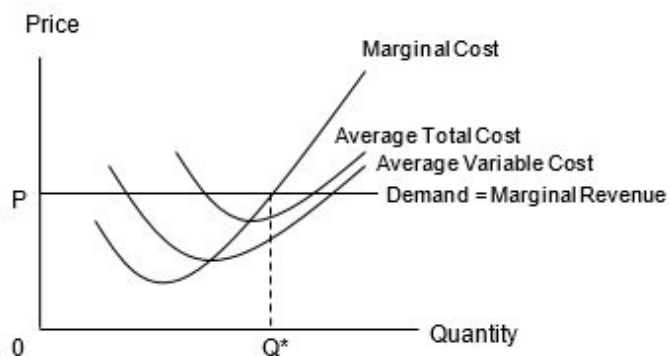


# Brief entrance test can predict academic success within first year of study in economics

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Which of the following is true for this profit-maximizing firm at price  $P$  in the graph above?

- A. It is not earning any economic profits.
- B. It is currently earning short-run economic profits.
- C. It should shut down to minimize its economic losses.
- D. It will continue to earn economic profits in the long run.

Sample task from the TEL-IV entrance test. Credit: Ill/Council for Economic Education (CEE), USA

German researchers at Johannes Gutenberg University Mainz (JGU) and Humboldt-Universität zu Berlin found that even a short test can reliably predict students' success within their first year of study in

economics—much better than an intelligence test or predictions based on school grades. Motivated by the high number of dropouts in this study domain, the researchers investigated whether and how study success in economics can be predicted reliably already at the beginning of a degree course. They found that a brief entrance test can predict students' domain-specific grades after the first year of study. "This means that we could use a short, standardized entrance test to objectively and validly assess the entry preconditions of prospective students that are relevant to their study progress," according to the project leaders of the study, Professor Olga Zlatkin-Troitschanskaia and Professor Hans Anand Pant.

## **High dropout rates in economics**

In Germany, about 450,000 young people enroll in economics courses every year. However, almost one in four drop out of their studies, with the rate being even higher at some institutions. This rising dropout rate results from the increasingly large heterogeneity of students' study-related preconditions, which are also influenced by the many different ways of gaining access to the German higher education system, including international mobility, as well as the different requirements in the German federal states, for instance, in terms of school curricula and school-leaving examinations (Abitur).

## **WiWiSET project shows practical benefits and potential of study entrance tests**

Up to now, the sole admission criterion for studying economics has been the final school grade (Abitur). Generally, no special previous knowledge is required for this study domain. In the project "WiWiSET: Validation of a university [entrance](#) test in the domain of economics," funded by the German Federal Ministry of Education and Research (BMBF), the researchers in Mainz and Berlin examined whether a

standardized entrance test with selected tasks can validly measure the state of previous knowledge in economics and thus allows for a reliable prognosis of study progress. The Test of Economic Literacy (TEL-IV) used in the study was developed in the United States and adapted by the WiWiSET team to the German university context (TEL-D). Almost 4,000 economics students at a total of 41 universities and colleges throughout Germany were recruited to participate in the representative survey. Over the course of three years, two rounds of the survey took place, in which the students were interviewed first before the beginning of their studies and then at the end of the second or the beginning of their third semester.

The domain-specific entrance test TEL-D was used to assess whether the first-year students had a fundamental understanding of macroeconomic and microeconomic interrelations, which is usually acquired, for example, in a commercial apprenticeship or in an advanced business course in high school. "This test does not focus on general cognitive skills, but on subject-related thinking and understanding, such as the fundamental concept of supply and demand," explained Professor Olga Zlatkin-Troitschanskaia. Professor Hans Anand Pant elaborated: "Furthermore, a lot of mathematical and statistical-methodological understanding is required for a successful study of economics. This is often underestimated by first-year students. More than 80 percent of the students do not know what studying economics actually means."

## **TEL-D study entrance test is diagnostically more conclusive than intelligence tests or school grades**

The researchers were able to show that study success, measured via students' academic grades, can be predicted significantly after the first year of study in all economics study modules. The TEL-D is therefore capable of reliably predicting students' academic achievement as well as

dropouts during the first year of study. Neither an [intelligence test](#) used for comparison nor the Abitur grade alone deliver the same accuracy.

Based on these findings, the project leaders Professor Olga Zlatkin-Troitschanskaia and Professor Hans Anand Pant emphasized that students' learning potential and previous knowledge must be taken into account systematically to reduce the current high student failure and dropout rates. "Unfortunately, refresher or bridging courses at the beginning of studies are only rarely effective," concluded Zlatkin-Troitschanskaia. "We have seen that it is the students' prior knowledge and their skills that are decisive in the preparatory phase of studies." These abilities could be assessed cost-effectively and with technical ease using a short domain-specific entrance [test](#). The TEL-D, for example, can be completed in 10 minutes in its short version and in 25 to 30 minutes in its long version and provides a much better prognosis than the conventional university entrance qualification.

Provided by Universitaet Mainz

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