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WOJCIECH ZAWADZKI
MIKOŁAJ CZAJKOWSKI
KATARZYNA SKRZYPEK
MATYLDA JĘDRZEJEWSKA
MAJA ŻMIJEWSKA
JAKUB RYŁOW
DOMINIKA GADOWSKA DOS-SANTOS
GABRIELA GROTKOWSKA
AGNIESZKA RÓŻYCKA
ARKADIUSZ FILIP
MARCIN GRUSZCZYŃSKI
AGATA KAŁAMUCKA

TADEUSZ KOWALSKI
WALDEMAR KOZIOŁ
MAGDALENA OLENDER-SKOREK
KRZYSZTOF OPOLSKI
KATARZYNA SACZUK
MATEUSZ SZCZUREK
URSZULA SZTANDAR-SZTANDERSKA
KACPER WAŃCZYK
ALEKSANDRA WIŚNIEWSKA
KATERYNA ZABARINA
PIOTR ŻOCH

UNIVERSITY OF WARSAW
FACULTY OF ECONOMIC SCIENCES

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Hybrid or Hands On? Students' Economic Preferences over Study Design and Labor Market Payoffs

Wojciech Zawadzki[1], Mikołaj Czajkowski[1], Katarzyna Skrzypek[1], Matylda Jędrzejewska[1], Maja Żmijewska[1], Jakub Ryłow[1], Dominika Gadowska dos-Santos[1], Gabriela Grotkowska[1], Agnieszka Różycka[1], Arkadiusz Filip[1], Marcin Gruszczyński[1], Agata Kałamucka[1], Tadeusz Kowalski[2], Waldemar Kozioł[3], Magdalena Olender-Skorek[3], Krzysztof Opolski[1], Katarzyna Saczuk[4], Mateusz Szczurek[1], Urszula Sztandar-Sztanderska[1], Kacper Wańczyk[5], Aleksandra Wiśniewska[1], Kateryna Zabarina[1], Piotr Żoch[1]*

[1] *Faculty of Economic Sciences, University of Warsaw*
[2] *Faculty of Journalism, Information and Book Studies, University of Warsaw*
[3] *Faculty of Management, University of Warsaw*
[4] *Centre of Migration Research, University of Warsaw*
[5] *Centre for East European Studies, University of Warsaw*
[*] *Corresponding author: mc@uw.edu.pl*

Abstract: We study how university students trade off the design and demands of study against expected labor market returns. We conducted a Discrete Choice Experiment (DCE) with students of the Economics Department at the University of Warsaw. Choice alternatives varied the share of in person teaching, weekly class hours, weekly preparation time, language mix (Polish vs. English), net monthly study cost (tuition minus stipends), and expected net salary after graduation. The DCE was embedded in a broader survey measuring study experience, time use, work during studies, scheduling preferences, and perceptions of quality and reputation. The instrument and framings follow state of the art DCE guidance and are publicly documentable. Using multinomial logit and mixed logit models, we estimate compensating differentials students require to accept (i) more online teaching, (ii) more weekly effort (classes/prep), or (iii) English medium instruction in Polish language curricula. The results show large, precise utility gains from higher expected salary, disutility from higher weekly preparation time, and strong (non linear) preferences over delivery mode and language. We then simulate policy scenarios (e.g., introducing 50% online, adjusting effort) and quantify the cost equivalent or salary equivalent levers needed to maintain program attractiveness. We position our results in the international literature on DCEs in higher education and discuss external validity with respect to a large national DCE that emphasized earnings over prestige. We conclude with program design implications for universities worldwide navigating hybridization, workload calibration, and language policy in light of students' revealed economic preferences.

Data availability statement

All research materials will be made publicly available without restriction. The open-access package includes:

I. an anonymized dataset at both the task and respondent level;
II. the complete DCE questionnaire and implementation instructions;
III. the experimental design matrix;
IV. analysis code and scripts used to reproduce the models and simulations; and
V. estimation outputs (logs and result files).

The full replication package will be deposited in an open repository and provided in the editorial version and in the preprint. The data contain no personally identifiable information, and any potentially sensitive variables will be aggregated or masked in accordance with the GDPR.

1. Introduction

Universities worldwide are re-designing study programs in response to three converging pressures: the diffusion of hybrid teaching after the pandemic, tighter student time budgets due to work and commuting, and accelerating "Englishization" in non-English speaking systems – all against a backdrop of growing attention to graduate outcomes. These changes raise a straightforward but empirically demanding question: how do students trade off delivery mode, weekly effort and workload, language policy, and money (current costs and expected future payoffs) when choosing among study designs? We address this question using a discrete choice experiment (DCE) embedded in a comprehensive student survey at the Faculty of Economic Sciences, University of Warsaw, eliciting preferences over (i) the share of in-person teaching, (ii) weekly class hours, (iii) weekly preparation time, (iv) the Polish–English language mix, (v) net monthly study cost (tuition minus stipends), and (vi) expected net salary after graduation. Our design follows contemporary guidance on stated preference studies and consequential framing, and it is implemented as a CAWI instrument with repeated choices per respondent.

Our contribution is twofold. Substantively, we provide money-metric estimates of students' willingness to pay/accept (WTP/WTA) for program attributes and translate them into adoption predictions for concrete policy scenarios that faculties can actually implement (e.g., "move to 75% in-person/25% online," "reduce weekly class time by one session," or "raise the share of English-taught classes"). Methodologically, we estimate a multinomial logit (MNL) and mixed logit (MXL) in WTP-space so that every non-monetary change can be read directly in thousand PLN of expected monthly salary, which is the natural "currency" for planning and budgeting. Expressing preferences in this money metric allows us to compute, for each scenario, the compensating differentials required to keep student welfare constant and the implied head-to-head adoption against today's program.

We position the study at the intersection of economics and education, building on random-utility models of program choice (e.g., Manski & Wise, 1983; Train, 2009) and on an emerging literature that applies choice experiments to higher education (e.g., Czajkowski et al., 2020; Sheppard & Smith, 2016). In contrast to revealed-preference enrollment data – where attributes such as mode, workload, language, price, and outcomes are often bundled – the DCE varies them independently, enabling clean identification of trade-offs. The result is a transparent map from proposed changes to welfare and demand that can support departmental and university-level decision making.

A preview of our main findings is as follows. Students value moderate hybridization but penalize extreme online formats; they treat time as the tightest budget, valuing small, predictable reductions in weekly class time and disliking large increases in either class or preparation hours; and they are tolerant of some English but require sizable compensation once English becomes dominant. Together with a sizeable status-quo premium, these patterns imply that incremental, targeted reforms – light hybrid plus modest time relief – can reach high acceptance at low cost, while heavy online or English-dominant designs need large, salient benefits to avoid sharp drops in demand.

The remainder of the paper proceeds as follows. Section 2 reviews related literature on student program choice, hybrid teaching, workload, language of instruction, and financial trade-offs. Section 3 describes the context, instrument, and sample, and Section 3.5 outlines the econometric framework. Section 4 presents the estimation results. Section 5 discusses policy simulations derived from the WTP-space MNL and draws design implications for universities. Section 6 concludes with actionable takeaways for institutions navigating hybridization, workload calibration, and language policy.

2. Related literature

Choosing a field and program of study can be viewed as an investment decision in which students trade off current costs (tuition, time, effort) against expected future benefits (employment and earnings, personal development). In economic terms, this is often modeled using random-utility frameworks in which each program is a bundle of attributes, and students select the alternative with the highest utility (Manski & Wise, 1983; Train, 2009). A long line of revealed-preference work has shown that economic incentives and institutional characteristics matter: lower tuition and more generous financial aid tend to raise enrollment (Heller, 1997; Leslie & Brinkman, 1987), while expected returns and perceived program quality also influence choice (Maringe, 2006; Soutar & Turner, 2002; Sojkin et al., 2012). However, revealed-preference data often confound attributes that move together in real markets (e.g., prestige, cost, and outcomes), making it difficult to disentangle their separate effects.

DCEs and other stated-preference methods address this identification challenge by presenting respondents with hypothetical program options in which key attributes are systematically varied. This allows researchers to recover marginal utilities and trade-offs, and to express them in monetary terms as WTP or WTA for changes in program design (Johnston et al., 2017; Mariel et al., 2020). In higher education, Sheppard and Smith (2016) show that

a DCE can yield precise WTP estimates for attributes such as staff expertise, teaching platform, and flexibility in a UK postgraduate context. Czajkowski et al. (2020) apply a large-scale DCE to higher education in Poland, eliciting preferences of young people over tuition, expected earnings, quality, distance, and mode of study, and estimating money-metric trade-offs using WTP-space models. Their results highlight the importance of expected earnings and personal interest, and show that many Polish students are relatively price-sensitive while placing comparatively modest weight on institutional prestige.

Within this literature, several attributes are particularly relevant for contemporary program design. The first is teaching mode. The rapid expansion of online and hybrid learning – accelerated by the COVID-19 pandemic (Patrinos et al., 2025, Jakubowski et al., 2025) – has drawn attention to student preferences over in-person, remote, and blended formats. Studies generally find that students strongly value face-to-face interaction and the social experience of campus life, but also appreciate some flexibility from online components (Photopoulos et al., 2023; Sheppard & Smith, 2016). A second attribute is weekly workload and effort. While not always modeled explicitly as a choice attribute, perceived workload is known to affect satisfaction and outcomes: heavy workloads are associated with stress and lower satisfaction, whereas adequate contact time and access to instructors signal quality (James et al., 1999; Kyndt et al., 2014). By treating weekly class hours and preparation time as explicit attributes, DCEs can quantify how much compensation students require for more demanding programs, or how much utility they gain from small, predictable reductions in time requirements.

A third attribute is language of instruction. The expansion of English-medium instruction in non-English speaking countries is often motivated by internationalization goals, but it also introduces a non-trivial trade-off for domestic students. Lueg and Lueg (2015) show that students from higher socio-economic backgrounds and with strong language capital are more likely to select English-taught programs, perceiving them as gateways to global careers; at the same time, some students self-select out due to concerns about performance and comfort. In the Polish context, the number of English-taught degrees has grown, particularly in economics and business, alongside traditional Polish-language programs. This raises the question of how much English content students in a domestic track are willing to accept, and what compensation – in terms of expected outcomes or other benefits – would be required for English-dominant curricula.

Finally, expected labor-market outcomes remain a central driver of higher education choices. International evidence suggests that students are willing to trade higher costs or less

attractive non-pecuniary attributes for programs with better expected earnings and employment prospects (Soutar & Turner, 2002; Maringe, 2006; Wiswall & Zafar, 2014). In their Polish DCE, Czajkowski et al. (2020) find that expected salary differences play a major role in program choice, alongside alignment with personal interests. Taken together, the literature shows that students respond to a combination of economic incentives, study conditions, and long-run returns, and that DCEs are well-suited to mapping these trade-offs in a money-metric way. Our study contributes to this work by implementing a DCE that jointly varies teaching mode, weekly effort and workload, language mix, net monthly study cost, and expected salary in a single, coherent framework, and by estimating compensating differentials in WTP-space for a concrete institutional setting in Poland.

3. Method

3.1. Participants and procedures

We administered a Computer-Assisted Web Interview (CAWI) to all Polish-track students enrolled at the Faculty of Economic Sciences, University of Warsaw. The survey was implemented in SurveyEngine and fielded between 2 September and 13 October, using an individualized link sent to university e-mail accounts. Students were invited to share their views on possible modifications to the study program and were explicitly informed that the results would be used as input for faculty-level discussions of program design.

In total, 1,328 invitations were distributed and 159 completed questionnaires were obtained, yielding a response rate of approximately 12%. The invitation targeted students enrolled in any program at the Faculty; respondents who studied more than one major within the Faculty were asked to select the major they considered primary (e.g., the one with the largest course load) and to answer all questions with respect to that program. This ensured that choices in the DCE referred to a clearly defined "current" study program.

The sample covers all years and cycles of study. The largest groups are second- and third-year bachelor students, with smaller but non-trivial shares of first-year bachelor and master's students. This reflects typical patterns of attrition after the first year and the fact that not all bachelor graduates continue to the master level. Detailed socio-demographic and study-related characteristics of the sample are summarized in Online Appendix 1. Although participation was voluntary and uncompensated, which may introduce some self-selection toward more engaged students, this group is precisely the one most likely to provide informed preferences about

program reforms. We therefore interpret the sample as a meaningful cross-section of active students at the Faculty.

3.2. Measures

The questionnaire consisted of two main components: (i) a discrete choice experiment on alternative study program designs, and (ii) a set of background modules measuring study experience, time use, employment during studies, scheduling preferences, and perceptions of quality, reputation, and financial conditions. The DCE module was embedded after the background questions so that respondents first reflected on their current situation and preferences before evaluating hypothetical alternatives.

3.2.1. Discrete choice attributes and levels

The DCE presented respondents with eight choice tasks. Each task described three alternative versions of their current program: the status quo (no change) and two hypothetical programs differing in selected attributes. Figure 1 shows an example choice card. The attributes and levels are summarized in Online Appendix 2 and capture six dimensions of program design and labor market outcomes:

1. **Teaching mode** – the percentage of classes conducted in person at the Faculty versus remotely (online). Levels range from fully in-person (current situation) to fully online in approximately 25-percentage-point steps.
2. **Weekly effort (class hours)** – the number of weekly class hours (lectures, tutorials, seminars, workshops) relative to the student's current schedule, with levels varying from four fewer to four additional classes per week (−6 to +6 hours).
3. **Weekly workload (preparation time)** – the number of weekly hours required for studying outside class (homework, readings, exam preparation, final papers), again relative to the current situation (±1.5 to ±6 hours per week).
4. **Language of instruction** – the share of classes held in Polish versus English, from the current Polish-dominated program (100% Polish) to a fully English-taught curriculum (100% English).
5. **Net monthly cost of studying** – the perceived monthly net cost, defined as tuition and administrative fees minus scholarships and other financial aid. Levels allow for both higher out-of-pocket costs and net "stipends" when aid exceeds costs.

6. **Expected monthly salary after graduation** – the average net salary that graduates of the program could expect in the labor market, varying symmetrically around a status-quo value based on national administrative data.

Figure 1. The example of the DCE choice task

Which of the following study programs do you prefer?
Remember, if none of the proposed options are satisfactory, you can always choose a third option – leaving the study program unchanged.

	Option A	Option B	No change
Teaching mode	All classes are held remotely (online)	No changes – 100% of classes are held in-person	No changes – 100% of classes are held in-person
Weekly effort	Four fewer classes (-6 hours)	One fewer class (-1.5 hours)	No change
Weekly workload	6 hours less needed	4.5 hours more needed	No change
Language of instruction	Approximately 25% of classes are held in Polish and 75% in English	Approximately 10% of classes are held in Polish and 90% in English	No changes - 100% of classes are held in Polish
Net monthly cost of studying	100 PLN less	50 PLN less	No change
Expected monthly salary after graduation	12,000 PLN (100% increase)	10,500 PLN (75% increase)	6,000 PLN (unchanged)
Choice:	○ Option A	○ Option B	○ No change

The status-quo alternative in each choice task was anchored to the respondent's own reported situation: their current mix of in-person teaching, typical weekly class time and preparation, language mix, net monthly cost, and a baseline expected salary based on external statistics. Hypothetical alternatives modified one or more of these dimensions. Attributes were explained using short, plain-language vignettes immediately before the DCE, emphasizing that respondents should consider realistic trade-offs between study conditions, financial flows during studies, and expected outcomes after graduation. For example, students were asked to interpret "net monthly cost of studying" as a single number combining tuition and fees with any scholarships they receive, and to treat "expected salary" as a proxy for the market value of the degree.

To keep the main text focused, we describe the attributes conceptually. The exact wording of attribute descriptions, including all clarifications provided to respondents (e.g., the meaning of "net monthly cost," the interpretation of ranges for class hours and preparation time, the explanation of expected salary), appears in Online Appendix 3, which reproduces the full survey instrument.

3.2.2. Background questionnaire

Before completing the DCE, respondents answered a concise set of background questions designed to contextualize their choices and provide variables for descriptive summaries and heterogeneity analyses. These items captured four domains of study experience:

1. **Current studies and time use:** program and year of study, mode of study, weekly class hours, preparation time, paid work, commuting time, and perceived weekly workload.

2. **Teaching mode preferences:** preferred delivery mode (in-person, hybrid, online) for different types of classes; comfort and perceived learning effectiveness in each mode.

3. **Scheduling preferences:** desired distribution of classes across the week, tolerance for long days or gaps between classes, and preferences regarding morning versus afternoon scheduling.

4. **Perceptions and attitudes:** perceived quality of teaching, clarity of program organization, reputation of the Faculty among employers and other students, expected difficulty of courses, and views on the appropriate balance between Polish and English instruction. As part of the financial section, students reported tuition payments, administrative fees, and scholarship amounts, from which a net monthly cost was constructed.

After the choice tasks, a short debriefing module asked about the clarity of the scenarios, the perceived realism of the hypothetical programs, and the stability of choices across the eight tasks.

To avoid overloading the main article, the full wording of all questions, response scales, and instructions is provided in Online Appendix 3, together with the complete survey flow. Descriptive summaries of key variables are presented in Section 4.

3.3. Statistical analyses

All choice tasks were modeled within the framework of random-utility maximization (McFadden, 1974). For each respondent and each choice task, utility for an alternative was specified as a function of the attributes described in Section 3.2.1, with an alternative-specific constant capturing the status-quo option. Random errors were assumed i.i.d. Type I Extreme Value, which yields the MNL likelihood.

Our primary specification is a WTP-space MNL model, in which coefficients are scaled relative to the net monthly study cost (in thousand PLN). This parameterization allows all non-monetary attributes to be directly interpreted as willingness to pay or willingness to accept compensations. The status-quo term therefore reflects the money-metric value of remaining with the current program, net of the attributes explicitly controlled for. The model includes dummy-coded attribute levels to allow for flexible non-linear responses to teaching mode, weekly class hours and preparation time, and language mix. Expected post-graduation salary, also expressed in units of 1000 PLN, enters as a continuous attribute.

We estimated models using simulated maximum likelihood in Matlab, with convergence checks based on gradient and Hessian diagnostics (Czajkowski & Budziński, 2019). Goodness of fit is evaluated using log-likelihood values, pseudo-R2, AIC/n, and BIC/n, and model implications are summarized by reporting money-metric compensations for individual attributes as well as adoption probabilities for specific policy scenarios. The simulation of such scenarios follows the standard logit formula for head-to-head comparisons between the hypothetical alternative and the status quo, using the estimated utilities from the WTP-space model. The analytical code, design files, and model output logs are available in the online supplement replication package. Online Appendix 4 presents full description of the econometric framework.

4. Results

The results from the baseline model are presented in Table 1. Specifically, we present estimates from two model specifications – namely, the MNL and mixed logit (MXL) models. The former represents a standard and relatively simple discrete choice model framework in which all coefficients are assumed to be constant across respondents. In contrast, the extended MXL model (more precisely, a mixed logit model with correlated random parameters) relaxes the assumption by allowing coefficients to vary across individuals according to a specified statistical distribution. In our analysis, all preference parameters are assumed to follow a Normal distribution. While the MNL model implicitly captures some unobserved heterogeneity, the MXL model explicitly accounts for preference heterogeneity, reflecting the fact that respondents may hold systematically different preferences. This heterogeneity is revealed through the extent to which individual preferences deviate from the mean. The presence of considerable heterogeneity underscores the diversity of preferences – a key issue addressed in the subsequent modelling results presented in this section.

The inclusion of both MNL and MXL results is motivated by two considerations. First, relying solely on the MNL model would not reflect the current state of the art, as this approach has been widely criticized in the literature, primarily for its restrictive independence of irrelevant alternatives (IIA) assumption. More advanced specifications, such as the MXL model with correlated random parameters, relax this assumption and typically yield more robust and behaviorally plausible estimates. Second, estimating such advanced models can be demanding, particularly when working with relatively small sample sizes. Therefore, reporting both models serves a dual purpose. The MXL model enriches the analysis by capturing preference heterogeneity, while the MNL model provides a reliable baseline that ensures the mean effects are appropriately identified.

Table 1. Results of the MNL and MXL models in preference-space – linear attribute specification

Variable	MNL	MXL	
	Coefficient	Mean (mu)	Standard Deviation (sigma)
Status Quo	0.5481*** (0.1341)	0.5431*** (0.2078)	1.2146*** (0.2927)
Teaching mode (% of in-person classes)	0.0004 (0.0004)	0.0005 (0.0005)	0.0024*** (0.0007)
Weekly effort (hours)	-0.0313*** (0.0113)	-0.0463** (0.0183)	0.1420*** (0.0262)
Weekly workload (hours)	-0.0291** (0.0113)	-0.0327* (0.0173)	0.1448*** (0.0346)
Language of instruction (% of classes held in English)	-0.0019 (0.0013)	-0.0030 (0.0018)	0.0132*** (0.0050)
Net monthly cost of studying (in 1,000 PLN)	-0.5448*** (0.0987)	-0.7027*** (0.1509)	1.2673*** (0.3627)
Expected monthly salary after graduation (in 1,000 PLN)	0.3441*** (0.0228)	0.4714*** (0.0474)	0.5644*** (0.1315)
Model diagnostics			
LL at convergence	-1,258.24	-1,150.11	
McFadden's pseudo-R²	0.10	0.18	
Ben-Akiva-Lerman's pseudo-R²	0.38	0.42	
AIC/n	1.99	1.86	
BIC/n	2.02	2.01	

When examining the results in Table 1, several noteworthy insights emerge. First, the positive status quo coefficient suggests a baseline preference for maintaining the current program when all other attributes remain unchanged. In other words, respondents exhibit a tendency to favor the existing program over alternative options. This finding indicates that students are less inclined to select a new program unless it offers sufficiently compelling advantages.

Turning to the attribute-specific results, the estimated coefficients reveal how the probability of selecting an alternative program changes with each attribute. While the teaching mode and language of instruction variables are not statistically significant and therefore do not appear to influence choices, the remaining attributes play a more substantial role in shaping preferences. For instance, higher weekly effort (more classes) and a higher weekly workload (greater preparation time for classes) are associated with a lower likelihood of choosing an alternative program. This pattern implies that students are generally unwilling to commit additional time and effort to their studies in the absence of compensating benefits (e.g., higher expected returns).

The monetary attributes provide further insight into students' decision-making. In particular, an increase in the net monthly cost of studying significantly reduces the probability of choosing an alternative program, whereas a higher expected monthly salary after graduation increases the likelihood of selecting it. Interestingly, the magnitude of the cost coefficient exceeds that of the future salary and the strength of the diploma. This asymmetry may reflect both limited trust in the long-term returns to education and present-biased preferences (e.g., hyperbolic discounting), whereby students give more weight to immediate costs than to delayed benefits.

While these findings offer valuable evidence on attribute effects, they are derived under the assumption of linear preferences, which may not fully capture the complexity of actual decision-making. For instance, students may exhibit threshold effects, perceiving some changes as too small to influence their choices. To address this, we complement the baseline model with an MNL specification using dummy-coded attributes, which allows us to examine preferences at each attribute level individually. This enables us to uncover non-linear patterns of preferences that are not visible under a linear specification.

Table 2. Results of the MNL Model in preference-space – dummy-coded attribute specification

Variable	Coefficient	Variable	Coefficient	Variable	Coefficient
Status Quo	0.2640 (0.3352)	**Weekly workload: 6 hours less needed**	0.2985 (0.1879)	**Net monthly cost of studying: 1,000 PLN more**	-1.3320*** (0.2352)
Teaching mode: 90%, in-person, 10% remotely	0.0615 (0.1735)	**Weekly workload: 4.5 hours less needed**	0.1820 (0.2075)	**Net monthly cost of studying: 500 PLN more**	-0.9705*** (0.2264)
Teaching mode: 75%, in-person, 25% remotely	0.3858** (0.1811)	**Weekly workload: 3 hours less needed**	0.2780 (0.2042)	**Net monthly cost of studying: 200 PLN more**	-0.4984** (0.2193)
Teaching mode: 50%, in-person, 50% remotely	0.0428 (0.1698)	**Weekly workload: 1.5 hours less needed**	0.2254 (0.1964)	**Net monthly cost of studying: 100 PLN more**	-0.1463 (0.2197)
Teaching mode: 25%, in-person, 75% remotely	-0.5158*** (0.1786)	**Weekly workload: 1.5 hours more needed**	0.0264 (0.1953)	**Net monthly cost of studying: 50 PLN more**	-0.0090 (0.2047)
Teaching mode: 10%, in-person, 90% remotely	-0.5846*** (0.1706)	**Weekly workload: 3 hours more needed**	-0.0998 (0.1956)	**Net monthly cost of studying: 50 PLN less**	0.0651 (0.2147)
Teaching mode: All classes remotely	-0.9327*** (0.1845)	**Weekly workload: 4.5 hours more needed**	-0.1268 (0.1947)	**Net monthly cost of studying: 100 PLN less**	-0.1911 (0.2134)
Weekly effort: Four fewer classes (-6 hours)	0.4692** (0.1958)	**Weekly workload: 6 hours more needed**	-0.4147** (0.1851)	**Net monthly cost of studying: 200 PLN less**	0.0323 (0.2191)
Weekly effort: Three fewer classes (-4.5 hours)	0.3272 (0.2041)	**Language of instruction: 90% in Polish, 10% in English**	0.1622 (0.1777)	**Net monthly cost of studying: 500 PLN less**	0.3621 (0.2291)
Weekly effort: Two fewer classes (-3 hours)	0.3977** (0.1974)	**Language of instruction: 75% in Polish, 25% in English**	-0.0875 (0.1743)	**Net monthly cost of studying: 1,000 PLN less**	0.2340 (0.2370)
Weekly effort: One fewer class (-1.5 hours)	0.4774** (0.2072)	**Language of instruction: 50% in Polish, 50% in English**	-0.3625** (0.1777)	**Expected monthly salary after graduation: 4,500 PLN (25% decrease)**	-2.6244*** (0.3897)
Weekly effort: One more class (+1.5 hours)	0.5020** (0.1989)	**Language of instruction: 25% in Polish, 75% in English**	-0.5305*** (0.1813)	**Expected monthly salary after graduation: 5,250 PLN (12.5% decrease)**	-1.6831*** (0.2923)
Weekly effort: Two more classes (+3 hours)	0.0442 (0.1905)	**Language of instruction: 10% in Polish, 90% in English**	-0.6662*** (0.1834)	**Expected monthly salary after graduation: 6,750 PLN (12.5% increase)**	0.5457** (0.2280)
Weekly effort: Three more classes (+4.5 hours)	-0.1696 (0.1929)	**Language of instruction: All classes in English**	-0.7454*** (0.1877)	**Expected monthly salary after graduation: 7,500 PLN (25% increase)**	1.0216*** (0.2211)

| Variable	Coefficient	Variable	Coefficient	Variable	Coefficient
Weekly effort: Four more classes (+6 hours)	-0.4359** (0.1998)			**Expected monthly salary after graduation: 8,250 PLN (37.5% increase)**	1.1797*** (0.2187)
				Expected monthly salary after graduation: 9,000 PLN (50% increase)	1.3886*** (0.2194)
				Expected monthly salary after graduation: 9,750 PLN (62.5% increase)	1.3725*** (0.2257)
				Expected monthly salary after graduation: 10,500 PLN (75% increase)	1.8862*** (0.2295)
				Expected monthly salary after graduation: 11,250 PLN (87.5% increase)	1.9274*** (0.2365)
				Expected monthly salary after graduation: 12,000 PLN (100% increase)	2.2733*** (0.2477)
Model diagnostics					
LL at convergence	-1,146.86				
McFadden's pseudo-R²	0.18				
Ben-Akiva-Lerman's pseudo-R²	0.42				
AIC/n	1.88				
BIC/n	2.08				

Table 2 provides further insight into preferences toward specific attribute levels. Starting with the teaching mode, the results indicate that students' preferences are not linear. Specifically, while most of them do not differentiate between programs in which all or a vast majority (90%) of classes are held in person, they show a positive preference for programs offering a hybrid structure, with 75% of classes conducted in person and 25% online. Conversely, students exhibit negative preferences when the majority of classes are held remotely. This suggests that while students recognize certain benefits of online learning, they only favor it when it complements, rather than replaces, in-person teaching. This finding is consistent with students' self-reported

opinions regarding the optimal mode of instruction (presented in Figure 2), where they indicated that lectures, seminars, and office hours could effectively be held online, whereas tutorials, discussion classes, and workshops should remain in person. In sum, students value predominantly in-person learning environments but appreciate some flexibility for remote instruction.

Figure 2. Self-reported opinions regarding the optimal mode of instruction
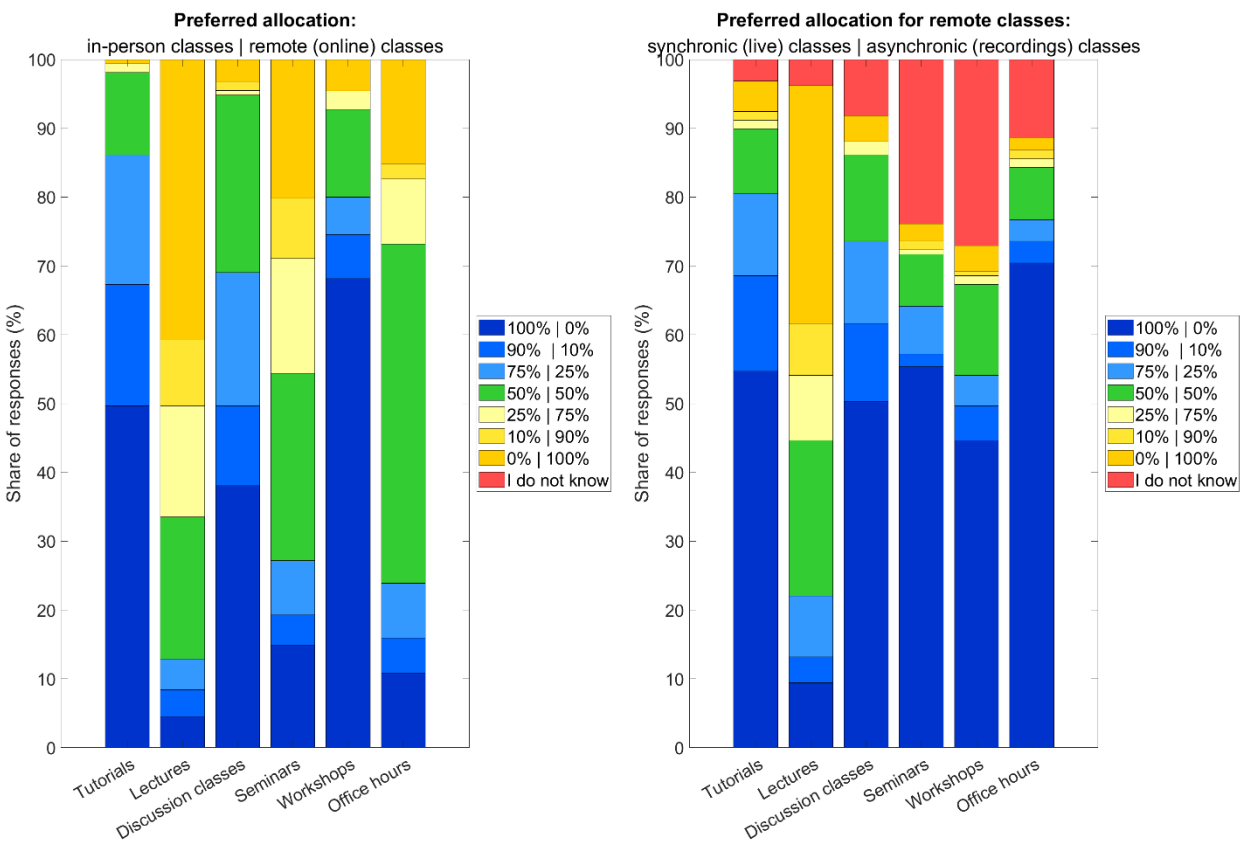
Students also display binary preferences with respect to the weekly effort attribute (Table 2). Specifically, they are less likely to choose programs requiring more weekly class hours, but the magnitude of this aversion remains similar regardless of whether the increase is small or large. This suggests the presence of threshold effects, where any increase in classroom time is viewed unfavorably once a certain point is reached. This interpretation aligns with students' responses to a separate question on the desired number of classes. While a majority (72%) were satisfied with the current workload, 22% preferred fewer classes, and only 6% wanted more. The answers, alongside other responses to question on what could be changed in the study program, are presented in Figure 3.

Figure 3. Self-reported opinions regarding the possible changes in the study program

Preferences on Program Organization
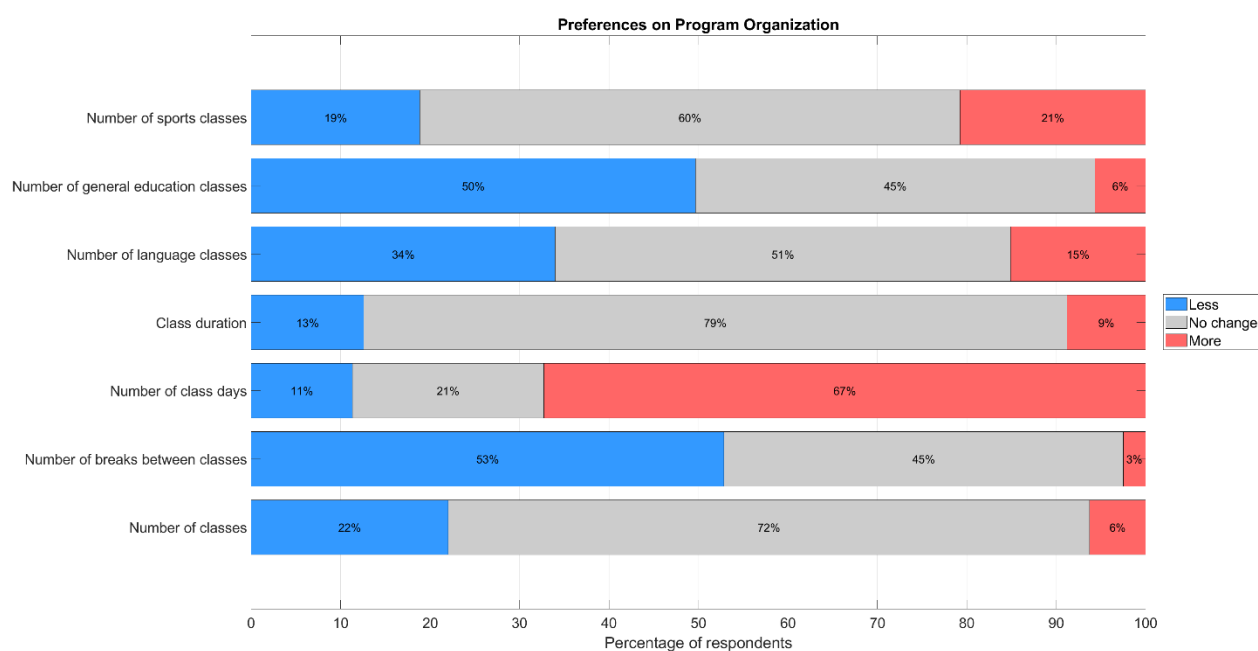
A comparable pattern emerges for the weekly workload attribute (Table 2), as students show little sensitivity to minor increases or decreases in preparation time but exhibit a strong negative preference when the workload rises by six hours (the highest level). Given that the average reported preparation time was approximately 11.5 hours per week, these results suggest that small deviations from this baseline are not perceived as meaningful changes. The absence of clear preferences for lower preparation time may also indicate that students are content with their current study effort, even if classes were slightly easier. Conversely, the lack of a strong reaction to moderate increases in workload suggests that additional preparation time of 1.5 to 4.5 hours per week is not considered burdensome.

Regarding the language of instruction (Table 2), students do not differentiate between having all classes in Polish and having the majority of them (90% or 75%) in Polish. However, as the proportion of English-taught classes increases, students become increasingly likely to choose the status quo. This implies a reluctance to participate in programs where English dominates the curriculum. The relationship follows a roughly linear downward trend, with coefficients decreasing from -0.36 for 50% of English classes to -0.74 for fully English-taught programs. This pattern may reflect students' initial decision to enroll in a native Polish-language program, as those preferring English instruction could have chosen such programs directly. Moreover, about 35% of respondents reported an English proficiency level of B2 or lower,

suggesting that for many students, studying in English may be perceived as challenging, thereby reducing their willingness to select programs with a higher share of English courses.

The results for the net monthly cost of studying attribute are particularly intriguing. Specifically, students show no significant preference for programs offering reduced study costs. This is somewhat unexpected. Although full-time study at public universities in Poland is tuition-free, the description of our experiment explicitly stated that negative cost values represent scholarships. It is thus possible that students viewed this scenario as unrealistic or less relevant, or that they placed greater importance on other attributes perceived as more tangible or consequential. In contrast, programs involving increased study costs elicited strongly negative preferences, suggesting that students perceive mandatory tuition fees as a significant deterrent.

Finally, the expected monthly salary after graduation emerges as the most influential attribute in the model, with all dummy-coded levels statistically significant. The results exhibit a monotonically increasing pattern, consistent with theoretical expectations. In particular, lower anticipated salaries are associated with negative preferences, while higher expected earnings lead to positive preferences. This finding underscores that students view higher education as an investment in their future labor market outcomes. Whereas preferences toward other attributes may be nuanced or context-dependent, students demonstrate a clear and consistent orientation toward maximizing future financial returns from their studies. Appendix 2 provides a deeper insight into preferences by estimating MNL models with socio-demographic interactions.

Table 3 reports the results from the MNL model estimated in WTP-space with a linear attribute specification. In this model specification, all parameters are scaled by the coefficient of the expected monthly salary after graduation. This scaling yields WTP estimates for all other attributes, reflecting the trade-off between a change in a given attribute and the corresponding change in expected salary. Presenting the results this way facilitates direct comparison across attributes, as all estimates are expressed in the same monetary units.

Table 3. Results of the MNL model in WTP/WTA-space – linear attribute specification

Variable	WTP in salary increase (1000 PLN/month)	WTA in cost decrease / scholarship increase (1000 PLN/month)
Status Quo	1.7699*** (0.5617)	-1.1356*** (0.3973)
Teaching mode: 90% in-person, 10% remotely	0.1071 (0.3815)	-0.0687 (0.2447)
Teaching mode: 75% in-person, 25% remotely	0.7280* (0.3798)	-0.4671* (0.2549)
Teaching mode: 50% in-person, 50% remotely	0.2441 (0.3710)	-0.1567 (0.2395)
Teaching mode: 25% in-person, 75% remotely	-0.9905** (0.3897)	0.6355** (0.2659)
Teaching mode: 10% in-person, 90% remotely	-0.9504** (0.3777)	0.6098** (0.2579)
Teaching mode: All classes are held remotely	-1.8055*** (0.3909)	1.1584*** (0.3004)
Weekly effort: Four fewer classes (-6 hours)	0.7926* (0.4216)	-0.5085* (0.2777)
Weekly effort: Three fewer classes (-4.5 hours)	0.6192 (0.4294)	-0.3972 (0.2800)
Weekly effort: Two fewer classes (-3 hours)	0.8026* (0.4252)	-0.5149* (0.2825)
Weekly effort: One fewer class (-1.5 hours)	0.8503* (0.4375)	-0.5456* (0.2937)
Weekly effort: One more class (+1.5 hours)	0.9361** (0.4275)	-0.6006** (0.2789)
Weekly effort: Two more classes (+3 hours)	0.2863 (0.4243)	-0.1837 (0.2743)
Weekly effort: Three more classes (+4.5 hours)	-0.4047 (0.4279)	0.2597 (0.2795)
Weekly effort: Four more classes (+6 hours)	-0.8109* (0.4393)	0.5203* (0.2897)
Weekly workload: 6 hours less needed	0.5837 (0.4109)	-0.3745 (0.2690)
Weekly workload: 4.5 hours less needed	0.1826 (0.4447)	-0.1172 (0.2870)
Weekly workload: 3 hours less needed	0.2510 (0.4307)	-0.1611 (0.2785)
Weekly workload: 1.5 hours less needed	0.0931 (0.4289)	-0.0598 (0.2750)
Weekly workload: 1.5 hours more needed	-0.0573 (0.4326)	0.0367 (0.2778)
Weekly workload: 3 hours more needed	-0.1988 (0.4349)	0.1275 (0.2802)

Variable	WTP in salary increase (1000 PLN/month)	WTA in cost decrease / scholarship increase (1000 PLN/month)
Weekly workload: 4.5 hours more needed	-0.0770 (0.4312)	0.0494 (0.2769)
Weekly workload: 6 hours more needed	-0.8091* (0.4222)	0.5191* (0.2847)
Language of instruction: 90% in Polish, 10% in English	0.4689 (0.3826)	-0.3009 (0.2498)
Language of instruction: 75% in Polish, 25% in English	0.0370 (0.3792)	-0.0237 (0.2433)
Language of instruction: 50% in Polish, 50% in English	-0.4294 (0.3819)	0.2755 (0.2462)
Language of instruction: 25% in Polish, 75% in English	-0.6420* (0.3861)	0.4119 (0.2525)
Language of instruction: 10% in Polish, 90% in English	-1.0507*** (0.3866)	0.6741** (0.2659)
Language of instruction: All classes are held in English	-1.4999*** (0.4075)	0.9623*** (0.2905)
Net monthly cost of studying (in 1,000 PLN)	-1.5586*** (0.2289)	numeraire
Expected monthly salary after graduation (in 1,000 PLN)	numeraire	-0.6816*** (0.1056)
Model diagnostics		
LL at convergence	-1,210.95	-1,210.95
McFadden's pseudo-R²	0.13	0.13
Ben-Akiva-Lerman's pseudo-R²	0.40	0.40
AIC/n	1.95	1.95
BIC/n	2.08	2.08

From Table 3, several policy-relevant insights emerge. For instance, compared to the current situation in which all classes are held in-person, introducing a fraction (25%) of classes to be held remotely leads respondents to accept a decrease of approximately 730 PLN in their expected salary after graduation. This illustrates the trade-off the respondents make, as increased convenience (attending fewer classes in person) can be offset by a lower expected salary. Conversely, respondents do not favor having the majority of classes online. If 75% to 90% of classes were held remotely, they would expect an increase of around 950-1,000 PLN in expected salary, and approximately 1,800 PLN if all classes were held remotely. This suggests that respondents perceive fully or nearly fully online programs as less valuable or potentially lower in reputation. To mitigate this effect, they would be willing to attend predominantly online programs only if assured of a corresponding increase in expected salary of about 1,800 PLN.

Respondents exhibit relatively stable preferences regarding weekly effort. Reducing the number of weekly classes, whether by one, two, or four classes, is associated with an acceptable decrease of approximately 800-850 PLN in expected salary. This indicates that respondents view weekly effort as an essential component of their education: while they appreciate reduced workload, they are unwilling to accept a proportionally larger salary decrease. Conversely, if asked to attend four additional classes per week, they expect an increase of roughly 810 PLN in expected salary. A similar effect is observed for increased weekly workload, as adding six hours per week (equivalent to four classes) is also valued at approximately 810 PLN. These trade-offs demonstrate that respondents associate higher effort with corresponding monetary benefits.

Preferences regarding the language of instruction show a marked pattern. While respondents have a limited preference when only a fraction of classes is taught in English, they express a strong negative preference when the majority (75% or more) of classes are conducted in English. Specifically, respondents would expect an increase of 640 PLN in expected salary if 75% of classes were taught in English, 1,050 PLN if 90% of classes were taught in English, and 1,500 PLN if all classes were taught in English. This likely reflects the additional effort required to attend classes in English and aligns with theoretical expectations – completing a program in English may signal fluency in a valued skill, which the labor market rewards.

Table 3 also provides insights into the trade-off between two monetary attributes, treated here as continuous variables. Respondents indicate that for a 1,000 PLN increase in the net monthly cost of studying, they would expect a 1,500 PLN increase in their expected salary after graduation. This suggests that students place a higher value on future returns than on current costs, a conclusion opposite to that observed in Table 1.

5. Discussion and Policy Simulations

Taken together, the WTP-space MNL estimates paint a clear picture of how students at our faculty trade off delivery mode, weekly effort, language policy, and money – and they translate directly into operational guidance. Three patterns dominate. First, students value moderate hybridization but strongly resist extreme online designs. Relative to the status quo of fully in-person teaching, a 75/25 split (in-person/online) carries a *positive* money-metric value ($\approx +0.728$ thousand PLN of expected monthly salary), a 50/50 split is close to neutral ($\approx +0.244$), while 25/75, 10/90, and fully online options are negatively valued (≈ -0.991, -0.950, and -1.806, respectively). Second, students appreciate less classroom time (-1.5 to -6 hours/week

yields ≈ +0.79 to +0.85) and penalize very large increases in effort (+6 hours/week ≈ −0.811), whereas small increases (+1.5 hours/week) may be acceptable – suggesting an inverted-U around current intensity. Third, students are tolerant of some English, but demand compensation once English dominates: 50% English already carries a penalty (≈ −0.429); 75%, 90% and 100% English are successively more costly in money-metric terms (≈ −0.642, −1.051, −1.500). These preference trade-offs, together with a strong positive status-quo constant (ASC ≈ 1.770) and an economically large cost coefficient, anchor the policy simulations below.

5.1. Policy simulations

We quantify policy trade-offs directly from the WTP-space MNL, where all coefficients are expressed in thousand PLN of expected monthly salary and the status-quo constant is large and positive. In this normalization, the utility of a policy option is the sum of its attribute coefficients, while the status-quo utility equals the ASC. For any head-to-head comparison against today's program, the predicted adoption of a policy design is $(P = \exp(U_{Policy})/[\exp(U_{Policy}) + \exp(U_{SQ})]$, and the compensation required to reach parity is the expected-salary increment that sets $U_{Policy} + \Delta = U_{SQ}$. We report both quantities below and highlight three levers – delivery mode, weekly effort, and language – followed by two realistic bundles.

Delivery mode

Moving from fully in-person to 75% in-person / 25% online yields U_{Policy}=+0.728 kPLN, which against (U_{SQ} =1.7699) implies 26% adoption with no other changes; the salary-equivalent needed for parity is ≈ 1,042 PLN/month. A 50/50 hybrid is modestly valued (+0.244 kPLN), giving 18% adoption and a parity gap of ≈ 1,526 PLN/month. By contrast, 25% in-person / 75% online (-0.991 kPLN), 10% in-person / 90% online (-0.950 kPLN), and all-online (-1.806 kPLN) attract only ≈ 6%, 6%, and 3% of students, respectively; closing the welfare gap would require ≈ 2,760–3,575 PLN/month in expected-salary gains. The message is straightforward: students welcome moderate hybridization but strongly resist extreme online formats unless accompanied by very large, salient benefits.

Weekly effort

Reducing classroom time is highly valued. One fewer class (−1.5 h/week) scores +0.850 kPLN, translating into 29% adoption and a small parity gap ≈ 920 PLN/month; −6 h/week delivers +0.793 kPLN with 27% adoption and ≈ 977 PLN/month to parity.

Symmetrically, +6 h/week produces −0.811 kPLN (≈ 7% adoption; ≈ 2,581 PLN/month to parity), and +6 h/week of preparation is nearly identical (-0.809 kPLN; ≈ 7% adoption; ≈ 2,579 PLN/month). In short, time is the tightest budget: small reductions buy a lot of goodwill; large increases require large compensations.

Language of instruction

A balanced bilingual design (50% English) carries a penalty of -0.429 kPLN, yielding ≈ 10% adoption and ≈ 2,199 PLN/month to parity. Heavier English shares deepen the gap: 75% English -0.642 kPLN (≈ 8% adoption; ≈ 2,412 PLN/month), 90% English (-0.666) kPLN (≈ 8%; ≈ 2,436 PLN/month), and all-English -0.745 kPLN (≈ 7.5%; ≈ 2,515 PLN/month). These penalties suggest that English-dominant curricula will only be competitive if paired with sizable, credible benefits students internalize as higher expected returns.

Realistic bundles

Because reforms often move several levers, we consider two practical packages. Pairing a light hybrid with one fewer class – 75% in-person/25% online + (−1.5 h/week) – adds up to U_{Policy}=+ 1.578 kPLN, which lifts adoption to ≈ 45% with no further changes and leaves only ≈ 192 PLN/month to reach parity. A more conservative 50/50 hybrid + −1.5 h/week gives +1.094 kPLN, ≈ 34% adoption, and ≈ 676 PLN/month to parity.

Conversely, a heavy-online design softened by fewer classes – 25% in-person/75% online + −4.5 h/week – still sits at −0.371 kPLN (≈ 11% adoption; ≈ 2,141 PLN/month to parity), and even all-online + −6 h/week remains at −1.013 kPLN (≈ 6% adoption; ≈ 2,783 PLN/month). Strategically, therefore, moderate hybridization coupled with small time relief can bring many students along at low cost, whereas pushing far into online territory demands very large, tangible benefits to avoid sharp drops in demand.

5.2. Broader implications and limitations

The estimated WTP values and adoption probabilities reveal a consistent set of preferences that extend beyond the local institutional context. Students place a premium on time, flexibility, and familiarity. They want study programs that fit their lives rather than demand large structural adjustments. The results show that moderate hybridization – such as combining mostly in-person teaching with limited online components – is broadly acceptable and can even enhance perceived welfare. However, the steep decline in utility for heavily online or fully remote formats signals that students still attach high value to direct contact with instructors and

peers, informal learning environments, and the social identity of on-campus education. Similarly, the disutility of excessive workload – whether through more class hours or greater independent preparation – highlights that students perceive time as their scarcest resource. Even small reductions in required weekly effort substantially increase welfare and predicted uptake, whereas heavier workloads, unless offset by strong compensations, sharply reduce attractiveness.

These results have direct policy implications for universities. First, institutions considering a post-pandemic "digital-by-default" approach should proceed gradually. A design that shifts 20–30% of contact hours online appears to match most students' ideal trade-off between flexibility and engagement. Beyond that point, perceived losses in quality and interaction outweigh the convenience gains, unless compensated by substantial scholarships or clear career advantages. Second, time management emerges as a low-cost, high-impact lever: adjusting weekly schedules or optimizing course load distribution could yield welfare gains comparable to large financial interventions. This means that modest timetabling reforms – reducing class clustering, avoiding long on-campus days, or integrating short online components – can enhance student satisfaction more effectively than tuition discounts. Third, language policy requires careful calibration. While bilingualism is desirable for internationalization, the data show that English-dominant programs are substantially less attractive for domestic students. Their adoption can be improved only if paired with tangible benefits, such as international internships, exchange opportunities, or explicit labor-market premiums that justify the linguistic effort.

The findings also carry broader lessons for higher education systems in transition. In Poland and similar countries, universities operate in increasingly competitive markets where demographic decline and growing heterogeneity of student goals force differentiation. Our results suggest that such differentiation should focus less on radical format changes (e.g., fully online or fully English programs) and more on nuanced rebalancing of the educational experience: smaller time savings, predictable schedules, and modest flexibility in learning modes can produce disproportionately high welfare gains. These results also align with international research showing that hybrid learning is valued primarily when it reduces logistical burdens without diminishing perceived quality or interaction. For policymakers, this implies that investment in infrastructure for blended learning and micro-scheduling tools may generate higher welfare than large-scale digitization or full Englishization campaigns.

Nonetheless, several limitations temper the interpretation of these results. The discrete choice experiment captures stated rather than revealed preferences, meaning that the estimated adoption rates reflect intentions under controlled conditions, not observed behavior. Respondents evaluated hypothetical programs described by a limited set of attributes, abstracting from practical constraints such as teaching capacity, subject-specific needs, or broader institutional reputation. The strong positive status-quo effect also indicates a degree of inertia: many students prefer the current arrangement simply because it is familiar, not necessarily optimal. Our sample, drawn from one economics faculty, may not fully represent the diversity of students across disciplines or universities. Fields with more practical or laboratory-based components could exhibit stronger resistance to online learning, while more theoretical or flexible disciplines might accept higher remote shares. Finally, while the use of the WTP-space model allows direct interpretation of welfare changes, the monetary scale is based on reported cost and salary expectations, which may not correspond precisely to real financial constraints.

A further limitation concerns the modest size of our realized sample. Although the response rate ($\approx$12%) is typical for voluntary CAWI surveys, a small sample inevitably restricts the statistical power to explore richer heterogeneity patterns and raises the possibility of selection bias toward more engaged or academically motivated students. We mitigated this by estimating interaction models in parsimonious MNL specifications, avoiding over-parameterization and ensuring stable identification of main effects. Importantly, the sample is broadly representative of the Faculty's student population across key socio-demographic characteristics and study stages, and the main attribute effects are precise, robust in sign, and economically interpretable. Still, the limited sample size means that the results should be interpreted as indicative of strong average patterns rather than precise estimates for all subgroups within the population. Future studies with larger, multi-faculty samples would allow more granular estimates of heterogeneity and stronger external validity.

Even with these caveats, the policy message is clear and transferable. Universities should treat time as the key currency of student welfare, pursue incremental rather than radical innovation in delivery mode, and ensure that any expansion of online or English instruction is paired with visible, immediate benefits. Doing so will not only maintain satisfaction but also enhance efficiency in how limited resources – both financial and instructional – are deployed.

6. Summary and conclusions

This study measures how students weigh the core design elements of their studies against economic outcomes using a discrete choice experiment embedded in a broader survey at the Faculty of Economic Sciences, University of Warsaw. By estimating a MNL model in WTP-space, we express all trade-offs in a common money metric (thousand PLN of expected monthly salary), which lets us translate preferences into concrete adoption predictions and compensating transfers. Students evaluated bundles that varied the share of in-person teaching, weekly class hours and preparation time, the Polish–English language mix, net monthly study cost, and expected salary after graduation – providing a transparent map from proposed program changes to welfare and demand.

Three robust findings emerge. First, moderate hybridization is acceptable (and sometimes attractive), but extreme online formats are strongly disliked on average: moving to 75% in-person/25% online carries a positive WTP, while 75–100% online requires sizable compensation to achieve parity with today's program. Second, time is the tightest budget: small reductions in weekly class time meaningfully raise welfare and predicted uptake, whereas large increases in class or preparation hours require four-figure monthly compensations to avoid demand losses. Third, English-dominant instruction lowers average utility among Polish-track students; modest bilingualism is tolerated, but once English approaches or exceeds half of instruction, substantial, salient benefits are needed to maintain attractiveness. These patterns play out against a large status-quo premium, indicating inertia and the value students attach to familiar, face-to-face learning environments.

Policy translation is immediate. If the goal is majority acceptance without large budgets, couple mild hybridization with small, reliable time relief (e.g., one fewer weekly class); even modest scholarships can then tip such bundles to parity. If strategic goals point to heavier online delivery or Englishization, plan for visible, front-loaded benefits commensurate with the measured penalties – targeted stipends, lighter weekly schedules, or credible enhancements to early-career outcomes. Expressing preferences in monetary terms makes these levers budgetable: administrators can read our estimates directly as the monthly compensation required to keep welfare constant when moving along each design dimension. Because many reforms must work within timetable, staffing, and quality constraints, schedule engineering (smoother load distribution, predictable days, selective online elements) stands out as a high-impact, relatively low-cost lever.

While these conclusions are grounded in a single-faculty sample and stated choices, they align with a broader international pattern: students value flexibility at the margin, not at the extreme, and they anchor their evaluations in time costs and credible returns. Institutions facing demographic headwinds and heterogeneous student goals can therefore prioritize incremental, targeted adjustments over radical shifts – hybrid where it helps, time-sensible by design, and language policy calibrated to the audience – backed, when necessary, by transparent, budgeted compensation. In short, treat time as the currency, hybridization as the tool, and money-metric WTP as the planning language for reform.

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Appendixes

Appendix 1. Sample characteristics

Variable	Level	Number of students (N=159)	Share	Variable	Level	Number of students	Share
Sex	Female	83	52.20%		Rural area	33	20.75%
	Male	73	45.91%		City with fewer than 50,000 inhabitants	31	19.50%
	Other / Refuse to answer	3	1.89%	City size (permanent residence)	City with 50,000 – 100,000 inhabitants	23	14.47%
Age	18-19	23	14.46%		City with 100,000 – 500,000 inhabitants	15	9.43%
	20-21	67	42.14%		City with over 500,000 inhabitants	57	35.85%
	22-23	28	17.61%		Dolnośląskie	2	1.26%
	24-25	26	16.35%		Kujawsko-pomorskie	2	1.26%
	26-30	9	5.66%		Lubelskie	14	8.81%
	Over 31	6	3.77%		Lubuskie	1	0.63%
Monthly net household income	Less than 1,000 PLN	3	1.89%		Łódzkie	7	4.40%
	1,000 – 4,999 PLN	36	22.64%		Małopolskie	2	1.26%
	5,000 – 9,999 PLN	39	24.53%		Mazowieckie	90	56.60%
	10,000 – 12,499 PLN	15	9.43%		Opolskie	4	2.52%
	12,500 – 14,999 PLN	12	7.55%		Podkarpackie	5	3.14%
	Over 15,000 PLN	25	15.72%	Region	Podlaskie	5	3.14%
	Refuse to answer	29	18.24%		Pomorskie	5	3.14%
Place of residence during the semester	Rented apartment (living alone)	16	10.06%		Śląskie	5	3.14%
	Rented apartment (with flatmates)	39	24.53%		Świętokrzyskie	2	1.26%
	With family	61	38.36%		Warmińsko-mazurskie	4	2.52%
	Own apartment	28	17.61%		Wielkopolskie	5	3.14%
	Student dormitory	11	6.92%		Zachodniopomorskie	2	1.26%
	Other	4	2.52%		From abroad	4	2.52%

Appendix 2. Attributes and levels used in the Discrete Choice Experiment

Attribute name	Description	Levels
Teaching mode	This attribute shows what percentage of classes would be held in-person and what percentage would be held remotely (online).	- No changes – 100% of classes are held in-person (status quo) - Approximately 90% of classes are held in-person and 10% remotely (online) - Approximately 75% of classes are held in-person and 25% remotely (online) - Approximately 50% of classes are held in-person and 50% remotely (online) - Approximately 25% of classes are held in-person and 75% remotely (online) - Approximately 10% of classes are held in-person and 90% remotely (online) - All classes are held remotely (online)
Weekly effort	This attribute shows how many more or fewer classes there would be per week (including lectures, tutorials, seminars, etc.).	- Four fewer classes (-6 hours) - Three fewer classes (-4.5 hours) - Two fewer classes (-3 hours) - One fewer class (-1.5 hours) - No change (status quo) - One more class (+1.5 hours) - Two more classes (+3 hours) - Three more classes (+4.5 hours) - Four more classes (+6 hours)
Weekly workload	This attribute shows how many more or fewer hours would be needed for class preparation (e.g., homework, readings, exam preparation, and final papers).	- 6 hours less needed - 4.5 hours less needed - 3 hours less needed - 1.5 hours less needed - No change (status quo) - 1.5 hours more needed - 3 hours more needed - 4.5 hours more needed - 6 hours more needed
Language of instruction	This attribute shows what percentage of classes would be held in Polish and what percentage would be held in English.	- No changes – 100% of classes are held in Polish (status quo) - Approximately 90% of classes are held in Polish and 10% in English - Approximately 75% of classes are held in Polish and 25% in English - Approximately 50% of classes are held in Polish and 50% in English - Approximately 25% of classes are held in Polish and 75% in English - Approximately 10% of classes are held in Polish and 90% in English - All classes are held in English
Net monthly cost of studying	This attribute shows the estimated monthly net cost of studying, defined as the difference between tuition and administrative fees and financial support received (e.g., scholarships, financial aid).	- 1,000 PLN more - 500 PLN more - 200 PLN more - 100 PLN more - 50 PLN more - No change (status quo) - 50 PLN less - 100 PLN less - 200 PLN less - 500 PLN less - 1,000 PLN less
Expected monthly salary after graduation	This attribute shows the average net monthly salary expected after graduation.	- 4,500 PLN (25% decrease) - 5,250 PLN (12.5% decrease) - 6,000 PLN (unchanged) (status quo) - 6,750 PLN (12.5% increase) - 7,500 PLN (25% increase) - 8,250 PLN (37.5% increase) - 9,000 PLN (50% increase) - 9,750 PLN (62.5% increase) - 10,500 PLN (75% increase) - 11,250 PLN (87.5% increase) - 12,000 PLN (100% increase)

Appendix 5. Preference heterogeneity – MNL models with socio-demographic interactions

To further explain preference heterogeneity, we estimated 61 multinomial logit models with interaction terms, examining differences in preferences of various respondents. Notably, estimating a single model with multiple interactions was not feasible due to the relatively small sample size. Therefore, we estimated separate models, each including only one interaction. While this approach does not capture cross-interaction effects, it represents the most practical solution for illustrating the overall influence of all considered interactions.

For clarity, we chose not to report the coefficient estimates and p-values in Table A2. Instead, we visually highlight statistically significant interactions (p-value < 0.10). Red cells with downward arrows indicate a negative effect, while green cells with upward arrows indicate a positive impact. This visual representation allows for an intuitive understanding of how each interaction affects the corresponding attribute. For example, respondents enrolled in an English-language program (first row) tend to prefer programs with a smaller weekly workload.

Table A5.1. Interaction effects in the MNL Models in preference-space with linear attribute specification

Effects (interactions with attributes) for a student who…	Status Quo	Teaching mode (% of in-person classes)	Weekly effort (hours)	Weekly workload (hours)	Language of instruction (% of classes held in English)	Net monthly cost of studying (in 1,000 PLN)	Expected monthly salary after graduation (in 1,000 PLN)
… is studying in an English-language program				↓			
… is currently in the 2nd year							
…. is currently in the 3rd year							
… is currently in the 4th year				↑			
… is currently in the 5th year							↑
… is attending evening studies		↓			↓		
… is attending part-time studies	↓				↓		
… has had bad overall experiences with studying				↓		↓	
… has had good overall experiences with studying				↑			
… would like to have more remote classes		↓	↓				
… would like to have more remote classes, but it depends on the type of class							
… has more than 10 classes per week (median)	↓			↑			
… has all classes held in Polish							
… is satisfied with the current class schedule			↑	↑			↓
… is not satisfied with the current class schedule			↓	↓			↑
… would like to have fewer classes			↓	↓			

Effects (interactions with attributes) for a student who…	Status Quo	Teaching mode (% of in-person classes)	Weekly effort (hours)	Weekly workload (hours)	Language of instruction (% of classes held in English)	Net monthly cost of studying (in 1,000 PLN)	Expected monthly salary after graduation (in 1,000 PLN)
… would like to have more classes							
… currently has paid work or is doing an internship							↓
… does not have paid work (nor is doing an internship), but would like to							
… works more than 30 hours/week (median)							
… claims that the time he/she spends on paid work is too little		↓					
… claims that the time he/she spends on paid work is too much							
… spends more than 20 hours/week (median) on studying						↓	↑
… claims that the time he/she spends on studying is too little							↓
… claims that the time he/she spends on studying is too much			↓			↓	
… feels overwhelmed by his/her studies				↓		↓	
… finds it challenging to balance his/her studies with private life			↓	↓	↓	↓	
… finds it challenging to balance their studies with professional life		↓	↓				↓
… claims that his/her studies have a negative impact on well-being				↓		↓	
… does not feel that there is a healthy balance between different areas of life		↓		↓	↓	↓	
… claims that the study program lacks important subjects				↑			
… believes that the study program includes too many unnecessary subjects						↓	↑
… claims that some subjects in the study program are taught improperly							
… agrees with the statement that the Faculty of Economic Sciences is the best unit among Polish economic universities					↑		
… agrees with the statement that the Faculty of Economics is well recognized internationally	↓						↓
… agrees with the statement that the quality of teaching is high				↑			
… agrees with the statement that the didactic preparation of the lecturers is of a high standard				↑			
… agrees with the statement that the professionalism and commitment of administrative staff is of a high standard						↑	
… agrees with the statement that study programs are well adapted to the requirements of the labor market and support the development of practical skills							
… agrees with the statement that there should be more courses taught in English	↓		↑				
… agrees with the statement that international exchange programs need further development							
… would accept an increase in the level of difficulty if it translated into a higher reputation for the faculty				↑	↑		
… would not accept an increase in the level of difficulty, even if it translated into a higher reputation for the faculty				↓			

Effects (interactions with attributes) for a student who…	Status Quo	Teaching mode (% of in-person classes)	Weekly effort (hours)	Weekly workload (hours)	Language of instruction (% of classes held in English)	Net monthly cost of studying (in 1,000 PLN)	Expected monthly salary after graduation (in 1,000 PLN)
… agrees that increasing the level of difficulty of studying would affect graduates' earnings							
… thinks that his/her average monthly net salary after graduation will be higher than that of the average graduate							
… bears the costs of studying (tuition/administrative fees)							
… receives a scholarship or other forms of support			↓				
… had enough information to make decisions in the choice situations presented in the DCE					↑		
… had problems understanding the choice situations presented in the DCE							
… was confident in the decisions made in the DCE							
… thinks that the descriptions given were too long		↓		↑			↓
… claims that the descriptions provided were not objective							
… did not answer the control question correctly							
… agrees with the statement that their answers may influence the decisions made by the faculty		↓		↑			
… agrees with the statement that the results of this survey may influence the decisions made by the faculty	↑	↓		↑			
… is female			↓				↓
… comes from outside the Mazovia Province						↓	
… comes from a village (current place of residence)				↑			
… comes from a large city with over 500,000 inhabitants (current place of residence)							
… is not proficient in English (<=B2)	↑				↓		
… has his/her monthly net household income greater than PLN 10,000			↑				

Table A5.1 provides valuable insight, as there are 427 interactions in total (61 models and 7 interactions – one for each attribute), of which 75 are statistically significant. A notable insight is that fifth-year students place significantly greater emphasis on their expected salary after graduation compared to those in earlier years of study. This suggests that students approaching the end of their education are more confident in realizing their earnings potential, whereas those in earlier stages may perceive such expectations as more distant or uncertain.

Students with generally weaker satisfaction from studying tend to prefer dedicating more time to class preparation and express stronger preferences for lower study costs. In contrast, students with greater satisfaction from studying display positive preferences for a higher time commitment to class preparation, possibly reflecting a greater intrinsic enjoyment of learning

and a desire for academic engagement. As anticipated, respondents who prefer a higher share of remote learning exhibit a negative preference for an increase in in-person classes. Furthermore, satisfaction with the current study plan appears to systematically influence preferences. Students satisfied with their existing plan show positive interactions with weekly effort and workload, but have negative interactions with increases in expected salary after graduation. Conversely, those dissatisfied with their plan display the opposite pattern. Similarly, individuals who would prefer fewer classes demonstrate negative preferences for higher weekly effort and workload, aligning with theoretical expectations. Finally, respondents who are currently employed or completing an internship exhibit lower preferences for higher expected post-graduation salaries. This is plausible, as direct engagement with the labor market may provide them with a more grounded understanding of salary prospects and job-related trade-offs.