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DIGITAL PIRACY AND THE PERCEPTION OF PRICE FAIRNESS

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Digital piracy and the perception of price fairness

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Abstract

We focus on the relationship between pricing of cultural goods and willingness to download their unauthorized versions. Building on equity theory we propose that perceiving a price as overly high provides a self-justification for downloading content from unauthorized sources. In a large-scale online experiment on customers of a major e-book store we employ the Bayesian Truth Serum to induce truthful confessions of acquiring content from unauthorized sources. We confirm that self-reported downloading from unauthorized sources is associated with having experienced overpricing. We also relate it to endorsing relatively positive views on the role of file-sharing services and believing that “pirate's” motives are relatively principled, while those of abstainers are rather pragmatic.

Keywords:

inequality, longevity, defined contribution, defined benefit, Gini

JEL:

A13, C93, D12

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1 Introduction

Extant literature on digital piracy suggests that individual’s willingness to acquire cultural goods from unauthorized sources¹ is shaped by several interacting factors (see e.g. Hinduja, 2003; Kwong et al., 2003; Higgins et al., 2008). In particular, prices of legal versions as compared to what would be perceived as “just” or “fair” may play a major role. It appears plausible that when the price paid for a cultural good is viewed as overly high, it may provide in the future an excuse, reducing the sense of guilt often associated with digital piracy.

Costs of downloading files are negligible, free downloads and copying technologies are ubiquitous, Internet users’ real identities are rarely exposed and legal sanctions are often weak. It would thus appear that it takes some ethical consideration to ever abstain from downloading desired content from an unauthorized source. While other (e.g. technological) reasons may discourage piracy, they are unlikely to be affected by discrepancy between actual prices and those that one views as fair.

High perceived price will likely make the authorized version of the good less accessible. According to the psychological reactance theory (Brehm and Brehm, 2013) restricting access to a wanted object will lead to negative cognitions (negative thoughts), affect and behavior, increasing a person’s desire to possess the object, even if it requires unusual, possibly illegitimate actions. In the context of online piracy, high prices and low income may act as consumption constrains, triggering psychological reactance and leading consumers to seek alternative acquisition methods (in this case, cheaper or even free, yet unauthorized versions of the product).

A related mechanism can be found in literature on price fairness perceptions. Xia et al. (2004) suggested that the feeling of being treated unfairly (due to overly high prices) can evoke feelings of outrage and anger, which are usually directed toward the seller. Such a negative emotion may thus make consumers download the unauthorized version of the product instead of striving to acquire it legally. Lysonski and Durvasula (2008) went as far as to claim that the so-called Generation Y is permissive of piracy because they consider themselves victims of music prices being artificially inflated by the industry.

Studies such as Hill (2007) construed fairness of pricing in a broader context of equity theory (Glass and Wood, 1996). In this approach it is assumed that individuals seek fairness in social exchange – when individuals find themselves participating in relationships that are perceived to be inequitable, they try to take actions to restore equity. In the context of digital media, overly high are perceived as inequitable, especially if they result from seemingly high profit margins. This may provide justification of digital piracy.

¹We refer to acquiring content from unauthorized sources rather than illegal downloading, because in many countries actual acquisition is legal (only distribution being illegal and prosecuted). In the remainder of this paper, in the sake of brevity, we will interchangeably use the terms “downloading/acquiring content from unauthorized sources” and “digital piracy”, although we duly note the difference between the ethical and legal status of acquisition and distribution in many countries.

Empirical studies provide some support to this line of reasoning. In a scenario study, Miyazaki et al. (2009) found that high prices make consumers less critical of the purchase of a pirated (cheaper) good. Sinha et al. (2009) showed that DRM and high prices have a negative impact on consumers' willingness to pay for digital music files. Overall, however, empirical evidence on the impact of high prices on digital piracy remains scarce.

We aim to fill this gap. We investigate in an experimental setting the link between the perception of price fairness and piracy in the case of electronic books. Having access to a large pool of clients of an online bookstore (Publio.pl) we employ survey and experimental tools to infer the empirical distribution of the discrepancy between the prices perceived as fair and the actual market prices. We subsequently link the discrepancy between the two to self-reported piracy behavior. To incentivize truthful responses to this sensitive question we employ the Bayesian Truth Serum (BTS) developed by Prelec (2004).²

We hypothesize that in the context of cultural goods, the bigger the discrepancy between the actual price and a price that one views as fair, the higher the propensity to acquire content from unauthorized sources. In the world of physical goods, analogous hypothesis would seem at least controversial: stealing an object from a seller is rarely more ethically justifiable by the fact that the thief does not correctly identify the costs or wrongly believes that the markups are too high. Yet, in the context of digital cultural content, there is no direct loss as a consequence of piracy – the content is still available for the others whereas the loss could only be attributed to unrealized sales, which are indeed unlikely to ever occur. This is the essence of the theoretical model developed by Kobus et al. (2013). Generally, we propose that ethical considerations may inform decisions whether or not to engage in digital piracy. We thus expect that those who abstain from downloading will believe that abstainers are mostly driven by principles, whereas pirates are driven by pragmatic reasons.

The empirical analysis speaks in favor of our hypotheses. Self-reported digital piracy rates prove to be rather substantial (no matter whether BTS is used to encourage truthful revelation). Using these self-reported values, we find that indeed larger discrepancy between the prices which customers observe and those they perceive as fair is associated with more self-admission to digital piracy. We additionally consider other measures likely to be related to the concept of price fairness and the results prove robust across specifications and sets of controls included. In addition, relying on the survey data we confirm that the motivations of the pirates and abstainers are viewed differently by the two groups: abstainers indeed find other abstainers to be driven more by the ethical concerns and pirates to be driven less by them.

These findings suggest that pricing policies have implications above and beyond immediate decisions whether or not to buy a cultural product. They shape general attitude towards the seller and entire industry, making “piracy” more or less attractive also from ethical perspective. It implies i.a. that attractive pricing should be widely communicated,

²Barrage and Lee (2010) discuss in detail the advantages of Bayesian Truth Serum, when compared to other methods of eliciting behavior.

perhaps also to groups of customers that are unlikely to purchase the product in question on that occasion.

The paper is structured as follows. In the next section we discuss in detail the method and the way to operationalize our research hypotheses. Subsequently, in section 3, we analyze the data properties and the validity of applying the Bayesian Truth Serum in this context. Finally, in section 4 we analyze the extent to which data lend support to our hypotheses.

2 Identification strategy

Analyzing the perceptions of price fairness in an empirical context necessitates adopting a stand point on how to operationalize the very concept. One way to think about price fairness is to elicit what subjects would consider a fair price. However, such question runs into risk of being insufficiently clear, as the word “fair” can be understood in various ways, evoking a range of emotional reactions.

To think of a less diffuse notion (albeit one less directly related to the idea of fairness) one could try to elicit the price that an individual would be willing to pay themselves. Two different concepts appear natural here. First, one may ask for the *maximum* willingness to pay (WTP) – the highest amount that the customer would be willing to spend for a product or service (Homburg et al., 2005). WTP is often considered as reservation price (Voelckner, 2006). The other is based on the pay-what-you-want (PWYW) business model in which consumers are given the opportunity to determine their prices (see e.g. Kim et al., 2009; Balan, 2014). Being involved in price setting process consumers choose to pay the price that does not have a negative effect on their self-image (Gneezy et al., 2012). It can be expected that prices in PWYW mechanism will be much lower than the WTP. As a matter of fact, the PWYW contribution can be considered a logical lower bound of the range in which the fair price may be.

We decided not to take the stand between these alternative approaches to the perception of price fairness. We elicited all three measures, asking explicitly about the fair price, about their maximum valuation and how much they would have paid in the PWYW environment for a given book they have purchased recently. We also ask them about the actual price they paid.

The method employed in this study involved an online self-administered survey. In addition to the questionnaire, we have also randomized the participation in an experimental part, which had the objective to elicit the true answers about downloading content from the unauthorized sources. The survey started with questions on the number of books read and bought over the period of the three months prior to the study as well, as the criteria most important to the client when deciding about acquiring a book (whether part of the payment go to the authors, convenience of purchase, price of the book, etc). Next, downloading from the unauthorized sources was addressed, as described in detail in Section 2.1). Motivations

to download or not were elicited, see Section 2.2). Then we inquired about the price of an actual cultural good purchased recently and the corresponding fair, maximum and PWYW price, see Section 2.3).

In order to identify the link between the views about the costs, markups and motivations on the one hand and the propensity to acquire content from unauthorized sources on the other - we asked the responders to indicate if they agreed with a number of statements about authorized and unauthorized sources (both positive and negative) The statements were not all mutually exclusive, thus participants could stay assured about expressing a balanced opinion. We used these answers as additional controls in the subsequent analysis. The survey followed with some questions on brand recognition and reading habits as requested by Publio.pl online bookstore. These questions were not obligatory, whereas the key survey explored in this study were obligatory. The survey was concluded with demographics, such as gender, age, household size, residence and self-evaluated income status. The (translation of the) key elements of the survey are provided in Appendix A.

2.1 Downloading behavior

Our sample consists of registered customers of the biggest online e-book store in Poland - Publio.pl³. All clients receive a weekly newsletter about the current offers and the invitation to participate in the survey was a part of one such newsletter. While the invitation clearly suggested that this is an invitation to an anonymous scientific study implemented at the University of Warsaw, responders may have been reluctant to answer the sensitive question about own downloading behavior truthfully. “Piracy” may be an act that responders could feel ashamed of; some of them may have also heard of distributors of movies and tv series threatening to sue identifiable users of unauthorized sources. Although these threats are somewhat dubious in the first place, as mere downloading is not illegal, most users may be unaware of this Filiciak et al. (2012).

To address the problem, we have randomly assigned half of the sample (control group) to a standard questionnaire and the other half (treatment group) to the Bayesian Truth Serum variant. The idea behind the BTS consists of linking the (expected) value of the rewards to the answers given by responders in such a way that they have material incentives to tell the truth. In our case the subjects in the treatment group were told:

As in all surveys, we are interested in answers as honest as possible. We thus use a method developed in 2004 by Drazen Prelec, a psychologist and mathematician from Harvard University. The method was published in the prestigious academic journal “Science”. The method, on average, gives more points to those participants who a) answer questions truthfully and b) accurately predict answers of other participants of the survey.

³Due to the confidentiality agreement we cannot disclose how many clients have received the e-mail. To given an idea, however, we may report that according to the traffic use statistics, Publio.pl has about 510 000 unique visitors monthly.

The more points you gain, the greater is your chance of winning!

While implementation of point b) above is simple, point a) may represent a puzzle, given that the researcher is not able to verify truthfulness of any specific response. However, one can formally show Prelec (2004) that an honest answer will on average be “surprisingly popular”, i.e. that more people will choose it than will on average be expected. This is because own behavior represents the bit of information that each responder has but others do not. Her individual posterior distribution as compared to others’ distributions will thus be shifted towards her true answer – she expects it to be surprisingly popular. Therefore rewarding answers that are more often given than expected (as the BTS method does) induces truth-telling.

The method has been proven effective in a number of earlier studies. For example John et al. (2012) successfully used it to incentivize social psychologist to admit to questionable research practices and Weaver and Prelec (2013) demonstrated the BTS to yield significantly more honest responses in a general knowledge questionnaire than the control group even when coupled with a mechanism encouraging overreporting one’s knowledge. The BTS has been utilized in studies of optimal incentives for inexperienced human raters (Shaw et al., 2011), informing policy (Weiss, 2009) as well as *ex ante* analyzes of new drug adoption (Howie et al., 2011).

Our implementation of BTS follows the standard adopted earlier in the literature. In both cases we informed participants about the value (50 PLN = 12.5 EUR each) of prizes to be won. While in the control group the invitation to the survey informed that gift certificates would be distributed randomly among the participants, in the BTS treatment group participants were informed that their chances of winning would depend on how true the answers are. We formulated our “sensitive” questions following closely the design of John et al. (2012). The first question concerns individual behavior: “Have you acquired an ebook or an audio-book from an unauthorized Internet source in the last three months?” (self-admission rate). Subjects were informed that when using the phrase “unauthorized Internet source” we referred to “portals and P2P networks, which can be used to share files with other users (e.g. Chomikuj.pl,⁴ Bitshare.com)”.

Subsequently, in the following screen we asked responders in the treatment group to provide an estimate of the frequency among other survey participants who would do so (prevalence rate). The prevalence rate was to be picked from ten 10% bins, ranging from 0-10% to 90-100%. Final question concerned the fraction of this population that would admit having done so (admission rate). Here too the participants were given the choice of the ten bins of 10% each. We took precautions that the second and third question carry no emotional loading. To this end the questions were phrased such that the participants could not infer from the wording if downloading and reporting it in the survey is rather an honorable or a dishonorable act. Multiplying the prevalence rate and the admission rate

⁴This is the most popular file-sharing service in Poland, according to traffic use statistics.

would provide the predicted admission rate, used in the BTS formulas to calculate each responder’s probability of winning.

2.2 Motivations

Questions about the motivations to download unauthorized content or to abstain from such behavior were formulated indirectly i.e. ”If consumers download e-books/audio-books from unauthorized sources, why do you think they do it? ” and ” Why do you think some readers do not use such sources?”. We believe these to be highly informative on responder’s own views, possibly more than a direct question would be, given the sensitive nature of investigated matters. Indeed, when judging others’ opinions, responders tend to use that of their own as a natural reference point, perhaps even more so than would be dictated by correct Bayesian inference (“false consensus effect”, Ross et al. (1977)). Had we instead asked respondents directly about their motivations to download or to abstain from downloading unauthorized content, they could have a tendency to give untruthful answers, presenting themselves in the best possible light. Some of the motivations we included were designed to be driven mostly by norms and principles (“[abstainers] believe that using [unauthorized sources] is morally wrong”) while others were rather pragmatic (“[abstainers believe that] e-books and audio-books from such sources offer are of lower quality”).

2.3 Prices

As explained before, we asked respondents to report the price of the most recently purchased fiction book. Having established this particular item to anchor price the valuation, we followed by eliciting the fair, maximum and PWYW prices. We asked explicitly, on the same screen:

- what price for this particular book would you consider fair?
- what is the maximum price you would be willing to pay for this particular book?
- if that book was available for sale in a “pay-what-you-want scheme”, how much would you have paid for it?

Note that responders were already in the possession of the book, thus they could not perceive the situation as a process of bargaining. However, it is plausible that some of the customers have already read the book and for this very reason their *ex post* valuation differed either way from the *ex ante* one.

Note that the the resulting difference between the reported maximum price and the actual price paid is a direct measure of the important economic notion of consumer surplus. The divergence between the price paid and reported fair or PWYW prices is not directly interpretable in the light of microeconomic theory. Yet, in the case of the former, it can

be identified as the extent to which client has felt abused, as suggested by Hill (2007) and Brehm and Brehm (2013). For latter, this is the potential scope for rendering all cultural goods purchase legitimate in a sense that if an ideal fair price for a given item is in excess of the actual price of acquisition customers may be incited to purchase again. Should the original purchase be from an unauthorized source (e.g. file hosting services which distribute content for the price of transfer), in the future such client is more likely to seek a discount price within authorized sources. Notably, we never ask if the book the participants refer to was purchased from authorized or unauthorized distributors.

3 Descriptive statistics

The survey was administered on May 12-28, 2015. We received 1055 responses. The average age of the respondents was 42 years, with a good gender balance (51.30% women). As shown in Table 1 most of the respondents were frequent readers and buyers of e-books. Only 3% did not read any ebook and only 4.6% did not purchase any in the three months to the study. This is very encouraging in a sense that the sample of participants is competent in the topic at hand, as they actually make purchase and acquisition decisions on a regular basis. On the other hand, the sample is clearly not representative of the entire population – as many as 60% of adult Poles have not read a single book in a year Korys and Michalak (2015).

Table 1: Reading and buying intensity, percentage of reported values

No. of books read in the previous last three months	Ebooks	Audiobooks	Printed Books
0	3.21	66.49	22.97
1-6	64.29	30.29	66.02
7-12	20.50	2.11	6.81
over 13	11.99	0.61	4.19
No. of books purchased in the previous last three months	Ebooks	Audiobooks	Printed Books
0	4.69	72.19	31.59
1-6	53.08	24.47	56.28
7-12	24.93	2.46	8.20
over 13	17.29	0.88	3.93
Observations	1 055	1 055	1 055

Price discrepancies represent a key part of our data. Please note that participants were asked about the last book they acquired, which implies there is little informational content to comparing the rough values reported. To assure comparability, we compute the differences between the actual price paid and the three used measures of value to the customer. Since in the study participants referred to books of rather differentiated prices (between approximately 1 and 30 EUR), we take the logarithms before we compute differences which implies these are effectively ratios in percent between the value and the actual price paid. Figure 1 displays the the three distributions.

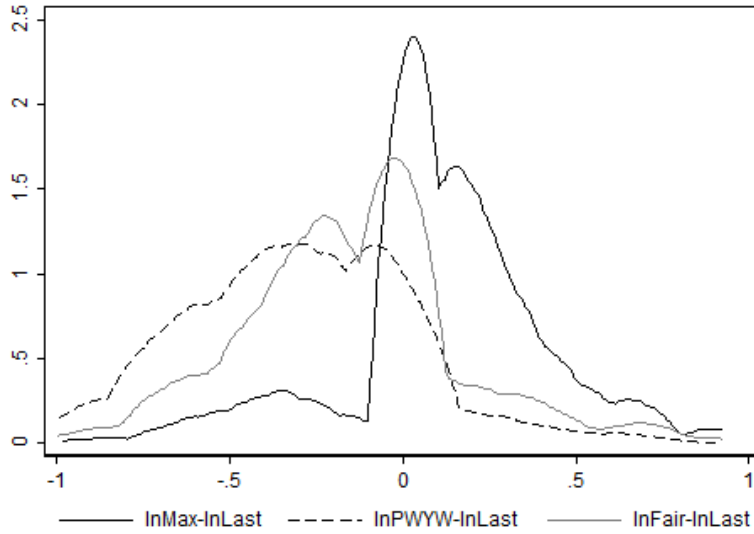


Figure 1: Kernel density estimates of prices discrepancy for various measures

It is somewhat surprising that a non-negligible fraction reported a negative consumer surplus. It could be related to the post-consumption re-evaluation of the book as mentioned before. On the other hand, 40% would seemingly still buy the book even if it was 25% higher, suggesting that the market prices are actually too low. Not surprisingly, the values for fair price and PWYW are much lower, the mode of the difference between fair and actual price is still zero.

As for self-reported downloading, we find that admission rates were nearly identical in the BST treatment (23.6%, $N=558$) and the control group (24.2%, $N=550$). Despite a relatively large sample size, the difference is not statistically significant at any conventional level. As shown in Figure 2, the estimated prevalence was also very similar in the two groups.

The estimates of self-admission at about 24% in our sample fall short of the results reported for general Internet users in Poland. For example Filiciak et al. (2012) argues – based also on self-reported statistics – that on average 60% of Internet users are involved in downloading files from unauthorized sources. However, we have only asked about downloading books. The participants of the survey could still be digital pirates for movies, TV series or music. Moreover, the figure could be lower because our responders had been registered Publio.pl customers, thereby demonstrating there were willing to pay copyright holders for books (and possibly other cultural goods).

The fact that the self-admission rates and prevalence estimates do not differ between the incentivized and non-incentivized groups suggests yet another interesting phenomenon.

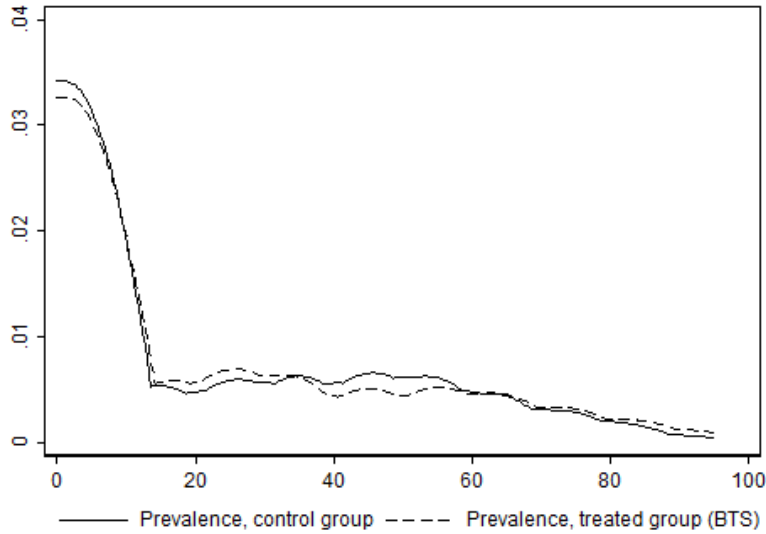


Figure 2: Kernel density estimates of the prevalence distribution

As earlier literature provides convincing evidence that BTS is effective, this null results suggests that subjects did not actually think truthful reporting could be risky or shameful in the first place. Given the lack of the treatment effect, in the remainder of the paper we collapse the treatment and the control group, treating the self-reports as equally reliable.

4 Verification of hypotheses

As discussed in the introductory section and in the view of the literature, this study formulates the following testable hypotheses.

Hypothesis 1. *An experience of high actual prices compared to what would be considered fair will lead to downloading unauthorized products.*

To test this hypothesis we formulate a probit model. The dependent variable is a dummy taking the value of 1 if an individual have admitted to having acquired books from unauthorized sources (both treatment and control). The independent variables in this model include the demographics controls, controls for self-evaluated income status and the measure of price discrepancy. We construct such a model for each of the price indicators. The prices were taken in logarithms, while our indicator of interest is the difference between the actual paid price and a given valuation measure,⁵ see Table 2.

⁵Tables B.15, B.16 and B.17 provide justification for taking the difference: when logarithms of fair and

Table 2: Basic estimates

	(1)	(2)	(3)
Self admission	$\ln Fair - \ln Last$	$\ln Max - \ln Last$	$\ln PWYW - \ln Last$
Price discrepancy	-0.127*** (0.038)	-0.163*** (0.040)	-0.076*** (0.026)
No of observations	1,044	1,055	1,053

Notes: Demographic characteristics included, standard errors in parentheses, *** $p < 0.01$

We find strong support for Hypothesis 1: a larger discrepancy between the valuation and actual paid price correlates strongly with higher self-admission. A caution should be applied when developing a causal interpretation from this specification. First, it is likely that individuals who acquire content from unauthorized sources (i.e. for free) have habitually lower fair, PWYW and maximum price valuations. With an independent distribution of actual prices paid (due to e.g. heterogeneity of tastes) the discrepancies would be higher *because* of digital piracy and not the vice versa.

To account for this possible reverse causality as much as possible, we introduce to the regression a number of effects that could mediate the relationship between relative valuation and propensity to engage in digital piracy. The intuition behind this approach is the following: if the causal relationship was from high propensity to download from unauthorized sources to higher price discrepancy, the coefficient of correlation should be reduced when we include in specifications all the variables that possibly correlate with piracy itself. We include those checks for the fair price in Table B.3, for consumers surplus in Table B.6, and for PWYW price in Table B.7 in the Appendix. We observe nothing of the kind in any of the specifications. In all models neither the coefficients, nor their significance are substantially affected. This suggests that our findings are robust.

As mentioned before, to further explore ethical consideration of potential “pirates”, we asked respondents to agree or disagree with several statements containing pragmatic vs. principled motivations for using and not using unauthorized internet sources. In line with the notion that users seek justification of their actions on moral grounds, we expected them to declare having relatively principled motivations and ascribing relatively pragmatic motivations to non-users. We thus formulated the following testable hypotheses:

Hypothesis 2. *Compared to self-declared “pirates”, self-declared abstainers will believe that abstaining is driven by relatively principled motivations.*

Hypothesis 3. *Compared to self-declared “pirates”, self-declared abstainers will believe that “piracy” is driven by relatively pragmatic motivations.*

To verify Hypothesis 2 and 3 we have conducted several regressions of self-reported unauthorized downloading, including as independent variables the positive and negative

actual price are introduced into the model as separate variables, the coefficients are very similar in size and have opposite signs and the same is true for WTP vs. actual and PWYW vs. actual.

motives for “piracy” and abstaining for the fair price, consumers surplus and for PWYW price. We received almost identical results in all three cases. Below we discuss those results on the example of fair price, see Tables B.5 and B.4 in the Appendix.⁶ For reader’s convenience the motives for abstaining have been arranged from relatively most pragmatic, such as Low Quality to relatively most principled, such as Authors Rewarded (although of course someone could suggest a slightly different order). As can be seen, there is a very clear pattern of significant, positive coefficients for the relatively pragmatic statements and significant, negative coefficients for the relatively principled statements. This confirms Hypothesis 2 that staying away from unauthorized content is associated with ascribing relatively noble motivations to such a choice.

The results for motivations to download unauthorized products are more mixed, as can be seen in Table B.5. The obviously pragmatic statements “because it is cheaper” or “checking how this kind of services operate” were not associated with abstaining. Thus we reject Hypothesis 3. Abstainers believe that using unauthorized internet sources is driven by less pragmatic motives like surrounding environment. This is consistent with Gunter (2009) observations that students who have more friends involved in music, software and movie privacy and who have strong parental support for such behavior are significantly more likely to engage in “piracy”.

Finally, as can be seen in Tables B.8 and B.1 self-reported use of unauthorized Internet sources was very consistently associated with endorsing positive statements and abstaining was associated with endorsing negative opinions about file sharing services. The results are the same for consumer surplus and for PWYW price. Individuals who declare to have not acquiring books from unauthorized sources agree with the statement that “distributing copyright contents on the Internet is theft”. This confirm our assumption that it takes some ethical consideration to abstain from downloading desired content from an unauthorized source.

5 Discussion and conclusions

Books are *par excellence* experience goods—their value can only be fully assessed after they are read. It may thus be that numbers reported as maximum willingness to pay or intended contributions under pay-what-you-want to some extent reflect ex-post evaluations rather than those from the moment of purchase. This possibility does not invalidate our findings, though. Responders may still discover (albeit only ex-post) that they have been overcharged and react accordingly.

Like with nearly all survey studies, it is hard to establish causality, in our case that between perception of being overcharged and willingness to engage in piracy. We believe nevertheless it is instructive to confirm that these plausibly related dimension are indeed robustly correlated.

⁶Similar tables for consumers surplus and for PWYW price are available from authors on the request.

Admittedly, it is a limitation of our study (again, ubiquitous for surveys) that we have to rely on self-reports rather than observe actual behavior. The fact that self-reports are unaffected also when the BTS mechanism (providing some incentives to tell the truth) is implemented suggests that responders are not strongly tempted to do otherwise. Even if some “pirates” pretend not to be ones, it is still interesting that those who do openly admit, still seek justification of their action by identifying with relatively principled motivations for “piracy” and ascribing relatively pragmatic motives to abstainers.

Overall, our findings confirm the notion that acquiring unauthorized products is related to ethical judgments, which may be partly shaped by perception of the industry’s actions. Thus while “competing with free” may seem a lost cause, a pricing policy perceived as fair may be likely to rid potential “pirates” of an excuse, turning them into paying customers.

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Appendix A. Survey

Not only a printed book: new forms of reading in Poland!

Hello, we would like to invite you to take part in a scientific project on e-books, audio-books and printed books. All participants have a chance of winning a 50 zł discount code which can be used in Publio online bookshop!

The questionnaire is conducted as part of a project run by the University of Warsaw. We guarantee non-disclosure of the data gathered as stipulated in the Law on Personal Information Protection and guidelines for ethical conduct of research. The obtained data will only be used for scientific purposes. To have a chance to win a prize you must provide us with your email address.

1. A lot of books are available now in the electronic form. How many

- a) Ebooks have you read in the last 3 months?
- b) Audiobooks have you listened to in the last 3 months?
- c) Printed books have you read in the last 3 months?

2. And how many

(In the following questions do not ignore books offered to clients for 0 zł)

- a) Ebooks have you bought in the last 3 months?
- b) Audiobooks have you bought to in the last 3 months?
- c) Printed books have you bought in the last 3 months?

3. When deciding about acquiring a book, how important to you are the following criteria?

(Nowadays books come in different forms, e.g. paperback, hardback, e-books, audio-books. You can also download book files from the Internet either for free or for a little transfer fee. The aim of this questions is to determine the role of various factors while deciding about getting a book).

- a) Whether part of the payment will go to the authors
- b) Whether the book is distributed in accordance with the law
- c) Whether you can give or lend the book to your family/friends
- d) The looks of the book
- e) The size of the book (i.e. weight, dimensions, thickness)
- f) How convenient it is to purchase it
- g) The price of the book
- h) Purchase fees (e.g. shipment cost, cost of getting to a shop)
- i) Delivery time

[questions about downloading (treatment and control groups) a described in the main

text were displayed at this point]

9. If consumers download e-books/audio-books from unauthorized sources, why do you think they do it? (Tick up to 3 answers).

- a) in order to see how this kind of service operates
- b) because it is cheaper
- c) they do not think there is anything wrong in it
- d) they cannot tell the difference between authorized and unauthorized services
- e) they do not care whether the source is or is not authorized
- f) because other people do that
- g) because they do not know the authorized sources
- h) give your own answer

10. Why do you think some readers do not use such sources?

- a) because e-books and audio-books such sources offer are of lower quality
- b) because they fear the penalty
- c) because they believe using them is morally wrong
- d) because they think artists should be paid for their work
- e) because they think that without this money artists will be deprived of incentive that stimulates them to work
- f) because they do not know such sources or do not know how to use them
- g) because they think using them is embarrassing
- i) because they can afford to pay for cultural goods
- j) because they fear that the downloaded file may contain a virus or other unwanted software
- g) give your own answer

11. These four questions concern the last fiction book (e-book, audio-book or paper book) you have purchased

- a) How much was the last fiction book that you have purchased?
- b) What is the maximum price you would be willing to pay for this particular book?
- c) What price for this particular book would you consider fair?
- d) If that book was available in for sale in a “pay-what-you-want” scheme, how much would you have paid for it?

12. How do you feel about hosting services such as Chomikuj.pl and BitTorrent networks where you can share files with other Internet users

- a) mere existence of these services for such a long time suggests that they are simply legal
- b) the ban on sharing book files with other people (even strangers) is just an attack on one’s personal freedom
- c) there is nothing wrong in downloading these book files, which otherwise are simply not

available

- d) these services and networks are just like traditional public libraries
- e) the law concerning the use of Chomikuj.pl and BitTorrent is so obscure and ambiguous that we can just ignore it
- f) books are cultural goods and as such should be univerrally available, also from sources like Chomikuj.pl and BotTorrent
- g) there is no point in paying publishers for books if you can download them for free from Chomikuj.pl or BitTorrent
- h) users of services such as Chomikuj.pl and networks like BitTorrent are people who could not afford buying books that are so expensive
- i) nobody loses any money because of such services, as people downloading books from them would never buy them from traditional sources anyway
- j) Chomikuj.pl, BitTorrent and sources like that make money at the cost of writers and publishers
- k) distributing copyright contents on the Internet is theft and users of Chomikuj.pl, BitTorrent and other similar sources are accomplice to crime
- l) mere existence of Chomikuj.pl, BitTorrent and other similar sources will lead to the collapse of publishing market as publishers will run out financial resources

Appendix B. Estimation results

Table B.1: Negative opinions about file sharing services are associated with abstaining – a model with fair price

	(1)	(2)	(3)
$\ln Fair - \ln Last$	-0.128*** (0.038)	-0.120*** (0.038)	-0.124*** (0.038)
Age	-0.004*** (0.001)	-0.004*** (0.001)	-0.004*** (0.001)
Male	-0.001 (0.028)	-0.010 (0.028)	-0.009 (0.028)
HHsize	-0.004 (0.012)	-0.003 (0.012)	-0.007 (0.012)
we can afford luxury	-0.083 (0.058)	-0.067 (0.060)	-0.069 (0.060)
we can afford a lot	-0.094 (0.058)	-0.075 (0.059)	-0.084 (0.058)
we can only afford current expenses	-0.056 (0.062)	-0.049 (0.062)	-0.050 (0.062)
Exist at the Expense of Authors	-0.045*** (0.014)		
Using is a Theft		-0.083*** (0.012)	
Kills Creativity			-0.072*** (0.011)
Observations	952	958	957

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$; standard errors in parentheses. To analyze relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms ($\ln Fair - \ln Last$).

Table B.2: Negative opinions about file sharing services are associated with abstaining – a model with consumer surplus

	(1)	(2)	(3)
$\ln CS$	-0.166*** (0.041)	-0.175*** (0.040)	-0.162*** (0.041)
Age	-0.004*** (0.001)	-0.004*** (0.001)	-0.004*** (0.001)
Male	0.002 (0.028)	-0.006 (0.028)	-0.005 (0.028)
HHsize	-0.003 (0.012)	-0.003 (0.012)	-0.006 (0.012)
we can afford luxury	-0.057 (0.063)	-0.049 (0.063)	-0.050 (0.063)
we can afford a lot	-0.067 (0.061)	-0.054 (0.061)	-0.062 (0.061)
we can only afford current expenses	-0.033 (0.063)	-0.034 (0.063)	-0.033 (0.063)
Exist at the Expense of Authors	-0.046*** (0.014)		
Using is a Theft		-0.082*** (0.012)	
Kills Creativity			-0.071*** (0.011)
Observations	960	966	965

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** $p < 0.01$; standard errors in parentheses. $ConsumerSurplus = MaximumPrice - PriceLastPaid$. To analyze relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms ($\ln CS$).

Table B.3: Experience of high fair-to-actual price ratio discourages unauthorized downloading

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LNFairMinusLNLast	-0.106*** (0.036)	-0.127*** (0.038)	-0.115*** (0.038)	-0.081** (0.038)	-0.115*** (0.038)	-0.103*** (0.038)	-0.095** (0.039)	-0.124*** (0.038)
Age		-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.003*** (0.001)
Male		0.020 (0.028)	0.044 (0.028)	-0.013 (0.028)	0.016 (0.028)	0.020 (0.028)	0.022 (0.028)	-0.028 (0.028)
HHsize		-0.003 (0.012)	-0.002 (0.012)	0.001 (0.012)	-0.006 (0.012)	0.003 (0.012)	0.002 (0.012)	-0.007 (0.012)
We can afford luxury		-0.084 (0.057)	-0.076 (0.058)	-0.013 (0.070)	-0.078 (0.058)	-0.055 (0.060)	-0.013 (0.068)	-0.075 (0.058)
We can afford a lot		-0.090 (0.058)	-0.076 (0.059)	0.006 (0.067)	-0.103* (0.057)	-0.060 (0.059)	-0.039 (0.062)	-0.086 (0.059)
We can only afford current expenses		-0.055 (0.061)	-0.039 (0.062)	0.016 (0.064)	-0.056 (0.062)	-0.042 (0.060)	-0.012 (0.063)	-0.058 (0.062)
Reading and Buying Intensity			YES					
Criteria when Acquiring a book				YES				
Why Using Unauthorized Sources					YES			
Why Not Using Unauthorized Sources						YES		
Positive Opinion About Unauthorized Sources							YES	
Negative Opinion About Unauthorized Sources								YES
Observations	1,044	972	972	972	972	972	941	949

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** p<0.01, ** p<0.05; standard errors in parentheses. To analyze relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms (LNFairMinusLNLast). Regressions with particular factors included in models 3-4 and 7-8 are presented in Tables B.1, B.8, B.10 and B.12. Regressions with particular factors included in models 5-6 are presented in Tables B.4 and B.5.

Table B.4: Abstaining is associated with endorsing relatively principled motivations for abstaining

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LNFairMinusLNLast	-0.140*** (0.038)	-0.122*** (0.038)	-0.127*** (0.038)	-0.097** (0.038)	-0.109*** (0.038)	-0.127*** (0.038)	-0.130*** (0.038)	-0.120*** (0.038)
Age	-0.004*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)
Male	0.012 (0.028)	0.021 (0.028)	0.020 (0.028)	0.025 (0.028)	0.027 (0.028)	0.030 (0.028)	0.020 (0.028)	0.008 (0.028)
HHsize	-0.002 (0.012)	-0.002 (0.012)	-0.003 (0.012)	-0.001 (0.012)	-0.002 (0.012)	-0.002 (0.012)	-0.002 (0.012)	-0.000 (0.012)
We can afford luxury	-0.078 (0.057)	-0.082 (0.058)	-0.084 (0.057)	-0.087 (0.056)	-0.076 (0.058)	-0.082 (0.057)	-0.084 (0.057)	-0.057 (0.062)
We can afford a lot	-0.084 (0.058)	-0.084 (0.059)	-0.090 (0.058)	-0.094* (0.057)	-0.082 (0.058)	-0.091 (0.058)	-0.091 (0.058)	-0.057 (0.061)
We can only afford current expenses	-0.055 (0.061)	-0.058 (0.061)	-0.054 (0.062)	-0.054 (0.060)	-0.048 (0.061)	-0.060 (0.061)	-0.055 (0.061)	-0.032 (0.062)
Low Quality	0.130*** (0.031)							
Afraid of Punishment		0.070** (0.033)						
Can Afford To Buy			0.006 (0.027)					
Do Not Know Authorized				0.212*** (0.045)				
Inappropriate					-0.128*** (0.027)			
Authors Incentive						-0.128*** (0.036)		
Shameful							0.040 (0.047)	
Authors Reward								-0.172*** (0.031)
Observations	972	972	972	972	972	972	972	972

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** p<0.01, ** p<0.05; standard errors in parentheses. To analyse relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms (LNFairMinusLNLast).

Table B.5: Mixed evidence for motivations for digital piracy

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LNFairMinusLast	-0.130*** (0.038)	-0.127*** (0.038)	-0.128*** (0.038)	-0.118*** (0.038)	-0.121*** (0.038)	-0.125*** (0.038)	-0.130*** (0.038)
Age	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
Male	0.017 (0.028)	0.019 (0.028)	0.020 (0.028)	0.021 (0.028)	0.024 (0.028)	0.019 (0.028)	0.016 (0.028)
HHsize	-0.003 (0.012)	-0.003 (0.012)	-0.003 (0.012)	-0.004 (0.012)	-0.005 (0.012)	-0.002 (0.012)	-0.002 (0.012)
We can afford luxury	-0.077 (0.058)	-0.084 (0.057)	-0.086 (0.057)	-0.082 (0.057)	-0.084 (0.057)	-0.084 (0.057)	-0.086 (0.057)
We can afford a lot	-0.087 (0.058)	-0.090 (0.058)	-0.092 (0.058)	-0.096* (0.057)	-0.095 (0.058)	-0.092 (0.058)	-0.095* (0.058)
We can only afford current expenses	-0.052 (0.061)	-0.054 (0.062)	-0.057 (0.061)	-0.059 (0.061)	-0.057 (0.062)	-0.057 (0.062)	-0.058 (0.061)
Do not Know Authorized	0.196*** (0.079)						
Have no Reflecons		-0.005 (0.028)					
Web Identity Problems			0.036 (0.043)				
Because Other Do							
Nothing Wrong					-0.125*** (0.026)		
To Try					-0.161*** (0.033)		
Cheaper						0.059 (0.066)	-0.052 (0.037)
Observations	972	972	972	972	972	972	972
Observations	972	972	972	972	972	972	972

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** p<0.01; standard errors in parentheses. To analyse relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms (LNFairMinusLNLast).

Table B.6: Experience of high consumer surplus discourages unauthorized downloading

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LNCS	-0.112*** (0.036)	-0.163*** (0.040)	-0.162*** (0.040)	-0.147*** (0.040)	-0.150*** (0.040)	-0.148*** (0.039)	-0.136*** (0.041)	-0.176*** (0.041)
Age		-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.003*** (0.001)
Male		0.023 (0.027)	0.047* (0.027)	-0.013 (0.028)	0.018 (0.027)	0.022 (0.028)	0.024 (0.027)	-0.025 (0.028)
HHsize		-0.002 (0.011)	-0.002 (0.012)	0.001 (0.011)	-0.005 (0.011)	0.003 (0.011)	0.003 (0.011)	-0.006 (0.012)
We can afford luxury		-0.061 (0.061)	-0.051 (0.063)	0.007 (0.074)	-0.064 (0.060)	-0.035 (0.063)	0.010 (0.072)	-0.056 (0.062)
We can afford a lot		-0.067 (0.060)	-0.051 (0.061)	0.027 (0.069)	-0.088 (0.059)	-0.040 (0.061)	-0.016 (0.064)	-0.064 (0.061)
We can only afford current expenses		-0.035 (0.063)	-0.019 (0.063)	0.032 (0.065)	-0.045 (0.062)	-0.026 (0.061)	0.006 (0.064)	-0.042 (0.063)
Reading and Buying Intensity			YES					
Criteria when Acquiring a book				YES				
Why Using Unauthorized Sources					YES			
Why Not Using Unauthorized Sources						YES		
Positive Opinion About Unauthorized Sources							YES	
Negative Opinion About Unauthorized Sources								YES
Observations	1,055	981	981	981	981	981	949	957

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** p<0.01; standard errors in parentheses. Consumer Surplus=Maximum Price - Price Last Paid. To analyse relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms (LNCS). Regressions with particular factors included in sequential models are presented in B.11, B.2, B.9, B.13, B.18 and B.14.

Table B.7: High PWYW-to-actual price ratio discourages unauthorized downloading

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LNPWYWMinusLNLast	-0.072*** (0.025)	-0.076*** (0.026)	-0.070*** (0.026)	-0.039 (0.026)	-0.066** (0.026)	-0.053** (0.026)	-0.036 (0.026)	-0.071*** (0.026)
Age		-0.004*** (0.001)	-0.004*** (0.001)	-0.003*** (0.001)	-0.004*** (0.001)	-0.004*** (0.001)	-0.004*** (0.001)	-0.003*** (0.001)
Male		0.020 (0.027)	0.045 (0.028)	-0.013 (0.028)	0.016 (0.028)	0.022 (0.028)	0.024 (0.028)	-0.027 (0.028)
HHsize		-0.005 (0.012)	-0.004 (0.012)	-0.000 (0.011)	-0.007 (0.011)	0.002 (0.012)	0.000 (0.012)	-0.008 (0.012)
We can afford luxury		-0.080 (0.058)	-0.072 (0.058)	-0.009 (0.070)	-0.076 (0.058)	-0.053 (0.060)	-0.013 (0.068)	-0.073 (0.058)
We can afford a lot		-0.083 (0.058)	-0.069 (0.059)	0.010 (0.067)	-0.098* (0.057)	-0.055 (0.059)	-0.036 (0.062)	-0.079 (0.059)
We can only afford current expenses		-0.048 (0.061)	-0.033 (0.061)	0.021 (0.064)	-0.052 (0.061)	-0.036 (0.060)	-0.009 (0.062)	-0.053 (0.062)
Reading and Buying Intensity			YES					
Criteria when Acquiring a book				YES				
Why Using Unauthorized Sources					YES			
Why Not Using US Unauthorized Sources						YES		
Positive Opinion							YES	
Negative Opinion								YES
Observations	1,053	979	979	979	979	979	947	955

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** p<0.01, ** p<0.05; standard errors in parentheses. To analyse relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms (LNPWYWMinusLNLast). Regressions with particular factors included in sequential models are available upon request.

Table B.8: Positive opinions about file sharing services are associated with piracy

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
LNFairMinusLNLast	-0.130*** (0.038)	-0.117*** (0.038)	-0.125*** (0.038)	-0.111*** (0.038)	-0.115*** (0.038)	-0.103*** (0.038)	-0.108*** (0.038)	-0.094*** (0.039)	-0.123*** (0.038)	-0.126*** (0.038)
Age	-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
Male	0.016 (0.028)	0.019 (0.028)	0.007 (0.028)	0.024 (0.028)	0.020 (0.028)	0.023 (0.028)	0.019 (0.028)	0.030 (0.028)	0.021 (0.028)	0.019 (0.028)
HHsize	-0.002 (0.012)	-0.004 (0.012)	-0.000 (0.012)	-0.003 (0.012)	-0.001 (0.012)	-0.003 (0.012)	-0.001 (0.012)	-0.002 (0.012)	-0.002 (0.012)	-0.006 (0.012)
We can afford luxury	-0.084 (0.057)	-0.083 (0.058)	-0.073 (0.058)	-0.050 (0.063)	-0.067 (0.060)	-0.058 (0.061)	-0.067 (0.060)	-0.068 (0.060)	-0.055 (0.062)	-0.044 (0.065)
We can afford a lot	-0.091 (0.058)	-0.082 (0.059)	-0.090 (0.058)	-0.061 (0.061)	-0.076 (0.060)	-0.075 (0.059)	-0.082 (0.059)	-0.075 (0.059)	-0.069 (0.060)	-0.045 (0.062)
We can only afford current expenses	-0.057 (0.061)	-0.051 (0.061)	-0.050 (0.061)	-0.031 (0.063)	-0.044 (0.062)	-0.048 (0.061)	-0.053 (0.061)	-0.043 (0.062)	-0.039 (0.062)	-0.017 (0.063)
They Are Legal	0.005 (0.010)									
Prohibit the use Attack on Personal Freedom		0.040*** (0.013)								
Lack Of Alternative			0.070*** (0.013)							
Like Library				0.044*** (0.011)						
Bad Low Can be Ignored					0.054*** (0.010)					
Culture Good, Nothing Wrong						0.066*** (0.011)				
Are Not in Doubt							0.050*** (0.012)			
No Reason For Paying								0.075*** (0.014)		
Used by those who can not Afford to buy									0.052*** (0.013)	
Nobody Loses										0.053*** (0.012)
Observations	961	961	961	955	958	958	955	957	959	952

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** p<0.01, ** p<0.05; standard errors in parentheses. To analyse relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms (LNFairMinusLNLast).

Table B.9: Positive opinions about file sharing services are associated with abstaining – a model with WTP

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
LNCS	-0.166*** (0.040)	-0.153*** (0.040)	-0.166*** (0.040)	-0.148*** (0.040)	-0.151*** (0.040)	-0.145*** (0.041)	-0.154*** (0.040)	-0.131*** (0.041)	-0.158*** (0.040)	-0.156*** (0.040)
Age	-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.006*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.006*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
Male	0.020 (0.027)	0.022 (0.027)	0.012 (0.027)	0.027 (0.027)	0.023 (0.027)	0.024 (0.028)	0.021 (0.028)	0.031 (0.028)	0.024 (0.027)	0.021 (0.027)
HHsize	-0.002 (0.012)	-0.004 (0.012)	-0.000 (0.012)	-0.002 (0.012)	-0.001 (0.012)	-0.002 (0.012)	-0.001 (0.012)	-0.002 (0.012)	-0.002 (0.012)	-0.005 (0.012)
We can afford luxury	-0.061 (0.061)	-0.062 (0.061)	-0.053 (0.062)	-0.028 (0.067)	-0.045 (0.064)	-0.037 (0.065)	-0.046 (0.064)	-0.049 (0.063)	-0.032 (0.066)	-0.022 (0.068)
We can afford a lot	-0.066 (0.060)	-0.061 (0.061)	-0.067 (0.060)	-0.036 (0.064)	-0.053 (0.062)	-0.053 (0.061)	-0.060 (0.061)	-0.055 (0.061)	-0.046 (0.062)	-0.023 (0.065)
We can only afford current expenses	-0.037 (0.063)	-0.034 (0.063)	-0.033 (0.062)	-0.011 (0.064)	-0.025 (0.064)	-0.030 (0.062)	-0.036 (0.063)	-0.027 (0.063)	-0.020 (0.063)	0.001 (0.065)
They Are Legal	0.003 (0.010)									
Prohibit the use Attack on Personal Freedom		0.037*** (0.012)								
Lack Of Alternative			0.070*** (0.013)							
Like Library				0.044*** (0.011)						
Bad Low					0.053*** (0.010)					
Can be Ignored						0.066*** (0.011)				
Culture Good, Nothing Wrong										
Are Not in Doubt							0.051*** (0.012)			
No Reason For Paying								0.073*** (0.014)		
Used by those who can not Afford to buy									0.051*** (0.013)	
Nobody Loses										0.051*** (0.012)
Observations	969	969	969	963	966	966	963	965	967	960

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** p<0.01, ** p<0.05, * p<0.1; standard errors in parentheses. Consumer Surplus=Maximum Price - Price Last Paid. To analyse

Table B.10: Fair price and piracy: robustness to reading and buying intensity

NFairMinusLNLast	-0.115*** (0.038)
Age	-0.005*** (0.001)
Male	0.044 (0.028)
HHsize	-0.002 (0.012)
We can afford luxury	-0.076 (0.058)
We can afford a lot	-0.076 (0.059)
We can only afford current expenses	-0.039 (0.062)
We buy 1-6 books	0.053 (0.075)
We buy 7-12 books	-0.042 (0.076)
We buy over 13 books	-0.102 (0.067)
I read 1-6 books	0.035 (0.090)
I read 7-12 books	0.207* (0.119)
I read over 13 books	0.367*** (0.130)
Observations	972

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$; standard errors in parentheses. To analyze relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms (LNFairMinusLNLast).

Table B.11: Consumer surplus and piracy: robustness to reading and buying intensity

LNCS	-0.162*** (0.040)
Age	-0.005*** (0.001)
Male	0.047* (0.027)
HHsize	-0.002 (0.012)
We can afford luxury	-0.051 (0.063)
We can afford a lot	-0.051 (0.061)
We can only afford current expenses	-0.019 (0.063)
We buy 1-6 books	0.060 (0.074)
We buy 7-12 books	-0.034 (0.075)
We buy over 13 books	-0.104 (0.066)
I read 1-6 books	0.022 (0.089)
I read 7-12 books	0.185 (0.117)
I read over 13 books	0.358*** (0.129)
Observations	981

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** p<0.01, ** p<0.05, * p<0.1; standard errors in parentheses. Consumer Surplus=Maximum Price - Price Last Paid. To analyse relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms (LNCS).

Table B.12: Fair price and piracy: robustness to criteria when deciding about acquiring a book

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LNFairMinusLNLast	-0.128*** (0.038)	-0.078** (0.037)	-0.127*** (0.038)	-0.123*** (0.038)	-0.129*** (0.038)	-0.127*** (0.038)	-0.123*** (0.038)	-0.131*** (0.038)	-0.125*** (0.038)
Age	-0.005*** (0.001)	-0.003*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
Male	0.020 (0.028)	-0.005 (0.028)	0.019 (0.028)	0.020 (0.028)	0.007 (0.028)	0.019 (0.028)	0.021 (0.028)	0.016 (0.028)	0.022 (0.028)
HHsize	-0.003 (0.012)	-0.001 (0.012)	-0.003 (0.012)	-0.003 (0.012)	-0.003 (0.012)	-0.003 (0.012)	-0.003 (0.012)	-0.002 (0.012)	-0.002 (0.012)
We can afford luxury	-0.084 (0.057)	-0.040 (0.064)	-0.084 (0.057)	-0.090 (0.057)	-0.075 (0.059)	-0.081 (0.058)	-0.069 (0.060)	-0.088 (0.057)	-0.085 (0.057)
We can afford a lot	-0.090 (0.058)	-0.025 (0.063)	-0.090 (0.058)	-0.094 (0.058)	-0.083 (0.059)	-0.088 (0.058)	-0.078 (0.059)	-0.094 (0.058)	-0.088 (0.058)
We can only afford current expenses	-0.055 (0.061)	0.005 (0.063)	-0.054 (0.061)	-0.059 (0.062)	-0.051 (0.062)	-0.053 (0.062)	-0.050 (0.061)	-0.057 (0.062)	-0.052 (0.061)
If Authors are Rewarded	0.001 (0.019)								
Compliance with the Law		-0.181*** (0.020)							
Lending Possibility			-0.000 (0.018)						
Look				-0.056*** (0.020)					
Overall Size					-0.054*** (0.018)				
Easiness of Purchase						-0.018 (0.028)			
Price							0.064* (0.035)		
Costs								-0.023 (0.024)	
Waiting Time									0.023 (0.021)
Observations	972	972	972	972	972	972	972	972	972

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** p<0.01; standard errors in parentheses. To analyse relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms (LNFairMinusLNLast).

Table B.13: Consumer Surplus, Why Not Using Unauthorized Sources

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LNCS	-0.165*** (0.040)	-0.161*** (0.040)	-0.163*** (0.040)	-0.151*** (0.040)	-0.150*** (0.040)	-0.165*** (0.040)	-0.166*** (0.040)	-0.157*** (0.040)
Age	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
Male	0.018 (0.027)	0.024 (0.027)	0.023 (0.027)	0.026 (0.027)	0.030 (0.027)	0.034 (0.027)	0.024 (0.027)	0.012 (0.027)
HHsize	-0.002 (0.011)	-0.002 (0.011)	-0.002 (0.012)	-0.001 (0.012)	-0.002 (0.011)	-0.002 (0.011)	-0.002 (0.012)	-0.000 (0.011)
We can afford luxury	-0.058 (0.061)	-0.057 (0.062)	-0.061 (0.061)	-0.065 (0.060)	-0.057 (0.061)	-0.060 (0.061)	-0.061 (0.061)	-0.036 (0.065)
We can afford a lot	-0.063 (0.060)	-0.060 (0.061)	-0.067 (0.060)	-0.072 (0.059)	-0.064 (0.060)	-0.068 (0.060)	-0.067 (0.060)	-0.035 (0.063)
We can only afford current expenses	-0.037 (0.062)	-0.037 (0.063)	-0.034 (0.063)	-0.035 (0.061)	-0.032 (0.062)	-0.041 (0.063)	-0.034 (0.063)	-0.015 (0.063)
Low Quality	0.119*** (0.030)							
Afraid of Punishment		0.075** (0.033)						
Can Afford To Buy			0.004 (0.027)					
Do Not Know				0.217*** (0.045)				
Inappropriate					-0.123*** (0.027)			
Authors Incentive						-0.125*** (0.036)		
Shameful							0.045 (0.047)	
Authors Reward								-0.172*** (0.031)
Observations	981	981	981	981	981	981	981	981

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** p<0.01; standard errors in parentheses. Consumer Surplus=Maximum Price - Price Last Paid. To analyse relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms (LNCS).

Table B.14: Consumer Surplus, Why Using Unauthorized Sources

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LNCS	-0.161*** (0.040)	-0.162*** (0.040)	-0.158*** (0.040)	-0.153*** (0.039)	-0.162*** (0.040)	-0.163*** (0.040)	-0.165*** (0.040)
Age	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
Male	0.022 (0.027)	0.021 (0.027)	0.023 (0.027)	0.027 (0.027)	0.024 (0.027)	0.023 (0.027)	0.020 (0.027)
HHsize	-0.002 (0.012)	-0.002 (0.011)	-0.003 (0.011)	-0.005 (0.011)	-0.003 (0.011)	-0.002 (0.011)	-0.002 (0.011)
We can afford luxury	-0.062 (0.061)	-0.059 (0.061)	-0.062 (0.061)	-0.066 (0.060)	-0.064 (0.061)	-0.061 (0.061)	-0.064 (0.061)
We can afford a lot	-0.068 (0.060)	-0.068 (0.060)	-0.076 (0.059)	-0.075 (0.060)	-0.068 (0.060)	-0.067 (0.060)	-0.072 (0.060)
We can only afford current expenses	-0.037 (0.063)	-0.037 (0.062)	-0.042 (0.062)	-0.042 (0.063)	-0.037 (0.063)	-0.034 (0.063)	-0.038 (0.062)
To Try	0.047 (0.064)						
Do not Know Authorized		0.164** (0.077)					
Because Other Do			-0.127*** (0.026)				
Nothing Wrong				-0.150*** (0.032)			
Web Identity Problems					0.034 (0.043)		
Have no Reflections						-0.004 (0.028)	
Cheaper							-0.054 (0.037)
Observations	981	981	981	981	981	981	981

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** p<0.01; standard errors in parentheses. Consumer Surplus=Maximum Price - Price Last Paid. To analyse relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms (LNCS).

Table B.15: Validity of fair-to-actual price ratio

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FairPrice	-0.006*** (0.002)	-0.007*** (0.002)	-0.006*** (0.002)	-0.004* (0.002)	-0.007*** (0.002)	-0.005** (0.002)	-0.005** (0.002)	-0.006*** (0.002)
LastPricePaid	0.004*** (0.001)	0.005*** (0.002)	0.004*** (0.002)	0.004** (0.002)	0.005*** (0.002)	0.004** (0.002)	0.004** (0.002)	0.005*** (0.002)
Age		-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.003** (0.001)
Male		0.018 (0.028)	0.044 (0.028)	-0.011 (0.028)	0.013 (0.028)	0.019 (0.028)	0.022 (0.028)	-0.029 (0.028)
HHsize		-0.004 (0.012)	-0.004 (0.012)	-0.000 (0.012)	-0.007 (0.012)	0.002 (0.012)	-0.000 (0.012)	-0.008 (0.012)
We can afford luxury		-0.082 (0.058)	-0.075 (0.058)	-0.011 (0.070)	-0.075 (0.058)	-0.054 (0.060)	-0.010 (0.068)	-0.072 (0.059)
We can afford a lot		-0.087 (0.058)	-0.074 (0.059)	0.010 (0.067)	-0.100* (0.057)	-0.056 (0.059)	-0.036 (0.062)	-0.083 (0.059)
We can only afford current expenses		-0.054 (0.062)	-0.038 (0.062)	0.015 (0.064)	-0.056 (0.062)	-0.040 (0.061)	-0.010 (0.063)	-0.055 (0.062)
Reading and Buying Intensity			YES					
Criteria when Acquiring a book				YES				
Why Using Unauthorized Sources					YES			
Why Not Using Unauthorized Sources						YES		
Positive Opinion About Unauthorized Sources							YES	
Negative Opinion Unauthorized Sources								YES
Observations	1,052	979	979	979	979	979	948	956

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted).
*** p<0.01, ** p<0.05; standard errors in parentheses.

Table B.16: Validity of Consumer Surplus

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
MaxPrice	-0.001 (0.001)	-0.006*** (0.002)	-0.006*** (0.002)	-0.006*** (0.002)	-0.006*** (0.002)	-0.006*** (0.002)	-0.005*** (0.002)	-0.007*** (0.002)
LastPricePaid	0.002 (0.001)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.005*** (0.002)	0.005*** (0.002)	0.007*** (0.002)
Age		-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)
Male		0.022 (0.027)	0.046* (0.028)	-0.013 (0.028)	0.016 (0.027)	0.020 (0.028)	0.024 (0.027)	-0.027 (0.028)
HHsize		-0.004 (0.012)	-0.003 (0.012)	-0.001 (0.011)	-0.007 (0.011)	0.001 (0.011)	0.001 (0.011)	-0.007 (0.012)
We can afford luxury		-0.058 (0.062)	-0.047 (0.063)	0.010 (0.074)	-0.060 (0.061)	-0.030 (0.064)	0.013 (0.073)	-0.054 (0.062)
We can afford a lot		-0.061 (0.061)	-0.046 (0.062)	0.033 (0.069)	-0.084 (0.059)	-0.032 (0.061)	-0.013 (0.064)	-0.061 (0.061)
We can only afford current expenses		-0.033 (0.063)	-0.017 (0.063)	0.033 (0.065)	-0.044 (0.062)	-0.022 (0.061)	0.008 (0.064)	-0.040 (0.063)
Reading and Buying Intensity			YES					
Criteria when Acquiring a book				YES				
Why Using Unauthorized Sources					YES			
Why Not Using Unauthorized Sources						YES		
Positive Opinion About Unauthorized Sources							YES	
Negative Opinion About Unauthorized Sources								YES
Observations	1,062	987	987	987	987	987	955	963

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted).
*** p<0.01; standard errors in parentheses.

Table B.17: Validity of PWYW

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PWYW	-0.006*** (0.002)	-0.006*** (0.002)	-0.005*** (0.002)	-0.004* (0.002)	-0.006*** (0.002)	-0.004** (0.002)	-0.003 (0.002)	-0.006*** (0.002)
LastPricePaid	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.003** (0.001)	0.004*** (0.001)	0.003** (0.001)	0.003** (0.001)	0.005*** (0.001)
Age		-0.004*** (0.001)	-0.005*** (0.001)	-0.003*** (0.001)	-0.004*** (0.001)	-0.004*** (0.001)	-0.004*** (0.001)	-0.003** (0.001)
Male		0.022 (0.027)	0.047* (0.028)	-0.010 (0.028)	0.016 (0.028)	0.023 (0.028)	0.026 (0.028)	-0.025 (0.028)
HHsize		-0.006 (0.012)	-0.005 (0.012)	-0.002 (0.011)	-0.008 (0.011)	0.001 (0.012)	-0.001 (0.012)	-0.009 (0.012)
We can afford luxury		-0.080 (0.057)	-0.073 (0.058)	-0.009 (0.070)	-0.076 (0.057)	-0.053 (0.060)	-0.012 (0.068)	-0.072 (0.058)
We can afford a lot		-0.085 (0.058)	-0.072 (0.059)	0.011 (0.067)	-0.100* (0.057)	-0.056 (0.059)	-0.037 (0.062)	-0.081 (0.059)
We can only afford current expenses		-0.053 (0.061)	-0.039 (0.061)	0.017 (0.064)	-0.057 (0.061)	-0.039 (0.060)	-0.012 (0.062)	-0.056 (0.062)
Reading And Buying intensity			YES					
Criteria when Acquiring a Book				YES				
Why Using Unauthorized Sources					YES			
Why Not Using Unauthorized Sources						YES		
Opinion Positive							YES	
Opinion Negative								YES
Observations	1,062	987	987	987	987	987	955	963

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted).
*** p<0.01, ** p<0.05, * p<0.1; standard errors in parentheses.

Table B.18: Consumer surplus and piracy: robustness to criteria when deciding about acquiring a book

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LNCs	-0.163*** (0.040)	-0.145*** (0.040)	-0.164*** (0.040)	-0.159*** (0.040)	-0.165*** (0.040)	-0.165*** (0.040)	-0.158*** (0.040)	-0.167*** (0.040)	-0.161*** (0.040)
Age	-0.005*** (0.001)	-0.004*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.006*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
Male	0.023 (0.027)	-0.004 (0.027)	0.022 (0.027)	0.024 (0.027)	0.011 (0.027)	0.021 (0.027)	0.024 (0.027)	0.020 (0.027)	0.026 (0.027)
HHsize	-0.002 (0.011)	-0.001 (0.011)	-0.002 (0.012)	-0.003 (0.011)	-0.003 (0.011)	-0.002 (0.011)	-0.003 (0.011)	-0.002 (0.012)	-0.002 (0.012)
We can afford luxury	-0.061 (0.061)	-0.024 (0.067)	-0.061 (0.061)	-0.066 (0.061)	-0.053 (0.063)	-0.056 (0.063)	-0.048 (0.064)	-0.065 (0.061)	-0.062 (0.061)
We can afford a lot	-0.067 (0.060)	-0.008 (0.065)	-0.067 (0.060)	-0.069 (0.061)	-0.060 (0.061)	-0.063 (0.061)	-0.056 (0.061)	-0.069 (0.060)	-0.064 (0.061)
We can only afford current expenses	-0.035 (0.063)	0.018 (0.064)	-0.034 (0.063)	-0.037 (0.063)	-0.032 (0.063)	-0.031 (0.063)	-0.031 (0.063)	-0.037 (0.063)	-0.032 (0.063)
If Authors are Rewarded	-0.003 (0.018)	-0.181*** (0.019)							
Compliance with the Law									
Lending Possibility			-0.004 (0.018)						
Look				-0.054*** (0.020)					
Overall Size					-0.052*** (0.018)				
Easiness of Purchase						-0.028 (0.028)			
Price							0.057* (0.035)		
Costs								-0.022 (0.023)	
Waiting Time									0.024 (0.020)
Observations	981	981	981	981	981	981	981	981	981

Note: Self admission to download ebook from unauthorized sources as dependent variable in all models (1- admitted, 0 - not admitted). *** p<0.01; standard errors in parentheses. Consumer Surplus=Maximum Price - Price Last Paid. To analyse relative rather than absolute discrepancy between the two, we use the difference between their natural logarithms (LNCs).



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