

IS IT ALL ABOUT MONEY?
FIELD EXPERIMENT WITH THE DEFAULTED
IN A DEBT-COLLECTOR ENTERPRISE

ABSTRACT

This paper examines the extent to which a noncompliant debtor can be induced to pay back the debt by sending a randomly assigned message via mobile phone and e-mail, ranging from a simple reminder to personalized messages and a social norm. In cooperation with a debt-collector enterprise in Latvia, the field experiment was carried out on 24,781 unique cases of consumer debts with unpaid liabilities, ranging from one to 40,060.26 euros. Overall, sending a message to a debtor increases compliance in comparison of not sending a message at all. However, messages, which include debtor's name, agent's name or social norm, do not increase compliance in comparison to a simple reminder message. I also looked at the interaction effect between the content of the message and the debt amount, which has been hardly examined in previous experiments on compliance. Messages with a debtor's name significantly increase compliance in comparison to a simple reminder among the debts smaller than 170 euros. However, such a message is counter-effective for debts larger than 1,340 euros, the same trend is true for a message with the social norm. Hence, a different policy needs to be applied to the debtors who are extensively overindebted in comparison to those with comparatively small debt amounts.

The cooperation between the debtors and debt-collecting enterprises is extremely low. Latvian debt-collecting enterprises are able to retrieve only 14% of the debt value they are managing (Dzedulis 2015). This paper examines the extent to which a noncompliant debtor can be induced to pay back the debt by sending a randomly assigned message via mobile phone and e-mail, ranging from a simple reminder to personalized messages and a social norm. These kind of messages fall under the so-called *non-deterrence approach*. It implies that compliance is influenced by different factors other than only the rational choice and maximization of debtors' economic interest (see Hallsworth 2014).

The main research questions behind the study are whether sending a text message to a debtor increase compliance and what is the most effective message. In cooperation with a debt-collector enterprise in Latvia, the field experiment was carried out on 24,781 unique cases of consumer debts with unpaid liabilities, ranging from €1 to €40,060.26. For four consecutive weeks from February 8th, 2016, onwards, debtors were repeatedly contacted by the debt-collector with one of the eight assigned text messages. The object of interest in this study is whether any of the messages improved the repayment of the debt.¹

The paper is organized as follows. First, I review the literature on compliance and communication as a means of influencing behavior of debtors. Second, I describe the experimental design of the study. It includes the description of dependent variable, i.e., a dummy whether at least a partial repayment of the debt has been made or not. It is followed by the messages assigned to each of the treatment group. I also describe the empirical strategy to identify the results from the field experiment. Subsequently, I present my empirical findings on the treatment effects. A simple reminder has a positive effect on repayment relative to not sending any message, while messages, which include debtor's name, agent's name or social norm, do not increase compliance in comparison to a simple reminder message. Additionally, I looked at the interaction effects between the treatments and the debt amount. Messages with a debtor's name significantly increase compliance in comparison to a simple reminder among the debts smaller than 170 euros. However, such a message is counter-effective for debts larger than 1,340 euros, the same trend is true for a

¹ The experimental design has been discussed and approved by the European University Institute Ethics Committee on February 4th, 2016. Additionally, the field experiment was registered at the American Economic Association's registry for randomized controlled trials with the reference number AEARCTR-0001043.

message with a social norm. It suggests that a different policy needs to be applied to the debtors who are extensively overindebted in comparison to those with relatively small debt amounts.

Compliance and debt-collecting

Since the removal of debtor prisons in the middle of 20th century, debt-collecting has a limited set of tools to increase compliance among the debtors with outstanding debts. Mostly, it is done through collections letter. Sociologist Joe Deville (2015) notes that the content of collections letter ranges from “the explicitly to the implicitly threatening, from attempts to elicit self governance, to attempts to impose a worldview on the debtor, to raising and lowering the affective intensity of the letter” (Deville 2015, 152). Paul Rock (2013 [[1973]]) notes that the threats expressed by the debt-collector to the debtor are of a very particular kind: they emphasize cooperation, choice and belonging to “a moral community founded on shared conceptions of honour, trust and reciprocity” (Rock 2013 [1973], 101).

To the best of my knowledge, there are no field experiments on private debt collection. At the same time, observational studies has been done in area of tax compliance (for an extensive review, see Hallsworth 2014). Particularly, field experiments with tax debtors have attracted emerging attention in the last decades and various approaches have been examined in order to increase compliance. Basically, there are two ways. One way is through the means of deterrence in terms of direct threats of auditing and imposing fines (for instance, Blumenthal, Charles, and Slemrod 1998). An alternative way is the so-called non-deterrence approach (for instance, Fellner, Sausgruber, and Traxler 2013; Torgler 2004). It is based on a belief that compliance is intrinsically tied with morality (Torgler 2007). The field experiment in this paper examines the effect of non-deterrence approaches, namely, the force of personalization and social norm. A brief literature review below on non-deterrence approach in field experiments will show that they have the potential to improve compliance, though the context matters.

Effect of communication

Communicating a message to the debtors usually does imply a positive effect, disregards of the content (see Hallsworth 2014). Particularly, some of the recent field experiments show that a simple reminder increases the tax compliance to the extent of around 8% in case of regular mail (Hallsworth et al. 2014, 16; 23–24), but to a lesser extent in case of mobile text messages on delinquent fines (Haynes et al. 2013). Hence, the first hypothesis for the experiment is that there should be a positive effect in communication with the debtor. In order to test the hypothesis, a set of debtors in this experiment received a simple reminder message. In case of a text message it was as follows: “This is a reminder that you have a debt, case nr. 0123456. Contact us to find a solution: 67814610.”²

However, the comparison between sending a simple reminder and not sending a message was only the first step to answer the research question of this study – whether non-deterrence approach significantly enhance debt repayment. Economist Richard H. Thaler and legal scholar Cass R. Sunstein believe that there is no neutral design in how things are presented. “Small and apparently insignificant details can have major impacts on people's behavior. [...] In many cases, the power of these small details comes from focusing the attention of users in a particular direction” (Thaler and Sunstein 2008, 3). In their work, they emphasize the potential for the improvements in everyday life, which behavioral studies can deliver with a little changes in “choice architecture” (Thaler and Sunstein 2008). In this study, these little changes are done by adding additional information. First, it is done through the customization of messages by sending them from a particular debt-collecting agent and/or addressing the debtor personally. Second, the message was extended to include the minority descriptive social norm. The subsequent paragraphs describes these treatments in details.

Highly Customized messages to the debtor

As mentioned before, the highly customized messages included the name of the debtor and/or the name of the debt-collecting agent. The assumption that these kind of message framing

² All the treatment texts can be found in Appendix 1

would deliver positive effect in comparison to a simple reminder comes both from the literature on daily work of debt-collecting, as well as on the previous findings in field experiments.

The literature on debt-collectors shows that personalization plays an important role in communication with the debtor. For instance, Paul Rock (2013 [1973]) provides evidence that debt collectors in London are “exploiting the feelings which characterize peer group transactions” (Rock 2013 [1973], 103). Personalized messages may suggest that the relations between the debt-collector and the debtor is based on reciprocity, as well as that there is a personal and individual approach to each case. On the other hand, there is an evidence that such a message, which implies that the debtor is closely monitored, can have a negative effect. In a remarkable study by Blumenthal, Christian and Slemrod (1998), such a treatment had a negative effect on high-income tax payers in comparison to a control group.

On the other hand, there are other experimental research, in which the proximity between the debtor and the debt-collector had an effect. Particularly, personalization of the message in terms of the debtor’s name has been proved as a substantially effective one for improving the debt compliance. In the field experiment with debtors of delinquent fines by Haynes et al. (2013), such a text message was the most effective treatment among any other treatments. Authors of the experiment note that their finding on the effect of referring personally to the debtor “provides an important first step in the development of theories about cognitive and social psychological mechanisms that cause people to comply with requests when addressed by name” (Haynes et al. 2013, 728).

Social norm as a mean of improving compliance

Debt-collectors tend to work in a manner that reminds debtors of the moral obligation and social duty to pay back their debt (Deville 2015; Poster 2013). Social norms are a particular kind of norms and falls within the social duty, as they imply “non consequentialist obligations and interdictions, from which permissions can be derived” (Elster 1989, 101). Social norms rely on sanctioning mechanisms and are bound to reciprocity. “Social norms operate through the *emotions* of shame in the norm violator and of contempt in the observer of the violation,” notes Elster (2007,

355). This study focus on the existing social norms, which have been examined in the field of tax compliance, particularly in the work by Hallsworth et al. (2014).

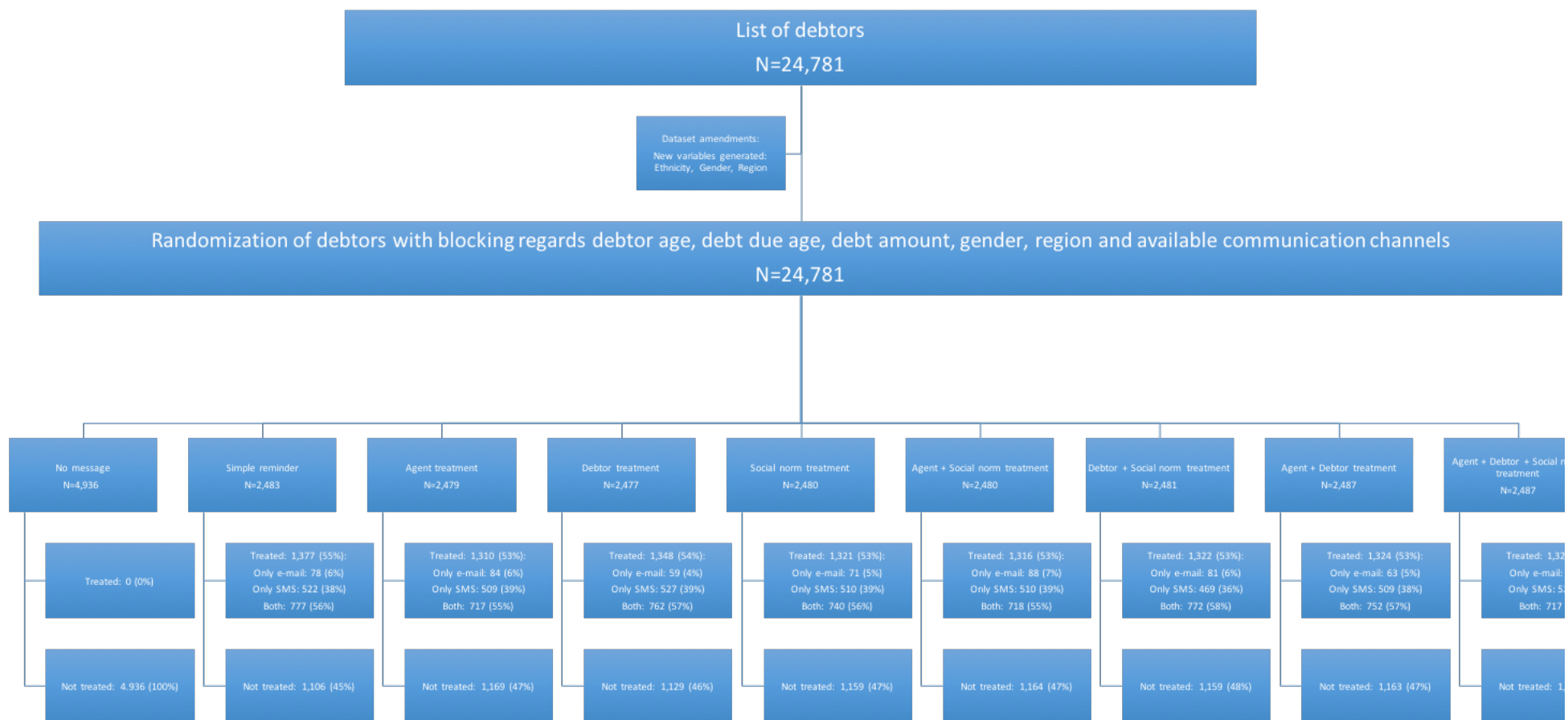
Authors of the study compared the force of descriptive vs. injunctive norms (see Cialdini, Kallgren, and Reno 1991). The former norms “characterize the perception of what most people do”, while the latter “refer to norms that characterize the perception of what most people approve or disapprove” (Cialdini, Kallgren, and Reno 1991, 203). The work by Hallsworth et al. (2014) shows that in terms of tax compliance, the descriptive norms are more effective than the injunctive ones. Hence, the opinion of others does not matter as much as the behavior of others. “In particular, we isolate the *minority status frame* (which explicitly links the recipient’s current behavior to a minority) as significantly increasing the perception of benefits of conforming to the norm,” note the authors (Hallsworth et al. 2014, 28).

In order to examine the strength of social norm, my study used the information from the Central Statistical Bureau of Latvia on information of debt repayments. As a result, the treatment with the social norm included the sentence “Close to 80% pay their liabilities on time. You are in a minority that has not done so.” and included a reference note of the information source. Hence, the message included descriptive social norm with an emphasis on being one of a few deviants in the society.

Experimental design

The field experiment was launched on February 11th, 2016. Two weeks before the launch, the debt-collector prepared the list of debtors, who had unpaid liabilities and did not make any contact with them. The total sample consisted of 24,781 unique debtors with information on debtor’s first name, age, debt due age, debt type, available communication channel and place of residence (to the extent of a county). With the available information on the debtors, new variables were created – gender and ethnicity – and place of residence was recoded to the region level.

Graph 1. Randomization and message delivery among the debtors in the field experiment



Once the list of debtors was amended, I randomized the debtors among nine groups (see Appendix 2 for descriptive statistics for each group). One of the group did not receive any message while the remaining eight groups received assigned mobile text and/or e-mail message once a week. The first messages were sent on February 11st.

The assigned messages were sent by the debt-collector with its automated software. Once the message was sent, the recipient received it on its device. Half of the recipients viewed the sender both for e-mails and text messages as the debt-collector enterprise (“LINDORFF”). For the other four treatment groups the sender of e-mail was a randomly chosen debt-collector agent from the enterprise (see Appendix 3 & 4 on the examples of an e-mail and mobile text messages).

Every subsequent Monday the software monitored both the delivery status of each message as well as the payment status in each case. Once the report was created and received, the list of debtors was updated for the future communication. If both e-mail and text message were not delivered, no further communication was carried out. Additionally, if it was reported that the debtor has agreed on repayment plan or has paid back the debt, no additional messages were sent to the debtor. In all other cases, the same assigned message was repeatedly sent to the debtor on Tuesday.

The procedure was repeated for three consecutive weeks. As a result, the debtor received the maximum of four e-mail and four text messages during the period of February 11th to March 1st, 2016. The payment status of each case was updated once again on May 16th, 2016 (76 days after the last message sent) to remove those cases, who have not fulfilled the promise to pay and no actual money have paid or have deviated from the debt repayment plan, to strengthen the internal validity of the experiment.

Empirical method

As noted before, the primary object of interest, the dependent variable, is whether the debtor has paid back at least a single cent to the debt-collector. It was coded as a dummy with 0 if

no payment has been received or 1 if there has been a full payment of the debt or all the payments were made according to the debt repayment plan as of May 16th, 2016. Hence, the empirical strategy to identify the effect of the treatment is to compare average treatment effect (ATE) between the control group, which receives simple reminder, and each of the treatment group.

The experimental design faces two challenges to assess the results accordingly. First, the ATE is not a proper estimate for unbiased comparison between the No message condition and other treatment groups, as in the former group there are both compliers and never-takers, who would not receive the treatment if the message had been sent. For this reason, two different estimands have to be used: the average intention-to-treat (ITT) effect and the complier average causal effect (CACE) (Gerber and Green 2012, chapter 5). The estimation of the ITT effect is done by subtracting the average outcomes between the groups. The result is informative at the policy level, reporting the overall effectiveness of the intervention. The estimation of CACE excludes never-takers, i.e., those who did not receive the message in the Simple reminder group. It is done by dividing ITT effect with the proportion of subjects, who received the treatment in the Simple reminder group, obtaining a consistent estimator of CACE. The problem of unbiased estimation of ATE is not relevant to the treatment groups, which receive the assigned messages. In this case, CACE is simply the comparison of ATEs among those, who have received the message.

As there are two different empirical strategies for obtaining a consistent estimator of the treatments in No message and other treatment groups, the subsequent analysis is done in two steps. First, No message condition is used as a control group to estimate the effect of sending a message. Second, in order to identify the most effective message, a separate analysis is carried out on the groups, which were randomly assigned to receive any of eight messages, using Simple reminder treatment as a control group.

Step 1: Does sending a message make a difference?

The estimator of CACE is obtained by using two-stage least squares regression, which is equivalent to instrumental variables regression. In the first model, the outcome variable, whether the payment was made, is regressed on a dummy variable of the message delivery:

$$PAID_i = \beta_0 + \beta_1 DELIVERED_i + u_i$$

The second equation uses the variable $ASSIGNED_i$, which is a dummy for the randomly assigned treatment, as an instrumental variable, i.e., it assumes that it is independent of u_i :

$$TREATED_i = \alpha_0 + \alpha_1 ASSIGNED_i + e_i$$

The table below presents the results with the control variables included. The results are not straightforward, as not all messages fail to reject the null hypothesis that sending a message does not improve the compliance.

Table 1. Estimated IIT effect and CACE in comparison to No message condition

Treatment	N	Percentage of delivered messages	Estimated ITT effect	Estimated CACE
No message	4936	0%		
Simple reminder	2483	55.5%	0.56%** (0.00281)	1.01%** (0.00504)
Social norm	2480	53.3%	0.41% (0.00267)	0.77% (0.00498)
Agent	2479	52.8%	0.84%*** (0.00297)	1.59%*** (0.00557)
Debtor	2477	54.4%	0.68%** (0.00289)	1.26%** (0.00529)
Agent + Social norm	2480	53.1%	0.44%* (0.00267)	0.82%* (0.00496)
Debtor + Social norm	2481	53.3%	0.37% (0.00264)	0.69% (0.00493)
Agent + Debtor	2487	53.2%	0.79%*** (0.00296)	1.49%*** (0.00551)
Agent + Debtor + Social norm	2478	53.5%	0.73%** (0.00286)	1.36%** (0.00530)

Robust standard errors in parenthesis

***p<0.01 **p<0.05, *p<0.1

There is a statistically significant effect for Simple reminder condition, as well as for messages with personalization, both in terms of debtor's name and the agent. On the other hand, the messages with the social norm included are ineffective to increase the compliance among the debtors. In fact, inclusion of social norm in the message diminishes the positive effect of personalization both in terms of debtor and agent name, as any combination with social norm brings statistically insignificant result. Only when all the three treatments are combined together (Social norm and personalization in terms of debtor and agent), the effect is statistically significant at $p < 0.05$ level.

It has to be noted that for all the treatments, except of a Simple reminder, the debt amount has a statistically significant negative effect on compliance ($p < 0.05$ in all cases). This will be further investigated in the next part of this section, in which also the interaction between the each of the treatment arms and debt amount will be examined.

Step 2: What is the most effective message?

Although the comparison of various groups with No message condition has rejected the null hypothesis that sending any of eight randomly assigned messages will not increase the compliance, the results above does not reveal if any of the messages are superior to simple reminder message. In other words, I am interested whether it is the communication (in terms of Simple reminder) or sophisticated message is what triggers the debtors to comply. For this reason, the information was analyzed by conducting OLS regression on individual-level data using the following formula with robust standard errors:

$$P_i = \alpha_i + \beta_1 L_i^{T1} + \beta_2 L_i^{T2} + \beta_3 L_i^{T3} + \beta_4 L_i^{T4} + \beta_5 L_i^{T5} + \beta_6 L_i^{T6} + \beta_7 L_i^{T7} + \varepsilon_1$$

where P_i is the probability of the debtor to pay back the debt, while L_i^{T1} is a dummy variable for Social norm treatment, L_i^{T2} is a dummy variable for the Agent treatment sent by the company, L_i^{T3} is a dummy variable for the Debtor treatment, L_i^{T4} is a dummy variable for the Agent + Social norm, L_i^{T5} is a dummy variable for the Debtor + Social norm treatment, L_i^{T6} is a dummy variable for the Agent + Debtor treatment, L_i^{T7} is a dummy variable for the Agent + Debtor + Social norm treatment.

Table 2. Three regression models on debt repayment

	(1)	(2)	(3)
Treatments (baseline: Simple reminder)			
Social norm	-0.00265 (0.00608)	-0.00263 (0.00609)	0.0500* (0.0272)
Agent	0.00519 (0.00654)	0.00566 (0.00655)	0.0566* (0.0311)
Debtor	0.00132 (0.00627)	0.00126 (0.00630)	0.0831*** (0.0277)
Agent + Social norm	-0.00255 (0.00609)	-0.00193 (0.00612)	0.0529** (0.0268)
Debtor + Social norm	-0.00418 (0.00598)	-0.00378 (0.00601)	0.0545** (0.0255)
Agent + Debtor	0.00485 (0.00650)	0.00461 (0.00651)	0.0489* (0.0270)
Agent + Debtor + Social norm	0.00332 (0.00641)	0.00400 (0.00644)	0.0601** (0.0286)
Amount (logarithmic)		-0.00735*** (0.00140)	0.000978 (0.00324)
Interactions			
Social norm*Amount (logarithmic)			-0.00878** (0.00432)
Agent*Amount (logarithmic)			-0.00850* (0.00496)
Debtor*Amount (logarithmic)			-0.0136*** (0.00428)
Agent+Social norm*Amount (logarithmic)			-0.00915** (0.00425)
Debtor+Social norm*Amount (logarithmic)			-0.00972** (0.00399)
Agent+Debtor*Amount (logarithmic)			-0.00739* (0.00432)
Debtor+Social norm*Amount (logarithmic)			-0.00936** (0.00454)
Constant	0.0269*** (0.00436)	0.0545*** (0.0129)	0.00456 (0.0223)
Observations	10,643	10,643	10,643
R ²	0.000	0.006	0.008

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

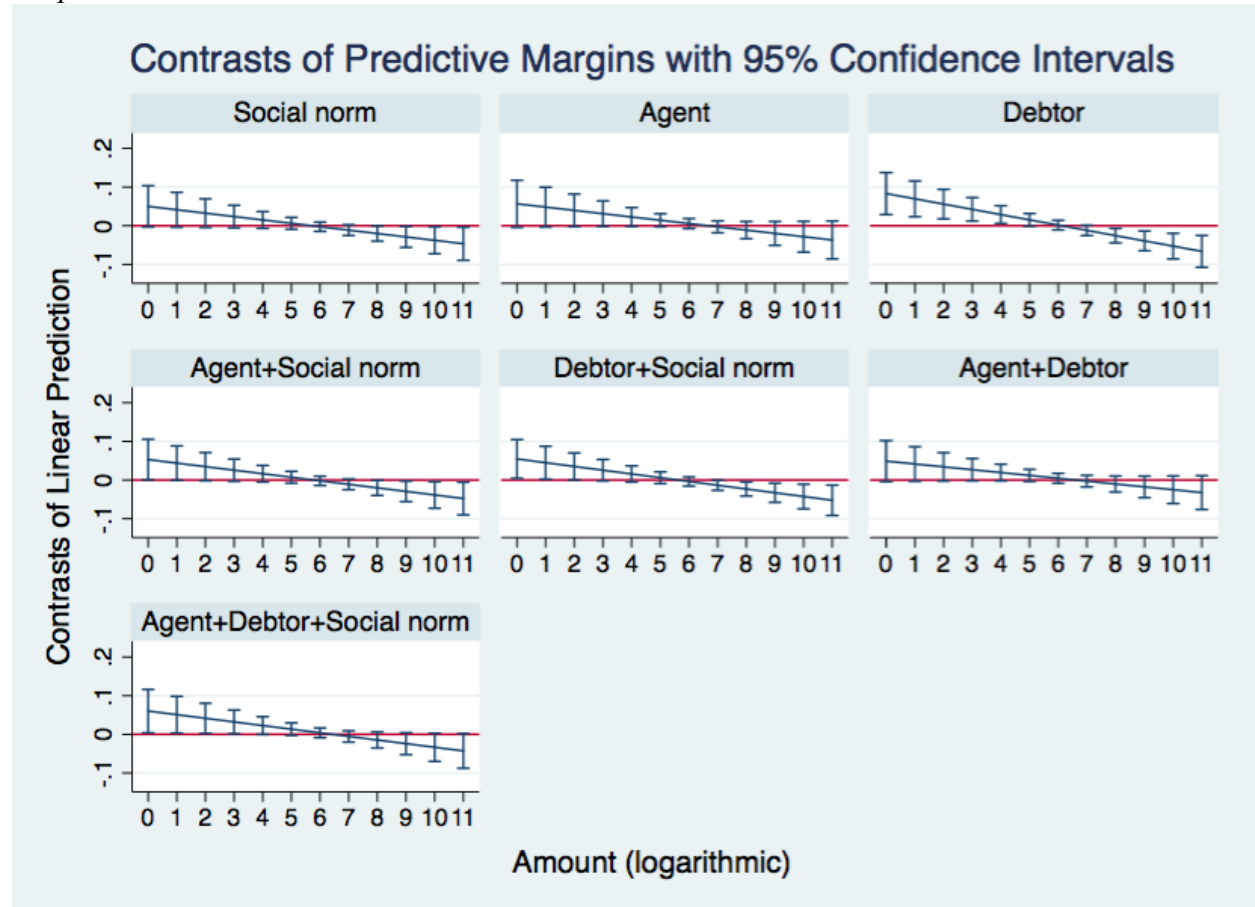
The results are presented in Table 2 (see Model 1 and Model 2 with all control variables included). They show that there are no differences between the simple reminder and any of alternative messages. What matters, is the debt amount, which has a statistically significant negative effect ($p < 0.001$) on compliance. No other control variable included in the model had a statistically significant effect: neither debtor's age, nor debt due age or anything else.

Given the strength of the debt amount on compliance, I examined the interaction effect between the treatment and the debt amount (see Model 3 in Table 2 and Graph 2). The results show that all of the treatments have a statistical significance at least at the marginal level ($p < 0.1$). The trend is similar in all cases: sending alternative messages in comparison to Simple reminder has a positive effect in small amount of debts, but it becomes a negative one in case of large debts. The positive effect is evident among the debts smaller than 170 euros, but it differs across the treatments, same as the range of the effect.³ The strongest positive effect is in case of Debtor treatment, exceeding to 8.3% ($p < 0.003$), where it does last till the debt amount reaches the aforementioned debt amount of 170 euros. At the same time, the positive effect is substantially smaller for social norm and agent treatment and only at the marginal statistical significance ($p < 0.1$). The same is true for almost all messages, where different treatments are combined together. The only message, which has a positive effect at a statistically significant level ($p < 0.05$), is the combination of all the treatments. Such a message has a positive effect on repayment to the extent of 135 euros.

The negative effect of various treatments in comparison to a Simple reminder is more widespread than the positive one. Specifically, it is the inclusion of social norm and/or debtor's name in the message, which accelerates the negative effect on compliance. In case of social norm, the effect becomes statistically significant ($p < 0.05$) at around 2,440 euros, while in case of Debtor's name treatment it is at around 1,340 euros. When both treatments are included in the message, the negative effect becomes statistically significant already at 1,100 euros level ($p < 0.05$). In all of the cases the size of the effect ranges from -1.8% to -6.6%.

³ At the time, when the field experiment was launched, the average salary in Latvia was 603 euros (Central Statistical Bureau of Latvia 2016).

Graph 2. Interaction effects between the debt amount and treatment effect in comparison to Simple reminder condition.



There is no negative effect on compliance ($p > 0.05$) in any of the treatments, which include agent name, with an exception of the message where it is combined together with the social norm. In that case, the effect is almost equal to that of the Social norm condition, having a negative effect starting from 2,440 euros ($p < 0.05$).

Conclusions and discussion

The importance of interaction effects regarding the compliance has been observed in laboratory experiments, but it is not a common practice to examine it (see Brockmann, Genschel, and Seelkopf 2015). In one of the few field experiments where treatment effect was examined in relation to the amount was done by Blumenthal, Charles, and Slemrod (1998). They found a similar trend as in this field experiment. Particularly, there was a negative effect among the high income individuals (annual income gross over \$100,000), being in opposite to the positive effects observed in middle and low income groups. However, the authors of the study focus on accurate reporting of annual income, not on the payments made. Perhaps, in field experiments on tax compliance, it is difficult to examine the interaction effects between the treatment and the debt amount, as the latter is not evident. For this reason, this field experiment with the debt-collector gives a more insightful view on how debt amount affects the behavior of the debtor.

The results in this field experiment show the characteristics of the effects by non-deterrence approaches. So far, the fact that different debtors react differently in experiments on compliance is attributed largely on their past behavior of compliance. As Michael Halsworth notes, “there is emerging evidence that those with a history of non-compliance are more likely to respond to deterrence approaches, while non-deterrence interventions are more effective for those who have complied in the past” (Hallsworth 2014, 670). I believe that this explanation is not a complete one. All of the treatments in my study should be considered as non-deterrent ones. While still more effective than a simple reminder at small amounts of debts, they are counter-effective at large ones.

On the other hand, there is no effect in regards to the debtor’s gender, ethnicity, place of residence or age, as there are no statistically significant differences among these control variables in the experiment. What is more surprising, even the debt due age does not matter: once an individual is overindebted, behavior is the same as if they have been in financial distress for years. In a way, then, it is all about money. However, as noted before, the effect is not a straightforward one.

As regards the external validity of the field experiment, it might be that the debtors react to the intervention by a debt-collector more sensitive as to any other institution or individual who

asks for the debt repayment. Moreover, the sample from the debt-collector could be compounded largely with extremely deviant individuals.⁴ Still, what this study shows is that a different policy needs to be applied to the debtors who are extensively overindebted in comparison to those with comparatively small amounts. I believe that this finding goes beyond debt-collecting practices at the debt-collector enterprise and applies to a broader field of financial markets.

⁴ After the experiment, there are still 25 cases in the sample, which have a debt less than 10 euros with nothing paid back.

References

- Blumenthal, Martha, Christian Charles, and Joel Slemrod. 1998. "The Determinants of Income Tax Compliance- Evidence from a Controlled Experiment in Minnesota." Working Paper 6575. National Bureau of Economic Research.
- Brockmann, Hilke, Philipp Genschel, and Laura Seelkopf. 2015. "Happy Taxation: Increasing Tax Compliance through Positive Rewards?" *Journal of Public Policy* FirstView (October): 1–26. doi:10.1017/S0143814X15000331.
- Central Statistical Bureau of Latvia. 2016. "Average Monthly Wages and Salaries of Employees by Month." Accessed August 6.
http://data.csb.gov.lv/pxweb/en/Sociala/Sociala__isterm__dsamaksa/?tablelist=true&rxid=562c2205-ba57-4130-b63a-6991f49ab6fe.
- Cialdini, Robert B., Carl A. Kallgren, and Raymond R. Reno. 1991. "A Focus Theory of Normative Conduct: A Theoretical Refinement and Reevaluation of the Role of Norms in Human Behavior." In *Advances in Experimental Social Psychology*, edited by Mark P. Zanna, 24:201–34. Academic Press.
<http://www.sciencedirect.com/science/article/pii/S0065260108603305>.
- Deville, Joe. 2015. *Lived Economies of Default: Consumer Credit, Debt Collection and the Capture of Affect*. London ; New York: Routledge.
- Dzedulis, Zigfrīds. 2015. "Kredītbiroji Sargās No Mums Pašiem." *Latvijas Avīze*, January 14.
- Elster, Jon. 1989. *The Cement of Society: A Study of Social Order*. Studies in Rationality and Social Change. Cambridge [England] ; New York: Cambridge University Press.
- . 2007. *Explaining Social Behavior: More Nuts and Bolts for the Social Sciences*. 1 edizione. Cambridge ; New York: Cambridge University Press.
- Fellner, Gerlinde, Rupert Sausgruber, and Christian Traxler. 2013. "Testing Enforcement Strategies in the Field: Threat, Moral Appeal and Social Information." *Journal of the European Economic Association* 11 (3): 634–60. doi:10.1111/jeea.12013.
- Gerber, Alan S., and Donald P. Green. 2012. *Field Experiments: Design, Analysis, and Interpretation*. New York: W. W. Norton & Company.
- Hallsworth, Michael. 2014. "The Use of Field Experiments to Increase Tax Compliance." *Oxford Review of Economic Policy* 30 (4): 658–79. doi:10.1093/oxrep/gru034.
- Hallsworth, Michael, John List, Robert Metcalfe, and Ivo Vlaev. 2014. "The Behavioralist As Tax Collector: Using Natural Field Experiments to Enhance Tax Compliance." Working Paper 20007. National Bureau of Economic Research.
<http://www.nber.org/papers/w20007>.
- Haynes, Laura C., Donald P. Green, Rory Gallagher, Peter John, and David J. Torgerson. 2013. "Collection of Delinquent Fines: An Adaptive Randomized Trial to Assess the Effectiveness of Alternative Text Messages." *Journal of Policy Analysis and Management* 32 (4): 718–30. doi:10.1002/pam.21717.

- Poster, Winifred R. 2013. "Hidden Sides of the Credit Economy: Emotions, Outsourcing, and Indian Call Centers." *International Journal of Comparative Sociology* 54 (3): 205–27. doi:10.1177/0020715213501823.
- Rock, Paul. 2013. *Making People Pay*. New York: Routledge.
- Thaler, Richard H., and Cass R. Sunstein. 2008. *Nudge: Improving Decisions about Health, Wealth, and Happiness*. New Haven: Yale University Press.
- Torgler, Benno. 2004. "Moral Suasion: An Alternative Tax Policy Strategy? Evidence from a Controlled Field Experiment in Switzerland." *Economics of Governance* 5 (3): 235–53. doi:10.1007/s10101-004-0077-7.
- . 2007. *Tax Compliance and Tax Morale: A Theoretical and Empirical Analysis*. Cheltenham, UK ; Northampton, MA: Edward Elgar.

Appendix 1. Groups and the assigned messages in the experiment

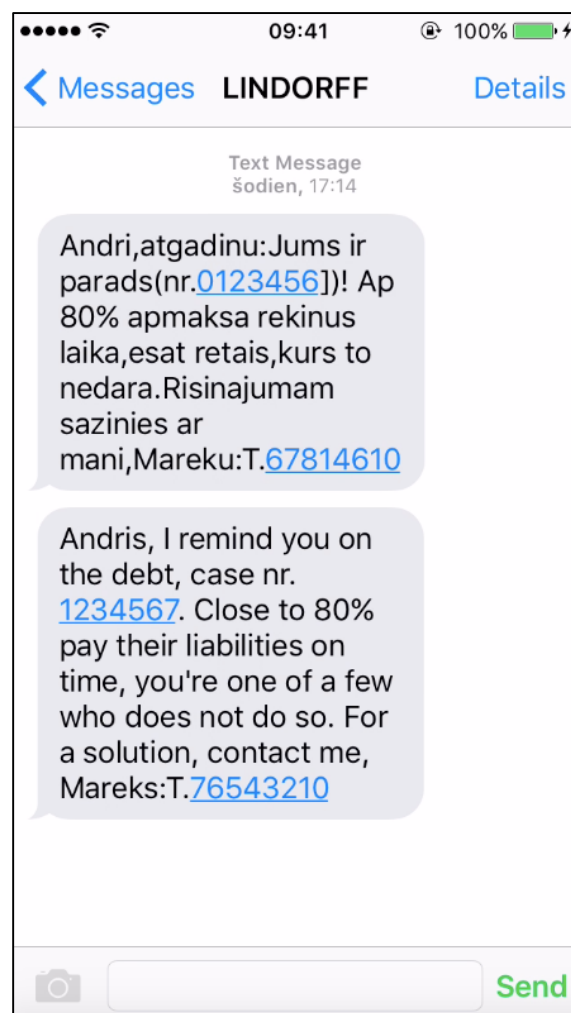
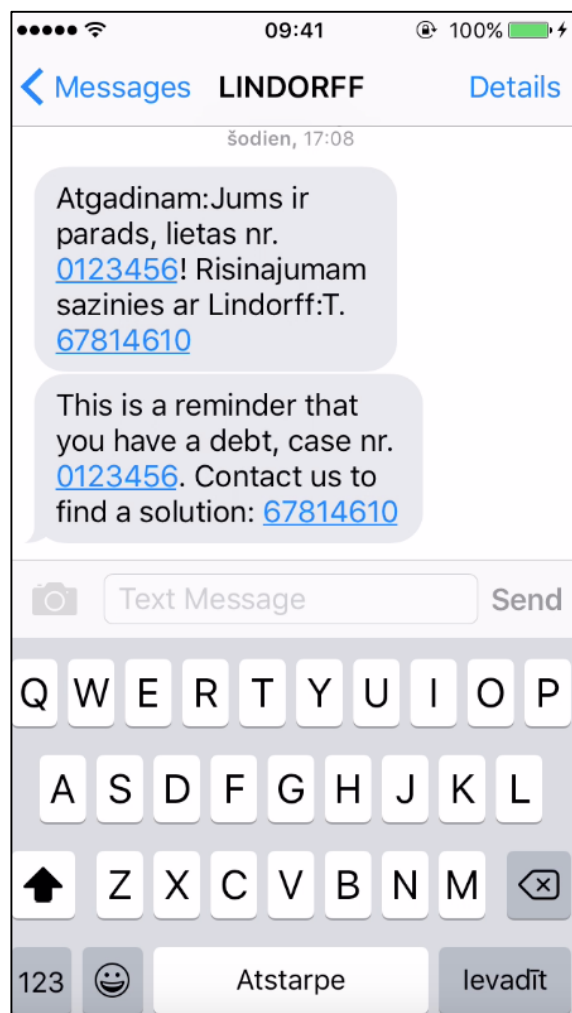
GROUP	E-MAIL SUBJECT LINE	TEXT MESSAGE
NO MESSAGE	No message	No message
SIMPLE REMINDER	Reminder about the debt!	This is a reminder that you have a debt, case nr. 1234567. Contact us to find a solution: 76543210
SOCIAL NORM	Around 80% pay their liabilities on time. You are in a minority that has not done so.	This is a reminder that you have a debt, case nr. 1234567. Around 80% pay their liabilities on time. You are in a minority that has not done so. Contact us to find a solution: 76543210
AGENT	Contact me, [company] consultant [name] to find an individual solution!	This is a reminder that you have a debt, case nr. 1234567. Contact me, [company] specialist [name] to find a solution: 76543210
DEBTOR	[Name], reminder about the debt!	{name}, this is a reminder that you have a debt, case nr. 1234567. Contact us to find a solution: 76543210
AGENT + SOCIAL NORM	Around 80% pay their liabilities on time. You are in a minority that has not done so. Contact me: consultant [name]!	This is a reminder that you have a debt, case nr. 1234567. Around 80% pay their liabilities on time. You are in a minority that has not done so. Contact me, [company] specialist [name] to find a solution: 76543210
DEBTOR + SOCIAL NORM	[Name], around 80% pay their liabilities on time. You are in a minority that has not done so.	[Name], This is a reminder that you have a debt, case nr. 1234567. Around 80% pay their liabilities on time. You are in a minority that has not done so. Contact us to find a solution: 76543210
AGENT + DEBTOR	[Name], contact me, [company] consultant [name] to find an individual solution!	[Name], This is a reminder that you have a debt, case nr. 1234567. Contact me, [company] specialist [name] to find a solution: 76543210
AGENT + DEBTOR + SOCIAL NORM	[Name], around 80% pay their liabilities on time. You are in a minority that has not done so. Contact me: consultant [name]!	[Name], this is a reminder that you have a debt, case nr. 1234567. Around 80% pay their liabilities on time. You are in a minority that has not done so. Contact me, [company] specialist [name] to find a solution: 76543210

Appendix 2. Descriptive statistics of the sample for the experiment

Group \ Variable	No message	Simple reminder	Social norm	Agent	Debtor	Agent + Social norm	Debtor + Social norm	Agent + Debtor	Agent + Debtor + Social norm
Debtor age	41.18 (11.97)	41.64 (12.01)	41.53 (12.27)	41.59 (11.97)	41.46 (11.55)	41.2 (11.77)	41.48 (11.55)	41.5 (11.95)	41.26 (11.85)
Min-Max	20-90	19-88	20-88	20-91	20-84	20-95	20-90	20-81	20-86
Debt due age (years)	7.71 (3.51)	7.72 (3.53)	7.75 (3.61)	7.82 (3.59)	7.76 (3.6)	7.82 (3.6)	7.77 (3.6)	7.79 (3.6)	7.97 (3.65)
Min-Max		0.1-17	0.78-16.59	0.1-16.83	01.-17.2	0.1-16.19	0.1-17.34	01.-17.33	0.1-15.98
Debt amount (euros)	1,657.13 (3,366.87)	1,522.67 (3,133.04)	1,579.38 (3,128.82)	1,611.03 (3,292.62)	1,576.19 (3,225.17)	1,616.16 (3,323.72)	1,675.92 (3,412.16)	1,657.55 (3,300.53)	1,686.78 (3,438.86)
Min-Max	1.42-40,0060.26	1-31,878.92	1.61-24,619.52	4.98-34,350.21	3.29-35,821.10	3.05-39,928.48	3.00-37,153.56	2.47-29,574.37	1.29-36,331.89
Gender (Female/Male)	0.44 (0.5)	0.43 (0.5)	0.45 (0.5)	0.43 (0.5)	0.45 (0.5)	0.47 (0.5)	0.43 (0.5)	0.45 (0.5)	0.44 (0.5)
Ethnicity (Latvian/Other)	0.28 (0.45)	0.26 (0.44)	0.27 (0.44)	0.27 (0.44)	0.25 (0.43)	0.26 (0.44)	0.26 (0.44)	0.27 (0.45)	0.27 (0.44)
Region (Rīga/Pierīga/Kurzeme/Zemgale/Vidzeme/Latgale)	2.96 (1.68)	3.07 (1.7)	2.97 (1.67)	3.02 (1.68)	2.96 (1.66)	2.95 (1.67)	3.01 (1.68)	3 (1.71)	3.05 (1.71)
Observations	4,936	2,483	2,480	2,479	2,477	2,480	2,481	2,487	2,478

Note: Standard deviations in parenthesis

Appendix 3. Example of an e-mail for a Simple reminder treatment (left) and Agent + Debtor + Social norm treatment (right) in Latvian (above) with English translation (below)



Appendix 4. Example of an e-mail for Agent + Debtor + Social norm treatment (translated to English)

From: **Danese no Lindorff** inkasso.lv@lindorff.com
Subject: Svetlana, around 80% pay their liabilities on time.* You're one of a few who does not do so.
Date: May 31, 2016 at 1:18 PM
To: andris.saulitis@gmail.com

DN

Svetlana!

So far we have not reached a mutual agreement and a solution regarding your case nr. 0123456.

Around 80% pay their liabilities on time.* You're one of a few who does not do so.

Please contact me as soon as possible, it is in your interest!

My number: 67814610
E-mail Inkasso.lv@lindorff.com

Best regards,

consultant Danesa

LINDORFF

Duntes iela 11, LV-1013, Rīga
Telefons: +371 6781 4610 Fakss: +371 6781 4611
www.lindorff.lv
Pārvaldi savu parādu: mans.lindorff.lv

*Data from the Central Statistics Bureau on Latvians who could cover utility bills, rent and/or pay back the loan(s) in 2014.

**Šī ziņa, ieskaitot jebkāda veida pievienotos failus, var saturēt konfidencialu informāciju, kas paredzēta tikai adresētai personai. Jums ir jāizdzēš šī vēstule, ja Jūs neesat persona, kam šī vēstule adresēta. Šīs ziņas drukāšana, pavairošana, izplatīšana vai jebkāda cita veida izmantošana ir strikti aizliegta. Ja Jūs esat saņēmis šo vēstuli kļūdas dēļ, lūdzu informēties ziņas sūtītāju pa telefonu, faksu vai e-pastu, un nekavējoties izdzēsiet visas šīs ziņas kopijas un pielikumus no Jūsu sistēmas. Paldies.