Diversity and human capital accumulation in higher education

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Outline

This paper

- Employability skills developed during the first year of HE

- How gender and nationality affects these outcomes

- We collect primary data from 2020 – 2023 to answer these questions

- The data also allows us to quantify the effect of COVID-19 on employability skills

Literature review

- Surveys on post graduation job acquisition (Graduate Outcomes, NSS)

- Employment used as proxy for employability (Yorke (2006), Cheng et al (2022)).

- Do individuals possess the appropriate capabilities, skills and attitudes that employers need (Morrison, 2012).

- Graduates are expected to possess attributes that are not only discipline-specific but also transferrable to a broader range of jobs and careers (Konig and Ribaric, 2019; Williams et al., 2019).

- Students view HE as a means to equip them with the right skills for employment (Ingleby, 2015).

Literature review

- Students' understanding of employability could vary with their year of study (Cheng et al, 2022, Brown et al., 2003). Many first and second year students appear to lack engagement with employability activities embedded in the curriculum (Tymon, 2013).

- Influenced by social, institutional and economic factors (Sin and Amaral, 2017).

- Employability is not gender neutral (Andrew, 2009). Gender, race, social class and disability interact with labour market opportunities (McGinn and Oh, 2017).

- White leavers (60.1%) were more likely to be in full-time employment six months after graduating compared to 53.3% of BME leavers (Bhopal, and Pitkin, 2018). HE disadvantage persists for many students after they graduate (Pitman et al, 2019).

- Work experience and employer involvement have positive effects on post-graduation employment, while teaching and assessment of employability skills is not significantly related to labour market performance (Mason et al, 2009).

Data collection

Data collection

Start of year questionnaires

- Age, degree, gender, nationality, average mark (optional only start of 22/23)

Questions of interest

- Have you undertaken an internship or other form of work experience during your time at the University of Bristol?

- Did you apply for an internship or other form of job opportunity? (only 22/23)

- Please specify the position and organization (optional)

- What was the form of work experience? Paid/Unpaid, Full/Part-time

End of year questionnaires (for future work)

- Did you apply for an internship or other form of job opportunity? (only 22/23)

- Have you secured an internship or other form of work experience during this academic year?

- Could you provide more details? (optional)

Survey data

	Nationality (% home)	Gender (% female)	N
2020	70.5	28.9	312
2021	70.6	36.6	197
2022	69.2	37.1	458

Engagement across gender and nationality

	Experience	Full-time	Paid	Mentoring	Careers Fair	Bristol Plus	Others
Female	29.5	37.5	49.5	**13.6**	21.5	13.6	**Higher**
Male	19.5	**59.0**	**55.0**	4.8	16.8	6.0	Lower
International	**32.4**	48.8	48.0	12.1	**22.1**	**15.5**	**Higher**
Home	18.9	48.1	52.0	5.9	17.1	5.9	Lower

Results

Regression results

$$Exper_i = \alpha + \beta Gender_i + \theta Home_i + \psi Stream_i + \epsilon_i$$

- The effect of gender and ethnicity on experience is statistically significant

- However, the effect of gender becomes insignificant after we control for engagement with career services such as attending careers fair and relevant websites

- In contrast, the effect of ethnicity continues to remain significant

	1	2	3	4
Male	-0.07**	-0.05	-0.02	-0.07*
	(-2.53)	(-1.61)	(-0.34)	(-1.78)
Internatio~l	0.12***	0.11***	0.07	0.14***
	(4.12)	(3.11)	(1.15)	(3.21)
JStream	-0.02	-0.03	0.07	-0.08*
	(-0.50)	(-0.75)	(1.05)	(-1.66)
Careers Fair		0.01	-0.00	0.01
		(0.35)	(-0.09)	(0.40)
CS Website		-0.03	-0.07	-0.02
		(-0.93)	(-0.57)	(-0.44)
Other Webs~s		0.18***	0.00	0.19***
		(5.35)	(.)	(4.45)
Constant	1.21***	0.99***	1.10***	1.01***
	(14.89)	(8.38)	(5.03)	(6.32)
Observations	954	643	195	448
Cohort	All	All	2020	Excluding 2020

t statistics in parentheses
* p<0.1, ** p<0.05, *** p<0.01

	Paid	Paid	Full-time	Full-time
Male	0.02	0.03	0.23**	0.09
	(0.23)	(0.30)	(2.06)	(0.58)
Internatio~l	-0.14*	-0.12	0.05	-0.01
	(-1.97)	(-1.29)	(0.46)	(-0.09)
JStream	-0.02	-0.09	0.07	-0.18
	(-0.25)	(-0.87)	(0.54)	(-0.97)
Careers Fair		0.07		0.03
		(1.20)		(0.34)
CS Website		0.04		0.15
		(0.46)		(0.99)
Other Webs~s		0.17**		0.04
		(2.04)		(0.26)
Constant	1.73***	1.31***	0.98***	1.25**
	(8.54)	(4.28)	(2.92)	(2.18)
Observations	208	138	93	50
Cohort	All	All	All	All

t statistics in parentheses
* p<0.1, ** p<0.05, *** p<0.01

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Trade-off: academic performance and experience

- For the 2022 cohort, we also included questions on what grade they achieved during the first year of their studies

- We now estimate the following model to test how including grade affects our results

$$Exper_i = \alpha + \beta Gender_i + \theta Home_i$$
$$+ \psi Stream_i + \gamma Grade_i + \epsilon_i$$

Regression results

- In data, more female students tend to get a first class than male students, whereas more male students tend to get a 2.2 than female students

- However, controlling for academic performance does not affect our results with regards to both gender gap and nationality gap

- This is also true when we control for engagement with career related activities

|	1	2	3
Male	-0.08*	-0.08*	-0.07
	(-1.89)	(-1.80)	(-1.60)
Internatio~l	0.14***	0.15***	0.14***
	(3.27)	(3.35)	(3.18)
JStream	-0.08	-0.07	-0.07
	(-1.56)	(-1.45)	(-1.51)
grade		-0.04	-0.02
		(-1.57)	(-0.78)
Careers Fair			0.01
			(0.29)
CS Website			-0.02
			(-0.53)
Other Webs~s			0.18***
			(4.29)
Constant	1.28***	1.34***	1.04***
	(11.02)	(10.89)	(6.24)
Observations	447	445	445
Cohort	2022	2022	2022

t statistics in parentheses
* p<0.1, ** p<0.05, *** p<0.01

Effect of COVID-19
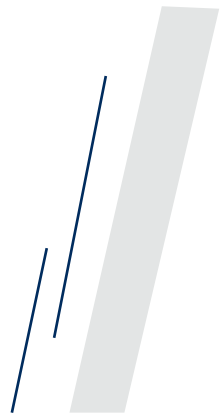
Employability during the first year of studies
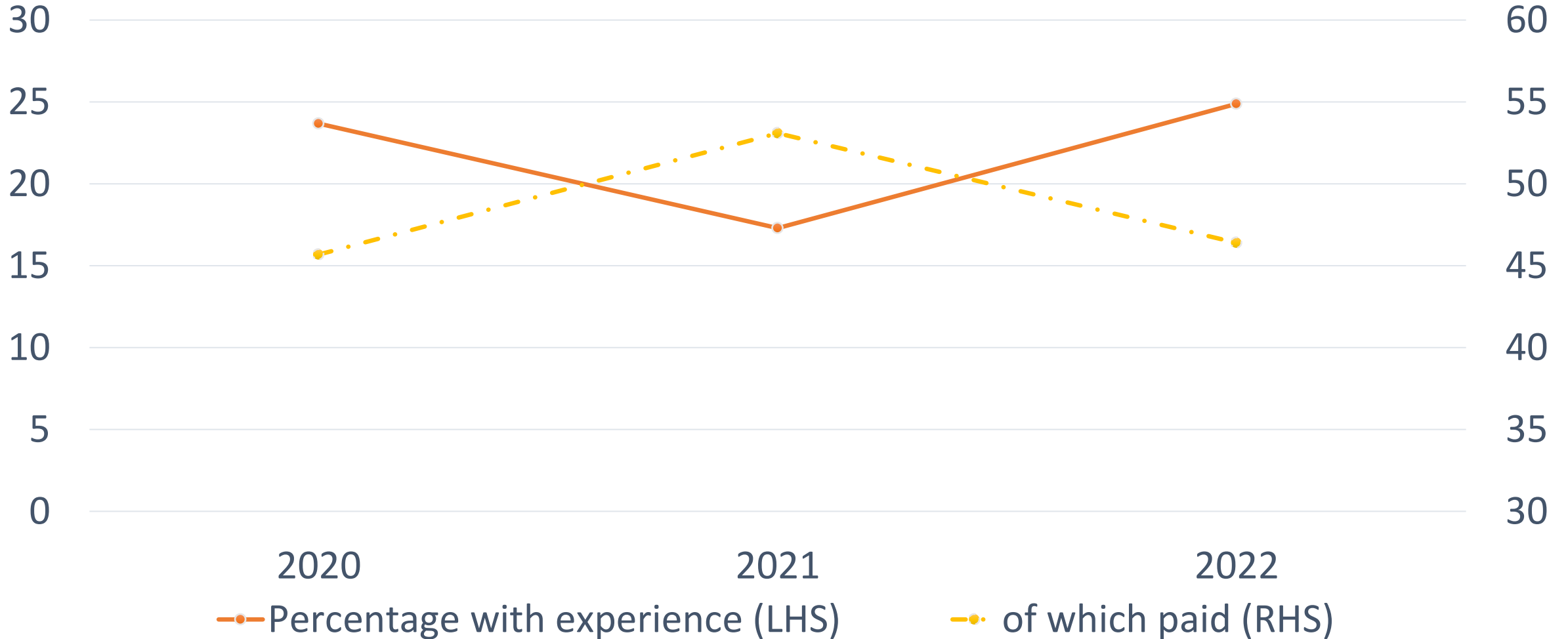
EMPLOYABILITY DURING THE FIRST YEAR OF STUDIES
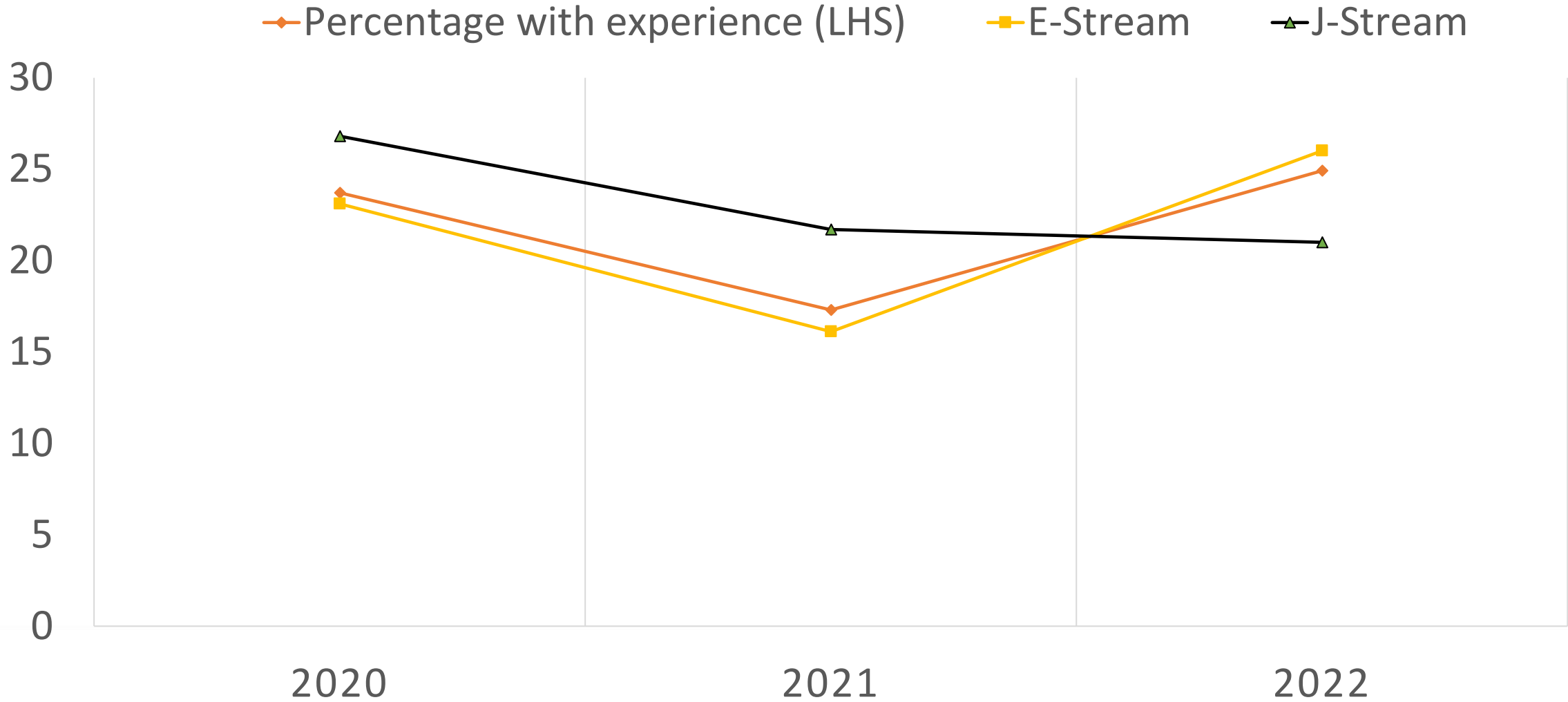
HOME
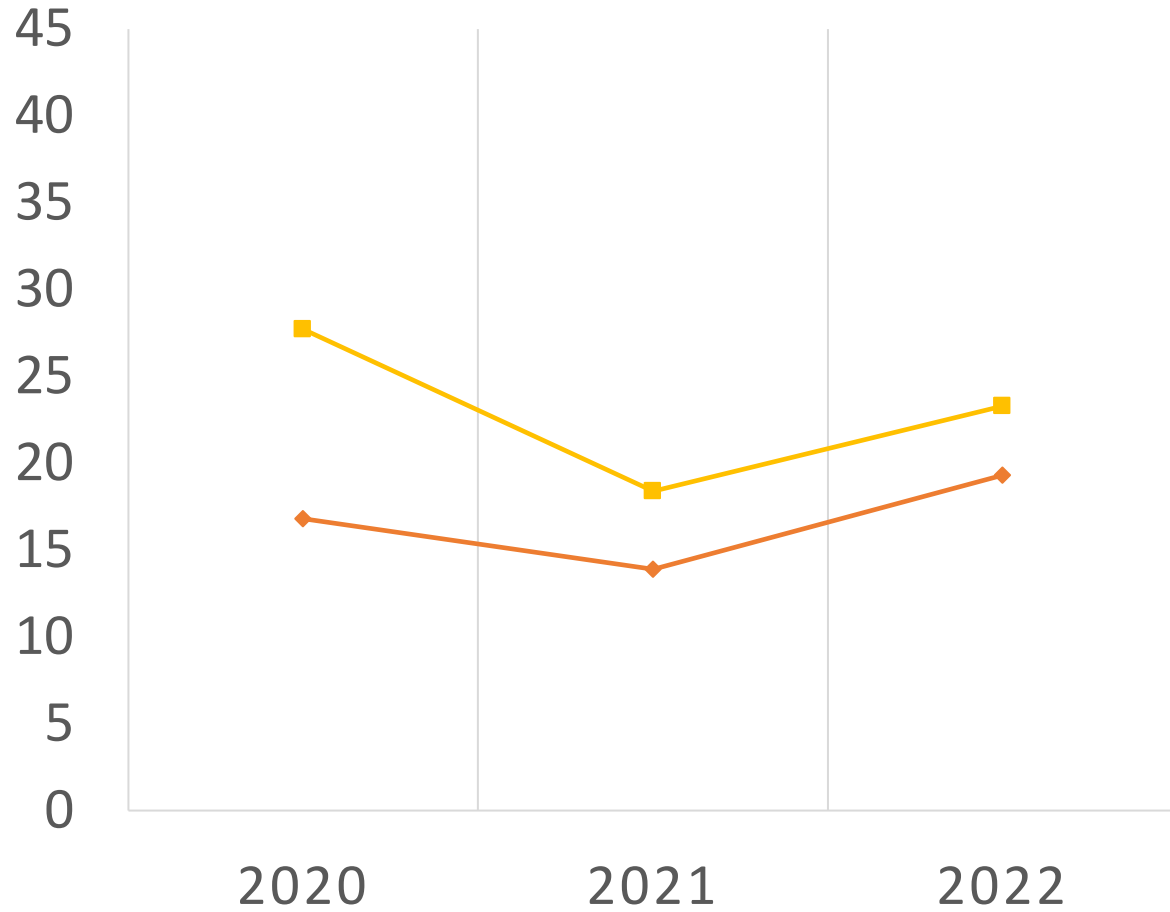
INTERNATIONAL

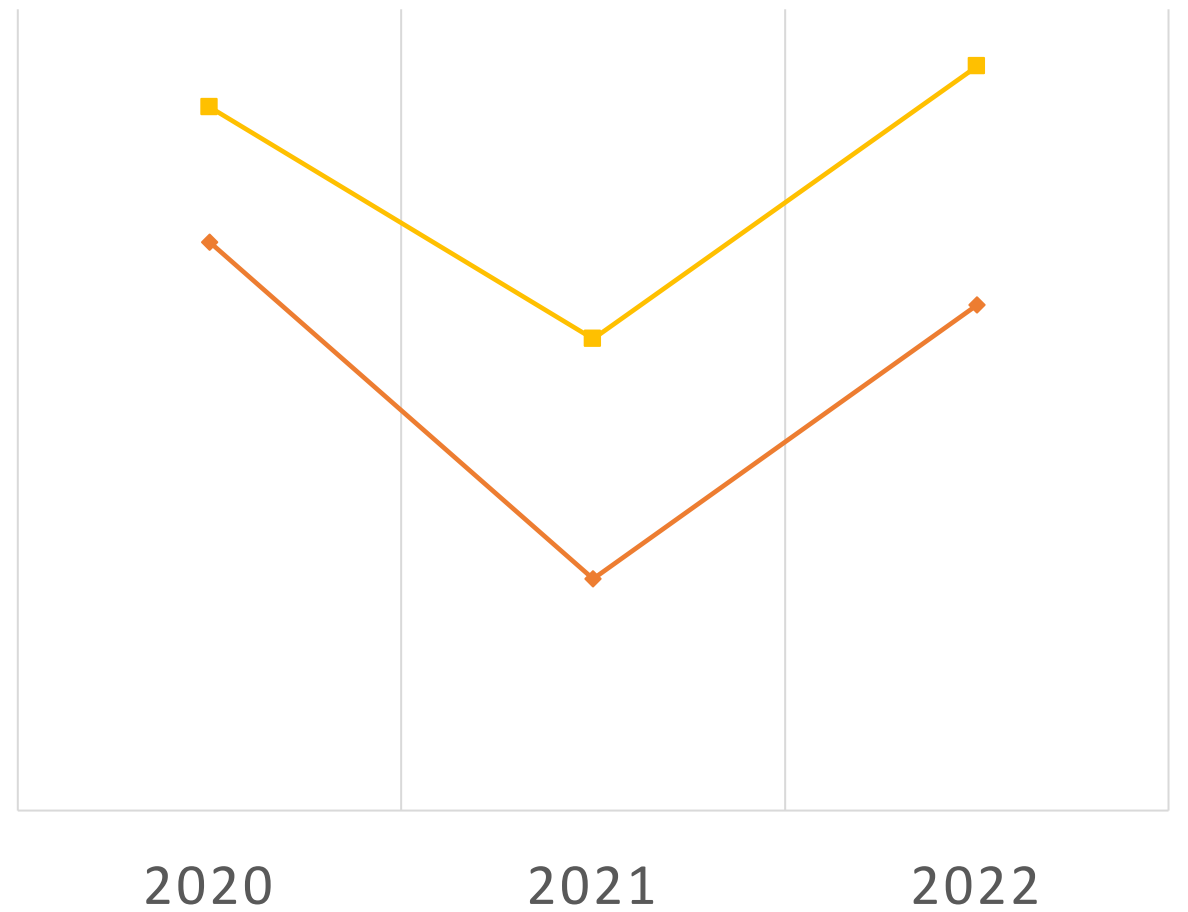# Effect of Covid-19

$$Exper_i = \alpha + \gamma Covid19 + \beta Gender_i + \theta Home_i + \psi Stream_i + \epsilon_i$$

- The effect of Covid-19 on experience is statistically significant and persists even when we control for nationality and gender

- However, the effect decreases and becomes insignificant after controlling for engagement with career activities

	1	2	3	4
COVID-19	-0.07**		-0.07**	0.01
	(-2.14)		(-2.10)	(0.17)
Male		-0.07**	-0.07**	-0.05
		(-2.53)	(-2.56)	(-1.62)
Internatio~l		0.12***	0.12***	0.11***
		(4.12)	(4.12)	(3.11)
JStream		-0.02	-0.01	-0.03
		(-0.50)	(-0.46)	(-0.75)
Careers Fair				0.01
				(0.35)
CS Website				-0.03
				(-0.69)
Other Webs~s				0.18***
				(4.50)
Constant	1.24***	1.21***	1.22***	0.98***
	(82.14)	(14.89)	(15.04)	(6.89)
Observations	966	954	954	643
Cohort	All	All	All	All

t statistics in parentheses
* p<0.1, ** p<0.05, *** p<0.01

Thank you