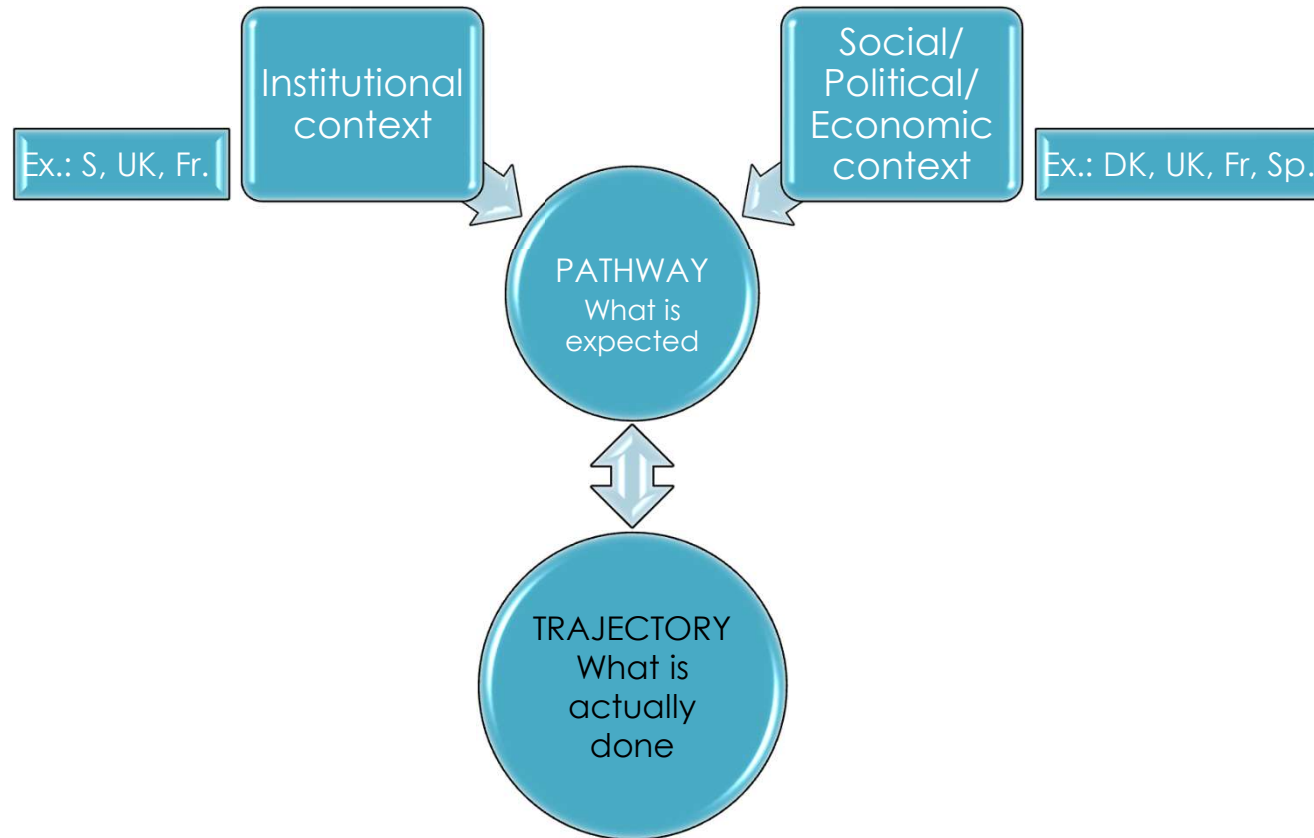


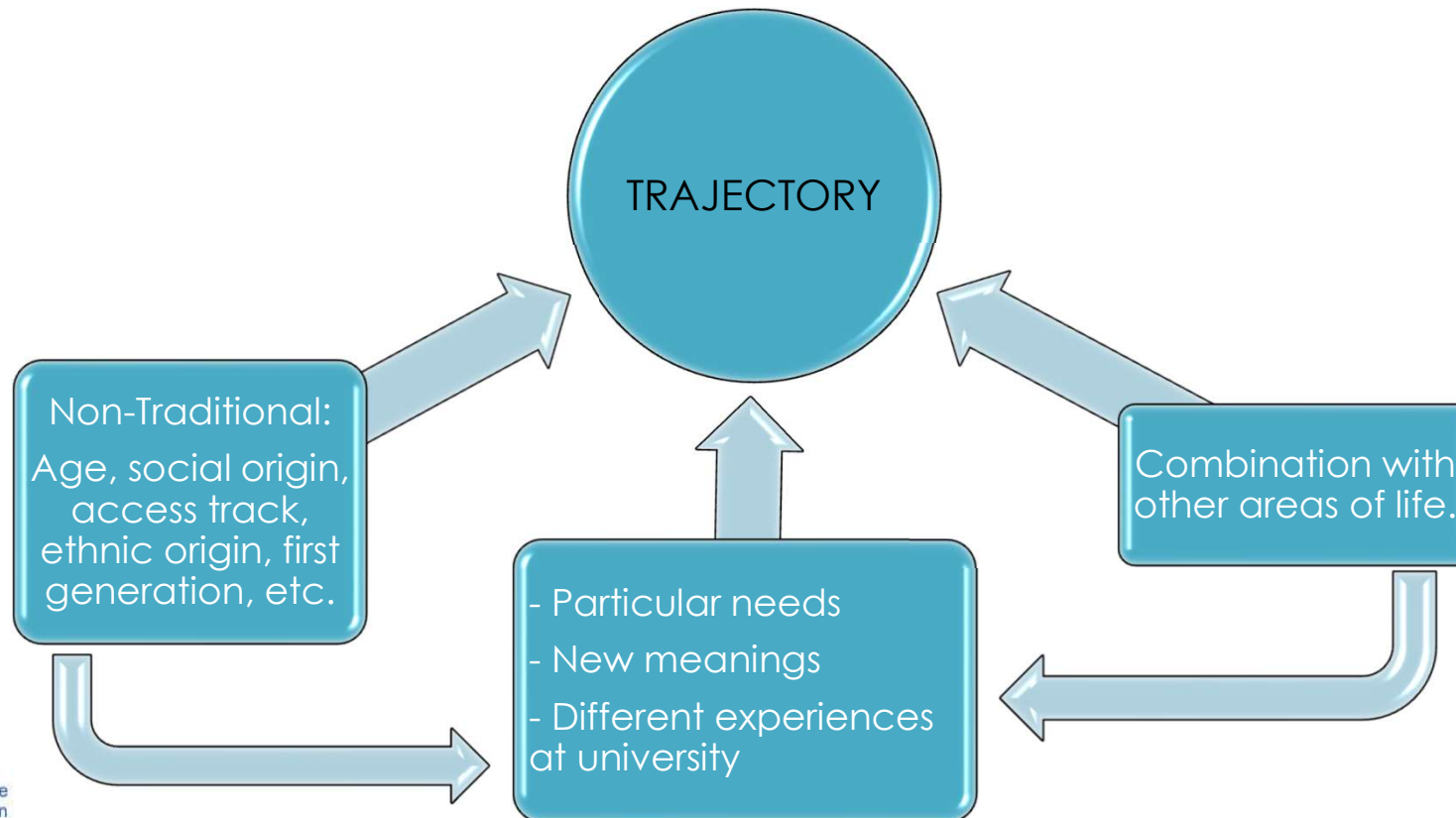
# Sequence Analysis of Complex Trajectories

Comparative report presentation

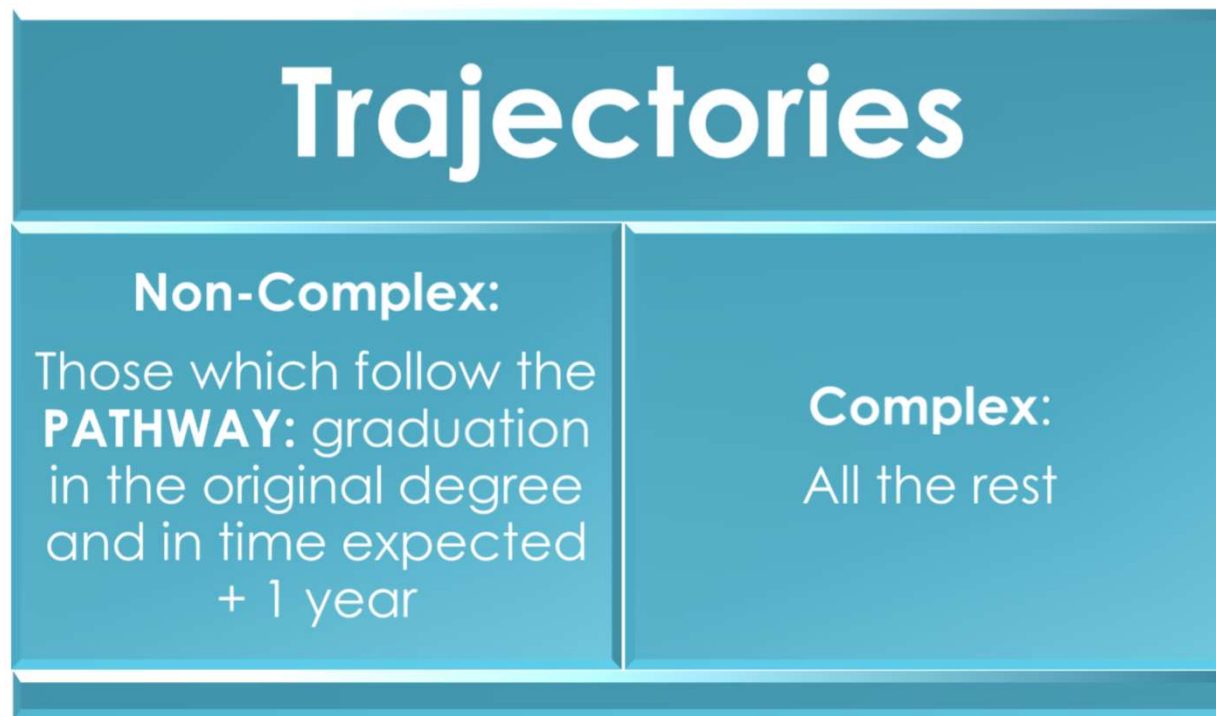
# Conceptual approach to trajectory



# Trajectories diversification



# Conceptual approach to Complex Trajectory



# Complex Trajectory includes...



## Drop-out:

- After 1 year enrolled.
- Later on.



## Change of:

- Degree, with or without change of field of knowledge.
- Institution of higher Education.
- Modality: online to onsite, or vice versa.



## Delay

# Approaching trajectories: what data?

- ▣ Longitudinal. Necessary data structure to track people over time.
- ▣ 2012 cohort. Cohort needed for all European Higher Education Area degrees to be in place and well-established.
- ▣ 2012-2019. 7 years to give time to observe complex trajectories, specially in online modality.
- ▣ System data. It is better to have system data because students are interested in their “persistence”, not retention (Tinto, 2017).

# Approaching trajectories: data from whom?

- ▣ Catalan System:
  - ▣ Onsite modality (11 universities).
  - ▣ Online modality (1 university).
- ▣ University of Valencia.
- ▣ University of Porto.
- ▣ University of Burgundy (some degrees online).

	Bachelor duration	Approx. BA price for 60 cr.	Grants	Access tracks	Progress requirements
Catalan on-site	4 years (240 ECTS). Exceptions of 5-6 years.	1300 – 1800 €	<ul style="list-style-type: none"> <li>- Linked to family income.</li> <li>- Depending on performance (65-95% achieved).</li> <li>- Complements by Autonomous Communities and Universities.</li> </ul>	Academic track. Vocational track. Over different ages. University. Entrance exams.	More or less flexibility depending on HEI. To pass 12 – 20 cr. per year. More flexible requirements for part-time.
Catalan on-line		2000 – 2200 € (but 60 cr. rarely enrolled)		Academic track. Vocational track. Over different ages. University.	To pass 6 cr. first year. No requirements after that. The most flexible HEI.
University Valencia		900 – 1200 €		Academic track. Vocational track. Over different ages. University. Entrance exams.	To pass 12 cr. 1 <sup>st</sup> year.
University Porto	3-4 years (180-240 ECTS). Exceptions of 5y. 5y BA+MA integrated.	700 €	<ul style="list-style-type: none"> <li>- Linked to family income.</li> <li>- Depending on performance (25% achieved).</li> </ul>	<b>National contest (exam + average high school)</b> <b>Special regimes (ex.: Over 23y, Portuguese speaking African students, etc)</b>	To pass 60 cr. in 3 years.
University Bourgogne	3 years (180 ECTS). Exceptions of 5y.	Initial: 270 € Continuous: 900 €	<ul style="list-style-type: none"> <li>- Linked to family income.</li> </ul>	Academic track. Vocational track. No entrance exam. Some institutions make their own selection.	Not credits, but courses. Student must pass with an average grade of all the course components. Need special permission to retake a course.





# Students' trajectories and indicators

# HE trajectories

1

## Visualization of trajectories: Sequence Analysis

Identification of the main patterns between:

- ▣ different universities or HE system
- ▣ university modalities (face to face and online)

2

## Defining some indicators of trajectories

3

## Indicators of trajectories and students' characteristics

# 0 Social and Academic Composition

## Composition of the new entry cohorts 2012-13

	N	Female (%)	Under 25 (%)	Parent SES or level studies (%)	Non-foreign nation. (%)	Academic track (%)	Entry grade
Universitat de València	11.911	<b>61,7</b>	<b>82,5</b>	<b>Univ.: 38,2</b>	<b>86,2</b>	54,2	Avg (over 14): 8,16
Universidade do Porto	5.431	53	91	--	97	-	--
Université de Bourgogne	5.206	55	98,5	High SES: 58	96	<b>75</b>	Good: 59%
CAT - Face to face	36.909	54,9	91,2	Univ.: 43,3	94,2	63,3	Avg (over 14): 8,58
CAT – Distance	7.376	51	<b>20,6</b>	--	97,6	--	--

# HE trajectories



## Sequence Analysis

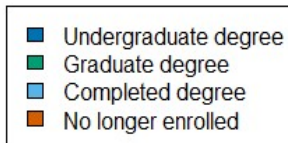
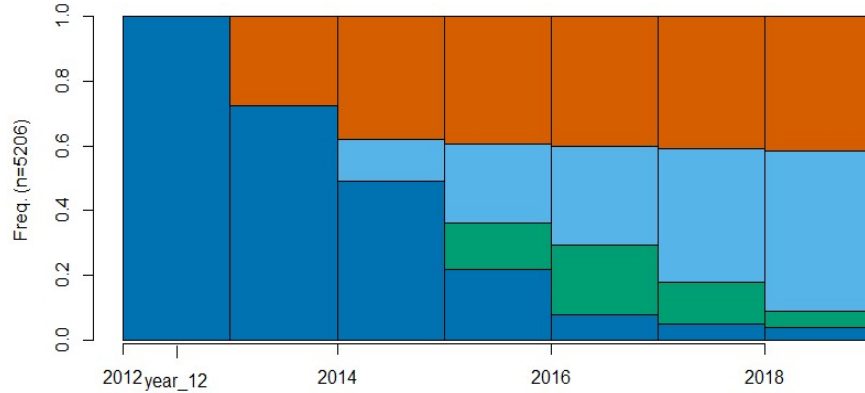
Comparing academic trajectories

1

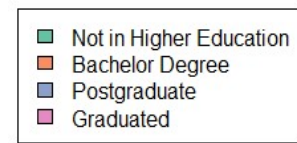
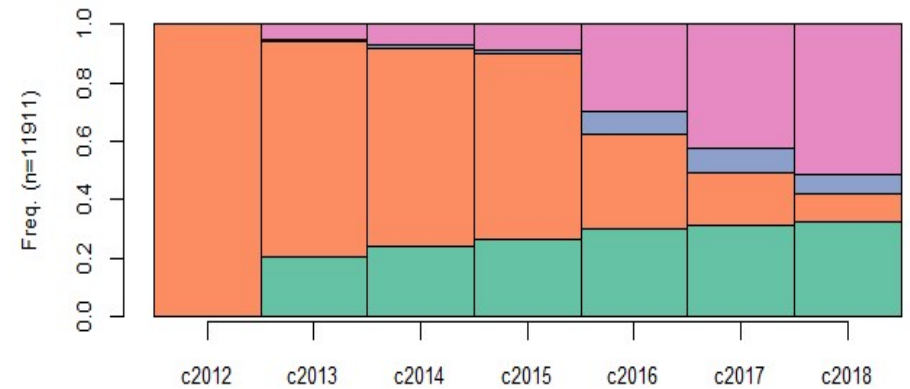
# HE trajectories: Sequence analysis

## Identification of the main patterns between face to face universities

### Université de Bourgogne



### Universitat de València

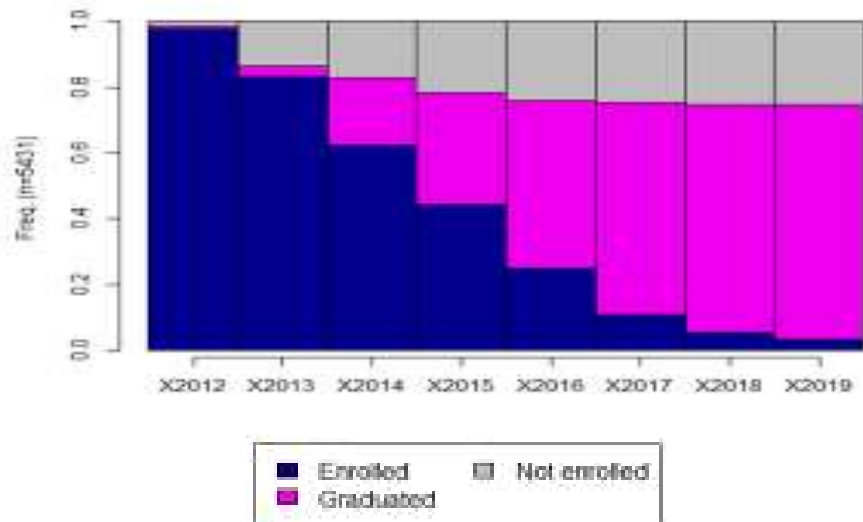


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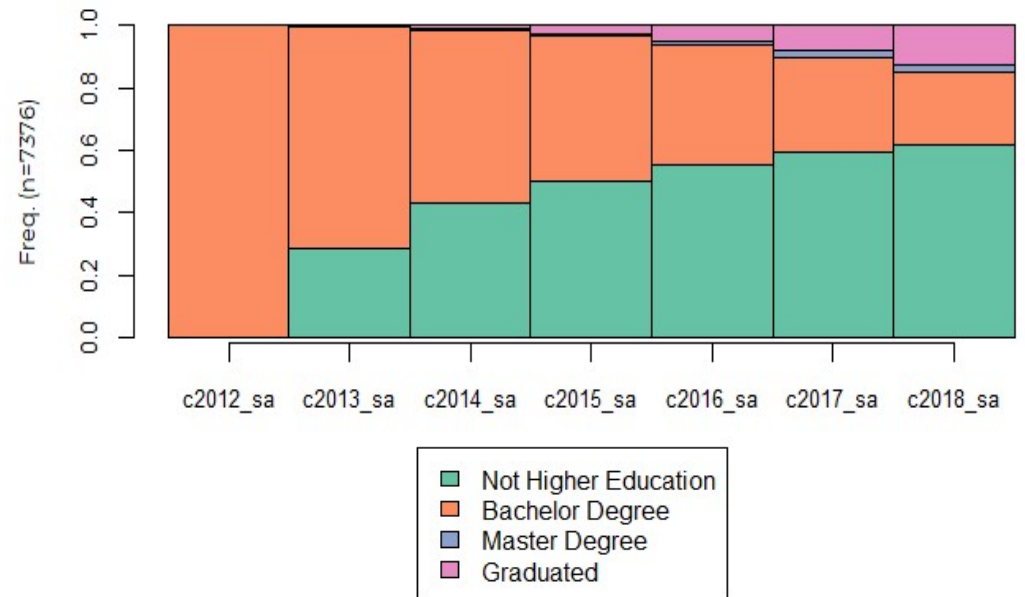
# HE trajectories: Sequence analysis

## Identification of the main patterns between modalities

### Universidade do Porto



### Universitat Oberta de Catalunya



# 1 Sequence analysis

## ▣ Some distinctive patterns

- ▣ Dropout
  - ▣ *First year*
  - ▣ *Permanent at distance education*
- ▣ Persistence over the 7 years. Possible explanations:
  - ▣ *Change degree?*
  - ▣ *Concatenation of degrees?*
  - ▣ *Delay respect the theoretical years?*
- ▣ Continuity to Master's degree (face to face)

# HE trajectories



## Trajectories indicators

Complex trajectories

Dimensions of complexity



2

# Indicators

	Complex Trajectories (other than t+1)
Catalan face to face	47,1%
Catalan distance	92%
UValència	48,6%
UPorto	43,3%
UBourgogne	57,8%

Universitat Oberta de Catalunya (distance university) has a higher percentage of complex trajectories.

At Université de Bourgogne, about 60% of the cohort of students who accessed university in 2012 also have complex trajectories.

Similar percentages in the case of the University of Valencia, the face-to-face universities in Catalonia and the University of Porto.

## 2

## Indicators

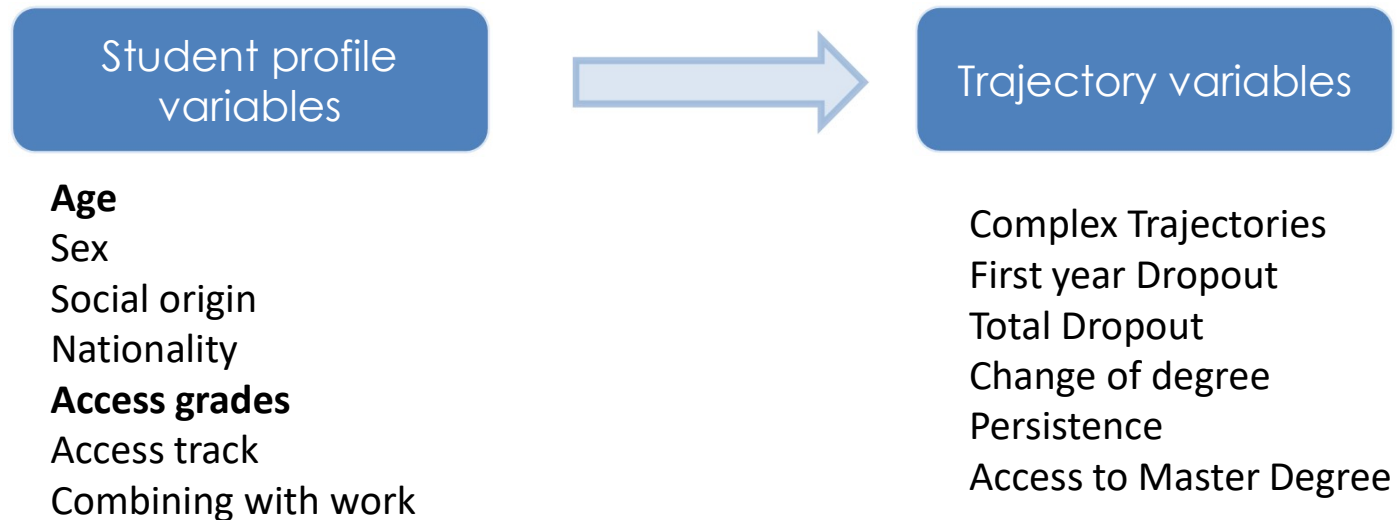
	Complex Trajectories (other than t+1)	Dropout		Change	Persistence	
		First year	Total	Change of degree	Persistence (Delay)	Access to Master
Catalan face to face	<b>47,1%</b>	6,3%*	19,1%	<b>21,2%</b>	8%	18,4%
Catalan distance	<b>92%</b>	<b>23,6%</b>	<b>62,4%</b>	10,4%	<b>19,3%</b>	4,4%
UValència	<b>48,6%</b>	18,9%	29,5%	8,8%	6,3%	13,6%
UPorto	<b>43,3%</b>	11,5%	25,4%	9,2%	2,5%	<b>44,4%</b>
UBourgogne	<b>57,8%</b>	<b>25%</b>	<b>41,4%</b>	<b>20%</b>	0,5%	<b>27,9%</b>

# HE trajectories



## Trajectories and students' characteristics

## 2 Trajectories and student's characteristics



## 2

## Trajectories and age

		Complex Trajectories (other than t+1)	1st year drop-out	Total drop-out	Change of degree	Persistence	Access to Master degree
Catalan face to face	Up to 24	45,6	5,2	16,9	<b>22</b>	7,8	19,5
	25 +	<b>62,8</b>	<b>17,3</b>	<b>40,7</b>	13,1	9,9	6,9
Catalan distance	Up to 24	<b>91,6</b>	21,3	54,2	<b>19,2</b>	20,5	6,5
	25 +	<b>92,1</b>	24,2	<b>64,5</b>	8,1	19	3,9
UValència	Up to 24	47,5	18	27,6	9,5	6,2	15,0
	25 +	<b>53,4</b>	<b>23,6</b>	<b>38,5</b>	5,7	7,1	7,1
UPorto	Up to 24	41,2	9,7	23,0	9,7	2,4	44,5
	25 +	<b>64,7</b>	<b>30,3</b>	<b>50,5</b>	4,3	3,9	43,5
UBourgogne	Up to 24	58	25	41	<b>20</b>	1	28
	25 +	<b>70</b>	<b>51</b>	<b>65</b>	8	0	14

## 2

## Trajectories and access grades

		Complex Trajectories (other than t+1)	1st year drop-out	Total drop-out	Change of degree	Persistence	Access to Master degree
Catalan face to face	Lowest - 1st Quart.	<b>62</b>	<b>10,3</b>	<b>19,7</b>	<b>24,6</b>	11,4	11,4
	Highest - 4th Quart.	31,5	2,3	5,5	17	5,1	26,6
Catalan distance	Lowest	-	-	-	-	-	-
	Highest	-	-	-	-	-	-
UValència	Lowest - 1st Quart.	<b>77,5</b>	<b>56</b>	<b>66,4</b>	7,2	4,9	6
	Highest - 4th Quart.	22,7	4,4	12,9	<b>11,1</b>	5	18,8
UPorto	Lowest - 1st Quart.	<b>54.0</b>	<b>19.9</b>	<b>37.9</b>	<b>10.8</b>	1.0	23.6
	Highest - 4th Quart.	26.6	6.2	11.5	7.7	0.7	74.8
UBourgogne	Lowest -1st Quart.	<b>64</b>	<b>29</b>	<b>51</b>	18	1	24
	Highest – 4th Quart.	41	16	25	17	1	43

# HE trajectories

**Thank you!**

# Defining dimensions of complexity

Change	Delay	Degree	Currently studying		Trajectory (complexity dimension)
No	No	0	No	=	1 Dropout
No	No	0	Yes	=	0 Non complex
No	No	>0	No	=	0 Non complex
No	No	>0	Yes	=	0 Non complex
No	Yes	>0	No	=	8 Delay and graduated
No	Yes	>0	Yes	=	8 Delay and graduated
No	Yes	0	No	=	9 Delay and dropout
No	Yes	0	Yes	=	10 Delay
Yes	No	>0		=	2 Change and graduated
Yes	No	0	No	=	3 Change and dropout
Yes	No	0	Yes	=	4 Change and studying
Yes	Yes	>0		=	5 Change, delay and graduated
Yes	Yes	0	No	=	6 Change, delay and dropout
Yes	Yes	0	Yes	=	7 Change and delay