Official Letter Related to Reminder Letter
This report was drawn up based on the results of an experiment carried out in 2014. The report’s recommendations are solely those of the project group. The Danish Business Authority has not taken a stance on the recommendations at this time.

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Official Letter Related to Reminder Letter

Background
This report describes the results obtained and the lessons learnt from the experiment. It also focuses on lessons learnt that the Danish Business Authority can apply to other business areas. The experiment involved the sending of a letter as part of a reminder procedure, and the knowledge gained from this can be used to improve other letters sent by the Authority to businesses to get them to respond to errors or pay the sums stated in their reminders.

The Nutrition Base Registry
The Nutrition Base Registry (NB Registry) is a publicly accessible registry of the Danish Business Authority in which every business engaged in the sale or transport of foodstuffs to consumers, including catering businesses, restaurants and food-wholesale businesses, must be registered in order to lawfully operate their enterprise. As a general rule, all businesses that sell foodstuffs to the value of more than DKK 50,000 a year must be registered in the NB Registry. This also means that some enterprises which do not consider themselves food businesses must be registered in the database. This applies to DIY stores, for instance, which sell sweets at the check-out counter. In this context, foodstuffs are defined as any type of food, e.g. beer, wine, soft drinks, sweets and other foods.

In late 2013, the businesses listed in the NB Registry were invoiced DKK 500 (in addition to DKK 617 as a campaign control charge for the Danish Veterinary and Food Administration) for being registered in the NB Registry at the cut-off date of 4 April 2013.
Normal procedure
When a business receives an invoice for being listed in the NB Registry, the process should be as follows:

If a business does not pay its invoice for being registered in the NB Registry, the Danish Business Authority’s financial unit sends a reminder to the business. At the same time, the Authority’s Business Team sends a consultation letter to the business. It informs the business of the consequences of not paying the sum stated in the reminder letter.

Reminder procedure:

1. First, the Danish Business Authority sends a reminder letter and a consultation letter to the business.
2. If the business does not respond by either paying the sum or contacting the Authority to state the reasons why it should not have to pay, the business’s “Nutrition Letter” will be revoked, the business will be deleted from the NB Registry and the business will receive a letter about this decision.
3. The list of businesses deleted from the NB Registry is sent to the police, who revoke alcohol licences, if relevant. After this, it is illegal for these businesses to operate a food business.
The reminder procedure looks like this:

Statement of the problems
The percentage of businesses which pay the sums stated in the reminder letter was previously down around 50%. This means a shortfall of revenue for the Danish Business Authority and the Danish Veterinary and Food Administration. Businesses which do not pay their sum stated in the reminder lose their “Nutrition Letter” and are removed from the NB Registry. If they continue to run a food business, they are not in compliance with the law, as this is illegal without a “Nutrition Letter”. This can result in fines and the revocation of any alcohol licences. Following through on this means extra work for the Police related to the revoking of alcohol licences.

Preferred behaviour
The Danish Business Authority wants to increase the percentage of businesses that pay the sums stated in their reminders. At the same time, the Authority wants any businesses that have been invoiced, but which are not required to pay, to contact the Authority.

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1 A food business is defined as an enterprise which sells foodstuffs to the value of more than DKK 50,000.
Experiment
In the experiment, we sought to increase the percentage of payments and relevant queries by implementing a series of changes (nudges) in the letter issued. Three different letters were issued during the experiment.

Letter A: original letter (control)
Letter B: new (nudging) letter
Letter C: version of Letter B, with tick boxes added.

To identify the behavioural effect of the changes, the letters were sent to three different – randomised – groups of businesses. All letters were sent at the same time in the following volumes:

<table>
<thead>
<tr>
<th></th>
<th>Letter A</th>
<th>Letter B</th>
<th>Letter C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letters issued, qty</td>
<td>1,443</td>
<td>1,443</td>
<td>1,444</td>
</tr>
<tr>
<td>Bankruptcies and return mail(^2)</td>
<td>74</td>
<td>116</td>
<td>94</td>
</tr>
<tr>
<td>Net mailing</td>
<td>1,369</td>
<td>1,327</td>
<td>1,350</td>
</tr>
</tbody>
</table>

Diagnosis of the original letter
The behavioural diagnosis of the original letter comprised an analysis, categorisation and evaluation of the content’s form and function for the purpose of identifying areas that could benefit from changes being made. The diagnosis process was carried out by DNN/iNudgeyou. The underlying principle for this process is to identify areas with potential room for improvement, based on behavioural knowledge derived from behavioural economics, cognitive psychology, social psychology, etc. The purpose of these improvements is usually to make it easier for the recipient to read the information contained in the letter as well as to try to influence the decision-making process.

Overall, there are certain factors which we assume apply to recipients of the vast majority of letters sent by the public sector (and the private sector, for that matter).

- limited time devoted to reading the letter;
- limited attention to the letter’s contents;
- the likelihood of several steps having to be taken between the receipt of a letter and the execution of the actions specified in the letter, e.g. if a letter received in a physical mailbox has to be processed in front of a computer, if the actions need to be carried out online;
  - risk of mislaying the letter;
- uncertainty about the letter’s importance.

The diagnosis was based on optimising two purposes of the letter:

\(^2\)Many letters and reminders were returned as the businesses were not located at the address. We assume that these businesses did not receive a reminder and consultation letter and for this reason, they were removed from the data set. The same was done to businesses that entered into bankruptcy during the process.
1. To get the recipient to contact the Danish Business Authority and file an objection if the business does not feel that it is required to pay.
2. To get the recipient to pay the sum stated in the reminder letter.
Betaling for registrering i Næringsbasen og betaling for Fødevarestyrelsens kontakkampagner

Virksomheden har modtaget en faktura for de afløse betaling for at være registreret i Næringsbasen, samt betaling til finansiering af Fødevarestyrelsens kampagnekontrol, da virksomheden den 1. april 2013 havde fødevare-næringsbrev.1

Hvis det skyldige beløb ikke betales inden den angivne frist i den efterfølgende række, bortfalder næringsbrevet på de i rykkeren nævnte forretningssteder.2 Hvis den virksomhed har alkoholbevinding, vil denne også bortfalde.3

Hvis næringsbrevet bortfalder, vil virksomheden ikke længere kunne drives lovligt.2 Hvis den forfælt drives fødevarevirksomhed, selv om virksomheden ikke længere har næringsbrev, kan dette straffes med bøde.4


Hvis ikke rykkeren betales, vil Erhvervsstyrelsen træffe afgørelse om bortfald af næringsbrev, hvorefter virksomheden slettes fra Næringsbasen.

Med venlig hilse

Erhvervsstyrelsen

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3 H. betalingsorder nr. 885 af 29. juli 2011 om udførelse til vise fødevarevirksomheder § 22, stk. 2.
4 H. betalingsorder nr. 885 af 29. juli 2011 om udførelse til vise fødevarevirksomheder § 22, stk. 2.
5 H. betalingsorder nr. 885 af 29. juli 2011 om udførelse til vise fødevarevirksomheder § 22, stk. 2.
First diagnostic element: Conditionals

The original letter contained many sentences constructed according to an “If X, then Y” structure, also known as conditionals. According to our hypothesis, the sheer volume of conditionals makes it more difficult to read the letter. This is reflected in the time it takes for the recipient to read the letter and the fact that they can cause the letter to be incorrectly understood.

The “If X, then Y” sentence construction is frequently used in various lines of reasoning. Logic has clear rules for the specific valid conclusions that can be drawn when a conditional appears in a series of reasoned statements. It can be difficult for us, i.e. human beings, to understand conditionals. This is true in cases where many “If X then Y” sentences appear in the same context, for instance. Studies show that the extent to which people clearly understand the content of conditionals depends on factors such as what the conditional is referring to.

In general, people are good at drawing logically correct conclusions from conditionals dealing with social rules (“If you are over 18, you may drink alcohol”). On the other hand, we are not very good at drawing logically correct conclusions about more abstract statements (“If the card shows an even number on one face, then its opposite face is red”).

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3 This type of psychological study of conditionals is known as a Wason selection task.
Second diagnostic element: Emphasis and interconnection

Only a few elements of the control letter link it to the actual reminder. The only hint comprises the sentences “The business has received an invoice [...]”, “If you have any questions about this matter or if there are any errors in the reminder, [...]”, and “If the sum indicated in the reminder is not paid, the Danish Business Authority will [...]”.

These different references to the invoice/reminder can make it difficult for the recipient to interconnect these two letters. This is challenging because the recipient receives two separate letters – one containing a reminder and one containing a consultation letter. The consultation letter explains why the recipient must pay the sum stated in the reminder. If the interconnection is unclear, there is a risk of confusing and frustrating the recipient.

Third diagnostic element: Loophole

In practice, the consultation letter is printed and sent on paper, whereas the reminder can be issued either as hardcopy or electronically. These two letters will not necessarily be received by the same person at the business.
The original letter ends by pointing out that if the business does not pay, the Authority will delete them from the NB Registry. This means that any business wishing to leave the NB Registry and which does not wish to pay the amount due simply does not have to do anything. For these businesses, the most advantageous option is to do nothing. Businesses that choose this option burden the Danish Business Authority with unnecessary administrative work. At the same time, this raises uncertainty about which businesses actually do not have to be listed in the NB Registry. It impedes efforts targeting businesses which do not comply with the requirements of the law.

**Fourth diagnostic element: Failure to stipulate conditions**
The conditions stipulating when a business meets the requirements for having to establish a business licence are not mentioned. This is the key piece of information to explain why the recipient has received a reminder letter and why the business must pay a charge for being listed in the NB Registry. The underlying hypothesis of the intervention is that people generally want to be able to explain or justify their actions. Therefore, the reason that the recipient must act, i.e. pay, should be specified clearly and unequivocally.

**Letter B: New letter**
This letter was designed on the basis of the diagnosis. The letter was drawn up using five tactics, which are reviewed below.
First tactic: Simplification

This tactic was chosen to counteract the diagnostic element *Conditional*. The complex “If X, then Y” sentences in the original letter have been simplified by specifying the consequences as bullets. This way, each sentence is made up of a single conditional. The layout makes it easier for the recipient to understand the consequences of his/her action or failure to act.
Second tactic: *Emphasis and interconnection*
To minimise the recipient’s obstacles to linking the letter to the reminder, the due date specified in the reminder letter is included in the letter and highlighted in yellow. This serves two purposes. It primarily serves as a tangible link between the consultation letter and the reminder. The same date is also specified in the reminder. Its secondary function is to clearly illustrate the most important piece of information in the letter which the recipient must consider in relation to timely payment of the sum due.

Third tactic: *Loophole removed*
In the new letter, the section stating how the business will merely be excluded from the database if the business fails to respond has been removed. This was done to shift the focus from the consequences for the business of remaining inactive to narrowing the choice to a greater degree to either paying the sum stated in the reminder or responding to the letter. Note that inactivity is still an option with the same consequences as previously; the consequences are just not mentioned.

Fourth tactic: *Equating inaction with action*
The consultation letter encourages the businesses to respond by either paying the sum or contacting the Authority to file an objection. Both actions require the business to take action. What is not clear in the original letter is that choosing not to act is also a form of taking action. Therefore, a sentence has been added to the letter pointing out that inaction is also a form of action.

This approach was chosen because it is a well-known fact that we tend not to make a choice even when the options are presented to us. This is known as “status-quo bias”, proven on repeated occasions. This tendency can be partly explained through a sense of responsibility for the consequences of similar choices:
if you actively make a choice, you feel more responsible for the choice and its consequences. If, on the other hand, the choice is made on your behalf, i.e. you do nothing, you feel less responsible for the consequences of the “choice”. In other words, inactivity is an attractive option in situations where an active choice entails a risk of regret. In addition, this risk can seem greater if the consequences of your choice are unclear.

Version of Letter B, with tick boxes added.
Tick boxes were added to Letter C. The purpose of using this tactic was to reduce the perception of complexity and make it easy for businesses to determine whether they should be listed in the NB Registry. By having the boxes ticked instead of blank, the Danish Business Authority is telling the recipient that the Authority thinks that the recipient meets the conditions.

Note that the purpose of this is not to reduce the number of elements in the letter (i.e. simplification) but to introduce a few layers aimed at improving the reader’s experience.

This twist was previously used in the experiment “Updating the Nutrition Base Registry Database” together with a series of other tactics. We repeated the tactic to test its isolated effect.\(^5\)

**Results**

Before the experiment began, the project group identified three measurement points: 1) the percentage of businesses that paid the sum stated in the reminder; 2) the percentage of business that responded by saying they should not have been invoiced; and 3) the percentage of businesses eventually deleted from the NB Registry because they failed to respond.

1. **Businesses pay on time**

As shown in Figure 1, the percentage of businesses that paid the sum stated in the reminder, both for the control group (A) and the first intervention group (B), is around 50%. The percentage of businesses which paid in intervention group C is slightly lower than the other groups. This difference is not statistically significant, however.

Consequently, the experiment did not have an effect in terms of increasing the number who paid the sum stated in the reminder.

*Figure 1: Percentage of businesses that paid the sum stated in the reminder*

\(^5\) See the separate report describing the results of this experiment.
2. Businesses respond by contacting the Danish Business Authority
The businesses had two options for correctly responding to the letter from the Danish Business Authority. The first was to pay the sum stated in the reminder. The second was to contact the Danish Business Authority and explain that they should not have been invoiced as they do not meet the requirements for being listing in the NB Registry. Businesses that were justified in contacting the Authority are listed with a credit note in the Danish Business Authority’s system.

As shown in Figure 2, the percentage that responded by (justifiably) contacting the Authority was around 5.5% for control group A and intervention group C, whereas the percentage for intervention group B was slightly more than 7%. The difference between group A and group B is 1.7 percentage points, which is statistically significant at a significance level of 10%.

This means that intervention B prompted more businesses to contact the Authority, whereas intervention C did not affect this target.

Figure 2: Percentage of businesses that contacted the Authority and received credit notes

According to the CRM, we can see that a large percentage of the businesses in the two intervention groups which contacted the Authority were issued with credit notes: 40% and 37% compared to 26% in the control. This indicates that a number of businesses in the control group contacted the Authority even though they had to pay. This could indicate that it is easier for the businesses to understand the intervention letters than the control letter. Overall, there were fewer businesses in intervention group C that contacted the Authority.

3. Businesses deleted from the NB Registry
Businesses that did not respond by either contacting the Authority or paying were deleted from the NB Registry from 1 April 2014. As Figure 3 shows, the percentage was highest in intervention group C, but was slightly lower for control group A, and lowest for intervention group B. The difference between groups B and C is significant at a significance level of 10%. None of the other differences is significant.

6 This does not include businesses that were eliminated from the Registry due to bankruptcy.
This means that intervention C probably had a negative effect in terms of preventing businesses from eventually being deleted from the NB Registry.

*Figure 3: Percentage of businesses deleted from the NB Registry*

![Bar Chart](image)

**How much do they still owe?**

Figure 4 shows the percentage of the total sum stated in the reminder that was not paid or credited due to error. The breakdown is almost the same, as the difference between the three groups is less than 0.7 percentage points. The results are affected by a few individual businesses with many P entities, however, and thus relatively high payable sums.

If the business with the most P entities – and thus the highest sum stated in the reminder – is removed from each of the three groups, the picture changes. In this event, intervention group B has the lowest sum, being 1.5 percentage points lower than control group A and 2.3 percentage points lower than intervention group C. This is particularly because more businesses in group B justifiably contacted the Authority about not being required to pay.
What difference did modifying the letter make?
The intervention which changed the letter prompted more businesses to respond. The percentage that contacted the Authority citing errors was greater than in the group that received intervention letter B. At the same time, the percentage that paid the sum was on a par with the control group (letter A), and higher than intervention letter C.

The results show that changing the letter affected businesses’ behaviour in terms of prompting them to contact the Authority if they were not required to be in the NB Registry. By and large all of the businesses that contacted the Authority, but which were not issued with a credit note, have paid. It is positive for the Authority that businesses contact them if they are in doubt. We cannot be certain whether they would have paid otherwise, however.

Both the diagnosis and the tactics were correct in terms of getting businesses that are not required to pay to contact the Authority. This resulted in fewer of the businesses in the group that received a nudging letter being deleted from the NB Registry.

Changing the letter did not achieve the goal of increasing the number of businesses that pay the sum stated in the reminder, however.

What difference did introducing tick boxes make?
Adding tick boxes in intervention C reduced the number of businesses that paid the sum stated in the reminder letter. The difference is not significant, however. At the same time, the number that received a credit note did not increase, so the change did not get more businesses to respond to errors in the reminder either. On the other hand, the tick boxes did not have the expected effect, and generally led to a large share of the businesses which received the letter with tick boxes being deleted from the NB Registry.
We cannot say for sure why the tick boxes did not have the desired effect. Adding the tick boxes probably reduced the percentage of businesses which contacted the Authority to say the reminder was in error, in relation to the letter with changes, even though the letter with tick boxes contained the same elements as intervention letter B. However, there were slightly fewer businesses from the group with tick boxes which unjustifiably contacted the Authority, which seems to indicate that the tick boxes help to enhance the understanding of the letter’s contents.

The purpose of the tick boxes included making it easy for businesses to determine whether they should be listed in the NB Registry. We had expected that businesses which believed the ticks did not apply to them would contact the Authority. It is possible that the businesses used them as a “way out” for ignoring the letter instead, because they deemed that one or both ticks did not apply to them.

There were a number of businesses that responded very favourably to the tick boxes, however, when they contacted the Danish Business Authority. They felt that this technique helped them to understand why they had received the reminder.

**Equating inaction with action**

Equating inaction with action did not have any effect in terms of businesses contacting the Authority or paying the amount due.

On the other hand, the letter prompted a few businesses to react quite angrily about the wording, which they perceived as threatening.

**Unforeseen effects**

The experiment may have had some unforeseen effects that were therefore not measured. We know from the experience of the Danish Customs and Tax Administration that telephone contacts take less time if the parties contacting the authority are equipped with a better knowledge base. Therefore it is possible that the businesses in the group which received the letter with tick boxes were able to explain more quickly why they did not think they were required to be in the NB Registry and therefore did not have to pay the sum stated in the reminder. This would probably shorten such phone conversations. We did not measure this, however.

**In relation to timing/the use of two letters?**

The reminder letters were sent to the businesses via Nets on Monday 10 February 2014. Two days later, on Wednesday 12 February 2014, the consultation letters were sent via Kailow. On Thursday and Friday, a number of businesses contacted the Authority about having received the consultation letter without having received the reminder yet. Obviously this is inexpedient as the businesses were unable to respond to the letter when they received it.

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On the other hand, we must expect that this construction, where one letter provides information about an action in another letter sent simultaneously by a third party, leads to two types of error:

1. The recipients in the business might be two different individuals, each of whom receives a different letter.
2. There are substantial barriers to acting on the basis of the letter from the Authority: the other letter has to be found again, which can be difficult to identify based on the letter from the Authority.

In terms of quality control?
Problems arose which affected the telephone system of the Danish Business Authority, as an incorrect telephone number cited in the consultation letter caused incoming calls to be directed to the wrong office within the organisation.

It was generally experienced during the phone conversations that it was difficult for the businesses to link the consultation letter to the reminder letter. This applied to all letter types.

Conclusions
Overall, the modified letter in intervention B had an effect in terms of getting the businesses to contact the Danish Business Authority, but not in relation to getting them to pay. The costs of carrying out the experiment are therefore not offset by a higher number of payments. On the other hand, the higher number of credit notes favourably enhanced the businesses’ perception of service and legal certainty.

The reason that none of the interventions prompted the businesses to pay on time could be due to the fact that the diagnostic elements were not the best choices. This can also be because the tactics used in the interventions were incorrect in terms of getting businesses to pay.

There were quite a few structural disturbances that may have negatively affected the experiment results. First of all, there was a substantial time lag between the period for which the businesses were being invoiced and the date on which the invoices were sent. Secondly, there were a number of disruptive errors in the systems used by the businesses and the Danish Business Authority during the process.

Recommendations
We recommend that the Danish Business Authority:

1. Try out the tactics used in a different context where the purpose is to get the businesses to contact the Authority to clarify issues.
2. Launch a new experiment in the area of invoicing to identify new approaches that could result in increasing the number of timely payments.
3. Focus efforts on invoicing instead of reminders, as the expected potential for improvement is greater earlier in the process. This must be expected to have a more advantageous business case.
This experiment did not resolve the problem of outstanding payments. Therefore, new experiments should be launched to try out other approaches to get businesses to pay invoices issued by the Danish Business Authority. Coming experiments should be done without structural disruptions.

**Lessons learnt which have consequences for the implementation of future experiments**

The invoicing process depended on many IT systems and when one was down, the process frequently came to a halt. As the number of dependencies affects the possibility of carrying out successful experiments that achieve the results expected, future nudging experiments should be carried out in areas that are less dependent on systems.

To prevent data-quality problems and to ensure that experiments can be carried out as intended, we will incorporate an extra quality-assurance layer in the future. This will be incorporated into the protocol that is prepared for the implementation of the experiment. In this context, it is important that the parties involved are aware of their specific share of the quality-assurance process. Specifically, a meeting involving the relevant parties will be added before the launch of the experiment where all aspects of the experiment are reviewed and where the materials produced are verified one more time. After this, any adjustments to the material will be made and any new quality measures will be added to the protocol. Only then can the experiment be set in motion.

When selecting areas for new experiments, it is important to consider the target group. In this experiment, the target group comprised businesses that had already ignored one request for payment. Lessons learnt from this and other experiments show that this residual group of businesses and individuals are significantly more difficult to nudge than the original target group. If the Authority wishes to focus on this group, “tougher” nudges should be considered or the use of other, more traditional tools. Alternatively, future experiments should focus on enhancing compliance earlier in the process.

It is particularly true of invoice-related experiments that businesses postpone payment to retain liquidity in the business. If invoice-related experiments are conducted in the future, this aspect should be included in the planning in relation to which data points should be selected and when data should be collected.

In the future, experiments should not be carried out in areas where the businesses are hit from two sides. In this experiment, the businesses were met with both a reminder and an official letter.

In future experiments, we should attempt to send letters and other documents on several occasions instead of only one mailing. We should do so in order to have the option of adjusting the intervention and testing the quality assurance and data-collection methods to maximise the effect of the experiment.
Facts

Population
- Total number of letters = 4,330
- Number of businesses in the individual groups
  - Intervention group 1: 1,444
  - Control group: 1,443
  - Intervention group 2: 1,443

What are the data points?
- How many pay
- How many react to errors
- How many end up being deleted

Which business case was used?
- Estimated extra payments

Quality assurance
- Randomisation of the various mailing samples which took account of the size of the amount payable

Prerequisites for the validity of the results
- The expected number of businesses which did not receive the letters due to an address error is the same for all three groups.
- The expected number of businesses which will contact us instead of paying is the same for all three groups.
- The businesses which paid and the businesses issued with credit notes/eliminated due to bankruptcy, etc., can be seen in Navision.
- The CRM system correctly registers the responses.

Considerations concerning incoming contacts with the Authority
- The data used was solely extracted from the CRM system. This was done because businesses which file objections by telephone are requested to submit their objection in writing. We cannot consider cases that are not submitted through the CRM system.