

# Student Reactions to AI-Replicant Professor in an Econ 101 Teaching Video

Alfonso Rosa-García

[alfonso.rosa@um.es](mailto:alfonso.rosa@um.es)

*Universidad de Murcia. Departamento de Fundamentos del Análisis Económico, Facultad de Economía y Empresa. Campus de Espinardo. CP 30100, España.*

Recibido: 19 de febrero de 2025

Aceptado: 16 de junio de 2025

---

## Abstract

This paper examines the pedagogical application of artificial intelligence tools through a case study in which an AI-replicated professor delivers a teaching video in an introductory economics course. With a sample of 97 students from Economics and Business programs in Spain, the study compares the perceived utility of the content when the AI origin is disclosed versus when it is not. The material received a high rating from the students. However, findings indicate that students informed about the AI involvement rate the material significantly lower, suggesting an inherent bias against AI-generated content. The implications for integrating AI tools into Public Economics education are discussed, with recommendations for maximizing benefits and mitigating potential risks.

**Keywords:** elasticity; AI-generated content; virtual avatars.

**JEL Codes:** I23, O33

---

## 1. INTRODUCTION

Generative artificial intelligence, a type of artificial intelligence (AI) capable of creating new content, has emerged as a multifaceted tool in various domains, with the launch of ChatGPT in November 2022 as a major milestone. Based on GPT-3.5, a sophisticated Large Language Model (LLM), ChatGPT shows its proficiency in producing text similar to human writing. Other recent advancements in AI have broadened its applications. Generative AI has transitioned from being novel innovations to offer services ranging from creative ideation and feedback to more complex. In education, the adoption of these tools is a subject of intense debate, encompassing various viewpoints on their appropriateness and the best practices for their integration into educational settings. This paper contributes to this discourse by examining the interaction between students and AI-generated content, addressing key concerns about the adoption of these tools and the ethical considerations they entail. To do so, it presents an experiment designed to capture students' perceptions and acceptance of AI-generated educational materials and their use in teaching.

The significance of AI tools is growing, with their reliability and efficiency driving rapid adoption across multiple sectors, including academia. Korinek (2023) argues that these tools could revolutionize economic research by automating routine tasks, thereby enhancing productivity. He considers that the integration of LLMs will free up researchers from mundane tasks, allowing them to focus on more complex and innovative work. Brynjolfsson et al. (2025) find evidence of the productivity increases that generative AI generate, studying their use by customer support agents, a benefit which is important for novel and non-skilled workers. Similarly, Dell'Acqua et al. (2023) find a notable increase in productivity in an experiment performed in a consultancy firm upon adopting GPT-4, with the most substantial improvements observed among consultants performing below average. Charness et al. (2023) emphasizes the role of LLM in enhancing experimental design, implementation, and data analysis, and advocating for a governance framework that balances their benefits and risks. Horton (2023) introduces 'homo silicus', proposing the potential of LLMs as simulated economic agents to generate novel insights in social sciences through simulation. Recent studies have already shown that AI can effectively improve teaching results, which supports its usefulness in education contexts (De Simone et al, 2025; Henkel et al., 2024; Kestin et al., 2024).

Various studies have examined how interacting with AI agents, typically algorithms, differs from human interaction, by analysing standard economic experiments. Ishowo-Oloko et al. (2019) found that algorithms can enhance cooperation levels, but the effect disappears when participants are aware they are interacting with a computer, suggesting a reluctance to engage with AI entities. Plaks et al. (2022) observed that the likelihood of cooperation with a robot varies depending on the emotions it displays. Upadhyaya and Galizzi (2023) found that participants in a trust game displayed lower levels of reciprocity with bots compared to humans. Farjam and Kirchkamp (2019) noted that in experimental asset markets, bubbles were less frequent when participants interacted with algorithmic entities or believed they were doing so, suggesting that awareness of AI interaction may alter behaviour, potentially in anticipation of more rational responses. This body of evidence points to a general scepticism towards AI, highlighting the need for careful consideration of AI's role in educational contexts.

The increasing relevance of generative artificial intelligence, particularly its application in educational settings, alongside the observed type of human interaction with AI entities, lead us to ask ourselves how students in Economics classes response to AI entities will. The technological advancements in this field facilitate the creation of content that mirrors human output with remarkable accuracy, potentially altering the nature of interactions. Such AI-generated content closely emulates human communication, reminiscent of the interactions with "replicants" popularized by the film "Blade Runner", where distinguishing them from humans was nearly impossible. This raises intriguing questions about the reception of AI-generated educational materials by students, especially in scenarios where the distinction between AI-generated and human-generated content cannot be clearly defined and calls for an exploration of acceptance and scepticism towards AI in Economics educational contexts.

Student acceptance is not only a attitudinal variable; it conditions both the effectiveness of the instructional resource and the willingness of faculty to adopt it at scale. When students perceive AI-generated materials as credible, they are more likely to engage with them, integrate them into their study, and thus obtain the intended learning gains. Conversely, rejection of the material may reduce any potential efficiency or pedagogical benefits that the technology could offer.

In our study, we produced a teaching video using ChatGPT-4 from OpenAI for the script and Heygen's technology for the professor's avatar. This AI-generated content closely

resembled the face, voice, and non-verbal language of the actual professor of the students, making it quite difficult to distinguish that the content was not a recording of the professor. This educational video is performed, instead, by a “replicant” which copies the professor. This set up provides an ideal opportunity to assess student acceptance of AI-generated educational materials.

The participants were divided into two groups, who watch the video: one group was aware of the AI-created content, while the other was not. Although the video was positively valued by the students, the findings revealed a significant discrepancy in the perception of the content based on awareness of its AI origin. Students informed about the AI involvement tended to value the content less compared to those who were not informed, indicating a potential bias against AI-generated content. This reluctance to embrace AI-crafted educational materials raises important questions about the integration of AI in educational settings. It emphasizes the necessity to understand the underlying reasons behind student acceptance or scepticism towards AI-generated content. This paper explores the implications of our findings for educators and the broader implementation of AI in education, including both its advantages and drawbacks.

In the next section, we describe the Methodology we followed to create the video content and then we present the results of our study. Next, we discuss how to escalate the production of this type of content, that can potentially generate a large set of educational contents; finally, we discuss the implications of our results and the ethical issues that this type of content generation rises.

## 2. METHODOLOGY

This section outlines the methodology employed to assess student perceptions of AI-generated educational content. This work is part of a project of the professor, which aims to complement the teaching with additional, complement materials. The research aimed to investigate whether students' awareness of AI involvement influenced their evaluation of such materials. The Ethical Committee of the University of Murcia reviewed the study and confirmed no ethical issues were present. The document issued by the Committee is available upon request.

### 2.1. PARTICIPANTS AND PROCEDURE

Conducted in October 2023, the study involved 97 participants from 1st-year Bachelor programs in Business and Economics, enrolled in Econ 101, from first year Bachelor in Economics and Bachelor in Business programs at the University of Murcia (Spain). At the start of a class session, students were asked to voluntarily evaluate new educational materials by completing forms. Initially, they received a document explaining the economic concept of elasticity of demand, generated using ChatGPT-4, without being informed about this. Subsequently, participants watched a video featuring an AI-replicated professor avatar explaining the same concept. The video, created using the Heygen service, can be viewed upon request. In the form they completed, half of the participants were informed about the AI-generated nature of the video content, while the others were not, with two different forms distributed accordingly (see Appendix A). This division facilitated comparative analysis between informed and uninformed groups. Technical difficulties arose during the video presentation to Business program students, requiring the distribution of the video's URL for subsequent viewing on mobile devices via the virtual campus platform. Conversely, Economics program

students faced no such obstacles, enabling direct projection of the video in the classroom setting.

Data collection occurred anonymously through the completion of forms by participants, capturing their assessments of both the text and video content. These forms included Likert scale ratings of the content's overall utility, along with opportunities for qualitative feedback on their consideration of advantages and disadvantages of delivering such supplementary materials.

## 2.2. DATA ANALYSIS

Data obtained included the group of the student (Business or Economics), if was informed about the AI generation of the content (AI/No AI) and valuation of the text (TxtVal) and the video (VidVal) in a 1 to 7 Likert-scale. From this, we also calculate the differential value of each student of video with respect to text (VidVal-TxtVal). We also included an evaluation from 0 to 10 about how positive advantages or disadvantages are described by the student in the open question (TxtFeedback and VidFeedback, respectively). To score the qualitative answers we employed ChatGPT-4 as a coding assistant. The model was instructed with an explicit prompt. Two reasons motivated this choice. First, large-language-model (LLM) coding economises the substantial time normally required for hand-labelling open comments. Second, using the same prompt for every response guarantees consistency across students, reducing human bias (in Appendix B we describe the prompt we use and provide the URL to the conversation where it was generated).

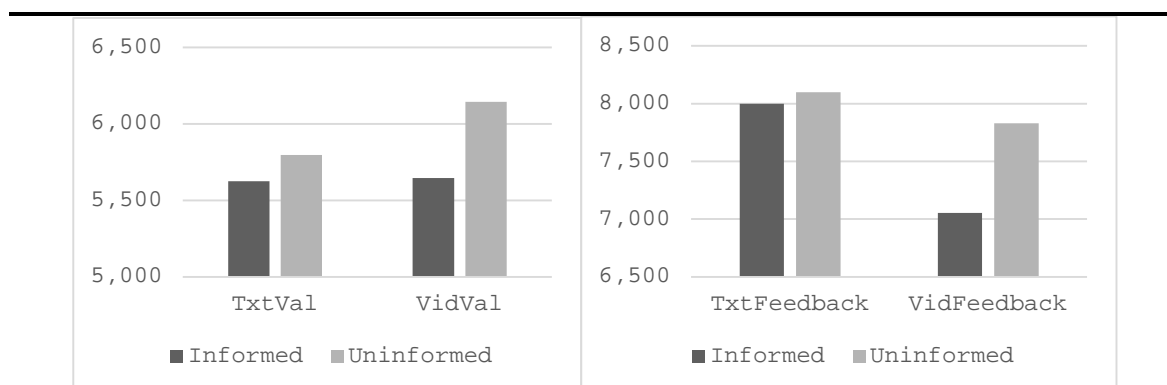
Following data collection, the focus of the analysis was to compare the valuation of text and video content between the two experimental groups: those informed about the AI nature of the video and those who were not. The significance of observed differences was assessed using t-tests. The analysis was conducted using GPT-4<sup>1</sup> and checked with Stata 17.

## 3. RESULTS

### 3.1 DESCRIPTIVE STATISTICS

The study collected data from 97 participants, consisting of students from first year Bachelor in Economics (53 students) and Business (44 students) programs. Among the students of Economics (Business), 27 (21) were informed on the IA nature of the materials, and 26 (23) were not. Valuation of materials and valuation of advantages and disadvantages are depicted in Figure 1. The valuation of the text material (TxtVal) had an average of 5.71 and a standard deviation of 1.11, and the valuation of the video material (VidVal) had an average of 5.90 and a standard deviation of 1.24, both proceeding from a Likert scale from 1 to 7. The difference between the valuation of video with respect to text has an average of 0.19 with a standard deviation of 1.72. Among the 97 participants, 77 gave a response to the open question about the advantages and disadvantages of the text material and 73 of the video material. The average valuation of these advantages and disadvantages, according to ChatGPT-4, was 8.05 for text (TxtFeedback) and 7.42 for video (VidFeedback), with a standard deviation of 1.04 and 1.67, respectively, measured in a 0 to 10 scale.

**Figure 1. Average valuation of text (TxtVal) and video (VidVal) content, and valuation of feedback on text (TxtFeedback) and video (VidFeedback), based on participant awareness of AI-generated content**



Source: Own elaboration.

### 3.2 VALUATION OF CONTENTS

As expected, the valuation of the text did not differ among the groups informed or non-informed of the AI nature of the video, as can be seen in Table 1. However, equal valuation of the video is rejected at 5%, with the video materials being valued more by students who are non-informed of the AI generation of the video (6.14) than by the students informed about that (5.65). When data are disaggregated by groups, video valuation is higher in both groups when students are not aware of the AI nature of the material, although it is significant at 5% only for students of Economics.

**Table 1. Comparison of Student Valuations for Text and Video Content, considering awareness of AI**

Año	TxtVal		VidVal		TxtVal - Economics		VidVal - Economics		TxtVal - Business		VidVal - Business	
	No AI	AI	No AI	AI	No AI	AI	No AI	AI	No AI	AI	No AI	AI
Mean	5,80	5,63	6,14	5,65	5,46	5,67	6,35	5,70	6,17	5,57	5,91	5,57
Std Dev	1,04	1,20	1,14	1,30	1,07	1,00	0,75	1,17	0,89	1,43	1,44	1,47
N	49	48	49	48	26	27	26	27	23	21	23	21
t	0,751		<b>2,009</b>		-0,722		<b>2,373</b>		1,692		0,778	
P-value	0,454		<b>0,047</b>		0,473		<b>0,021</b>		0,098		0,441	

Source: Own elaboration.

We analyse in Table 2 the differences between the valuation of the video and the valuation of the text for each student. We find that the difference in favour of the video is higher when students are not aware of the AI nature of the content (0.35) than when they are aware (0.02), although differences are not significant (p-value=0.354). In the Economics group, the difference

between both valuations is significantly different between those who were and not aware of the nature of AI (p-value=0.026), but not in the case of Business, where the sign is even reverse (p-value=0.674).

**Table 2. Analysis of students' overvaluation of Video content relative to Text, considering awareness of AI.**

Año	No AI	AI	Economics		Business	
			No AI	AI	No AI	AI
Mean	0,35	0,02	0,88	0,04	-0,26	0,00
Std Dev	1,56	1,87	1,11	1,53	1,79	2,28
N	49	48	26	27	23	21
t	0,932		<b>2,301</b>		-0,424	
p-value	0,354		<b>0,025</b>		0,674	

Source: Own elaboration.

Finally, in Table 3 we analyse the differences in how positive students are in the open question with respect to the advantages and disadvantages of this type of material, after such positiveness being assessed by ChatGPT-4. There are no differences between the positiveness of the advantages and disadvantages of text material for the two treatments, but there is a significant difference for the video materials, being the average positiveness higher in the non-informed about AI treatment than in the informed treatment (an average of 7.83 versus 7.05, with a p-value of 0.047). Differences in the Economics and in the Business group are relevant, of more than half point, but not significant (p-values>0.1).

**Table 3. Evaluation of students' positivity towards advantages and disadvantages of text and video materials, considering awareness of AI.**

Año	TxtFeedback		VidFeedback		TxtFeedback - Economics		VidFeedback - Economics		TxtFeedback - Business		VidFeedback - Business	
	No AI	AI	No AI	AI	No AI	AI	No AI	AI	No AI	AI	No AI	AI
Mean	8,10	8,00	7,83	7,05	7,86	7,95	7,90	7,21	8,37	8,07	7,73	6,79
Std Dev	1,08	1,00	1,36	1,86	1,24	1,09	1,17	1,56	0,83	0,88	1,62	2,33
N	40	37	35	38	21	22	20	24	19	15	15	14
t	0,420		<b>2,020</b>		-0,274		1,637		1,023		1,279	
P-value	0,675		<b>0,047</b>		0,785		0,109		0,314		0,212	

Source: Own elaboration.

The less favorable response from students may come from a distrust of new technologies, a perceived lack of authenticity in AI-generated content, or a sense of deception upon discovering the material was AI-created. Open-ended responses revealed that students who knew about AI's involvement were more critical. For example, in the group not informed about the AI, 4 out of 49 students rated the video at least 2 points lower than the text, only two of these students responded to the open question, and neither mentioned any disadvantages. In contrast, among those informed, 10 out of 48 rated the video at least 2 points lower than the text. Of these, 9 responded to the open question, with 7 pointing out specific flaws such as the video's limited appeal and its "artificial appearance." This suggests that knowing about the AI involvement likely heightened students' dissatisfaction, making them more critical of the content. Such divergences echo the broader literature on human–AI interaction and, pedagogically, show us that information on opinions of students on how they are taught can help to fit better their needs. Whether lecturers provide photocopied notes, prescribe a handbook, conduct oral examinations, or—as here—offer AI-generated videos, collecting students' judgments helps calibrate the delivery mode to the context.

#### **4. INSIGHTS INTO UTILIZING AI REPLICANTS FOR ECONOMICS TEACHING PURPOSES.**

The intervention also contribute to several transversal competencies identified in European Higher Education Area frameworks: (i) digital literacy— students learn to interact critically with generative tools; (ii) information appraisal— they must contrast AI explanations with canonical sources; (iii) self-regulated learning— on-demand videos support personalised pacing; and (iv) adaptability, a key employability trait in data-rich workplaces. These competencies contextualise the pedagogical value of AI apart from its novelty.

Students who watched the video without knowing it was generated by AI gave it a very high score: 6.14 out of 7 on the Likert scale. This strong result shows a high level of acceptance and appreciation for this type of material, valued more than the text, which received a lower score of 5.80 in the same group. This difference suggests that students not only accept but prefer learning materials presented in video format, at least in this version including their professor. These results highlight the advantage of producing this kind of AI-generated content, as it seems to connect well with students and can be a useful way of supporting their learning in a positive way.

A direct, scalable application of the AI-replicant method is the rapid production of short, concept-focused videos. Starting on our elasticity video, a natural extension is to introduce adjacent topics of Public Economics. Additional videos can illustrate, for instance, 1) how supply and demand elasticities determine the tax incidence, that is, who actually bears the burden of the tax; (2) the relationship between supply and demand elasticities and the efficiency loss from a tax of the same size lies in the fact that the more elastic either curve is, the greater the deadweight loss the tax creates.; (3) introduce the Ramsey inverse-elasticity rule for optimal commodity taxation; (4) how the effectiveness of a subsidy depends on the elasticity of supply.

However, in considering the integration of AI replicants for educational purposes in Economics, it is crucial to weigh their potential benefits against ethical concerns. AI replicants, capable of mimicking instructors' voices, faces, and non-verbal communication, offer a promising avenue for enhancing student engagement and accessibility to educational materials. Traditionally, creating such materials has been complex, but advancements in AI technology now streamline this process, making it more accessible and cost-effective. Although it is widely

recognized that LLMs may have inaccuracies, these problems are reduced more and more, and recent research has shown that initial versions of ChatGPT are able to adequately address questions in Public Economics (Contreras, 2024). This accessibility suggests that the use of AI replicants in educational videos can become increasingly common.

Another consideration is if these advantages can be less relevant for on-campus cohorts: many enrol precisely to enjoy continuous face-to-face interaction with academic staff. When an avatar substitutes the physical lecturer—even partially—students might perceive a dilution of that promise.

#### 4.1 HOW TO MAKE TEACHING MATERIALS WITH A PROFESSOR'S AI REPLICANT.

Customized avatars have reached a level of detail making them nearly indistinguishable from real humans. This advancement opens the possibility of automating the creation of video educational materials, presented by the same professor who teaches the course. This approach can significantly benefit students, providing a sense of closeness to the material. Traditionally, creating such materials has been a complex task, but AI simplification considerably eases this process. Specifically, it is a relatively rapid and cost-effective method. An accessible approach, as suggested to students, is the creation of video FAQs. The process involves:

- a) Content Selection: The professor chooses the video content to explain.
- b) Writing Scripts: The professor can draft the scripts personally, accelerating the process with the aid of a Large Language Model like ChatGPT and then check everything is correct.
- c) Customized Avatar Creation: Platforms like Heygen facilitate this step. The professor needs to upload a short video, no more than two minutes long, where she is speaking. The avatar's quality varies with the video's length, but it is nearly indistinguishable from the professor.
- d) Explanatory Video Production: Using the professor's AI replica, explanatory videos on selected topics can be generated automatically, resulting in a teaching video where several concepts can be explained by the AI-replicant according to the script.

These developments indicate that the automatic creation of such educational materials is not only technologically feasible but also easily achievable and moderately priced. The widespread availability and affordability of this technology is imminent, suggesting that the use of such videos will become increasingly common.

#### 4.2 ETHICAL CONCERNS

The potential problems for the professor-student relationship, alongside the ease of production and scalability of AI-generated content, raise important ethical concerns. While AI-generated materials offer accessibility and customization benefits, there is a risk of diminishing the human element in education. Therefore, it is essential to balance the benefits of AI-generated materials with the ethical considerations they entail. This includes transparently labeling AI-generated content to ensure users are aware of its origins. However, our study suggests that overemphasizing AI involvement may negatively influence material valuation. Accordingly, disclosure should be timely, informative, and framed positively. Timely, in that students should know the origin of the material; informative, by explaining the specific role played by the AI; and positively framed, stressing that AI augments—rather than replaces—

human instruction. Such nuance respects students' autonomy without triggering the prejudice that surfaced in our experiment. Educators and content creators must weigh the benefits of AI-generated materials against the necessity of transparency and the potential impact on student perception.

Despite these concerns, supervised AI-generated materials have the potential to provide tailored educational experiences that align with contemporary learning preferences, particularly among digitally native generations. Therefore, understanding student perceptions and acceptance of AI content is crucial. Our study sheds light on initial reactions but also underscores the need for further investigation into how students' attitudes evolve over time. As AI technology continues to advance, the automatic creation of educational materials is poised to become even more prevalent. Future research should explore innovative ways to leverage AI-generated content to enhance learning outcomes while addressing ethical concerns. Additionally, investigating how students' attitudes towards AI content evolve over time can provide valuable insights for educators and policymakers. By staying attuned to these developments, educators can ensure that the integration of AI into educational settings is both ethical and effective.

## 5. CONCLUSION

The increasing ability of generative artificial intelligence is going to potentially change many different aspects of our daily life. Education is one of the sectors that is going to be more affected, with several types of different impacts that need to be analyzed. This investigation also showcases the application of AI in the research methodology itself, leveraging ChatGPT-4 not only in producing educational content for Economics but also in analyzing qualitative feedback and performing data analysis. This meta-use of AI illustrates technology's expansive potential. In our study, we have analyzed for the first time how students react to an AI replicant of their professor in a basic Economics course, an avatar able to mimic the voice, face, and non-verbal communication of the professor of the students. We find that students value this type of material, but that their valuation is dependent on their awareness of the nature of the content: students value significantly less the material when they are conscious of the AI nature of its creation. Our study has found that Economics and Business students value less the AI materials only based on their knowledge of its origin, even when the material offered for them is indistinguishable of a material created by a human.

One natural question is how to reduce the bias against AI-generated content. To address this, professors should carefully review and supervise any AI-generated materials they use and make it clear to students that the content has been checked and approved by them. This would help build trust in these materials. While professors should always do this, it is especially important that they communicate it to students in a trustworthy way. Additionally, professors making a clear statement about the appropriate use of AI as a study aid can help change negative perceptions and encourage greater acceptance of these materials.

This study presents an important finding, but there are some limitations, such as the small sample size and the specific content examined. Further research should investigate whether the bias persists with other types of materials, like class notes or summaries, which are also likely to be AI-generated. It's also crucial to determine if the bias remains once students become accustomed to using these materials, or if it is simply due to their novelty. Additional research

should explore these aspects to better understand students' relationships with AI-generated content.

There is a tradeoff between informing or not about the nature of this content. Ethical considerations require to inform recipients about this fact, although we must be conscious about the potential problems that this information will create in how students value the material. With the improvements of generative artificial intelligence, it seems likely that AI generated materials will become more and more frequent, covering different types such as texts, audio and video. In such a new world, where individuals will interact with entities able to replicate humans, this research is also a call for a further understanding of how students, but also the public, are going to interact with these new entities.

## ANEXO I

We include here the forms fill by the students. Originals were in Spanish. Form 1 corresponds to Text evaluation, Form 2 corresponds to Video evaluation, non-AI informed and Form 3 corresponds to Video evaluation, AI informed. The experimental treatment difference is in the second paragraph of Forms 2 and 3.

### ASSESSMENT ON NEW MATERIALS

This survey aims to evaluate your perception of the usefulness of new teaching materials. For this purpose, please read the following paragraph about elasticity:

"Elasticity of demand measures how the quantity demanded of a good responds to a change in its price. It is calculated as the percentage change in the quantity demanded divided by the percentage change in price. If the absolute value is greater than 1, the demand is elastic; if it is less than 1, it is inelastic. Income elasticity measures how the quantity demanded changes when the consumer's income varies. A positive value indicates a normal good, and a negative value indicates an inferior good. Cross-price elasticity measures how demand responds to a change in the price of another related good. A positive value indicates substitute goods and a negative value indicates complementary goods."

Written material with information like this could complement the currently available material. It would consist of a set of written materials with brief descriptions of concepts and brief aspects of different topics.

Please answer the following questions:

1. Rate from 1 to 7, where 1 is "Not at all useful" and 7 is "Extremely useful", how useful you think such material would be for your learning.

1 - 2 - 3 - 4 - 5 - 6 - 7

2. What advantages and disadvantages do you think having such material would have? (Optional)

#### ASSESSMENT ON NEW MATERIALS

This survey aims to evaluate your perception of the usefulness of new teaching materials. For this purpose, please watch the following video about elasticity.

A document with videos like this could complement the currently available material. It would consist of a series of videos featuring the teacher explaining brief descriptions of concepts and brief aspects of different topics.

Please answer the following questions:

1. Rate from 1 to 7, where 1 is "Not at all useful" and 7 is "Extremely useful", how useful you think such material would be for your learning.

- 2 - 3 - 4 - 5 - 6 - 7

2. What advantages and disadvantages do you think having such material would have? (Optional)

#### ASSESSMENT ON NEW MATERIALS

This survey aims to evaluate your perception of the usefulness of new teaching materials. For this purpose, please watch the following video about elasticity.

A document with videos like this could complement the currently available material. It would consist of a series of videos featuring an artificial intelligence-generated model that mimics the image and voice of the teacher, explaining brief descriptions of concepts and brief aspects of different topics.

Please answer the following questions:

1. Rate from 1 to 7, where 1 is "Not at all useful" and 7 is "Extremely useful", how useful you think such material would be for your learning.

- 2 - 3 - 4 - 5 - 6 - 7

2. What advantages and disadvantages do you think having such material would have? (Optional)

## ANEXO II

Here we described how we assigned a value between 0 and 10 to the positiveness with respect to advantages and disadvantages of the material in the response to the open question by the students.

We used ChatGPT-4 on January 25<sup>th</sup>, 2024. We introduce the following prompt (translated from Spanish):

“I'm going to provide you with a series of opinions about the advantages of educational material. I want you to give me a rating, from 0 to 10, for each opinion, on whether it appears positive (10) or negative (0), regarding the material.”

Followed by the answers of the students in blocks of 10 first and 20 then. The full chat where it was produced can be found in the following URLs:

- Valuation of text content: <https://chat.openai.com/share/da3c50c3-1ae8-423a-a8b3-6f49e9cd314b>
- Valuation of video content: <https://chat.openai.com/share/895f8c11-4382-4c68-ad5d-9f72f1d80c14>

## Notas

<sup>1</sup> One advantage of using ChatGPT 4 for data analysis is the transparency it provides, since the analysis can be shared: <https://chat.openai.com/share/b5f598dc-629f-4bfc-bef3-a36e07208e80>

## REFERENCES

- Brynjolfsson, E., Li, D., & Raymond, L. R. (2025). Generative AI at Work. *The Quarterly Journal of Economics*, forthcoming. <https://doi.org/10.1093/qje/qjac044>
- Charness, G., Jabarian, B., & List, J. A. (2023). Generation next: Experimentation with ai. *NBER Papers*, No. w31679.
- Contreras, C. (2024). How does ChatGPT score in a Public Economics exam?. *e-Publica*, (35), pp. 42-75.
- De Simone, M. E., Tiberti, F. H., Rodriguez, M. R. B., Manolio, F. A., Mosuro, W., & Dikoru, E. J. (2025). From Chalkboards to Chatbots: Evaluating the Impact of Generative AI on Learning Outcomes in Nigeria . *Policy Research Working Paper, Impact Evaluation Series*. World Bank Group. <http://documents.worldbank.org/curated/en/099548105192529324>
- Dell'Acqua, F., McFowland, E., Mollick, E. R., Lifshitz-Assaf, H., Kellogg, K., Rajendran, S., Kraymer, L., Candelon, F., & Lakhani, K. (2023). Navigating the jagged technological frontier: Field experimental evidence of the effects of AI on knowledge worker productivity and quality. *Harvard Business School Technology & Operations Management Unit Working Paper*, (24-013).
- Farjam, M., & Kirchkamp, O. (2018). Bubbles in hybrid markets: How expectations about algorithmic trading affect human trading. *Journal of Economic Behavior & Organization*, 146, pp. 248-269.

- Henkel, O., Horne-Robinson, H., Kozhakhmetova, N., & Lee, A. (2024). Effective and scalable math support: Evidence on the impact of an AI-tutor on math achievement in Ghana. *arXiv preprint arXiv:2402.09809*.
- Horton, J. J. (2023). Large language models as simulated economic agents: What can we learn from homo silicus? *NBER Papers*, No. w31122).
- Ishowo-Oloko, F., Bonnefon, J. F., Soroye, Z., Crandall, J., Rahwan, I., & Rahwan, T. (2019). Behavioural evidence for a transparency–efficiency tradeoff in human–machine cooperation. *Nature Machine Intelligence*, 1(11), pp. 517-521.
- Kestin, G., Miller, K., Kales, Anna. (2024). AI Tutoring Outperforms Active Learning. *PREPRINT (Version 1)* available at Research Square [<https://doi.org/10.21203/rs.3.rs-4243877/v1>]
- Korinek, A. (2023). Generative AI for economic research: Use cases and implications for economists. *Journal of Economic Literature*, 61(4), pp. 1281-1317.
- Plaks, J. E., Rodriguez, L. B., & Ayad, R. (2022). Identifying psychological features of robots that encourage and discourage trust. *Computers in Human Behavior*, 134, 107301.
- Upadhyaya, N., & Galizzi, M. M. (2023). In bot we trust? Personality traits and reciprocity in human-bot trust games. *Frontiers in Behavioral Economics*, 2, 1164259.

### **Reacciones de los estudiantes ante un profesor replicante de IA en un vídeo de clase de Introducción a la Economía**

#### **Resumen**

Este artículo analiza la aplicación pedagógica de herramientas de inteligencia artificial a través de un estudio de caso en el que un profesor replicado mediante IA imparte un vídeo didáctico en un curso introductorio de economía. Con una muestra de 97 estudiantes de los grados de Economía y de Empresa en España, el estudio compara la utilidad percibida del contenido cuando se revela su origen en IA frente a cuando no se revela. El material fue valorado muy positivamente por los estudiantes. Sin embargo, los resultados indican que los estudiantes informados sobre la participación de la IA en la generación del material califican el material significativamente menos, lo que sugiere un sesgo inherente contra el contenido generado por IA. Se discuten las implicaciones para la integración de herramientas de IA en la docencia de Economía Pública, con recomendaciones para maximizar sus beneficios y mitigar los posibles riesgos.

**Palabras Clave:** elasticidad; contenido generado por IA; avatares virtuales.

**Códigos JEL:** I23, O33