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Provided as an example of how impact evaluations can be carried out as part of smaller projects where less resources are available and a lower level of evidence can be accepted for pragmatic reasons.

Effects of a local Driving Instructor project

Summary

Measurements indicate that warning of a possible tax audit, press coverage of audits, and contact with the local association of driving instructors prompted driving instructors whose tax returns had not been audited to declare higher turnover. The results thus support the assumption that visibility has an effect. There is also evidence that compliance increased among audited driving instructors in the years following the audits.

Audits of the tax returns of selected driving schools in the Danish town of Horsens were carried out from March 2007 to February 2008. The primary objective was to increase compliance with income tax and VAT requirements among driving schools in Horsens. A secondary objective was to gain an overview of the level of compliance of the sector as a whole.

The project departed from a traditional enforcement perspective, where compliance was to be increased through the mechanism of audits, but gradually evolved to include visibility and cooperation components. Audits were made of the accounts of 17 driving schools out of 77 in the area for the tax year 2005. These audits led to adjustments to income tax and VAT in 16 out of the 17 cases.¹ In addition to these audits, the treatment involved a press release on the purpose of the project in March 2007, arranging comprehensive press coverage of the results to date in November 2007, and making contacts with the local driving instructors' association. The discussions with the local driving instructors' association resulted in the participation of tax officials in a "theme day" for members in February 2008.

This analysis assesses the effects of the initiative both on the driving instructors who were audited and on those who were not. The effects might be expected to show as an increase in the declared turnover of the target group relative to the national average. Since factors other than compliance with tax legislation contribute to the declared turnover in the sector (for example, changes in the number of driving tests completed), it is difficult to isolate the effect of the

¹ The high percentage of adjustments was primarily due to the fact that the selection of schools for investigation was not made at random. The driving instructors were selected for income tax audits on the basis of their declared turnover in the tax year 2005 in relation to the number of theory examinations and practical driving tests completed. A low ratio in these figures was taken as a sign of a possible under-declaration of turnover. In addition, the 2005 accounts of a number of instructors were audited for VAT issues.

project if the analysis takes into account only changes in declared turnover. However, an analysis of the average turnover per driving test does take into account changes in the level of activity in the business². Such an analysis will show clearly whether the initiative has had an effect on both those instructors who were audited and those who were not.

In the case of the instructors who were audited, the effect was apparent in a very noticeable increase in the declared amount of turnover from the tax year 2005 to the tax year 2006. Since there appears to have been a change in the level of declared turnover since 2006, there are signs that the initiative has also had a long-term effect.

In the case of the instructors who were not audited, an effect was manifested in the form of an increase in the average declared turnover per driving test from the tax year 2006 to the tax year 2007 which was significantly greater than the national average. This indicates that the group in general has been influenced by the “theme day” and the press coverage of the results of the project.

Measurement of the effects of the Driving Instructor project in Horsens

In the following we examine the extent to which the treatment in Horsens can be said to have had an effect on audited and non-audited driving instructors. The effect which the project may have had on non-audited instructors is of special interest. The press coverage and the contact and collaboration with the local driving instructors’ association were important elements in the project. The collaboration took the form of a “theme day” for driving instructors in the Horsens area held in February 2008 at the initiative of the local association. The day was made up of sessions covering such topics as insurance, leasing, taxation and company accounts. The Tax Centre in Horsens sent two members of staff to the seminar; they provided information about topics such as the tax audit project, requirements for bookkeeping and accounts, company tax regulations regarding cars used for driving instruction, and VAT rules in the driving school sector.

When might the effects be expected?

The driving instructors whose tax affairs were audited for the tax year 2005 were required to pay a total of nearly DKK 1.6 million in increased income tax, VAT and payroll tax. These payments were naturally the direct result of the audits that were made, but the more general effect of the initiative would first be apparent if the people audited were to be more compliant with the regulations in subsequent years, or if the clear demonstration that it does not pay to cheat made others more compliant.

The effect on the group of driving instructors who were audited could therefore be expected to be evident primarily in the form of an increase in their declared turnover between the tax year 2005 and the tax year 2006. This would be because the driving instructors who had had upward adjustments to their income

² To get a driving licence in Denmark it is necessary to pass both a theory exam and a practical driving test. The practical driving test involves individual tuition, and learner drivers are only allowed to practice with a qualified instructor, with a minimum number of hours of on-road experience required in order to take the test. This means that there will be a direct link between turnover and number of tests conducted.

made for 2005 could be expected to declare more income themselves in 2006 in order to avoid further adjustments in connection with possible future audits of their income.

The effect on the group of instructors who were not audited could not be expected to manifest itself at exactly the same point in time. It could reasonably be assumed that these instructors would be influenced more by the public discussion of the project, which came after the audits themselves. In the light of the comprehensive press coverage of the project at the end of 2007 and the “theme day” in early 2008, the effect could be expected to be manifested in an increase in declared turnover between the level for the tax year 2006 and that for the tax year 2007, which would be declared during the first half of 2008. In addition, it could be expected that compliance in the non-audited group would already have been higher than in the group that was audited, since the group that was audited was made up of people who were suspected of evasion. This meant that, all else being equal, the effect on the non-audited group could be expected to be less in quantitative terms than the effect on the group of instructors who were audited.

Changes in turnover subject to VAT

Table 1 below shows the changes in turnover registered for VAT payment for the whole of Denmark,³ for the district of Horsens as a whole, for the audited instructors in Horsens and for the non-audited instructors in Horsens.

Table 1: Changes in turnover subject to VAT, expressed in 2000 values.

Turnover in driving schools, by year (DKK millions)				
	2004	2005	2006	2007
Whole of Denmark (excl. Horsens and	558.9	632.0	701.5	742.9
Percentage change, year on year		13.1	11.0	5.9
Horsens (all driving instructors)	30.4	35.2	37.1	39.9
Percentage change, year on year		16.0	5.4	7.6
Horsens (audited instructors)	4.7	4.9	6.4	6.6
Percentage change, year on year		4.6	31.1	2.0
Horsens (non-audited instructors)	25.7	30.2	30.7	33.4
Percentage change, year on year		17.8	1.5	8.7

Note: Turnover figures for Horsens and Struer districts have been excluded from the figures for the whole of Denmark in Table 1. This is because special treatments targeted at driving instructors were run in these two areas. The changes in turnover for the whole country are thus an indication of trends in those areas where no special initiatives were taken. The turnover figures for the driving instructors whose tax declarations were audited have been corrected for 2005 in Table 1 to take account of adjustments to turnover made after the audits. This has been done in order to neutralise the effects of the adjustments made by SKAT on the measurement. Turnover figures are expressed in 2000 prices, so that any changes from year to year are exclusive of the effects of inflation. The inflation index figures are taken from the consumer prices index. The index levels are 1.107 for 2004, 1.079 for 2005, 1.118 for 2006 and 1.142 for 2007.

Table 1 shows a very noticeable increase in the declared turnover for the audited driving instructors between the tax years 2005 and 2006, and another smaller increase between the tax years 2006 and 2007. This indicates that the turnover figures for this group are a manifestation of a real change in the declared level of

³ Excluding the districts of Horsens and Struer; see the notes to Table 1. Turnover figures are calculated on the basis of the companies’ declarations for VAT calculation.

turnover from the tax year 2006 and thereafter. Thus, the change in level is an indication that the treatment had a long-term effect on the audited driving instructors. It should, however, be noted that this conclusion is based on a very small number of audits.

In the case of the instructors whose declarations were not audited, there was a small increase in declared turnover between 2005 and 2006, followed by a large increase in 2007. However, even though the increase for this group between the years 2006 and 2007 was larger than the national average increase for Denmark, it was not much larger. On the basis of these figures alone, then, it is hard to say whether the treatment had an effect on the non-audited instructors.

The economic cycle affects the results

It is not only the level of compliance with tax declaration regulations among driving instructors that affects the amounts declared; for example, changes in the number of driving tests held from one year to another affect turnover and make it difficult to isolate the effects of a treatment. Consequently, in this section we make use of the relationship between changes in turnover and changes in the number of practical driving tests⁴ to produce an indicator that shows the changes in the average turnover per practical test.

Table 2 below shows the changes in the numbers of practical driving tests taken.⁵

Table 2. Changes in numbers of practical driving tests.

Numbers of practical driving tests, by year				
	2004	2005	2006	2007
Whole of Denmark (excl. H)	104,897	107,730	105,125	105,674
Percentage change, year on year		2.7	-2.4	0.5
Horsens (all driving schools)	5,771	6,011	5,994	5,371
Percentage change, year on year		4.2	-0.3	-10.4

Note: It has not been possible to exclude driving tests conducted in Struer from the figures. However, since only a little more than 2,000 driving tests are conducted in Struer annually, the national percentages are not greatly affected by the inclusion or exclusion of tests in Struer.

The use of turnover per driving test as a measure is not entirely unproblematic. Since police districts and tax administration districts are not exactly identical geographically, there is a large probability that the turnovers registered by driving instructors with a district tax authority are not precisely equivalent to the number of driving tests conducted in a police district of the same name. For example, the area administered by Horsens Tax Centre includes parts of

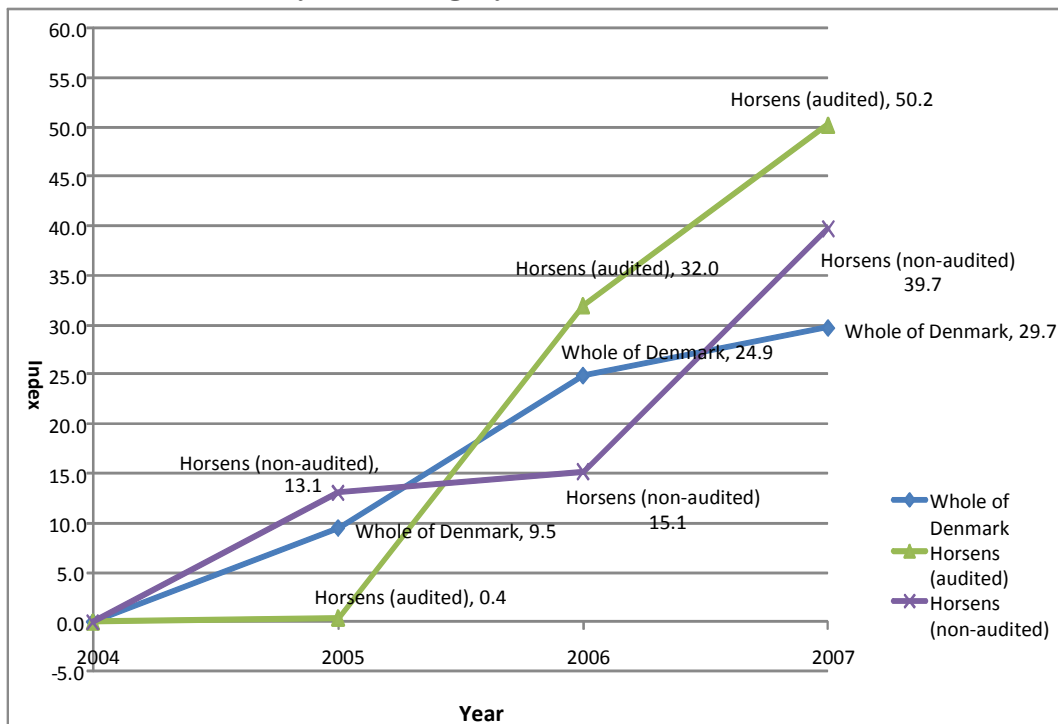
⁴ The driving test in Denmark comprises both a theory examination and a practical test. In the context of the analyses we decided to focus on the practical tests, since it is these which generate turnover (each practical test requires individual on-road instruction time, whereas students are not charged according to the number of theory classes they attend, but pay for a course, however many attempts they need at the test).

⁵ The comparison is based on Category B licences (for ordinary cars), since this is the predominant category of licence for which students enter. The turnover calculated on the basis of VAT declarations does not take into account turnover on which there is no VAT (lessons for licences for driving Heavy Goods Vehicles and buses). In order to keep the analysis clear and transparent, motorcycle licences have not been included.

Silkeborg, Skanderborg and Horsens police districts. Problems arise if a driving instructor registers his/her turnover with Horsens Tax Centre, but has practical driving tests in Silkeborg or Skanderborg police districts. However, in that it is to be expected that the distortions in the figures which arise as a result of this problem in calculating the precise turnover per driving test are more or less constant over time, it makes more sense to use the percentage change from year to year as the basis for interpretation. Consequently, the analysis is based on an index of the increases per year in turnover per driving test.

Figure 1 below shows the change in the average turnover per practical driving test, indexed using the year 2004 as the base year (i.e. with the effects of inflation removed). The figure thus shows the percentage increase relative to 2004 for each of the subsequent years.

Figure 1. Changes in average driving school turnover per driving test for a licence for an ordinary car (Category B licence).



Note: Turnover and numbers of practical driving tests for Horsens are excluded from the figures for the whole country presented in Figure 1. Ideally the same should have been done for Struer, since a comparable treatment was conducted there; however, since relatively few driving tests are conducted in Struer, this is not seen as being a problem in the analysis, however. The turnover figures in Figure 1 have been corrected for inflation, and the incomes of the audited driving instructors for the tax year 2005 have been corrected to take account of the adjustments made in the light of audits.

The effect of the audits

Figure 1 shows much the same trends as the turnover figures in Table 1. For the driving instructors who were audited, the average turnover per practical driving test remained unchanged from 2004 to 2005, while the turnover measured on a national basis increased by 9.5 index points. From 2005 to 2006 the average turnover for instructors who had been audited rose from an index level of 0.4 to a

level of 32, which was a very great increase in comparison with the national rise from an index value of 9.5 to 24.9.

The dramatic increase in the average turnover of the driving instructors whose declarations had been audited suggests that the project had a very significant effect. The rise in the index value from 32 (2006) to 50.2 (2007) was also greater than the national average. This rise in the index value was primarily due to the fact that Horsens saw a small increase in total turnover combined with a fall in the number of driving tests, while on a national basis Denmark experienced a small increase in both turnover and the number of tests. In total, the declared average turnover per driving test for the audited driving instructors increased by 50.2% from 2004 to 2007, while the national average increase was 29.7%.

The effect of visibility

For the group of non-audited driving instructors, there was a steep increase in the average turnover per driving test from 2006 to 2007, from an index level of 15.1 to 39.7, as against a national average increase from 24.9 to 29.7. This increase was in line with expectations that the non-audited instructors would be primarily influenced by the “theme day” and the press coverage of the project results. Thus, there was an indication that the treatment also had an effect on the non-audited driving instructors.

Correction for changes in the driving test procedure

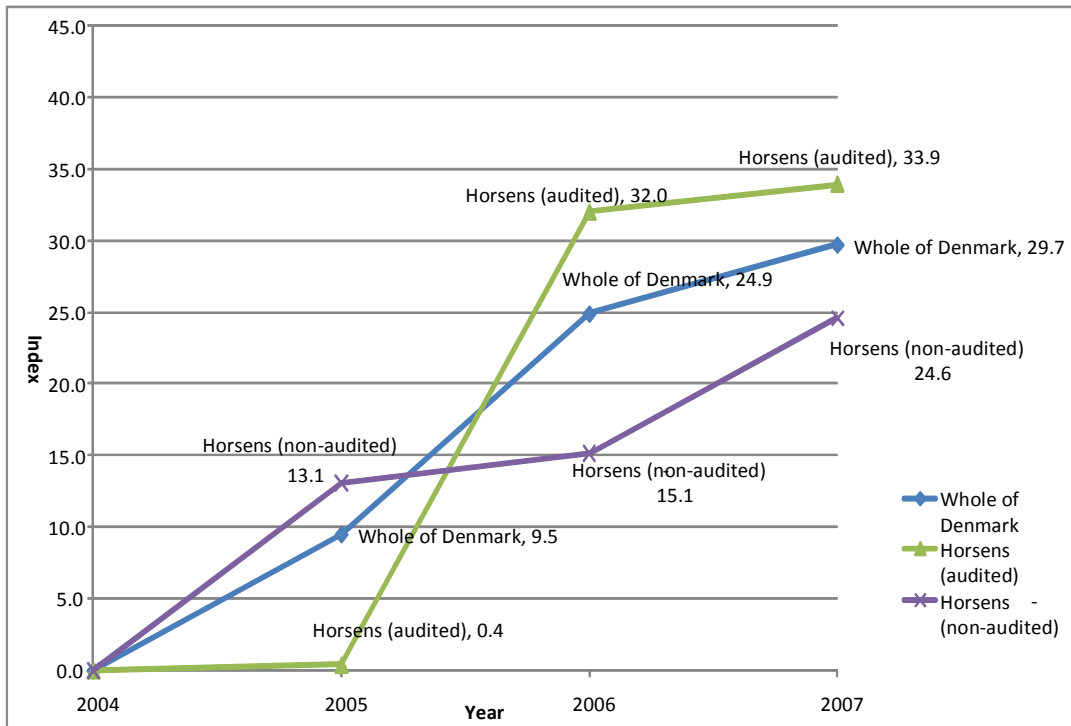
As Table 2 shows, the number of practical driving tests taken in Denmark as a whole has remained fairly constant, but there was a noticeable drop in the number taken in Horsens in 2007. This was probably because there were problems in Horsens during the spring of 2007 connected with a revision of the driving test procedure.⁶

The large increase in the average turnover per test between the tax years 2006 and 2007 for the non-audited instructors was due to the fact that they had experienced a moderate increase in overall turnover combined with a substantial dip in the number of driving tests. This fall in the number of tests cannot readily be explained other than by the problems connected with the change in procedure for driving tests mentioned above.

In order to remove the possible effects of this reform of the test registration procedure from the analysis, the number of tests in Horsens has been recalculated on the hypothetical assumption that the number of tests increased at the same rate as the national average. Instead of a fall in the number of driving tests in Horsens of around 10% in 2007 compared with 2006, we have calculated on the basis of an increase of 0.5%. This procedure assumes that there were no demographic changes in Horsens that were substantially different from those in the rest of Denmark, and that there were no specific economic factors related to the Horsens area which might have affected the number of tests. The results of the reanalysis for the average turnover per test are shown in Figure 2 below.

⁶ This was in connection with the introduction of a digital system for the enrolment of students for the theory examinations and practical tests in the Municipality of Horsens.

Figure 2. Changes in average driving school turnover per driving test for a licence for an ordinary car (Category B licence), where Horsens is assumed to follow national trends in the number of tests conducted from 2006 to 2007.



Note: Turnover and numbers of practical driving tests for Horsens are excluded from the figures for the whole country presented in Figure 2. Ideally the same should have been done for Struer, since a comparable treatment was conducted there; however, since relatively few driving tests are conducted in Struer, this is not seen as being a problem in the analysis, however. The turnover figures in Figure 2 have been corrected for inflation, and the incomes of the audited driving instructors for the tax year 2005 have been corrected to take account of the adjustments made in the light of audits. The number of practical driving tests carried out in Horsens in 2007 has been increased to match the national average trend.

Figure 2 shows only a very small increase in the turnover per test index for audited driving instructors from 2006 to 2007. This suggests that the project had its full effect on this group for declarations for the tax year 2006, and that their declared turnover for subsequent years largely reflected their actual turnover. The shift in the level of turnover suggests that the treatment has had a long-term effect.

For the non-audited group of instructors, the increase in the level of the index in Figure 2 from 2006 to 2007 is half as great as in Figure 1. Nevertheless, the increase in declared turnover for this group is still much greater than the national average, thus still clearly indicating that the members of this group were influenced by the treatment. The effect calculated under the assumptions made in Figure 2 is, however, rather smaller than if the actual figures for driving tests are used.

Conclusion

There are clear indications that the initiative in Horsens had an effect on both audited and non-audited driving instructors.

The audits generated a net increase of nearly DKK 1.6 million in income tax, VAT and payroll taxes. There are also good indications that the driving instructors whose declarations were audited were more compliant in the years immediately following the audit. In terms of tax revenue, this may be more significant than the value of the adjustments made for one tax year only.

There are indications that increased visibility for SKAT in the form of contacts with the driving instructors' association and press coverage of the audits had an effect on the instructors who were not audited, manifested in an increase in the average declared turnover for VAT. No calculations have been made in the analysis concerning the level of under-declaration among driving instructors, and consequently nothing can be said about the effectiveness of the project in terms of the proportion of the tax gap in this area eliminated by the initiative. It must also be recalled that the initiative was primarily directed against suspected under-declarers, and that the improved contact with the local association was, in effect, a bonus that came out of this. Measurement of the effects of the contact with the association of itself is thus uncertain, since the method of measurement of the effects of the project was not designed with this in mind.

If we assume, however, that the effect on the non-audited instructors of which there is an indication could be achieved across the whole of Denmark in the wake of a similar nationwide initiative, then an estimate can be made of the potential revenue increase from such an exercise.

Let us apply the rate of growth as recorded in the turnover of the non-audited driving instructors in Horsens from 2006 to 2007 to the declared turnover of all driving schools in Denmark for 2006.⁷ This calculation would give a turnover for the whole country expressed in present-day values of DKK 870.8 million for the tax year 2007, whereas the actual declared turnover for 2007 in present-day values was DKK 848.4 million.⁸ The potential increase in declared turnover for VAT might thus be expected to be $\text{DKK } 870.8 - 848.4 = \text{DKK } 22.4$ million per tax year. The possible gain through better compliance in comparison with the cost of the resources used on increased visibility is thus very great.

If this could be achieved simply by participating in a few meetings among local associations for driving instructors across the country, it would undoubtedly represent a very advantageous return on investment. Whether other types of initiative could be equally advantageous is not clear from this analysis.

⁷ It is assumed here that the amount by which the turnover of non-audited instructors in Horsens increased by more than the national average can be ascribed entirely to the effect of the SKAT campaign.

⁸ The DKK 870.8 million in present-day values is equivalent to DKK 762.5 million expressed in 2000 values, and the DKK 848.4 million in present-day values is equivalent to DKK 742.9 million in 2000 values.