

**PROGRAMME FOR RESEARCH
AND ACTIONS ON THE DEVELOPMENT
OF THE LABOUR MARKET**

**NEW FORMS AND NEW AREAS
OF EMPLOYMENT GROWTH**

FINAL REPORT FOR THE NETHERLANDS



**COMMISSION
OF THE EUROPEAN
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Programme for Research and Actions on the Development
of the Labour Market

NEW FORMS AND NEW AREAS OF EMPLOYMENT GROWTH

Final report for The Netherlands

By

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Document

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The analysis and conclusions are the responsibilities of the authors. They do not necessarily reflect any views held within the Commission of the European Communities nor do they commit it to a particular view of the Labour market or any other policy matters.

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PREFACE AND ACKNOWLEDGEMENTS

This report represents the results of the Dutch study carried out by SEO, Foundation for Economic Research of the University of Amsterdam. The study has been funded by the Commission of the European Communities (Directorate General V). The aim of the project is to take a close look at what is going on at the employment front: recent developments and future trends concerning new forms as well as new areas of employment growth.

The project was co-ordinated by Professor Robert Lindley of the Institute for Employment Research, University of Warwick. The report has been written by Tammo Oegema and Chris van der Vegt. We gratefully acknowledge the fellow participants: Rob Wilson (U.K.), Bruno Contini (Italy), Anne Houtman (Eurostat), Kurt Vogler-Ludwig (Germany), Henri Nadel and Laurent Schwab (France), and Andrew Chapman, Klaus Kaeding and John Morley (Commission, DG-V).

ABSTRACT

Which are the new forms and areas of employment growth?

While the overall employment performance is not impressive during the last years, some new jobs and contracts emerge nevertheless.

The first years of the present decade showed a decline in the number of jobs in the Netherlands. The turning point was 1985, and forecasts for the period 1986 to 1990 show an average increase of 2% per year.

There are various signs of growing labour market flexibility. Part-time work increased from 15% in 1977 to 26% in 1986 and will be about 32% in 1990. Temporary contracts are substituted for permanent contracts. Workers from employment agencies, min-max contracts, on call contracts and home work are all examples of more flexible labour market relations.

Female employment showed an almost uninterrupted growth. The participation rate of women increased from 37% in 1977 to 44% in 1986. The female share in part-time work is much larger than the male one.

Occupations of clerical and service workers and professional workers increase in number while manual labour, mainly found in manufacturing and construction decreases. Managers, salesmen and cleaners become more important in all economic sectors. The largest growth takes place and will probably take place in occupations of professional and specialist workers.

The educational level of the employed exceeds job requirements. Higher educated workers are crowding out lower educated workers, so unemployment is highest among the lower educated.

The impact of technological change on the job content depends on the way the production process is organised. Integration of tasks and teamwork combined with a decrease of hierarchical levels will probably provide better results than staying within the traditional division of labour.

LIST OF ABBREVIATIONS

- AKT : Arbeids Krachten Telling, CBS
(Labour Force Survey)
- CBS : Centraal Bureau voor de Statistiek
(Central Bureau of Statistics) The Hague
- COB : Commissie Ontwikkelingsproblematiek van Bedrijven
(Commission for Development problems of Firms),
a subcommission of the SER
- CPB : Centraal Plan Bureau
(Central Planning Bureau), The Hague
- ESB : Economische Statistische Berichten
(Economic Statistic Bulletin)
Weekly Bulletin from the NEI, Rotterdam
- ITS : Instituut voor Toegepaste Sociologie
(Institute for Applied Sociology), Nijmegen
- IVA : Instituut voor arbeidsvraagstukken
(Institute for Labour Problems), Tilburg
- NEI : Nederlands Economisch Instituut
(Dutch Economic Institute), Rotterdam
- NPAO: Nationaal Programma Arbeidsmarkt Onderzoek
(National Programm on Labourmarket Research)
- OSA : Organisatie voor Strategisch Marktonderzoek
(Organization for Strategic Labourmarket Research)
- SCP : Sociaal Cultureel Planbureau
(Socio Cultural Planning Bureau), The Hague
- SEM : Sociaal Economische Maandstatistiek, CBS
(Monthly Bulletin of Socio-Economic Statistics)
- SEO : Stichting voor Economisch Onderzoek der Universiteit
van Amsterdam
(Foundation for Economic Research of the University of Amsterdam)
- SER : Sociaal Economische Raad
(Social Economic Council)
- SWP : Statistiek Werkzame Personen, CBS
(Statistics of Employed Persons)

1 SUMMARY

The objective of this report is to present and analyse recent developments in forms and areas of employment growth. The general idea is that for several reasons the main characteristics of many jobs are no longer identified by classifying them in terms of sectors or occupations. All kinds of changes in technology, organization of labour and production, and preferences take place, affecting (and affected by) the industrial and occupational structure of employment. Ideally this report would contain a detailed description of all important aspects of each (potential) new job. This would ultimately lead to the main forces at work. However the report is a mixture of this ideal approach and the traditional approach to employment growth. It puts together a wide range of material (statistics, results of empirical research, reports dealing with qualitative aspects of jobs) about general as well as specific developments. The conceptual framework is in line with the other country reports. Exceptions have been made for subjects which are thought of as typical Dutch or of specific interest.

Chapter two deals with general background information, recent trends in work patterns and forecasts. Discussion of sectoral and occupational growth takes place on several levels. After several years of a decreasing number of jobs, 1985 appeared to be the turning point. It is a remarkable sign of industrial revival that in that year even jobs in manufacturing did grow. Part-time jobs did increase relatively fast reaching about 25% of all jobs in the middle of 1986. This goes along with a growing female participation on the labour market. Compared with other countries supply of women lags behind but the speed of catching up is remarkable. Although employment of women grew almost uninterrupted, their jobs are still concentrated in the traditional female occupations.

Chapter three deals with changing job content. It is not easy to sort out whether the polarization tendency that showed up in the sixties and, in moderate form, also in the seventies, will continue; direct measurement of job content is lacking. Using some indirect approaches it appears that due to high unemployment the higher skilled and more educated workers are crowding out the lower educated workers. So a better match between workers' qualifications and job requirements can only be reached by creating jobs at all content levels. The technological impact on job content depends on the way the organization of labour will change. Taken all evidence together we

state that the sooner the possibilities and implications of technological progress are well understood and translated in a modified organization of labour, the better the results will be in terms of flexibility and adaptiveness, for the whole firm as well as for the individual worker.

The development of institutional arrangements is to be found in Chapter four. The focal point in recent developments is the growing labour flexibility. Some kinds of flexible contracts call for legislation to preserve more security for the workers. Special attention has been paid to black work, which might be viewed as an extreme form of flexible labour relations. Although rather sophisticated efforts have been made to get some impression of the amount of black work, unquestioned statements are difficult to make. Minimum estimates amount to 12% of those aged 16 and over involved in black work; i.e. 100.000 labour years or about 2% of "official" labour volume. There are no obvious signs of increasing black work in the recent past. The last section deals with labour market segmentation. Some emphasis has been laid on the segmentation according to sex. Although female labour participation increased, women in general do not succeed in penetrating traditional male occupations.

The last descriptive chapter, five, discusses the new areas of employment growth. After a brief survey of the changes in the employment matrix a closer look has been taken at the occupational winners of the recent past. These are medical workers, teachers, other scientists, administrative and managerial workers, salesmen and cleaners. The long-term process of replacement of blue collar by white collar workers is still going on. Nevertheless demand for particular blue collar occupations like machinery fitters and assemblers, electrical fitters and equipment operators will increase. The growth of white collar functions will shift somewhat from scientific and professional to clerical occupations. The last section tries to provide an anatomy of the service sector. The Dutch economy is already a "service economy". It is useful to make a distinction between producer oriented services and consumer oriented services. For both groups a preparatory study is available. Just like this report, these studies are halfway between conventional and non-conventional approaches. The "self service economy" hypothesis is not rejected in the report on consumer services. In the study on the producer oriented services the effects on employment at branch level are clarified.

The conclusions of the report are laid down in more detail in Chapter six.

2 RECENT DEVELOPMENTS IN WORK PATTERNS

2.1 Setting the general framework

The Dutch labour market is dominated by the large number of unemployed, about 760.000 or some 16% of the dependent labour force in 1985. This unfortunate situation compared to other EC or OECD countries is caused by the diverging development of supply and demand on the labour market. Unemployment has been low in the post-war decades. In the fifties and sixties strong economic growth created as many jobs as were needed to absorb the growing supply. In the seventies economic growth stagnated and employment remained stable. The growing supply was compensated by growing participation in education and by an increasing flow from the labour market into inactivity. While unemployment was higher than before, it did not fully reflect the structural problems on the labour market.

At the start of the present decade economic growth almost completely disappeared. Neither the growth of jobs nor a further extension of participation in education could absorb the still growing supply of labour, so unemployment increased explosively.

Table 2/1 Production, employment and unemployment rate

	production*	employment**	unemployment***
	-percentage change from previous year-		-percentage rate-
1981	-0.7	-1.5	10.4
1982	-1.5	-2.5	14.0
1983	+1.3	-1.9	17.0
1984	+2.5	-0.4	17.4
1985	+1.5	+1.1	16.2

* GDP at constant market prices

** Total employment in labour-years

*** Unemployed persons divided by the dependent labour-force x100%; change of definition in 1983.

Source: computations SEO from CBS and CPB

This increase slowed down in 1984 and ended in 1985, partly as a result of renewed economic growth, increasing part-time work and a reduction in working-hours, partly by a change in the administrative procedure (unemployed over 57,5 years are no longer registered at the Labour Exchange from 1985 onwards), and partly also by discouragement of supply.

2.2 The supply of labour

During the period 1973-1985 the Dutch labour force increased by more than one million persons. The growth has been strongest during the second half of this period. The net effects are shown in Table 2/2.

Table 2/2 Growth of the labour force, 1973-1985

	changes			level
	1973-1979	1979-1985	1973-1985	1985
	persons x 1000			
men	80	210	290	3925
women	285	455	740	2090
all	365	665	1030	6015
	labour years x 1000			
men	20	170	190	3785
women	130	235	365	1485
all	150	405	550	5270

Source: CPB, Central Economic Plan 1986, table III.3

According to the Central Planning Bureau this acceleration is due to growth of the population of working age, to increasing participation of women, to a decline in the 'disability rate' and to a lower rate of growth of educational participation.

Women constitute the largest part of the growth of the labour supply. Female participation rates, still low compared with other countries, increased substantially (Table 2/3).

Table 2/3 Labour force participation rates by age and sex, Jan 1st.; percentages

	males			females		
	15-24	25-64	total*	15-24	25-64	total*
1980	51.3	88.2	79.1	49.1	32.5	37.0
1983	50.7	87.5	78.5	49.6	38.5	41.5
1986	48.1	85.9	76.9	49.1	41.6	43.6

* total labour force divided by the population of working age (15-64).
Source: computations SEO from various sources

Female participation on the labour market increased among women of age 25-64, especially among married women. The main trend behind this phenomenon is the changing attitude towards the role of women in society. Other factors are less children (and thus more time available to spend outside the home), an on average higher education level and an increased supply of part-time jobs by employers. There are also cyclical factors at work. On the one hand the supplementary effect: women try to get a job because real household income declined; this applies to the first years of the depression. On the other hand the discouragement effect: women are not trying to get a job due to high unemployment and unfavourable changes in tax legislation.

The increase of the labour force as measured in labour-years (full-time workers during the whole year) is about half as large as measured in number of persons (Table 2/2). The ratio of persons to labour-years increased from 1.06 in 1973 to 1.14 in 1985 for the whole labour force (CPB) because of the growing importance of part-time work. Especially married women often prefer a part-time job. The persons to labour-years ratio increased from

1.43 to 1.70 for women.

The labour force will continue to grow at a similar or somewhat lower rate during the coming years because of increasing participation of women and the operation of demographic factors. In 1982 the growth of labour supply due to demographic factors was expected to disappear in the early nineties, but more recent estimates postpone this to 2000, and with the sudden rise in births of the last two years it will take even longer before supply stabilizes. However, the supply of married women will probably decrease, since having young children is the most important factor keeping them from the labour market.

2.3 Jobs

As a result of the poor growth performance of the Dutch economy, employment as measured in labour-years decreased during the years 1980-1985 (see Table 2/1). Because contractual working time in hours per year diminished by about 5% in this period, employment measured in working-hours declined even more. On the other hand we concluded in the last paragraph that the supply of part-time labour increased considerably. This implies that employment measured in persons working may show a more favourable development.

In this paragraph we consider jobs which come close to persons (employees) working, although one person may have two part-time jobs.

Looking at the period 1977-1983, the number of jobs increased in the seventies, decreased in the eighties, and thus returned to its initial level. In industry and agriculture we find a permanent loss of jobs, but from 1977 to 1980 this is more than compensated by the increase of jobs in construction and the services sectors. For the next three years the number of jobs decreased everywhere except for government and public services.

While the recovery in 1984 did not lead to more jobs, except in business services, in 1985 the number of jobs increased in all sectors. In industry this happened for the first time in many years. This phenomenon and the relative strong growth of jobs over a longer period of time in banking, insurance and business services are the salient features of Table 2/4.

Also interesting is the distinction between goods producing sectors and services-sectors. In Table 2/5 we find the growth of all jobs negative in industry and construction and positive in the services-sector. While jobs in industry and construction did increase in 1985, the gap with the services-sector remained. This gap is mainly due to different output growth and a different rate of growth of labour productivity. The larger share of part-time work in the services also has some effect.

Table 2/4 Jobs of employees* by economic activity, March 31st
(Average) percentage changes and the number of jobs in 1985

SIC**	1977-80	1980-83	1983-84	1984-85	1985 x1000
0 Agriculture	-0.4	-2.3	-5.7	+1.8	63.6
1-4 Industry	-1.0	-2.7	-3.5	+1.0	996.8
5 Construction	+2.6	-7.7	-1.5	+3.5	350.5
6 Trade, hotels, etc.	+2.3	-2.5	-1.6	+1.6	742.5
7 Transport, etc.	+2.1	-0.6	-0.4	+0.1	305.1
8 Banking, insurance, business services	+5.9	-0.2	+5.5	+8.7	490.1
9 Government, public and personal services	+2.5	+1.1	-0.3	+2.6	1458.5
0-9 Total	+1.7	-1.7	-0.9	+2.6	4407.3

* Before 1983 without jobs of employees of less than 15 hours a week

** Standard Industrial Classification, see Annex IV

Source: CBS, Statistiek Werkzame Personen (Computations SE0)

More pronounced than the difference between industry and services is however the difference in growth of full-time and part-time labour, as one can see from the figures in Table 2/5. Part-time labour in industry and construction is still unimportant (7% of all jobs) but not so in services (33%). Part-time labour is defined as less contractual hours to work than normal (full-time) in a sector. Full-time jobs still increase in the services sector at the end of the seventies, but decrease afterwards in both sectors (1985 still unknown). Part-time jobs show a strong increase,

only moderated by an interruption in industry and construction during the recession of 1980-1983.

Table 2/5 Full-time and part-time jobs* by economic activity, March 31st.
(Average)percentage changes and the number of jobs in 1984

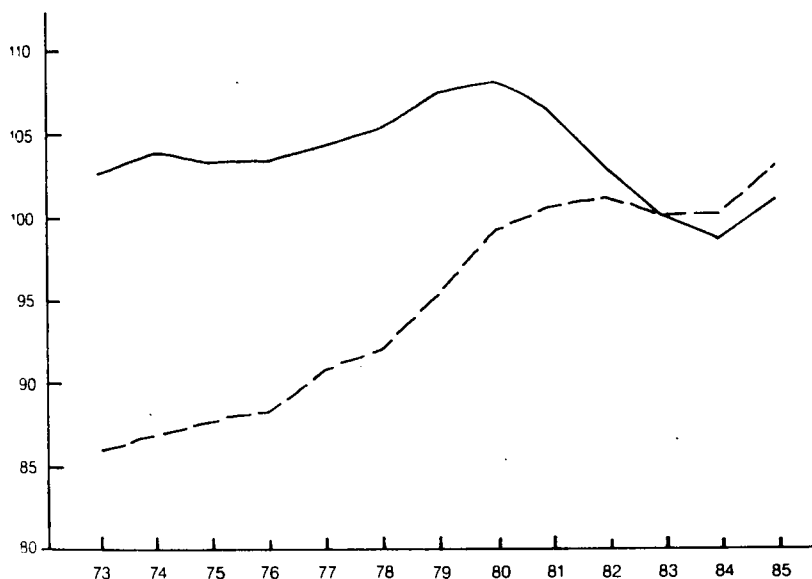
	1977-80	1980-83	1983-84	1984 x1000
FULL-TIME JOBS	+0.3	-3.2	-2.7	2648
- industry and construction	-0.9	-5.3	-3.9	1105
- services	+1.3	-1.4	-1.8	1542
PART-TIME JOBS	+8.9	+3.9	+6.3	829
- industry and construction	+6.9	-2.6	+6.3	83
- services	+9.2	+4.8	+6.3	746
ALL JOBS	+1.6	-1.9	-0.7	3476
- industry and construction	-0.5	-5.2	-3.3	1189
- services	+3.1	+0.3	+0.7	2288

* Jobs of employees excl. agriculture, public sector, social security and education and excl. employees placed on social workshops.

Source: computations SEO from CBS, Statistiek Structuur Arbeidsplaatsen.

The combined growth of part-time labour and employment in the services sector has led to a different rate of growth of jobs according to sex. As shown in Figure 2/1 female employment did particularly well compared with male employment during the last years.

Figure 2/1 Working persons according to sex (1983=100)
 — men, --- women



Source: CBS

2.4 Sectoral forecasts

The past few years are particularly interesting not only because employment growth recovered. More important are the changing attitudes towards labour, the role of the government and the recovery from the 'Dutch disease'. Important elements of this disease were: rapid rise in natural gas revenues, strong expansion of the public sector and pressure on profits as higher wages raised costs, while an appreciating currency eroded competitiveness and constrained the prices of goods; the economy was increasingly unresponsive to market forces. During the recession following the second oil crisis investment fell sharply, the share of manufacturing in GDP declined further and the government deficit widened fast.

The turning point came in the first years of the present decade. The administration cut the budget in 1982-1983, employers and employees organizations agreed on lowering wage costs. Perhaps even more important are the psychological processes behind these developments. Instead of supporting firms in difficult situations (as in the seventies), the

government chose to limit its role to improving conditions for the market sector. Another important point is the intention of non intervention in wage negotiations. This is in line with the much prophesized 'new industrial élan': the steady decline of the share of manufacturing in GDP had to be stopped. A new confidence emerged in the capabilities of the Dutch manufacturing to compete with other countries. By now the capacity utilization rate is back at its normal level and the perspective for the Dutch economy is better than before: inflation is negative, profits are increasing, competitiveness is satisfactory and the development in wages will be moderate, with the possible exception of jobs with a shortage of supply. Government deficit will decrease steadily, without much loss in aggregate demand. But all these facts hide what is really missing in the Dutch situation and that is strong investments accompanied by a belief in one's capabilities to start new undertakings. It is certainly true that in the 1970s the investment climate was bad and policy makers have neglected the impact of this on the long term: a loss in dynamics to adapt to changing circumstances.

As always in small open economies, growth depends largely on foreign developments. For the medium term the so called 'exposed' sector will be able to gain from the expected growth of world trade (on average 5% per year). Among the manufacturing sectors the metal industry and the chemical industry will profit. Among the tertiary services those sectors closely related with foreign trade will grow, like trade and sea- and airtransport. Those sectors that largely depend on real disposable income will at least stabilize. Some of the 'sheltered' sectors will have some growth, like construction and public services sectors. The construction sector will be hampered by the decrease of government investments, stabilization of house-building and a limited increase in investments in other buildings. This implies that sectors like construction materials and tertiary services like architects and contracting consultants will show small growth figures too. The public services sectors will have to expect some negative influence of the government budget cut. This also depends on natural gas revenues, which are expected to fall from more than 20 billion guilders per year in 1984-1986 to about 10 billion in the period 1987-1990.

In two sectors the prospects are highly uncertain, agriculture and energy. For agriculture this is caused partly by external factors like EC agricultural policy and partly by internal factors like the enormous use of fertilizer causing environmental problems. The highly uncertain character of the energy sector depends obviously on OPEC policy.

In regard to employment prospects, the most important fact is that after almost two decades of decreasing employment in manufacturing there is a turning point: in some sectors, like the electrotechnical and chemical industry, employment will increase considerably according to the Central Planning Bureau.

The other big increase of employment is generated by the tertiary services, especially trade, transport and communication and services like catering, repairs and business services. Although only the first form of employment growth can be called a relatively new area, there are also new elements in the second sector.

It seems no coincidence that employment growth in manufacturing will take place in those sectors with at least one big (multinational) company: the electrotechnical industry (Philips), the airplane industry (Fokker), oil and chemical products (Shell, Esso, Akzo and DSM).

In the chemical industry there is a general upgrading of the production mix in order to cope with the OPEC competition on the basic oil products segment. The market prospects for chemical end products benefit from the bio technical breakthrough, especially in the pharmaceutical industry. In the metal sector the electrotechnical industry is doing very well, as well as the instruments and optical industry. Also the expectations for the airplane industry are hopeful. Although the future of the basic metal industry is not very prosperous, because of tendencies towards protection and problems in the EC framework, the Dutch basic metal industry will benefit from any increase in demand: production units have been modernized and quality and flexibility improved substantially.

Among industries not led by big companies, but with good expectations too, we must mention the graphical industry. As in the manufacturing of artificial and synthetic yarns and fibres and in the basic metal industry here also

equipment has been installed incorporating the best available technology.

It can be concluded that within the manufacturing sectors the sectors having good employment prospects are those either spending much on R & D, followed by the conversion in new products and means of production (which is in the Dutch case almost the same as the presence of a multinational company), or having successfully restructured the production lines, in order to get rid of obsolete or redundant production capacity, or both.

All tertiary services taken together account for almost 45% of employment in the private sector in the Netherlands. For nearly all subsectors belonging to the tertiary services employment is expected to rise. The largest contribution to employment growth in absolute terms comes from trade (+ 45.000 labour years) and 'other tertiary services' (Table 2/6), especially the business services (+ 43.000). Measured in persons this growth will even be stronger: in the trade sector the person-labour-years ratio will increase from 1.14 in 1980 to 1.25 in 1990, in the 'other tertiary services' it will increase from 1.20 to 1.38.

In the tertiary services the innovations based on micro-electronics will be most important: automation of desk work, stocks, electronic payment and logistic improvement in transport and storage. The integration of computer and telecommunication will continue and networks will be developed.

Predictions for the quality and quantity of work are hard to make. On the one hand there is a tendency towards a more tight organization in which the major discussions are taken by a small group of 'overall specialists' and the main work is getting relatively dull: putting information into a computer and getting other information from it limits social contacts and career prospects. On the other hand a tendency arises to use flexibility not only as a way to improve 'products' but as a slogan for the organization of labour too.

The forecasts in Table 2/6 have been made in labour-years. The average yearly percentage growth will be about 1% during the period 1986-1990. This amounts to 130.000 labour-years. Measured in persons the increase will be

much larger. The Central Planning Bureau expects a somewhat lower rate of increase in the share of part-time labour than occurred in recent years. Nevertheless this share will be 32% in 1990 against 26% in 1986. Employment in persons will increase by about 300.000. The growth rate of employment is supposed to be 1 percentage-point higher if measured in persons instead of labour-years (manufacturing 0,5 percentage-point).

As 'registered' supply of labour will increase between 1986 and 1990 with circa 250.000 persons, unemployment will remain high.

Table 2/6 Employment in labour years

	1982	1963/ 1973	1973/ 1983	1983	1984	1985	1986	1986/ 1990
	1000 labour years	mutation per year in %						
1. agriculture, forestry, fishing	271	-3	-1	0,5	-0,5	-0,5	-0,5	-0,5
food-processing industry								
2. meat processing, dairy products	43	1	-2,5	-4,5	0	0	0	-0,5
3. other products	102	-1,5	-2	-3	-1	-1	1	0,5
4. beverage and tobacco-processing	22	-1,5	-2,5	-4,5	0	0	0	0
5. textiles, clothing, leather	51	-6	-9	-8	-4,5	0	0	0,5
6. wood, furniture, building materials	75	-1	-4	-9,5	-3	-3	0	-1
7. paper, paperware, printing, publishing	105	0,5	-1	-3	-1	1	2	0,5
8. chemical, rubber and plastics	109	1,5	-1	-2	0	3	2	1,5
9. basic metal industry	34	3	-1,5	-3	-3	0	0	0
10. metal products, optical goods	195	0,5	-2,5	-5,5	-2,5	2	1,5	1,5
11. electrotechnical industry	104	1	-2	-5	-2	4	4	1
12. manufacture, assembly transport equipm.	71	0	-2,5	-5,5	-4,5	0	-1,5	2
13. petroleum industry	11	1	0	0	0	0	0	0
2-13. industry	922	-0,5	-2,5	-4,5	-2	1	1,5	1
14. petroleum, gas production	8	-14	-2	12,5	0	0	11	2,5
15. public utility	47	1,5	0,5	0	-2	0	0	0,5
2-15. manufacturing (construction excl.)	977	-1	-2,5	-4,5	-2	1	1,5	1
16. construction, installation	358	1	-3,5	-8,5	-0,5	0	0	-0,5
17. exploitation real estate	12	0	0	0	0	0	8,5	2
18. trade	718	1,5	-0,5	-1,5	0	1,5	2	1,5
19. sea and air transport	36	-5	-1	-3	-3	3	3	0,5
20. other transport storage, communication	279	1	0,5	-1	0	2	1,5	0,5
21. banking, insurance	176	4	1,5	-1,5	-1	0,5	0	-0,5
22. other tertiary services	487	1	-1	-1	0,5	1	1,5	2
23. health and veterinary services	318	6	3	1	0,5	1	2	1
24. other quaryary services	253		2	-1	0,5	1	1	1
17-24. services	2279	2	0,5	-1	0	1	1,5	1
1-24. total firms	3885	0,5	-0,5	-2,5	-0,5	1	1,5	1

Source: CPB, Centraal Economisch Plan, 1986

2.5 Occupations

Having dealt with the employment situation per economic sector, we shall now take a look at the development of occupations. We start with the so called major groups of the ISCO classification, loosely identified as:

- specialists (scientists, architects, medical workers, teachers, artists, accountants, journalists, artists, sportsmen, etc.);
- managers (government administrators and managers mainly in manufacturing);
- clerical workers (government executive officials, stenographers, typists, bookkeepers, computing machine operators, transport conductors, mail distribution clerks, etc.);
- sales workers (managers in wholesale and retail trade, technical salesmen, manufacturers' agents, insurance, real estate and business services salesmen, shop assistants, etc.);
- service workers (waiters, barbers, cleaners, protective service workers etc.)
- agricultural workers (fishermen, agricultural workers, forestry workers, farmers, etc.);
- production workers (all kind of manual labour; blue collar workers)

In each production process there are functions like buying and selling, management and administration (overhead) and direct productive functions like farming, cleaning, plumbing, etc. At times the production process requires specialist knowledge, like scientific knowledge. Unfortunately however the classification according to the "major groups" is a mixture of a functional and a sectoral classification.

The increase in working persons is largest among specialists and service workers, followed by clerical workers and managers (Table 2/7). This order does not change in the last two years (1983-1985). The ordering by percentage change shows the largest relative gains for managers, specialists and service workers. During the most recent years specialists and service workers change place.

Agricultural and production workers are decreasing in number during the years 1977 to 1983. The loss of production workers is almost as large as

the gain in specialists during this period. From 1983 to 1985 the number of production workers remained more or less constant. Their relative position, however, did not improve. Their growth rate lags 1 à 2% per year behind the average.

Table 2/7 Changes in employed persons by major groups of occupations

ISCO*	1977 - 1983		1983 - 1985	
	persons x 1000	percentage	persons x 1000	percentage
0/1 specialists	229	28	51	5
2 managers	43	36	18	11
3 clerical workers	43	5	40	4
4 sales workers	37	8	1	0
5 service workers	81	16	43	7
6 agricultural workers	-7	-2	-4	-1
7/8/9 production workers	-219	-14	6	0
total	204	4	167	3

Source: computations SEO from CBS, Labour Force Surveys

*: for the ISCO-code see Annex IV

The employment matrix of occupations by sector (Table 5/1, Chapter 5) reveals whether these developments occur in each sector of economic activity or only in sectors with a concentration of particular occupations. In the employment matrix of Table 2/8 the change in employment by major group of occupations and economic activity during 1983-1985 is given.

Specialists in the public and personal services (sector 9), clerical workers in the business services (sector 8) and service workers in trade, hotels, restaurants and cafés (sector 6) as well as in public and personal services (sector 9) show the largest increase in employment. According to Table 2/8, these sectors of activity are also the sectors with the main growth of employment. We may conclude that major groups of occupations as specialists, clerical and service workers are growing in importance because

employment in the service sector is growing. The most important "occupational effects", i.e. growth due to increasing occupational shares within sectors, are located in manufacturing (sectors 1-4) for specialists and in most sectors for managers. The increase of specialists in manufacturing during 1983-1985 is remarkable.

Table 2/8 Changes in the employment matrix 1983-1985.
Working persons x 1000

ISCO	sector*							total**
	0	1-4	5	6	7	8	9	
0/1 specialists	0	10	0	6	2	9	22	51
2 managers	1	6	1	2	3	-2	7	18
3 clerical workers	0	7	2	2	5	25	2	40
4 sales workers	-1	-3	0	0	0	5	0	1
5 service workers	0	1	0	16	0	4	24	43
6 agricult. workers	-2	0	0	-1	0	1	0	-4
7/8/9 production workers	-1	-46	0	7	3	1	5	6
total**	-3	+10	+5	30	10	42	60	167

Source: CBS, Labour Force Surveys

*: see Table 2/4

** : included occupation or sector of activity unknown

Forecasts of employment by occupation should rely on industrial and occupational effects. In the most simple macro-economic model labour productivity growth is subtracted from production growth. From this the employment growth follows. Next this growth is proportional distributed over the several economic sectors, and using a sector by occupation matrix, the sectoral growth is translated in occupational growth. This approach neglects both the industrial and the occupational effect, and is rather old fashioned.

The common current approach is at least to allow for differences in sectoral growth, as forecast by sector specialists or a sectoral model. Again, using a sector by occupation matrix, predictions can be made.

The occupational effect is hard to predict. First there is a lack of

consistent time series for the share of occupations in each sector, second these shares change relatively fast and third, the classification may not be appropriate to the most important developments. In our case, the sector 'other services' of SECMON is not suitable for studying developments in the services sector, while growth of blue collar workers takes place in a residual group, as we shall see in Chapter 5.

In the Netherlands two approaches to estimate the occupational effect have been used. The ANTOS report (see statistical annex) fits a trend per cell of the sector-occupation matrix. Unfortunately only four observations for each cell are available, so the results are not very reliable. Besides, the study is based on census data and labour force surveys up to 1979, so it is by now out of date.

Using a classification by 30 occupations, relatively large increases in employment will probably occur for "other scientists"(5), bookkeepers, cashiers and related workers (8) and other clerical and related workers (9). The estimated increase of some blue collar jobs is also substantial: machinery fitters, machine assemblers and precision-instrument makers (23), electrical fitters and related electronics workers (24) and material handling and related equipment operators (28).

A way of dealing with the lack of observations is to estimate the same relative change of shares of occupations across sectors. These relative changes are then modified for each sector to let them sum up to zero. The sectoral growth can be derived from a sectoral model. This approach has been used in VOSTA (stock-flow model of the labour market, see Chapter 7, V) using SECMON (Sectoral Model of the Dutch Economy, see also Chapter 7, V) for the sectoral forecasts. The results of this exercise are shown in Table 2/9.

Table 2/9 Employment by occupation according to VOSTA, x 1000 persons 1979 and 1983-2000

Occupation	labour volume				mutation '83/2000	% changes per year		
	1979*	1983	1988	2000		79/83	83/88	88/2000
1 Physical scientists, architects, engineers and related technicians	178,9	168,3	165,3	157,1	- 11	-1,5	-0,4	-0,4
2 Medical, dental, veterinary and rel. workers	194,5	230,5	240,3	283,5	53	4,3	0,8	1,4
3 Teachers	239,7	262,1	269,9	329,1	67	2,3	0,6	1,7
4 Sculptors, painters, photographers and related creative artists, composers and performing artists	43,1	44,7	54,5	91,2	47	0,9	4,1	4,4
5 Other scientists	246,1	276,5	307,6	408,2	132	3,0	2,1	2,4
6 Administrative and managerial workers	119,0	126,6	133,6	147,3	21	1,6	1,1	0,8
7 Stenographers, typists and card- and punching machine operators	138,7	130,0	131,6	138,6	9	-1,6	0,2	0,4
8 Bookkeepers, cashiers and related workers	277,2	272,1	300,4	391,2	119	-0,5	2,0	2,2
9 Other clerical and related workers	495,6	513,0	540,0	607,1	94	0,9	1,0	1,0
10 Technical salesmen, commercial travellers and manufacturers' agents	49,7	45,5	43,6	34,8	- 11	-2,2	-0,8	-1,9
11 Salesmen, shop assistants and related workers	225,0	214,0	223,7	231,2	17	-1,2	0,9	0,3
12 Other sales workers	229,3	217,7	237,9	279,7	62	-1,3	1,8	1,4
13 Cooks, waiters, bartenders and related workers	95,6	100,8	102,9	112,9	12	1,3	0,4	0,8
14 Maids and related housekeeping service workers not elsewhere classified	171,6	149,7	151,8	167,2	17	-3,4	0,3	0,8
15 Building caretakers, charworkers, cleaners	99,8	97,8	106,8	139,8	42	-0,5	1,8	2,3
16 Hairdressers, barbers, beauticians and rel. workers	29,1	25,7	24,7	23,9	- 2	-3,1	-0,8	-0,3
17 Other service workers	131,9	106,8	102,3	98,5	- 8	-5,1	-0,9	-0,3
18 Agricultural, forestry workers, fishermen etc.	293,6	263,8	257,3	232,3	- 32	-2,6	-0,5	-0,9
19 Production supervisors and general foremen	97,2	61,9	50,9	29,7	- 32	-10,7	-3,8	-4,4
20 Food and beverage processors	67,4	57,7	58,4	52,1	- 6	-3,8	0,2	-1,0
21 Tailors, dressmakers, sewers, upholsters and related workers	38,1	29,1	24,9	13,0	- 16	-6,5	-3,1	-5,3
22 Blacksmiths, toolmakers and machine tool operators	52,7	43,1	43,2	38,4	- 5	-4,9	0,0	-1,0
23 Machinery fitters, machine assemblers and precision instrument makers (except electrical)	173,1	175,4	192,6	231,1	56	0,3	1,9	1,5
24 Electrical fitters and related electrical and electronics workers	107,8	116,8	134,7	172,5	56	2,0	2,9	2,1
25 Plumbers, welders, sheet metal and structural metal preparers and erectors	138,0	115,3	115,0	116,6	1	-4,4	0,0	0,1
26 Painters	51,5	41,6	40,6	42,1	0	-5,2	-0,5	0,4
27 Bricklayers, carpenters and other	235,6	181,9	177,4	186,6	5	-6,3	-0,5	0,4
28 Material handling and related equipment operators, dockers and freight handlers	162,6	169,5	188,8	221,0	51	1,0	2,2	1,3
29 Transport equipment operators	165,2	147,0	139,5	109,0	- 38	-2,9	-1,0	-2,0
30 Other production and related workers, transport equipment operators and labourers	281,7	225,8	200,4	138,4	- 87	-5,4	-2,4	-3,0
1 - 30 total	4829	4611	4761	5224	613	-1,1	0,64	0,78

Source: 1979: ANTOS

1983-2000 : VOSTA, SEO, not yet published
only persons considering the occupation as their main activity,
occupation unknown left out*: 1979 is not fully comparable with the other years,
due to slightly different questions asked.

3 JOB CONTENT

3.1 Job content and education

A job has many characteristics. Generally the content is determined by the tasks that are to be carried out under normal conditions. This can be easy work, requiring no specific skills or knowledge, or highly complicated work for which much theoretical knowledge is needed. Other common dimensions of a job are the responsibilities involved. Usually, the wages paid reflect to some extent these factors as well as others like social status and the situation on the labour market. The last two factors are subject to cultural and economic change.

The level of education of people having jobs might tell us something about the required skill or theoretical knowledge. This level has increased

Table 3/1 Persons employed according to educational level. Share in total employment* (percentages) and absolute change in thousands of persons

ISCED**	1979	1981	1983	1985	1979-1985 x1000
1st level	22	19	16	14	-364
2nd level, 1st stage, general	7	8	8	7	+ 4
2nd level, 1st stage, vocational	24	20	20	20	-119
2nd level, 2nd stage, general	3	4	4	4	+ 55
2nd level, 2nd stage, vocational	28	31	34	34	+338
3rd level, 1st stage	10	11	12	13	+175
3rd level, 2nd stage	4	4	4	5	+ 68
other (student, unknown)	3	3	3	3	+ 6
total, percentage	100	100	100	100	
total, persons x1000	4893	5016	4919	5056	+163

Source: computations SEO from CBS, Labour Force Surveys

* employers and employees, excl. military personnel

** International Standard Classification of Education of UNESCO, see Annex IV

during a long period of time and still does so. According to table 3/1 there is a rapid shift in the demand for labour from unskilled to highly skilled persons. The share in employment of people with only primary education (1st level) fell from 22% in 1979 to 14% in 1985. The share of employed persons with senior vocational (2nd level, 2nd stage), vocational college and university training (3rd level, 1st and 2nd stage), taken together, increased from 42 to 52%.

If we look at the supply of labour the changes are however less pronounced. Many of the unskilled and low skilled became unemployed. The share of these categories in total unemployment remained constant from 1979 to 1985, but at a high level: 77% (1st level 40% and 2nd level, 1st stage 37% according to CPB, 1986). The number of unemployed increased from about 280.000 to 760.000 (partly due to a change of definition). The decrease in persons employed according to table 3/1 corresponds partly with an increase in unemployed persons. In other words it is doubtful if the job content changed that much towards more skill and theoretical knowledge as might appear from the figures in table 3/1. Possibly also the same job is done by the better educated person because of the existing excess supply of labour (see below).

Conen et.al. (1983) have made a thorough study of the relation between changes in job content and level of education. For about 1800 occupations the job content has been measured as a weighted sum of qualifications required (subdivided in general and vocational), responsibilities involved and shop-floor consultation required. The quality content of a job is indicated on a scale from one (lowest quality) to seven. Two subperiods are distinguished, 1960-1971 and 1971-1977, to account for data problems: comparability is hampered by a major overhaul of the Dutch educational system at the secondary level.

The job content structure exhibits a polarization in the period 1960-1971: the share of higher (5, 6 and 7) and of lower job content levels (1, 2 and 3) increased, while the share of job content level 4 strongly decreased. Job content level 4 refers to skilled blue-collar and clerical work. The

period 1971-1977 exhibits a moderate continuation of this polarization tendency.

While the period 1971-1977 might seem somewhat dated it is still worthwhile to go into more detail as done in table 3/2. The change in educational level is more or less comparable with the one in the period 1979-1985.

The distribution of employees by job content level and level of education shows a strong correlation between both variables. Jobs with a low quality content are mainly occupied by persons with primary or junior general or vocational education, and jobs with a high quality content mainly by people from vocational colleges and universities.

Table 3/2 Distribution of employees by job content level and educational level in 1977, percentages (difference with respect to 1971 in percentage-points)

job content level	education level*					total = 100
	primary	general and vocational		vocational colleges	university	
		junior	senior			
1	73(-9)	25(8)	2(1)	0(0)	0(0)	10(0)
2	48(-15)	44(10)	8(4)	1(1)	0(0)	24(4)
3	30(-11)	53(2)	15(8)	1(1)	0(0)	20(-2)
4	20(-7)	58(-4)	19(10)	2(1)	0(0)	19(-2)
5	10(-5)	29(-14)	48(15)	13(4)	1(1)	13(-1)
6	4(-1)	14(-5)	24(-3)	47(6)	11(3)	10(0)
7	0(-3)	2(-6)	6(-3)	35(5)	57(7)	4(1)
total	30(-8)	40(-1)	17(5)	9(2)	4(1)	100(0)

Source: Conen et.al. (1983), p. 420

* Not wholly comparable with the classification in table 3/1

There is however no such correspondence between the change in these

variables. The overall job content level does not increase. It follows that the qualitative structure of employment between 1971 and 1977 did not keep up with the rise in educational level. Within the structure of job content levels crowding out takes place: at each functional level the share of lower educated workers decreases and the share of higher educated workers increases. At every functional level the share of people with the lowest education level diminishes. In 1977 the share of those people in unemployment is already relatively large, so it seems that crowding out does not only occur within job content levels but also in total employment.

This crowding out phenomenon can have several causes. One possibility is that at each functional level the content of the job became more complicated. A second explanation lies in the supply of labour: the relative abundance of high qualified employees. Employers are able to obtain better labour than is strictly necessary. According to table 3/3 the latter explanation seems plausible. During the period 1971-1977, with unemployment increasing, the percentage of people "working below their educational level" also increased. At the same time the percentage of people "working above their educational level" was reduced. The frequency of proper matching between educational level and job content remained virtually unchanged.

Table 3/3 Over- and underutilization of education, percentage of employees*

level of job content	1960**	1971**	1971***	1977***
below level of education	7.0	13.6	15.4	25.7
matching level of education	57.5	59.3	55.2	53.6
above level of education	35.6	27.1	29.5	20.6

* proper match between levels based on the instruction of the ARBI-code, explicitly referring to types of schooling

** labour force by education and job level based on Conen & Huygen (1980), see bibliography

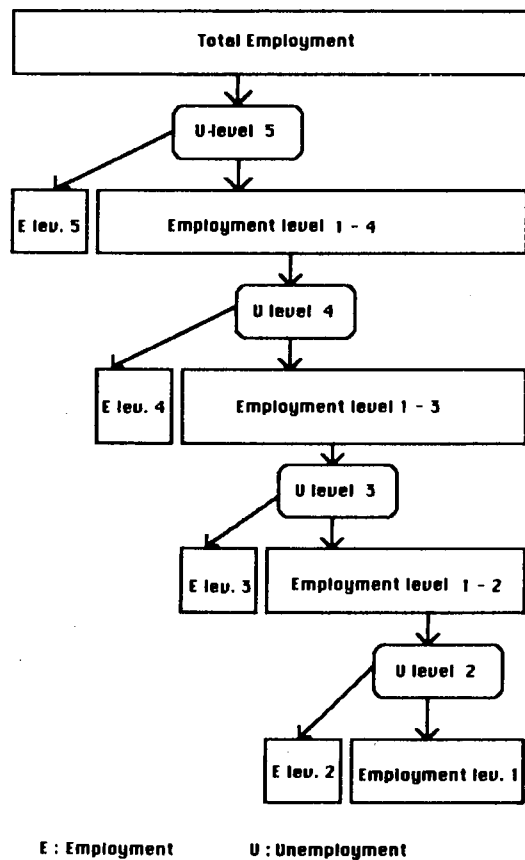
*** extrapolation of SEO based on Conen, Huijgen and Riesewijk (1983)

With unemployment rising from 2% in 1971 to more than 6% in 1977, the situation on the labourmarket seems to be reversed: from a shortage to some excess supply of higher educational levels.

Unfortunately the exercise of table 3/3 is not available for a more recent period. However SEO developed a model of flows and stocks on the labour market (VOSTA) which was used to explain regional differences in crowding out by regional differences in unemployment rates with data of the labour force surveys of 1979 and 1981.

The conclusion is that crowding out depends indeed on the relative abundance of employees with high education levels. Moreover, other possible effects do not show up: differences in unemployment rates between education levels can almost completely be explained by crowding out.

Scheme of the crowding out process



Source: SEO

The model has been estimated only for the educational levels one to four because the highest educated have a large interregional mobility. Table 3/4 gives the hypothetical consequences of an increase of labour supply of one percent in each level of education for the employment situation at each level of education.

Table 3/4 Consequences of an 1% increase of supply for employment and unemployment per educational level*

1% increase of supply in level of education	employment (in % points)				unemployment (in % points)			
	4	3	2	1	4	3	2	1
1	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,00
2	0,00	0,00	0,28	-0,43	0,00	0,00	0,72	0,43
3	0,00	0,62	-0,36	-0,65	0,00	0,38	0,36	0,65
4	0,92	-0,06	-0,07	-0,21	0,08	0,06	0,07	0,21
1 t/m 4	0,92	0,56	-0,14	-1,31	0,08	0,44	1,14	2,31

Source: Teulings and Koopmanschap (1986)

* For the educational levels see Table 3/2 (excl. university)

Crowding out is a one-sided process. Increased supply at the lowest educational level results in a growth of unemployment with the same number. An increase of supply on medium level does not have any consequences for the highest educational level. Part of the additional supply causes an increase of employment at that level at the cost of employment of the lowest level. The extra supply is partly unloaded on lower levels, and the highest education levels have the largest possibilities to do so.

The last row in the tabel affirms this: if the supply increases with 1% at all educational levels, unemployment of the highest level hardly increases, but the lowest level has to take an increase of unemployment of 2.3%.

Table 3/5 gives an impression of the importance of crowding out for the high unemployment rate of the lower skilled labour force.

Table 3/5 Differences in unemployment rates caused by crowding out

educational level	unemployment rate 1981	unemployment rate with 3% lower supply on every level
1	9.0	2.1
2	6.5	3.0
3	3.5	1.1
4	2.8	2.4
1 to 4	5.5	2.5

Source: Teulings and Koopmanschap (1986)

This table clearly indicates that unemployment of people with low educational levels is not caused by a shortage of low-skilled jobs but by crowding out.

3.2 Technological innovation and job content

Almost all technological innovations of the last few years have in common the use of computers. The way computers are used differ a lot. Nowadays we can put almost every character of the alphabet after the characters CA (Computer Aided), like M (Manufacturing), D (Design), S (Storage) and P (Planning), among other. Table 3/6 provides some information on the automation in the Netherlands. It is expected that these figures will show a steady increase in the near future, the last column somewhat more than the others. Micro- and mini-computers can nowadays handle information as well as a large computer of, say, five years ago. Complete networks of such small computers and/or terminals will become more important and more persons will be involved in the automation process. The big computer will be left for the real 'number cracking'.

According to the ministry of Economic Affairs in about one third of all industries radical influences of automation are to be expected. Another

third part will undergo some influence and on the remaining part there will be no influence at all.

Table 3/6 Total employees, employees working in automatized firms* in the private sector, 1983, thousands of persons

sector	employed persons	of which working in automatized firms		of which direct automation personnel		others involved**	
		persons	% of 1	pers.	% of 2	pers.	% of 2
	1	2	3	4	5	6	7
Mining,							
Manufacturing	995	674	68	14,5	2	30,1	4
Construction	381	98	26	2,3	2	2,8	3
Trade, hotels, etc.	885	466	53	13,8	3	22,9	5
Business services	739	608	82	31,6	5	67,0	10
Other firms***	3007	388	13	4,1	1	18,5	5
Total***	5007	2235	45	66,3	3	137,3	6

Sources: first column : CBS, Labour Force Survey 1983

other columns: CBS, Automation Statistics

* Firms having a computer of at least f 10.000,-- and/or having automation personnel

** Sometimes using the computer

*** First and other columns not fully comparable

The installation of a computer, or computer network is only the beginning, in many cases the start of a lot of trouble. Learning how to deal with the computer is one thing, but the computer is to be told what should be done and that is far more difficult. Not only the specific tasks have to be brought into the computer, but the structure of information and organization too. By then it might become clear that the traditional division of labour is not suited for dealing with the new possibilities. This in turn might call for another conception of human labour.

In order to make clear this point we use the example of the influence of automation on the job content of an operator in the process industry. In

the traditional division of labour, human labour is often viewed as a limiting factor which has either to be eliminated or controlled. This means that the ultimate goal is a maximum of automation connected with strict division of labour. The consequences for the job content are:

1. Diminishing variety of tasks. By automatizing as many tasks as possible the work of the operator is reduced to guarding the process. 'Passive' labour time increases, interventions are scarce. The remaining tasks are strictly distributed over different persons;
2. Decreasing autonomy: the operator guards the process that has been put into the computer by others. No independent authority in case of minor disturbances;
3. No cooperation in extreme cases: the lonely operator in the control room.

These consequences downgrade the job. Although heavy work disappears other forms of 'heavy' labour emerge:

- a. Underutilization as a new form of monotonous work: waiting and waiting for incidents without knowledge of the consequences for the production process;
- b. Overutilization during incidents. An extreme example is the accident in the nuclear power plant of Three Mile Island. Confronted with two hundred alarm signals, and a series of situations for which they were not trained, the operators, unintentionally, worsened the situation.

The avoidance of costly disturbances still requires highly trained personnel, but since they use their skills less often, a loss of capacities seems to be inevitable.

The assembly of televisions is an example of automation while keeping the hierarchy intact. Instead of flow production (noisy, monotonous) each employee now has his own cell and his task is to put together parts produced by machines into a framework and to check the finished television, using a computer. Although the production environment has improved, higher wages are paid and labour productivity did grow, social contacts worsened and career prospects are as bad as ever. Even worse, in the future it will be possible to automatize this kind of unskilled work.

Another example is the printing/publishing industry. In the recent past many initiatives have been taken to adapt the qualifications of employees to new technologies in this sector. In fact, this sector was the first one with a technology agreement (1975). Nevertheless there was no important breakthrough in the division of labour.

The main form of automation in this sector is the application of screens in the text preparation. The importance of the texthandling process and the link of a lot of terminals with a central computer, also by telephone, shifts the input process to the copywriters. Automation in the printing/publishing sector means a sharp division between high and low skilled jobs: polarization. For both groups pressure increases. For the lower skilled there is a lack of autonomy and of control on the amount of work done.

The alternative view on automation emphasizes the quality of work.

Attempts are being made not to maximize but to optimize the use of computers, linked with a concept of labour characterized by integration, variation, teamwork and room for manoeuvre. Operating, laboratory and reparation functions are combined, rotation takes place over the different parts of the production process, and the number of hierarchical levels decreases. The gains in terms of productivity and flexibility improvement are partly used for reduction of personnel but it is equally important to use it for training, re-schooling and consultation. Ideally, this view on the meaning of labour should be incorporated when planning the production process, simultaneous with the design of controlrooms, screens, software, instruments, layout and communication. The work is being carried out in working groups, sharing responsibility for a certain part of the production process. The tasks are differentiated to content, skills and knowledge requirements. Cooperation is not only possible but a technical necessity.

In a series of case studies of several branches in the process industry (see table 3/7), containing sociological and economical aspects of developments, a remarkable result was that even between firms that hardly differ in the technologies in use, there are very different principles of organization used. Some stayed within the traditional hierarchical

('Taylor-like') model, others are on their way to integrate tasks and conduct experiments with teamwork production. In order to have enough qualified personnel some firms extend internal courses, others hire new personnel. There seems to be a lot more freedom than was often thought. In respect of the structure of qualification opposite tendencies appear. On the one hand new equipment requires higher qualifications of operators and, even more important, the character of knowledge changes. Knowledge of specific products becomes less important and technical knowledge becomes more important. In the past the introduction of mechanical production caused quite similar developments. Knowledge of the structure of production

Table 3/7 Qualitative changes* in the structure of employment in the process industry due to technological developments

Main activity	timber SIC (25.3)	furni- ture (25.7)	concrete (32.5)	synthtic materials (31.7)	paint (29.5)	pharma- ceutic (26.9)	ferti- lizer (29.1)
a) direct production			+				
-transformation	+/-	+/-		+/-	+/-	+/-	+
-other activities	0	0		0/-	0	0	0
b) preparation	+/-	+/-	+	+	0	0	0
c) support	+	+	+	+	+/-	+/-	+/-
Total (dominant change)	+	+	+	+	+/0	+/0	+

Source: SEO/STB:Technologie en Werkgelegenheid op sectorniveau, Ministerie van Economische Zaken, Den Haag, 1986
(Technology and employment on branche level, Ministry of Economic Affairs, The Hague 1986)

*: changes in qualifications required from employees in case of application of the best practice technology instead of average or normal practice

+ = higher; 0 = no or hardly any change;

- = lower; +/- = opposite tendencies

and information requires a higher level of abstraction. Firm specific knowledge becomes more important.

On the other hand the application of new machines causes an under utilization of capacities of employees, sometimes followed by high absenteeism and/or high turnover of personnel, again largely depending on the way the production process is being (re-)structured. The under-utilization of employees has, at least in some branches, still another reason: for several functions employers expect to need higher qualified workers. They are hired in advance while the actual jobcontent does not change.

The application of the new organization model has been successful in the insurance sector. Automation of the administrative process is of moderate recent date. The storage of administrative data has been automatized for a longer time; the real administrative work, the transformation of relative unstructured information into structured information, was until recently done by hand, even in big insurance companies. For this work specialists were needed educated by special institutes.

Later on terminals were used by relatively low educated employees in order to add and change information in various data sources. Also most parts of the processing of the information was done by the computer without substantial intervention by specialists.

As a consequence of the administrative automation and the changing organization of the labour process there are nowadays hardly any specialist functions left. Instead there are new, integrated functions (all-round functions) which combine parts of the older specialist functions with newly developed tasks. The content of these new functions varies from firm to firm and depends now more than before on the specific way the labour process is organized.

For these functions other skills are needed which are not provided by the traditional branch-specific educational institutes; firms provide firm specific courses themselves. The branch specific education is viewed as important background knowledge and a certificate is considered to be an indication for the interest of the employee in the insurance bussiness. It is expected that employees with broader knowledge adapt more easily to

changing work patterns. The branch-specific education institute reacts to changing circumstances by providing education-packages and 'in company service'.

Automation did not systematically make disappear low, unskilled labour. It did create new functions which also have a routine character (punching, many operating functions). In addition, technological innovation simplified certain skilled work, for instance in the printing/publishing industry and certain types of desk work. Perhaps it is however more important to stress some methodological and theoretical conclusions that are by now widely accepted. One conclusion is that the implications of technological change for the content of jobs depend on the organization principles in use. In principle the same technological renewal can cause more simplified as well as more sophisticated functions. Simplification in most cases is due to the widely used traditional organizational principles: horizontal and vertical division of labour, standardization of tasks etcetera.

Another conclusion is that the conversion of functional requirements into demand for persons with certain skills depends on personnel policy, which in turn is influenced by the situation on the labour market. Higher educational requirements may be caused by the situation on the labour market, so it is not a proper indication for changes in job content.

There are indications for a growing flexibility of the already mentioned organizational principles: integration of tasks and broadening of qualification requirements with corresponding emphasis on multi-applicability of certain skills is growing. There is also a growing importance of other factors than pure skill qualification, like independency, flexibility and social skills.

Taken all this in account it is hard to forecast the developments in qualification requirements. However, it can be expected that if the possibilities of organizational and personnel policy get better understood and used, then the diversity of comparable functions in different firms will increase, and specific qualification elements of firms will gain weight. The process of taking together old, new and changing tasks will result in functions that are more tied to specific firms.

3.3 Job improvement programs

Autumn 1985 it was ten years ago that a government programme 'job improvement' was launched. In the seventies there was a growing international consensus about the importance of stimulating research in order to improve the quality of jobs. Several arguments were mentioned. The steady growth of technological progress caused new problems in the area of labour organization and physical labour conditions. The steady growth of the costs of the social security system was an argument to take preventive measures. There was also a growing understanding of the 'double character of labour protection': improvement of the labour conditions does not only protect the employee, it induces a higher labour productivity too.

In many European countries some kind of job improvement program was launched, for example the West-German 'Forschungsprogramm zur Humanisierung des Arbeitslebens', the French fund to improve labour conditions (FACT) and Danish, Norwegian and Swedish efforts in this area. The Dutch version was introduced in 1975 and was called 'Arbeitsplaatsverbetering' (APV).

Although by then the program was meant to be just temporary, fitting in the Keynesian concept of stimulating demand by extra government investments, every year new programs were initiated and older programs modified and extended. The kind of modification of the programs depended partly on the political party in power and partly on the situation on the labour market. In the early years of the program the above mentioned argument was most important but with the start of the eighties, APV was subject to budget-constraints and emphasis was laid on coping with new technologies.

In total 20 different programs have been developed since 1975 with about 15.000 projects and a total amount of investments of 1,250 billion guilders. The contribution of the government was 280 million guilders. In the past ten years about 165.000 employees have been subject to job improvement programs.

Most of the projects were carried out to lighten heavy physical labour (27%) and to combat noise (55%). On these areas no rules or laws exist at the moment, there are guide-lines at the most. Other important job improvements concerned the ergonomic circumstances and the physical climate (heat, cold, gasses, weather, quality of air). Only a small part of the

investments coped with immaterial circumstances such as monotonous work, shop-floor consultation and supervision.

It is worth mentioning that many small firms benefited from the programs. This is quite contrary to experiences with other Dutch government programs, and to the experiences with the West German job improvement program (at least in its early stages).

In general the employees involved were pleased with the results. Surveys conducted among the whole working population show slight improvements on the issues of the programs.

Table 3/8 Opinion of the working population aged 18 years and over about their working conditions

	percentages		
	1974	1980	1983
Shift work; 'yes'	9	10	11
Noisy surroundings; 'yes'	26	25	23
Dirty work; 'yes'	28	30	26
Possibility to develop faculties; 'agree + fully agree'	73	67	63
Good chances for promotion; 'agree + fully agree'	48	32	26

Source: CBS, Social Cultural Quarterly, 1984/2

The decline in the 'possibility to develop faculties' probably is caused by the automation process, see previous paragraph. The diminishing career possibilities are caused by several factors. Economic growth disappeared, so for many jobs the prospects worsened and competition for new functions became tough due to high unemployment. The willingness to change jobs slowed down.

In 1981 a survey was conducted among the employers involved to find out if there was any effect of the program on the firm. Employers seem to see more positive results than employees (Table 3/9).

The Dutch APV program was a reaction to the introduction of new equipment or the working conditions at existing equipment were considered too bad: programs and jurisdiction lag behind. It is obvious that there are more possibilities for job improvement if some kind of arrangement can be derived before the introduction of new technology. In the German case Technology Agreements (TA) are an integrated part of the job improvement program.

Table 3/9 Effects of APV-1981 according to employers (n=162). Percentages.

factors	improvement now	improvement within one year	worsened	no effect
Position of firm on labour market	25	7	-	68
Turnover in personnel	25	10	-	65
Absenteeism due to illness	45	20	-	35
Economic factors	32	13	1	54
Security	59	1	-	40
Others	21	-	-	79

Source: Tijdschrift voor arbeidsvraagstukken 1986/2, C.J. Vos: "Tien jaar arbeidsplaatsverbetering" (Journal for Labour Problems: "Ten years job improvement")

4 INSTITUTIONAL ARRANGEMENTS

4.1 Collective bargaining

In the seventies wages were most years determined by free collective bargaining in the private sector. Social security benefits and wages in the public services sector followed wages negotiated between employers and trade unions in the private sector. After both oil crises the government used the Wage Determination Act of 1970 to limit wage increases (1975, 1976) or impose wage freezes (1980, 1981). Since 1981 government did not intervene in the bargaining process. The growing unemployment made this no longer necessary, while at the same time government and employers found it not appropriate to make the remuneration system still more inflexible. At the end of 1982 employers and trade unions concluded an agreement on forms of work-sharing.

Both partners agreed to a general shortening of working time with some reduction in wages. It was expected that by this reduction many unemployed should get a job, since the same amount of work could be done by more people. In fact, the employment impact was only about 25%. Proposals made by employers regarding flexible working time - for instance that the total number of annual working hours should be stipulated in the collective agreement and that it should be left to the enterprise to negotiate detailed arrangements with the unions - were agreed to by the unions subject to conditions as the number of daily working hours and "normal" working time. A compromise had to be worked out between the almost total flexibility sought by the employers and the security of fixed working hours which the unions had won after years of struggle and which they were very reluctant to give up (Albeda, 1985).

The employers however opposed further reductions in working time, and no new agreement was reached in 1984. Meanwhile the government cut wages of public employees in 1983, which led to strikes (see table 4/1) and strong opposition of the trade unions to the economic policy of the government,

which is primarily aimed at reducing the budget deficit.

Table 4/1 Number of labour-days lost by strikes (x 1000)

1980	1981	1982	1983	1984	1985
56,8	24,1	215,4	118,2	29,2	89,4

Source: CBS

The trade unions tried to reach a 36 hours working week in the negotiations of 1985 but did not in general succeed. In some firms such an agreement was reached, but in all important collective agreements, as those for Philips, Akzo, Hoogovens and the metal industry, only intentions about studies dealing with the (im)possibilities of further work sharing have been included. The propensity to strike in order to obtain a general reduction in working time is decreasing: after years of 'paying' for the solidarity between employed and unemployed, the results in terms of reduction of unemployment are of only minor importance, and more emphasis is now laid on higher wages.

Meanwhile an agreement was reached in May 1984 between employers and trade unions in the manufacturing sector regarding the employment and training of young workers. This agreement provides for the strengthening and extension of the apprenticeship system and for the development of part-time jobs and "growth jobs", i.e. traineeships which will become full-time jobs (Albeda, 1985).

The objective of the most recent social contract (Foundation of Labour, May 1986) between the government and social partners is to have less than half a million unemployed in 1990. This goal should be reached by creating jobs and improving the functioning of the labour market. The agreement is based on four studies written by representatives of all three parties (see references), dealing with education policy, youth unemployment, long term unemployed and registration of unemployment.

Comparative analyses (Wachter and Visser, 1986) of government instruments for improving the chances of getting a job (Netherlands, France, Belgium, West Germany and the United Kingdom) by SEO show that training programs are most promising. Firms are particularly interested in 'firm directed' training linked with a labour contract.

The programs for combatting youth unemployment do have some results. Unemployment of those aged under 23 decreased from 248.000 in 1983 to 178.800 in March 1986. The governments' programme declaration in July 1986 mentions a youth work plan that guarantees a job for every unemployed under the age of 21. The reward will be the same as the social security payments these youngsters are entitled to, but they will lose these benefits if they do not join the plan.

The lack of any arrangement on work-sharing can be viewed as a defeat for the trade unions, but on the other hand the fact that there still are collective agreements at the sectoral level is a success of the unions. They were able to withstand the sustained pressure of employers to negotiate on the firm level. Subjects like working time and wages in line with company profits should, according to the employers in the metal and electrotechnical industry, be negotiated with the works council instead of the trade unions.

The call for flexibility of labour becomes stronger at many fronts: wages, working time, hiring, discharging, etcetera. These are the traditional issues of an agreement. The strategy of the unions will change towards strengthening its bargaining power at the firm level and promoting the interests of the individual members. It will probably be less oriented towards social goals like solidarity between workers and non workers. There are also new challenges for the trade unions: to give direction to the application of new technologies and to support initiatives for those kinds of flexibility in production processes that go along with flexibility in the organization of labour.

4.2 Reduction of working time

Reduction of working time (RWT) is not a new phenomenon. Years ago standards were set for the maximum hours per day. Saturday afternoon and later on the whole day, became time off. A further reduction seems a quite natural process in a historical context. Still there was a heavy debate on reduction of working time in the course of 1982, because an extra dimension was added: RWT as a work-sharing policy. Unemployment was growing very fast and economic growth was expected to remain by far too small to create as many jobs as were needed. Apart from measures that could stimulate economic growth, RWT was an official government and trade union strategy to cope with unemployment. Although the employers were less enthusiastic, they eventually agreed to a 38 hours working week or the equivalent number of working hours per year.

The Wage Technical Department (Loontechnische Dienst) of the Ministry of Social Affairs and Employment conducted three surveys in March/April 1984, in September/October 1984 and in March/April 1985 on the following up of this agreement. These surveys covered the private sector except SIC 0 (agriculture), 1 (mining), 4 (public utility) and 9 (other services).

Table 4/2 Form of reduction of working time (RWT)
Percentage of firms per sector with RWT

SIC code		per day	week	days off	comb.	early retir.	unknown	total
2/3	manufacturing	9.0	26.5	62.9	0	0.7	0.8	100
5	building	0.6	3.0	96.4	0	0	0	100
6	trade, horeca	5.7	11.2	41.2	0	41.3	0.6	100
7	transport	0	2.8	59.2	24.0	14.0	0	100
8	bank, insurance	2.8	3.8	86.6	0	6.8	0	100
	total	4.2	10.6	66.9	1.6	16.3	0.4	100

Source: Ministry of Social Affairs and Employment

The conclusions from these surveys are as follows. In about 40% of the

firms RWT actually takes place. These firms employ 70% of the employees. The most common form of RWT is extra days off (Table 4/2). Often these days are not freely chosen by the employee, but the conditions vary between firms. In small firms early retirement is the most important form, because of organizational problems with other types of RWT. Medium sized firms (10 to 99 employees) relatively often shorten the 'machine time', small and big firms do not.

In March 1984 about 70% of the firms with RWT said there was no need to fire workers, while in September 1985 this percentage climbed to 80%. The main reason for this is that hoarding of labour (more personnel than strictly necessary) diminished.

As a consequence the number of firms using RWT as a way to get rid of surplus employees decreased, and the number of firms which actually had to hire new employees due to RWT increased. In table 4/3 the estimated

Table 4/3 Impact of RWT on employment: firms and employees
(November 1982 until March 1985)

	firms with RWT		employees with RWT	
	abs (x1000)	%	abs (x1000)	%
<u>maintenance of jobs*</u> :				
- less than 2.5% RWT	0,8	1,9	95,2	6,0
- between 2.5 and 5% RWT	0,3	0,7	57,9	3,6
- total	1,1	2,6	153,1	9,6
<u>expansion of jobs:</u>				
- less than 2.5% RWT	3,7	8,7	257,7	16,2
- between 2.5 and 5% RWT	1,7	4,0	186,3	11,7
- between 5 and 7.5% RWT	0,6	1,4	29,4	1,8
- total	6,0	14,2	473,4	29,7
<u>both:</u>	0,4	0,9	42,3	2,6
<u>no change:</u>	32,8	77,5	863,9	54,2
<u>no opinion:</u>	2,0	4,7	59,9	3,8
total:	42,4	100	1592,5	100

Source: Ministry of Social Affairs and Employment

* jobs that otherwise had been lost

employment effects, based on a survey among firms, are summarized. Within 18% of all firms with RWT the employment situation was effected by RWT. As these firms are the larger ones, the impact on the number of employees is more impressive (41%).

The average employment impact lies in the first half of 1985 for all firms at between 20% and 25% of the reduction in hours. Reasons for the absence of employment effects of RWT are improved productivity (mentioned by 28% of the firms) and reduction in machine time (mentioned by 22% of the firms). Almost 90% of the firms have some kind of early retirement facility. For these firms the average retirement age is about 61.5 year. There are however big sectoral differences: in manufacturing this age is lower, and in transport and communication substantially higher.

From December 1984 to December 1985 yearly worked hours were reduced by another 2%. They are estimated at 1765 hours on average in December 1985 (1851 in 1980). As shown in Table 4/4, the reduction in working time during 1985 was a matter of more half and whole days off and hardly of less working hours per week.

Table 4/4 Working hours per year and per week, RWT other than hours per week, holidays. Full time workers

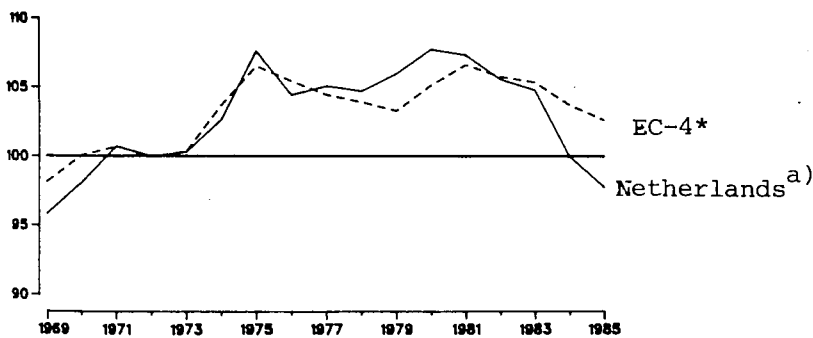
	December 1984	December 1985
hours per year	1798	1765
hours per week	39,8	39,7
hours RWT, other	34	62
hours holiday	189	188

Source: CBS

Some conclusions can be drawn. The most obvious is that the results of RWT in terms of combatting unemployment seem to be disappointing. The direct creation of employment has been relative small. Indirectly there are some favourable effects. RWT accelerated the return to a normal labour utilization rate (according to employers). It avoided several painful and

sometimes costly discharge procedures. By now further reduction of yearly hours of work should provide a larger employment growth (measured in persons). But the resistance against another round of RWT is great with both parties. The employers expect large organizational problems, and they want to leave further RWT to be dealt with on firm-level. Many employees are not willing to 'pay' for RWT since the employment impact is small. That brings us to what generally is viewed as the most important (although not officially intended) result of the RWT operation: unit labour cost went down (see for instance: Hempen, 1986) Re-occupation was only partial and 'payments' for RWT have also been used for improving profits, as shown in figure 4/1.

Figure 4/1 The Macro-economic Labour Income Ratio,
Index for EC-4* and the Netherlands (1972=100)



a) excl. energy

Source: CPB, Central Economic Plan 1986, p.69
* EC-4: W. Germany, Italy, France, United Kingdom

4.3 Part-time work

Part-time work has much increased, as shown in Chapter 2 (Table 2/5). In 1977 about 15% of all jobs were part-time, in 1984 about 24%. As a result of this development total average agreed hours of work per week decreased, in spite of nearly constant hours of full-time and part-time work each (Table 4/5).

Table 4/5 Agreed hours of work, March 31st (jobs of employees)

	full-time	part-time	total	% part-time jobs
1977	40,1	16,2	36,6	15,0
1978	40,0	17,1	36,6	15,4
1979	40,0		36,5	16,1
1980	40,0	18,0	35,8	18,8
1981	40,0	17,9	35,6	19,8
1982	39,9	17,6	35,3	20,9
1983	39,9	17,7	35,0	22,3
1984	39,8	18,1	34,6	23,8

Source: Computations SEO from CBS, various sources

In 1984 almost 10% of all jobs had agreed working hours of less than 15 per week. For 9% the week consisted of 15-25 working hours, for almost 14% of 25-40 hours, while the remaining 68% worked 40 or more hours (employees, excl. public sector).

As is well known part-time work is mainly done by women in the services sectors. In 1984 only 12% of all men had a part-time job and 53% of all women. One third of the jobs in the services sectors is a part-time job (see Table 4/6). According to activity part-time labour is most common in the so-called other services, like cleaning, hairdressing, photo studios and other personal services (SIC 98). Of all women occupied with these activities 84% worked part-time in 1984, of all men 39%. Part-time labour occurs also relatively often in the retail trade and in hotels, cafés and restaurants. Its occurrence has to do with the type of activity and the type of worker; i.e. with demand and supply. There is a large difference between men and women in participation in part-time work, but also between married and unmarried women. In 1984 of all married women 72% worked part-time, of all unmarried women 31%.

Table 4/6 Part-time jobs as a percentage of total jobs, March 31st

	1977	1980	1984
men:	4	6	7
- industry and construction*	1	2	2
- services**	7	10	12
women:	40	46	53
- industry and construction*	28	34	40
- services**	43	48	55
all:	15	19	24
- industry and construction*	4	6	7
- services**	23	27	33

Source: CBS

* Excl. employees placed on social workshops

** Excl. public sector, social security and education

The growing importance of part-time labour and the corresponding increase in female employment has many causes. A survey among more than 600 firms and institutions in 1983 (Berenschot) mentioned as most important reasons for the introduction of part-time work: request from employees, organizational convenience (peak-hours), labourmarket considerations and as a suitable substitute in case of illness or leave. Part-time work as a specific consequence of changing organization takes place in only a few cases, in the profit sector caused by automation and in the non-profit sector (especially in the health sector) due to the need for reduction of employment.

Employers and employees agree on the main positive effects of part-time work, being higher productivity and flexibility, improved motivation and less absenteeism. They also agree on the negative effects: more planning and organization, and higher labour costs.

The latter point is in contrast with what is generally believed (see for instance OECD Employment Outlook 1985). The point is that on average the function level of part-timers is lower causing lower hourly labour costs. But there is no evidence that, given the qualifications required for a

certain job, hourly labour costs of part-time labour are lower.

Some other facts from the above mentioned survey are:

- Part-time work is for 85% female work;
- Part-time work is to be found in executive functions;
- Female part-timers do on average more simple work than their male (part-time) colleagues;
- 80% of the part-timers is aged over 25;
- Working half a day is the most common form, but many variations are mentioned;
- Part-timers are to be found mostly in secretarial, care-taking and nursing occupations.

4.4 Flexible contracts

For a firm there are in principle two ways to achieve more flexible labour relations. The first is internal flexibility by way of the introduction of variation in working time and a more flexible organization of work. The second is external flexibility, achieved by keeping a minimum number of permanent jobs, supplemented by temporary workers "on call", borrowed from other firms, or hired from employment agencies.

In previous paragraphs the first form has been discussed. The conclusion is that internal flexibility is growing in importance. For the second form, external flexibility, which is the subject of this paragraph, this is also true. All sorts of new contracts emerge.

Obviously temporary work is increasing (Table 4/7). Taking all motives together, absolute numbers grew by 80.000, in two years. A markable difference between men and women is the increase in permanent jobs for women (+3.5%) compared with the relative stable situation for men. The share of permanent jobs in total employment differs little: for men it decreased from 82,2 to 80,8%, for women from 79,5 to 78,5%.

Table 4/7 Working persons according to temporary and permanent jobs, 1985 and difference with 1983, x 1000

	men		women	
	1985	1983-1985	1985	1983-1985
Self-employed, working members of household	401,3	- 8,9	180,1	-10,8
Military	48,2	+ 0,5	---	---
Permanent Job	2758,5	- 3,4	1358,2	+47,1
Contract for duration of traineeship	19,8	+ 4,7	17,2	+ 0,8
Can only get a temporary job	124,5	+46,6	105,7	+25,2
Wants only a temporary job	19,4	+ 3,1	29,2	+ 3,2
Other reasons for temporary tenure	7,0	+ 3,8	7,0	+ 5,4
Reason temporary tenure unknown	1,3	- 7,0	1,7	- 4,1
Permanent or temporary job unknown*	34,2	+17,6	31,0	+13,7
Total	3414,3	+57	1730,1	+60,6

Source: CBS, Labour Force Surveys

* unknown to workingperson and/or CBS

As far as temporary contracts are substituted for permanent contracts, the most common form (excluding seasonal contracts and workers from agencies for temporary work) is a contract for one year, sometimes with a possibility for (an)other year(s). The probation period is usually three months. Arguments for this substitution process are:

- flexible response to developments on the market;
- temporary work for temporary functions and projects;
- employers' fear of long-time commitments, and high costs of dismissing workers;
- flexibility as a consequence of changing technology and organization of labour;
- uncertainty about budget cuts, especially in subsidized and governmental sectors.

Other trends are the labeling of short-term temporary work as seasonal work, and the growing number of temporary 'projects' or 'experiments', partly promoted by government programs for groups particularly affected by unemployment.

In order to get some idea about the flexibility of the working population, in the Labour Force Survey of 1985 working persons were asked whether they were looking for another or a second job. The positive response was 9.1% (men 8.4%, women 10.6%). Looking at the response by economic sector, people employed in the manufacturing sectors (sectors 1-4) are less and people employed by government, or in public and personal services (sector 9) are more interested in another job. Unfortunately figures of the distribution by occupation are not available.

Table 4/8 gives for each sexe the most important reason for wanting another job.

Table 4/8 Working persons looking for another or a second job, most important reason, (men and women, 1985)

reason	total	men x 1000 persons	women
leaves military service	12.2	12.2	-
loses job within some time	79.4	48.5	30.9
considers current job as temporary	89.9	55.1	34.8
wants to earn more	184.6	121.0	63.6
wants second job	11.8	4.6	7.2
wants to work shorter time	7.2	3.1	4.1
wants to work longer time	23.2	7.4	15.8
other reasons	28.6	15.9	12.7
not satisfied with current job	29.4	16.3	17.1
reason unknown	3.3	2.5	0.8
total	469.7	286.6	183.1

Source: CBS, Labour Force Survey 1985

The interpretation of the figures is somewhat difficult because some reasons are closely related to others. For instance, longer working time is

usually combined with higher salaries, and if you are not satisfied with your current job it is quite logical that you consider it as temporary.

The most important reason for wanting another or second job is the financial one. Also among the categories considering current job as temporary, wanting a second job, wanting to work longer and not satisfied with current job, there will be a substantial part that takes the financial reason into account.

A second major reason is dissatisfaction with the quality of work (categories: not satisfied with current job, considering current job as temporary and possibly those wanting a second job).

The differences between men and women are not very large. About 25% more women than men are looking for another or a second job. Relatively seen, men want to earn more while women are more often looking for a second job. The latter difference can be explained by the fact that on average women work less hours (more small part-time jobs) and thus have more time for another job. They are also less satisfied with the weekly hours to work than men.

Employment agencies

Workers from agencies for temporary work are a specific group. Table 4/9 shows a considerable growth from 1982 to 1984 in number of workers as well as in the average hours worked.

Table 4/9 Workers from employment agencies

	x 1000 persons	x 1000 full-time equivalents	average duration index 1978=100
1978	43,0	36,8	100
1979	53,2	43,1	95
1980	54,2	41,9	90
1981	37,1	29,9	94
1982	30,8	25,4	96
1983	39,9	33,2	97
1984	59,4	53,8	106

Source: CBS

Comparison with Table 4/7 learns that not all of these workers only want temporary work, several thousands want a permanent job. The objective of the employment agency START, founded by the government is to enable a worker to obtain permanent tenure. In general, employment agencies seem to gain importance as intermediary between workers and employers. In this respect they compete with the labour exchange.

Min-max contracts

In this kind of contracts only a minimum and a maximum number of hours of work is agreed. The employer decides between these boundaries on the actual hours to work. This may be within a week, a month or a year.

An example of these contracts can be found in the production of light bulbs. The machine time of 15 hours a day is subdivided in three shifts (so called mini-shifts). In the first and second shift young people do the work, in the third shift workers (almost all married women) on a temporary base (two years contract). Working time varies from 20 to 25 hours depending on sales and stocks; workers in the mini-shift system know about one month beforehand how many hours to work. The wages paid depend on the hours worked.

An extreme example of the min-max system is the contract from 0 to 40 hours: the employees have to be on call all the time. Discharge procedures are avoided by not calling the employee to work.

On call contracts

In this case there is a written or verbal agreement that the employee works whenever he or she is called. Only the actual hours worked are paid. Especially in the retail trade these contracts are common practice. Together with other assistants the number of workers on call is estimated at about 100.000.

On call contracts are no contracts in the usual context: the employer may call for every hour he likes and renounce the contract at any time. There are no payments for availability, and there is no employment security.

Home work

Traditionally home work occurs in textiles, leather, clothes and fishing. Besides the flexibility motive of employers for this kind of home work, the argument that the work is too difficult (or too expensive) to automatize also appears. This implies that as soon as a machine is invented, like the shrimp peeling machine, many home workers are without work.

Recent trends in home work are the use of all sorts of information technology: telephone, services like secretarial and inquiry work, mail order work, translating and other forms of text processing. As with other types of home work, conditions vary widely in payments, contractual arrangements, job duration etc. On the one hand there is the regular substitution: the firm provides suitable equipment and formal agreements do not differ for home work. The only difference is that work previously carried out in the firm is now done at home. The employee has more control over working time. On the other hand, employees (again mostly women) have no contract at all; there is some kind of merit rating system, but no control at all concerning working conditions. Sometimes availability for more than ten hours per day is demanded.

Producers of personal computers forecast an explosive growth of this kind of work. Employers are less optimistic. The adoption of these new possibilities and the adjustment of the organizational structure will take some time. It is hard to count the number of home workers. A preparatory methodological study [IVA, 1984] mentions several reasons for this. First, home work has until recently had a bad name. This means that home workers are reluctant to give any information. Second, formal agreements are scarce, and counting them underestimates the labour volume. Third, general surveys like the Labour Force Survey only indirectly provide information because the appropriate questions are lacking. In the production statistics data are gathered for all firms within the manufacturing sectors with ten or more employees. From 1979 to 1981 the number of home workers thus recorded decreased from 8.817 to 7.978. Indirect estimations from the Labour Force Surveys are 9.200 in 1981 and 12.100 in 1983. From desk research and other sources it can be deduced that the actual number of home workers is several times larger.

The general motive for home work is improving the household budget. In both the traditional sectors and the information technology sector home work is sometimes considered as an occupation having its own status and satisfaction as well.

4.5 Informal and black work

Informal work is defined as work that is carried out by members of a household for that household. It applies to the production of goods as well as to the rendering of services. In april 1985 a survey [OSA Arbeidsmarkt-survey] was conducted among 2180 households and it was expected that there was a connection of informal work with disposable income (low income and relative high prices of goods and services stimulate informal work) and with disposable time (unemployed do more informal work). But it was found that informal work largely depends on particular skills and the availability of tools: having a knitting or sewing machine or freezer determines if clothes are produced or vegetables grown. The growth of informal work is positively related to the improved quality and fall in prices of household machines. See for further analysis Chapter 5 under consumer oriented services.

Black work or moonlighting covers all paid activities for which no taxes and/or social premiums are being paid. The workers have no connection with households in particular. There are indications that the attitude towards black work is shifting to more acceptance, at least for small sums. Black work is not regarded as a serious offence or a crime, but not yet in quite the same class of tolerated offences like petty smuggling or exceeding the speed limit.

Six surveys were conducted (CBS, 1986) using three ways of getting answers (face to face, by telephone and by written lists with questions) and two approaches (direct and more smooth, indirect way of questioning) in order to get an estimate of the amount of black work. The figures below are the outcome of a weighting procedure of these six surveys. The non-response was high (more than 50%), so the figures in Table 4/10 are minimum figures on

the admissibility of black work.

Table 4/10 Admissibility of black work, percentages of sample of 4000 persons

payments for black work	for everybody	for people with social benefits
nothing	35	34
less than f 200 per month	38	37
f 200 - f 800 per month	15	20
more than f 800 per month	5	7
no answer/doesn't know	7	6
total	100	100

Source: OSA - arbeidsmarktsurvey, 1985

In the year before June 1983 at least 12% (1,3 million) of the persons aged 16 and over earned together at least three billion guilders by doing black work. The average hourly payment was about 15 guilders, the average yearly income from black work about 2.200 guilders. The volume of black work was at least 100.000 labour years.

The share of students in black work is about a quarter. Students work many hours for low wages. This is in contrast to those having an "official" job: they work a few black hours for high hourly payments. The occupations on the black labour market (not the occupations carried out on the white labour market) are shown in Table 4/11

Table 4/11 Activities of black work to occupational group

specialists and management	18%
clerical	7%
commercial	13%
services	19%
agricultural	8%
manufacturing occupations	18%
occupations in construction	14%
occupations related to transport	3%
	100%

Source: CBS, Statistische Katernen no. 3: Zwarte inkomsten uit arbeid; resultaten van in 1983 gehouden experimentele enquête

During the last years there is probably not much change in demand for black work: 44% of black workers reported no change in demand, 24% reported a larger and 28% a smaller demand (in 1983).

Before someone does black work he or she has to have a reason (motive) and there must be an opportunity. From the CBS analysis it appears that the motives like financial position, lack of fear for punishment, and political signature, etcetera, are not very important. Opportunity seems to be more important. The same qualities that are important on the 'white' labour-market are important on the black labourmarket: experience and education. Relatively more men than women, and more young than older persons earn something with black work.

4.6 Labour market segmentation

In the neo-classical tradition wage differentials are interpreted as instrumental in the allocation of heterogeneous individuals to heterogeneous jobs. The human capital theory states that only individual characteristics are important. Segmented labour market theories claim that allocation does not properly match the individuals' abilities and skills, but is systematically distorted by membership of particular groups. The theory of the internal market holds that there are career lines which start at the bottom, implying that experience within the firm is a prerequisite for obtaining certain job levels.

In 1983 a survey was held under persons who finished primary school in 1952 in the Dutch province of Noord-Brabant (Hartog, 1985). Using these data it was possible to trace the influence of individual characteristics on the chance of getting a certain job. Three variables are important here: ability, education and social class. By continued education the chance of getting a job on a higher functional level increases and the same holds for intelligence as measured by an intelligence test in the last year of primary school. The influence of these scores on the labour market position 30 years later is significant. But there is a wide variation in functional levels of persons with the same education and intelligence. The social

environment is still an important factor, although there is no direct correspondence between environment and labour market segmentation. Women still have smaller chances of getting a high function.

The educational system has a strong structuring effect for obtaining the highest functional level: university almost exclusively qualifies people for this level. People with high vocational education have a chance of only 50% of those with academic education. For medium vocational education the chance is only 20%.

The results reaffirm conclusions from other work on labour market functioning: neo-classical relations exist, but there are exceptions and modifications. An empirical test of the segmented labour market theory (Ophem, 1985) gives more support to the human capital theory than to the dual labour market theory. Although some non-human capital variables are important (gender, age and part/full-time), the human capital variables are even more important (education, working experience and certificates).

Detailed studies are available for the segmentation between men and women. An analysis of data from the Census 1971 and the Labour Force Surveys 1975 and 1979 shows a large inequality in the occupational distribution of the male and the female labour force. The inequality slightly diminished in the seventies. This can be equally attributed to the changing distribution of the total labour force over occupations, and to the changed ratio between men and women within occupations. Of the large growth of the female labour force only 16% went to traditionally male occupations while of the growth of the male labour force 91% went to traditionally female occupations. The position of women on the labour market is vulnerable because they are limited to a number of occupations.

Considering almost 300 (groups of) occupations and ranking them from large to small, the top 28 comprise over half of total employment. But if we repeat this exercise for the female labour force only over half is concentrated in only eight occupations, as shown in Table 4/12.

There are two female occupations (the share of women exceeding 90%):

secretaries and typists (whose employment situation worsened between 1979 and 1983), and care-taking personnel (children, old people) with an employment increase of 20%. The two groups of nursing occupations grew substantially, but the share of male personnel is also growing. At the present time there is a shortage of nurses and special retraining courses and flexible working time arrangements should encourage especially older women to take a job. The remaining groups of occupations show no large differences in the development of male and female employment, except for bookkeepers and cashiers: between 1979 and 1983 employment decreased with about 5% for all, but increased for women with more than 22%. This may be due to the automation of much desk work: women are supposed to work more accurately.

Table 4/12 Largest groups of occupations for women*

occupational groups	1979			1983		
	absol. number x 1000	share in occupat. %	share in female empl. %	absol. number x 1000	share in occupat. %	share in female empl. %
1. shop assistants and other sales personnel	132	70,5	10,7	146	66,5	10,0
2. administrative workers not elsewhere classified	108	49,4	8,7	135	50,7	9,1
3. secretaries, typists	118	96,5	9,5	110	96,2	7,5
4. care taking occupations not elsewhere mentioned	85	97,8	6,9	101	98,3	6,9
5. bookkeepers, cashiers	61	38,5	5,0	75	49,5	8,1
6. other nursing functions	46	74,1	3,7	69	83,2	4,7
7. cleaners, housekeepers	46	74,8	3,7	68	78,5	4,6
8. nursing with certificate	47	84,1	3,8	58	77,5	4,0
Total	642	67,8	52,0	763	69,4	51,9

Source: CBS, Labour Force Surveys 1979 and 1983

*: only those with occupation as main activity

Table 4/13 provides some insight in the occupational segregation between men and women. The first index (s) is the sum of the percentages of the employed males and the employed females that have to change occupation in order to get an identical distribution of the sexes over occupations. The second index (S) is the percentage of the employed males and females that have to change occupation under the restriction that the distribution of total employment over occupations remains unchanged.

Table 4/13 Segregation indexes

Segregation index	1971	1975	1979	:	1979*	1983
s	70,5	69,9	67,1	:	66,1	63,2
S	26,8	26,8	27,8	:	26,1	27,2

Sources: 1971-1979: Siegers, Mourik, de Poel, 1983
 1979-1983: Oegema, Koopmanschap, not yet published
 *: differences because of definitional matters

The first index decreases, reflecting the growth of female participation, the second however increases somewhat, meaning that women do not succeed in penetrating traditional male occupations.

5 NEW AREAS OF EMPLOYMENT GROWTH

5.1 The employment matrix

To state that almost every job content is changing over time is saying nothing new. The farmer has to deal with new breeding methods, the postman has to repair his flat tire instead of feeding his horse, etcetera. There is no way of tracing these changes in the official statistics, and even if we could it is questionable whether they are relevant. What remains unchanged over a long period is the economic function of jobs.

In each production process there are many functions like management, administration, buying and selling and (direct) production. One person in a small production unit may do all these things on his own, but more often division of labour has led to a distinction between separate occupations like manager and salesmen. Within categories like administration there are even many occupations.

It was the intention of the International Standard Classification of Occupations (1968) to provide such a scheme. Partly because of technological developments several occupations now belong to other function groups, for example: transport conductors (ISCO 360), a part of cashiers (330), receptionists and travel agency personnel (394) now have consumer oriented service functions although they are classified as clerical functions. Also it is not clear why broadcasting station, sound equipment (860), and transport equipment operators (980) belong to the blue collar functions, while they clearly provide services. Perhaps the same thing can be said about all kind of artists, according to ISCO classified as specialists.

Organizational changes also have some impact on the classification. As we have seen in Chapter 3 all kinds of functions are being combined in the insurance sector. Because a more appropriate classification scheme lacks at the moment, we will have to do with ISCO.

Table 5/1 shows the employment matrix on the highest (one-digit) level with respect to both functions and economic sectors.

Table 5/1 Employment by function and sector. Share of function in total employment per sector* in 1985. Percentages

ISCO	function	sector**							total
		0	1-4	5	6	7	8	9	
0/1.	Professional, technical and related	1	11	7	3	9	26	47	22
2.	Administrative and managerial	1	6	7	1	5	5	2	4
3.	Clerical and related	1	13	7	15	37	52	18	19
4.	Sales workers	0	5	1	47	1	8	0	10
5.	Service workers	0	2	1	14	3	4	27	12
6.	Agricultural etc.	94	1	1	0	0	0	1	5
7/8/9.	Production etc.	2	61	76	19	45	5	5	27
		100	100	100	100	100	100	100	100

Source: CBS, Labour Force Survey, 1985

*: reads as: seven percent of employment in construction (5) has a clerical or related function

** : 0: Agriculture

1-4: Industry, including mining and quarrying, manufacturing and public utilities

5: Construction

6: Trade, hotels, restaurants, cafés, etc., repair

7: Transport and communication

8: Banking, insurance, business services

9: Other services, including government, health, social services, personal services, etc.

Production related workers are concentrated in industry and construction, sales workers in trade, clerical and related workers in the banking and insurance sector, and specialists in other services-sector.

Table 5/2 provides some idea about the changes in the employment matrix for the period 1977 to 1985. The choice of the particular period is somewhat arbitrary. The results of a similar exercise for the period 1975-1983 are roughly the same, except that the figures for industry are worse. From the improved employment situation in industry in 1984-1985 the professional, technical, managerial and clerical functions benefited substantially, not

the blue collar functions.

Table 5/2 Changes in the employment matrix, 1977-1985

ISCO	function	sector**:	absolute change in working persons x1000							total*
			0	1-4	5	6	7	8	9	
0/1.	Professional, technical and related		0	13	-1	7	3	47	210	279
2.	Administrative, and managerial		1	17	9	0	7	12	15	61
3.	Clerical and related		0	-21	-4	3	5	43	58	83
4.	Sales workers		0	4	-1	26	1	7	1	38
5.	Service workers		0	-4	-1	33	1	5	91	125
6.	Agricultural etc.		-11	3	-1	-2	0	0	1	-10
7/8/9.	Production etc.		-2	-114	-113	-1	3	2	14	-211
			—	—	—	—	—	—	—	—
			-12	-102	-112	66	20	116	390	366

Source: Computations SEO from CBS, Labour Force Surveys 1977 and 1985

*: sector unknown and civil servants left out

**: 0: Agriculture

1-4: Industry, including mining and quarrying, manufacturing and public utilities

5: Construction

6: Trade, hotels, restaurants, cafés, etc., repair

7: Transport and communication

8: Banking, insurance, business services

9: Other services, including government, health, social services, personal services, etc.

From Table 5/2 we can deduce the basic developments. First, employment growth is generated by service sectors. Second, blue collar functions lose importance. (The growth of these functions in the other services sector is caused by the increase in service-linked blue collar functions, as mentioned earlier). A decomposition of the changes in the employment matrix provides some more information about the underlying processes. The industrial effect is the effect of sectoral changes, assuming each sector's composition constant, the occupational effect refers to changing occupational shares within sectors. Both effects refer to a goods-sector

(agriculture, industry and construction, 0-5) and a services-sector (all other sectors).

Table 5/3 Decomposition of changes in the employment matrix 1977-1985, x1000 persons

ISCO	function	absol. change	relat. change	industrial effect		occupational effect		interaction effect*
				goods	serv.	goods	serv.	
0/1	Professional, technical and related workers	279	(34%)	-16	203	31	49	12
2	Administrative and managerial workers	61	(52%)	-8	12	41	19	-3
3	Clerical and related workers	84	(9%)	-22	159	-3	-39	-11
4	Sales workers	38	(8%)	-5	43	9	-7	-2
5	Service workers	125	(25%)	-4	122	-1	11	-3
6	Agricultural workers	-10	(-3%)	-12	3	4	-5	-0
7/8/9	Production related workers	-211	(-17%)	-160	48	-79	-27	7
total**		366	(8%)	-227	590	0	0	0

Source: Computations SEO from Labour Force Surveys 1977 and 1985

*: including effect of changes in occupation and/or sector unknown
 **: excluding occupation unknown

The largest growth in absolute terms is to be found in occupations providing specialist knowledge. The industrial effect is clearly predominant, but the positive occupational effect in both sectors means that also in the goods-sector specialists become more important. The occupational effect clearly exceeds the industrial effect in the goods sector, contrary to the development during the years 1975-1983. This may indicate that the recovery of employment growth in this sector goes along with more research and development.

The second largest 'functional winner' is the group of service workers. The small negative occupational effect in the goods sector and the positive in the services sector reflects subcontracting: services previously carried out 'in-home' now are increasingly provided by specialized agencies. The opposite development happens to the sales function: producers integrate this function.

The management function shows up with the largest relative growth. Compared with 1977 its' share in employment increased in both sectors. Especially for this group of occupations it must be kept in mind that the changes in the employment matrix depend on the years chosen; in the period 1975-1983 there was no occupational effect at all.

5.2 Occupations

Analysis on a high aggregation level does not tell us precisely where the new areas of employment growth are to be found. Moreover a small growth in one function may be the sum of a large increase in one occupation and a large decrease in another. A substantial growth of employment in one function might be caused by a particular occupation, without change of other occupations belonging to that function.

We consider therefore in more detail occupational changes in a 30x18 employment matrix for the period 1979-1983. Since employment matrices of 1977 and 1985 on two digit level are not available, we have to use 1979 and 1983 figures. Again, we split the occupational change from 1979 to 1983 in two effects (see Table 5/4) and take a closer look at the occupational winners.

The largest increase (in absolute as well as in relative terms) in employment took place in occupation 30, which covers all blue collar professions not mentioned in occupations 19 to 29. Almost all these manual professions show a decline in employment. That this is not so for 'other production workers' might be due to the provisional character of the 1983 figures. Another reason may be that the ISCO-classification is no longer appropriate for the classification of many blue collar workers. The job content changes, there are tendencies for upgrading, and new (names for)

occupations emerge. Looking at an even more detailed level (86 occupations) none of the blue collar professions belong however to the top ten of occupational winners in this period.

For the last few years we have unemployment data only. For every blue collar occupation the unemployment rate declines from 1984 to 1985. Apart from the decrease in unemployment of group 30, a substantial decrease of unemployment is found in group 27, construction workers, due to a temporary upsurge in building (12.000 unemployed less). We also find an improvement in the groups 23 to 26 (together 13.000 unemployed less), all in some way connected with the electro-technical and the metalprocessing sectors, and in transport equipment operators, sector 29, (10.000 unemployed less).

Looking at the white collar occupations with growing employment (table 5/4) the winners are obviously medical, dental, veterinary and related workers. Although about two third of the increase is caused by the sectoral effect of increasing employment in the medical sector, the share of medical personnel in this sector also increased. Government budget cuts will probably impair further growth in the near future. At the moment there is a shortage of nurses, but in the future many small hospitals will be closed and it is expected that by 'economies of scale' in the remaining hospitals the demand for nurses will decrease.

The growth of the number of teachers will also end. Again, budget cuts are the most important reason, but there are also demographic factors at work. Despite the excess supply of teachers there are shortages of teachers in economics and mathematics, because of better earnings in the private sector.

The growth of other scientists (5) is mainly caused by growth of the sectors of employment. It is not surprising that the increase comes for more than half from statisticians, mathematicians, system analysts and related technicians (ISCO 08). As far as the latter categories are concerned this growth will continue, regardless of the fact that the government employs many of them. The need for these kinds of skills seems

Table 5/4 Occupational changes, 1979-1983 thousands of persons

Nr.	Name	1979	1983	absolute change	relative change(%)	occupational effect	industrial effect
1	Physical scientists, architects	179.3	164.0	-15	-2.2	-22	10
2	Medical, dental, veterinary and related workers	191.2	264.0	73	8.4	21	46
3	Teachers	238.5	272.0	34	3.3	-7	42
4	Sculptors, painters, photographers and related creative artists, composers and performing artists	40.0	41.5	2	.9	-3	4
5	Other scientists	245.6	276.7	31	3.0	3	30
6	Administrative and managerial workers	117.7	156.9	39	7.5	38	3
7	Stenographers, typists and card- and punching machine operators	135.3	130.2	-5	-1.0	-17	12
8	Bookkeepers, cashiers and related workers	266.7	268.7	2	.2	-13	17
9	Other clerical and related workers	505.2	523.6	18	.9	-18	37
10	Technical salesmen, commercial travellers and manufacturers' agents	48.3	47.1	-1	-.6	0	0
11	Salesmen, shop assistants and related workers	221.8	256.0	34	3.7	35	0
12	Other sales workers	226.5	225.0	-2	-.2	-3	2
13	Cooks, waiters, bartenders and related workers	94.9	111.2	16	4.0	3	13
14	Maids and related housekeeping service workers not elsewhere classified	160.5	167.6	7	1.1	-16	27
15	Building caretakers, charworkers, cleaners	99.1	133.6	34	7.8	19	13
16	Hairdressers, barbers, beauticians and related workers	28.7	25.9	-3	-2.5	-6	4
17	Other service workers	139.2	140.8	2	.3	-18	22
18	Agricultural, forestry workers, fishermen etc.	285.6	281.0	-5	-.4	-5	0
19	Production supervisors and general foremen	100.5	79.5	-21	-5.7	-18	-4
20	Food and beverage processors	66.3	62.1	-4	-1.6	-1	-3
21	Tailors, dressmakers, upholsterers and related workers	37.3	31.3	-6	-4.3	0	-5
22	Blacksmiths, toolmakers and machine tool operators	51.4	42.5	-9	-4.6	-11	3
23	Machinery fitters, machine assemblers, and precision-instrument makers (except electrical)	167.1	160.1	-7	-1.1	-15	11
24	Electrical fitters and related electrical and electronics workers	106.8	106.5	0	-.1	3	-4
25	Plumbers, welders, sheet metal	134.1	115.6	-18	-3.6	-20	4
26	Painters	51.0	40.4	-11	-5.7	-6	-5
27	Bricklayers, carpenters and other construction workers	234.2	167.7	-67	-8.0	-37	-36
28	Material handling and related equipment operators, dockers and freight handlers	160.1	144.3	-16	-2.6	-13	-3
29	Transport equipment operators	148.8	148.4	0	-.1	-2	2
30	Other production and related workers, transport equipment operators and labourers	308.1	438.0	130	9.2	131	-10
	total	4790	5022	232	1.2	0	232

Source: SEO, computations based on Labour Force Surveys and the SECMON model.
Occupational classification from ANTOS and VOSTA, see annex for comparison with ISCO.
The interaction effect is the difference between the absolute change and the sum of the occupational and the industrial effect.

beyond any doubt. The labour market is very tight in this segment. The growth of salesmen, shop assistants and related workers in this period is completely due to the occupational effect. The same is true for administrative and managerial workers.

Finally, the last big winners are building cleaners and related workers. Their employment shows an uninterrupted growth in the period 1975-1983 by about 6 percent per year, although most of this increase is caused by substitution of part-time work for full-time work. Measured in labour years the growth is almost zero.

5.3 The service sector

The question whether modern western countries are becoming a service economy has at least one specific answer: the Dutch economy already is a service economy: even without the public sector, the services sectors (tertiary sectors) employ more than half of the working persons (in labour-years some 45%). This implies that subcontracting is already institutionalized. In the primary sector persons work almost only in 'primary' functions. During the last decades other functions, such as processing, transport and research have been taken over by the secondary, tertiary and quarternary sectors. Even production in agriculture itself tends to become more and more industrialized. The same kind of process occurred in manufacturing, many services connected with the production of goods are already provided by the services sectors. These sectors have their own dynamics as well, international trade and transport are important as a consequence of international 'subcontracting'.

In manufacturing subcontracting of services by specialized firms is still growing, like market research and cleaning and catering. For the growth of other business services it is hard to tell whether this is an effect of subcontracting or not. Take for instance, computer service agencies: although computers are produced by industry, their application becomes highly dependent on the software provided by a specific services sector.

Recently two important studies have been carried out, in commission of the Organization for Strategic Labour Market Research (OSA), on the development of the tertiary services sectors. One study deals with most of the producer oriented services, the other with consumer oriented services. We summarize the main findings below.

Producer oriented services

This preparatory study (NEI, 1986) deals with services provided to domestic firms, to foreign users and to the public sector. Only commercial services are taken into account.

Employment in the producer oriented services depends on general and specific factors. The general factors cover those forces that are at work in the whole economy, like the (inter)national business cycle, and technological and demographic developments.

The influence of the business cycle is obvious. Technological developments in general improve labour productivity in existing services. So employment in labour years has a tendency to decrease. In the wholesale trade and the banking sector employment decreased for this reason. The positive side of technological development is the emergence of new activities. In manufacturing there is room for expansion of service activities in maintenance and repair of equipment, or for new services such as the development of large data-bases by the publishing industry. In the tertiary sector new firms provide specialized knowledge in the area of technology. Empirical research indicates that in the business services, employment grows mainly because of the growth of computer services (see CPB, Central Economic Plan 1986, pp. 371-376).

Specific factors determine for a longer period in which sector (tertiary, secondary or public) a particular service is produced and in the shorter term, which are the (shifts in) boundaries between the service providing activities.

In the long term three forces are at work: First, services are provided by independent services sectors because the scale of activities is too large to incorporate them in the manufacturing sector. These 'capacity' services

are the traditional services like trade, storage and transport. Some of these branches (railways, freight transport by road, inland shipping) will have some increase in employment, while in others (wholesale and retail trade, and sea and air transport) employment will decline.

Second, improvement of efficiency in specialized firms causes lower prices compared to 'in home' provided services. Examples are cleaning services, legal advice, wage administration and computer services. These sectors contributed substantially to employment growth in the past, especially accountants, bookkeeping agencies, tax advisers and computer services.

Third, seasonal and other fluctuations in production induce independent firms to provide services. The growth of employment by (and of) employment agencies has been mentioned in the previous chapter.

Finally, some services have a unique collective character, they are provided by government, directly or indirectly (railways, mail and telephone services).

In the short run also a number of processes is going on with a direct effect on employment in the producer oriented services. Viewed in a historical context all services originated from production in industry and agriculture. Some services will be subcontracted to a larger extent (like administrative services), but the opposite development also takes place. Many medium sized and big companies do not want to depend on other firms for essential services like software services. Security and availability arguments gain in importance, so some services are integrated in the secondary sector.

Some public services are now provided by the private sector.

Table 5/5 summarizes the forces mentioned. At the present time it is hard to tell whether the net effect on employment at branch level will be positive or negative.

Table 5/5 Indication of influence of forces differentiated to branch

force	sector	61-64	67	68	71	72	73	74	75	76	77	81	82	83	84	85	98
Cyclical																	
	international	x	x		x	x	x	x	x	x	x						
	national	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Technology	x										x	x	x		x	
	Market development															x	
	Societal development			x									x	x		x	x
	Scale of service	x			x	x	x	x	x	x						x	
	Specialization			x												x	x
	Fluctuation															x	x
	Fading boundaries			x		x				x	x	x				x	x
	Collective/unique				x						x						
	Subcontracting		x	x		x				x						x	x
	Integration			x		x				x	x					x	x
	Shift to private sector				x		x	x			x					x	x

Source: NEI, De ontwikkeling van de werkgelegenheid in de commerciële intermediaire dienstensector, 1986

Legend: 61-64: wholesale trade, trade intermediaries
 67: hotels, restaurants cafés, etc.
 68: repair of consumer goods
 71: railways
 72: transport by road
 73: sea transport
 74: inland shipping
 75: air transport
 76: enterprises supporting the transport industry
 77: communication
 81: banking
 82: insurance
 83: exploitation of and trade in real estate
 84: business services
 85: renting of machinery and other movables
 98: other services

Consumer oriented services

These services are generated by household demand only and provided by the

retail trade, hotels, restaurants and cafés, maintenance and repair of consumer durables, travel agencies and other personal services like hair-dressing, beauty saloons and laundries. Together they employ some 750.000 persons or 15% of the total labour force.

A common feature of these sectors is (SEO, 1986) that they are labour intensive, the growth of labour productivity is (and has been) small. Most of the (sub)sectors show a close relation between occupation and kind of economic activity. Describing the branch development is closely related to describing specific occupations.

Although, as Table 5/6 shows, the share of services in household spending increases, the share of commercial consumer services decreases, mainly due to the declining share of trade.

Table 5/6 Share of services as a percentage of nominal spending by households

	1967	1979	1982
Commercial consumer services, total	26,8	24,2	22,5
- trade	17,8	16,3	14,7
- hotels, restaurants	4,5	3,8	3,7
- repair durables	1,6	1,5	1,4
- maintenance of house	0,8	0,6	0,6
- other services	1,4	1,3	1,4
- housekeeping services	0,8	0,6	0,5
Commercial producer services, total	13,3	17,3	18,9
Public services	12,9	17,6	18,9
Total services	53	59	60

Source: SEO, De werkgelegenheid in de consumptieve dienstensector, 1986

Gershuny (1983) expects that the future demand of final services will not be supplied by the service sector but by home production of services. There will be demand for kitchen appliances and other durables. Developments in

line with this hypothesis of the self service economy are the strong growth of do-it-yourself activities and a decline of paid help. The Social-Cultural Planning Bureau compared the development of some not officially recorded kinds of labour and official labour (Table 5/7).

Table 5/7 The development of a number of non official kinds of labour, 1975-1981. Labour-years in thousands

	1975	1981	1975-1981
Official labour	4362	4480	118
Non official labour	8627	9616	987
of which			
- house keeping	4018	4424	406
- taking care for members of household	1218	1321	116
- shopping	1277	1273	-4
- do-it-yourself activities	1562	1923	359
- voluntary labour	565	675	110

Source: SCP, Social Cultural Report 1984

Not all services traditionally provided by consumer oriented services sectors are sensitive to competition of self provision. Although their quality is improving, consumer durables require specialist knowledge for repair. If you have that knowledge yourself it is no problem (informal work). If not, probably your neighbour or relative has (black work), but often you will need "official" labour. Growing your own vegetables is not a serious alternative for many people, so retail trade will remain necessary. In general, the employment prospects for each of the consumer oriented services sectors depend on specific mixture of influences, of which the most important are: real disposable income, consumer preferences, quality and prices of consumer durables, quality of official and non official services, and perhaps leisure time. In a number of case studies the importance of these influences, along with branch-specific factors have been investigated.

The main conclusion and prospects are as follows.

In the last decade the sales of convenience goods by the retail trade were subject to a strong price competition. Low prices became possible by self service systems, economies of scale and flexibilization of labour (part-time work, on call contracts etc.). The retail trade in shopping goods had a relatively favourable development, price competition was less important and the quality of the service (more individual approach) gained importance.

Although it is common use to take hotels, restaurants and cafés together, past and future developments differ. Business demand for suitable sleeping accomodation is relative well provided for, but tourist demand for budget accomodation exceeds supply by far. Restaurants still succeed in the adjustment to changing consumer preferences (in general smaller scale, wider variety and less expensive or very cheap), and their future is prosperous if disposable income will grow. For cafés competition from self provision is greater, the market seems to be stationary, employment growth will only come from more part-time work.

Most of the firms that repair consumer durables are small and labour intensive, in most branches the number of employed persons is not big. The only big branch is repair services for cars and other vehicles. In that (sub)sector demand highly depends on income and relative prices. Between 1975 and 1981 the market share of official car repairing firms decreased, while self repairs and black work increased. This development will probably continue, partly due to improved quality of durable goods, so employment will decline further.

Developments in the travel services have been prosperous until 1980. Longer and more frequent holidays became available, disposable income was increasing, as was the variety of destinations. Since the average propensity to economize on holiday equipment as well as on travel is relatively large, (see Table 5/8), the decline in disposable income in the first half of the present decade had great influence.

Table 5/8 Average propensity to economize on a number of spending categories, 1981 and 1984

savings on:	average score*	1981	1984
1. <u>holiday equipment</u>		4,1	4,3
2. <u>luxury goods</u>		3,8	4,0
3. going out		3,4	3,7
4. hobby/sport		3,3	3,5
5. <u>going on vacation</u>		3,1	3,5
6. <u>domestic decoration</u>		3,2	3,4
7. energy and water		3,2	3,0
8. consumer durables		3,1	3,0
9. car, bicycle		2,9	3,0
10. house (rent)		2,9	3,1
11. clothes		2,6	2,8
12. education, courses		2,4	2,7
13. housekeeping		1,8	2,0

Source: NRIT, Trendrapport toerisme 1984, Breda, 1985 (Report on Trends in Tourism 1984)

*: score on a scale from 1 (minimal) to 5 (maximal) propensity to save

Traditionally there are many intermediaries in the travel services. Some of these functions will disappear when automation of information will break through. Consumers will have more possibilities for comparison. Perhaps eventually an individual holiday can be composed and arranged on, at a screen of the home-computer. The ultimate employment situation with the (sub)branch(s) are hard to predict, but, all the same, the development of real disposable income will remain the major factor.

For the other services (all personal services and paid household help) the emergence of the self service economy has great consequences. For hairdressers this development took place long ago and the remaining ones have to deal with ever changing trends. About 80% of the hairdressers take special courses quite regularly. Consumers' individual demand is met by improved quality and specialization.

The cleansing and cleaning services can survive only by providing very specialized services. Along with an improved labour productivity those

services can be cheaper for firms and institutions. No increase in employment is expected.

The share of paid house staff in the total labour force, finally, declined from 14,3% in 1859 to 7,7% in 1930, to 0,2% in 1981. Housekeeping takes place either within the household or by black workers.

It has been estimated that the amount of black work in 1980 is as large as the official recorded housekeeping work, which is after all very small.

6 CONCLUSIONS

The number of jobs has decreased during the years 1980-1984. The turning point is 1985 with an increase of jobs by 2 to 3%. The future growth has been estimated at about 2% per year (average for 1986-1990).

The decrease of jobs occurred in the private sector and mainly in construction, manufacturing and trade. The public sector continued to grow and prevented a net loss of jobs in the service sector. The recovery of job creation started in 1984 in the producers' services sector, followed by all sectors (on one-digit level) in 1985. The growth of jobs in that year in manufacturing is a remarkable phenomenon and a sign of industrial revival.

The decrease of employment in the first half of the eighties has been accompanied by a substitution of part-time jobs for full-time jobs. The number of part-time jobs increased considerably and is now over 25% of all jobs. Part-time labour is probably the most important example of increasing labour market flexibility. Its popularity is caused by demand and supply factors. It happens on request of employers, because of peak-hours in production and for various other reasons. Employers and employees agree on the main positive effects of part-time labour like higher productivity, improved motivation and less absenteeism .

Part-time labour is more common in the service sector than in manufacturing and construction, and much more common for women than for men. The relatively large growth of part-time jobs in the service sector has therefore led to growth of the overall female labour force; the participation rate of women increased from 37% in 1980 to 44% in 1986.

The growing importance of part-time jobs implies that average working hours decrease. This effect is larger than the reduction of weekly hours of full-time jobs, advocated by the trade-unions as a policy for work-sharing. Reduction of working time has been introduced mainly in the form of extra

days off, not freely chosen by the employee: the more flexible way for the employer.

Still more flexibility has been achieved by employers with various kinds of temporary work. When temporary contracts are substituted for permanent contracts, the most common form is a contract for one year. Workers from employment agencies, min-max contracts, on call contracts and home work are all examples of flexible labour relations. The number of temporary jobs increased by one third from 1983 to 1985 and amount probably to about 10% of all jobs.

Temporary jobs are also found on the black (labour) market. At least 12% of the labour force has income from part-time black work. These jobs have been substituted for many permanent jobs in the service sector. They form an extreme example of growing flexibility of labour relations.

Temporary jobs and contracts are much more employer-oriented forms of labour market flexibility than part-time labour. They weaken job security and the trade unions oppose them. It seems however that this attitude will change, at least in respect of employment agencies. Temporary jobs are however not preferred by many workers and accepted only because of the lack of permanent jobs.

As mentioned, employment in the service sector had a more favourable development than employment in goods producing sectors such as agriculture, manufacturing and construction. This is due to differences in growth of production, in growth of labour productivity and, if employment is measured in persons, also to differences in the growth of part-time labour. The effect is that clerical and service workers and professional workers like teachers and medical workers increase in number, while manual labour, mainly found in manufacturing and construction, decreases. Sectoral growth determines occupational growth. There are but a few exception to this rule: managers, salesmen, cleaners. These occupations seem to become more important within many sectors. The largest growth in persons employed is however to be found in occupations of professional and specialist workers, - in the first place - due to growth of the public sector.

The replacement of blue collar by white collar workers is a long-term process. It goes along with a shift from junior vocational to general and higher education. It is doubtful however if the quality of work, the job content, increased too. There is more evidence of a polarization of the job content structure: the share of higher and of lower job content levels increased at the expense of the middle level. The qualitative structure of employment did not keep up with the rise in educational level during the seventies. At each functional level lower educated workers are replaced by higher educated workers. It appears that this is not the effect of jobs becoming more complicated, but of the large supply of higher qualified labour. This crowding out process is also responsible for the overrepresentation of the unskilled and low-skilled in unemployment. An one percent increase of supply at all educational levels leads, according to model simulations, to an increase of unemployment of the lowest educated group by more than 2 percentage points, but hardly to an increase of unemployment of the highest educated workers. Contrary to the general belief there is not so much a shortage of jobs with a low content for the unskilled, but a general shortage of jobs.

There is of course an effect of technological innovations on the job content. All technological innovations of the last few years have in common the use of computers. The effects are two sided. There may be a diminishing variety of tasks and a decreased autonomy for the worker: examples are found in the assembly of televisions and in the printing/publishing industry. There may also be an integration of tasks and teamwork production with a decrease of hierarchical levels. The application of this new organization model has been successful in the insurance sector. The new functions are more all-round and require skills not provided by the branch-specific educational institutes; firms provide firm-specific courses themselves.

The implications of technological change for the job content depend on organization principles. The same new technology can cause more simplified as well as more sophisticated functions. The diversity of (comparable) functions will possibly increase and result in functions that are more tied to specific firms.

Looking at the near future we may moreover expect the following developments:

- more labour market flexibility: more part-time and more temporary work;
- an (on average) thirty-six hours working week;
- much less difference in job creation between manufacturing and service sector;
- a more or less unchanged demand for manual labour and an increased demand for particular blue collar occupations like machinery fitters and assemblers, electrical fitters and equipment operators;
- an increasing growth of employment in the service sector; the largest growth rate will however not occur in the public sector but in the business services;
- as a result of this last point, the growth of white collar functions will shift somewhat from scientific and professional to clerical occupations.

7 ANNEX

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ANNEX 1 Tables

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Table 7/1 Occupational winners 1971-1979*, top ten

	ISCO	Name	1971	1979	change
1.	33	bookkeepers, cashiers a.r.w.	202.7	276.8	74.1 (36.5)
2.	13	teachers	168.1	239.5	71.4 (42.5)
3.	39	clerical a.r.w. n.e.c.	296.9	361.3	64.4 (21.7)
4.	06/07	medical, dental, veterinary a.r.w.	133.1	194.7	61.6 (46.3)
5.	19	professional, technical a.r.w. n.e.c.	40.9	82.5	41.6 (102)
6.	02/03	architects, engineers and related technicians	140.0	180.1	40.1 (28.6)
7.	55	building caretakers, char- workers, cleaners a.r.w.	71.8	99.6	27.8 (38.7)
8.	54	maids and related housekeeping service workers	137.7	161.2	23.5 (17)
9.	32	stenographers, typists and card- and tape-punching machine operators	116.9	139.0	22.1 (18.9)
10.	98	transport equipment operators**	144.2	164.8	20.6 (14.3)

Source: Computations SEO from CBS

* 1971: census, corrected for selfemployment on 1-digit level
1979: labour force survey

In thousands of persons

n.e.c.: not elsewhere classified

a.r.w.: and related workers

between brackets: relative change in percentages

** 1971 data not quite comparable with 1979

Table 7/2 Occupational winners 1979-1983*, top ten

	ISCO	Name	1979	1983	change
1.	06/07	medical, dental, veterinary a.r.w.	194.7	263.9	69.2 (49.4)
2.	21	managers	114.9	155.7	40.8 (35.5)
3.	39	clerical a.r.w. n.e.c.	361.3	400.1	38.8 (10.7)
4.	55	building caretakers, charworkers, cleaners, a.r.w.	99.6	134.4	34.8 (34.9)
5.	13	teachers	239.5	272.4	32.9 (13.7)
6.	45	salesmen, shop assistants a.r.w.	224.8	256.4	31.6 (14.1)
7.	19	professional, technical a.r.w. n.e.c.	82.5	103.2	20.7 (25.1)
8.	53	cooks, waiters, bartenders a.r.w.	95.5	111.2	15.7 (16.4)
9.	08	statisticians, mathematicians, systems analysts and related technicians	28.5	43.9	15.4 (54.0)
10.	40	managers (wholesale only)	17.7	27.8	10.1 (57.1)

Source: Computations SEO from CBS

- * 1979: labour force survey
 1983: labour force survey, provisional figures
 In thousands of persons
 n.e.c.: not elsewhere classified
 a.r.w.: and related workers
 between brackets: relative change in percentages

Tabel 7/3 Macro economic Key figures CPB

	1985	1986	1986/1990
	growth per year in %		
<u>Assumptions</u>			
world-trade volume (not weighted)	2.5	2.5	4.5
competitive export (energy excl.)	3.5	3.5	5 à 5.5
price import of goods	1	-14.5	0
competitive export price (energy excl.)	2	-5.5	-0.5
unit labour costs manufactures (f1)	2.5	-4.5	-1 à -0.5
exchange rate gilden as to:			
- competitors on foreign markets	-0.5	8.5	1.5
- imports	-0.5	11	2
exchange rate to dollar	f1 3.32	f1 2.60	f1 2.25
volume material government spendings	-0.5	1.5	1
volume investments in houses	-5.5	0	-0.5
labourtime in private sector	-2 à -1.5	-1	0
<u>Results</u>			
wages employee in private sector	1.5	2.5 à 3	1.5
volume private consumption	2	3.5	2.5
volume investments	8	6.5	4
volume export of goods	5	2.5	5 à 5.5
energy excl.	5	4.5	6
volume import of goods	6	3.5	5
production volume business	2.5	2	2.5 à 3
production volume market sector (mining excl.)	2	3	3.5
real National Income	3.5	2.5	2 à 2.5
prices private consumption	2 à 2.5	-5	-5 à 0
prices export of goods	2	-13	-0.5 à 0
energy excl.	1.5	-5.5	-0.5 à -1
labour productivity firms	1.5	0.5	1.5 à 2
real disposable income	2 à 2.5	4	1 à 1.5
unit wage costs manufactures	0.5	0	-2
		<u>Levels</u>	
current account (bilj.gld)	19	17	17.5
employment (1000 labour years)	4540	4590	4720
employment (1000 persons)	5125	5230	5530
reg. unemployment	760	725	675
labour income ratio (firms)	85	82.5	81.5
savings (% NNI)	15	14.5	14.5
Government def. (id)	7.3	7.2	8.4
taxes (id)	27.7	28.1	28.3
gas exclusive (id)	26.1	26.5	27.4
social sec. payments (id)	22.7	22.4	22.5

Table 7/4 Working persons according to ISCO and highest attained level of education, 1979 (x 1000)

ISCO	1	2	3	4	5	6	7	total*
0/1	18	29	34	34	280	349	143	903
2	6	5	12	7	37	34	16	119
3	91	188	159	85	295	59	7	914
4	93	50	130	19	173	19	3	505
5	182	29	153	8	129	9	1	525
6	85	6	124	2	63	3	0	291
7/8/9	562	45	523	9	375	13	1	1562
civil servants plus unknown	22	7	13	4	18	6	1	74
total**	1059	359	1184	169	1371	491	172	4893

Source: CBS, Labour Force Survey

* including level of education unknown

** including occupation unknown

Table 7/5 Working persons according to ISCO and highest attained level of education, 1981 (x 1000)

ISCO	1	2	3	4	5	6	7	total*
0/1	15	29	31	45	308	393	165	999
2	7	6	8	10	51	34	16	135
3	88	188	132	101	342	69	10	953
4	85	56	102	23	210	25	3	526
5	179	44	139	10	170	9	1	572
6	72	10	105	2	79	3	0	276
7/8/9	483	70	485	13	393	13	0	1498
civil servants plus unknown	0	13	22	11	28	8	2	92
total**	946	418	1031	216	1590	556	197	5108

Source: CBS, Labour Force Survey

* including level of education unknown

** including occupation unknown

Table 7/6 Working persons according to ISCO and highest attained level of education, 1983 (x 1000)

ISCO	1	2	3	4	5	6	7	total*
0/1	12	35	31	46	327	401	176	1049
2	8	8	12	9	62	38	20	161
3	69	172	127	104	343	78	15	934
4	76	57	99	25	217	27	4	530
5	164	41	147	14	184	11	1	582
6	64	11	111	2	86	3	0	282
7/8/9	374	67	432	13	419	19	1	1354
civil servants plus unknown	6	13	22	10	27	7	1	88
total**	776	406	983	225	1670	587	220	5007

Source: CBS, Labour Force Survey

* including level of education unknown

** including occupation unknown

Table 7/7 Working persons according to ISCO and highest attained level of education, 1985 (x 1000)

ISCO	1	2	3	4	5	6	7	total*
0/1	12	24	34	42	325	457	195	1100
2	8	7	12	10	67	43	21	169
3	65	152	146	114	365	95	15	967
4	62	58	101	25	225	32	5	532
5	147	46	166	13	209	15	1	617
6	58	11	110	3	87	4	0	227
7/8/9	341	64	460	16	429	20	2	1355
civil servants plus unknown	5	11	18	9	34	9	2	88
total**	700	374	1047	233	1743	675	242	5144

Source: CBS, Labour Force Survey

* including level of education unknown

** including occupation unknown

Table 7/8 Working persons 1977-1985 to function

ISCO	1977	1979	1981	1983	1985
0/1	820	903	999	1049	1100
2	119	119	135	161	169
3	891	914	953	934	967
4	493	505	526	530	532
5	501	525	572	582	617
6	289	291	276	282	227
7/8/9	1573	1562	1498	1354	1355
total*	4806	4893	5108	5007	5144

Source: CBS, Labour Force Survey

* including occupation unknown

Table 7/9 Working persons 1975-1985 to highest attained level of education*

level	1975	1977	1979	1981	1983	1985
1	1541	1461	1059	946	776	700
2	549	592	359	418	406	374
3	1291	1316	1184	1031	983	1047
4	168	203	169	216	225	233
5	534	585	1371	1590	1670	1743
6	487	526	491	556	587	675
7			172	197	220	242
total**	4686	4806	4893	5108	5007	5144

Source: CBS, Labour Force Survey

* in 1979 a major overhaul of the education statistics took place

** including level of education unknown

ANNEX II SUMMARY OF MAIN STATISTICAL SOURCES

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c	Nationale Rekeningen (National Accounts)	91
d	Automatiserings Statistieken (Statistics of Automation)	93

1. **National title of source:** Arbeidskrachtentelling

English translation: Labour Force Survey

2. **General purpose:** Providing internationally comparable statistics relating to employment and unemployment

3. **Sponsor:** Government

4. **Conducted by:** CBS

5. **Frequency of collection (state years, etc.):** 1975, 1977, 1979, 1981, 1983, 1985.
Full availability until 1981, 1983 partly

6. **Population represented:** All households in the Netherlands

7. Sample size and method:	1975	1977	1979	1981	1983
	<hr/>				
	%	3	3	2.5	5
				3	

8. **Method of obtaining data** (eg. oral interview, postal survey, official administrative records): Voluntary survey conducted by interview

9. **Form of storage** (machine-readable, other - please specify):
Machine-readable
Available to SEO on tape: 1979 and 1981

10. EMPLOYMENT

- 10.1 **demographic characteristics:** Sex, age, marital status
- 10.2 **employment status:** self-employed/employee/working family members
part-time/full-time
- 10.3 **industrial classification:** in principle very detailed but sample size limits this when making cross-tabulations
- 10.4 **occupational classification:** as for 10.3
- 10.5 **spation classification:** provinces
- 10.6 **hours of work:** annual hours, average or 'normal' weekly hours, short-time, over-time etc. for selected years
- 10.7 **vocational training whilst employed:** some information in selected years
- 10.8 **other:** 10.1-10.6 for one year ago on a less detailed scale

11. UNEMPLOYMENT

- 11.1 **definition of unemployment:** survey based
- 11.2 **disaggregation of unemployment:** demographic, occupational/professional
- 11.3 **nature of data stocks:**

12. SPECIAL EMPLOYMENT AND TRAINING MEASURES

12.1 adults:

some information for selected years,

12.2 young people:

see survey based studies

13. MOBILITY AND TURNOVER

13.1 job changing (within employing organisation):

13.2 job changing (between employing organisations):

limited information
via retrospective
question

13.3 inter-industrial

13.4 inter-occupational

13.5 spatial

13.6 movements into and out of the labour force:

14. OTHER CLASSIFICATIONS OF THE SAMPLED POPULATION

14.1 educational and vocational qualifications of labour force:

to 7 or 8 levels of education or 35 categories (mix of level and school type)

14.2 earnings: some, but not representative

14.3 income (personal/household): none

14.4 other: see survey-based studies

1. **National title of source:** Statistiek werkzame personen

English translation: Statistic of employed persons
2. **General purpose:** to collect data on employment
3. **Sponsor:** Government
4. **Conducted by:** CBS
5. **Frequency of collection** (state years, etc.): annually since 1975
last year available: 1984
6. **Population represented:** all employees in the Netherlands up to 1983
only jobs of more than 15 hours weekly
7. **Sample size and method:**

1	employee :	1:21
2-5	employees:	1:12
5-10	employees:	1: 7
10	employees and more:	1: 1
8. **Method of obtaining data** (eg. oral interview, postal survey, official administrative records): official survey directed at employees
9. **Form of storage** (machine-readable, other - please specify):
Published Tabulations

10. EMPLOYMENT

10.1 demographic characteristics: Sex

10.2 employment status: employees in employment only,
part-time/full-time

10.3 industrial classification: SBI 1974 2 and 3 digit level

10.4 occupational classification: -

10.5 spation classification: province, city, region

10.6 hours of work: average or 'normal' weekly hours for part-time
an short-time, over-time etc. for selected years

10.7 vocational training whilst employed: -

10.8 other: 10.1-10.6 for one year ago on a less detailed scale

11-14 not applicable

1. **National title of source:** Nationale Rekeningen

English translation: National Accounts

2. **General purpose:**

3. **Sponsor:** Government

4. **Conducted by:** CBS

5. **Frequency of collection (state years, etc.):** annually available up to
1984

6. **Population represented:** all working persons

7. **Sample size and method:** combination of several statistics

8. **Method of obtaining data (eg. oral interview, postal survey, official
administrative records):**

9. **Form of storage (machine-readable, other - please specify):**
Tabulations published

10. EMPLOYMENT

10.1 demographic characteristics: none

10.2 employment status: total and employees in 1000 labour years

10.3 industrial classification: SDI 1974 2 digit level, for
manufacturing industry 3 digit level

10.4 occupational classification: -

10.5 spation classification: -

10.6 hours of work: -

10.7 vocational training whilst employed: -

10.8 other: -

11-14 not applicable

1. **National title of source:** Automatiserings Statistieken

English translation: Automation Statistics

2. **General purpose:** Providing data on the automation of enterprises and institutions in the Netherlands, referring to electronic data processing for administrative purposes

3. **Sponsor:** Government

4. **Conducted by:** CBS

5. **Frequency of collection (state years, etc.):** 1979, 1981, 1983
(1983 only private enterprises)

6. **Population represented:** private: all enterprises employing 5 and more persons, regardless of their economic activity
government: as a whole

7. **Sample size and method:** 1:1 survey, see 6

8. **Method of obtaining data (eg. oral interview, postal survey, official administrative records):** official records

9. **Form of storage (machine-readable, other - please specify):**
Published Tabulations

10. EMPLOYMENT

- 10.1 demographic characteristics: -**
- 10.2 employment status:** employees only, in persons and labour years
- 10.3 industrial classification:** SBI 1974, 1 and 2 digit level according to size of firm unit
- 10.4 occupational classification:** automation personnel, seven function groups
- 10.5 spation classification:** province
- 10.6 hours of work:** - (average annually hours worked per employee can be calculated)
- 10.7 vocational training whilst employed:** in/external, labour-days for vocational training per employee
- 10.8 other:** * non-realized labour years because of vacancies per sector
* lots of data about computers, terminals, see also survey based studies

11-14 not applicable

ANNEX III EMPLOYMENT IN VARIOUS STATISTICAL SOURCES

AKT: Arbeidskrachtentelling
(Labour Force Survey)

SWP: Statistiek Werkzame personen
(Statistic of Employed persons)

N.R.: Nationale Rekeningen
(National Accounts)

10.1 Demographic Aspects: sex, age and marital status

10.2 Employment status:
self employed versus employed
part-time versus full-time
In the National Accounts: only labourvolume

10.3 Industrial classification:
Private versus Public
SDI-code closely resembles NACE-code
Second number between brackets: only few tables, hardly any
cross tabulations available with other aspects,

10.4 Occupational classification

10.5 Spation classification:
Can be made available for the AKT in great detail at extra
costs.

10.6 Hours of work
Yearly hours workes in the National Accounts are based on
estimations of total labourvolume compared with employed
persons from the SWP.

The numbers between brackets mean the maximum number of categories; mostly
also tabulations are available for less categories.

CHARACTERISTICS OF VARIOUS SOURCES

	10.1 demographic			10.2 status		10.3 industrial cl.		10.4 occupational	10.5 spatial			10.6 hours of work		10.8 other
	sex	age	marit.	SE/E	P/F	Pr/Pu	SDI	ISSO	nat.	region	city	week	year	education
AKT	X	X (11)	X	X	X	X	X (56)	X (84)	X	X	X	X (8)		X (35)
SWP	X			empl. only	X	X	X (41/298)		X	X	X	X (8)	X	
N.R.				X	X*	X	X (8/40)		X				X*	

* see legend

ANNEX IV CLASSIFICATIONS

a	Conversion from the CBS classification of occupations (1984) to the ISCO (1968)	98
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Netherlands Central Bureau of Statistics

Conversion from the CBS Classification of Occupations(1984) to the ISCO(1968)

<u>CBS</u>	<u>ISCO</u>	
01	01	Physical scientists and related technicians.
02	02	Architects, engineers and related technicians.
04	04	Aircraft and ship's officers.
05	05	Life scientists and related technicians.
06	06	Medical, dental, veterinary and related workers.
08	08	Statisticians, mathematicians, systems analysts and related technicians.
09	09	Economists.
11	11	Accountants.
12	12	Jurists.
13	13	Teachers.
14	14	Workers in religion.
15	15	Authors, journalists and related writers.
16	16	Sculptors, painters, photographers and related creative artists.
17	17	Composers and performing artists.
18	18	Athletes, sportsmen and related workers.
19	19	Professional, technical and related workers not elsewhere classified.
20	20	Legislative officials and government administrators.
21	21	Managers.
30	30	Clerical supervisors.
31	31	Government executive officials.
32	32	Stenographers, typists and card- and tape-punching machine operators.
33	33	Bookkeepers, cashiers and related workers.
34	34	Computing machine operators.
35	35	Transport and communications supervisors.
36	36	Transport conductors.
37	37	Mail distribution clerks.
38	38	Telephone and telegraph operators.
39	39	Clerical and related workers not elsewhere classified.
40		Managers (wholesale).
41	> 40	Managers (retail trade).
42		Working proprietors (wholesale).
43	> 41	Working proprietors (retail trade in shops).
44		Working proprietors (retail trade not in shops).
45	42	Sales supervisors and buyers.
46	43	Technical salesmen, commercial travellers and manufacturers' agents.
47	44	Insurance, real estate, securities and business services salesmen and auctioneers.
48	45	Salesmen, shop assistants and related workers.
49	49	Sales workers not elsewhere classified.
50	50	Managers (catering and lodging services).
51	51	Working proprietors (catering and lodging services).
52	52	Housekeeping and related service supervisors.
53	53	Cooks, waiters, bartenders and related workers.
54	54	Maids and related housekeeping service workers not elsewhere classified.
55	55	Building caretakers, charworkers, cleaners and related workers.

Conversion from the CBS Classification of Occupations(1984) to the ISCO(1968)

CBS	ISCO	
56	56	Launderers, dry-cleaners and pressers.
57	57	Hairdressers, barbers, beauticians and related workers.
58	58	Protective service workers.
59	59	Service workers not elsewhere classified.
60	60	Farm managers and supervisors, excl. Farmers (Limited Companies).
61	61	Farmers (Owners).
62	62	Agricultural and animal husbandry workers.
63	63	Forestry workers.
64	64	Fishermen, hunters and related workers.
68	60	Farmers (Limited Companies).
70	70	Production supervisors and general foremen.
71	71	Miners, quarrymen, well drillers and related workers.
72	72	Metal processers.
73	73	Wood preparation workers and paper makers.
74	74	Chemical processers and related workers.
75	75	Spinners, weavers, knitters, dyers and related workers.
76	76	Tanners, fellmongers and pelt dressers.
77	77	Food and beverage processers.
78	78	Tobacco preparers and tobacco product makers.
79	79	Tailors, dressmakers, sewers, upholsterers and related workers.
80	80	Shoemakers and leather goods makers.
81	81	Cabinetmakers and related woodmakers.
82	82	Stone cutters and carvers.
83	83	Blacksmiths, toolmakers and machine tool operators.
84	84	Machinery fitters, machine assemblers and precision-instrument makers (except electrical).
85	85	Electrical fitters and related electrical and electronics workers.
86	86	Broadcasting station and sound equipment operators and cinema projectionists.
87	87	Plumbers, welders, sheet metal and structural metal preparers and erectors.
88	88	Jewellery and precious metal workers.
89	89	Glass formers, potters and related workers.
90	90	Rubber and plastic product makers.
91	91	Paper and paperboard products makers.
92	92	Printers and related workers.
93	93	Painters.
94	94	Production and related workers not elsewhere classified.
95	95	Bricklayers, carpenters and other construction workers.
96	96	Stationary engine and related equipment operators.
97	97	Material handling and related equipment operators, dockers and freight handlers.
98	98	Transport equipment operators.
99	99	Labourers not elsewhere classified.
X1	X	Workers not classifiable by occupation
X2		Members of the armed forces (regular members)
X3		Members of the armed forces (temporary members)

11 March, 1986.

Conversion scheme for ANTOS and VOSTA classification of thirty groups
of occupations to ISCO

Nr.	Name	ISCO
1	Physical scientists, architects, engineers and related technicians	01,02,03
2	Medical, dental, veterinary and related workers	06,07
3	Teachers	13
4	Sculptors, painters, photographers and related creative artists, composers and performing artists	16,17
5	Other scientists	rest 0+1
6	Administrative and managerial workers	2
7	Stenographers, typists and card- and punching machine operators	32
8	Bookkeepers, cashiers and related workers	33
9	Other clerical and related workers	rest 3
10	Technical salesmen, commercial travellers and manufacturers' agents	43
11	Salesmen, shop assistants and related workers	45
12	Other sales workers	rest 4
13	Cooks, waiters, bartenders and related workers	53
14	Maids and related housekeeping service workers not elsewhere classified	54
15	Building caretakers, charworkers, cleaners	55
16	Hairdressers, barbers, beauticians and rel.workers	57
17	Other service workers	rest 5
18	Agricultural , forestry workers, fishermen etc.	6
19	Production supervisors and general foremen	70
20	Food and beverage processors	77
21	Tailors, dressmakers, sewers, upholsteres and related workers	79
22	Blacksmiths, toolmakers and machine tool operators	83
23	Machinery fitters, machine assemblies and precision- instrument makers (except electrical)	84
24	Electrical fitters and related electrical and electronics workers	85
25	Plumbers, welders, sheet metal and structural metal preparers and erectors	87
26	Painters	93
27	Bricklayers, carpenters and other construction workers	95
28	Material handling and related equipment operators, dockers and freight handlers	97
29	Transport equipment operators	98
30	Other production and related workers, transport equipment operators and labourers	rest 7,8,9

Bedrijfsindeling van de sector bedrijven en overheid volgens de Standaard bedrijfsindeling (SBI) 1974
Classification by kind of economic activity based on the national 'Standard Industrial Classification' (SBI) 1974

Regel no. input-output- tabel Row number input-output table	Bedrijfs- klassen/ -groepen Classes/ groups of industry		
1	01/02 011 012 013 014 015 020	Land-, tuin- en bosbouw Akkerbouw en veehouderij Tuinbouw Plantsoenendiensten, hoveniersbedrijven Agrarische dienstverlenende bedrijven Jacht Bosbouw	Agriculture, horticulture and forestry Arable farming and livestock raising Horticulture Public parks and gardens, landscape gardening Agriculture services Hunting Forestry
2	03 030	Visserij Visserij	Fishing Fishing
3	12 120	Aardolie en aardgaswinning ¹ Aardolie- en aardgaswinning en -exploratie	Crude petroleum and natural gas production ¹ Crude petroleum and natural gas production and exploration
4	19 191 192 199	Overige delfstoffenwinning (excl. kolenmijnbouw) ¹ Zand-, grind- en mergelwinning Zoutwinning Delfstoffenwinning n.e.g.	Other mining and quarrying (excl. coal mining) ¹ Sand, gravel and marl pits Salt mining Mining and quarrying n.e.s.
5	201 201	Slachterijen en vleeswarenindustrie Slachterijen en vleeswarenindustrie	Slaughtering and meat-processing industry Slaughtering and meat-processing industry
6	202 202	Zuivel- en melkproduktenindustrie Zuivel- en melkproduktenindustrie	Manufacture of dairy products Manufacture of dairy products
7	203, 207 203 207	Vis-, groente- en fruitverwerkende industrie Visbewerkingsinrichtingen Groente- en fruitverwerkende industrie	Canning, preserving and processing of fish, fruit and vegetables Canning, preserving and processing of fish and shellfish Canning, preserving and processing of fruits and vegetables
8	204, 212 204 212	Graanverwerkende industrie Meelfabrieken, gort- en rijstpellerijen e.d. Veevoederindustrie	Grain-processing industry Flour mills, groats and rice husking mills, etc. Manufacture of compounded animal stock feeds
9	205 205	Suikerindustrie Suikerindustrie	Sugar industry Sugar industry
10	208 208	Bloemverwerkende industrie Brood-, beschuit-, banket-, koek- en biscuitfabrieken	Flour-processing industry Manufacture of bread, rusks, pastries, cakes and biscuits
11	209 209	Cacao-, chocolade- en suikerwerkindustrie Cacao-, chocolade- en suikerwerkindustrie	Manufacture of cocoa, chocolate and confectionery Manufacture of cocoa, chocolate and confectionery
12	206, 211, 213 206 211 213	Margarine-, zetmeel- en overige voedingsmiddelenindustrie Margarine- e.a. plantaardige en dierlijke olie- en vettenindustrie Zetmeel- en zetmeelderivatenindustrie Overige voedingsmiddelenindustrie	Manufacture of margarine, starch and other food Manufacture of margarine and other vegetable and animal oils and fats Manufacture of starch and starch derivatives manufacture Other food products
13	214/216 214 215 216	Drankenindustrie Alcoholfabrieken en distilleerderijen Bierbrouwerijen en mouterijen Frisdrankenindustrie	Beverage industry Alcohol manufacturing and distilleries Breweries and malt houses Non-alcoholic beverages
14	217 217	Tabakverwerkende industrie Tabakverwerkende industrie	Tobacco-processing industry Tobacco-processing industry
15	221 221	Wolindustrie Wolindustrie	Wool industry Wool industry
16	222 222	Katoenindustrie Katoenindustrie	Cotton industry Cotton industry
17	223 223	Tricot- en kousenindustrie Tricot- en kousenindustrie	Knitting and hosiery industry Knitting and hosiery industry
18	224/229 224 225 226 227 229	Textielindustrie (overige bedrijven) Textielveredelingsindustrie Tapijt- en vloermattenindustrie Linoleum- en viltzeilindustrie Textielwarenindustrie (excl. kleding) Overige textielindustrie	Textiles industry (other enterprises) Finishing textiles Manufacture of carpets and rugs Manufacture of linoleum and felt-floor covering Manufacture of textile fabrics (excl. clothing) Manufacture of other textiles
19	23 231 232 233 234 235	Kledingindustrie Confectiekledingindustrie Loonconfectie-industrie Maatkledingbedrijven Pelsbereiderijen, bontfabrieken en bontwerkerijen Hoeden-, petten- en mode-artikelenindustrie	Clothing industry Manufacture of ready-made clothing Contract manufacture of ready-made clothing Manufacture of tailor-made clothing Pelt and fur industry Manufacture of hats, caps and fashion articles

Bedrijfsindeling van de sector bedrijven en overheid volgens de Standaard bedrijfsindeling (SBI) 1974 (vervolg)
Classification by kind of economic activity based on the national 'Standard Industrial Classification' (SBI) 1974 (continued)

Regel no. input-output- tabel Row number input-output table	Bedrijfs- klassen/ -groepen Classes/ groups of industry		
20	24	Leder-, schoen- e.a. lederwarenindustrie (excl. kleding)	Leather, footwear and other leatherware (excl. clothing)
	241	Lederindustrie	Leather industry
	242	Lederwarenindustrie (excl. kleding)	Leatherware industry (excl. clothing)
	243	Schoenindustrie	Footwear industry
21	25	Hout- en meubelindustrie (excl. metalen meubelen)	Wood and furniture industry (excl. metal furniture)
	251	Houtzagerijen, -schaverijen e.d.	Saw mills and planing industry
	252	Triplex-, fineer-, vezel-, spaanderplaat- en houtconserveringsindustrie	Manufacture of plywood, veneer, fibreboard, chipboard and wood preserving
	253	Timmer- en parketvloerenindustrie	Carpentering, parqueting industry
	254	Houten emballage-industrie	Manufacture of wooden containers
	255	Overige houtwarenindustrie	Manufacture of other wooden articles
	256	Kurk-, vlecht- en borstelwarenindustrie	Manufacture of cork, plaiting and brushware
	257	Meubelindustrie (excl. metalen meubelen)	Furniture industry (excl. metal furniture)
22	261	Papier- en kartonindustrie	Paper and cardboard industry
	261	Papier- en kartonindustrie	Paper and cardboard industry
23	262/263	Papierwaren- en golfkartonindustrie	Paperware and corrugated cardboard industry
	262	Papierwarenindustrie	Paperware industry
	263	Golfkarton- en kartonnage-industrie	Corrugated cardboard and cardboard industry
24	27	Grafische industrie, uitgeverijen	Printing, publishing and related industries
	271	Grafische industrie	Printing industry
	272	Uitgeverijen	Publishing industry
	273	Binderijen	Book binding industry
25	28	Aardolie-industrie ¹	Petroleum industry
	281	Aardolieraffinaderijen	Oil refineries
	282	Aardolie- en steenkoolproduktenindustrie	Manufacture of petroleum and coal products
26	11.	Chemische basisproduktenindustrie	Chemical basic products industry
	291/294, 300	(incl. kolenmijnbouw) kunstmatige en synthetische garen- en vezelindustrie ²	(incl. coal mining), manufacture of artificial and synthetic yarns and fibres ²
	110	Kolenmijnbouw	Coal mining
	291	Kunstmeststoffenindustrie	Manufacture of fertilizers
	292	Kunstharsen- e.d. industrie	Manufacture of plastics
	293	Verfstoffen- en kleurstoffenindustrie	Manufacture of dye-stuffs and pigments
	294	Overige chemische grondstoffenindustrie	Other chemical basic industry
	300	Kunstmatige en synthetische garen- en vezelindustrie	Manufacture of artificial and synthetic yarns and fibres
	27	295/299	Chemische eindproduktenindustrie ²
295		Verf-, lak-, vernis- en drukinktindustrie	Manufacture of paint, lacquer, varnish and printing ink
296		Genees- en verbandmiddelenindustrie	Manufacture of pharmaceutical and antiseptic dressings
297		Zee-, was- en reinigingsmiddelen-, parfumerie- en cosmetica-industrie	Manufacture of soap; other washing and cleaning materials, perfumery and cosmetics
298		Chemische bestrijdingsmiddelenindustrie e.d.	Manufacture of chemical detergents etc.
299		Overige chemische produktenindustrie	Manufacture of other chemical products
28	31	Rubber- en kunststofverwerkende industrie	Rubber and plastic-processing industry
	311	Rubberverwerkende industrie	Rubber-processing industry
	312	Loopvlakvernieuwingsindustrie	Tyre-retreading industry
	313	Kunststofverwerkende industrie	Plastic-processing industry
29	32	Bouwmaterialen-, aardewerk- en glasindustrie ²	Manufacture of building materials, earthenware, glass and glass products ²
	321	Baksteen- en dakpannenindustrie	Manufacture of brick and tiles
	322	Aardewerkindustrie	Manufacture of earthenware
	323	Kalkzandsteenindustrie	Manufacture of sand-lime bricks
	324	Cement- en kalkindustrie	Manufacture of cement and lime
	325	Beton- en cementwarenindustrie	Manufacture of concrete and cement products
	326	Natuursteenbewerkingsbedrijven	Manufacture of stone products
	327	Overige minerale produktenindustrie	Manufacture of other mineral products
	328	Glasindustrie en -bewerkingsinrichtingen	Manufacture of glass and glass products
	30	33	Basis metaalindustrie
331		Ruwijzer- en staalindustrie	Iron and steel industry
332		Stalen buizenindustrie	Manufacture of steel tubes
333		Draadtrekkerijen en koudwalserijen	Wire-drawing and cold-rolling industry
334		Non-ferro metaalindustrie	Non-ferrous metal industry

Bedrijfsindeling van de sector bedrijven en overheid volgens de Standaard bedrijfsindeling (SBI) 1974 (vervolg)
Classification by kind of economic activity based on the national 'Standard Industrial Classification' (SBI) 1974 (continued)

Regel no. input-output- tabel	Bedrijfs- klassen/ -groepen		
Row number input-output table	Classes/ groups of industry		
31	34	Metaalproduktenindustrie (excl. machines en transportmiddelen)	Manufacture of metal products
	340	Gieterijen	Foundries
	341	Grofmederijen, stamp- en persbedrijven	Iron works, crushing and pressing industry
	342	Schroeven-, massadraaiwerk-, verenindustrie e.d.	Manufacture of screws, mass products from lathes and springs
	343	Tank-, reservoir- en pijpleidingbouw	Construction of tanks, reservoirs and pipelines
	344	Overige constructiewerkplaatsen	Other metal construction
	345	Metalen meubelindustrie	Manufacture of metal furniture
	346	Metalen emballage-industrie	Metal-packing industry
	347	Verwarmings- en kookapparatenindustrie (excl. elektr.)	Manufacture of heating and cooking apparatus (excl. electric)
	348	Overige metaalwarenindustrie	Manufacture of other metal products
	349	Smederijen, oppervlaktebewerkingsbedrijven e.d.	Forges, surface treatment
32	35	Machine-industrie	Machinery
	351	Landbouwmachine-industrie	Manufacture of agricultural machinery
	352	Metaalbewerkingsmachine-industrie	Manufacture of metal-working machinery
	353	Fabrieken van machines en apparaten voor de voedingsmiddelen-, de chemische en verwante industrieën	Manufacture of machinery for food-processing, chemical and related industries
	354	Hef- e.a. transportwerktuigenindustrie, fabrieken van machines voor de mijnbouw en de bouwnijverheid, de bouwmaterialen- en de metallurgische industrie	Lifting and other transport equipment for mining, construction, building-materials and metallurgic industries
	355	Tandwielen-, lagers- e.a. drijfwerkelementenindustrie	Manufacture of cog-wheels, bearings and other driving gear
	356	Fabrieken van machines en apparaten voor n.e.g. industrieën	Manufacture of machinery and other equipment for industries n.e.s.
	357	Stoomketel- en krachtwerktuigenindustrie	Manufacture of steamboilers, engines and turbines
	358	Kantoormachine-industrie	Manufacture of office machinery
	359	Overige machine- en apparatenindustrie	Manufacture of other machinery and apparatus
33	36	Elektrotechnische industrie	Electrotechnical industry
	361	Elektrische draad- en kabelindustrie	Manufacture of electrical wires and cables
	362	Elektromotoren-, generatoren-, transformatoren, schakel- en installatiemetaalindustrie	Manufacture of electromotors, generators, transformers, switching equipment and installation metal
	369	Overige elektrotechnische industrie	Other electrotechnical industry
34	371/373	Auto-industrie	Automobile industry
	371	Auto-industrie en -assemblagebedrijven	Manufacture and assembly of automobiles
	372	Carrosserie-, aanhangwagen- en opleggerindustrie	Manufacture of coach work and trailers
	373	Auto-onderdelenindustrie	Manufacture of car parts
35	374/379	Transportmiddelenindustrie (overige bedrijven)	Manufacture of transport equipment (other enterprises)
	374	Scheepsbouw- en scheepsreparatiebedrijven	Ship building and ship repair industries
	375	Wagonbouw en spoorwegwerkplaatsen	Manufacture of railway carriages and railway repair and maintenance shops
	376	Rijwiel- en motorrijwielindustrie	Manufacture of bicycles and motorcycles
	377	Vliegtuigbouw- en vliegtuigreparatiebedrijven	Aircraft-construction and repair industry
	379	Overige transportmiddelenindustrie	Manufacture of other transport equipment
36	38/39	Instrumenten-, optische en overige industrie³	Manufacture of instruments and optical goods and other industry³
	381-399	Instrumenten-, optische en overige industrie	Manufacture of instruments, optical goods and other industry
37	401	Elektriciteitsbedrijven	Electricity generation (public utility)
	401	Elektriciteitsbedrijven	Electricity generation (public utility)
38	402	Gasdistributiebedrijven	Gas distribution (public utility)
	402	Gasdistributiebedrijven	Gas distribution (public utility)
39	403	Waterleidingbedrijven	Water supply (public utility)
	403	Waterleidingbedrijven	Water supply (public utility)
40	5	Bouwnijverheid en -installatiebedrijven	Construction and installation on construction projects
	511-519	Bouwnijverheid	Construction
	521-523	Bouwinstallatiebedrijven	Installation on construction projects
41	61/66	Groothandel, tussenpersonen in de handel en detailhandel⁵	Wholesale trade, trade intermediaries and retail trade⁵
	611-649	Groothandel en tussenpersonen in de handel	Wholesale trade and trade intermediaries
	651-669	Detailhandel	Retail trade
42	67	Hotels, restaurants, cafés e.d.	Hotels, restaurants, cafés etc.
	671-675	Hotels, restaurants, cafés e.d.	Hotels, restaurants, cafés etc.

Bedrijfsindeling van de sector bedrijven en overheid volgens de Standaard bedrijfsindeling (SBI) 1974 (vervolg)
Classification by kind of economic activity based on the national 'Standard Industrial Classification' (SBI) 1974 (continued)

Regel no. input-output- tabel	Bedrijfs- klassen/ -groepen	Bedrijfs- klassen/ -groepen	
Row number input-output table	Classes/ groups of industry	Classes/ groups of industry	
43	68	Reparatiebedrijven voor gebruiksgoederen	Repair of consumer goods
	681	Schoen- e.a. lederwarenreparatiebedrijven	Repair of shoes and other leatherware
	682	Autoreparatiebedrijven	Repair of cars
	683	Rijwiel- en motorrijwielreparatiebedrijven	Repair of bicycles and motorcycles
	684	Uurwerkreparatiebedrijven	Repair of clocks and watches
	685	Goud- en zilvermederijen (reparatiebedrijven)	Repair of jewellery
	686	Reparatiebedrijven voor elektrische gebruiksgoederen	Repair of electrical consumer goods
	687	Muziekinstrumentenreparatiebedrijven	Repair of musical instruments
	689	Reparatiebedrijven voor n.e.g. gebruiksgoederen	Repair of consumer goods n.e.s.
44	73, 75	Zee- en luchtvaart ⁴	Sea and air transport ⁴
	731	Grote vaart	Ocean-going transport
	732	Kleine handelsvaart	Shipping on coasting and short sea routes
	733	Zeevaartverwante bedrijven (excl. loodswezen) ⁴	Enterprises related to shipping ⁴
	751	Luchtvaartbedrijven	Air transport business
	752	Luchtvaartverwante bedrijven	Enterprises related to air transport
45	71, 72, 74, 76	Overige transport- en opslagbedrijven ⁵	Other transport storage ⁵
	710	Spoorwegen	Railways
	721	Tram- en autobuslijndiensten e.d.	Tram and bus services etc.
	722	Taxi- en toerwagenbedrijven	Taxi and coach enterprises
	723	Goederenwegvervoer	Freight transport by road
	724	Wegvervoerwante bedrijven	Enterprises related to road transport
	741	Binnenvaartbedrijven	Inland shipping
	742	Binnenvaartverwante bedrijven	Enterprises related to inland shipping
	761	Reisbureaus	Travel agencies
	762, 763	Overige hulpbedrijven van het vervoer	Other enterprises supporting the transport industry
46	77	Communicatiebedrijven	Communication
	770	Communicatiebedrijven	Communication
47	81	Bankwezen	Banking
	811-814	Bankwezen	Banking
48	82	Verzekeringswezen	Insurance
	821-823	Verzekeringswezen	Insurance
49	83	Exploitatie van en handel in onroerende goederen ⁵	Exploitation of and trade in real estate ⁵
	831	Exploitatie van en handel in onroerende goederen	Exploitation of and trade in real estate
	832	Makelaars in onroerende goederen e.d.	Real estate brokers etc.
50	84/85	Zakelijke dienstverlening en verhuur van machines e.a. roerende goederen ⁷	Business services and renting of machinery and other movables ⁷
	841	Rechtskundige diensten	Legal services
	842	Accountants-, boekhoudbureaus, belastingconsulenten	Services of chartered accountants, bookkeeping agencies, tax advisers
	843	Computerservicediensten	Computer services
	844	Ingenieurs-, architecten- e.a. technische ontwerp- en adviesbureaus	Services of engineers, architects, technical designers and technical advisers
	845	Reclame- en advertentiebureaus	Advertising and publicity agencies
	846	Economische adviesbureaus	Economic advising agencies
	847	Persbureaus, nieuwsbureaus	Press agencies, news agencies
	848	Uitzendbedrijven van arbeidskrachten	Labour dispatch services
	849	Overige zakelijke dienstverlening	Other business services
	851-859	Verhuur van machines e.a. roerende goederen	Renting of machinery and other movables
51		Overheid: burgerlijk	Government: civilian
		Rijk (burgerlijk)	Central government (civilian)
		Gemeenten en gemeenschappelijke regelingen	Municipalities and 'inter-communal arrangements'
		Provincies en waterschappen	Provinces and polder boards
		Andere publiekrechtelijke lichamen (Parastatale instellingen en publiekrechtelijke bedrijfsorganisaties)	Other public authorities
	907	Sociale verzekeringsinstellingen	Social security funds
52	906	Overheid: militair	Government: military
	906	Rijk (militair) (incl. loodswezen)	Central government (military) (incl. pilotage)
53	921/928	Overheid: openbaar en bijzonder gesubsidieerd onderwijs ⁸	Government: state and non-state subsidized education ⁸
	921-928	Openbaar onderwijs (Rijk, gemeenten, gemeenschappelijke regelingen)	State and non-state subsidized education;
		Bijzonder gesubsidieerd onderwijs	Scientific education
		Wetenschappelijk onderwijs	

Bedrijfsindeling van de sector bedrijven en overheid volgens de Standaard bedrijfsindeling (SBI) 1974 (slot)
Classification by kind of economic activity based on the national 'Standard Industrial Classification' (SBI) 1974 (end)

Regel no. input-output- tabel	Bedrijfs- klassen/ -groepen		
Row number input-output table	Classes/ groups/ of industry		
54	91, 929, 94, 97	Maatschappelijke dienstverlening e.d. ⁸	Social services etc. ⁸
	910	Religieuze organisaties e.d.	Religious organizations etc.
	929	Overig onderwijs (particulier)	Other education (private)
	941	Bejaardentehuizen e.d. (excl. voor psych. gestoorde bejaarden)	Homes for aged etc. (excl. psychiatric patients)
	942-947	Overige maatschappelijke dienstverlening	Other social services
	972-974	Werkgevers-, ondernemers-, werknemers- en beroepsorganisaties	Employers, entrepreneurs, employees and professional associations
	975, 979	Research- e.d. wetenschappelijke instellingen en overige sociale organisaties	Research and other scientific institutions and other social organizations
55	93	Gezondheids- en veterinaire diensten ³	Health and veterinary services ³
	931	Algemene en gespecialiseerde ziekenhuizen (excl. psychiatrische)	General and specialized hospitals (excl. psychiatric hospitals)
	932	Psychiatrische inrichtingen en bijzondere psychiatrische klinieken e.d. (excl. verpleeghuizen)	Psychiatric institutions and specialized psychiatric clinics etc. (excl. nursing homes)
	933	Zwakzinnigeninrichtingen (excl. gezinsvervangende tehuizen)	Institutions for the mentally handicapped (excl. homes that are substitutes for family life)
	934	Verpleeghuizen	Nursing homes
	935	Artsenpraktijken	General practitioners (GP) services
	936	Tandartsenpraktijken en tandheelkundige (poli)klinieken e.d.	Dentists and dental (poli-)clinics etc.
	937	Vroedvrouwenpraktijken, zelfstandige verpleegkundigen e.d.	Midwifery and independent nurses etc.
	938	Overige medische dienstverlenende instellingen	Other medical services
	939	Veterinaire diensten	Veterinary services
56	95/96	Cultuur, sport en recreatie ⁷	Cultural, sports and recreational services ⁷
	951-959	Sociaal-culturele en culturele instellingen	Social-cultural and cultural institutions
	961	Sport	Sports
	962	Recreatie	Recreation
	969	Overkoepelende, samenwerkings- en adviesorganen op sport- en recreatiegebied	Co-ordinating and advisory authorities in the fields of sports and recreation
57	98	Overige dienstverlenende bedrijven ⁶⁺⁷	Other services ⁶⁺⁷
	981	Reinigings- en ontsmettingsbedrijven	Cleansing and disinfecting
	982	Schoonmaakbedrijven	Cleaning services
	983	Wasserijen, chemische reiniging en ververijen e.d.	Washing, dry cleaning, dyeing etc.
	984	Kappersbedrijven en schoonheidsinstituten	Hairdressing and beauty salons
	985	Foto-ateliers	Photo studios
	989	Overige persoonlijke dienstverlening	Other personal services
58	99	Particuliere huishoudens met personeel in loondienst	Private households with wage-earning staff
	990	Particuliere huishoudens met personeel in loondienst	Private households with wage-earning staff

¹ In 1969 is de aardolie- en gaswinning (SBI 12) samengenomen met de delfstoffenwinning (SBI 19). Voor de jaren 1970-1979 is deze bedrijfsklasse in de input-output tabellen begrepen in de aardolie-industrie (SBI 28). Voor de jaren 1980 en volgende is zij daarin afzonderlijk vermeld (regel 3). In andere tabellen van de publikatie Nationale rekeningen is deze bedrijfsklasse, ook in de periode 1970-1979, begrepen in de delfstoffenwinning (SBI 1).

² Voor revisie waren de isolatiefabrieken begrepen in regel 27.

³ Voor revisie waren de tandtechnische werkplaatsen begrepen in regel 55.

⁴ De zeevaartverwante bedrijven zijn om statistische redenen ondergebracht in regel 45.

⁵ Om statistische redenen is in regel 49 alleen de exploitatie van woningen opgenomen. De exploitatie van gebouwen is begrepen in de bedrijfsklasse waar deze in gebruik zijn. De makelaars in onroerende goederen e.d. zijn begrepen in regel 41.

⁶ Voor revisie waren de lichtdrukkerijen en copieerinstellingen begrepen in regel 57.

⁷ Voor revisie waren de sociaal-culturele instellingen begrepen in regel 57.

⁸ Het niet gesubsidiëerde onderwijs is begrepen in regel 54.

¹ In 1969 crude petroleum and natural gas production (SBI 12) is included in mining and quarrying (SBI 19). For the years 1970-1979, this branch of industry is included in the petroleum industry (SBI 28) in the input-output tables. From 1980 onwards it is entered separately there (row 3). In the other tables of the National accounts publication, without exception this class is included in SBI 1, Mining and quarrying.

² Before revision isolation factories are included in row 27.

³ Before revision dental workshops are including in row 55.

⁴ For statistical reasons, enterprises allied to sea-transport are included in row 45.

⁵ For statistical reasons row 49 only shows exploitation of dwellings. The exploitation of other buildings is included in the branch of industry in which they are used.

⁶ Real estate brokers etc. are included in row 41.

⁷ Before revision photo-copying and copying enterprises are included in row 57.

⁸ Before revision the social-cultural institutions are included in row 57.

⁸ Non-subsidized education is included in row 54.

Education

Classification	<p>For the sake of international comparability the types of schools have been classified in accordance with the International Standard Classification of Education of UNESCO (Paris, March 1976, first digit and part of the second digit in so far as the distinction between general and vocational education is concerned) with only a few minor deviations. A survey of the educational system and the classification is given below. It must be pointed out, however, that – though the information has been classified according to the ISCED – for comparison with data of other countries, knowledge of the characteristics and peculiarities of each educational system is necessary.</p> <p>The ISCED and the educational system in the Netherlands:</p>												
Education preceding the first level	Nursery schools (kleuteronderwijs, 2 years).												
Education at the first level	Primary education (gewoon lager onderwijs, 6 grades). Special education for handicapped children (buitengewoon onderwijs, no grades distinguished).												
Education at the second level, first stage	<p>General education: secondary grammar schools (voorbereidend wetenschappelijk onderwijs, grades 1–3), senior secondary schools (hoger algemeen voortgezet onderwijs, grades 1–3), junior secondary schools (middelbaar algemeen voortgezet onderwijs, 4 grades).</p> <p>Junior vocational training (lager beroepsonderwijs, 4 grades):</p> <table border="0"> <tr> <td>technical training</td> <td>economic and administrative training (incl. elementary sec. education, 2 years, which has no official final certificate)</td> </tr> <tr> <td>nautical training</td> <td>short courses</td> </tr> <tr> <td>agricultural training</td> <td></td> </tr> <tr> <td>domestic science training</td> <td></td> </tr> <tr> <td>training for the retail trade</td> <td></td> </tr> </table>	technical training	economic and administrative training (incl. elementary sec. education, 2 years, which has no official final certificate)	nautical training	short courses	agricultural training		domestic science training		training for the retail trade			
technical training	economic and administrative training (incl. elementary sec. education, 2 years, which has no official final certificate)												
nautical training	short courses												
agricultural training													
domestic science training													
training for the retail trade													
Education at the second level, second stage	<p>General education: secondary grammar schools (voorbereidend wetenschappelijk onderwijs, grades 4–6), senior secondary schools (hoger algemeen voortgezet onderwijs, grades 4–5).</p> <p>Senior vocational training (middelbaar beroepsonderwijs, 2–4 grades):</p> <table border="0"> <tr> <td>technical training (3, 4)</td> <td>(domestic science training and socio-pedagogic training) (2, 3)</td> </tr> <tr> <td>nautical training (2, 3)</td> <td>nursery school teachers' training (3)</td> </tr> <tr> <td>agricultural training (3, 4)</td> <td>short vocational training (3)</td> </tr> <tr> <td>training for the retail trade (2, 3, 4)</td> <td>secondary general/vocational training (2)</td> </tr> <tr> <td>economic and administrative training (3)</td> <td>short courses</td> </tr> <tr> <td>service trades and health-care training</td> <td></td> </tr> </table>	technical training (3, 4)	(domestic science training and socio-pedagogic training) (2, 3)	nautical training (2, 3)	nursery school teachers' training (3)	agricultural training (3, 4)	short vocational training (3)	training for the retail trade (2, 3, 4)	secondary general/vocational training (2)	economic and administrative training (3)	short courses	service trades and health-care training	
technical training (3, 4)	(domestic science training and socio-pedagogic training) (2, 3)												
nautical training (2, 3)	nursery school teachers' training (3)												
agricultural training (3, 4)	short vocational training (3)												
training for the retail trade (2, 3, 4)	secondary general/vocational training (2)												
economic and administrative training (3)	short courses												
service trades and health-care training													
Education at the third level	<p>Vocational colleges (hoger beroepsonderwijs):</p> <table border="0"> <tr> <td>technical training (3, 4)</td> <td>socio-agogic training (3, 4)</td> </tr> <tr> <td>nautical training (3, 4)</td> <td>fine arts training (4, 5, 6)</td> </tr> <tr> <td>agricultural training (4)</td> <td>primary school teachers' training (3, 4, 5)</td> </tr> <tr> <td>economic training (3, 4)</td> <td>secondary school teachers' training (3, 4, 5)</td> </tr> <tr> <td>health-care training (3, 4)</td> <td>vocational school teachers' training (3, 4)</td> </tr> </table> <p>University education (wetenschappelijk onderwijs, average duration of study for final examinations 4–6 years).</p>	technical training (3, 4)	socio-agogic training (3, 4)	nautical training (3, 4)	fine arts training (4, 5, 6)	agricultural training (4)	primary school teachers' training (3, 4, 5)	economic training (3, 4)	secondary school teachers' training (3, 4, 5)	health-care training (3, 4)	vocational school teachers' training (3, 4)		
technical training (3, 4)	socio-agogic training (3, 4)												
nautical training (3, 4)	fine arts training (4, 5, 6)												
agricultural training (4)	primary school teachers' training (3, 4, 5)												
economic training (3, 4)	secondary school teachers' training (3, 4, 5)												
health-care training (3, 4)	vocational school teachers' training (3, 4)												

Scheme of full-time education

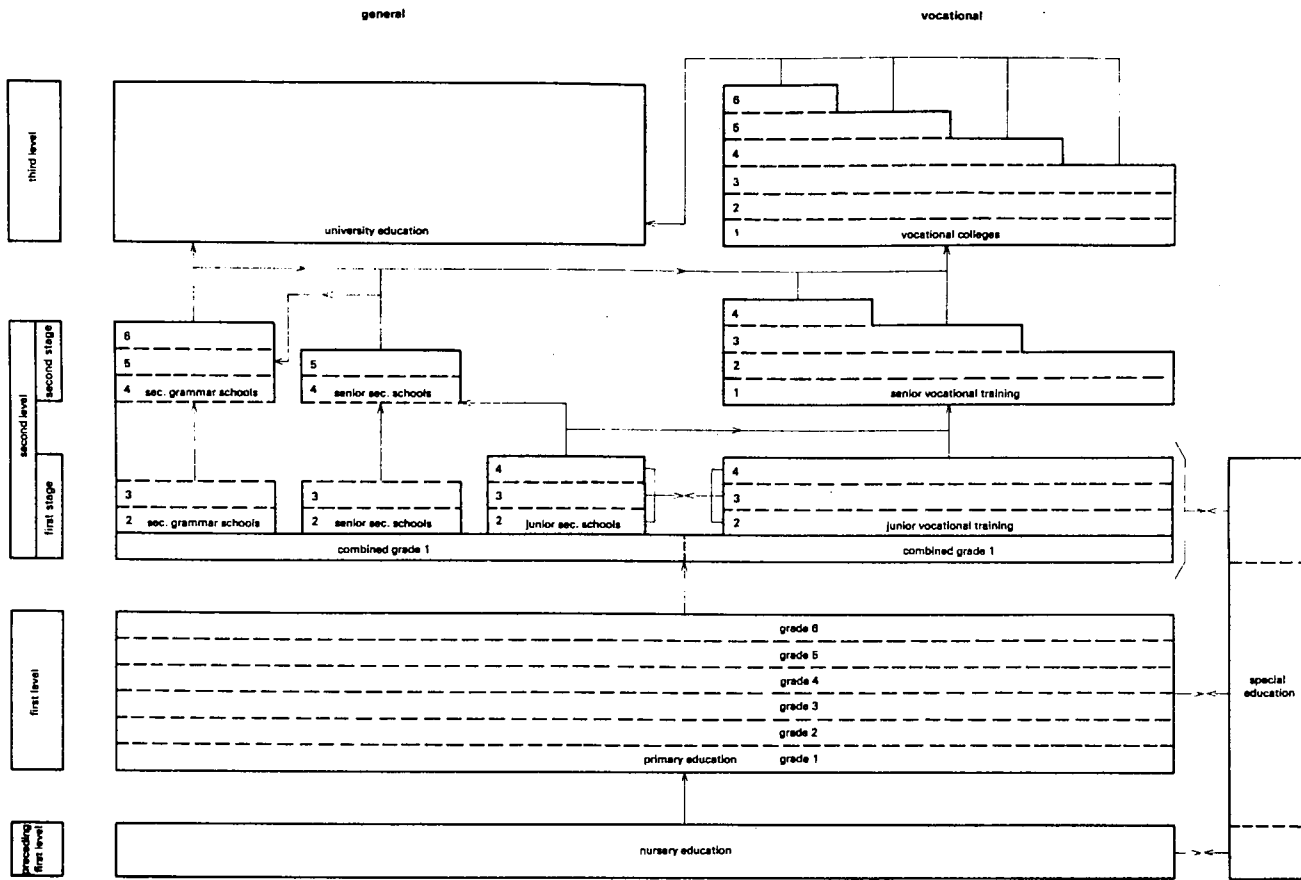
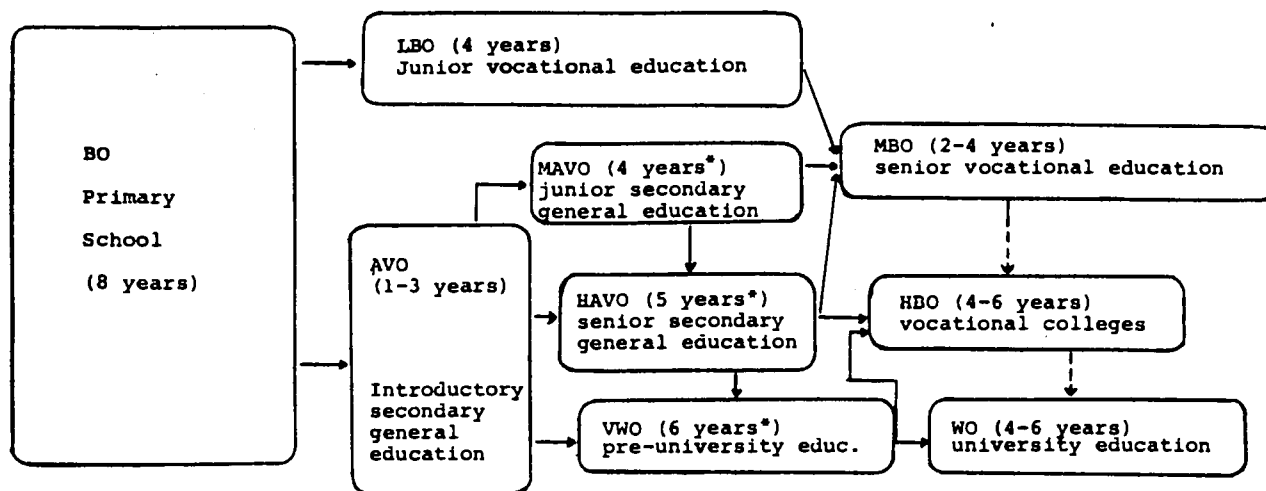


Diagram The Dutch School System



* including introductory years

ANNEX V OUTLINES OF MODELS

a	VOSTA	110
b	ANTOS	111
c	SECMON	111

A. Stocks and Flows on the Labourmarket

The SEO has developed a model of the labourmarket, called VOSTA, in commission of the Minister of Social Affairs and Employment, in order to analyse the consequences of re-distribution of labour on the social security system under different scenario's.

The abbreviation VOSTA stands for VOorraad-STroommodel van de Arbeidsmarkt (stock-flow model of the labourmarket). The study will be completed within some months.

VOSTA models the Dutch population in the age of 15 to 65 years. This population has four demographic aspects:

- age (seven categories);
- sex;
- life-situation (single, married, others);
- education (five levels and eleven directions, in total 31 kinds of education).

The six labourmarket situations described are

- employed
- employed (ill)
- unemployed
- disabled
- retired
- others

VOSTA describes the distribution of the potential labour force according to all aspects at the end of year t (stocks) and the flows from one situation to another within that year. There are three kind of flows:

1. flows in and out the potential labour force;
2. flows brought about by changes of the demographic aspects;
3. flows between labour market situations.

Flows 1 and 2 are modelled in a demographic submodel. The results of this submodel are brought into the submodel of the labourmarket. The submodel of the labourmarket is connected with SECMON.

B. Anticipating Education Policy

ANTOS was developed by the NEI (Dutch Economic Institute) in commission of the Minister of Social Affairs and Employment, in order to explore future developments of the labourmarket. The purpose was to forecast industrial growth and occupational- and educational composition of the labour force in the period 1983 - 1988. The study has been published in 1985.

ANTOS, ANTiciperend Opleidings- en Scholingsbeleid (Anticipating Education- and Schooling Policy) can be summarized as follows:

1. forecasting production and employment for 22 industries, under four scenario's with different government policies;
2. translating the four sets of employment growth figures into occupational growth figures;
3. forecasting employment per scenario according to educational level and - type;
4. confronting the demand for labour with supply, and looking for bottle-necks.

There are some similarities between ANTOS and VOSTA: both models deal with industrial and occupational growth. The main differences are

1. in ANTOS there is no feedback from the labour market situation on the general economic development; in VOSTA there are many links between the labour market and the general economic development;
2. VOSTA models both stocks and flows, ANTOS only stocks;
3. VOSTA distinguishes many labour market- and demographic aspects of the potential labour force, ANTOS distinguishes only between working and not-working, and male and female.

C. SECMON, SECTORal MOdel for the Netherlands economy

SECMON incorporates demand and supply elements. Supply factors are not only taken into account by specifying (vintage type) production functions, but also via a sectorally differentiated explanation of sector outputs and sector prices, which in combination with sectoral production capacities add

a dimension to the traditional demand model. In addition, SECMON has a detailed public sector incorporating expenditures, taxes and social premiums.

SECMON has 6 types of households: consumers, firms, government, social-insurance, pension funds (including life insurance) and other countries. The category of firms has 18 sectors, viz.:

1. Agriculture

2. Manufacturing

- 2A Food, beverages and tobacco
- 2B Textiles, clothing and leather
- 2C Timber and stone
- 2D Paper and printing
- 2E Chemicals
- 2F Basic metals
- 2G Metal products and machinery
- 2H Electrical products
- 2I Transport equipment

3. Construction

4. Energy

5. Services

- 5A Housing services
- 5B Trade
- 5C Transport and communication
- 5D Finance and insurance
- 5E Health services
- 5F Other services.

The model has 10 blocks, each of which describes related activities or processes, viz.:

- I Gross output of firms
- II Final demand
- III Imports of goods and services
- IV Production capacity and utilization rate
- V Labour market
- VI Wages and prices
- VII Incomes
- VIII Government, receipts and expenditures
- IX Social security and Pension funds
- X Monetary variables.

The demand for goods and services is explained in blocks I, II and III. Final demand of consumers, enterprises (investment), government and final demand from abroad (exports) as well as intermediate demand of enterprises are distinguished. Furthermore, concerning the final demand of consumers 10 categories of goods and services are distinguished, viz.:

- A. Food, beverages and tobacco
- B. Clothing and footwear
- C. Gross rent and water
- D. Fuel and power
- E. Furniture, furnishings and household equipment and operation
- F. Medical care and health expenses
- G. Private transport: purchases of means of transport
- H. Private transport: operation cost
- I. Public transport
- J. Others.

To determine the production per sector the imports of goods and services are subtracted from the domestic demand per sector in accordance with its domestic market share.

The supply of goods and services is described in block IV. The productive capacity is sectorally determined and confronted with actual production. In this way, the utilization rate of productive capacity is approximated. The labour market is described in block V. Both the actual and the potential demand for labour are calculated per sector. Labour supply however is not sectorally modelled.

Blocks I-V mainly describe volume flows between households. Block VI, wages and prices, takes care of the connections between the volume flows and the money flows. This block contains wage equations per sector and price equations per sector with respect to gross output and all final deliveries. Since volumes and prices are determined in the above mentioned blocks, national income and its distribution can be calculated. This is done in blocks VII-IX. The government plays an important role because of its influence on the secondary income distribution. The model calculates the primary (wages, profits) as well as the secondary income distribution (disposable incomes by households),

Block X, finally, is aimed at modelling the monetary sector. At this stage, however, it is not completed.

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9 ANNOTATED BIBLIOGRAPHY

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Keywords:

- Employment, combined with Growth and Creation
- Netherland and Dutch

Minus:

- social security
- unemployment
- incomes policy

Years: 1977-1986

In the following pages only those titles are included which are strongly related to the subject under study.

RECENT DEVELOPMENTS AND PROSPECTS
 VERBOND VAN NEDERLANDSE ONDERNEMINGEN

The Hague, Date: 1985. Pages: 32. Country: Netherlands. Language: English.
 Org. date: 1985. Source Code: 86A543

Pamphlet on economic development trend(s) (1985) in the Netherlands covers public finance, national budget proposals, industrial investment, youth employment, wage negotiations; examines domestic export and demand, supply, labour market, price(s), balance of payments, monetary policy, business survey(s); presents prospects for 1986. Graph(s), statistical table(s).

NETHERLANDS: TERMINATION OF CONTRACT, THE NETHERLANDS
 INDUSTRIAL RELATIONS SERVICES, LONDON

EUROPEAN INDUSTRIAL RELATIONS REVIEW, (London), no.: 142. Date: Nov. 1985.
 Pages: 17-20. ISSN: 0309-7734. Country: United Kingdom. Language: English.
 Org. date: 1985.

Termination of employment for dismissal or redundancy, labour legislation comment(s), Netherlands - covers individual and collective terminations.

NETHERLANDS: SURVEY ON HOURS AND JOB CREATION
 INDUSTRIAL RELATIONS SERVICES, LONDON

EUROPEAN INDUSTRIAL RELATIONS REVIEW, (London), no.: 130. Date: Nov. 1984.
 Pages: 17-19. ISSN: 0309-7734. Country: United Kingdom. Language: English.
 Org. date: 1984.

Reduced hours of work, employment creation, industrial sector, Netherlands - results of a survey. Statistical table.

TEUTONS AND TRAVAIL.

HUBERT, T.

EUROPEAN CENTRE FOR WORK AND SOCIETY

Assen, Van Gorcum. Date: 1984. Pages: 98. Serie: New patterns in work and employment. Vol.: 7. Country: N.GV.INT.ORG. Language: English. Org. date: 1984. ISBN: 90-232-2092-7. Source code: 84A2212.

Collection of conference paper(s) on programmes to improve the quality of working life in Norway, Sweden, Denmark, Germany FR and the Netherlands - covers joint consultation, and role of trade union(s), trend(s) in work organization (especially relating to technological change), workers participation, the work environment, management attitude(s), and labour legislation. Flow chart(s), graph(s) and organigram. Conf The Hague 1982, Dusseldorf 1983.

FIVE YEARS LATER... MEASURES TAKEN ON THE SUBJECT OF VOCATIONAL TRAINING FOR WOMEN IN THE EUROPEAN COMMUNITY: A REPORT FROM THE NETHERLANDS
CHRISTOCHOWITZ I.; DE RIJK T.
EUROPEAN CENTRE FOR THE DEVELOPMENT OF VOCATIONAL TRAINING
Berlin (West), Date: 1984. Pages: 31. Country: N.GV.INT.ORG. Language: English. Org. date: 1984. Source code: 84A2054.

CEDEFOP pub. Evaluation report of training programme innovation(s) promoting equal opportunity(s) for women worker(s) in the Netherlands - reviews vocational counselling on occupational choice(s) for school leaver(s) and women who return to work; analyses factors affecting recruitment, training, training and employment opportunity(s), incl. for nontraditional occupation(s); notes that the main obstacle(s) to women's career development are lack of adequate child care, educational leave and maternity leave as well as sex discrimination at the work place.

EQUALITY OF THE SEXES IN THE DISTRIBUTION OF LABOUR; IS THE GOAL IN SIGHT? THE CASE OF THE NETHERLANDS.
SIEGERS J.
INTERNATIONAL INSTITUTE FOR LABOUR STUDIES
Labour and Society, (Geneva), Vol.: 9. No.: 2. Date: Apr./June 1984. Pages: 151-163. ISSN: 0378-5408. Country: GVTL.INT.ORG. Language: English. Org. date: 1984. Transl. see: 160525 FREN. Source code: 84P09810

ILO pub. IILS pub. Article on equal opportunity for women worker(s) as regards employment opportunity in the Netherlands - discusses the sexual division of labour and employment policy measures; considers effectiveness of affirmative action; notes that sex discrimination is still prevalent. Reference(s).

CREATING NEW JOBS IN EUROPE: HOW LOCAL INITIATIVES WORK.
TODD G.
ECONOMIST INTELLIGENCE UNIT, LONDON
London, Date: 1984. Pages: 50. Serie: Special Report. Vol.: no. 165. Country: United Kingdom. Language: English. Org. date: 1984. Source code: 84A1017.

Report on local employment creation initiatives to counteract structural unemployment in EC country(s) - outlines employment policy attempts to reduce unemployment; stresses the importance of small scale industry in creating commercially viable jobs; describes British Steel (Industries) Ltd and enterprise agencies (UK), Philips job creating project (Netherlands), and advisory service(s) (France).

VOCATIONAL TRAINING AND JOB CREATION SCHEMES IN THE NETHERLANDS

KELLER B.

EUROPEAN CENTRE FOR THE DEVELOPMENT OF VOCATIONAL TRAINING

Berlin (West), Date: 1983. Pages: IV, 59. Country: N.GV.INT.ORG. Language: English. Org. date: 1983. Source code: 84A1699.

CEDEFOP pub. Research report on vocational training and employment creation programmes in the Netherlands - describes labour market and employment policy trend(s) since 1970, differentiating between temporary schemes for long time unemployed, disabled worker(s), etc., where employer(s) receive substantial subsidy(s) and other state aid, and measures designed to improve long-term occupational qualification(s), i.e. training policy coordination, vocational counselling, retraining, continuing vocational training. Bibliography.

BREAKING DOWN BARRIERS ON THE LABOUR MARKET; AN INVESTIGATION INTO THE TRAINING OF WOMEN FOR TECHNICAL AND MANAGEMENT OCCUPATIONS PREDOMINANTLY CARRIED OUT BY MEN

EUROPEAN CENTRE FOR THE DEVELOPMENT OF VOCATIONAL TRAINING

Berlin, Date: 1983. Pages: III, 50. Country: N.GV.INT.ORG. Language: English. Org. date: 1983. Source code: 83A2116

CEDEFOP pub. Report on personnel policy(s) toward equal opportunity in the employment, vocational training and management development of women worker(s) for nontraditional occupation, in the Netherlands - describes training course(s) for technician(s) and manager(s), characteristics of participants, attitude(s) of women and of male worker(s) etc., based on case study(s) in the machinery industry, the national railway(s) scheme to train driver(s) and guards, and management consultancy training centre(s).

GUIDELINES FOR POOL OF LABOUR MARKET INFORMATION REPORTING: A PROJECT WITH SUPPORT FROM THE GOVERNMENT OF THE NETHERLANDS

ILO

Geneva, Date: 1983. Pages: 1 V. Country: GVTL.INT.ORG. Language: English. Org. date: 1983. Source code: 83B09/142 ENGL

ILO pub. Guidelines for the promotion of labour market information exchange - discusses the role of ILO in the provision of technical assistance (pool project) for improving relevant information system(s), the importance of data collecting for effective employment policy formulation, information needs, reporting criteria, etc.; includes a model report, glossary, coding scheme for pool tables, questionnaire(s) and formats for coding of periodicals, data sources and variables. Bibliography, graph(s) and reference(s).

NETHERLANDS: INCOMES POLICY AND PAY BARGAINING
 INDUSTRIAL RELATIONS SERVICES, LONDON
 EUROPEAN INDUSTRIAL RELATIONS REVIEW, (London), no.: 108. Date: Jan. 1983.
 Pages: 13-14. ISSN: 0309-7734. Country: United Kingdom. Language: English.
 Org. date: 1983

Incomes policy, Netherlands, new central collective agreement, private sector, wage freezes, employment creation, reduced hours of work.

PERSONNES AYANT PLUS D'UN EMPLOI: ANALYSE DE LA DEUXIÈME ACTIVITÉ DANS LA COMMUNAUTÉ EUROPÉENNE
 ALDEN J.; SPOONER R.
 EUROPEAN COMMUNITIES. Statistical Office
 Luxembourg, Date: 1982. Pages: VII, 134. Country: GVTL.INT.ORG. Language: French. Org. date: 1982. Source code: 82B26/22 FREN

EC pub. Research report, comparative study of trend(s) in dual jobholding in Belgium, Germany FR, Ireland, Luxembourg, Netherlands and UK - examines definition(s), evaluation technique(s) and information of source(s) relating to dual jobholding; analyses dual jobholders' geographic distribution, distribution by sex, hours of work, etc.; considers their occupational structure and employment status, and relationships between main and secondary occupation(s). Diagram(s), graph(s), reference(s), statistical table(s).

SUPPORT FOR WORKER CO-OPERATIVES IN THE UNITED KINGDOM, REPUBLIC OF IRELAND, NETHERLANDS.
 RIGGE M.; YOUNG M.
 EUROPEAN COMMUNITIES
 Brussels, Date: 1982. Pages: VII, 114. Serie: Study. Vol.: 81/39. Country: GVTL.INT.ORG. Language: English. ORG. date: 1981. Source code: 82B26/3. Org.: EC Report no.: V/2681-EN

EC pub. Research report comprising a comparative study of government agency(s) and local level institutional framework supporting production cooperative(s) and other worker cooperative(s) in Ireland, Netherlands and the UK - considers state aid and alternative financing, outlines activities regarding cooperative education, management consultancy, feasibility study(s), employment creation, etc., and discusses obstacle(s) encountered. Reference(s).

NETHERLANDS: FOCUS ON TEMPORARY WORK
 INDUSTRIAL RELATIONS SERVICES, LONDON
 EUROPEAN INDUSTRIAL RELATIONS REVIEW, (London), no.: 102. Date: July 1982.
 Pages: 23-24. ISSN: 0309-7734. Country: United Kingdom. Language: English.
 Org. date: 1982.

Temporary employment, private employment service(s), Netherlands.

DEVELOPMENT OF NEW GROWTH AREAS; WORKERS CO-OPERATIVES AND THEIR ENVIRONMENT: COMPARATIVE ANALYSIS WITH A VIEW TO JOB CREATION.
RIGGE M.; YOUNG M.
EUROPEAN COMMUNITIES
Luxembourg, Date: 1981. Pages: VII, 114. Serie: Study. Vol.: 81/39.
Country: GVTL.INT.ORG. Language: English. Org. date: 1981. Source code: 81B26/18.

EC pub. Research report compromising a comparative study of production cooperative(s) as a means of employment creation and their relationship to the cooperative movement in Ireland, Netherlands and UK - discusses state aid, financing, and the institutional framework, and examines relations with consumers cooperative(s) and trade union(s), cooperative education, and future development prospects. Reference(s).

NETHERLANDS, JOB CREATION: WHICH WAY NOW ?
INDUSTRIAL RELATIONS SERVICES, LONDON
EUROPEAN INDUSTRIAL RELATIONS REVIEW, (London), no.: 88. Date: May 1981.
Pages: 8-9. ISSN: 0309-7734. Country: United Kingdom. Language: English.
Org. date: 1981.

Employment creation, Netherlands

SOCIAL IMPACT OF MICRO-ELECTRONICS: REPORT OF RATHENAU ADVISORY GROUP
NETHERLANDS. MINISTERIE VAN ONDERWIJS EN WETENSCHAPPEN
The Hague, Government Publishing Office. Date: 1980. Pages: 111. Country:
Netherlands. Language: English. Org. date: 1980. ISBN: 90-12-03174-5.
Source code: 81A1828.

Report on possible social implication(s) and economic implication(s) of micro-electronics in the Netherlands - presents a brief overview of trend(s) in computerization and related technological change, focuses on impact on education and vocational training, employment, etc., considering necessary government policy, and includes a list of typical micro-electronics applications. Bibliography(s), diagram(s), graph(s), photograph(s) and statistical table(s).

NETHERLANDS: EXPERIMENTING WITH A 5-SHIFT SYSTEM
INDUSTRIAL RELATIONS SERVICES, LONDON
EUROPEAN INDUSTRIAL RELATIONS REVIEW, (London), No: 74. Date: March 1980.
Pages: 22-23. ISSN: 0309-7234. Country: United Kingdom. Language: English.
Org.Date: 1980. Source Code: 80P44525

Article on a collective agreement for A 5 shift working arrangement at the Europe Container Terminus Enterprise in the Netherlands - culminate trade union efforts for reduced hours of work and employment creation, etc.

DESCRIPTIONS OF THE VOCATIONAL TRAINING SYSTEMS: NETHERLANDS.
BAARS, W.S.

EUROPEAN CENTRE FOR THE DEVELOPMENT OF VOCATIONAL TRAINING
BERLIN, Date: 1979. Pages: 95 p. Country: N.GV.Int.Org. Language: English.
Org.Date: 1979. Transl.see: 148072 FREN. Source Code: 83A223

CEDEFOP pub. Report describing the vocational training system in the Netherlands - provides background information on education and vocational education, apprenticeship, and innovation(s) regarding training course(s) for early school leaver(s), the 16-18 years old and unemployed youth, and suggests educational policy measures aiming at better coordination with employment service(s) during transition from school to work. Diagram and graph(s).

WHY A JOB SECURITY AGREEMENT
FEDERATIE NEDERLANDSE VAKBEWEGING

Source: Amsterdam, 1978. 21 p. Country: Netherlands. Language: English.
Org.Date: 1978. Source Code: 79A951

Report on a trade union movement for the negotiation of an employment security collective agreement in the Netherlands.

APPRENTICESHIPS IN THE NETHERLANDS

LAMAN TRIP W.C.S.

EUROPEAN COMMUNITIES

Source: Brussels, 1977. 78 p. Serie: Collection Studies, Social Policy Series, No. 35. Country: GVTL Int.Org. Language: English. Org.Date: 1977.
Source Code: 77B26/28

Ec Pub. report reviewing developments in apprenticeship(s) in the Netherlands - covers changes and trend(s) in educational policy, vocational education, examination(s), curriculum, block release, employment, etcetera, and comment(s) on labour legislation relevant to apprentice education, labour contract(s), etc. statistical table(s).

QUALITY OF EMPLOYMENT IN THE NETHERLANDS; A SURVEY ON OBJECTIVE AND SUBJECTIVE SOCIAL INDICATORS OF LABOUR AND OTHER DOMAINS

ZANDERS H.L.G.; VAN BUCHEM A.L.J.; VAN BERKEL J.J.C

Source: Tilburg, Tilburg University, Institute for social research, 1977. IV, 244 p. Country: Netherlands. Language: English. Org.Date: 1977. Source Code: 78A985. Notes: Translated from the Dutch.

Research report comprising a questionnaire survey on social indication(s) for the assessment and measurement of humanization of work, carried out in the Netherlands in 1977 - presents the methodology and results of the survey, and includes statistical data on income(s) and fringe benefit(s), hours of work, travel and mode of transportation, trade union(s), labour relations, discrimination, employment security, general working conditions, labour policy(s), leisure, etc. reference(s).

MULTINATIONAL CORPORATIONS AND INDUSTRIAL RELATIONS; THE CASE OF
WEST GERMANY AND THE NETHERLANDS

BOMERS G.B.J.; PETERSON R.B.

BRITISH JOURNAL OF INDUSTRIAL RELATIONS, London, Date: March 1977. Pages:
45-62. Country: United Kingdom. Language: English. Org.Date: 1977. Source
Code: 77P40206

Article comprising a comparative study of the impact of multinational
enterprise(s) on labour relations in Germany FR and the Netherlands -
investigates direct and indirect effects on employment security, collective
bargaining, workers participation, etc. and trade union counteraction,
reference(s).

**Programme for research and actions on the development of the labour market
New forms and new areas of employment growth**

Final report for The Netherlands

by Tammo Oegema and Chris Van der Vegt

(SEO - Foundation for Economic Research of the University of Amsterdam)

Document

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