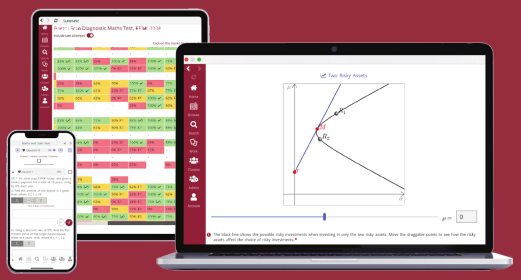
SUMMATIC

Econometrics: Online Assignments & Classroom Data



Summatic provides online questions and learning resources for **intermediate econometrics.** Our platform's **comprehensive and flexible assignments** can be used for a variety of purposes, including in-course assignments and diagnostic, formative, and summative assessments.

Our questions have been developed by econometricians at the **University of Cambridge** and are used by hundreds of students at the **National University of Singapore.**

AUTHENTIC QUESTIONS

Ask questions that go beyond multiple-choice. Students attempt full worked problems, and our platform allows students to answer with **formulas, equations, matrices, and more.**

With access to **randomly generated datasets**, students can apply econometrics techniques to analyse data in their statistical package of choice.

Full Worked Problems

Q1.1: Data on average test scores and average sleep duration S for a random sample of 190 sixth form students yields the following regression:

$$\widehat{\text{Test Score}} = 0.98S + 61,\ R^2 = 0.83,\ SER = 4.29$$

With standard error for slope, 0.03, and intercept, 5.07.

a) (Weight: 1) Construct a 95% confidence interval for the regression slope coefficient.

At 95% confidence level, we have the confidence interval

$(\widehat{\beta} - SE(\widehat{\beta})(1.96), \widehat{\beta} + SE(\widehat{\beta})(1.96)) = (0.92, 1.04)$

Attempt 1

$(0.98 - 0.03 \cdot 1.96, 0.98 + 0.03 \cdot 1.96)$ ✓...

Attempt 2

$(0.9212, 1.0388)$ ✓...

Attempt 3

$(0.92, 1.04)$ ✓ +100%

Generated Datasets

Variant 1 0%

Open Dataset

STATA R

Q1.1: The dataset contains observations X_i and Y_i. We will test the hypothesis that Y is linearly dependent on X ($Y_i = \beta_0 + \beta_1 X_i + u_i$) against the alternative that Y is a quadratic function of X ($Y_i = \beta_0 + \beta_1 X_i + \beta_2 X_i^2 + u_i$).

a) (Weight: 1) Running a regression using the quadratic specification, what is the estimated coefficient on X^2?

AUTOMATIC MARKING

Save time marking and provide students with instant feedback to understand where they may have gone wrong approaching problems.

View student attempts and scores with our **detailed performance analytics** to identify areas of strength and weakness amongst your cohort. Marks can be synchronised to your **Learning Management System.**

COURSE COVERAGE & TEXTBOOK ALIGNMENT

Question coverage includes all common topics in intermediate econometrics to provide a full theoretical and practical grounding in concepts including:

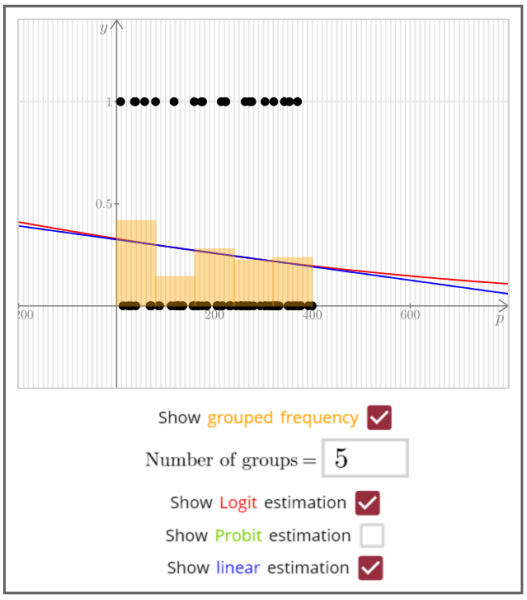
Probability	Hypothesis Tests	Binary Variables
Statistics	Confidence Intervals	Instrumental Variables
Linear Regression	Panel Data	Time Series

Questions are **textbook aligned** and can be organized and customized to match any course.

CLASSROOM DATA AND ACTIVITIES

You can use Summatic to collect data from your students, with **regression output shown in real time** on screen. This can be a very engaging part of a lecture that otherwise would be filled with complex derivations, and students appreciate working with their own data in a familiar context.

Other activities include **classroom quizzes** where a chart, with a chart of the most common answers can show how well the class is following and what common mistakes need to be addressed.



IMPROVEMENT THROUGH RANDOMIZED PRACTICE

Summatic provides **instant feedback** on question attempts **along with worked solutions**, so students can deduce exactly where they went wrong and correct their answers. If students do not get a question completely right, they can also attempt **randomly generated question variants** until they have mastered the method.

The graph below shows **very strong learning** from one variant to another: the upwards diagonals represent students who failed to get a method right but were able to pick it up with the next variant.