

## NUDGING IN THE CONTEXT OF TAXATION

**HOW THE BELGIAN FPS  
FINANCE USES  
BEHAVIOURAL INSIGHTS  
TO ENCOURAGE  
TAXPAYERS TO PAY  
FASTER**

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## **NUDGING IN THE CONTEXT OF TAXATION: HOW THE BELGIAN FPS FINANCE USES BEHAVIOURAL INSIGHTS TO ENCOURAGE TAXPAYERS TO PAY FASTER**

The Federal Public Service Finance in Belgium (FPS Finance for short) has applied behavioural insights, which are based on behavioural economics, to encourage taxpayers to voluntarily comply with their tax obligations (tax compliance). Indeed, a series of large-scaled, scientifically-underpinned field experiments have proven that incorporating well-chosen behavioural insights - so-called *nudges* - in communication to taxpayers does lead to a significant increase in the number of overdue payments settled. This success has prompted the Belgian tax administration, thereby following the example of several other foreign tax administrations, to study and apply behavioural insights permanently in the future.

### **1. Introduction**

Effective tax collection is crucial for the good functioning of the financial system of the State. This is part of the mission of the General Administration of Collection and Recovery (GACR), one of the six administrations of the FPS Finance, also known as the Belgian Tax Administration. Especially in times of budgetary austerity, it is the task of the Recovery Administration to meticulously seek the rapid payment of liabilities. Overdue payments which are not quickly settled are to be recovered to their maximum extent by the Recovery Administration, but this is often an extremely time-consuming and labour-intensive task.

In times of ever decreasing staff and reduced budgetary resources it is even more important to collect overdue taxes as early as possible in the collection process, which means as soon as possible after the debt is incurred. In addition to reducing the internal workload for the administration, early payments are also beneficial for the government, as the necessary funds to finance public goods and services are earlier at the State's disposal. And *last but not least*, timely payments also benefit taxpayers individually, as it allows them to minimise the costs and interest resulting from late payment.

Then the head of the GACR attended an inspiring set of presentations at the Intra-European Organisation of Tax Administrations (IOTA) Workshop “Behaviour change techniques to improve key Area of Tax Administration” in April 2014 in Oslo. With the British Behavioural Insights Team (BIT) speaking about successful behaviour-related interventions on reminder letters on the part of Her Majesty's Revenue and Customs (HMRC, the tax authorities in the United Kingdom), the idea grew to implement behavioural insights also within the Belgian tax context. The phenomenon of non-compliance, in which not all taxpayers readily comply with their tax obligations related to registration, tax returns, correct tax returns or payment (OECD, 2004), is indeed a familiar problem for tax administrations, for which traditional policy instruments are sometimes limited. If small, low-cost, behaviour-focused interventions can effectively help tackle this problematic behaviour, it would be a welcome addition to the current standard approach (which is rather repressive in nature and based on audit and sanctions (Allingham & Sandmo, 1972)).

Against this background, in mid-2015, on the initiative of its then Administrator-General Luc De Dobbeleer, the GACR management gave the green light for a pilot project in which behavioural techniques would be tested for their effectiveness in the Belgian tax context. A partnership was set up with two Belgian behavioural economists who had already gained the necessary international experience with behavioural experiments, Professor Jan-Emmanuel De Neve (Oxford University) (Lamberton, De Neve & Norton, 2014) and Professor Johannes Spinnewijn (London School of Economics). This partnership helped to ensure that the project had a scientific basis and consequently met the conditions for *evidence-based policy making* based on test/control/intervention. This collaboration with academics quickly grew into a win-win situation, in which the government could rely on scientific expertise that it did not have in-house, and in which academics, thanks to access to (anonymised) administrative data, were able to test their theoretical insights in practice.

Testing *nudges* and behavioural insights in communication with the taxpayer is part of the search for the answer to the question why people do or do not fulfil their tax obligations, and when they do so. Increasingly, the answer to this question is provided by behavioural sciences, based on insights from behavioural economics, social psychology and anthropology, which claim that the nature of the messenger, and the content and form of the information also determine whether or not the taxpayer exhibits the desired behaviour. *Nudging* techniques respond to the 'choice' architecture, with the aim of giving the taxpayer a 'nudge' towards predetermined desired behaviour in line with the objectives of the organisation and the person in question.

Via a field experiment, it was examined which approach is most effective in encouraging taxpayers to pay more quickly (*Tax Compliance*). In the summer of 2015, a pilot project was set up around the reminder letter for Personal Income Tax (PIT). As regards to PIT, all citizens are informed of their final payment obligation in their notice of tax assessment (tax receipt), and around 1.8 million citizens per year are required to pay additional sums, amounting to a total of €3.6 billion. This payment has to be made within two months. If this is not paid before due date, and no postponement agreement or split payment arrangement has been granted by the FPS Finance, a reminder is sent. Annually, there are more than 250,000 late payers who receive this reminder for PIT.

Via a Randomized Controlled Trial (RCT)<sup>1</sup> at national level, various types of reminder letters were sent to randomly composed groups of taxpayers with overdue personal income tax, each with a different behavioural incentive. The aim of the project was to determine which type of message, or which *nudge*, would be most successful in encouraging this target group of debtors to pay their outstanding tax debts. These kinds of field experiments verifying the impact of different messages in tax-related letters are not new. Similar projects in Austria, Denmark, Germany, Israel, Poland, Switzerland and other countries have all successfully demonstrated that the form and content of a reminder letter can have an effective impact on the behaviour of taxpayers. In this context, there is clear scientific evidence in literature that reminder letters with deterrence content, and messages relating to moral and social norms, can influence the behaviour of taxpayers, at least in the right setting and taking into account the specific context (Kettle, Hernandez, Ruda & Sanders, 2016). The most famous application occurred in the United Kingdom, where HMRC, in collaboration with the BIT, significantly influenced the payment behaviour of taxpayers by incorporating *moral norm messages* (i.e. messages relating to social norms and public service messages) (Hallsworth, List, Metcalfe & Vlaev, 2014). Different results from other studies can probably be explained by the fact that the context in which the experiments took place often differed. The target group, the type of tax, the level of trust in institutions, the applicable social norms or the tax culture can differ from one study to the next, which can be an important explanation for the sometimes inconsistent results (Kettle et al, 2016). Hence the importance of carefully testing isolated interventions via RCTs, to examine what works and what does not, in a specific context.

Convinced of the added value of behavioural insights, once it was decided to set up a pilot study in the Belgian tax context a deliberate choice was made to start low-profile and project-based, and to build on potentially successful results. This incremental approach was intended to help persuade the last remaining doubters and create

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<sup>1</sup> Randomly composed groups are subject to different interventions in an experimental setting, as opposed to a control group that is not subject to any intervention, so that the impact of these interventions can be assessed.

additional *buy-in* within the organisation to continue along this path. The fact that the Administrator-General, as head of administration and as initiator, supported this innovative project from day one, was an important factor in implementing and continuing the project.

## 2. Project design

The field experiment consisted of redesigning the PIT reminder, which demands payment of the overdue personal income tax. The style of the various test messages was inspired by the scientific literature on behavioural insights, and practical examples from other countries. Behavioural insights help respond to the 'choice' architecture of taxpayers, by presenting information differently or adding a persuasive sentence that capitalises on how the norm is perceived. That way, it can be examined which factors positively influence the payment behaviour of taxpayers.

Various sample letters were written and used, each one inspired by scientific behavioural insights. Broadly speaking, the behavioural incentives tested can be reduced to three main categories; complexity (Bhargva and Manoli, 2015), morality messages (Slemrod, Blumenthal & Christian, 2001; Fellner, Sausgruber & Traxler, 2015; Abeler & Jäger, 2015; Castro & Scartascini, 2015; Kettle et al., 2016; Bott, Cappelen, Sorensen & Tungodden, 2017; Hallsworth, List, Metcalfe & Vlaev, 2017) and dissuasive messages (Ariel, 2012; Fellner et al., 2013; Castro et al.; Brockmeyer, Hernandez, Kettle, & Smith, 2016; Dwenger, Kleven, Rasul & Rincke, 2016; Kettle et al., 2016; Bott et al., 2017).

The setting is simple: a given tax debt (in this case personal income tax) is due by a taxpayer, a letter (in this case various letters) is sent by mail to this taxpayer requesting payment and the payment overviews of the administration's internal application are used to examine if and when a payment was made. By comparing the payment behaviour of the different target groups with a different reminder, it becomes possible to make judgements about the impact of the different type of messages. The target groups were carefully and *randomly* put together so that they were largely equal. Different payment behaviour can consist of both faster payment (early) and higher payment (additional revenue).

The reminder letter which was traditionally used for this target group (hereinafter "Ancien"), provides an overview of the tax due, the costs due, the interest due and the amount already paid, before announcing the "balance still due". The taxpayer is then requested, in rather cumbersome and administrative language, to 'immediately settle' this remaining balance. In the event of non-payment, reference is made to further recovery measures and possible additional costs at the taxpayer's expense. The letter closes with the 'Regards' of 'The Tax Collector, the local public official responsible at the time. The reverse side of the document provides certain useful information if payment has already been made, the consequences of last-minute payment, details regarding the payment methods, an overview of some of the legal means of recovery, and the procedure in the event of a dispute regarding the assessment.

In addition to the previous letter, which served as control group, it was decided to draft a new, simplified, basic letter which incorporated a number of behavioural insights (hereinafter "ControleNieuw"). This new basic letter contained five innovations, based on insights from scientific publications and practical examples from other countries (see also Hallsworth et al, 2014; Kettle et al., 2016).

First of all, and most importantly, the substantive and formal complexity of the letter was dealt with. For example, simpler language was used, jargon avoided as much as possible, and only information which was strictly necessary retained. This adaptation was in response to the observation that *information overload* or *complexity* increases the effort to set the desired behaviour, and can therefore be counterproductive (see Bhargava & Manoli, 2015, among others). Secondly, the new letter opted for a personalised form of address. This translated into a direct address to the taxpayer, by first name and surname, and a more informal closing; 'with kind regards'. This was intended to reduce the distance to the addressee, whereby the subjective engagement and the moral costs of the *non-compliance* option would increase.

Thirdly, the desired action was placed higher and given a prominent place by using a text frame. The core message was additionally highlighted by using colour. Fourthly, the existing communication was made clear and more specific. For example, whereas the previous letter demanded 'immediate' payment, the new letter requested payment 'within 48 hours'. Finally, the desired behaviour was also positively validated by thanking the taxpayer for any payment already made. This reinforced the moral benefits of *compliance* and refers to the principle of reciprocity (positive action elicits a positive return, Cialdini, 2016), and therefore tries to influence the still to be achieved behaviour.

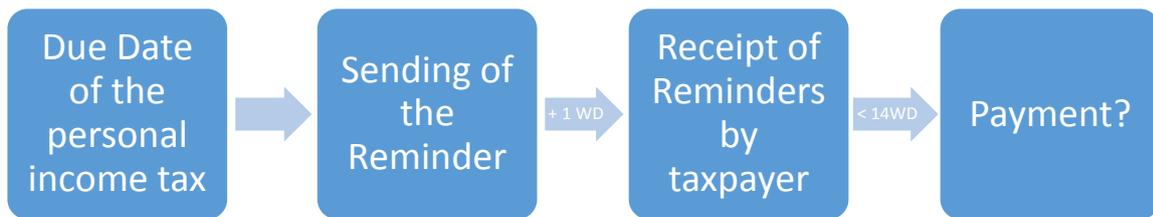
In addition to this new basic letter, which in se already integrated a number of behavioural insights, seven additional sample letters were designed, each consisting of the new basic letter supplemented by a persuasive message that responded to the (moral) benefits (costs) of (non-)compliance. The first letter (hereinafter 'SocialNorm') added a reference to a social norm, as a behaviour-influencing incentive, by stating that 95% of taxes in Belgium are paid on time. This is a proven strategy, already successfully tested in the UK (Hallsworth et al, 2014), which increases the moral cost of *non-compliance* by referring to the applicable norm. Furthermore, by classifying the taxpayer in the minority group, this also increases the social pressure to shift a person's own behaviour towards *compliance*.

The fourth letter also built on the re-written basic letter, by adding another moral cost message focusing on how taxes are spent (with reference to public services such as health care, education and national security). On the one hand, this capitalises on to the principle of reciprocity. On the other hand, this letter also alludes to the principle of altruism in which *compliant* behaviour is linked to an intrinsically good deed provided to the community. This message was framed both negatively, the 'PublicGoodsNeg' (responding to the scientific insight that people are naturally loss-averse), and positively, the 'PublicGoodsPos'. In the first, a warning is given that public services cannot be guaranteed without tax revenue, whereas in the second, the named public services are only made possible thanks to tax revenue. The sixth letter included a combination of letter three (SocialNorm) and letter five (PublicGoodsPos).

For the seventh letter, a dissuasive sentence was added to the re-written basic letter that incorporated the psychological principle of the *status-quo bias*. This well-known anomaly from social psychology shows that people have a (subconscious) tendency to stick to the familiar; the status quo (Kahneman, Knetsch & Thaler, 1991). The 'ActiveChoice' letter tried to capitalise on this by separating non-payment or non-compliance from a status-quo option, and depict it as an active choice; a (conscious) deliberate action. The eighth letter - the 'ExplicitPenalty' - refers to the (perceived) costs in the event of a sanction. This is a subtle response to the audit and repression approach referred to earlier. No additional financial sanction is created, but the visibility and perception of the potential consequences of non-compliant behaviour are increased by making them explicit. This significantly enhances the moral cost of *non-compliance*. The visibility of the sanctions for non-payment is highlighted by the average cost charged (€209 for 2014) for additional recovery actions. Finally, the ninth and last letter (ActiveChoiceExplicitPenalty) combined the messages from letter seven (ActiveChoice) and letter eight (ExplicitPenalty).

These nine letters were distributed randomly amongst all taxpayers with overdue personal income tax payments. Twice a month (project period from December 2015 to June 2016) this reminder letter was sent to the new personal income tax debtors. The last two figures in the taxpayer's national number determined the type of reminder letter they would receive. To verify the effect of the type of message, monitoring took place for each letter on how much was paid and when the payment was made, counting from the day of receipt (day of dispatch + 1, in accordance with the contract between the FPS Finance and BPost, the national postal service). From this date on, we can reasonably assume that each payment was influenced by the intervention of the reminder letter.

Figure 1: Reminder letters experiment



### 3. Results

The analysis took into account 225,877 PIT reminder letters, all of which were sent between 24 December 2015 and 24 June 2016, representing a total outstanding amount of €354,790,779. Three *outcome* variables were defined. A first variable is the total amount (in relative terms) paid within one target group (sample letter), x days after receipt of the letter. A second variable concerns the number of reminder letters that generated a payment per target group. A third variable measures the number of reminder letters that generated full payment per target group.

If we concentrate on the number of reminder letters with a payment, we can see clear differences between the control and intervention groups. This means that thanks to the behavioural interventions, more people were persuaded to make a payment. The

relative increase was 46.9% (9.9 percentage points) on (working) day 2; 29.9% (12.1 percentage points) on day 7 and 17.4% (9.2 percentage points) on day 14.

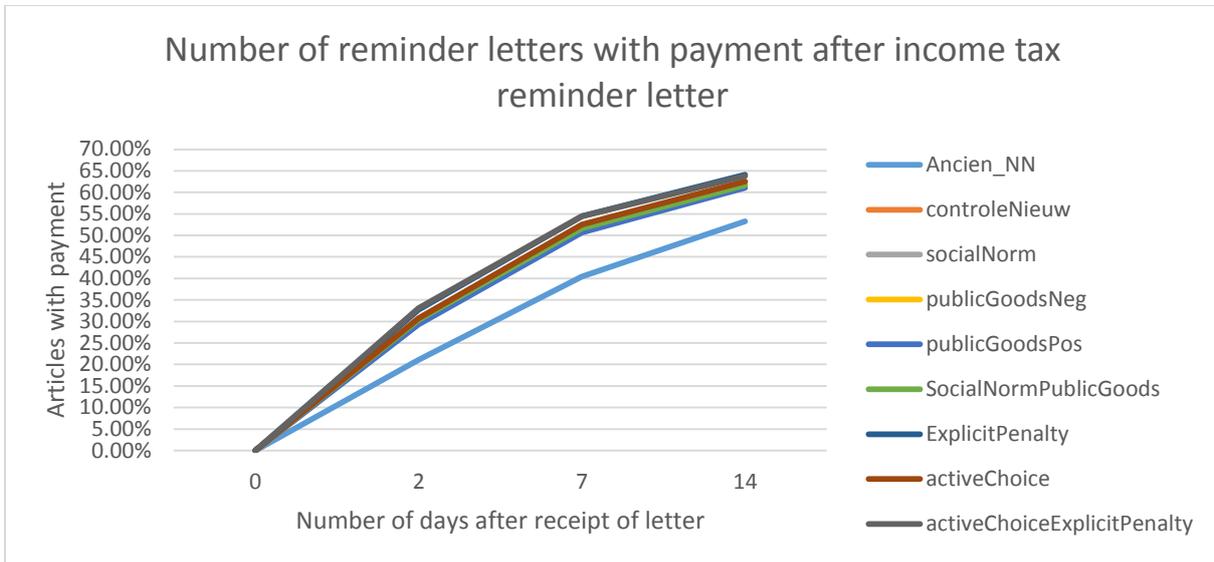


Figure 2: Evolution of reminder letters followed by a payment, after income tax reminder

The percentage of partial or full payments for the basic reminder letter (control) is significantly lower than the percentage of payments following a new reminder letter (intervention). Of all the new letters, we can see that the ExplicitPenalty letter (whether or not in one letter combined with the 'Active Choice') is the strongest, and differs significantly from all other reminder letters. After 14 working days, the ExplicitPenalty letter resulted in over 20% more payments (10.9 percentage points) in comparison with the control letter.

Table 1: relative number of overdue debts (balance and cases) with payment after PIT reminder letter

Sample letter	Day 0		Lead time		
	Outstanding balance	Outstanding debt cases	0-2 (Pct)	0-7 (Pct)	0-14 (Pct)
Ancien_NN	€40,953,450.06	25,849	21.06%	40.42%	53.24%
ControleNieuw	€39,230,959.49	25,650	30.75%	52.27%	62.29%
SocialNorm	€39,283,828.10	25,578	30.33%	52.34%	62.39%
PublicGoodsNeg	€35,198,553.05	23,360	30.18%	51.74%	61.99%
PublicGoodsPos	€40,757,805.84	23,203	29.34%	50.70%	61.07%
SocialNormPublicGoods	€39,382,783.34	25,462	30.31%	51.63%	61.68%
ExplicitPenalty	€39,018,787.59	25,312	32.71%	54.47%	64.12%
ActiveChoice	€39,533,618.58	25,735	30.72%	52.56%	62.51%
ActiveChoiceExplicitPenalty	€41,430,993.43	25,728	33.07%	54.45%	63.82%
<b>Total</b>	<b>€354,790,779.48</b>	<b>225,877</b>	<b>30.93%</b>	<b>52.52%</b>	<b>62.48%</b>

The results for the number of fully paid cases are practically the same. Here, too, there is a significant difference between the old and new sample letters in the field of payment behaviour. After two days, we see for the re-written letters a relative increase in the number of items with a full payment of 49.5% (8.8 percentage points) compared to the Ancien\_NN letter. After seven days, the increase is 30.8% (10.5 percentage points) and after 14 days, the added value is 16.9% (7.4 percentage points).

A cost-benefit analysis showed that this was an extremely cost-effective project. Completely in line with the philosophy of the 'Nudge theory' (Sunstein & Thaler, 2008), it was a low-cost intervention to bring about a change in behaviour. Two items can be identified on the cost side of the project. Firstly, the human resources allocated to the project. Secondly, the material costs of adapting the letters. In total, 231 internal staff-days were necessary for the project, taking into account ICT staff, data analysts, legal

experts, communication staff, management and the project leader. Calculated on the basis of an assumed average cost for an internal staff-day of €300, this investment item came to €69,300. The material cost of adjusting the letter only consisted of adding colour, totalling €9,281 for the 200,028 new sample letters sent during the period in question. The cost of the intervention thus totalled €78,581.

On the benefits side, 6.9 percentage points of additional overdue taxes (in amount) was paid due to the simplified letters with behavioural insights, measured 14 working days after receipt of the letter. In total, this represents an additional yield of €21,698,016, measured on day 14 after receipt of the letter. In total, the behavioural interventions resulted in 18,534 additional debt cases with a payment and a surplus of 14,681 fully paid and closed debts.

The collection rate in Western countries (within 12 months after the tax is payable) is generally close to 100% (the recovery rate for personal income tax in Belgium is 96% in amount after 12 months), so it could be argued that interventions like these are primarily intended to ensure earlier payments in the process, rather than to result in increased net revenue (Kettle et al, 2016). The significant added value may therefore primarily be due to the reduced internal workload, thanks to the swifter closure of a whole series of outstanding debts. By leading to an additional number of fully paid debts shortly after the due date has been missed, the workload of the collection services decreases, meaning that they can focus on other tasks, i.e. recovering more complex debt cases and monitoring persistent debtors. In addition, it also saves the subsequent costs of late payments on the part of taxpayers themselves. The longer it takes for the overdue tax to be settled, the more late-payment interest is due on the principal. In addition, costs are also charged for certain additional recovery actions, such as seizure procedures or the intervention of a bailiff. Moreover, part of the additional revenue appears to be structural. Even after 180 days, we still see a significant difference between the control group and the intervention group, representing €3.8 million additional revenue. Positively influencing the payment behaviour of taxpayers by incorporating behavioural insights and *nudges* in a reminder letter is therefore undeniably a win-win-win situation for the state, the administration and the taxpayer.

It also demonstrates the fact that responding to behavioural insights can have a significant effect on the payment behaviour of taxpayers. If we compare the various sample letters, we can conclude that, initially, simplifying the letter (removing the complexity) will have a positive effect on the payment behaviour of taxpayers. By clearly stating the intended action and eliminating irrelevant and complex background information, we were able to further significantly increase the amount of payments.

This can be inferred from the fact that all new letters (thanks to this simplification) perform significantly better than the previous letter. Furthermore, it is striking that deterrence messages (such as the Explicit Penalty variant) still give an additional *nudge* towards making payment. Messages that capitalise on the *tax morale* (such as the *social norm*- and the *public goods message* sample letters) do not significantly deviate from the new basic letter, and have no (additional) significant behavioural effect in this context and for this target group.

## Follow-up

As is fitting for effective evidence-based policy making, the GACR management based itself on the results of this pilot project for the subsequent implementation. Based on the "Test-Learn-Adapt" principle (Haynes, Goldacre, & Torgerson, 2012), during the 2016 assessment year, the results of the first field experiment were used to further optimise the reminder letter. A new field experiment was set up, in which it was firstly attempted to duplicate the above results (internal validity?) and secondly to further refine the *best performer* (Explicit Penalty message) from the initial study. This follow-up study managed to successfully replicate the earlier results, so that any possibility of coincidence could be ruled out. Moreover, several new behavioural insights were tested on this new letter as part of the (continuous) search for the most effective reminder.

For example, the principle of loss-aversion was added to the dissuasive message of the Explicit Penalty, and the best performing reminder letter could be made even more effective. In specific terms, the Explicit Penalty message was worded differently, to appeal to loss-aversion on the part of taxpayers. This intervention significantly increased the number of payments after the reminder letter even further.

By further following-up the intervention on the target group of taxpayers for the assessment year 2015, we were also able to check the long-term effects of the *nudges*. In-depth analyses show that if taxpayers received a new reminder letter for the assessment year 2015, there was a smaller chance of them paying late again for assessment year 2016 (the year after the intervention) - this was a unique finding. In addition, there is no *repeated treatment effect*; a new letter is as effective for assessment year 2016 as it is for assessment year 2015, regardless of whether the taxpayer in question had already received a re-written letter before.

As part of the FPS Finance's strategy to target the rapid collection of taxes, a third field experiment was subsequently set up. This time, the notice of tax assessment, the letter just before the reminder letter, was chosen as the subject of a field experiment with various behavioural interventions. By intervening more upstream in the process, preventing overdue payments can be maximised. Behavioural insights are also very useful here, as the first preliminary results of the behavioural experiment with the assessment notice show. The complete results are not yet available.

Convinced by these successful results, the FPS Finance has since decided to permanently integrate this type of behavioural study and intervention in its operations, and to wind down the temporary project mode in which the above-mentioned initiatives were implemented. Much can be learned from the behavioural sciences, as these field experiments presented here illustrate. Moreover, in the context of policy-making and policy evaluation, it is an added value to look for the most effective (and efficient) policy instrument via qualitative and quantitative research (ideally via RCTs). A new official has been appointed within the FPS Finance, in the field of *Tax Compliance*, whose task is to study and monitor the (payment) behaviour of taxpayers and, where possible, positively influence it.

The inspiration in this respect will continue to be drawn from the expanding scientific literature on the subject. The FPS Finance will also base itself on an ever-growing number of (well-documented) practical examples of tax administrations around the world, whether or not supported by academic experts or dedicated international organisations such as the World Bank, the Joint Research Centre of the European Commission and the Community of Interest on Behavioural Insights of the Organisation for Economic Cooperation and Development's Forum on Tax Administration (OECD - FTA) and the Intra-European Organisation of Tax Administrations (IOTA), to name only a few. The FPS Finance is actively involved in these various international platforms, allowing it to enter into partnerships beyond national borders and to set up initiatives regarding behavioural insights.

#### 4. Conclusion

The project's results show that rewriting the reminder letter has a clear impact on the payment behaviour of taxpayers. As such, it is possible to objectively examine which type of behavioural intervention is decisive in prompting payment of (overdue) taxes. Simplifying the reminder letter and adding dissuasive messages leads to significantly

more payments. The letters with behavioural intervention yielded an average relative increase of 17% paid items (a difference of 9.2 percentage points) and a relative increase of 18% of fully paid items (a difference of 7.4 percentage points). All new letters scored significantly better than the previous letter, which acted as the control group, but the most striking results were achieved with the *Explicit Penalty* letter, which in addition to the simplified new basic letter adds a persuasive sentence with explicit reference to the possible penalty (in monetary terms) in the event of non-payment.

Financially, it can be asserted that the project/experiment, thanks to the new interventions, yielded more than €22 million in earlier payment of personal income tax for the 2015 assessment year. Part of this increased payment is structural, but the costs saved as a result of the items paid earlier should also be taken into account on the benefits side. Given that, by definition, *nudging* involves low-cost interventions, the cost-benefit analysis is very positive. Taking into account all project costs, the benefits outweigh by far the costs.

As such, this experiment complements the list of previously mentioned scientific studies and projects in other countries in the field of behavioural insights and *Tax Compliance*. Moreover, this was not a simple duplication of previous studies, it produced a number of scientific innovations that can make a valuable contribution to science; in particular the extensive *sample size*, the number of *treatment arms* in the experiment, the causal effects in the short and long term, only to name a few. It demonstrates that capitalising on behavioural insights is worth the effort, and can have considerable effects in the right context, as long as the intervention is low-cost.

The case of the FPS Finance also shows that mandate and support from the management level is crucial for this kind of innovative project. The fact that the study was managed on a project basis, based on internal operational leadership combined with an effective partnership with experts from the academic world, should not be underestimated either. The experts served as sounding boards throughout the project, and assisted the administration in setting up the RCT, developing the behavioural interventions and scientifically backing up the results. Thanks to these precise puzzle pieces, the FPS Finance was able to bring such an experimental project to a successful conclusion, for which it has received praise both in Belgium and abroad. It should come as no surprise that the FPS recently received the government organisation of the year award, with a special mention for its innovative approach.

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