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SUMMARY RESULTS OF THE QUESTIONNAIRE ON EMPLOYMENT QUALIFICATIONS WITHIN BUSINESS SERVICES

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0. Background

In the Western economies, the unemployment problem has recently become one of the permanent issues for discussion. During the ongoing period, the low economic growth together with the adoption of new technologies and innovations have reduced the overall need for labour. For policy decisions, it is increasingly important to recognise the potential growth sectors of the future. The services, including business services, are expected to absorb a growing proportion of the labour force. Consequently, the need for information on employment qualifications will increase. The focus of this paper is on the labour intensive professional business services embodying a particularly high stock of human capital.

At the last Voorburg Group Meeting in Oslo, the statistics on employment qualifications within the service sector as well as the possibilities of charting the availability of these statistics in the Group's member countries were discussed. As a result, Statistics Finland, in co-operation with Statistics Denmark and Statistics Sweden sent a questionnaire in March 1994 to the member countries in order to chart the current situation and to evaluate the future possibilities and ways to upgrade these statistics and their international comparability.

The questionnaire consisted of two different parts and it was made as flexible as possible. The first part was a kind of feasibility study with a set of questions about the availability of some basic employment and economic data on business services. The second part was more like a normal statistical questionnaire examining e.g. the breakdown of employment figures by education and sex and also containing a table on basic economic data. The questionnaire form is presented in Annex I.

A total of 16 Voorburg Group member countries received the questionnaire and they all replied. This might indicate that there is great interest in questions of employment qualifications and in developing these types of statistics among the respondent countries.

This report will summarise the survey results. Analogously with the questionnaire, the data availability and consistency in respect of making country comparisons are first evaluated in Chapters 1 and 2. The third Chapter describes some employment statistics of business services on aggregated level. In addition to the data provided by the respondent countries, the data of the OECD Labour Force Statistics 1970-1990 are also utilised as sources. Chapter 4 deals with the main results of the questionnaire on a more detailed level and for selected activities. Chapter 5

is based on the economic data submitted by the respondent countries. Concluding remarks and points for discussion are presented in Chapter 6.

1. The Comparability of the Data

1.1 Statistical Units and the Universe

The data of employment statistics, and especially statistics on employment qualifications, are usually collected from individual persons, not from the businesses which employ them. The economic data, by contrast, come from the businesses.

According to the respondents, the activity code for employed persons is usually determined with the help of the activity code of the employer at the local unit or establishment level. Most of the economic data on services are usually produced at enterprise / company / business level. For some countries, like the United States and Japan, establishment units are also used in the economic data collection. When different source of activity codings are used for persons and enterprises, the data do not necessarily have internal consistency.

The problem of activity coding of persons and the different statistical units might be greater in the statistics on manufacturing industries due to the greater multiplicity of the activities within each single manufacturing enterprise. In the services sector, by contrast, micro-enterprises with only one single establishment are more common. Thus the probability that a person really has the same activity code as his or her employer is greater in the services sector statistics.

One reason for disturbed international comparability is the large, widely recognised proportion of self-employed persons in the field of business services. The level of statistical coverage of self employed persons varies from country to country. In order to get a complete description of the business services sector and the employment qualifications within it, the statistics should also cover the data on self employed persons.

1.2 Definitions and Classifications

Concerning activity classifications, there are still big differences between the countries. The national activity classifications based mainly on the ISIC Rev.2 are common in several respondent countries. However, the gradual adoption of the ISIC, Rev.3 and the NACE, Rev.1 is likely to improve the future potential for making international country comparisons.

In the questionnaire, we mainly used the ISIC, Rev. 3 as a reference classification, which might have caused the respondents problems at this early stage of the adoption of the new revisions. However, several activities in the new versions have a good match with the older classifications. Further details of the activity classifications used by the respondents are presented in Annex IIC.

For the employment size classification of enterprises or establishments, there seem to be greater differences. Micro-enterprises are often split up into the groups "below 5" and "5-9 persons" employed. These are usually followed by the classes 10-19, 20-49, 50-99 persons. Some countries, like Japan, the United Kingdom and Mexico, apply a somewhat different classification. Not surprisingly, the stratification of the large enterprises seems to vary according to the size of the economy. In the published data of Finland and Sweden, the employment size classes 5-9 and 10-19 are integrated. It is, however, possible to produce statistics with any size classifications with the help of the data in the Business Registers.

The age of persons was in most countries classified with an equal 5-year interval. Several respondents stated they could form personnel age groups in any way required. The greatest variations between national age classifications seem to concern the first age group (with the lower limit varying between 15 and 16 years) and also the stratification of very old persons. These differences do not, however, seriously disturb the international comparability of the figures because the analysis of age structure concentrates on the economically active population.

The employment data by level of education appeared to be heterogenous and not comparable as such. There seem to be great variations in the national educational classifications due to the different education systems in the countries. The given references to the international ISCED classification did not help very much. Converting the national educational classifications to the ISCED with tolerable accuracy would probably need a considerable workload and thus remains beyond the scope of this survey[1].

According to the questionnaire, data on employment by occupation were slightly more often available than those by level of education. The respondent countries usually follow their own national classifications, which might in some way be linked to the ISCO. However, in the survey no data on occupational structure were sought. In order to evaluate the comparability of the occupational data, more study is required.

Going further into the character of employment in services, it should be possible to distinguish between full-time and part-time workers. The availability of full-time equivalency would facilitate the comparable calculation of e.g. wages and salaries per person across the countries. In this survey, however, we did not ask for further details on this.

1.3 Reference Year

The reference year of the data provided varied quite a lot between the respondent countries. The most recent data available on economic indicators usually refer to 1992. The employment data, when derived from labour force surveys, were available for 1993. The least updated data referred to 1987 (for further information see Annex II).

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[1] OECD Employment Outlook of July 1989, chapter 2, presents a classification scheme to facilitate international comparisons of educational attainment.

The comparability problems that arise from the differences in the reference years are considerable. Economic data are vulnerable to annual changes. When the absolute figures are to be studied, the reference years should obviously have a minimal variation.

Usually the structural changes (e.g breakdown of employment by sex, age or education or the proportion of wages and salaries in turnover) behave more rigidly. Accordingly, it is easier to make international comparisons of the structural similarities or differences than of levels or absolute figures.

1.4 Sources

The labour force surveys (LFS) and population censuses are the most common sources of employment data. The problem that arises with sample based labour force surveys is the accuracy of the data, particularly if the data are to be exhausted at the four-digit level of the ISIC or NACE. The advantages of the LFS data are that these statistics are compiled regularly on a monthly or quarterly basis and the data are available rather rapidly. Population censuses generally have good coverage of the universe and can be exhausted at a very detailed activity level, but they are usually compiled only at 5 or 10 year intervals.

Economic data on services are usually collected with the separate business surveys, often on an annual basis. However, the coverage by activities, the methods of sampling and stratification vary between the countries. The surveys generally have a good coverage of economic variables but they include only a few variables on employment. The most common employment variables in business surveys are the number of persons employed, sometimes including a breakdown by sex, and the number of full-time/part-time workers.

2. Evaluation of the Potential for Data Analysis

2.1 General Remarks

As regards data availability and comparability, the results of the questionnaire show that the stratification of employment by sex or age does not cause such big problems as the stratification of employment by level of education or occupation.

The breakdown of employment by sex seems to be most commonly available and some comparisons between countries can be made. Almost the same is true of the age structure of personnel. However, the different age classifications disturb the country comparison to some extent.

The data submitted by the respondents allowed country comparisons of the employment qualifications and economic data only to a limited extent. The economic variables of turnover and wages and salaries appeared to be the most commonly available. Several countries also submitted data on value

added. The country comparisons of these economic data are presented in Annex VI.

From the analysis point of view, the internal consistency of the variables is important. This means that the variables should refer to the same statistical universe and the statistical units from which the data are gathered should be the same, i.e. enterprises or establishments. Generally this means that the variables are derived from the same source. Only then can ratios be calculated and compared as wages and salaries related to turnover. Such accuracy seems to be obtainable for the majority of the countries.

In the questionnaire, items such as educational costs and intangible investments (mainly R&D) were chosen for the variables going deeper into the investment behaviour and maintenance of a business services sector. Even though these variables could provide very interesting and valuable information on professional business services activities, none of the respondent countries collected information on them. However, Sweden has collected data on educational costs. It seems to be justified to conclude that any attempts at measuring intangible investments or educational costs for maintaining the stock of human capital would be welcome.

2.2 The Potential for Integrating the Employment and Economic Data

In tables 3a-c and 4a-c of questionnaire, the respondents were requested to crosstabulate the employment data broken down by level of education, sex and age and by the employment size class of the employer in some business services. We received very few complete answers due to the fact that most of the employment data provided by respondents had a labour force survey or population census as their source. And it might not be possible to combine these employment data with the data of enterprise statistics without having links between the person registers and business registers.

If our target is to study the individual persons employed from the enterprise's point of view, a system where the variables on individuals can be linked together with the economic performance of the operators (as enterprises or establishments) has to be developed. Necessarily, this brings our approach to micro level.

If covering registers on businesses and individuals exist and they can be integrated using an organization identification number or the like, we are left only with technical problems and a data set of the utmost interest. The variables could be classified according to the enterprise demography data, e.g employment size classes, and the differences in the quality of individuals could be studied. The Nordic countries seem to have particularly good opportunities to carry out this kind of exercise with the help of covering Business Registers and enterprise sample surveys together with the registers on individuals.

According to our survey, Statistics Norway reported plans to study integrated data on businesses (sample survey) and individuals on a register

basis. At Statistics Finland, several independent projects are planned dealing with the same idea. Statistics Sweden and Statistics Denmark also reported that they have the potential for this kind of study, even though no plans exist at present. In addition, Statistics Canada is planning to undertake a special analysis of the 1991 population census data to analyse the industrial and occupational detail in relation to the annual industrial surveys.

3. Employment Data on Business Services[2]

3.1 The Development of Employment in Selected OECD countries

The following brief analysis on the development of employment in business services is based on the "OECD Labour Force Statistics 1970-1990" and on the questionnaire made to the Voorburg Group member countries.

In 1990, business services on average accounted for 9.4 per cent of civilian employment[3] in selected OECD countries (see Annex III). In 1990, Canada, USA and Australia were the top three countries as regards the importance of these activities. In all these countries, business services recorded an employment share of more than 11 per cent. Among the large economies, both in Japan and Germany, these services accounted for around 8 per cent of the civilian employment, which was below the average for the countries studied.

Apart from Denmark, business services contributed less to employment than the average in the Nordic countries, from 7.5 per cent in Norway to 8.6 per cent in Sweden. The lowest share among the countries studied was in Austria, 6.5 per cent of the total employment.

Table 1: The percentage share of business services compared with total civilian employment in selected OECD countries in 1990

Austria	6.5	New Zealand	9.8
Norway	7.5	France	10.0
Germany	7.9	Netherlands	10.3
Finland	8.3	United Kingdom*	10.4
Japan	8.3	USA	11.3
Sweden	8.6	Australia	11.6
Denmark	9.4	Canada	11.6

*The data for the United Kingdom refer to 1987

Source: OECD Labour Force Statistics 1970-1990

2 In this Chapter, business services refer to division 8 of the ISIC, Rev.2., consisting of the following activities: Financing, Insurance, Real Estate and Business Services.

3 Civilian employment consists of wage-earners and salaried employees, employers and persons working on their own account and unpaid family workers.

There are some reservations as regards the OECD time series data 1970-1990. Between 1970 and 1990, changes took place in the computation methods in the majority of the countries, affecting the comparability. It should also be noted that the annual average growth rates of a number of the countries do not cover the whole period 1970-1990 (see Annex III).

According to the OECD Labour Force Statistics 1970-1990, the average annual growth rate for business services employment has been well above that of the whole economy in all the countries studied. Both Canada and Finland appear to have experienced a period of particularly rapid growth during the 1970s and 1980s. In several countries, such as Australia, United Kingdom, Denmark, Japan, the USA and Norway, business services have expanded at an average annual rate of 4.4%-4.8%.

In 1970, less than 5 per cent of persons in Canada were employed by business services. By 1990, with the highest annual average growth (7.0%), Canada has risen to the top place among the countries studied. Canada has also recorded the highest average annual growth rate of total employment. Compared with Canada, the United States has at the same time experienced a clearly lower average growth rate of business services employment. Presumably, the growth of business services in the United States started earlier than in the other countries, well before 1970.

According to these statistics, all the OECD countries studied evidently went through a period of rapid expansion of business services employment during the 1970s and the 1980s. The annual average growth rates of total employment remained far behind that of these services. The data for 1990 show that the three leading countries with respect to the employment share of business services are Canada, Australia and the United States, followed by the United Kingdom, the Netherlands and France. Table 1 also shows, that the range between the countries was rather large still in 1990.

3.2 Educational Attainment

In the questionnaire to the Voorburg Group members, we asked for data on employment by level of education at the 2-digit level of the ISIC Rev. 2 in order to make comparisons between separate economic sectors. Not surprisingly, the data delivered appeared to be rather heterogenous, as regards both the national education classifications and the conversion to the equivalent classes of the ISCED. The data sources and reference years also varied across the countries so that it was not possible to make any direct comparisons.

Consequently, we used the following method: For each responding country, the activities (9 major divisions of the ISIC Rev.2) are rated according to the percentage share of persons having an "upper tertiary or higher education". The activity having the highest percentage was rated 1, the second best 2, etc. The group "upper tertiary or higher education" corresponds approximately to ISCED classes 6 and 7. By using this method we can only state which activities generally have the highest record for high educational attainment within a country. Even though this rating

method with ordinal scaling is not adequate and has to be interpreted with reservations, some similarities across the countries can be found.

Table 2: The rating of business services according to the percentage of persons with a high education

Australia	1	(2)	Norway	3
Czech Republic	1		Sweden	2
Mexico	1		UK	1
Netherlands	1		Denmark	2
New Zealand	1	(2)	Finland	2

Source: Voorburg Group Survey on Business Services 1994

Even though business services here include services like real estate with probably not very high educational demands, in most of the countries these services received the highest rating. In all the Nordic countries where public services have traditionally had great importance, the rating for business services by high educational attainment was lower than that of ISIC class 9, community, social and personal services. In addition, for Norway the second best rating was calculated for "oil, extraction, mining and quarrying".

In Australia and New Zealand, the high educational attainment of business services and of community, social and personal services was of equal importance. In the other countries, the general pattern was that community, social and personal services were rated second, closely following business services.

These figures show that business services are characterised by a high level of educational attainment compared with other economic sectors. Community, social and personal services also tend to employ people with a relatively high education.

4. Employment Data by Selected Activities

Regarding the following analysis of the structure of business services employment, it should be pointed out once again that the comparability of data between countries is not optimal. Sex, age and educational stuctures are studied by the activities which were considered to be the most homogenous and easily identified: Computer and related activities, Legal activities, Accounting, book-keeping and auditing activities and Architectural and engineering activities. Summary statistical data of the responses are presented in Annex VII.

4.1 Employment by Sex

The following comparison of employment by sex includes data on a total of 11 countries. The country comparison figures are presented in Annex IV.

As background information, table 3 shows the shares of females of total civilian employment in 1990 according to the OECD Labour Force Statistics. It is clear that in each country, the general pattern of females contribution to employment also reflects the breakdown by sex within service activities. For example, the low-on-average female participation in total civilian employment in the Netherlands is probably one important explanation for the relatively high level of male workers in all the industries studied. By contrast, in all the Nordic countries the female contribution to total employment is very high, in Finland and Sweden close to 50 per cent.

Table 3: The percentage of females of the civilian employment in selected OECD countries in 1990

Netherlands	38.4	United Kingdom	44.2
Japan	40.6	Canada	44.7
Austria	40.8	USA	45.4
Germany	40.8	Norway	45.9
Australia	41.4	Denmark	46.1
France	42.4	Sweden	48.0
New Zealand	43.5	Finland	48.0

Source: OECD Labour Force Statistics 1970-1990

In all the respondent countries, employment in **computer and related activities** is dominated by male workers. The share of male workers varies from 52 per cent in the Czech Republic[4] to 75 per cent in the United Kingdom, while the average share of males was 65 per cent of the total employment in the computer services.

In all the Nordic countries, the share of male workers was almost equal, varying between 65 and 69 per cent (above average) although the average female participation in work has traditionally been very high.

Legal activities appeared to be female dominated in almost every country, in general representing well over 50 per cent of the employment. On average males accounted for 41 per cent, the figure being the lowest in Denmark, France and the United Kingdom, with about one third. Both in Norway and in the Czech Republic males and females represented an equal share of employment within legal activities.

The widest range of male participation across the countries studied is observed in **accounting, book-keeping and auditing services**. However, excluding the Czech Republic (14%) and Finland (24%) with a very low proportion of males, and the Netherlands (64%), with a high share of male workers, the shares for the other countries seem to be quite homogenous. The average share of male workers was 44 per cent.

[4] The figures for the Czech Republic are somewhat inaccurate since the original figures were given without decimals and rounded to thousands. Being a rather small economy, this might distort the calculated percentages to some extent.

The architectural and engineering activities are without any doubt male dominated. Even the lowest records for males, as in the Czech Republic and Denmark, were more than 65 per cent. In the United States, the United Kingdom and the Netherlands almost four fifths of the personnel were males. The average record for male workers was as high as 73 per cent.

The greatest variation in the breakdowns by sex was found in accounting, book-keeping and auditing services, which might reflect the fact that this branch includes - as a matter of fact - a collection of services very different in nature and the content of this activity class may vary from country to country. In Finland, for example, have these services traditionally been dominated by book-keeping activities with a typically high proportion of female office workers. It is supposed, that auditing services, if studied separately, would be more male dominated. However, in Finland auditing services represent only a minor share of the branch.

4.2 Employment by Age

The followingt comparison consists of 8 countries for computer and legal services activities and 9 countries for accounting and technical activities. For the study, the employment data were aggregated to only two age categories: "up to 39 years" and "persons at least 40 years old". However, some references to more detailed breakdowns are also presented. The figures for the age structure are shown in Annex V.

In Sweden and Norway the personnel of the activities studied generally belong to older age groups than in the other responding countries. These countries have the highest share in the "40 years or older persons" group in almost all the business service activities studied. On the other hand, the share of this age group is in Finland among the lowest in almost every activity.

Unfortunately, it was not possible to compare the general pattern of retirement. As background information, this might have helped to explain the variations in age structure in the service sector, too.

Compared with the other activities studied, **computer and related activities** are characterised by a high share of personnel under 40 years of age. On average, only 31 per cent of the personnel in the countries studied were 40 years or older. In Norway (39 %) and Sweden (38 %) the 40 years or older group represented the highest share of personnel while in New Zealand (26%) and Finland (26%) the records were the lowest.

The age category "60 years or older" in computer activities shows the lowest records within business services activities. The data for the United States[5] show the same pattern in the age category of "55 years or older".

One might expect the rapidly developing computer and related activities to be characterised by a large proportion of young persons with an informal

5 The data for the United States were given with a different age classification, which allows us only to refer to these data as confirmation for the general observations.

education. However, according to the data, this seems not to be the case. Computer and related activities show low records also for "under 25" age group.

The employment of computer activities appear to be dominated by the 25-39 age category. In all the countries this group represented more than half the personnel. Furthermore, the computer and related activities had clearly the highest share of personnel in the 25-39 age group compared with the other business services studied.

In contrast to computer activities, the age class "40 years or older" is clearly more important in **legal services,** with an average of 46 per cent of the total personnel. The data for the United States also seem to be in line with these observations. In Sweden and Norway about 60 per cent of the personnel were at least 40 years old. In both these countries, the contribution of persons of 60 years or older to employment is high, around 10 per cent.

In Australia (32%) and New Zealand (39%) the records for persons of " 40 years or older" appeared to be the lowest. On the other hand, the under 25 age group accounts for more than a fifth of the employment in these countries.

In accounting, book-keeping and auditing activities, the 40+ age group represent on average 39 per cent of the employment. The top two countries are again Sweden and Norway, with an equal share of 48 per cent, thus clearly lower than in the case of legal activities. The lowest record was 28 per cent for the Netherlands, followed by Finland (33%). There seems to be a large proportion of young workers (under 25) engaged in these activities in many countries.

Together with legal activities, **architectural and engineering activities** form another sector of considerable importance in 40+ group. The average record was 46 per cent about the same as in legal activities. However, the share of this age group seems to be more coherent across the countries, ranging from 38 per cent in Finland and the Netherlands to 55 per cent in Sweden.

It is easy to see that computer services and accounting, book-keeping and auditing are characterised by younger persons employed than legal services and architectural and engineering services. As a summary, the following over-simplified table is presented mainly to stimulate discussion about the meaning of this type of data and the potential for further analysis.

Table 4. The character of persons employed in selected business services activities

Character	Female	Male
Young	**Accounting**	**Computer**
Old	**Legal**	**Technical**

4.3 Employment by Educational Attainment

Due to the poor comparability of the employment data by level of education, the same rating method as described in Chapter 3.2. is applied once again. Evidently, the following presentation is vulnerable to critical argument and should be interpreted with reservations [6].

For each country, the 5 business services activities are rated according to the percentage of persons having an "upper tertiary or higher education". The activity having the highest percentage is rated 1, the second best activity 2, etc.

Table 5 presents the data for seven countries. In four countries legal activities were rated 1 according to the highest educational attainment. Three of them were Nordic countries. For the United Kingdom and Denmark architectural and engineering activities were rated 1.

Table 5: Rating of five business services activities according to high educational attainment

	Computer and related	Legal	Acc., book-k. and Auditing	Bus. man. and consultancy	Architect. and engineering
Czech Republic	3	4	5	1	2
New Zealand	5	1	3	2	4
Norway	4	1	5	3	2
Sweden	3	1	2	4	5
United Kingdom	3	4	2	na	1
Denmark	5	3	2	4	1
Finland	3	1	5	2	4
average	3.7	2.1	3.4	2.7	2.7

Source: Voorburg Group Survey on Business Services 1994

On average, (if calculating the average from the rating figures is approved) legal activities indeed have the highest average of 2.1. This is followed by business management and consultancy activities and architectural and engineering activities with an equal average of 2.7. Perhaps surprisingly, the computer and related activities scored 3 as the best rating and showed the lowest average of all five industries.

By integrating the earlier results of sex and age structure with education, computer and accounting activities characterised by young persons employed seem to have a lower average rating in high educational attainment than the legal and technical activities with older personnel. A more detailed study of, for instance, education or age split up by sex,

[6] Some countries submitted data on education without filling in the tables. These data are not extracted here because of our inadequate knowledge of the correspondence with the classification used here.

would have been interesting, but with the existing data this was not possible.

5. Economic Data by Selected Activities

This Chapter is based on the main economic data provided by the respondents. The indicators presented - turnover, wages and salaries and value added - are supposed to have been derived from the same source in each country. However, the share of value added in turnover seems to vary more than the share of wages and salaries across the countries studied. This is perhaps due to the fact that no definitions were given for these variables in our questionnaire. In the following, only percentages are used instead of absolute figures due to the non-comparable reference years, currencies, etc. As earlier, the presentation concentrates only on a limited number of activities (see figures in Annex VI).

For **computer and related activities**, acceptable economic data on turnover and wages and salaries were available for ten countries. The classification problems of these services within the countries are expected to be remarkable, since particularly large enterprises are often closely related to the sales activities of computer hardware and software.

However, the data set appeared to be quite in line across the countries. In New Zealand and Japan wages and salaries represented a quarter of turnover. For the majority of the countries, such as Sweden[7], Finland, the United States, the Netherlands and Australia, wages and salaries represented a constant share of around 35 per cent of turnover. In Denmark wages and salaries in proportion to turnover were the highest, 40 per cent.

The data for **legal activities** cover seven countries. The variation in wages and salaries is larger than in computer and related activities. In the United States, Sweden and Denmark from 36 to 39 per cent of the turnover was paid as wages and salaries, while in Australia the corresponding figure remained at 16 per cent.

Legal services, with a high expected 'human capital' intensity (see chapter 4.3 on education) seem to have a low level of wages and salaries related to turnover. This might be partly explained by the variation in accounting traditions from country to country and by the structure of enterprises. In many countries, self-employed persons and micro-enterprises account for the bulk of production in legal services; thus this part of employment is not fully reflected in the labour costs.

A total of eight countries supplied acceptable data on **accounting, book-keeping and auditing services**. Apart from Australia, where only a fifth of the turnover was paid in wages and salaries, in the majority of the countries wages and salaries represented slightly above 40 per cent of turnover. This ratio is more than that of computer or legal activities.

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[7] For Sweden, labour costs are used instead of wages and salaries.

Regarding **architectural and engineering activities**, the recorded wages and salaries were close to 40 per cent level. For the United States and Denmark the ratio exceeded 40 per cent. The potential turn-key contracts in engineering activities, when fully included in the turnover, might distort the comparability between countries. In France, for example, which has a low level of wages and salaries related to turnover (24%), turn-key projects might be one explaining factor.

The data for **advertising agencies**[8] clearly show a difference compared to the other activities studied. The practice, by which the advertising enterprise sells the advertising space and time to the customers direct and this intermediate trade is added in full to the turnover, seems to prevail in the countries studied. However, the figures for the United States are clearly above the general level, which might be an implication of different invoicing practices.

Apart from the United States, the share of wages and salaries in other countries was clearly below 20 per cent of turnover. In Japan, Australia, New Zealand, France and the Netherlands wages and salaries related to turnover varied around 10 per cent. The overall average share of wages and salaries remained at 15 per cent of turnover.

6. Concluding Remarks and Points for Discussion

This questionnaire to the Voorburg Group Member countries was the first attempt to chart the availability and international comparability of statistics on employment qualifications in the business service sector and to evaluate the potential for developing these statistics.

The results show that in the majority of the respondent countries, at least some data exist on employment qualifications. Employment data according to the age and sex of employees appeared to be quite readily available and also relatively easy to compare across the countries.

Although the age and sex structures are interesting, they are not good indicators to describe the human capital accumulation in the different services activities. Information on the educational or occupational structure of employed persons would be far more important indicators in this respect. Even though most of the respondent countries collect data on employment by level of education or occupation, the classifications used differ from country to country and international comparisons, in a strict sense, are impossible.

In addition to the classification problems, the use of different data sources has an impact on the international comparability of the figures as well. It seems that so far, only the Nordic countries can provide data on employment qualifications which are fully consistent with the economic data on the service sector. However, some other countries have plans to

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8 The figures for Sweden and Denmark also include market research and public opinion polling.

conduct further study in this field. Such study could be one way of developing our knowledge of the relations between economic performance and the labour force qualifications within the service sector businesses.

As an alternative, we could also request these data on employment from the businesses direct, which means that the employment module in the model surveys should be enlarged. Whether the extension is reasonable and which variables are to be included should be discussed. Presumably, it is very difficult to get information on educational background, but occupational status broken down by aggregated categories might be worth further study.

It would also be possible to extend the model surveys to include questions on the costs of education and/or research and development. Presumably, these data are more easily available in the businesses than details of employment qualifications. The extension of model surveys could be tested within a few selected activities where these costs are expected to be high.

Despite the comparability problems described in this paper, we have made some simple comparisons and discovered some interesting results and common features in the business services of the responding countries. It would be interesting to have the Group's reactions to these comparisons and the analysis presented.

The contribution of the participating countries in this questionnaire was valuable and significant, indicating a common interest in these statistics. We hope that this study gives useful information on the data availability and comparability together with some ideas for future options in developing these statistics on employment qualifications.

TABLE A: Please indicate by tick mark the employment data available for your country
(No need to give any figures)

COUNTRY:_____

ACTIVITY CLASSIFICATION IN USE:_____

ISIC Rev. 3 division or corresponding national activity classes		1. Number of employees	2. Number of pers. employed	3. Pers. employed broken down by sex	4. Pers. employed broken down by age	5. Pers. employed broken down by education	6. Pers. employed broken down by occupation
	Business activities						
72	Computer and related activities						
7411	Legal activities						
7412	Accounting, book-keeping and auditing activities						
7413	Market research and public opinion polling						
7414	Business and management consultancy activities						
7420	Architectural and engineering activities						
7430	Advertising						
7490	Business activities n.e.c.						
	Total of business activities						
	The most recent reference year						

CLASSIFICATIONS IN USE:

4. Age classification (please specify age intervals, e.g. -19, 20-24, ...,65+):_____
5. Educational classification used in your country:_____
   Is it possible to link your national educational classification with the ISCED (yes/no)_____
6. Occupational classification used in your country:_____
   Is it possible to link your national occupational classification with the ISCO 68 or 88 (yes/no)_____

SOURCES:

1. Number of employees:_____
2. Number of persons employed:_____
3. Sex:_____
4. Age:_____
5. Education:_____
6. Occupation:_____

Please answer the questions presented on page 9.

Table 1 COUNTRY:_____

Employment broken down by kind of activity (e.g. ISIC Rev. 2) and by level of education in 1990 or the most recent reference year (please specify)_____

Employees / persons employed: number (1000) or percentage

Level of education (see ISCED codes below)

Activities	Primary	Secondary	Lower tertiary	Upper tertiary or postgraduate	TOTAL
1 Agriculture, hunting, forestry and fishing					
2 Mining and quarrying					
3 Manufacturing					
4 Electricity, gas and water					
5 Construction					
6 Wholesale and retail trade and restaurants and hotels					
7 Transport, storage and communication					
8 Financing, insurance, real estate and business services					
9 Community, social and personal services					

Figures refer to a) employees or b) persons employed (please specify):_____

Activity classification used (please specify):_____

SOURCE:_____

Primary education	ISCED code: 1
Secondary education	ISCED code : 2 and 3
Lower tertiary education	ISCED code: 5
Upper tertiary or postgraduate ed.	ISCED code: 6 and 7

COMMENTS._____

Please answer the questions presented on page 9.

Table 2a COUNTRY:_____

Employment broken down by kind of activity (e.g. ISIC Rev.3) and by level of education in 1990 or the most recent reference year (please specify)_____

Employees / persons employed: number (1000) or percentage

Level of education (see ISCED codes below)

	Activities	Primary	Secondary	Lower tertiary	Upper tertiary or postgraduate	TOTAL
72	Computer and related activities					
7411	Legal activities					
7412	Accounting, book-keeping and auditing activities					
7413	Market research and public opinion polling					
7414	Business and management consultancy activities					
7420	Architectural and engineering activities					
7430	Advertising					
7490	Business activities n.e.c.					

Figures refer to a) employees or b) persons employed (please specify):_____

Activity classification used (please specify):_____

SOURCE:_____

Primary education	ISCED code: 1
Secondary education	ISCED code : 2 and 3
Lower tertiary education	ISCED code: 5
Upper tertiary or postgraduate ed.	ISCED code: 6 and 7

COMMENTS:_____

_____

Please answer the questions presented on page 9.

Table 2b COUNTRY:_____

Employment broken down by kind of activity (e.g. ISIC Rev. 3) and by sex in 1990 or the most recent reference year (please specify)_____

Employees / persons employed: number (1000) or percentage

	Activities	Sex: Female	Male	TOTAL
72	Computer and related activities			
7411	Legal activities			
7412	Accounting, book-keeping and auditing activities			
7413	Market research and public opinion polling			
7414	Business and management consultancy activities			
7420	Architectural and engineering activities			
7430	Advertising			
7490	Business activities n.e.c.			

Figures refer to a) employees or b) persons employed (please specify):_____

Activity classification used (please specify):_____

SOURCE:_____

COMMENTS:_____

_____

Please answer the questions presented on page 9.

Table 2c COUNTRY:_____

Employment broken down by kind of activity (e.g. ISIC Rev. 3) and by age in 1990 or the most recent reference year (please specify)_____

Employees / persons employed: number (1000) or percentage

Age of employees or those employed

	Activities	-24 years	25-39 years	40-59 years	60+ years	TOTAL
72	Computer and related activities					
7411	Legal activities					
7412	Accounting, book-keeping and auditing activities					
7413	Market research and public opinion polling					
7414	Business and management consultancy activities					
7420	Architectural and engineering activities					
7430	Advertising					
7490	Business activities n.e.c.					

Figures refer to a) employees or b) persons employed (please specify):_____

Activity classification used (please specify):_____

SOURCE:_____

COMMENTS:_____

_____

_____

_____

Please answer the questions presented on page 9.

Table 2d COUNTRY:_____ Currency:_____

Basic economic data by kind of activity (e.g. ISIC Rev. 3)
in 1990 or the most recent reference year (please specify)_____

	Activities	Employees/ Pers. employed (1000)	Turnover	Value added	Wages and salaries
72	Computer and related activities				
7411	Legal activities				
7412	Accounting, book-keeping and auditing activities				
7413	Market research and public opinion polling				
7414	Business and management consultancy activities				
7420	Architectural and engineering activities				
7430	Advertising				
7490	Business activities n.e.c.				

Figures refer to a) employees or b) persons employed (please specify):_____

Activity classification used (please specify):_____

SOURCE:_____

COMMENTS:_____

Country:_____

Do you employ a special questionnaire to ask businesses to provide the data in these tables? Or do you use your labour force survey, population census, or the like to ask people to provide information on their employer's activity? How is a person's activity class determined? Does it refer to the employer's activity class at the level of local units or enterprises? Please give a short description:

itectural and engineering activities and related technical consultancy (ISIC Rev. 3) or the ıding national activity class in 1990 or the most recent ref. year (please specify):_____

':_____

Employees /persons employed broken down by level of education and by employment size class (in absolute terms or as percentages)

lucation (see the ISCED classification below)

	0-9 employees	10-99 employees	100-499 employees	500+ employees	TOTAL employees
ary					
ary or					
ate					

lucation	ISCED code: 1
' education	ISCED code : 2 and 3
ary education	ISCED code: 5
ary or postgraduate ed.	ISCED code: 6 and 7

nt size classes above refer to local units/enterprises (please specify)_____

_____

Employees /persons employed broken down by sex and by employment size class (in absolute terms or as percentages)

0-9 employees	10-99 employees	100-499 employees	500+ employees	TOTAL employees

nt size classes above refer to local units/enterprises (please specify)_____

_____

Employees /persons employed broken down by age and by employment size class (in absolute terms or as percentages)

0-9 employees	10-99 employees	100-499 employees	500+ employees	TOTAL employees

nt size classes above refer to local units/enterprises (please specify)_____

_____

7430 Advertising (e.g. ISIC Rev. 3) or the corresponding national activity class in 1990 or the most recent reference year (please specify):_____

COUNTRY:_____

Table 4a Employees /persons employed broken down by level of education and employment size class (in absolute terms or as percentages)

Level of education (see the ISCED codes below)

	0-9 employees	10-99 employees	100-499 employees	500+ employees	TOTAL employees
Primary					
Secondary					
Lower tertiary					
Upper tertiary or Postgraduate					
Total					

Primary education	ISCED code: 1
Secondary education	ISCED code : 2 and 3
Lower tertiary education	ISCED code: 5
Upper tertiary or postgraduate ed.	ISCED code: 6 and 7

Employment size classes above refer to local units/enterprises (please specify)_____

SOURCE:_____

Table 4b Employees /persons employed broken down by sex and employment size class (in absolute terms or as percentages)

	0-9 employees	10-99 employees	100-499 employees	500+ employees	TOTAL employees
Females					
Males					
Total					

Employment size classes above refer to local units/enterprises (please specify)_____

SOURCE:_____

Table 4c Employees /persons employed broken down by age and employment size class (in absolute terms or as percentages)

	0-9 employees	10-99 employees	100-499 employees	500+ employees	TOTAL employees
-25 years					
25-39					
40-59					
60+					
Total					

Employment size classes above refer to local units/enterprises (please specify)_____

SOURCE:_____

ANNEX II A

Summary of table A: **Employment data sources and the most recent reference year(s) by variable and country**
(For several countries data are available only on a limited number of activities)

Country:	1. Number of employees	2. Number of pers. employed	3. Pers. employed by sex	4. Pers. employed by age	5. Pers. employed by education	6. Pers. employed by occupation
Australia	Service Industries Survey 1987-1988	Service Industries Survey 1987-1988	Service Industries Survey 1987-1988	Census of Population and Housing 1991	Census of Population and Housing 1991	Census of Population and Housing 1991
Austria	Census of Local Units 1991	Census of Local Units 1991				
Canada		Annual surveys of Business 1990				
Czech Republic	Enterprise or Establishment reporting system (LFSS)	Labour Force survey LFSS 1993-1994	LFSS 1993-1994	LFSS 1993-1994	LFSS 1993-1994	LFSS 1993-1994
Denmark	Register based work-place statistics 1992	Register based work-place statistics 1992	Register based work-place statistics 1992	Register based work-place statistics 1992	Register based work-place statistics 1992	Register based work-place statistics 1992
Finland	Business Register 1992, Central Popul. Reg. 1992	Business Register 1992, Central Popul. Reg. 1992	Central Population Register 1992	Central Population Register 1992	Central Population Register 1992	Central Population Register 1992
France	Annual Survey 1992	Annual Survey 1992	Population Census 1990			Population Census 1990
Germany	Statistics of Federal Institute for Employment		Statistics of Federal Institute for Employment	Statistics of Federal Institute for Employment		Statistics of Federal Institute for Employment
Japan	Survey of Selected Service Industries 1990, 1992 Establishment Census 1993	Survey of Selected Service Industries 1990, 1992 Establishment Census 1993	Survey of Selected Service Industries 1990, 1992 Establishment Census 1993			Survey of Selected Service Industries 1990, 1992
Mexico	Censo Economico 1988 (Economic Census)	Censo Economico 1988 (Economic Census)	Censo Economico 1988 (Economic Census)			
Netherlands	Annual survey on empl. and wages (ASEW) 1992	Labour Force survey (Totals) 1993	Labour Force survey (Totals) 1993	Labour Force survey (Totals) 1993	Labour Force survey (Totals) 1993	Labour Force survey (Totals) 1993
New Zealand	Annual Business Directory Update 1993	Annual Business Directory Update 1993	Annual Business Directory Update 1993	Census of Population and Dwellings 1991	Census of Population and Dwellings 1991	Census of Population and Dwellings 1991
Norway	Register of Employees/ Employers (Totals) 1993	Several adm. registers 1993	Central Population Register 1993	Central Population Register 1993	Register of Highest Education Completed 1993	
Sweden	Business Register 1993	ÅRSYS 1992	ÅRSYS 1992	ÅRSYS 1992	ÅRSYS 1992	FOB, Census 1990
United Kingdom	Labour Force Survey 1993	Labour Force Survey 1993	Labour Force Survey 1993	Labour Force Survey 1993	Labour Force Survey 1993	Labour Force Survey 1993
USA, Department of Labour	U.S. Current Employment Statistics 1993	Current Population Survey 1993	Current Population Survey 1993	Current Population Survey 1993		Current Population Survey 1993
USA, Bureau of the Census	1987 Census of Service Industries	1987 Census of Service Industries				

Source: Voorburg Group Survey on Business Services 1994

ANNEX II B

Summary of table A:

Personnel age groups, the existence of educational and occupational classifications and the possibilities of linking them to ISCED or ISCO classification by country

Country	Age groups used	Educational classification used	Link to ISCED	Occupational classification used	Link to ISCO 68 or 88
Australia	all ages	yes	no	yes	yes
Austria	5 year groups	yes	yes	yes	yes
Canada				yes	no (perhaps in 3 years)
Czech Republic	5 year groups	yes	no	yes	yes
Denmark	all ages	yes	yes	yes	yes
Finland	15-19, 20-24, 25-29, ... ,70-74	yes	yes	yes	yes
France				yes	
Japan		no	no	no	no
Mexico	5 year groups	yes	yes	yes	yes
Netherlands	15-24, 25-44, 45-64	yes	yes	yes	yes
New Zealand	all ages	yes	yes	yes	yes
Norway	all ages	yes	yes	yes	no (yes in 1995)
Sweden	16-17, 18-19, 20-24, 25-29, ... ,75-	yes	yes	yes	yes
United Kingdom	16-24, 25-39, 40-59, 60+	yes	no	yes	yes
USA, Department of Labour	16-19, 20-24, 25-34, 35-44, ... , 65+	yes	no	yes	no

Source: Voorburg Group Survey on Business Services 1994

ANNEX II C

Summary of table B: Statistical units and activity classifications in use by country

Country	Statistical unit used	Activity classification used
Australia	Enterprise	Australian Standard Industrial Classification (ASIC 1983 ed.)
Austria		Austrian Standard Industrial Classification and in July 1994 the Austrian version of NACE Rev 1. (ÖNACE)
Canada	Company	Canadian Industrial Classification for Establishments SIC (E) 1980
Czech Republic		NACE (Rev.1?)
Denmark	Legal unit	NACE Rev.1
Finland	Enterprise	SIC-88, SIC-95 (NACE Rev.1 correspondence at 4 digit level)
France	Enterprise	NACE Rev.1
Germany		National Industrial Classification of Economic Activities (WZ 1979)
Japan	Establishment	Japanese Standard Industrial Classification (JSIC)
Mexico	Establishment	Classificacion Mexicana de Actividades y Productos
Netherlands	Kind of activity unit, enterprise group	Until 1993 SBI'74, from 1993 onwards SBI'93
New Zealand	Accounting unit	ANZSIC (based on ISIC Rev. 3) was introduced in 1993 and is gradually replacing NZSIC (based on ISIC Rev. 2)
Norway		ISIC Rev.2
Sweden	Enterprise	Swedish National Industrial classification SNI-69 and SNI-92 (NACE Rev.1 correspondence at 4-digit level)
United Kingdom	Enterprise, individual legal unit	UK Standard Industrial Classification 1980
USA, Department of Labour	Establishment	Standard Industrial Classification System 1987, Decennial Census Industry Classification System 1990
USA, Bureau of the Census	Establishment	Standard Industrial Classification 1987

Source: Voorburg Group Survey on Business Services 1994

ANNEX II D

ANNEX II D

Summary of table B: **Economic data sources and the most recent reference year(s) by variable and country**
(For several countries data are available only on a limited number of activities)

Country	1. Turnover	2. Value added	3. Labour costs	3'. Of which: wages and salaries	4. Educational costs	5. Intangible investments	6. Total capital
Australia	Service Industries Survey 1987-1988	Service Industries Survey 1987-1988	Service Industries Survey 1987-1988	Service Industries Survey 1987-1988			
Canada	Annual surveys on Business Services 1990	Annual surveys on Business Services 1990		Annual surveys on Business Services 1990			
Denmark	VAT-Statistics/ Special ent. statistics 1990	Reg. based account stat. Special ent. statistics 1990	Reg. based account stat. Special ent. statistics 1990	Reg. based account stat. Special ent. statistics 1990			Reg. based account stat. 1990
Finland	Financial Statement Stat. Business Register 1992	Financial Statement Stat. 1992	Financial Statement Stat. 1992	Financial Statement Stat. Business Register 1992			Financial Statement Stat. 1992
France	Annual Enterprise Survey 1992	Annual Enterprise Survey 1992	Annual Enterprise Survey 1992	Annual Enterprise Survey 1992			
Germany	Biennial Turnover Tax Statistics 1992						
Japan	Survey of Selected Service Industries 1989, 1992			Survey of Selected Service Industries 1989, 1992			
Mexico	Censo Economico 1988 (Economic Census)	Censo Economico (Economic Census)	Censo Economico (Economic Census)	Censo Economico (Economic Census)			Censo Economico (Economic Census)
Netherlands	Annual Production Statistics 1992	Annual Production Statistics 1992	Annual Production Statistics 1992	Annual Production Statistics 1992			Statistics of the Finances of Enterprises 1991
New Zealand	Economy Wide Census 1987	Economy Wide Census 1987		Economy Wide Census 1987			
Norway	Survey 1991	Survey 1991	Survey 1991	Survey 1991			
Sweden	Accounting Statistics 1992	Accounting Statistics 1992	Accounting Statistics 1992	Accounting Statistics 1992	Multiannual Statistics 1989,1990		Accounting Statistics 1992
United Kingdom	Annual Services Trades Inquiry, 1991		Labour Costs Survey 1992	Labour Costs Survey 1992			Annual Services Trades Inquiry, 1991
USA, Department of Labour				U.S. Current Employment Statistics Program 1993			
USA, Bureau of the Census	1987 Census of Service Industries	1987 Census of Service Industries, approx.	1987 Census of Service Industries	1987 Census of Service Industries			

Source: Voorburg Group Survey on Business Services 1994

ANNEX II E

Summary of table B: **Possibilities of classifying the economic variables by enterprises' age, legal status and by employment and turnover size classes**
(For several countries data are available only on a limited number of activities)

Country	1. Turnover	2. Value added	3. Labour costs	3'. Of which: wages and salaries	4. Educational costs	5. Intangible investments	6. Total capital
Australia	Legal status Employment and turnover s.c.	Legal status Employment and turnover s.c.	Legal status Employment and turnover s.c.	Legal status Employment and turnover s.c.			
Canada	Legal status Employment size class						
Denmark	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.			Age and legal status Employment and turnover s.c.
Finland	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.			Age and legal status Employment and turnover s.c.
France	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.			
Germany	Legal status Turnover s.c.						
Japan	Age and legal status Employment and turnover s.c.						
Mexico	Legal status Employment and turnover s.c.	Legal status Employment and turnover s.c.	Legal status Employment and turnover s.c.	Legal status Employment and turnover s.c.			Legal status Employment and turnover s.c.
Netherlands	Legal status Employment and turnover s.c.	Legal status Employment and turnover s.c.	Legal status Employment and turnover s.c.	Legal status Employment and turnover s.c.			
New Zealand	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.		Age and legal status Employment and turnover s.c.			
Norway	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.	Age and legal status Employment and turnover s.c.			
Sweden	Legal status Employment and turnover s.c.	Legal status Employment and turnover s.c.	Legal status Employment and turnover s.c.	Legal status Employment and turnover s.c.			Legal status Employment and turnover s.c.
United Kingdom	Turnover size class						Turnover size class
USA, Bureau of the Census	Legal status Employment and turnover s.c.			Legal status Employment and turnover s.c.			

Source: Voorburg Group Survey on Business Services 1994

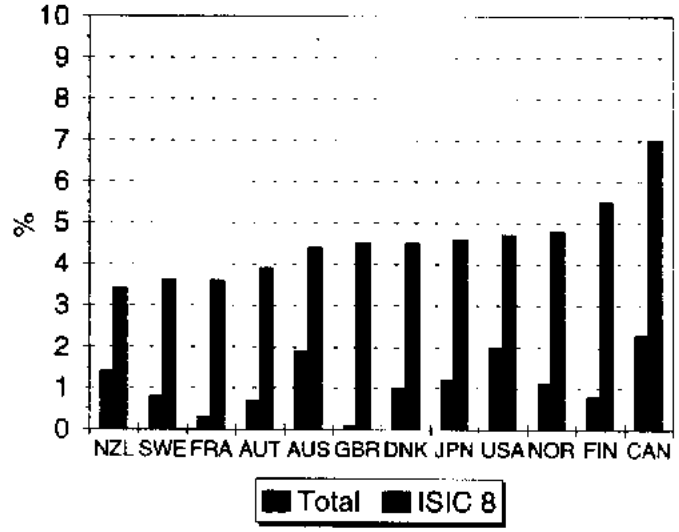
ANNEX II F

Data sources and reference year(s) for the submitted tables by countries
(For several countries data are available only on a limited number of activities)

Country	Table 1	Table 2a	Table 2b	Table 2c	Table 2d	Table 3	Table 4
Australia	Labour Force Status and Ed Attainment 1990		Service Industries Survey 1987-1988	Census of Population and Housing 1991	Service Industries Survey 1987-1988	Survey on Employment and Earnings 1988 *	Service Industries Survey 1987-1988 *
Czech Republic	Labour Force Survey 1993-1994 (Quarterly)	Labour Force Survey 1993-1994 (Quarterly)	Labour Force Survey 1993-1994 (Quarterly)	Labour Force Survey 1993-1994 (Quarterly)	Sample Survey 1993*		
Denmark	Register based work-place statistics 1990	Register based work-place statistics 1990	Register based work-place statistics 1990	Register based work-place statistics 1990	Reg. based account stat. Special ent. statistics 1990	Register based work-place statistics 1990	Register based work-place statistics 1990
Finland	Population Census 1990	Population Statistics 1988	Population Census 1990	Population Census 1990	Financial Statement Stat. 1992		
France			Population Census 1990		Annual Enterprise Surveys 1992		
Japan	Population Census 1990	Survey of selected Service* Industries 1989	Survey of selected Service* Industries 1989		Survey of selected Service Industries 1989	Establishment Census of Japan 1991 *	Establishment Census of Japan 1991 *
Mexico	Encuesta National de Empleo 1991		Censo Economico* (Economic Census)				
Netherlands	LFS 1993	ASEW & LFS 1992, 1993	ASEW & LFS 1992, 1993	ASEW & LFS 1992, 1993	Annual production Statistics 1992	ASEW and Stat. on empl. persons 1992 *	
New Zealand	Census of Population and Dwellings, 1991	Census of Population and Dwellings, 1991	Census of Population and Dwellings, 1991	Census of Population and Dwellings, 1991	Economy Wide Census 1987		
Norway	Integr. system of data based on admin. registers, 1993	Integr. system of data based on admin. registers, 1993	Integr. system of data based on admin. registers, 1993	Integr. system of data based on admin. registers, 1993			
Sweden	Årsys 1990	Årsys 1990	Årsys 1990	Årsys 1990	Business Register and Accounting Statistics 1990	Årsys 1990	Årsys 1990
United Kingdom	Labour Force Survey 1993	Labour Force Survey 1993	Labour Force Survey 1993	Labour Force Survey 1993	Labour Force Survey ? 1993	Census of Employment* 1991 (table 3b)	Census of Employment* 1991 (table 4b)
USA, Department of Labour			Current Population Survey 1993	Current Population Survey 1993	U.S. Current Employment * Statistics 1993		
USA, Bureau of the Census					1987 Census of Service Industries	1987 Census of * Service Industries	1987 Census of * Service Industries

* The data submitted were of a limited level of detail (e.g. totals only)
Source: Voorburg Group Survey on Business Services 1994

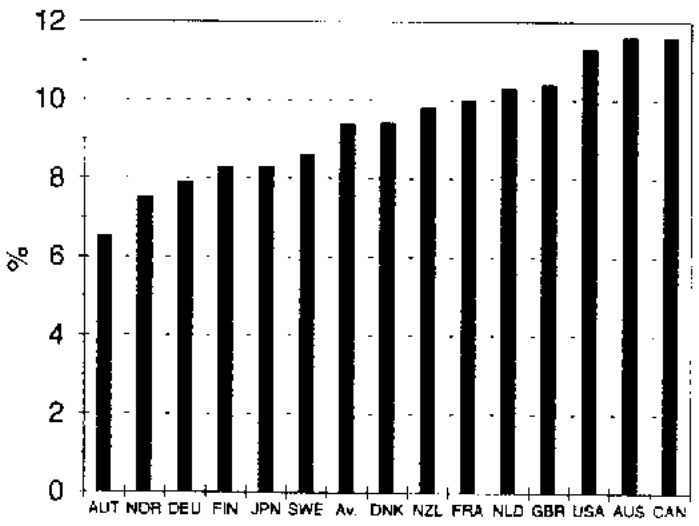
Figure 3.1: The average annual growth of total civilian employment and ISIC 8 (Financing, insurance, real estate and business services) 1970-1990 in selected OECD countries



NOTE:
New Zealand 1971-1985
Denmark 1976-1990
Finland 1971-1990
Norway 1972-1990
United Kingdom 1970-1987
Japan 1976-1990

Source: OECD Labour Force Statistics 1970-1990

Figure 3.2: The share of ISIC 8 (Financing, insurance, real estate and business services) in the total civilian employment in selected OECD countries, 1990



NOTE: The data for the United Kingdom refer to 1987

Source: OECD Labour Force Statistics 1970-1990

ANNEX IV

Figure 4.1 The percentage of male workers in Computer and related activities

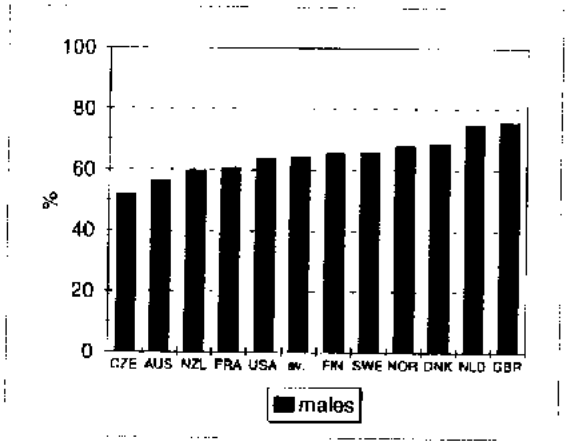


Figure 4.2 The percentage of male workers in Legal activities

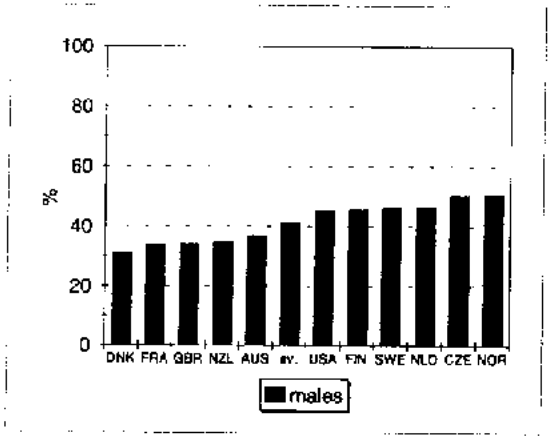


Figure 4.3 The percentage of male workers in Accounting, book-keeping and auditing activities

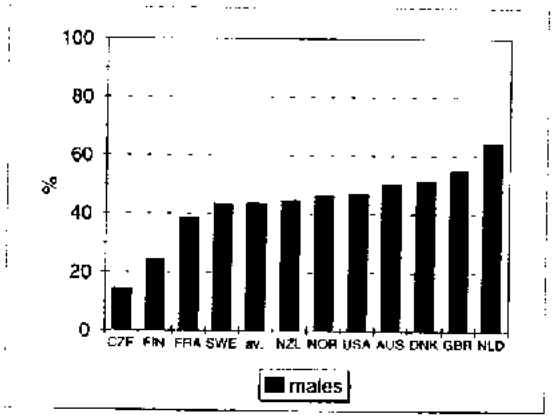
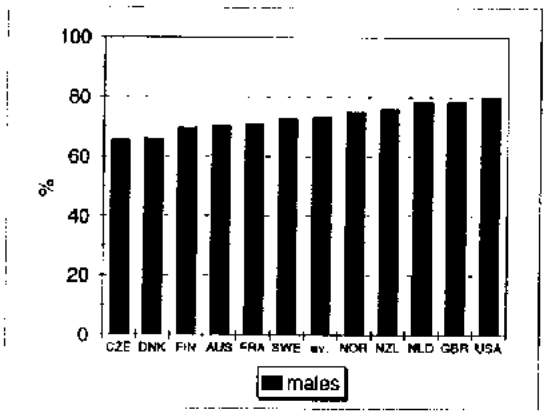


Figure 4.4 The percentage of male workers in Architectural and engineering activities



AUS = Australia
CZE = Czech Republic
DNK = Denmark
FIN = Finland
FRA = France
JPN = Japan
NLD = Netherlands
NZL = New Zealand
NOR = Norway
SWE = Sweden
GBR = United Kingdom
USA = United States
av. = unweighted average

Source: Voorburg Group survey on Business Services 1994

ANNEX V

Figure 5.1 The percentage of persons aged 40 or over employed in Computer and related activities

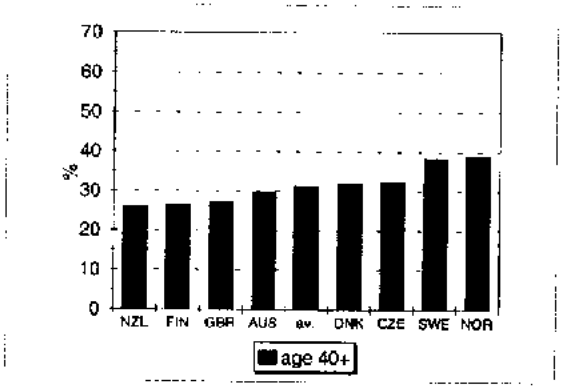


Figure 5.2 The percentage of persons aged 40 or over employed in Legal activities

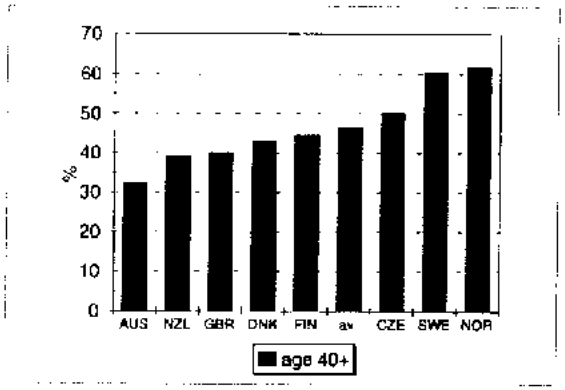


Figure 5.3 The percentage of persons aged 40 or over employed in Accounting, book-keeping and auditing services

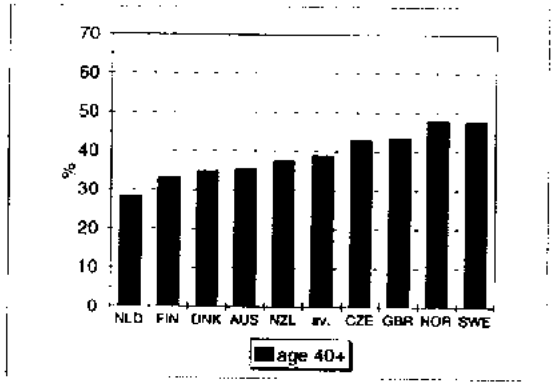
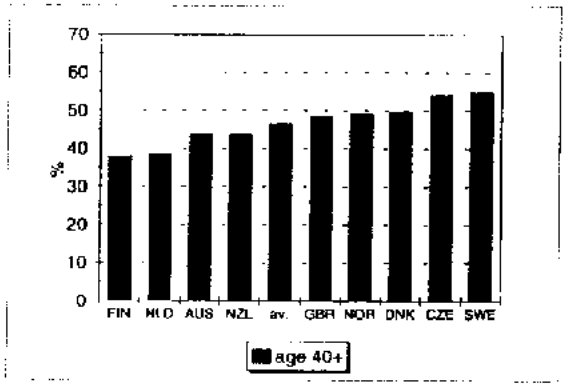


Figure 5.4 The percentage of persons aged 40 or over employed in Architectural and engineering activities



AUS = Australia
CZE = Czech Republic
DNK = Denmark
FIN = Finland
NLD = Netherlands
NZL = New Zealand
NOR = Norway
SWE = Sweden
GBR = United Kingdom
av. = unweighted average

Note: The data for the United Kingdom on Computer and Legal activities exclude the age group 60+, thus possibly underestimating slightly the percentage of persons aged 40 or over employed in figures 5a and 5b.

Source: Voorburg Group survey on Business Services 1994

Figure 6.1 Value added and wages and salaries relative to turnover in computer and related activities

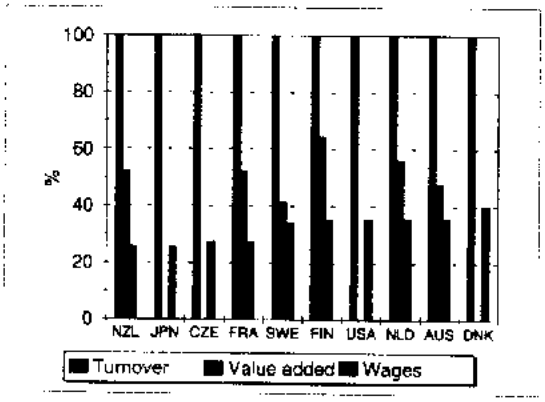


Figure 6.2 Value added and wages and salaries relative to turnover in legal activities

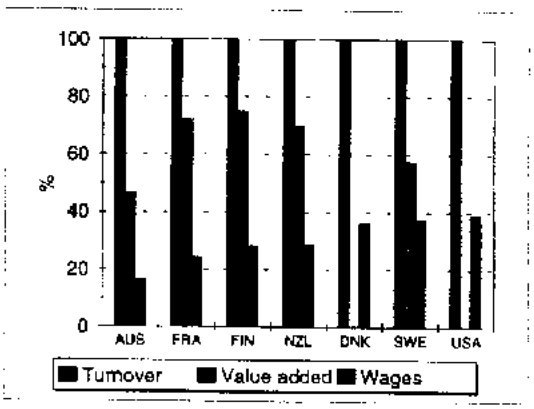


Figure 6.3 Value added and wages and salaries relative to turnover in accounting, book-keeping and auditing activities

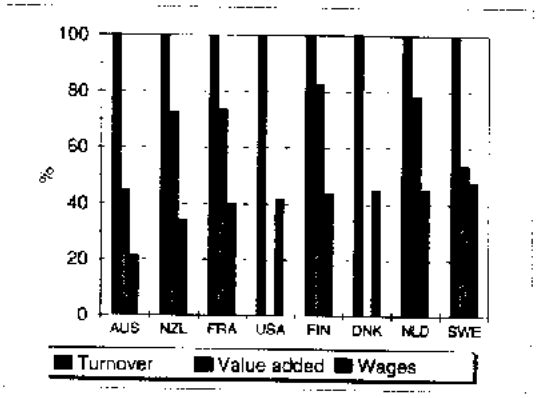


Figure 6.4 Value added and wages and salaries relative to turnover in architectural and engineering activities

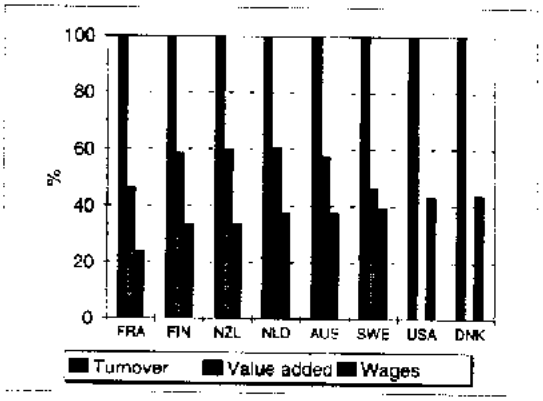
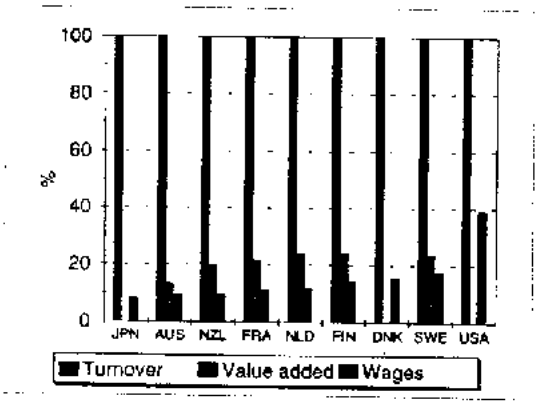


Figure 6.5 Value added and wages and salaries relative to turnover in advertising



AUS = Australia
CZE = Czech Republic
DNK = Denmark
FIN = Finland
FRA = France
JPN = Japan
NLD = Netherlands
NZL = New Zealand
SWE = Sweden
USA = United States

Note: The figures for Sweden and Denmark in table 6.5 include both market research and public opinion polling and advertising. The figures for Sweden represent labour costs instead of wages.

Source: Voorburg Group Survey on Business Services 1994

ANNEX VII

A summary of the statistical data presented in the survey tables

	Number of accepted countries	Mean %	Variance	Minimum %	Maximum %
Percentage of male workers (Table 2b)					
Computer and related activities	11	64.5	47.8	51.6	75.3
Legal activities	11	41.1	48.6	30.7	50.4
Accounting, book-keeping and auditing act.	11	43.5	175.6	14.3	64.2
Architectural and engineering activities	11	72.9	22.1	65.4	79.8
Percentage of workers aged 40 years or over (Table 2c)					
Computer and related activities	8	31.3	22.9	26.0	39.0
Legal activities	8	46.3	92.5	32.2	61.4
Accounting, book-keeping and auditing act.	9	39.0	41.2	28.2	47.8
Architectural and engineering activities	9	46.5	33.8	37.8	54.8
Wages and salaries as a percentage of turnover (Table 2d)					
Computer and related activities	10	32.2	23.7	25.5	40.0
Legal activities	7	29.8	56.4	16.3	38.9
Accounting, book-keeping and auditing act.	8	39.8	62.3	21.5	47.7
Architectural and engineering activities	8	36.6	35.8	23.9	44.0
Advertising	9	15.0	78.7	8.2	38.8

Source: Voorburg Group Survey on Business Services 1994