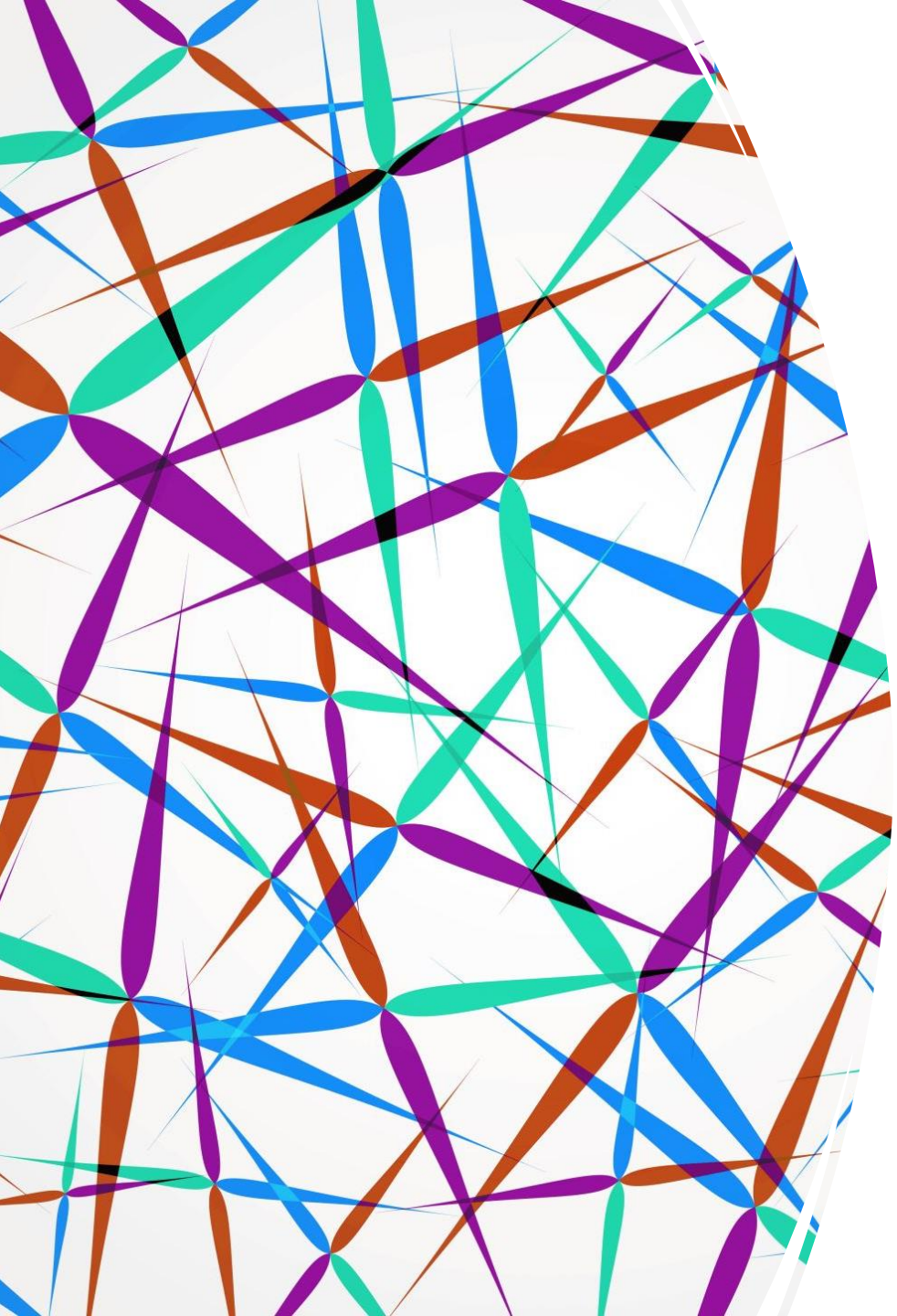


# The use of social networks to improve engagement and implement a research-led curriculum

Dr. Sofia Izquierdo Sanchez
Department of Economics
University of Manchester

Dr. William J. Tayler
Department of Economics
Lancaster University

2nd July, University of Manchester

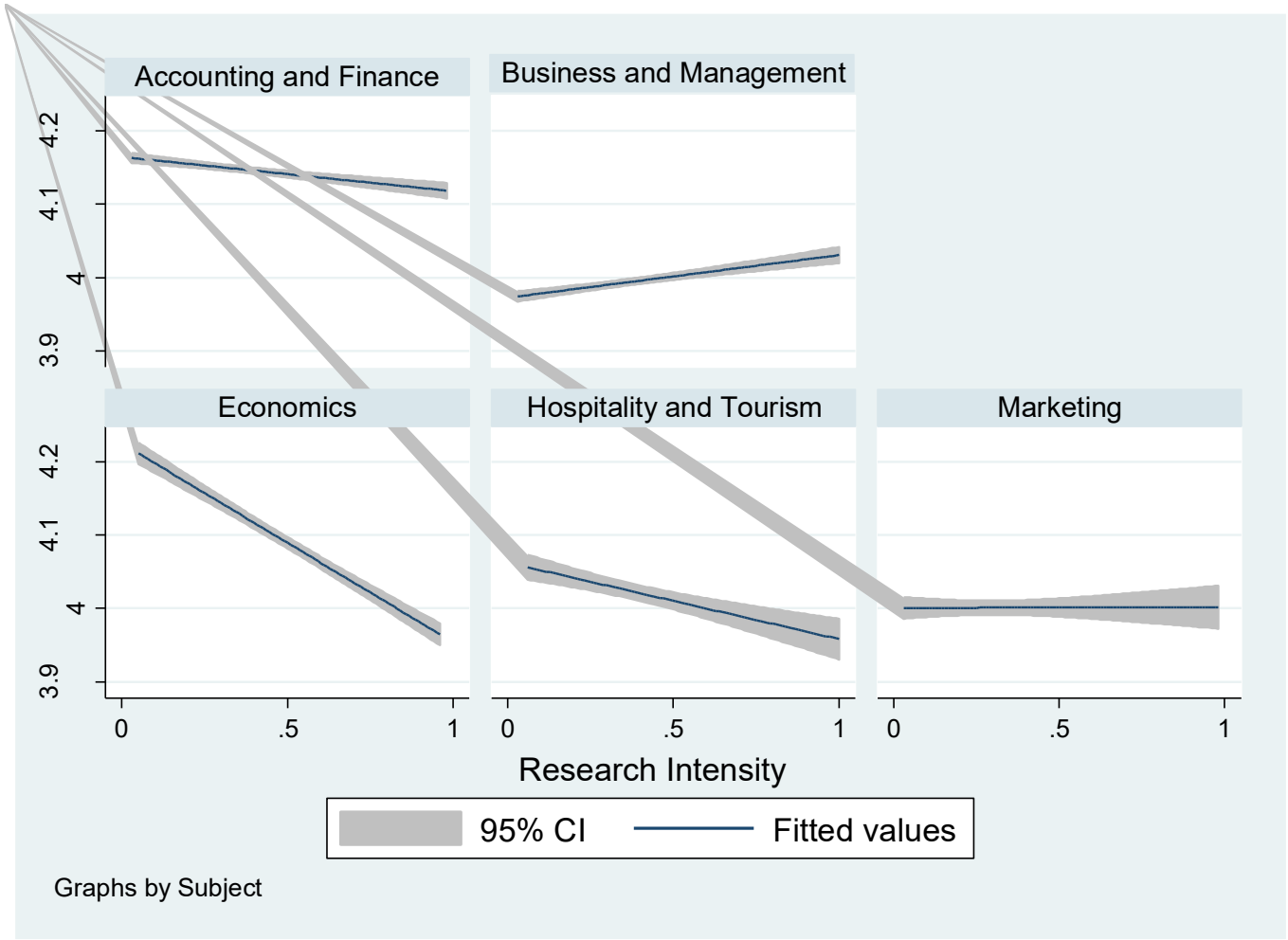
# What will we talk about today?

- The use of social networks as a way of
  - Introducing research-led teaching activities;
  - Increasing engagement
  - Relating teaching to students' real lives.
- We introduced an Instagram page (@dailylifeecon) to complement the learning experience of students in various economics modules at the University of Manchester and Lancaster University.
- Using posts, reels (short videos up to 90 seconds), and stories (posts available for 24 hours), we engaged the students ahead of the lecture trying to attract their attention and motivate them to increase engagement.
- We linked the content to case studies and/or academic papers promoting an active research-led curriculum, and, complementary to academic teaching, we outreach economics to the general public.

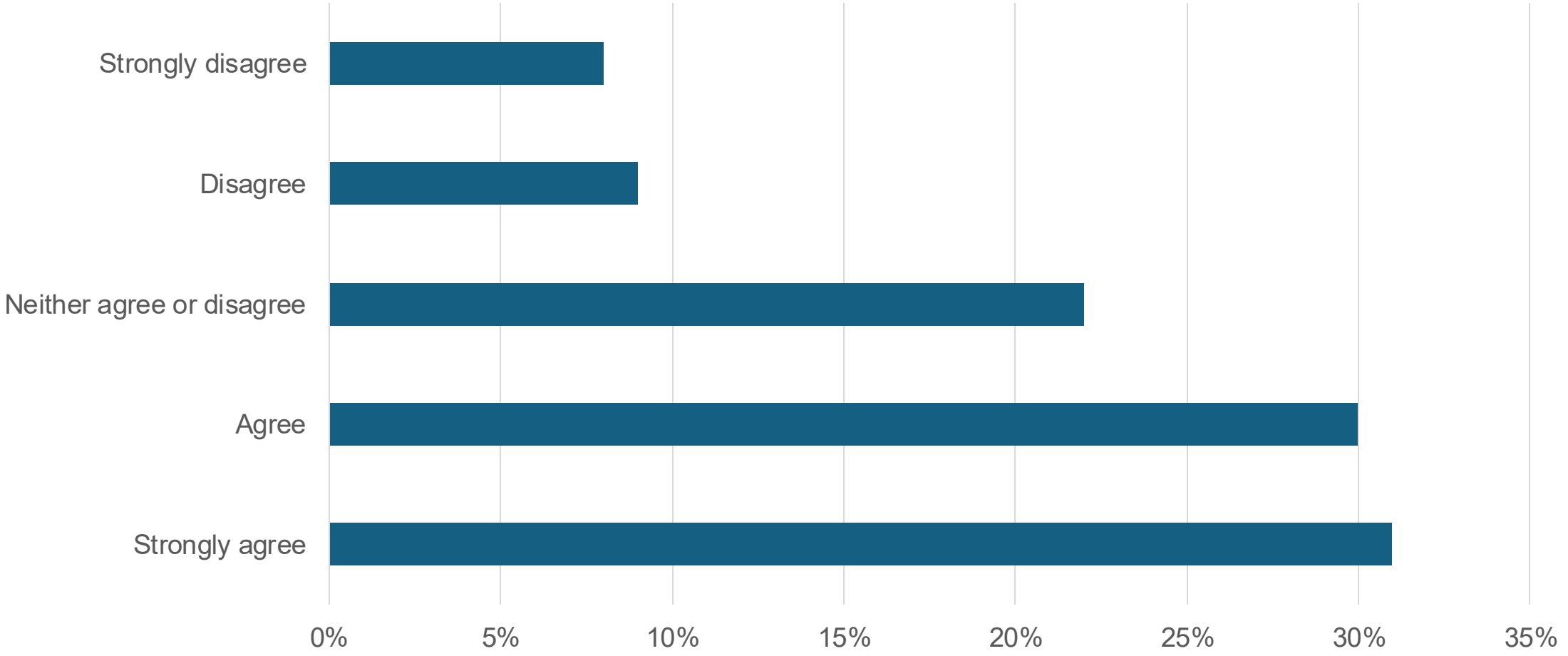
# A shift to blended learning

- The impact of the Covid-19 pandemic on traditional university learning
  - 66% of students prefer blended learning
  - Disengagement from students
- Integration of research in higher education has positive results in student motivation and final grades (Boyer, 1990; Kinkead; 2003; Land and Gordon, 2013).
- The optimal combination between teaching and research-led teaching (Griffiths, 2004; Haaker and Morgan-Brett, 2017; Healey and Jenkins, 2009; Pfeiffer and Rogalin, 2012; Zamorski, 2002).

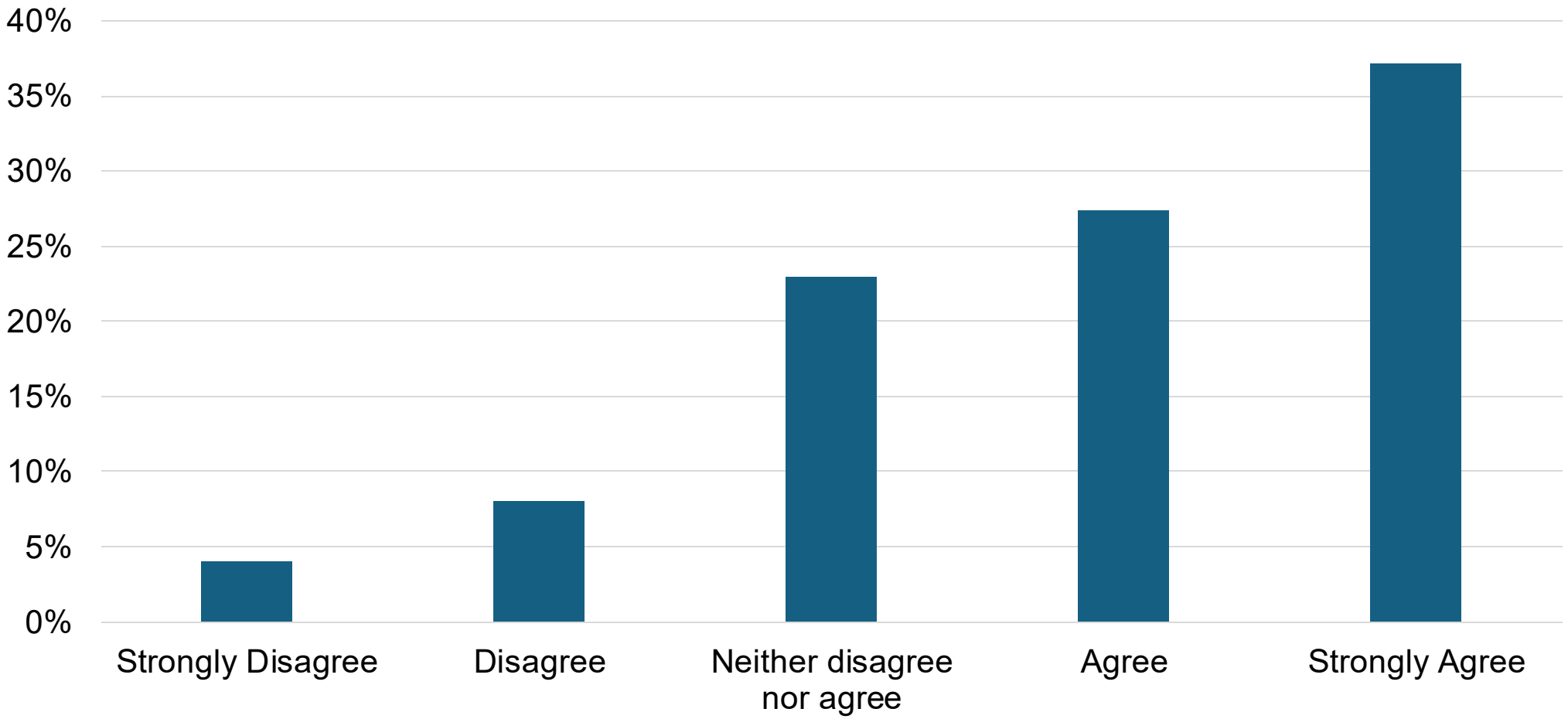
# Relationship between student satisfaction and research intensity (2008-2021) – Data from NSS and REF



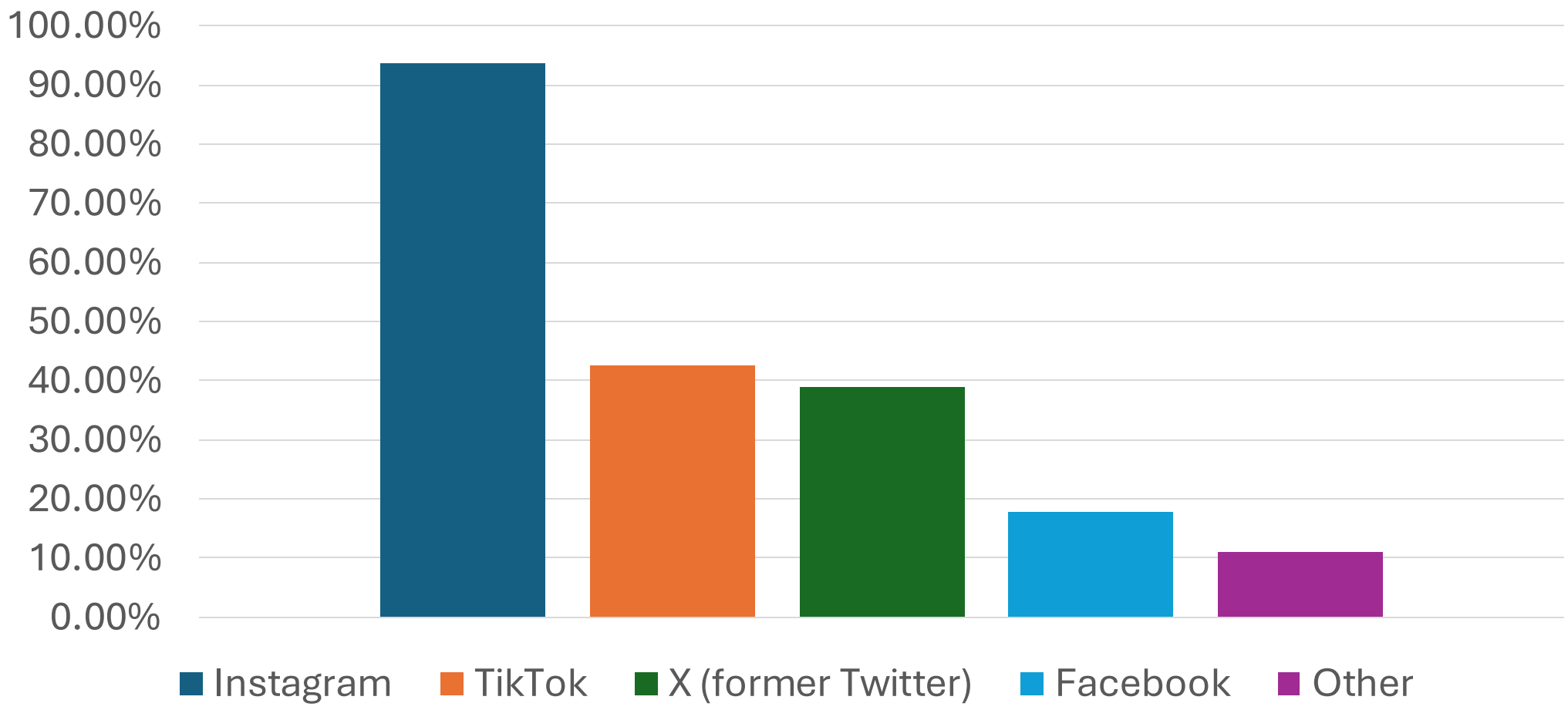
# I prefer blended teaching, over just traditional teaching



# I regularly use social networks and I think it's a good idea to complement traditional teaching



# Generation Z's use of Instagram



# Introducing the Instagram Approach @dailylifeecon

- For the Academic year 2022-2023 and 2023-2024 we introduced an Instagram page (@dailylifeecon) as a complementary tool for students learning in the modules:

  •Principles of Microeconomics 2 (1st year, University of Manchester);

  •Managerial Economics I (2nd year University of Manchester);

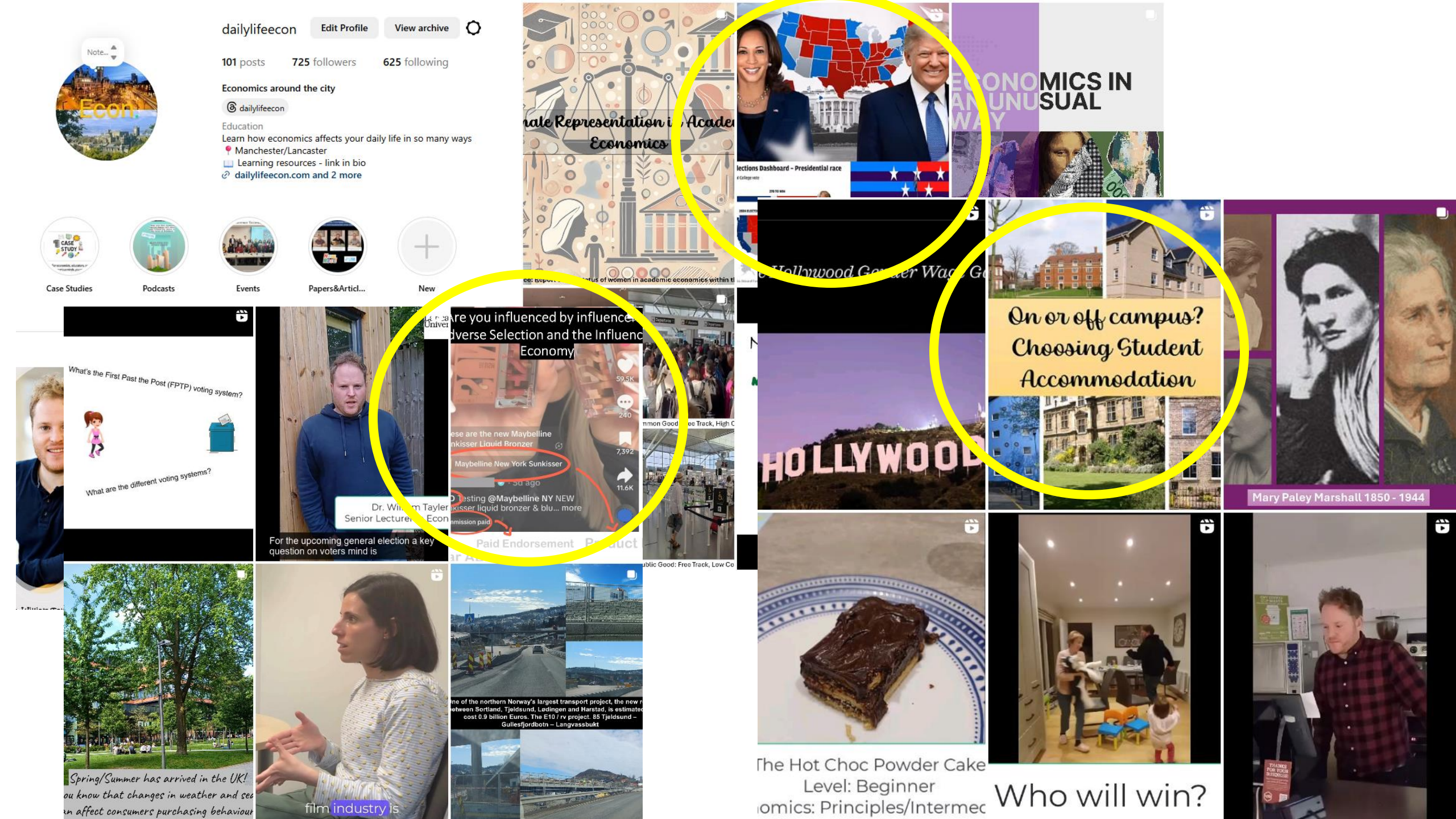
  •Microeconomics 4 ( 2nd (and some 3rd )year University of Manchester);

  •Monetary Macroeconomics ( 3rd Year, Lancaster University).

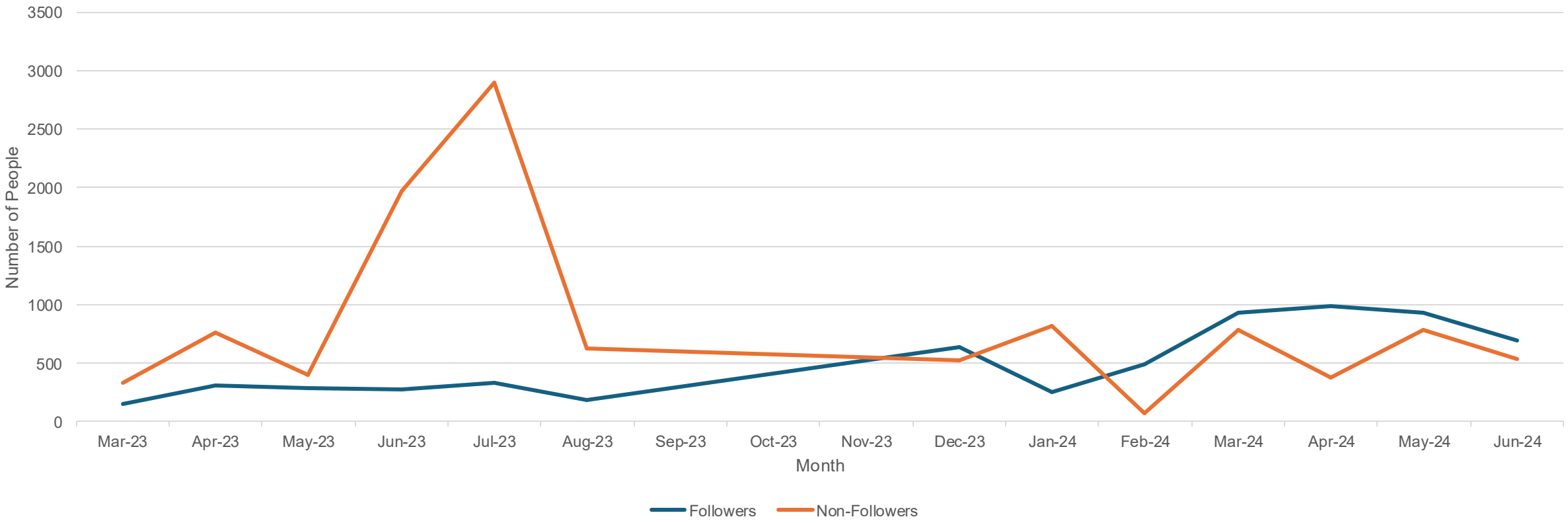
  •Money, Banking and Finance (PGT, Lancaster University)

- These modules were taught in the economics programmes of their respective university. However, students from different degrees could take some of these modules as optional.

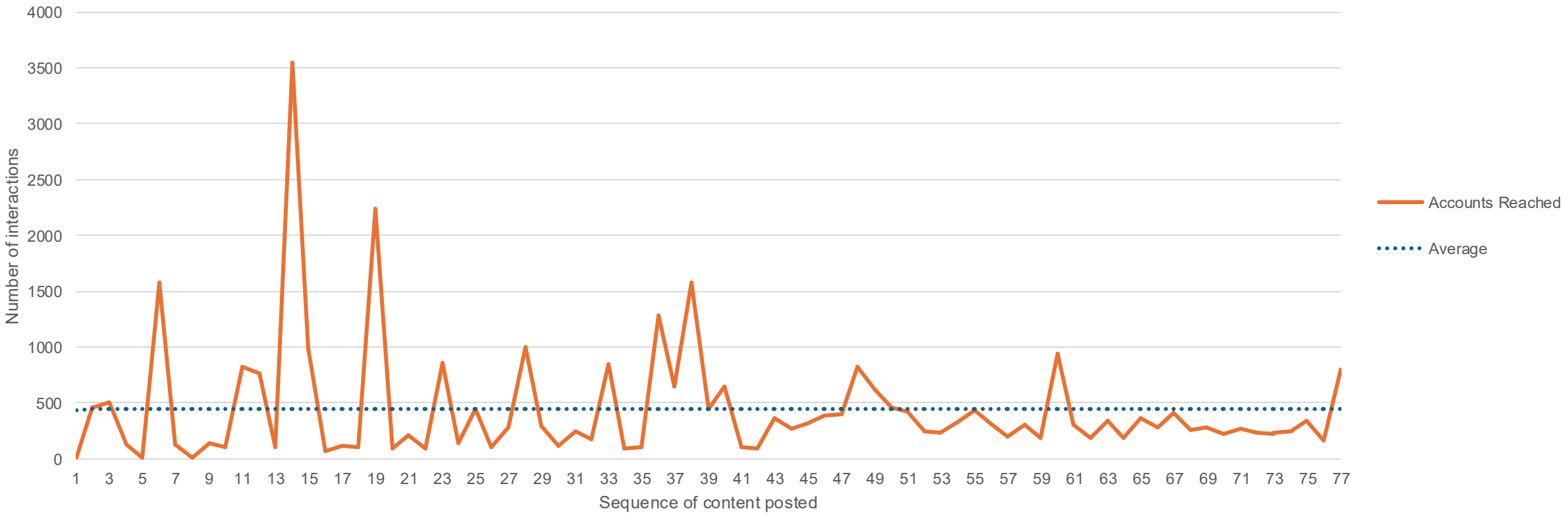
What does @dailylifeecon look like????


dailylifeecon
Edit Profile
View archive
101 posts
725 followers
625 following
Economics around the city
dailylifeecon
Education
Learn how economics affects your daily life in so many ways
Manchester/Lancaster
Learning resources - link in bio
dailylifeecon.com and 2 more
Case Studies
Podcasts
Events
Papers&Articl...
New
Economics
ECONOMICS IN AN UNUSUAL WAY
On or off campus? Choosing Student Accommodation
HOLLYWOOD
Mary Paley Marshall 1850 - 1944
What's the First Past the Post (FPTP) voting system?
What are the different voting systems?
For the upcoming general election a key question on voters mind is
Are you influenced by influencer
Adverse Selection and the Influenc
Economy
Maybelline New York Sunkisser
Paid Endorsement
Spring/Summer has arrived in the UK!
film industry is
The Hot Choc Powder Cake
Level: Beginner
Who will win?

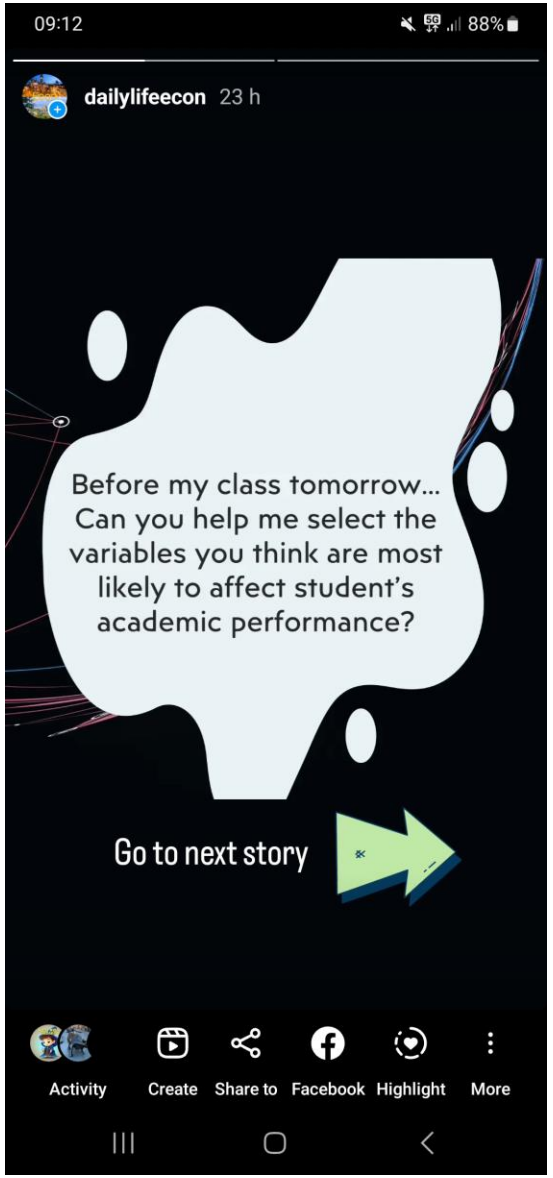
# Monthly Accounts Reached

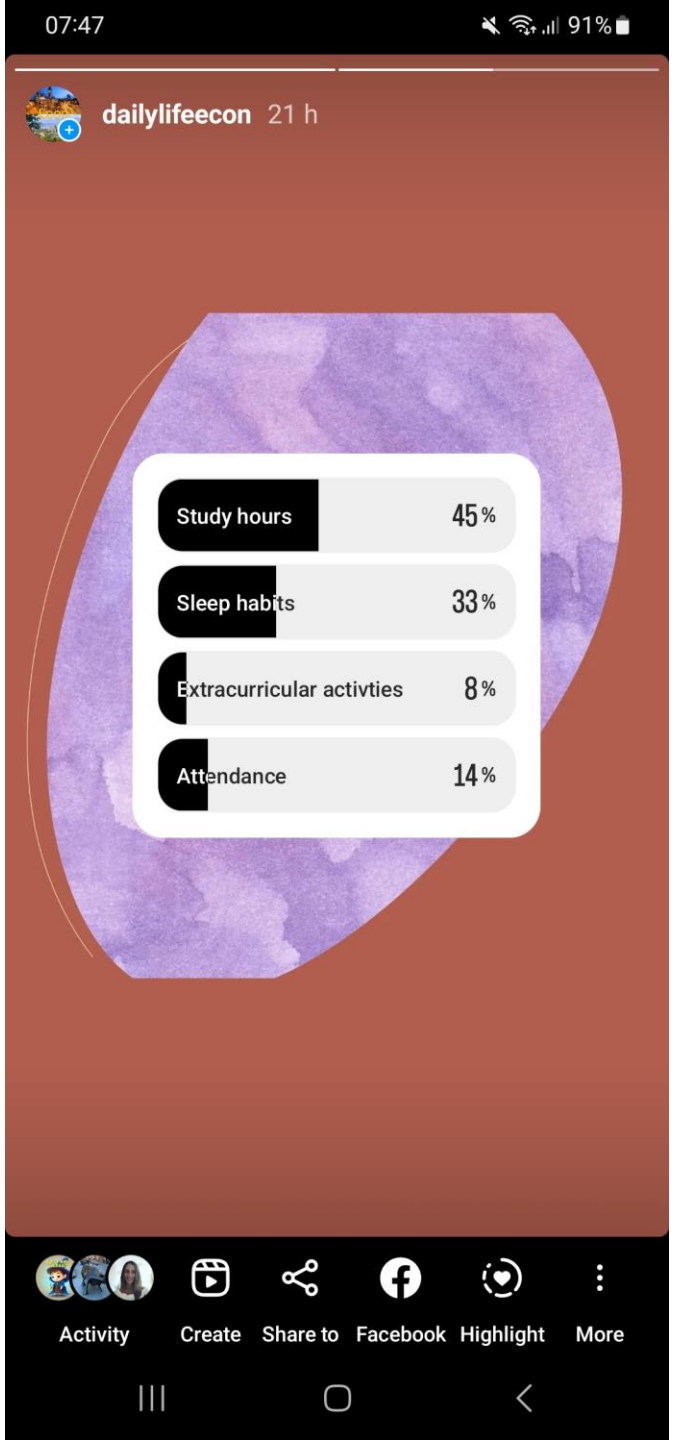


# Specific Accounts Reached by Post

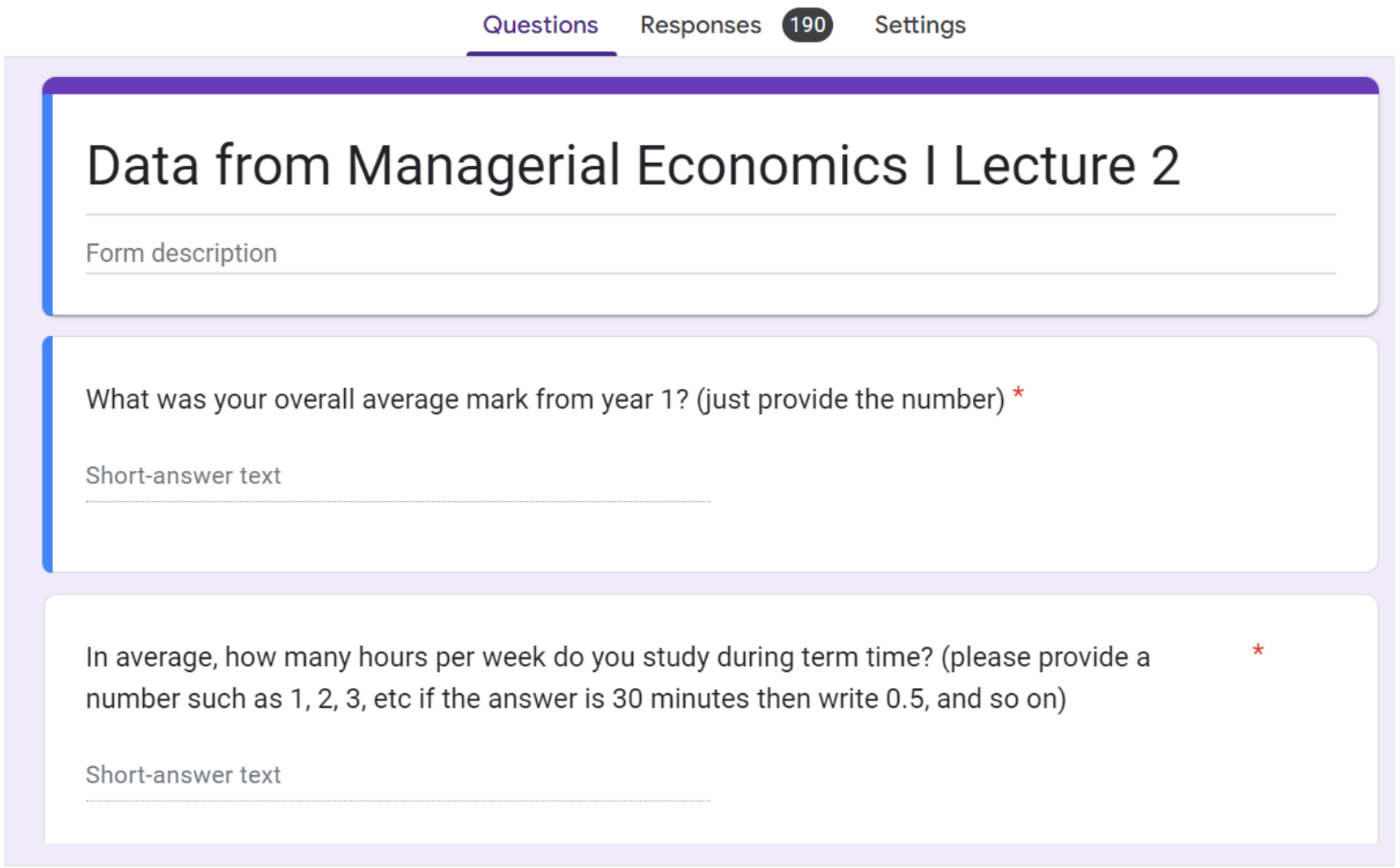


# Example 1: Engagement…should I go to the lecture?

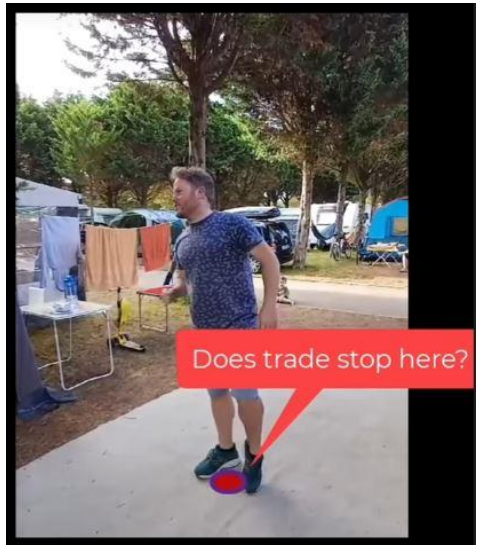


# Example 1: Ok, now they have come…



# Example 2: Content linked to real life and case studies





*"Did you know that the Edgeworth Box is a powerful tool used to showcase how exchange between two individuals can boost one person's well-being without hurting the other? This leads to a win-win situation, enhancing overall social welfare from a given set of resources!*

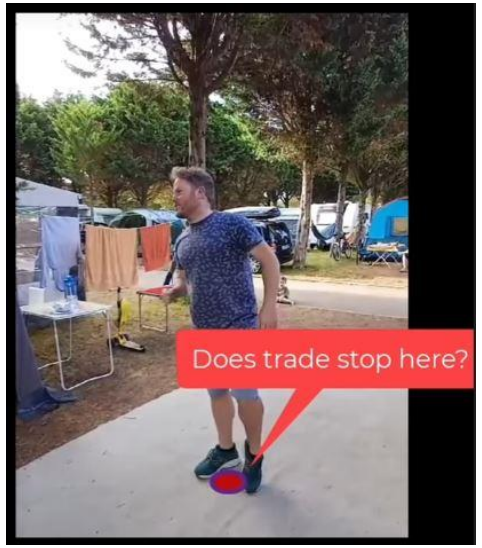
*It's all about that Pareto improvement – making everyone better off without making anyone worse off!*

*During our summer break at a campsite in Spain, we can illustrate the basics of the Edgeworth Box, shedding light on the fascinating world of general equilibrium theory!*

*Let's dive into the world of economics while soaking up the sun and learning something new! Are you ready to unravel the mysteries of the Edgeworth Box with us?*

*For economists or those curious minds who will like to know more, you can access a full case study in the case studies bank (link available in bio)"*

# Example 2: Now you got their attention…do you want to know more?




A Pareto optimum allocation

https://dailylifeecon.com

# Example 3: Content linked to academic papers or articles

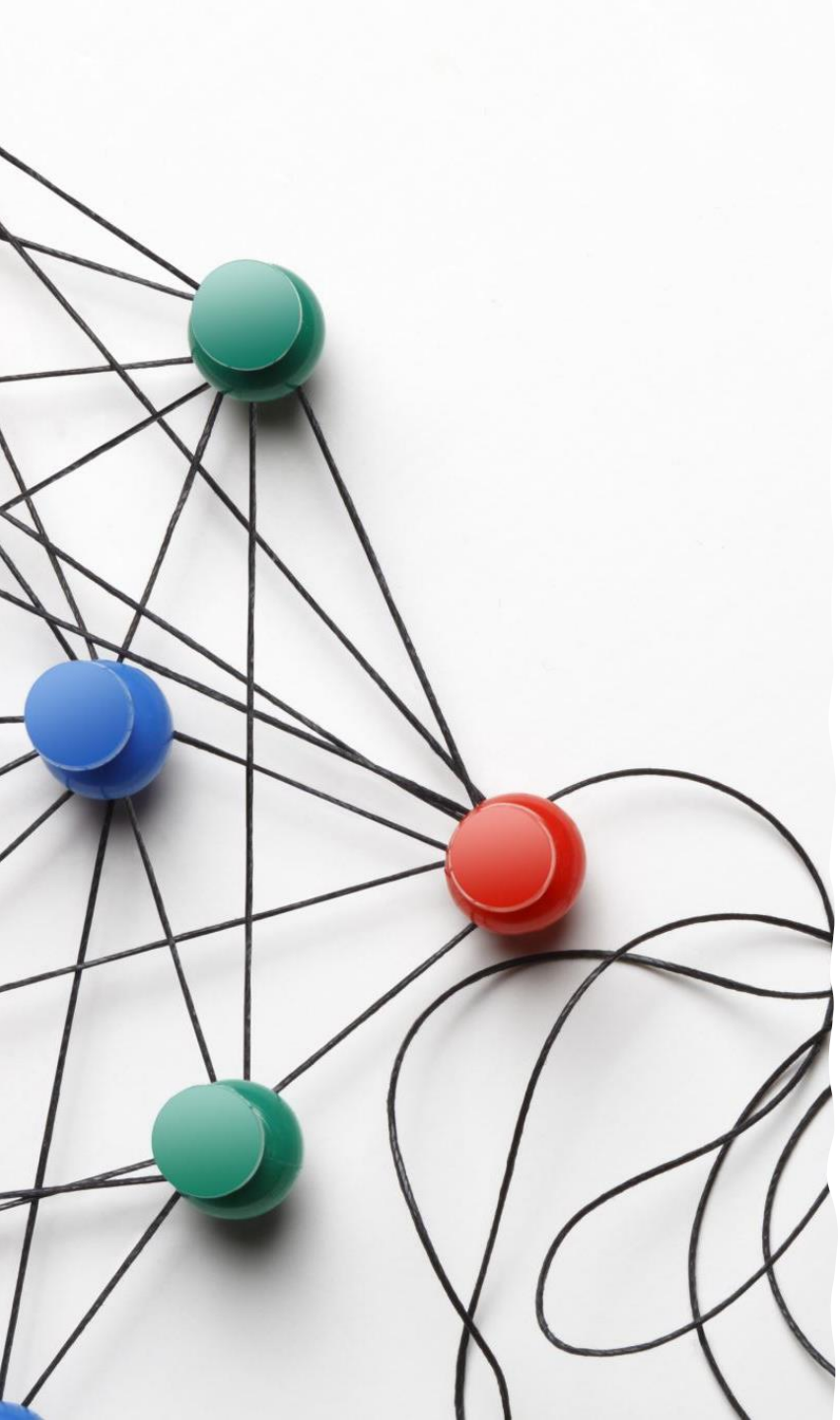

*“A young renter living pay check to pay check, a father with a new mortgage, and an outright homeowner with investments enter into a bar…do you want to know how the increase in interest rates are affecting them?*

*A reel based on “How the Bank of England’s interest rate hikes are filtering through your finances” by William Tayler (Lecturer at Lancaster University) at The Conversation*

*On the 22nd of September, the Bank of England will decide whether to increase again the interest rates…but that’s a conversation (or a reel) for another day”*

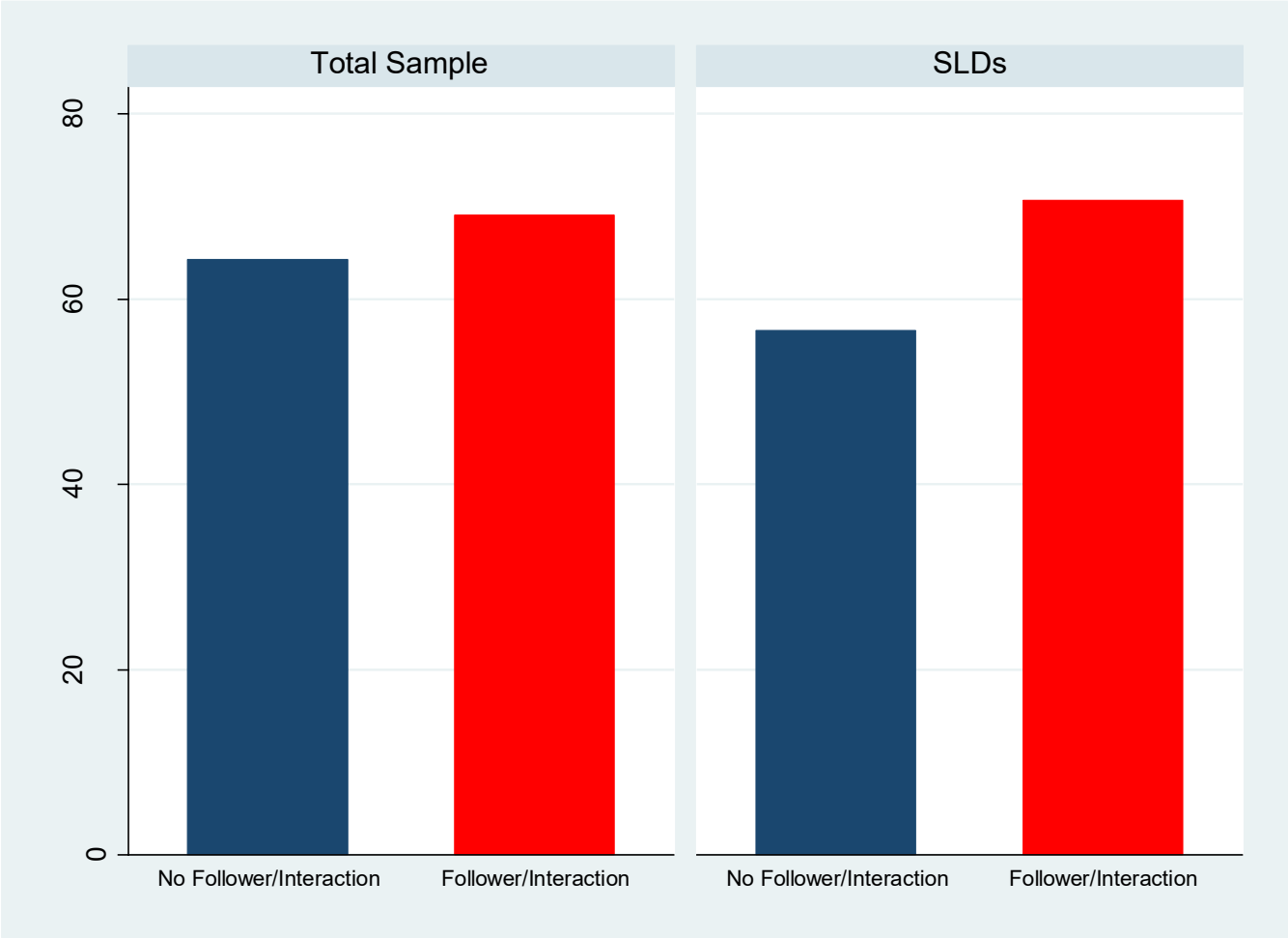
# Wait but not everyone has Instagram!

Don’t worry, I got you covered! Welcome to my Blackboard/Moodle page!



# Some insights

- Positive correlation between engagement and final marks.
  - Active interaction (e.g., commenting, liking, sharing) had a stronger correlation with higher marks.
  - Simply following the account had a smaller, less robust effect.
  - Increased probability of scoring above 65 and decreased probability of failing.
  - Importantly these results hold even when we control for student prior performance.
- Feedback highlighting improved comprehension and engagement.
  - Over 60% of students found the account helpful in explaining complex concepts.
  - Nearly 70% said it made economics more relevant to real life.
  - 77% found the approach creative or refreshing.




# Specific Learning Difficulties and/or Disabilities (SLDs)

- Around 6% of the students in our dataset are categorised as SLDs students.
- Students in this category are more likely to prefer alternative teaching methods or extra help to support traditional teaching (Brady, 2010, and McCarthy, 2009).
- The **marginal effects** (from Probit models) indicated that these students had a **greater reduction in the likelihood of failing** and a **higher increase in the probability of scoring above 65%.**


# Key Takeaways

- Instagram boosted engagement beyond the classroom.
- Interaction linked to higher marks (even after controls).
- Stronger positive effects for students with disabilities.
- Students found it helpful, relevant, and accessible
- Social media can support research-led teaching.

# Thank you!
# Please get in contact and connect!

Sofia Izquierdo Sanchez
Sofia.izquierdosanchez@manchester.ac.uk

Will Tayler
w.tayler@lancaster.ac.uk

Instagram

@DAILYLIFEECON

# Students' Performance

$$percentile\ rank_{ijt} = \alpha_0 + \beta_1 F_i + \beta_2 I_{ij} + \beta_3 \delta_j + +\beta_4 \mu_t + \varepsilon_{ijt} \quad (1)$$

$percentile\ rank_{ijt}$ is the dependent variable and represents the percentile rank of student *i* in course *j*, in academic year *t*. The percentile rank was calculated as the student's ranking in terms of their final mark in the course compared to the total number of students for that course. The percentile rank goes from 0 to 1, with a lower percentile rank indicating that a student has performed better than a larger proportion of their peers.

$F_i$ is a dummy variable which equals 1 if student *i* is a follower of the account and 0 otherwise.

$I_{ij}$ accounts for the number of interactions which includes active engagement with the account of student *i* student for subject *j*. This includes comments or likes.

$\delta_j$ is a set of dummy variables at subject level and $\mu_t$ is a set of dummy variables at academic year level.

# Students' Performance

$$Grade\ fail_{ijt} = \alpha_0 + \beta_1 F_i + \beta_2 I_{ij} + \beta_3 \delta_j + +\beta_4 \mu_t + \varepsilon_{ijt} \quad (2)$$

$$Grade\ above\ average_{ijt} = \alpha_0 + \beta_1 F_i + \beta_2 I_{ij} + \beta_3 \delta_j + \beta_4 \mu_t + \varepsilon_{ijt} \quad (3)$$

Where $Grade\ fail_{ijt}$ and $Grade\ above\ average_{ijt}$ are categorical variables which take values of 0 or 1. $Grade\ fail_{ijt}$ equals 1 if student *i* had a final mark below 40 in subject *j* and academic year *t*, 0 otherwise. $Grade\ above\ average_{ijt}$ equals 1 if student *i* had a final mark above average in subject *j* and academic year *t*, 0 otherwise.

The average mark for Managerial Economics I academic year 22/23 was 65.96, and for the academic year 23/24 was 69.94.

The average mark for Microeconomics 4 academic year 22/23 was 58.22, and for the academic year 23/24 was 60.68.

The average mark for Monetary Macroeconomics academic year 22/23 was 58.55, and for the academic year 23/24 was 63.30. The average mark for Principles of Microeconomics 2 academic year 22/23 was 59.6, and for the academic year 23/24 was 65.64.

# What about past performance?

As a robustness test to control for the past performance of the students, we introduce the percentile rank in previous related courses that students have taken.

For Microeconomics 4 and Principles of Microeconomics 2, we calculated the average of past Microeconomics courses, which were pre-requisite.

For Monetary Macroeconomics, we collected data on the marks in the previous macroeconomics course, which was a pre-requisite.

For Managerial Economics I we collected the average mark in the full previous year.

# OLS and Probit Regression Results

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| VARIABLES | Percentile Rank | Percentile Rank | Grade below 40 | Grade below 40 | Grade above average | Grade above average |
| Follower | -0.122*** | -0.0934*** | -0.0293*** | -0.0139* | 0.164*** | 0.131*** |
| | (0.0179) | (0.0188) | (0.00676) | (0.00751) | (0.0288) | (0.0320) |
| Number of interactions | -0.00202 | -0.00450 | -0.00405*** | -0.00544*** | 0.00859 | 0.00554 |
| | (0.00726) | (0.00940) | (0.00124) | (0.00184) | (0.0108) | (0.0144) |
| Past Percentile Rank | | 0.428*** | | 0.131*** | | -0.586*** |
| | | (0.0243) | | (0.0215) | | (0.0420) |
| Constant | 0.523*** | 0.294*** | 0.0488*** | -0.0138 | 0.631*** | 0.952*** |
| | (0.0183) | (0.0216) | (0.0144) | (0.0135) | (0.0301) | (0.0353) |
| Subject fixed effects | YES | YES | YES | YES | YES | YES |
| Year fixed effects | YES | YES | YES | YES | YES | YES |
| Robust s.e. | YES | YES | YES | YES | YES | YES |
| Observations | 1,736 | 1,383 | 1,736 | 1,383 | 1,736 | 1,383 |
| R-squared | 0.028 | 0.210 | 0.016 | 0.064 | 0.027 | 0.144 |

Results

# Specific Learning Difficulties and/or Disabilities (SLDs)

$$percentile\ rank_{ijt} = \alpha_0 + \beta_1 F_i + \beta_2 I_{ij} + \beta_3 SLD_{ij} + \beta_4 (SLD * F)_{ij} + \beta_5 (SLD * I)_{ij} + \beta_3 \delta_j + \beta_4 \mu_t + \varepsilon_{ijt} \quad (4)$$

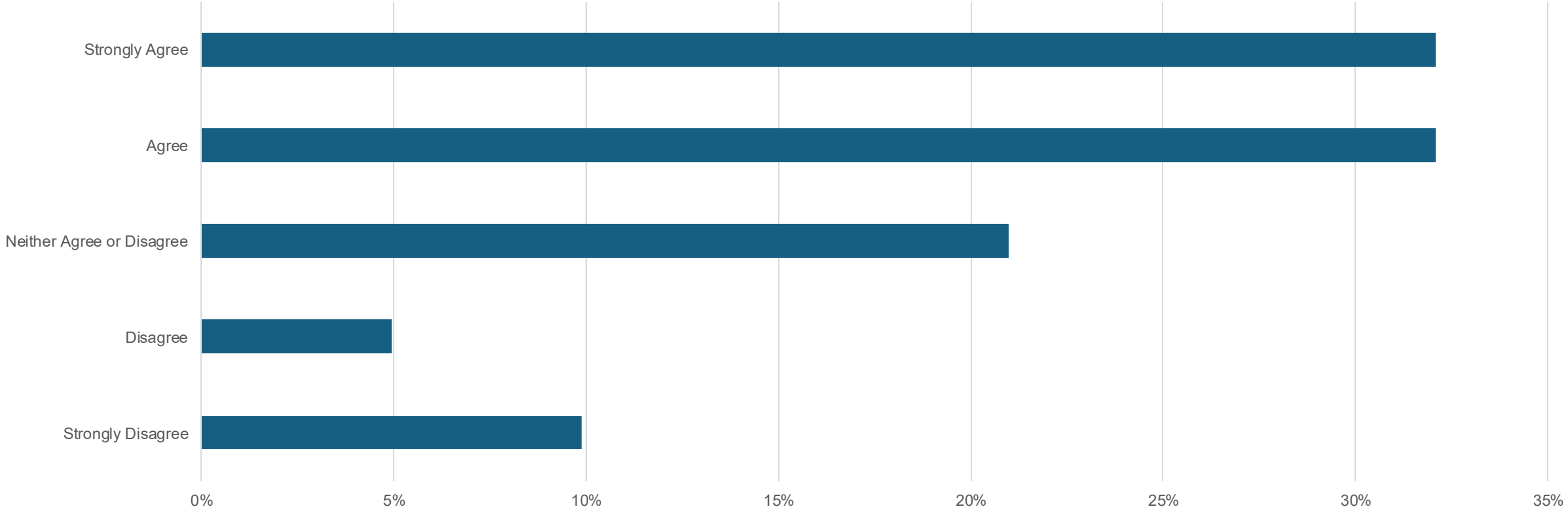
- $SLD_{ij}$ is a dummy variable which equals 1 if student *i* in subject *j* has been categorised as a SLD student in academic year *t*, and 0 otherwise.
- $(SLD * F)_{ij}$ represents the interaction between $SLD_{ij}$ and $F_i$. This variable will be 1 if student *i* in subject *j* has been categorised as a SLD student and follows the account, and 0 otherwise.
- $(SLD * I)_{ij}$ represents the interaction between $SLD_{ij}$ and $I_{ij}$. This variable will equal the number of interactions of student *i* in subject *j* if the student has been categorised as a SLDs student, and 0 otherwise.

# OLS and Probit Regression Results. SLDs Students

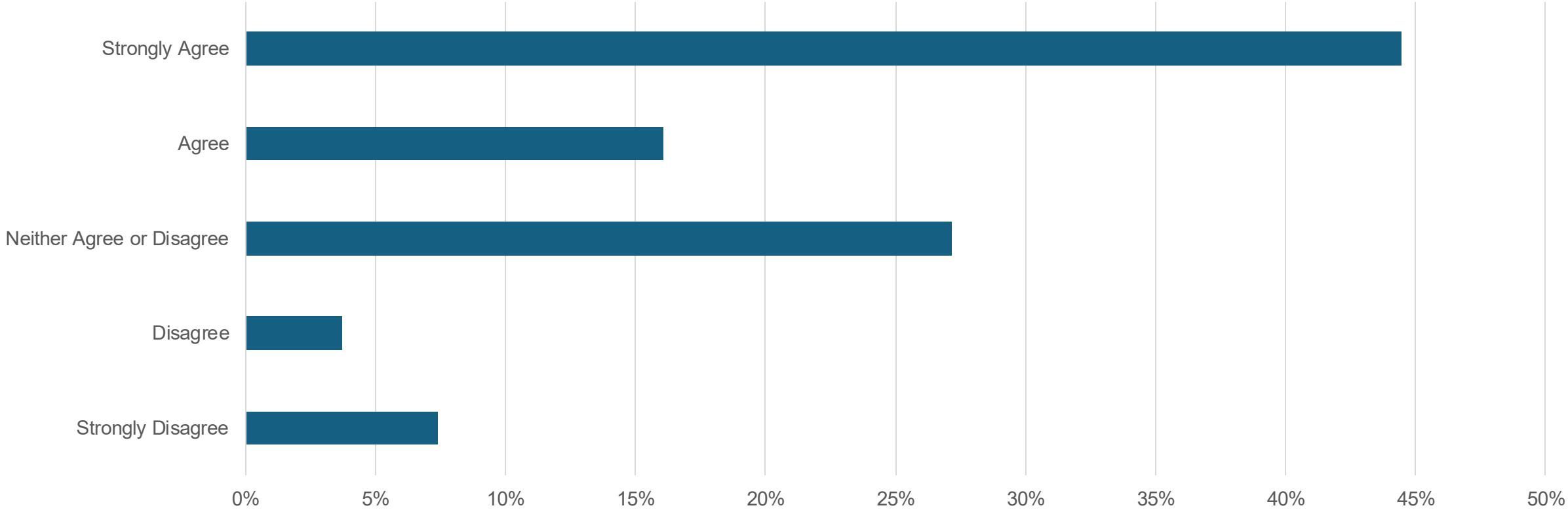
| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| VARIABLES | Percentile Rank | Percentile Rank | Grade below 40 | Grade below 40 | Grade above average | Grade above average |
| Follower | -0.116*** | -0.0893*** | -0.0273*** | -0.0123* | 0.153*** | 0.121*** |
| | (0.0186) | (0.0191) | (0.00597) | (0.00647) | (0.0302) | (0.0332) |
| Number of interactions | -0.00338 | -0.00823 | -0.00288*** | -0.00384** | 0.00995 | 0.00883 |
| | (0.00736) | (0.00945) | (0.000939) | (0.00150) | (0.0108) | (0.0146) |
| SLDs | 0.127*** | 0.0530 | 0.0977** | 0.0943** | -0.204*** | -0.0907 |
| | (0.0365) | (0.0346) | (0.0402) | (0.0474) | (0.0573) | (0.0608) |
| SLD*Follower | -0.148* | -0.157* | -0.0888** | -0.106** | 0.194* | 0.223 |
| | (0.0758) | (0.0946) | (0.0382) | (0.0442) | (0.116) | (0.144) |
| SLD*Interactions | -0.00124 | 0.0801 | -0.00813 | -0.00224 | -0.00101 | -0.103 |
| | (0.0407) | (0.0561) | (0.00701) | (0.0114) | (0.0581) | (0.0864) |
| Past Percentile Rank | | 0.419*** | | 0.125*** | | -0.567*** |
| | | (0.0252) | | (0.0208) | | (0.0437) |
| Constant | 0.521*** | 0.303*** | 0.0557** | -0.0200 | 0.494*** | 0.794*** |
| | (0.0317) | (0.0290) | (0.0256) | (0.0237) | (0.0554) | (0.0543) |
| Subject fixed effects | YES | YES | YES | YES | YES | YES |
| Year fixed effects | YES | YES | YES | YES | YES | YES |
| Robust s.e. | YES | YES | YES | YES | YES | YES |
| Observations | 1,684 | 1,333 | 1,684 | 1,333 | 1,684 | 1,333 |
| R-squared | 0.038 | 0.209 | 0.028 | 0.077 | 0.034 | 0.139 |

Results

# I found the content on the Instagram account helpful in explaining economic concepts



# The account helped me relate economic concepts to real-world situations



# OLS and Probit Regression Results
# Final Mark

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| VARIABLES | Final mark | Final mark | Grade below 40 | Grade below 40 | Grade above average | Grade above average |
| Follower | 4.516*** | 3.101*** | -0.0293*** | -0.0122 | 0.164*** | 0.139*** |
| | (0.604) | (0.647) | (0.00676) | (0.00787) | (0.0288) | (0.0323) |
| Number of interactions | 0.191 | 0.354 | -0.00405*** | -0.00554** | 0.00859 | 0.00507 |
| | (0.259) | (0.349) | (0.00124) | (0.00235) | (0.0108) | (0.0146) |
| Average past final mark | | 0.465*** | | -0.00414*** | | 0.0130*** |
| | | (0.0354) | | (0.000706) | | (0.00104) |
| Constant | 64.37*** | 34.23*** | 0.0488*** | 0.302*** | 0.631*** | -0.129* |
| | (0.847) | (2.340) | (0.0144) | (0.0506) | (0.0301) | (0.0689) |
| Subject fixed effects | YES | YES | YES | YES | YES | YES |
| Year fixed effects | YES | YES | YES | YES | YES | YES |
| Robust s.e. | YES | YES | YES | YES | YES | YES |
| Observations | 1,735 | 1,382 | 1,736 | 1,383 | 1,736 | 1,383 |
| R-squared | 0.131 | 0.349 | 0.016 | 0.098 | 0.027 | 0.132 |

Return

# OLS and Probit Regression Results. SLDs Students Final Mark

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| VARIABLES | Final mark | Final mark | Grade below 40 | Grade below 40 | Grade above average | Grade above average |
| Follower | 4.214*** | 2.938*** | -0.0273*** | -0.0108 | 0.153*** | 0.131*** |
| | (0.612) | (0.630) | (0.00597) | (0.00687) | (0.0302) | (0.0336) |
| Number of interactions | 0.240 | 0.416 | -0.00288*** | -0.00354* | 0.00995 | 0.00696 |
| | (0.258) | (0.355) | (0.000939) | (0.00210) | (0.0108) | (0.0151) |
| SLDs | -6.509*** | -3.808* | 0.0977** | 0.0900* | -0.204*** | -0.104* |
| | (2.006) | (2.081) | (0.0402) | (0.0462) | (0.0573) | (0.0615) |
| SLD*Follower | 6.624** | 6.344* | -0.0888** | -0.100** | 0.194* | 0.199 |
| | (2.850) | (3.584) | (0.0382) | (0.0430) | (0.116) | (0.140) |
| SLD*Interactions | 0.0306 | -2.212 | -0.00813 | -0.00175 | -0.00101 | -0.0830 |
| | (1.220) | (1.820) | (0.00701) | (0.0109) | (0.0581) | (0.0846) |
| Average past final mark | | 0.454*** | | -0.00412*** | | 0.0126*** |
| | | (0.0370) | | (0.000707) | | (0.00109) |
| Constant | 64.72*** | 37.67*** | 0.0557** | 0.287*** | 0.494*** | -0.240*** |
| | (0.837) | (2.564) | (0.0256) | (0.0521) | (0.0554) | (0.0829) |
| Subject fixed effects | YES | YES | YES | YES | YES | YES |
| Year fixed effects | YES | YES | YES | YES | YES | YES |
| Robust s.e. | YES | YES | YES | YES | YES | YES |
| Observations | 1,683 | 1,332 | 1,684 | 1,333 | 1,684 | 1,333 |
| R-squared | 0.141 | 0.347 | 0.028 | 0.114 | 0.034 | 0.127 |

Return