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Use of administrative data in the production of business statistics
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Business Register: the Dutch experience

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I. SUMMARY

1. Statistics Netherlands is working on a redesign programme of the chain of economic statistics. The programme aims to increase the output quality, reduce the administrative burden and reduce staff costs. One of the means to contribute to these goals is to use the data from administrative sources as much as possible.
2. However, not all available administrative data can be used yet, partly caused by the current delineation of the Enterprise Group which is too narrow. At the moment Statistics Netherlands uses only the information on single shareholders (available from the trade register kept by the Chambers of Commerce) and additional information from profiling for the delineation of the larger Enterprise Groups.
3. In order to use the administrative information in an exhaustive and still methodological correct way Statistics Netherlands will use extra information to have a better delineation of the Enterprise Groups in the near future. One of the major additions is the use of tax information. The paper describes the new algorithm to delineate the Enterprise Groups, illustrated by an example. The advantages and disadvantages of this algorithm and the simulation results are also mentioned.

II. THE CHALLENGE

4. Statistics Netherlands is working on a redesign programme of the chain of economic statistics. The programme aims to increase the output quality, reduce the administrative burden and reduce staff costs. One of the means to contribute to these goals is to use the data from administrative sources as much as possible [Ariel et al, 2009]. Then questionnaires are only used for the larger units and when administrative data are not available.
5. Unfortunately, not all available administrative data can be used at the moment, partly caused by the current delineation of the Enterprise Group which is too narrow.
6. At the moment Statistics Netherlands uses only the information on single shareholders (100 per cent ownership relations have to be registered in the trade register kept by the Chambers of Commerce) and additional information from profiling for the larger Enterprise Groups (from 50 to 100 per cent control). This means that for the small- and medium sized Enterprise Groups, where no profiling takes place, all shareholder information unequal to 100 per cent is missing and hence control relations are missing. Due to this gap not all administrative data, for example value added tax (VAT) information, can be linked uniquely to the Enterprise Groups at the moment. This is a loss of useful information.
7. The tax law allows group registration for the corporate tax for units having at least 95 per cent of both economic and juridical ownership of a subsidiary.
8. The tax law also allows group registration for the VAT for units having more than 50 per

cent of financial, organizational and economical combined activities.

9. The legal units making use of group registration (for the corporate tax and for the VAT) should be within one single Enterprise Group conform the definition of the Enterprise Group, which demands more than 50 per cent control.

10. In practice it is possible to meet the tax criteria but not to have a group registration at the tax office. Therefore it is possible to have more than one group registration for the corporate tax and VAT within one Enterprise Group.

11. Not using the tax group registration information as a source for our Business Register leads to situations that not all administrative data can be used for all Enterprise Groups: at the moment only 85 per cent of the total employment on VAT units can be linked uniquely to the Enterprise Groups and 84 per cent of the total employment on corporate tax units can be linked uniquely to the Enterprise Groups. This corresponds to 74 per cent in VAT turnover and 84 per cent in corporate tax turnover that can be linked uniquely to Enterprise Groups.

12. Before deciding whether the tax group registration information could be used, its stability in time has been examined. During a 22-month period
    (a) 93 per cent of all tax units belonged to a group registration which did not change its composition of legal units;
    (b) 5 per cent of all tax units belonged to a group registration which did change its composition of legal units once;
    (c) 2 per cent of all tax units belonged to a group registration which did change its composition of legal units more than once.

13. With these low percentages (5 and 2 respectively), it can be said that tax group registration is quite stable. These percentages apply both for VAT and corporate tax.

14. In order to use the administrative information in an exhaustive and still methodological correct way Statistics Netherlands is going to use the tax group registration information to have a better delineation of the Enterprise Groups in the near future. This challenge has been studied recently, is approved by the redesign programme board and will be in production at the end of 2009.

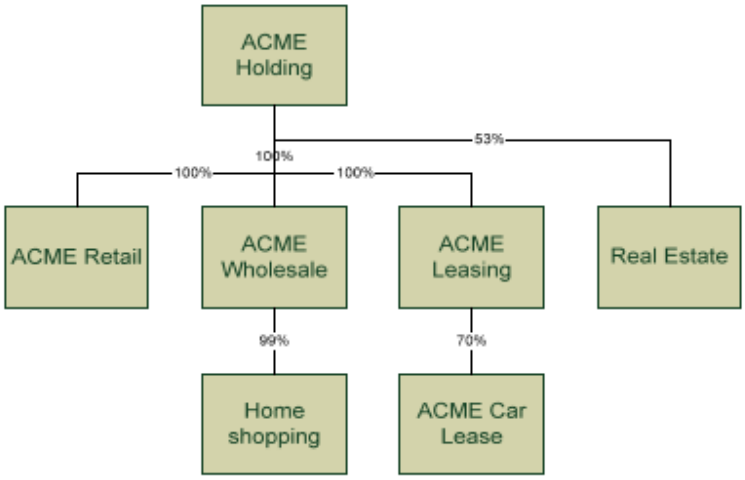
15. Besides the trade register and the tax register, also the results from profiling are used for the delineation of the Enterprise Groups. For profiling also some new and promising sources have been found, resulting in the following sources that are or will be used:

    (a) The Eurogroups Register;
    (b) The Authority for the Financial Markets (for companies that are quoted on the Stock Exchange);
    (c) The annual reports;
    (d) Contacts by phone, e-mail or visits;
    (e) Colleagues from the statistical departments;
    (f) The media.

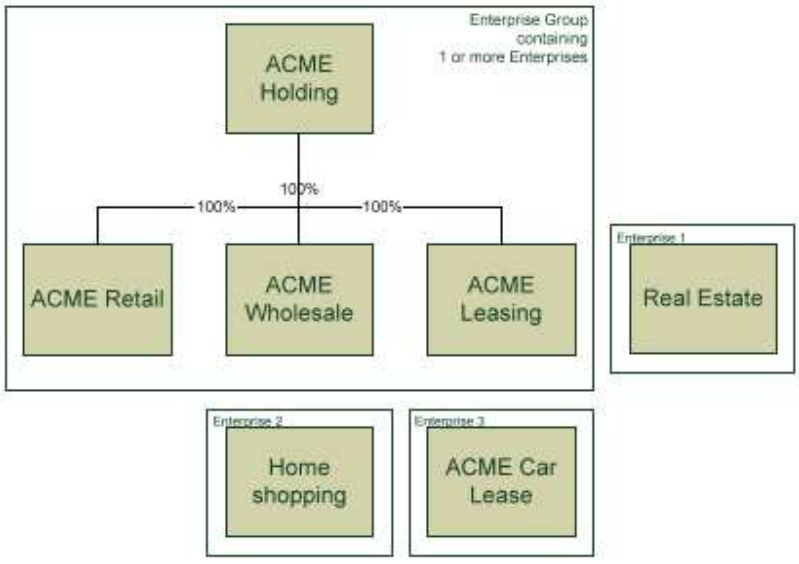
16. Except for the first two, these sources can not be processed automatically. This paper will not discuss these sources further and concentrates on the use of tax information.

III. THE NEW ENTERPRISE GROUP DELINEATION

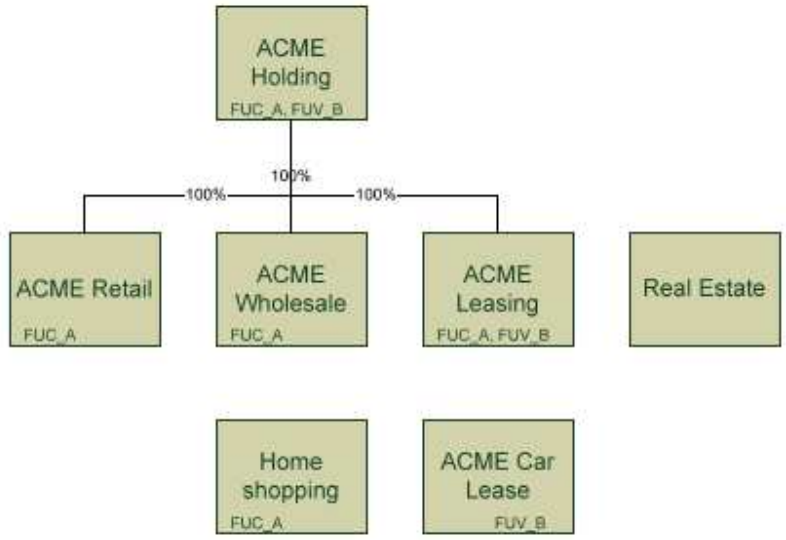
17. The problem we faced and the solution for this [Beuken, 2009] can be shown by the following example. Suppose that the real situation of an Enterprise Group called “ACME” has the following structure of the cluster of control:



18. Statistics Netherlands receives all Legal Units, but receives only the 100 per cent ownership relationships that have to be registered in the trade register. When no profiling is done, the automatic situation in the Business Register would be:



19. In the new delineation the Enterprise Group is supplemented with Legal Units which belong to the same tax group registration (fiscal unit). The extra information we are going to use, is displayed in the following figure:



FUC = Fiscal unit for the corporate tax
FUV = Fiscal unit for the value added tax

20. At the moment both the VAT information and the corporate tax information received on the fiscal units A and B can not be linked uniquely to one Enterprise Group and without applying a splitting algorithm, the VAT and turnover information is not usable.

21. The new algorithm searches for fiscal units and creates control links. In the simulation, the most optimal way to achieve this was to search for the current group heads of all clusters of control that have Legal Units belonging to the same fiscal unit.

22. In our example there are two fiscal units:

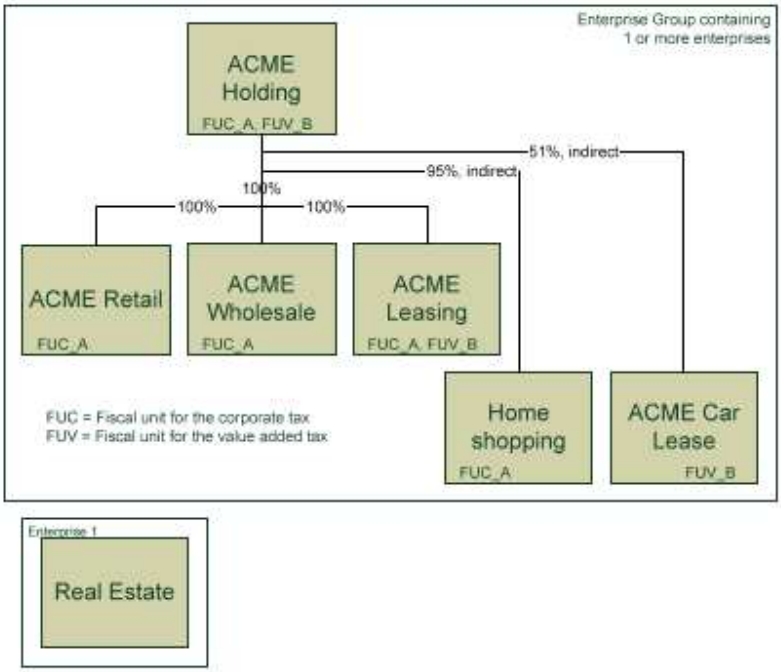
    (a) Fiscal Unit A for the Corporate tax (FUC_A) consists of “ACME Holding”, “ACME Retail”, ACME Wholesale”, ACME Leasing” and “Home shopping”;
    (b) FUC_A consists of two clusters of control and the current group heads are: “ACME Holding” and “Home Shopping”. A control link is added between these two legal units;
    (c) Fiscal Unit B for the Value added tax (FUV_B) consists of “ACME Holding”, “ACME Leasing” and “ACME Car Lease”.

23. FUV_B consists of two clusters of control and the current group heads are: “ACME Holding” and “ACME Car Lease”. A control link is added between these two legal units.

24. Note that the real owner-subsidiary relations can not be deduced from this tax information. To try to make the best guess which legal unit should be the owner and which legal unit should be the subsidiary, an easy algorithm is used which has NACE code, legal form and name as its input:

    (a) Legal units with NACE 6420 (financial holdings) and 7010 (non-financial holdings) get preference above other NACE codes to become the owner;
    (b) Legal units with Legal form in government get preference above other Legal forms to become the owner;
    (c) Legal units which are trust offices (according to the name or NACE) with legal form foundation must be the owner.

25. The algorithm contains more than this, but will not be discussed here further. The final situation for the new delineated Enterprise Group is then:



26. Note that we gave the new control relations a special type ("indirect") and that we displayed the minimum percentages required (95 per cent and 51 per cent) for the new links. This can be seen as a quality label.

27. The Enterprise group has been supplemented with two Legal Units and is a better representation of the Enterprise Group. Now tax information can be linked uniquely to one Enterprise Group (and possibly also to one Enterprise). This improvement facilitates developments to fewer questionnaires.

28. Note that this algorithm does not always fully complete the Enterprise Group (in the example the legal unit "Real Estate" is still outside the Enterprise Group to which it belongs). Also the owner-subsidiary relations are a best guess (see also the previous page). Therefore the exact position of the legal units in the cluster of control can differ from reality.

IV. CONCLUSIONS

29. The new delineation has many advantages, but also some disadvantages. The disadvantages are:

    (a) Sometimes the Enterprise Group has an incorrect structure because of the indirect links reated (see the example). The position of the legal units in the cluster of control may be incorrect;
    (b) Sometimes the Enterprise Group is too large or incorrect. Some examples: the events where legal units were sold to a different Enterprise Group or split-offs that have not been registered yet in the tax register. Adding a control link would cause a wrong "merger" or 'take-over" event. This problem is reduced by introducing a time-lag construction in the algorithm, since we do not want maximum unique linkage at every cost;

(c) An Enterprise Group may contain relationships via abroad. Conform our tax regulation it is possible to form a corporate tax unit with a "sister company" if they have the same foreign controlling unit. In this case the new delineated Enterprise Group is too large, if Eurostat would decide to use the many Truncated Enterprise Group (TEG) model.

(d) The new delineation causes once-only fictitious events resulting in extra dynamics in the population. We expect about 650 mergers and 10,500 take-overs on Enterprise Group level. Fortunately the disadvantages count for little compared to the advantages.

30. The new delineation of the Enterprise Group has three main advantages:

(a) It creates better and more complete Enterprise Groups. The current delineation uses only the single shareholders information. Using the tax information also a lot of shareholders of a majority, not being 100 percent but having a fiscal group registration, are taken into account. This leads to more complete Enterprise Group structures. In the current situation the register holds 278,000 single shareholders and 10.000 ownership/control relations from profiling. With the new delineation 14,000 control relations based on VAT and 12,500 control relations based on corporate tax are added. Combining these sets of control relations result in a total of 22,000 distinct control relations or additional ownership information on top op the current 288,000 relations.

(b) The problem of payrolling is solved partially. The information on payroll constructions that is known at the tax office is a good new source for the Business Register. The information on payroll constructions enables to link a substantial amount of the payroll companies to the correct Enterprise Group.

(c) The new Enterprise Groups facilitate optimal use of tax data. Using the tax information in creating the Enterprise Groups also optimizes the possibilities to use the tax information on those units. The problem of linking is reduced in an extensive way (see the results below).

V. THE SIMULATION RESULTS

31. A simulation was done as part of the proof of concept to study the population and coverage effects [Aelen et al, 2008].

32. The next table shows the results of the new delineation in unique linking of both VAT and corporate tax data.

Table 1: Unique link results

	Percentage employment registered on VAT, uniquely linked	Percentage employment registered on corporate tax, uniquely linked	Percentage turnover registered on VAT, uniquely linked	Percentage turnover registered on corporate tax, uniquely linked
Current EG	85%	84%	74%	84%
New EG	98%	98%	87%	97%

33. The table shows that 97 per cent of the total turnover received from the tax authority via the corporate tax can be linked uniquely to new delineated Enterprise Groups, where this is 84% at the moment.

34. Still 13 per cent of the turnover registered on VAT units can not be related directly to one unique Enterprise Group; this is mainly caused by foreign units that do not have an establishment in the Netherlands, but do pay taxes in the Netherlands. Fortunately in most cases this turnover is not included in the STS/SBS domain and in the National Accounts [Verbiest, 2008]. Other causes are related to a few VAT declarations with very high turnovers that have to be handled manually according to our process guidelines.

35. In practice this means that the administrative data from the tax office have a good unique linking due to the new Enterprise Group delineation, as illustrated above.

36. The results are that promising that the new delineation is approved by the redesign programme board and will be in production at the end of 2009.

VI. REFERENCES

1. Aelen, F.W.L.et al (2008), HecS+ Eenhedenproblematiek Eindrapportage {in Dutch only}
2. Verbiest, P. (2008). Revisie van de buitenlandse handel in de Nationale Rekeningen. {in Dutch only}
3. Beuken, I.J. (2009), Eenhedenbase (EHB) - Aanpassingen in ABR {in Dutch only}
4. Ariel, A. et al (2009), Linking multiple sources to produce economic statistics at Statistics Netherlands.