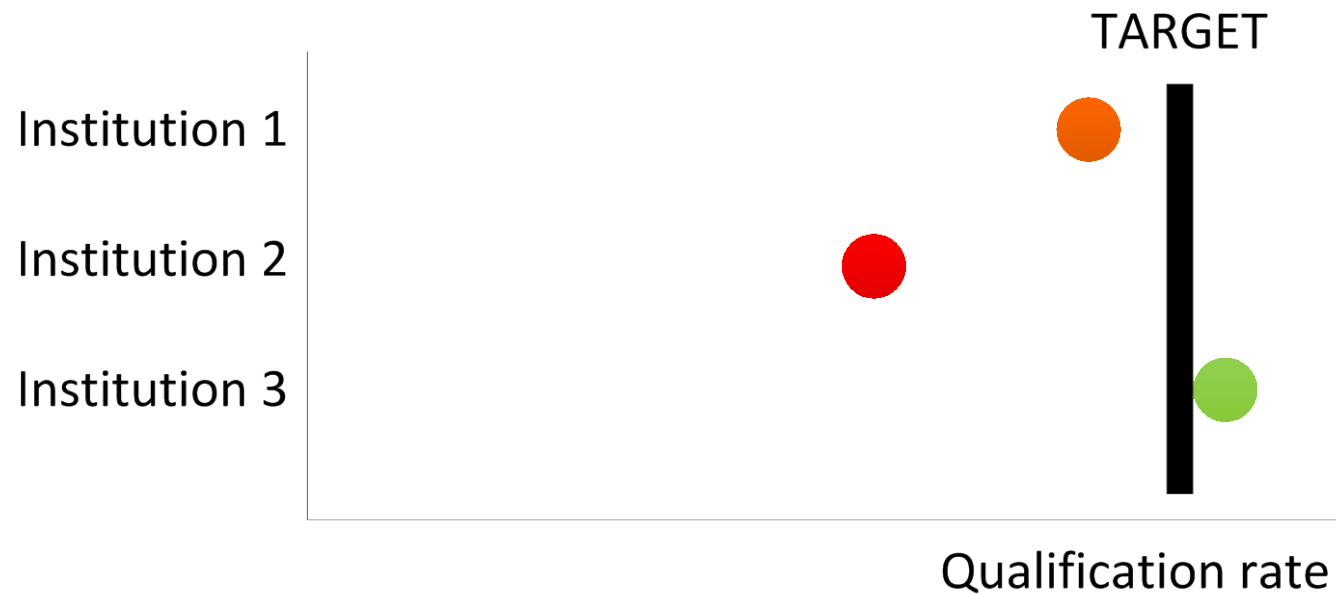
# But is that change good, or bad?

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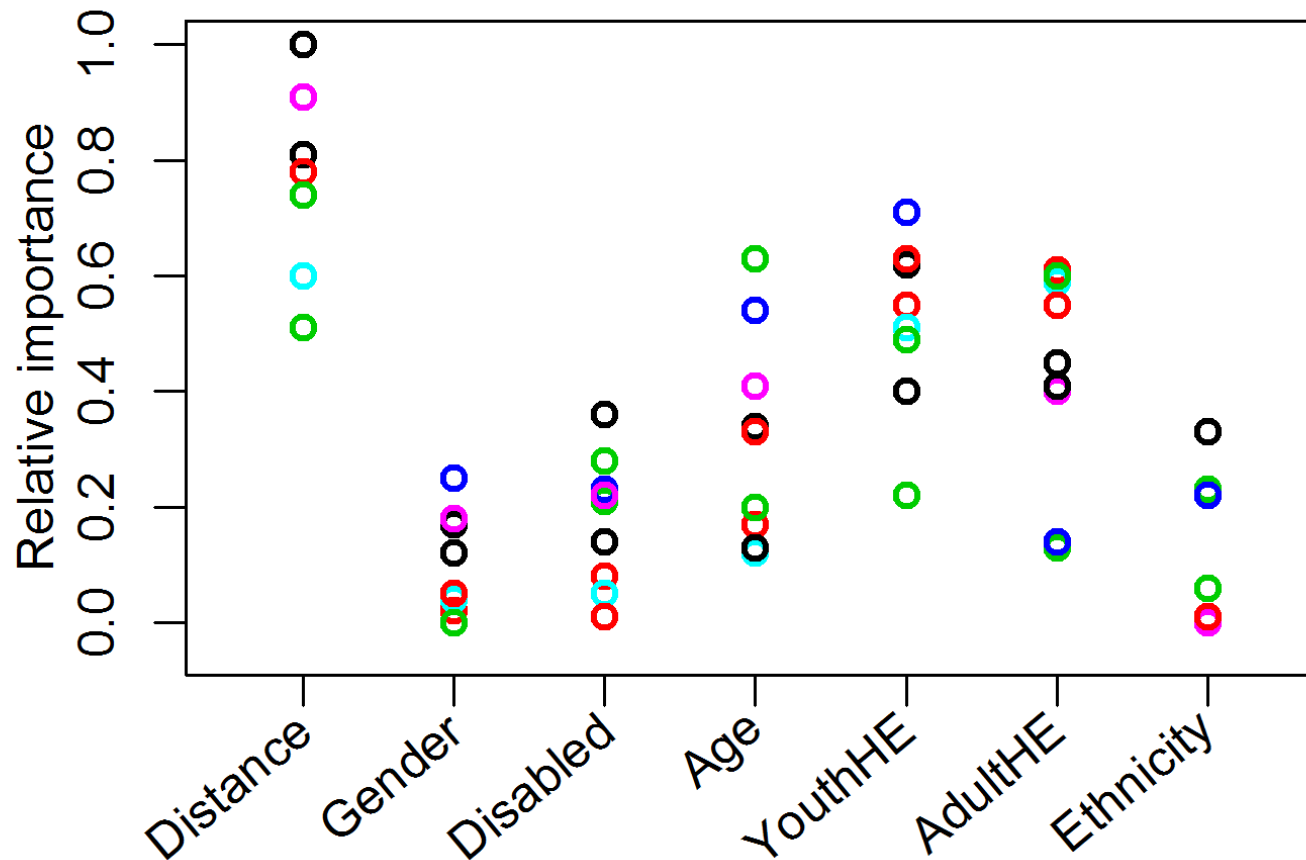
# If yes & yes, then hold everyone to an absolute standard...

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Target based on 'acceptable attrition'

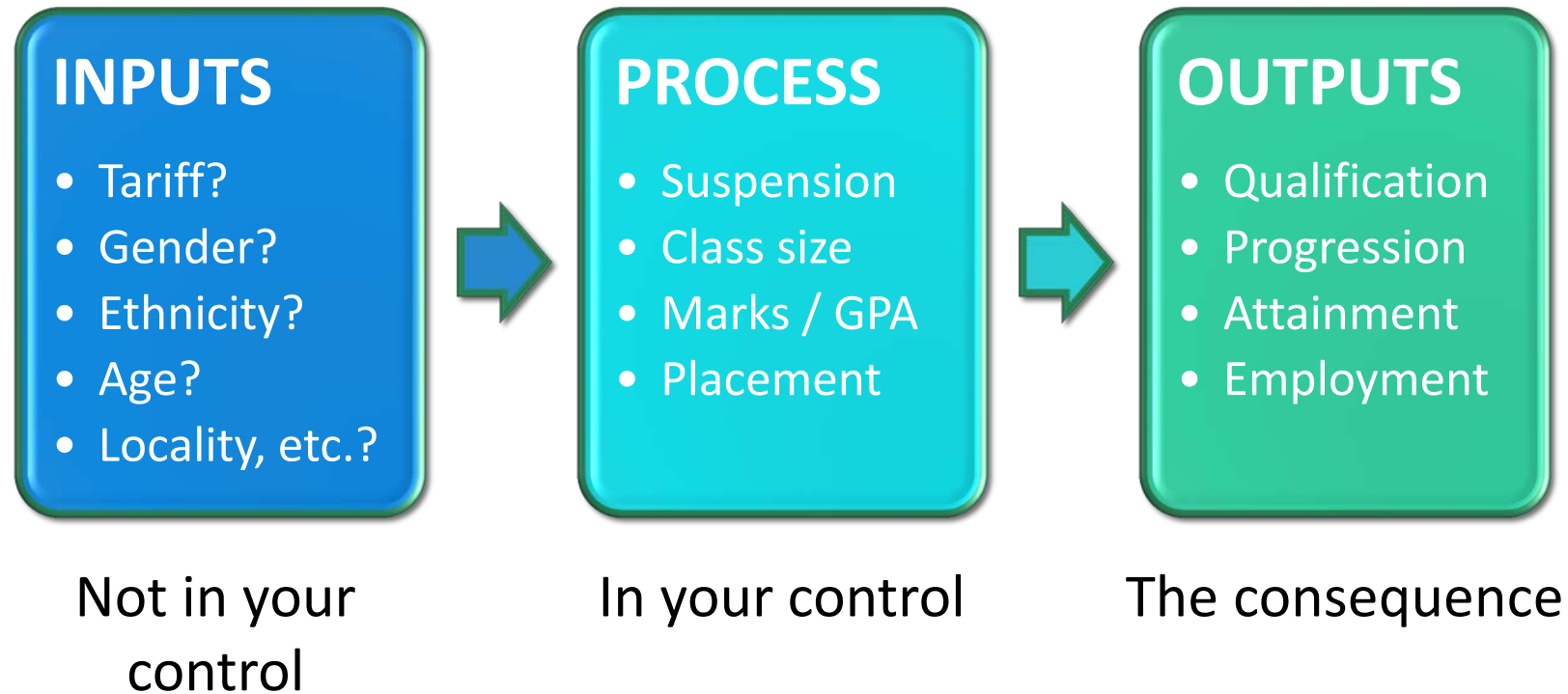
# But students are different and that matters!



Relative importance by factor. All HEIs. Adult Nursing only

# Why do student differences matter?

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# Creating a useful benchmark

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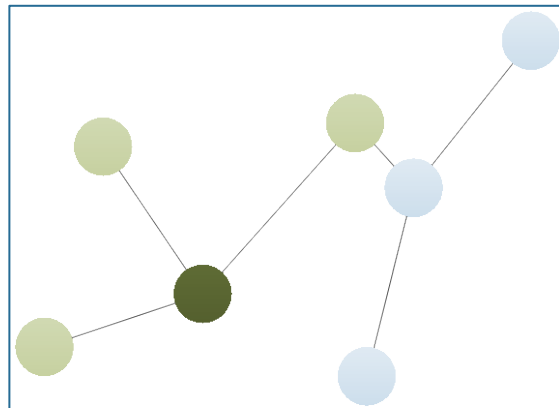
TWO BIG QUESTIONS



# Compare with other institutions, or compare with a number?

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## 1. MOST SIMILAR



Calculate 'distance' between institutions, using the factors, then compare against the most similar

## 2. EXPECTED BENCHMARK

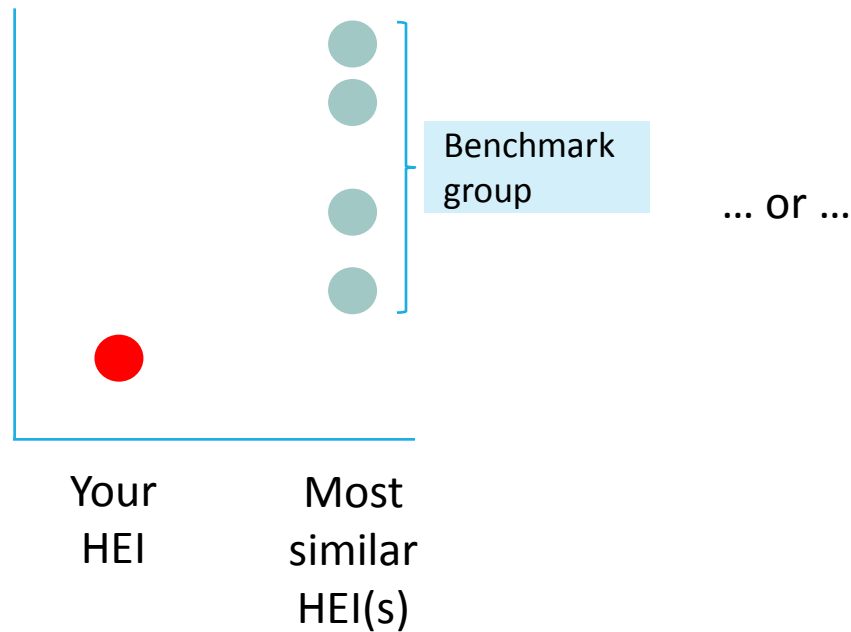
		Institutional populations			
Age	Sex	Sector rates	A	B	C
Young	Male	50%	10	10	20
	Female	60%	20	5	15
Mature	Male	40%	5	20	5
	Female	55%	10	10	5
Institutional benchmarks			54%	48%	53%

Calculate 'expected' / average benchmark score, based on the factors

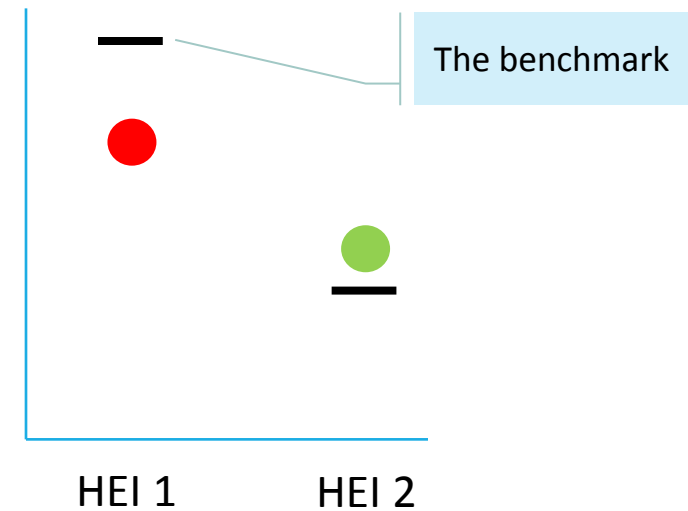
# Compare with institutions, or compare with against a number?

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Direct comparison against your most similar HEI(s)



Comparison against a calculated benchmark



# How exactly to compare?

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**DIRECT**

What if all universities had the same students?

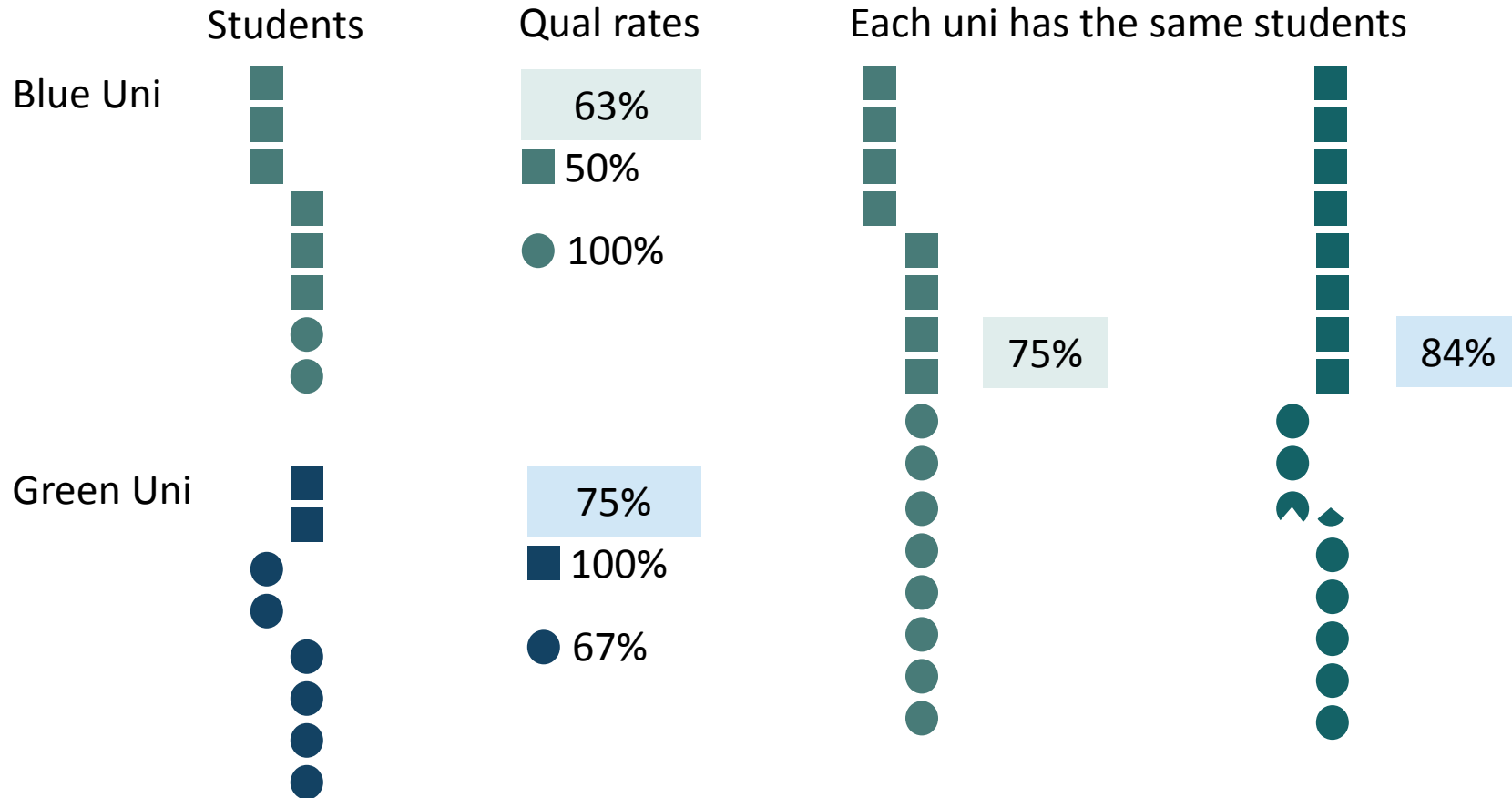
How well would you do if the 'average' cohort attended your institution?

**INDIRECT**

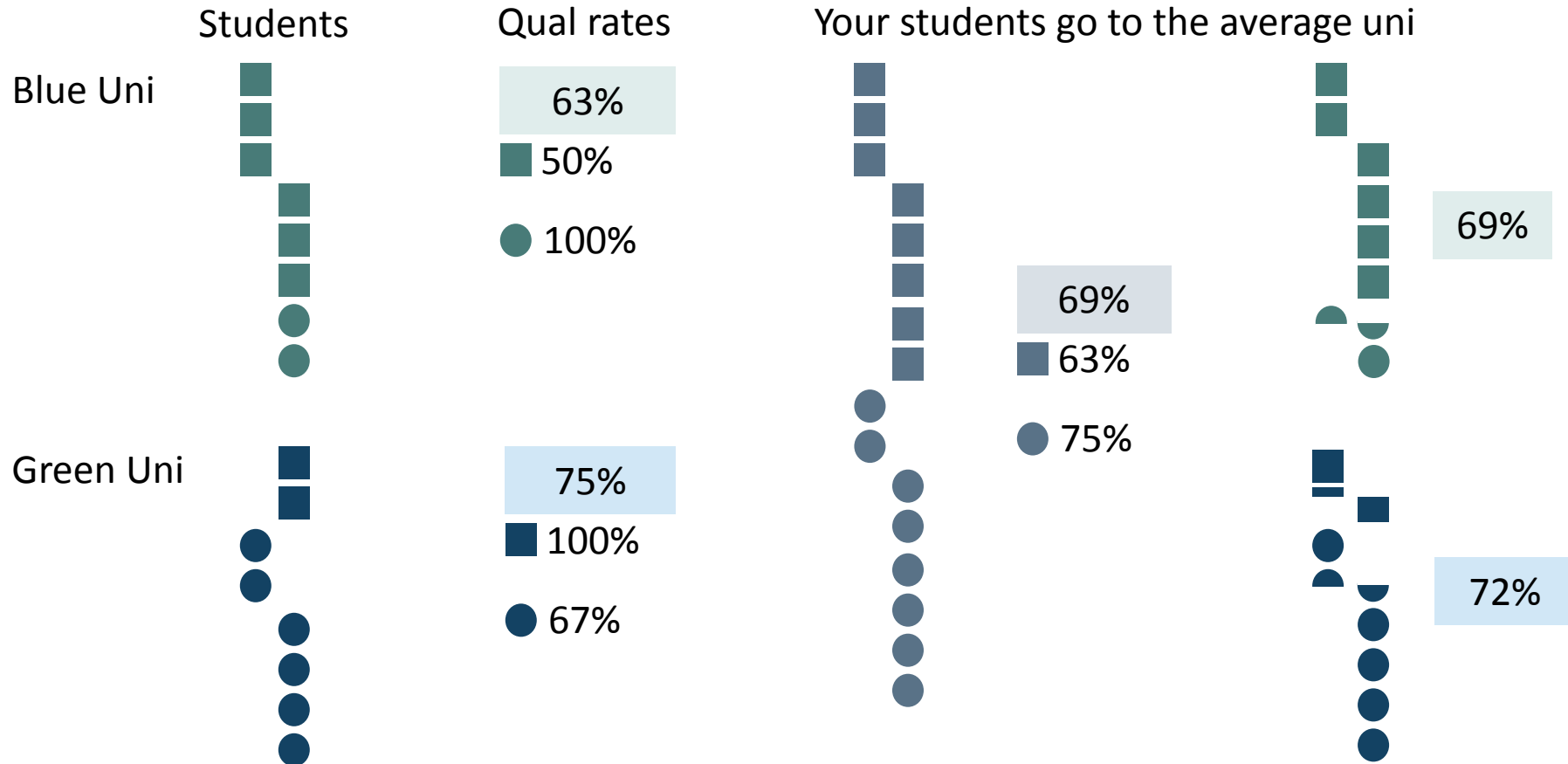
What if *your* students went to 'the average' university?

How well would your students do if they went to the average institution?

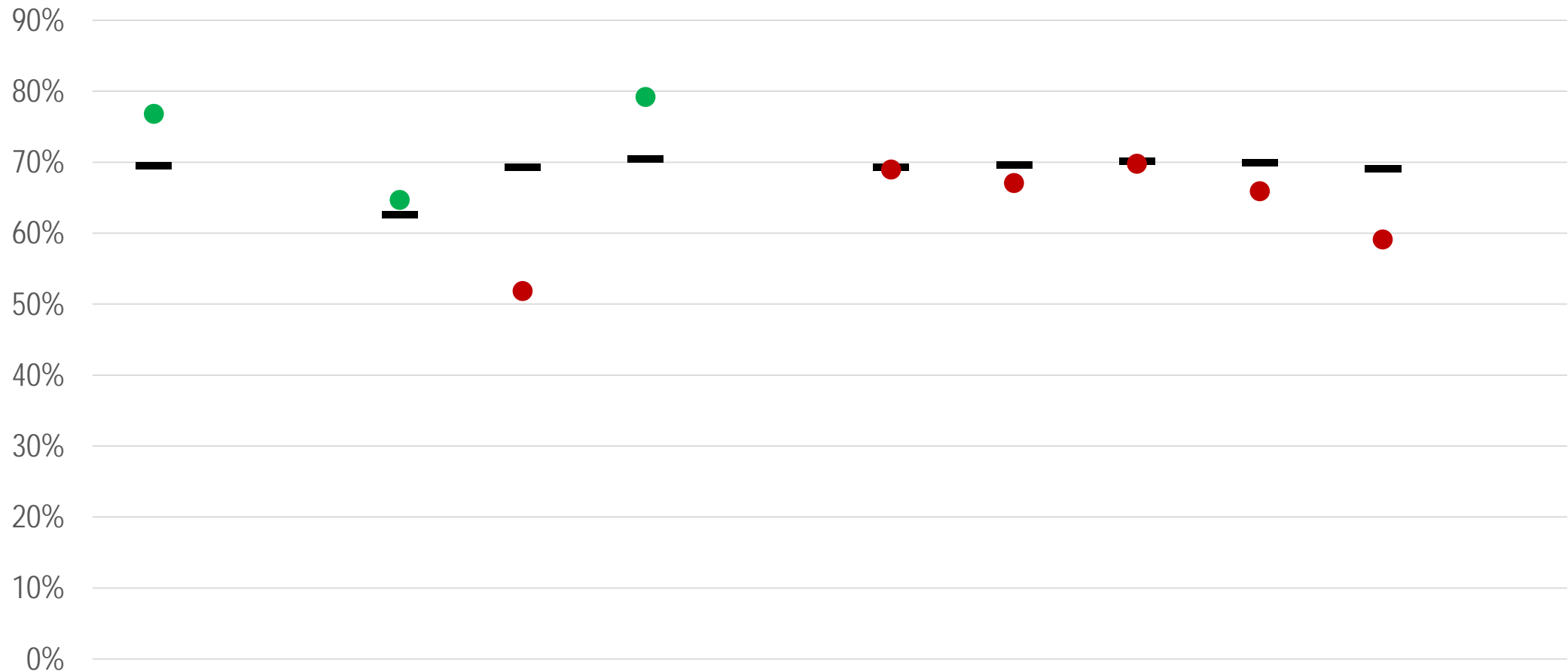
# Direct benchmark



# Indirect benchmark



# Illustrative output: actual performance compared with calculated benchmark



# Building an indirect benchmark approach

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# The outline benchmarking calculation

Gender	Age on entry	From High HE participation neighbourhood	Students starting	Students completing	Qualification rate	HEI 1 Starting
<b>Male</b>	Young	High	10	5	50%	
		Low	5	5	100%	
	Mature	High	25	20	75%	
		Low	30	20	67%	20
<b>Female</b>	Young	High	80	60	75%	
		Low	140	110	79%	
	Mature	High	80	70	88%	
		Low	160	150	94%	100

Example numbers and factors!

HEI 1 benchmark  
 $= (20 \times 67\% + 100 \times 94\%) / 120$   
 $= 90\%$



# Issue: which factors?

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Factors need to measure the same characteristic for every institution.

- E.g. distance from Home Address to Institution
- For less prestigious institutions = commuting time and inconvenience (large distances cause difficulties for student progression)
- For more prestigious institutions = distance people willing to move to attend a prestigious university (large distances are a symptom of attracting more academically capable students).

Factors should not measure the same (or similar characteristic):

- E.g. should not include both adult participation in HE *and* youth participation in HE

Tariff (from A levels, BTECs, etc.) is an important indicator of students' academic capability.

- Should students' qualifications be included in the benchmark?

# Issue: small segment counts

Gender	Age on entry	From High HE participation neighbourhood		Qualification rate	HEI 1 Starting
		Starting	Completing		
Male	Young	High	10	5	50%
		Low	5	5	100% → 67%
	Mature	High	25	20	75%
		Low	30	20	67%
Female	Young	High	80	60	75%
		Low	140	110	79%
	Mature	High	80	70	88%
		Low	160	150	94%

Small numbers are more 'noisy' and less representative.  
 Solution: move up one level in the factor hierarchy.  
 I.e. Male & Young

How small is too small?

# Issue: factor order

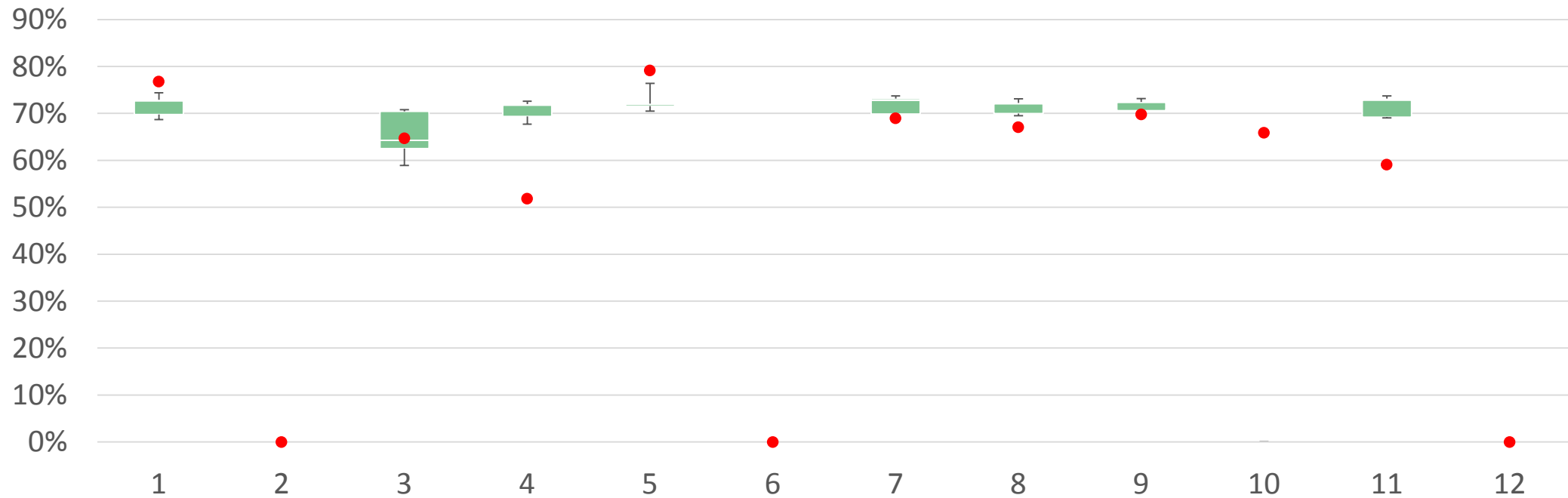
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Going up the hierarchy can result in different in different segment benchmarks.

Why? If we roll back up the hierarchy we ignore the lowest factor (e.g. participation in HE) in favour of the remaining factors.

# Impact of factor order

Actual performance compared with calculated benchmark range (five factors, all possible combinations)



Analysis uses PETD  
anonymised data.

# Issue: how many factors?

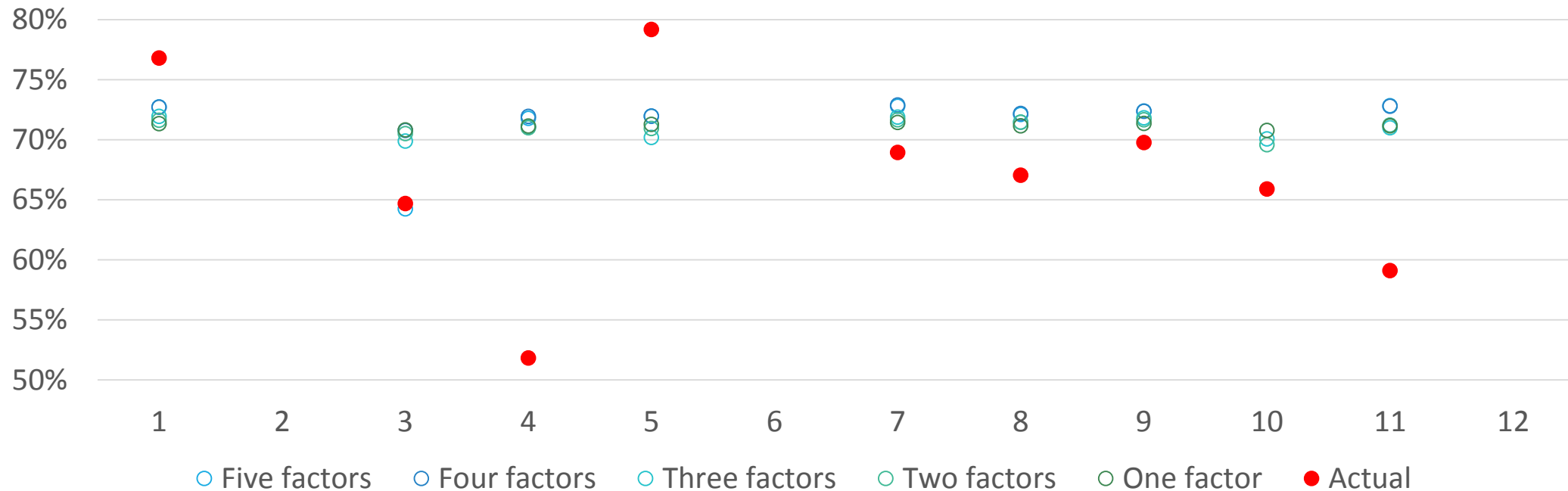
Gender	Age on entry	From High HE participation neighbourhood	Starting	Completing	Qualification rate	HEI 1 Starting
Male	Young	High	10	5	50%	
		Low	5	5	100%	
	Mature	High	25	20	75%	
		Low	30	20	67%	20
Female	Young	High	80	60	75%	
		Low	140	110	79%	
	Mature	High	80	70	88%	
		Low	160	150	94%	100

The more factors, the smaller the segment counts.

How many factors?

# Impact of fewer factors

Actual performance compared with calculated benchmark median for all combinations of 5, 4, 3, 2 and 1 factors



# Issue: how many years to include?

Gender	Age on entry	From High HE participation neighbourhood	Starting		Qualification rate	HEI 1 Starting
			Starting	Completing		
Male	Young	High	10	5	50%	
		Low	5	5	100%	
	Mature	High	25	20	75%	
		Low	30	20	67%	20
Female	Young	High	80	60	75%	
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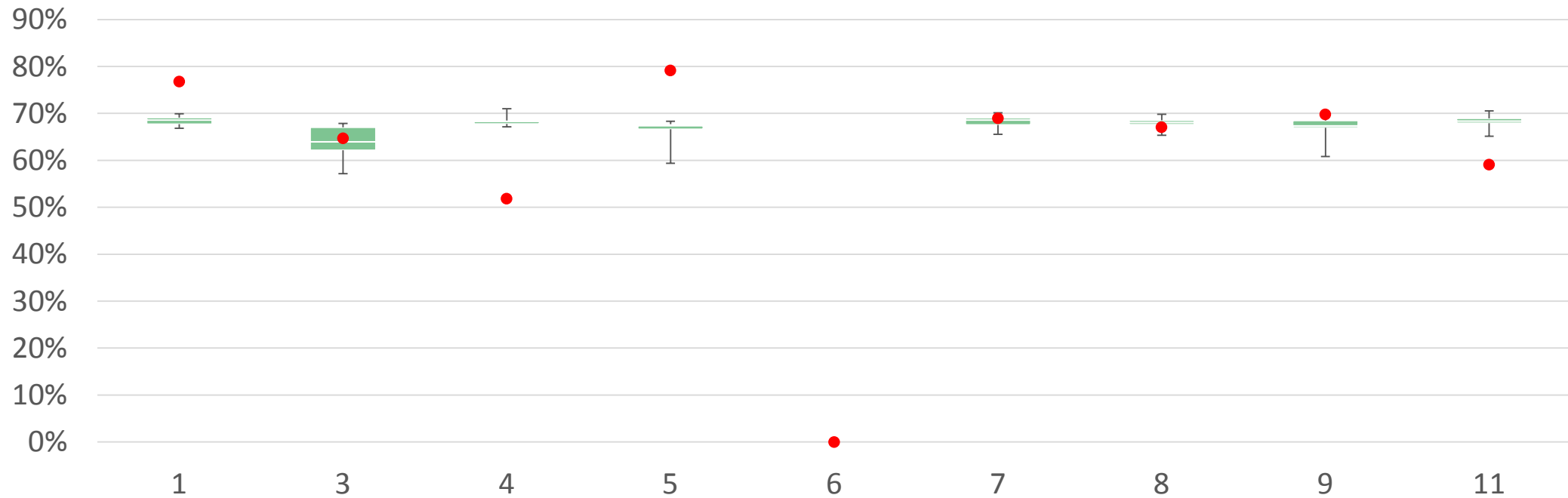
Older years do not reflect the improvements.

But they may 'buffer' against random annual fluctuations.

How many years?

# Impact of including fewer years

Actual performance compared with calculated benchmark range (five factors, all possible combinations). 2011 starters only





# Issue: attribute definitions

Gender	Age on entry	From High HE participation neighbourhood		Qualification rate		HEI 1
		Starting	Completing	Starting	Completing	Starting
<b>Male</b>	Young	High	10	5	50%	
		Low	5	5	100%	
	Mature	High	25	20	75%	
		Low	30	20	67%	20
<b>Female</b>	Young	High	80	60	75%	
		Low	140	110	79%	
	Mature	High	80	70	88%	
		Low	160	150	94%	100

Changing the definitions of, say, young / mature could change the results for that segment.

What attribute definitions should be used?

