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Employment problems:
views of businessmen and the workforce

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of the European Community
in the World Economy

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SUMMARY

Abbreviations and symbols used

Countries

B	Belgium
DK	Denmark
D	Federal Republic of Germany
GR	Greece
E	Spain
F	France
IRL	Ireland
I	Italy
L	Luxembourg
NL	The Netherlands
P	Portugal
UK	United Kingdom
EUR 10	Total of the Member States of the European Community in 1985
EUR 12	Total of the Member States of the European Community in 1986

Currencies

BFR	Belgian franc
DKR	Danish krone
DM	Deutschmark
DR	Greek drachma
FF	French franc
IRL	Irish pound (punt)
LIT	Italian lira
LFR	Luxembourg franc
HFL	Dutch guilder
UKL	Pound sterling
ECU	European currency unit
USD	US dollar
SFR	Swiss franc
YEN	Japanese yen
CAD	Canadian dollar
ÖS	Austrian schilling

Other abbreviations

ACP	African, Caribbean and Pacific countries having signed the Lomé Convention
ECSC	European Coal and Steel Community
EDF	European Development Fund
EIB	European Investment Bank
EMCF	European Monetary Cooperation Fund
EMS	European Monetary System
ERDF	European Regional Development Fund
Euratom	European Atomic Energy Community
Eurostat	Statistical Office of the European Communities
GDP (GNP)	Gross domestic (national) product
GFCF	Gross fixed capital formation
LDCs	Less-developed countries
Mio	Million
NCI	New Community Instrument
OCTs	Overseas Countries and Territories
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
SMEs	Small and medium-sized enterprises
SOEC	Statistical Office of the European Communities
toe	Tonne of oil equivalent

Employment problems: views of businessmen and the workforce

Results of an employee and employer survey on labour market issues in the Member States[1]

Contribution by Gernot Nerb[2]

[1] *The surveys have been carried out by national institutes on behalf of the Commission of the European Communities, Directorate-General for Economic and Financial Affairs. The Directorate-General for Employment, Social Affairs and Education has been involved in the preparation of the project. The perfect international organization of the employee survey by Hélène Riffault (Faits et opinions, Paris) and the statistical assistance by Jan Scherp are gratefully acknowledged.*

[2] *Economic adviser, Directorate-General for Economic and Financial Affairs.*

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1. Summary of the main results and conclusions

1.1. The purpose of this survey

The battle against unemployment in Europe must be conducted from both the supply side (the key phrases here are moderate increase of real wages, improved adaptability of the markets, the single internal market, the promotion of innovation, etc.) and the demand side (particularly private and public investment, tax reduction, etc.).[1] There is no longer any real dispute about a recommendation in this general form, but perhaps there are differences concerning the weight which economic policy should attribute to individual measures and the employment effects to be expected from them. Above all there is uncertainty as to how institutional changes on the labour market, e.g. more fixed-term contracts, more flexible working time arrangements, etc., would affect the level of employment. In principle, the question of labour market flexibility covers the adaptability of real wage costs and wage structures, as well as labour mobility (in terms of location and skills), the flexibility of working hours and the organization of work input. In order to obtain at least a rough indication, backed by empirical evidence, the Commission of the European Communities organized two special surveys in the Member States. The first survey, the results of which have already been published, was addressed to employees in Europe, and the second survey to companies.[2],[3]

1.2. Employee survey (summary)

— If they could choose, more European employees than in the earlier 1977 survey would today prefer an increase in wages to a general reduction in working hours (62 % compared with 42 % in 1977). Nevertheless, about one-third of employees in Europe are more interested in shorter working hours than in higher pay.

— Approximately one in four of the European workers now in full-time employment would voluntarily forgo a corresponding part of his income, if he could choose his normal working time (in 19 % of cases between 30 and 34 hours and in 6 % of cases under 30 hours a week). Even if these percentages are perhaps slightly exaggerated, since not all respondents may have fully considered the implications of such a reduction in working hours (the question assumed that the hourly wage would remain the same), there is still potentially a considerable number of workers who are interested in new forms of part-time working.

— Amongst those primarily in favour of higher pay a large proportion is interested in working shorter hours. Perhaps they see greater prospects of achieving both an improvement in real incomes and a reduction in working hours — with no threat to job security — if they accept more flexible arrangements on the labour market. More than half of all European employees are prepared to accept a more flexible organization of working hours. Over one-third would be prepared to work in the evenings and on Saturdays, if in return the total yearly working hours are reduced.

— Workers display great solidarity with their companies when times are hard (voluntary temporary wage cuts) and are very interested in payment by performance (in each case over half those questioned).

— This shows that European workers — or at least the majority of them — are much more flexible, innovative and performance-minded than is frequently alleged.

1.3. Survey of employers in the industry (summary)

— On average, European industrial companies judged the present size of their work-force as still somewhat too large, except in the Netherlands and the Federal Republic of Germany. The excess of workers in European industry applies almost exclusively to unskilled workers and office and sales staff. Skilled workers and especially technicians and technologists are in short supply (mentioned by 5 and 16 % of European industrial companies respectively). This supports the view that vocational training and advanced training should be stepped up.

— When asked why they did not employ more labour at present, companies put as the first reason the *insufficient level of demand* for their products. Linked to this, many companies also considered *price competitiveness* was *too low* (second most important reason). The remaining most frequently mentioned reasons were, in order, *non-wage labour costs, insufficient flexibility in hiring and shedding labour, rationalization and/or introduction of new technologies,* and *shortage of adequately skilled applicants.*

— Companies were then asked what institutional changes on the labour market would be most likely to persuade them to employ more labour over the next 12 months than they are at present planning to do. Their answers were in this order: *shorter periods of notice and simpler legal procedures* in case of redundancies and dismissals, *more fixed-term contracts, better trained job-seekers, wider wage differentials, greater emphasis on productivity in determining wages and salaries, lower starting salaries and more flexible working hours.* However, companies

considered that a *reduction in standard weekly working hours*, even if it did not increase costs, and *more sharing in company profits* would have relatively little effect in increasing employment.

— If the institutional changes which firms consider important were made on the labour market, companies stated that they would revise their employment plans for the next 12 months upward by just under 3 %. In the nine member countries included in the survey (i.e. excluding Denmark, Portugal and Spain) this could mean 750 000 or so more jobs in industry alone.

— Only just over one-quarter of European industrial companies are fully satisfied with their present working time arrangements. In the course of the next year or two, approximately half of European industrial firms are planning to introduce more flexible working hours. This is mainly because of economic considerations, most importantly in order to use plant more intensively and to adjust more easily to demand changes. Companies feel that employees' preferences are not generally against such changes. This can be confirmed by the results of the EC employee survey, which showed that over half those questioned (55 %) would prefer, in agreement with their firms, to allocate a fixed number of working hours per month, or even per year, flexibly between working days, instead of having to work the same number of hours each day. However, readiness to accept evening or Saturday work would depend on whether annual working hours were reduced to compensate.

— Around 40 % of industrial firms in Europe consider that some of their full-time jobs could be split into part-time jobs without significant economic disadvantages for the company. This gives a total calculated potential of some 800 000 full-time jobs which could be split (i.e. some 3,3 % of all full-time jobs) in the nine member countries surveyed. It is another question whether workers in jobs which companies consider can be split would also be prepared to share them, and if they were, whether additional workers with the same skills could be found. However, as the EC employee survey demonstrated, approximately 6 % of full-time workers in the Community would be interested in working for fewer than 30 hours a week, even if this were associated with a corresponding loss of pay.

1.4. Survey in the retail and wholesale trades (summary)

— In both the retail and wholesale trades, the firms surveyed expect only a slight increase in their work-forces at Community level over the next 12 months. The increase in employment resulting from the anticipated growth in turnover is thus too small to be able on its own to make any significant contribution to solving the labour market problem. This emphasizes once again the need for additional measures on the labour market.

— The three key measures that would induce firms in the distributive trades to take on more staff than planned are: *lower starting pay*, *shorter periods of notice and simpler legal procedures in the event of redundancies and dismissals*, and *wider wage differentials*. *More flexible working-time arrangements* are also regarded, particularly in the retail trade, as being of major importance for the level of employment (ranked fourth; in France, actually marked first). In contrast to industry, the item *better trained job-seekers* was marked only in the lower half of the list. Obviously, the distributive trades have fewer problems than industry in finding suitably skilled workers; firms in the distributive trades — and no doubt also in other service sectors — regard changes in wage structure as being more important. The retail trade — like the wholesale trade — also attaches much less significance than industry to *more frequent use of temporary contracts*; this may be due to the fact that, in the retail trade at any rate, the proportion of workers on temporary contracts is already relatively high (5 % compared with 2 % in industry).

— By contrast, the distributive trades and industry are both equally sceptical of the impact which a *reduction in standard weekly working hours* — even if cost-neutral — and a *functional improvement in public employment offices* would have on the level of employment: firms in the distributive trades consider that both measures would have relatively little direct effect on employment.

— If the changes on the labour market desired by firms in the distributive trades were put into effect, retailers would revise their employment plans for the next 12 months upwards by 3,2 % and wholesale firms theirs by 2,5 %.

— The retail trade in particular believes there is still considerable scope for *splitting full-time jobs into part-time jobs*, while the relevant proportion indicated by wholesalers is about the same as in industry (6,1 % of full-time jobs in the retail trade as against 2,7 % in the wholesale trade). It must be borne in mind here, however, that in the distributive trades, particularly the retail trade, a large proportion of total employment is already accounted for by part-time workers (36 % in the retail trade and 11 % in the wholesale trade compared with 6 % in industry). Nevertheless, even if the number of full-time jobs which firms think could be split is expressed as a proportion of all jobs, there is still considerable potential available in the retail trade (3,9 % compared with 2,4 % in the wholesale trade and 2,9 % in industry).

— One-third of European retailers think that changes are needed in *shop opening hours*. The main change preferred is complete liberalization of opening hours. Only among smaller retail firms (fewer than 20 employees), just one-fifth of whom thought opening hours should be changed, was a maximum limit of weekly opening hours the main change preferred. 39 % of retailers thought that more flexible opening hours would have a positive impact on employment and only 7 % thought they would have a negative impact. Nevertheless, the retail trade ranked this point eighth amongst the 12 proposed changes. However, there were distinct differences between countries. It was precisely in those member countries in which shop opening hours in the retail trade are already the most liberal (e.g. Belgium) that the desire for greater flexibility and also the expected impact on employment were greatest. This lends weight to the assumption that the lack of practical experience with more flexible shop opening hours is in many cases, for example in the Federal Republic of Germany and the Netherlands, partly to blame for the widespread scepticism of firms on this point.

1.5. Conclusions

— The results of the survey have shown that the interests of firms and those of employees in achieving greater flexibility on the labour market (in particular, new forms of working time and pay that is geared to both individual skills and to business profits) do not necessarily have to be in conflict with one another. As far as more flexible working hours are concerned, interest seems to be greater among employees than among employers. Obviously, many employees regard greater influence over their individual working hours as a desirable increase in control over their working lives. Many employees would also accept unusual working hours (e.g. working on some evenings and occasionally on Saturdays) if there was no loss in income and if total annual working hours were reduced.

— In contrast to the argument frequently put forward in public discussion, it is not so much the absolute wage and salary level, but rather non-wage labour costs which firms regard as inhibiting employment. Many firms also indicated that the wage structure discouraged them from employing more workers. Lower starting pay and wider wage differentials are regarded as desirable, especially in the retail and wholesale trades and hence, it might be supposed, in the other branches of the service sector, too. Employees surveyed indicated their willingness to be paid according to their individual skills. Thus, in the author's opinion, a compromise on this subject is possible between employers and employees. This would be made all the more easy if non-wage labour costs are reduced by the government through appropriate cuts in taxes and social security charges.

— Especially in industry, and, within industry, particularly in the technical trades, a lack of skills on the part of job applicants is an important obstacle to an improvement in employment. Training and further retraining must therefore be stepped up even more, particularly in the technical trades. If the labour market authorities were to receive more rapid and more specific information from industry as to what skills are required, training measures could be better geared to the needs of firms. The employment impact of a functional improvement in public employment offices would then probably be greater than anticipated by firms in the survey.

— Another important finding to be brought out by the survey is the untapped potential for part-time jobs. The desire of employees for more part-time working fits in quite well, at least on an aggregate level, with the scope which firms have to offer more part-time jobs. Although the provision of additional part-time jobs would essentially bring down the number of registered unemployed to a fairly small extent, since those concerned are partly drawn from the 'latent reserve' (e.g. discouraged workers and women at home), greater use should nevertheless be made of this possibility. In so doing, however, it must be ensured that part-time workers are not placed at a disadvantage compared with full-time workers as regards promotion opportunities, social security and retirement pensions.

— The arrangements for — voluntary — part-time working and shorter working weeks should also involve new ways of taking account of the needs of the different categories of employees in the firm (e.g. working hours which are a compromise between half-time and full-time work; temporary part-time work with the possibility of going back to full-time work later on). The employee survey showed that about one-third of the respondents were very much interested in a reduction in working hours, even if this meant a loss of pay. The main preference expressed was for weekly working hours that were somewhere between traditional part-time work (i.e. half-day work) and full-time work. There should therefore be closer examination of the possibilities of creating different types of part-time jobs, particularly jobs with average weekly working hours of around 30 hours.

— Given the constraints within a firm, this desire for shorter and more flexible working hours can probably only be realized if the whole work process is organized differently from today. New rules governing working hours would have to be introduced in firms, dissociating individual

hours from company hours to a far greater extent than is normal today, e.g. in the form of a rolling four-day week (within a company working week of 5, 6 or 7 days). The more efficient use of the capital stock would provide the opportunity for reducing personal working hours without affecting costs. Such arrangements would probably allow an individual to achieve an appreciable reduction in working hours without a correspondingly large cut in income. Besides the advantage for these people already in employment, who would thus come nearer to their ideal working hours, this would probably produce a sizeable number of additional jobs. According to the results of the company survey in industry and commerce, the maximum possible employment effects of greater flexibility on the labour market (including the splitting of full-time jobs) could be at around 6 % of the number of people currently employed. The quantitative effect will be the higher the greater the extent to which overtime work is compensated by more leisure time in other periods — which should not cause problems within a flexible working time regime — rather than by extra pay.

— An essential precondition for the success of such measures is that a positive demand trend must be anticipated by firms. This is not only evident from circular-flow theory considerations, but is also recognized by firms themselves. In industry, 'demand' ranks first amongst the reasons why more workers are not being employed at present. This is also the reason why, in its strategy for more employment, the Commission has always emphasized the need for an appropriate demand trend. Microeconomic measures to improve structural adjustment and a macroeconomic policy of growth and employment must go hand in hand. Subject to this condition, a cost-neutral rearrangement and reduction of individual working hours could produce positive employment effects.

— It will probably be more difficult to reconcile the desire of firms for shorter periods of notice and simpler legal procedures in the case of redundancies and dismissals on the one hand, and the right of employees to protection on the other. The stronger economic growth is and hence the more openings there are on the labour market for the individual employee the easier it should be to reconcile the two points of view. The more favourable employment opportunities as a whole are, the easier it will be within firms to introduce more flexible arrangements for recruiting and dismissing employees. The extent to which the opportunities on the labour market are exploited will then depend largely upon the mobility of the individual employee. These considerations emphasize once again the need for strong economic growth.

— Company profit-sharing has so far been seen mainly from the point of view of staff motivation and the distribution of income and wealth. Any direct effects it may have in increasing employment are viewed as being relatively slight by industrial firms; however, such effects might be somewhat greater in the wholesale and retail trades, according to the survey results. Undoubtedly, company profit-sharing helps to stabilize numbers employed in times of temporarily declining profits, since a proportion of wage costs then to some extent becomes a variable rather than a fixed cost. However, greater efforts should be made to find forms of profit-sharing that create greater incentive to increase employment in firms than the survey results suggest; examples might include tax incentives such as those under discussion at present in the United Kingdom. Employees' reactions to the introduction of more profit-oriented components in the system of remunerations were generally positive. About half of employees in the survey would be prepared to accept such arrangements even if this were associated with temporary wage cuts; some 20 % were undecided and around 30 % opposed them.

2. Results of the employee survey

2.1. Methodology

The survey was carried out in all 12 Member States by leading national survey institutes (within the framework of the Eurobarometer surveys); it was coordinated by Faits et opinions, Paris, (the annex contains the names of the institutes involved). Unlike the company survey, the results of the employee survey are based on personal interviews and not on written questions. In Spain and Portugal, the survey was carried out in January/February 1986, and in the other 10 Member States in the spring of 1985. Because the questions were asked on different dates, each of the following tables show the results for the Community as a whole on the basis of both the 10 Member States (EUR 10) and of all 12 Member States (EUR 12). Around 1 000 persons were questioned in each member country, giving a total of around 12 000 for the Community as a whole. The percentages shown in Tables 1 to 12 do not, however, relate to all respondents but only to employed wage and salary earners. In addition, Tables 13 and 14 give the results for the unemployed and for schoolchildren/students (16 to 24 year-old age group). The number of cases and the structure of the sample ensure that the overall results are representative for each of the Member States and for the European Community as a whole. However, the results for individual groups of employees, i.e. when differentiated by age, income, etc., were shown only for the Community as a whole, and not for each of the member countries, because the number of national cases did not seem large enough in some sub-groups. Because the dates on which the questions were put in Spain and Portugal were not the same as in the other 10 Member States, it seemed advisable to base the sub-group results on EUR 10 only. But since the results for Spain and Portugal do not differ substantially from those for EUR 10, these detailed results should also give an accurate picture of the situation in the Community of Twelve.

2.2. Detailed results of the employee survey

2.2.1. In most member countries there is at present greater interest in wage increases than in a general reduction of working hours (see Table 1 and Graphs 1 and 2)

The majority of the European workers questioned (62 %) would — if they had the choice — prefer a wage increase to a reduction in working hours in the next pay round. But almost one-third of those questioned (30 %) are more interested in shorter working hours than in more money; the remaining 8 % showed no clear preference for either of the alternatives.

Compared with an earlier survey on the same subject (1977), the desire for higher pay has clearly increased, probably because real incomes have risen very little over the last four years (in 1977 51 % of employees set more store by shorter working hours than higher wages; 42 % took the opposite view and 7 % were undecided). Today's lower preference for a general reduction of working hours is apparent in all income groups, particularly in the lower quartile of the income pyramid (see Graph 2).

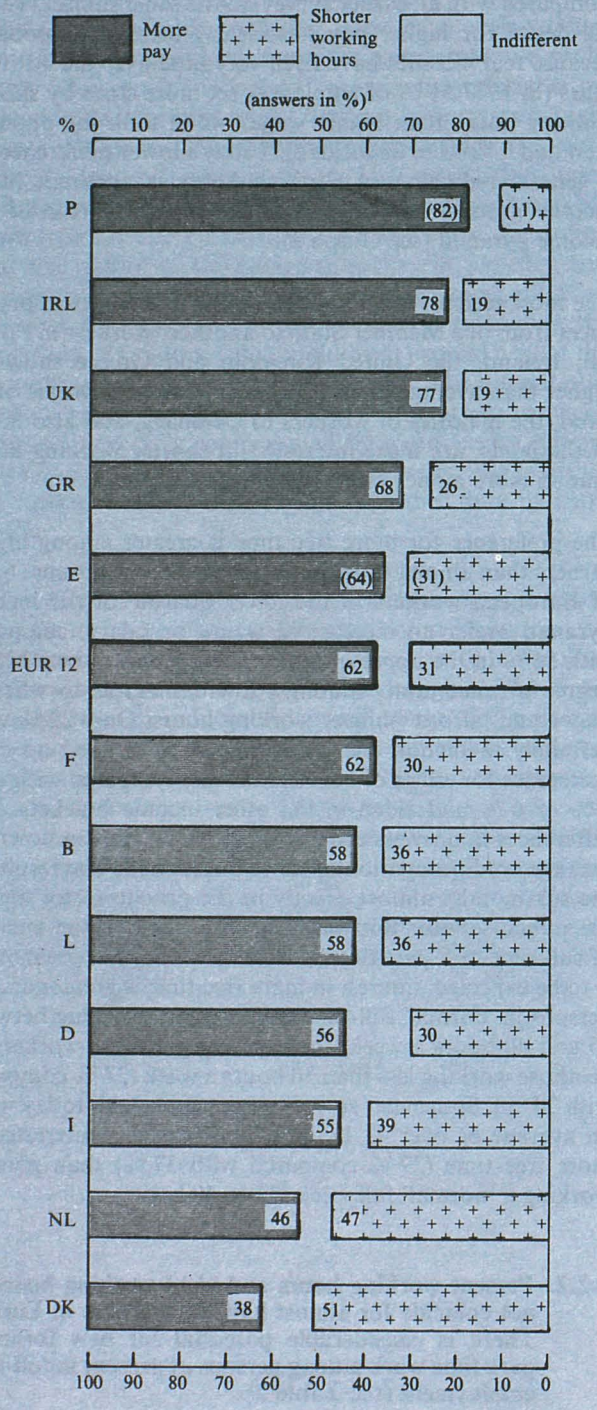
The most recent survey indicates clear differences in preferences from one Member State to another: workers in Portugal, Ireland, the United Kingdom and Greece show far higher than average interest in wage increases. On the other hand, the majority of workers in Denmark, and also in the Netherlands, are more interested in shorter working hours than in more money (see Table 1 and Graph 1).

The preference for more free time is greater among higher earners than among those in the lower income groups: 62 % of European workers in the lower quartile of the income pyramid prefer an increase in wages or salary, compared with 56 % in the upper quartile. There seems to be a higher degree of uncertainty amongst low earners as to whether they could 'afford' shorter working hours. Only 22 % were definitely in favour; the remaining 16 % showed no clear preference for either of the alternatives, compared with only 5 % or 6 % undecided in the other income brackets. The differences in answers are also slight when broken down by sex, age, and occupation of those questioned. The results of the survey tally almost exactly in the private sector and in the public service. But the difference between the answers of full-time and part-time workers is somewhat greater. As is to be expected, interest in more free time is greater among persons in 'normal' full-time employment (working between 35 and 40 hours a week) than among part-time workers — i.e. those working less than 30 hours a week (37 % compared with 24 %). Somewhat surprisingly, people who today work an average of over 41 hours a week are less interested in more free time (27 % compared with 37 %) than persons working a 'normal' full week (35 to 40 hours).

2.2.2. Present working hours and ideal working hours do not coincide for almost half the workers in Europe. There is considerable potential for new forms of part-time work among persons at present in full-time employment (see Table 2)

Over one-third of the workers questioned (36 %) would like to work shorter hours than they do today, provided that

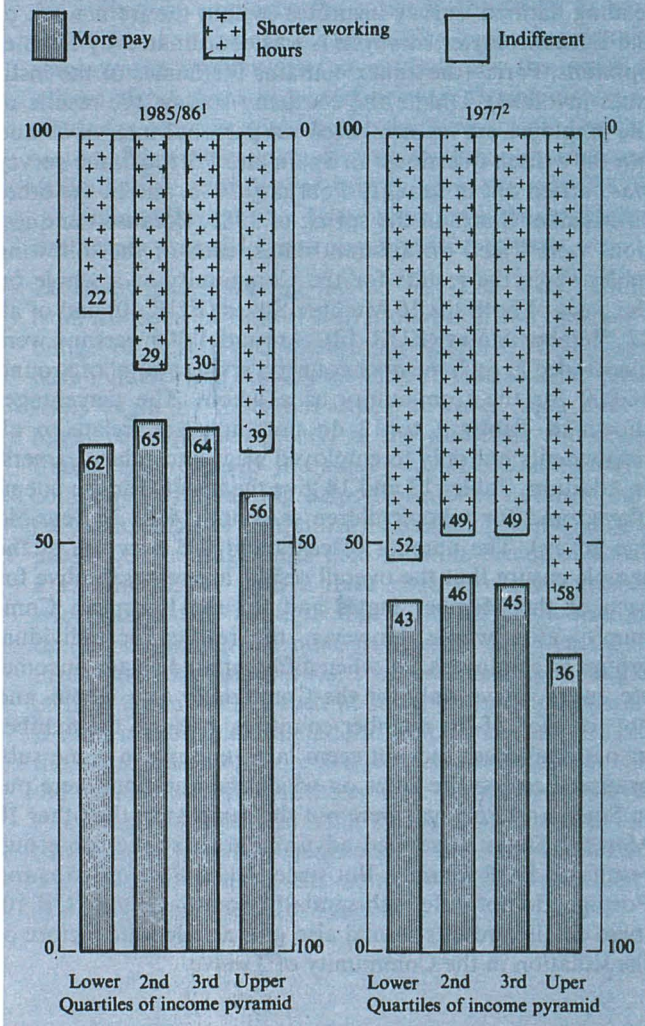
GRAPH 1: **Preference for more pay or for shorter working hours**



[1] For details see Table 1

Source: EC employee survey 1985/86.

GRAPH 2: **Preference for more pay of for shorter working hours (European Community) (Breakdown of answers according to position in the income pyramid)**



[1] EC employee survey 1985/86.
[2] Euro-barometer Oct/Nov 1977.

Source: EC employee survey 1985/86 and Euro-barometer.

their hourly pay remained the same. Over half (57 %) are fully satisfied with present working time arrangements and only 7 % would rather work longer hours than today.[4] As can be seen from Table 2 and 2a, there is a relatively large amount of interest in working between 30 and 34 hours a week — among men as well as women. At present only 3,8 % of European employees work these hours, but 17,5 % would be interested in doing so. Those interested are almost

exclusively people now in full-time employment (defined as an employee whose normal working time is 35 hours a week and above). A quarter of them would like shorter working hours, even if these were associated with losses of income. But in the main, the desired reduction is relatively small: 19 % of full-time workers would like to work between 30 and 34 hours a week; only 6 % of full-time workers would prefer to work under 30 hours a week (determined on the basis of the data in Table 3).

In order to examine whether the wish to work shorter hours is greater among women than among men, Table 3 gives a breakdown of existing and desired working hours according to the sex of those questioned. 17 % of male full-time workers (96 % of all male employees within the Community) would prefer to work for under 35 hours — if hourly pay remained the same; the majority (14 %) of these would prefer a working week of between 30 and 34 hours, and only 3 % would like to work for under 30 hours a week.

35 % of female full-time workers (56 % of all female workers according to this survey) would like to work shorter hours, with 24 % wishing to work between 30 and 34 hours and 11 % under 30 hours. Shorter working hours continued to arouse greater interest among women than among men, although only around one in ten of today's full-time women workers would prefer to work part-time (under 30 hours).

Part-time workers are predominantly happy with their working hours; on balance only a small proportion of them — men and women — wanted to work longer hours (see Table 3). There are only a few cases of people working part-time against their will; of the workers in the Community who work for under 20 hours a week (7,5 % of all employees), one in four (23 %) would like to work longer hours, but only 12 % would want to work full time. 14 % of the group of part-time workers who work between 20 and 24 hours a week (4,8 % of all employees) would prefer to work even shorter hours, while 25 % would prefer to work slightly longer hours, and 19 % would like to work full-time. One-third of the group of part-time workers who work between 25 and 29 hours a week (2,8 % of all persons in employment) would prefer shorter working hours and only 14 % would prefer to work longer. A similar picture emerges in the group of employees who work between 30 and 34 hours a week; this includes the 29 % of respondents who would rather work shorter hours, compared with the mere 10 % who would prefer longer weekly working hours (see Table 3).

The answers to the first two questions — more pay or more free time and the correspondence between actual and desired working hours — on the whole fit in very well with one another. Admittedly, the desire for a general reduction of working hours has decreased since 1977 (see Graph 2). Nevertheless, there is still a substantial group of workers — approximately one-third — who are very keenly interested in shorter working hours and in return are prepared to forgo increases in income or even to accept some financial losses. Usually, ideal working hours are only some 5 hours shorter than the hours worked today. However, there are still 6 % of full-time employees who would prefer to work under 30 hours a week. As the company survey has shown, managements feel that a considerable proportion of full-time jobs in industry and commerce can be split into part-time jobs with no disadvantages to the company (3,3 % in industry, 6,1 % in retailing and 2,7 % in wholesaling). The more flexibly the work process is organized, the easier it will be to realize in practice the additional potential employment which can be derived from such individual cuts in working hours — by converting full-time jobs into part-time jobs, or by reducing working time in other ways. This is probably the easiest way of bridging the gap between company and personal working hours (e.g. in the form of a rolling four-day working week in industry). Even if all the employees who spoke out in favour of shorter working hours with the same hourly pay, were perhaps not fully aware of the financial implications, and even if the part-time jobs on offer do not match those sought in terms of occupational skills, the survey results indicate that considerable employment effects are still possible. They suggest that unions, management and governments could make a greater effort than in the past to redistribute the volume of work: this should be done on a voluntary basis and be tailored more closely than hitherto to the needs of companies and individual workers.

2.2.3. Over half of European workers would accept changes in daily working hours (see Table 4)

40 % of European workers consider that no change should be made in the system of working the same number of hours per day. But almost as many (38 %) would prefer to be able to work an agreed number of hours per month, but to vary the number of hours worked per day to fit in with their own needs and those of the employer. One in seven employees (15 %) would, if he had the choice, plump for the even more flexible arrangement of working an agreed number of hours per year, to be varied for each working day or month in accordance with personal preferences and possibilities within the company.

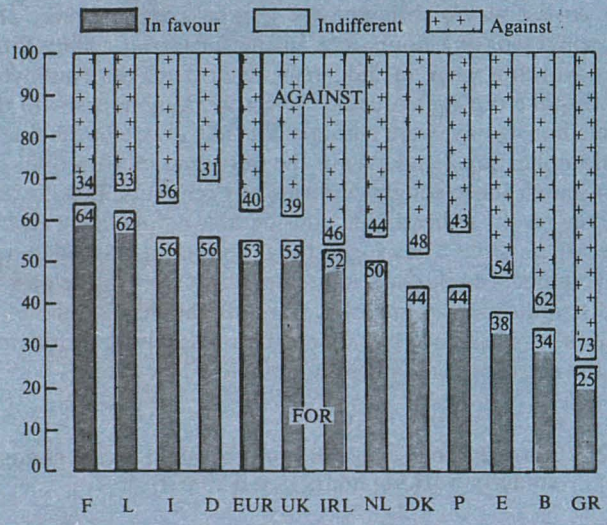
Overall this shows a surprisingly high proportion of workers who are ready — within certain limits — to work flexible hours. The differences in answers are only slight when broken down by sex, income and union membership. Broken down by occupation and age, the differences are somewhat greater: executives are readier to accept more flexible working hours than manual workers (64 % compared with 51 %). The answers of salaried workers lie somewhere between these two groups (59 %). Older people (over 55 years of age)

are much less interested in flexible working hours than younger workers up to 39 years of age (39 % compared with 59 %).

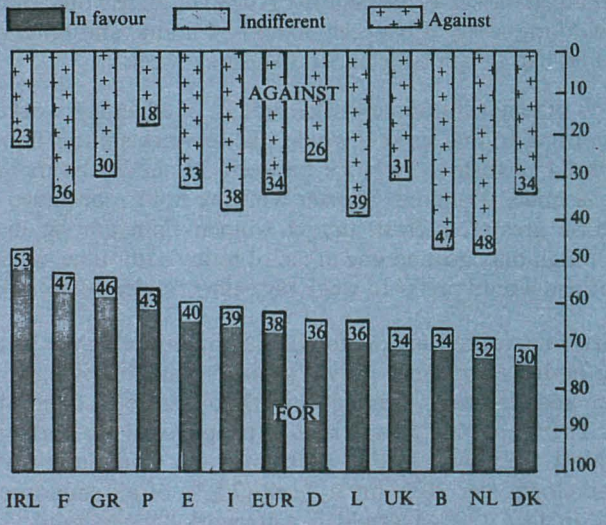
When broken down by Member State the differences in answers are again marked. The Greeks and Belgians in particular show a greater than average interest in working the same number of hours each day (73 % and 62 % respectively). The Germans, the Luxembourgers and the French are at the other extreme, since only 31 %, 33 % and 34 % respectively would like to work the same number of hours each day in preference to a more flexible arrangement.

GRAPH 3: **Main results of EC employee survey by Member State (answers in %)**

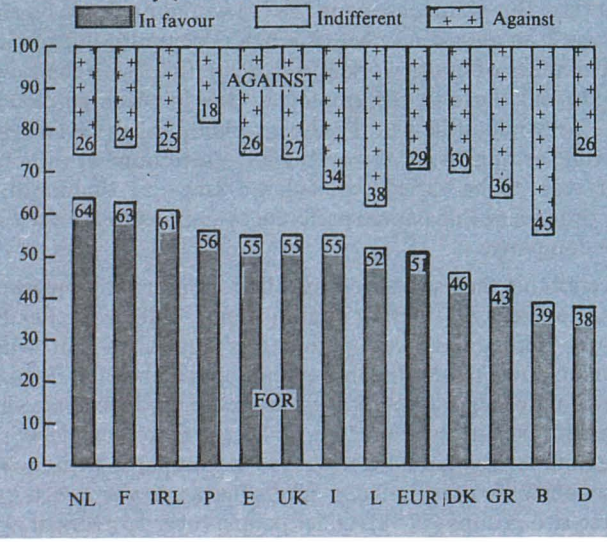
(a) For or against more flexible working hours (see Table 4)



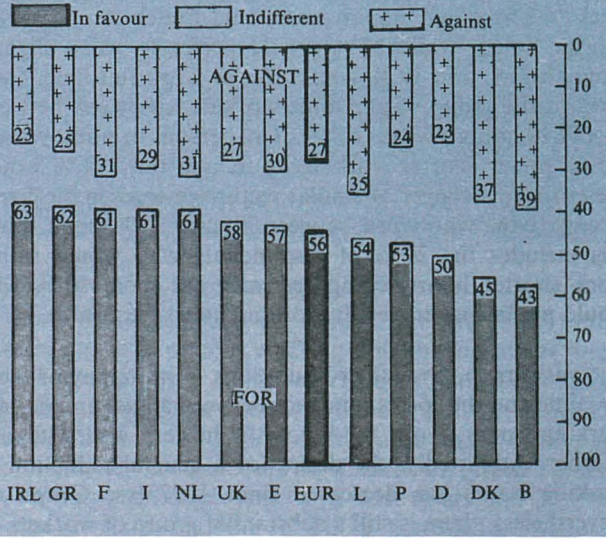
(b) For or against a more flexible organization of working time including evening and Saturday work (see Table 5)



(c) For or against a reduction of salary when company is in difficulty (see Table 7)



(d) For or against different individual salaries for the same job according to personal efficiency (see Table 9)



2.2.4. Evening or Saturday work popular if this reduces total yearly working hours (see Table 5)

Over one-third of workers (38 %) would welcome working one Saturday a month or five weekday evenings until 22.00 if in return annual working hours were reduced by 5 % (this is equivalent to some 2 hours less a week or 2 weeks more annual holiday). Only 34 % are against such an arrangement. A relatively large proportion of those questioned (28 %) has no definite opinion as yet, but in principle has no objection to this more flexible arrangement of working hours.

Readiness to accept such more flexible arrangements of working hours seemed to be higher than average among the Irish, French and Greeks (53, 47 and 46 %). But on the whole, national differences in the answers are relatively small.

A comparison of the answers to this and the preceding question reveals a certain discrepancy: although 53 % of all employees consider it advantageous to be able to divide their working hours flexibly over a month or even a year, only 38 % are prepared to extend these more flexible working hours to occasional evening or Saturday working.

This difference becomes even plainer if the individual answers are compared: only 55 % of the respondents in favour of working hours being divided more flexibly over the whole year were prepared to work evenings (5 times a month until 22.00) or one Saturday a month; of the respondents who prefer working hours to be shared out on a monthly basis, even fewer (46 %) would agree to evening and Saturday working. Clearly, many people who were otherwise receptive to the more flexible arrangement of working hours considered evening and especially weekend work to be too great a restriction, and one which could not be compensated by additional holiday time.[5] On the other hand, approximately one quarter of those employees who, in principle, wish to work the same number of hours each day were attracted by the prospect of more annual holiday and in exchange would also agree to work evening and weekends (see Table 6).

2.2.5. Great readiness to accept temporary wage cuts, if the company is in difficulty (see Table 7)

Approximately half the workers questioned in the Community consider that it is right for wages and salaries to be cut temporarily, if their company is in difficulty — provided that, once the firm has recovered, the workers have a corresponding share in the profits. Only 29 % of those questioned were against such an arrangement; another fifth were undecided.

The Dutch, the French and the Irish showed above-average readiness to accept that pay should depend more on the success of the company (64, 63 and 61 % respectively). Belgium was the only country where the opponents of such an arrangement outnumbered those in favour (45 % compared with 39 %; 16 % undecided); in the Federal Republic of Germany a rather large proportion of the workers questioned were at present unable to give a definite answer (36 %). A breakdown by socio-demographic features, including union membership, revealed only small differences.

2.2.6. Profit-sharing not very widespread (see Table 8)

In 1984 only one in six European employees (16 %) received a bonus or other form of share in profits. Even if confined to workers employed in private industry, the proportion, 21 %, is relatively small. The fact that profit sharing can increase the ties between the worker and his company is shown by the following figures: of the workers who in 1984 received a share in profits, 62 % were ready to accept a temporary cut in wages if their company was in difficulty; for other workers, this proportion was only 50 %.

2.2.7. Great interest in payment by performance (see Table 9)

Over half the workers questioned (56 %) took the view that payment should be based not only on occupation, but also on personal performance. Just over a quarter (27 %) took a different view and argued that where the occupation was the same, the pay should generally be the same. More executives than other workers favoured payment by performance (75 % compared with 57 % of salaried workers and 52 % of manual workers).

Interest in payment by performance is particularly pronounced among those employees who were very strongly in favour of forgoing part of their income if the company was in difficulty (provided that profits were shared when the firm was doing better again). 71 % of them are interested in payment related to personal performance, compared with only 43 % of those who opposed the sharing of profits and losses (see Table 10).

2.2.8. Varying views on pay differences in the employee's place of work (see Table 11)

When asked whether pay differences where they worked correctly reflected the differences in personal performance, only 16 % answered with a definite affirmative and a further 25 % considered the differences to be more or less sufficient. One-third of those questioned thought that it was too diffi-

cult for them to give a definite answer to this question. But a quarter (26 %) thought the differences were too small, the proportion being the same in the different groups of employees (defined by sex, age, household income, occupation and union membership). Percentages varied more widely only when the answers were broken down by member country: France was the country where the differentiation of pay by personal performance was most frequently felt to be insufficient (35 %). The Danes showed themselves to be most satisfied (only 14 % gave the answer 'insufficient'): in Belgium and Ireland, too, the percentage of those questioned who felt that pay differences in their own company were insufficient was smaller than the Community average (18 % in each case instead of 26 % for the Community as whole).

Employees in the public sector were on the whole only slightly more dissatisfied with wage and salary differences than employees in the private sector (29 % compared with 25 % in the private sector). But if we confine ourselves to the respondents who had declared themselves in favour of payment by individual performance — 56 % in both the private and the public sector — an interesting difference emerges: in the private sector 44 % of these respondents considered pay differences to be sufficient and 30 % considered them insufficient; but in the public sector the answers were definitely more unfavourable (only 33 % answered 'sufficient' and 38 % 'insufficient'; see Table 12).

2.2.9. The unemployed are even more prepared to work flexible hours than persons at present in employment (see Table 13)

Five of the six questions asked were also put to a representative cross-section of unemployed people in the Community: in the main their answers differed only slightly from those of the employees. The only point worth mentioning is that a slightly higher proportion of *unemployed persons* would be prepared to work one Saturday a month or five evenings a month until 22.00 (42 % in favour and 27 % against, compared with the percentages for persons now in employment of 38 % in favour and 34 % against). On the other hand, the unemployed are somewhat less ready than persons now in employment to accept temporary wage cuts if the company is in difficulty (42 % compared with 51 %). Nor are they as interested in payment being related more closely to personal performance (50 % of the unemployed, compared with 56 % of those now in employment). However, it should be borne in mind that the percentage of unemployed people who were unable to answer these two questions was considerably higher (17 % and 13 % respectively) than the percentage of employed people (6 % for each of the two questions).

Survey of young people, who have not yet entered working life (16 to 24-year-old age group; see Table 14). As in the case of the unemployed, young people's answers differ relatively little from workers' answers. However, one feature is the greater interest of young people who have not yet entered working life, in flexible working hours: only 25 % (compared with 39 % of young workers in the same age brackets), prefer to work the same number of hours each day, while 46 % (compared with 42 %) prefer a fixed number of working hours each month and 18 % (compared with 15 %) a fixed number of hours each year, to be allocated according to personal preferences and the possibilities within the company. Young people who are still undergoing training, are also clearly more interested in flexible working arrangements than employees of the same age group. With regard to solidarity with the firm (temporary reduction in wages when the company is in difficulty) and interest in payment being based on performance, rather than on the position, young people — like the unemployed — had somewhat greater reservations than persons in employment (45 % compared with 51 % in the case of pay cuts and 53 % compared with 56 % in the case of payment by performance). But here too — as in the case of the unemployed — it must be borne in mind that there was a larger proportion of respondents who, perhaps because they had no work experience, were at present unable to give a definite answer.

3. Company surveys

3.1. Labour market survey in industry

3.1.1. Methodological remarks

The national institutions which carry out the monthly EC business surveys were responsible for the technical execution of the company survey (see annex). Altogether some 8 000 industrial firms took part in the survey, which was carried out at the end of 1985. The results were weighted by size of company and main manufacturing activity, so that any deficiencies in the sample could be smoothed out. The large number of cases and the method of data processing ensure that the survey results are representative of European industry. In the annex a breakdown of the survey results by size class within the main industrial groups is presented.

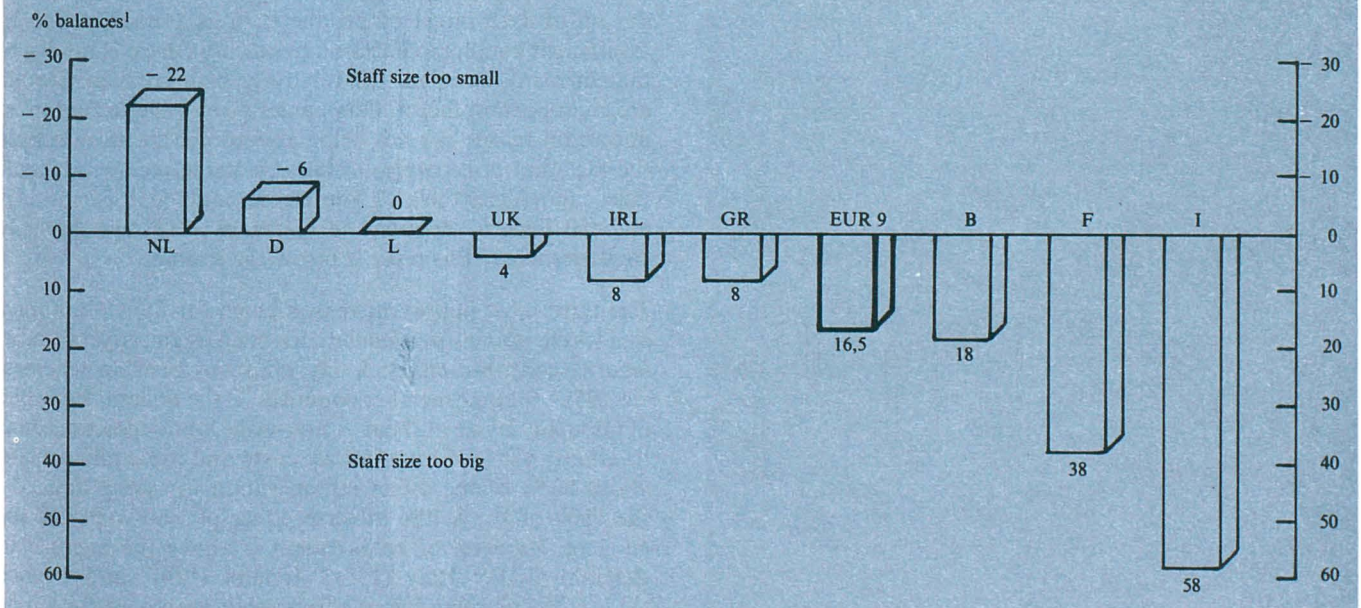
Apart from Spain and Portugal which were not yet members of the Community when the survey was designed, all the Member States except Denmark took part.

3.1.2. The present size of the work-force: Too many unskilled workers — but a shortage of technicians and technologists (see Table 15 and Graphs 4 and 5).

On average for the Community, European industrial firms consider that the present size of their work-force is still slightly larger than needed, although the number of persons employed in European industry declined by some 20 % between 1972 and 1985. While 27 % of European industrial firms indicated that the present size of their work-force was too large, 11 % reported that it was smaller than needed and the remaining two-thirds or so that the present size of the work-force was about right. The excess of workers in European industry applies almost exclusively to unskilled workers (balance +32)[6] and — to a lesser extent — to office and sales staff (+19).[6] Shortages actually exist at Community level in filling specialized jobs (−5)[6] and in particular jobs for technicians and technologists (−16).[6]

Broken down by member country, the scope for increased employment in industry is at present higher than the Community average in the Netherlands and the Federal Republic

GRAPH 4: **Assessment of staff size in manufacturing industry by Member State**



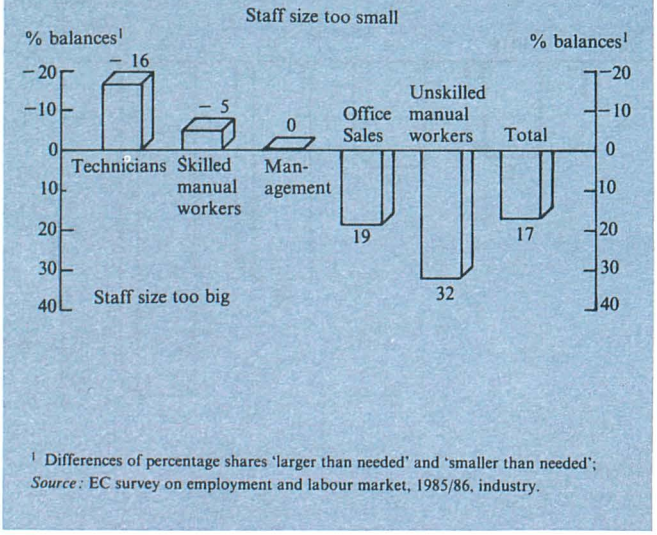
[1] Differences of the percentage shares 'larger than needed' and 'smaller than needed'; for details see Table 15.
Source: EC survey on employment and labour market, 1985/86, industry.

of Germany; in both countries the present size of the work-force is considered as too small on the whole (balance −22 and −6 in the Federal Republic of Germany)[6]. The Netherlands is the only Community country with a shortage of office and sales staff in industry (−5);[6] the only slight surplus is here among unskilled workers (+6).[6] In Luxembourg, firms state the size of their work-force as about right; in the United Kingdom, Ireland and Greece, only a slight majority of companies describe the size of their work-force as too high (+4 in Ireland and +8 in Greece).[6] Far more industrial firms consider their work-force is too large, especially Italy (+58),[6] France (+38)[6] and Belgium (+18).[6]

3.1.3. The trend of numbers employed in European industry is still weak (see Table 16 and Graph 6)

On average for the Community, more firms reduced the size of their work-force in 1985 than increased it (32 % 'up' compared with 42 % 'down'; balance −10). This negative result is largely determined by the downward employment trend in Italy (balance −66), France (balance −37) and — to a far less extent — Greece (balance −12). In all the other member countries the numbers employed in industry rose in 1985, especially in the Federal Republic of Germany, the Netherlands, Belgium and Luxembourg.[7]

GRAPH 5: **Assessment of staff size in manufacturing industry by occupational category at Community level**



[1] Differences of percentage shares 'larger than needed' and 'smaller than needed';
Source: EC survey on employment and labour market, 1985/86, industry.

According to this survey, the expected average trend over the next 12 months for European industry is that employment will continue to decline slightly again mainly because of continuing labour-shedding in Italian and French industry. But it must be borne in mind that when the survey was carried out (November/December 1985), the decline in oil prices and the associated effects on growth and employment were not yet clearly discernible. So there is every reason to believe that European industrial firms will adjust their employment plans upward in 1986. However, even then the overall employment trend would still be unsatisfactory. Hence the need to ensure that in future each percentage point of production growth has the effect of creating substantially more employment. The present survey may offer some pointers in this respect.

3.1.4. Why are no more people being employed at present — from the companies' point of view (see Table 17 and Graph 7a/b)

Companies give as the first reason the *present and expected level of demand* (coefficient 128).[8] The corresponding coefficient is higher than the average in Italy (154)[8] and the United Kingdom (153).[8] Far fewer companies in the Netherlands and Greece blame the lack of demand for not having taken on more labour (coefficient 85 and 79 respectively).[8]

The data do not permit an accurate appraisal of the extent to which insufficient demand is perceived by the companies as more of a structural problem (e.g. due to saturation or an out-of-date range of products) or is primarily due to insufficient competitiveness on prices. But there is no doubt that in many branches the relatively high costs in Europe are an important factor. Companies give as the second most important reason for not being able to recruit more people the fact that *price competitiveness* is perceived to be insufficient (coefficient 99).[8,9] The Netherlands (coefficient 57)[8] and the Federal Republic of Germany (81)[8] are the only countries where this reply is below the average.

The third most important reason given for the Community as a whole is *non-wage labour costs* such as employers' social security contributions, sick pay, company pension schemes, etc. (95).[8] In some member countries — the Federal Republic of Germany is one of them — non-wage labour costs amount to almost 45 % of total labour costs and are equivalent to about 80 % of the direct remuneration for work done. In the view of firms, the adverse effect of non-wage labour costs on the level of employment is above the average in Belgium (153),[8] Italy (138),[8] Ireland (124)[8] and France (115).[8] The German figure corresponds exactly to the Community average (95).[8] The United Kingdom (43),[8] Luxembourg (61)[8] and the Netherlands (62)[8] are at the lower end of the scale on this point.

On the other hand, a far smaller proportion of European industrial firms blame *direct wage and salary costs* for not employing more people (74;[8] sixth most important reason of the 10 given). The United Kingdom is the only country where direct wage costs clearly prevent more firms from employing extra labour than non-wage labour costs. In line with their usually higher share of wage costs, firms in the consumer goods industries and small and medium-sized companies in general feel direct and indirect labour costs to be more of an obstacle to recruiting additional workers, than does industry as a whole, on average.

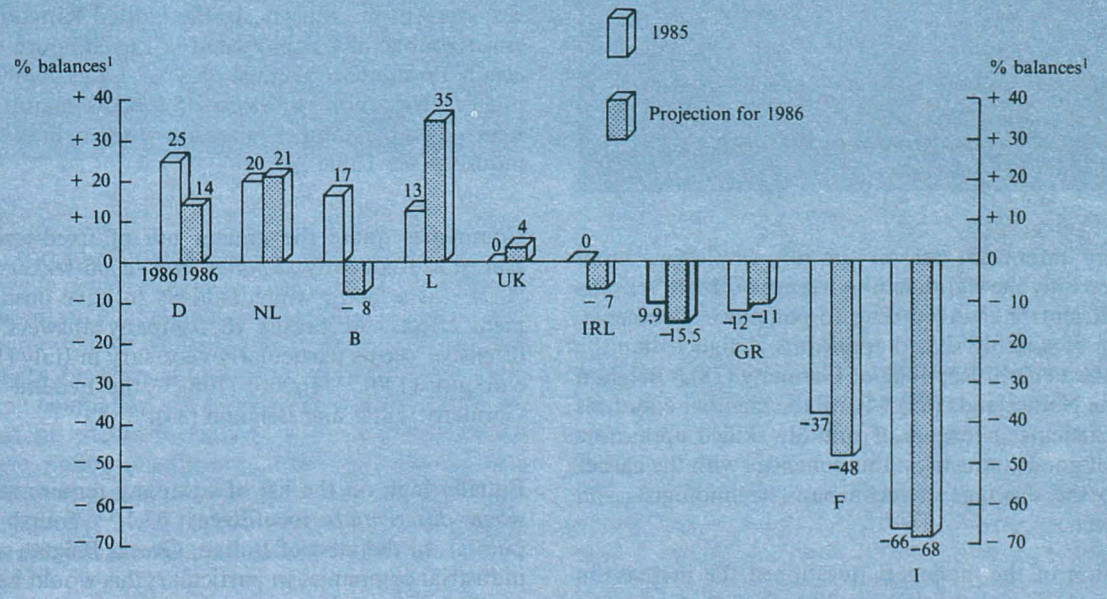
Firms considered *insufficient flexibility in hiring and shedding labour* as scarcely less important than non-wage labour costs: it is usually difficult and costly to dismiss workers or take new ones on as required (coefficient 92;[8] fourth most important reason of the 10 given). Large companies (with more than 1 000 employees) put forward this argument somewhat less frequently than small and medium-sized companies. Insufficient flexibility in hiring and shedding labour was judged to be especially serious in Italy (151),[8] France (129),[8] Belgium (113),[8] Greece (112)[8] and Ireland (100).[8] The corresponding proportion in the United Kingdom (33)[8] is the lowest.

Companies place only in fifth position the fact that the number of persons employed declines or at least does not increase as a result of *rationalization and/or introduction of new technologies* (84),[8] while public discussion often alleges that this is the prime cause of falling employment. This survey result coincides with empirical findings[10] that growing firms (i.e. those in which the work-force is increasing) are usually at least as active in rationalization as firms which are contracting or standing still. Although rationalization in growing firms can have the effect of shedding some types of labour, it is often only the precondition for expanding total employment in the firm, as a result of improved market prospects.

An insufficient profit margin due to the high level of other, non-labour costs is seventh of the reasons given by firms (62).[8] In Italy in particular, the high cost of financing and other non-labour costs deter firms from expanding their work-force (115).[8] This cost component in particular is likely to be reduced in Europe because of the downward trend of interest rates and the cheaper imports resulting from lower oil prices and from the fall in the value of the dollar.

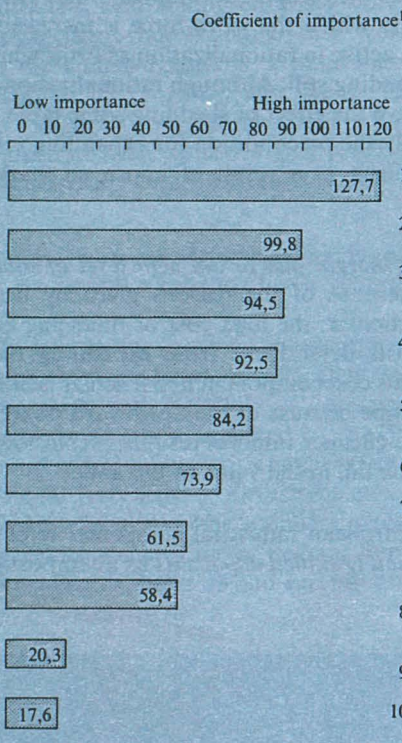
Although 43 % of European industrial companies refer to the *shortage of adequately skilled applicants* as an important

GRAPH 6: **Employment trends in 1985 and 1986 in manufacturing industry by Member State**



[1] Differences of percentage shares 'up' and 'down'; for details see Table 16.
Source: EC survey on employment and labour market, 1985/86, industry.

GRAPH 7a: **Reasons for not employing more people in manufacturing industry at Community level** (order given by assessment of companies which is expressed by coefficient)



[1] The coefficient ranks responses from 0 — all companies consider a particular reason to be 'not important' — to 200 — all companies consider a particular reason to be 'very important'; for details see Table 17.

Source: EC survey on employment and labour market, 1985/86, industry.

or even very important reason for not employing more people, this is only the eighth in importance of the 10 reasons given (coefficient 58).[8] According to company statements, the shortage of suitably skilled applicants is higher than the average in the Federal Republic of Germany (78),[8] Belgium (67)[8] and the Netherlands (65).[8] In all the member countries there is a particular shortage of suitably skilled applicants in the capital goods industries; this coincides with the earlier reference to the shortage of technicians, technologists and skilled workers.

In the opinion of the managers questioned the increase in *sub-contracting of work* (coefficient 20;[8] ninth position) and *insufficient productive capacity* (coefficient 18;[8] 10th position) are not very important reasons for not employing more people.

3.1.5. What changes in the labour market — independently of other factors such as demand — would be most likely to induce industrial firms to revise their employment plans upward? (see Tables 18 and 19 and Graph 8a/b)

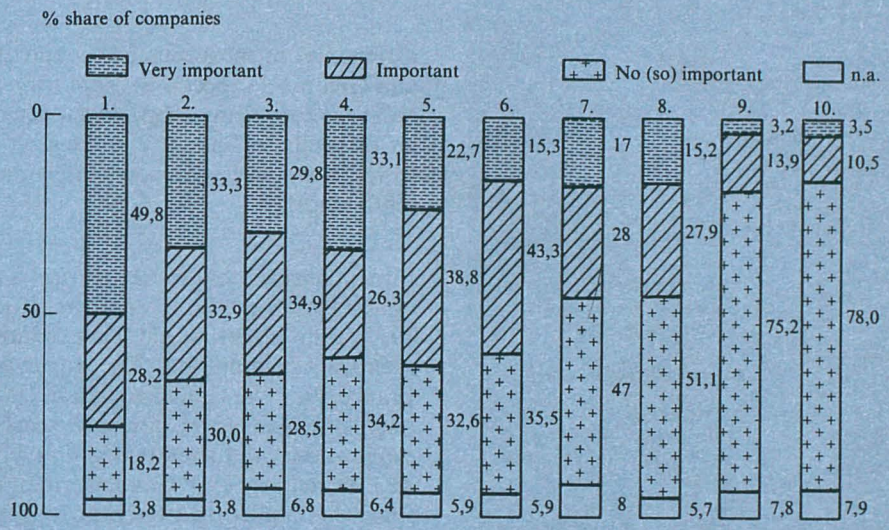
Most firms put *shorter periods of notice and simpler legal procedures* at the top of the list (coefficient 84,1).[11] Italian, Greek and Belgian companies in particular expect that such measures would increase employment. Firms clearly feel that they would be much readier to take on more workers if there was a prospect of being able to dismiss them again in a recession if they proved unsuitable, without long drawn-out and costly procedures.

Companies saw the second most important change as being able to conclude more *fixed-term contracts* (coefficient 70,8).[11] 21 % of European industrial companies expect this to have a significantly positive impact on their level of employment and a further 34 % expect at least a marginally positive impact. The expectations of German and Italian firms in particular (coefficients 95 and 94 respectively)[11] are higher than the average. Many industrial firms in the other member countries would also be ready to employ more people if they could appoint them on fixed-term contracts. However, the expectations of British, Dutch and Irish industrial companies with regard to the effects on employment are lower than the Community average. The number of people currently working on a fixed-term contract basis in European industry is equivalent to only 2,2 % of total employment in industry. In the United Kingdom, the Federal Republic of Germany and in Luxembourg this percentage is lower than average (1,8 %, 1,9 % and 1,4 %). The higher proportion in Greece (5,9 %) is mainly due to the relatively large number of season-workers in the Greek food industry (see Table 24).

Companies quote the greater use of fixed-term contracts almost as frequently as *better trained job-seekers* (coefficient 70,7)[11] as a factor which is likely to have positive employment effects. According to company answers, a 'training offensive' seems particularly necessary in Italy (129),[11] Luxembourg (120),[11] Greece (106),[11] the Federal Republic of Germany (88)[11] and Belgium (84).[11]

Equally high on the list of company requirements is *wider wage differentials* (coefficient 67,1;[11] fourth of the 12 points). In the view of Italian, Greek, Belgian and German industrial companies in particular, this would have a significantly positive impact on employment. In the United Kingdom, Ireland and France, however, wider wage differentials would not have significant positive effects on employment, according to companies' views.

GRAPH 7b: **Reasons for not employing more people in manufacturing industry at Community level** (% share of companies)



1. Present and expected level of demand
2. Insufficient profit margin due to competition
3. Insufficient profit due to non-wage labour cost
4. Insufficient flexibility in hiring and shedding labour
5. Rationalization and/or introduction of new technologies
6. Insufficient profit margin due to wage and salary level
7. Insufficient profit margin due to other than labour costs (e.g. capital costs etc.)
8. Shortage of adequately skilled applicants
9. Increase in contracting out
10. Insufficient production capacity

[1] For details see Table 17.

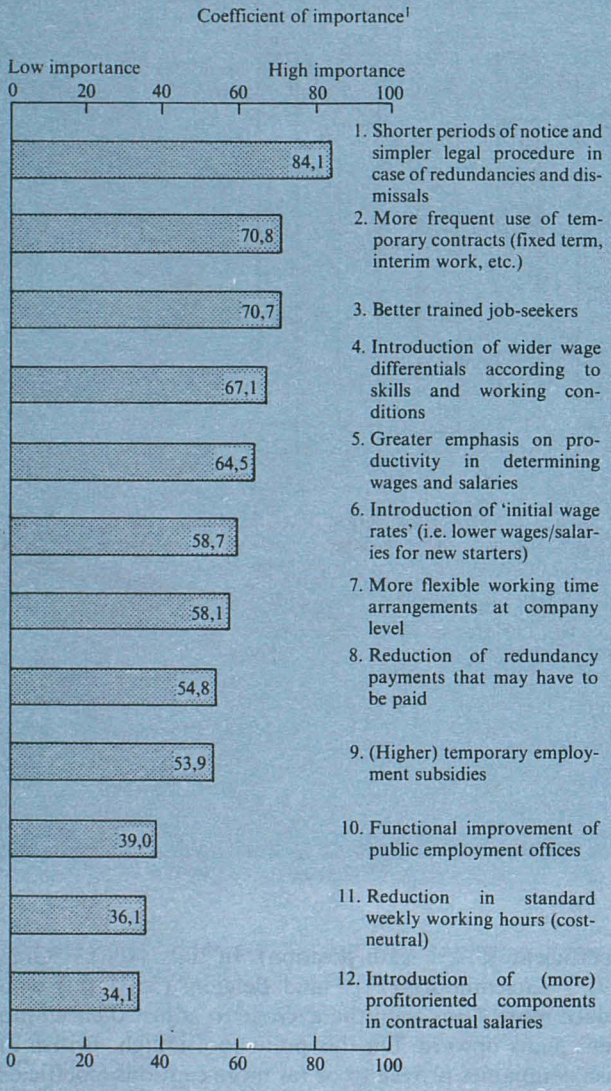
Source: EC survey on employment and labour market, 1985/86 industry.

Somewhat surprisingly, companies see the *greater emphasis on productivity in determining wages and salaries* as only the fifth most important change in increasing employment plans for the Community as a whole (64,5).[11] However, there are wide differences between countries, Greece being the one extreme where companies see a chance for significant positive employment effects in case of a more productivity-oriented wage policy (coefficient 165)[11] and the United Kingdom, the other extreme, where in the average of all industrial companies even slightly negative effects on the number of employed would be expected in this case (coefficient −8).[11]

Companies' answers are more homogeneous when considering whether *lower wages/salaries for new starters* would have a positive impact on the number of persons employed (coefficient 58,7;[11] sixth position). In Italy (106),[11] Greece (99),[11] Luxembourg (73)[11] and Belgium (55)[11] this would induce more firms than the average to adjust their employment plans upward. On this point too, Dutch, British and Irish companies proved to be far more cautious (coefficients 28,[11] 38[11] and 38,[11] respectively).

The next most important change, more flexible *working time arrangements*, results in a similar country profile (coefficient 58,1;[11] seventh position). This would induce roughly half of European industrial companies to revise their employment plans upward and only 3 % of companies would be more likely to expect a negative effect on employment. British and Irish companies are again more sceptical in their assessment of the resultant employment prospects.

GRAPH 8a: **Importance of changes in the labour market in manufacturing industry at Community level ranked according to expected impact on employment plans**



[1] The coefficient is calculated as difference of weighted positive impact ('significant positive impact': weight + 2); 'little positive impact' (weight + 1) and negative impact (weight − 1)); for details see Table 18.

Source: EC survey on employment and labour market, 1985/86, industry.

Companies consider that the *reduction of redundancy entitlement* (54,9;[11] eighth place) would on the whole make a very limited contribution to the employment-creation aspect of economic growth. The main exceptions are companies in Italy (106),[11] Belgium (88),[11] Greece (87)[11] and Germany (65),[11] which feel that this measure would have more value for their employment plans than do all European companies, on average.

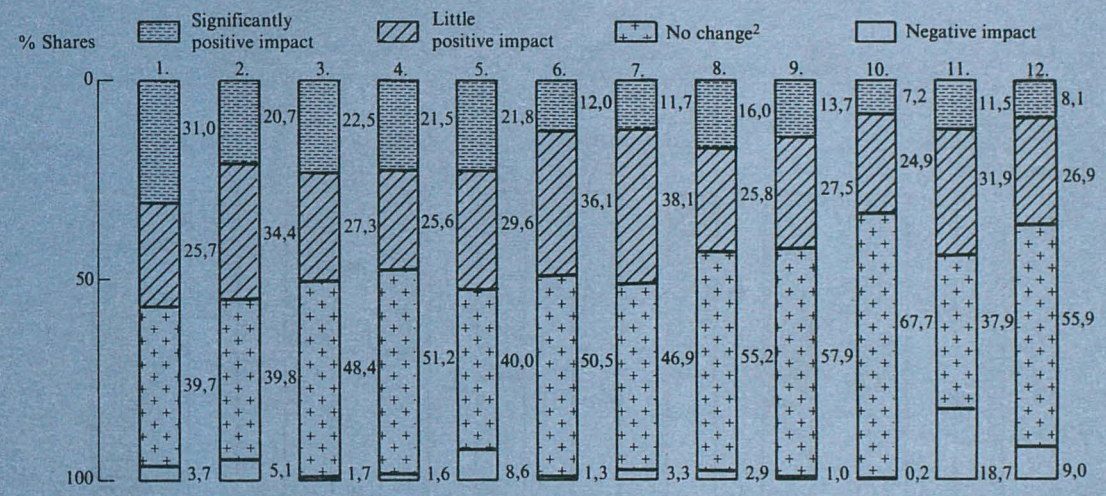
Companies in most member countries — apart from Italy and Greece — expect that more *temporary employment subsidies* for employing unemployed persons who have particular difficulty in finding a job, e.g. young people and older workers, would have a small effect on employment (53,9;[11] ninth place).[12]

Firms consider that *better service from public employment offices* (better advice to and care of job-seekers; coefficient 39;[11] 10th place) would have relatively little impact on increasing employment. The expectations of companies in France (9),[11] the United Kingdom (14),[11] Ireland (15)[11] and the Netherlands (24)[11] are particularly low. By contrast the expectations of Luxembourg (94)[11] and Italian (80)[11] as well as Belgian (53)[11] and German (52)[11] companies are somewhat higher than the European average.

On balance, the opinion of firms is that *a reduction in standard weekly working hours*, even if — as the question assumes — it has no effect on company costs, would increase employment only marginally (43 % of European industrial companies expect this to have a positive effect on employment plans, but 19 % would be more likely to cut back on labour; coefficient 36,1,[11] i.e. penultimate position). Italian and Greek companies in particular are very sceptical of such a measure; on balance, Italian industry would actually expect a distinctly negative impact on the level of employment (coefficient −37).[11] Firms in Germany (74)[11] and Luxembourg (75)[11] expect the most positive effects on the labour market.[13]

Most European industrial firms also consider that the *introduction of (more) profit-oriented components in contractual salaries* (coefficient 34,2,[11] 12th and last position) is relatively unimportant for more employment. British (2)[11] and Italian firms (10)[11] in particular expect this to have scarcely any positive impact on their employment plans. This result is especially sobering because many commentators see the greater sharing of company profits as a key to more employment. This, it is usually argued, would reduce the fixed-cost character of labour costs and mean that firms would be less likely to face excessive labour costs when business was difficult. Profit-sharing would also, it is said, have a positive impact on workers' motivation and hence on productivity. But many British and Italian industrial companies in particular are clearly suspicious of the positive employment effects of profit-sharing.[14]

GRAPH 8b: **Importance of changes in the labour market in manufacturing industry at Community level ranked according to expected impact on employment plans**[1]



1. Shorter periods of notice and simpler legal procedure in case of redundancies and dismissals
2. More frequent use of temporary contracts (fixed term, interim work, etc.)
3. Better trained job-seekers
4. Introduction of wider wage differentials according to skills and working conditions
5. Greater emphasis on productivity in determining wages and salaries
6. Introduction of 'initial wage rates' (i.e. lower wages/salaries for new starters)
7. More flexible working time arrangements at company level
8. Reduction of redundancy payments that may have to be paid
9. (Higher) temporary employment subsidies
10. Functional improvement of public employment offices
11. Reduction in standard weekly working hours (cost-neutral)
12. Introduction of (more) profit-oriented components in contractual salaries

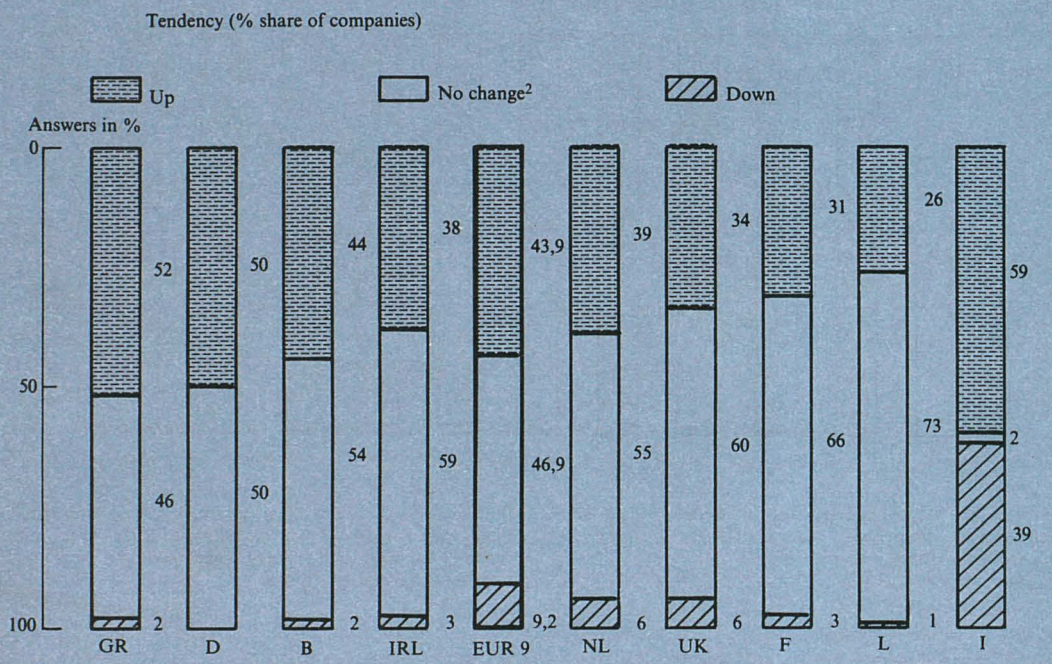
[1] For details see Table 18.
[2] Including no answer.
Source: EC survey on employment and labour market, 1985/86, Industry.

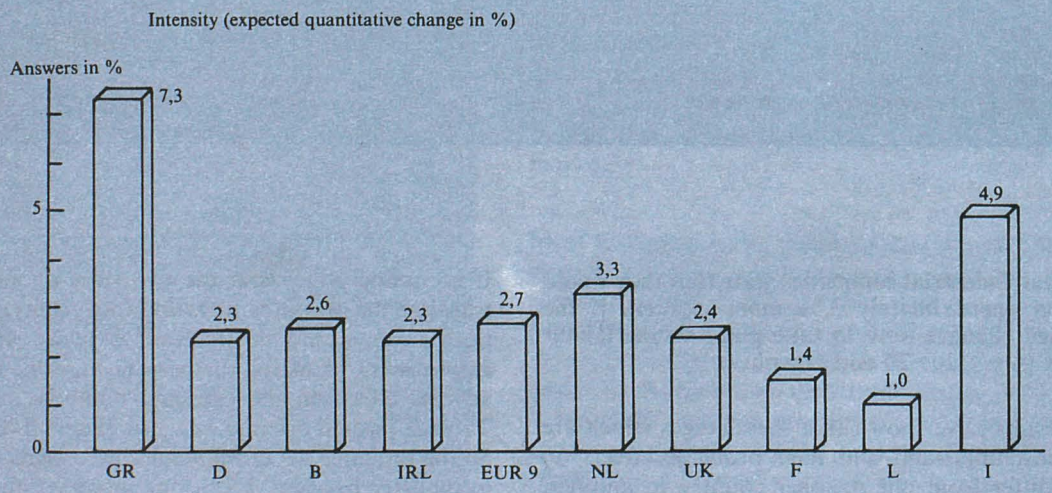
3.1.6. European industrial companies state that they would take on approximately 3 % more workers if the proposed changes were to take place on the labour market (see Table 20 and Graph 9)

The survey results have shown that the changes which are considered most important and their probable effects on employment differ from one member country to another. (Table 19 summarizes the measures, broken down by national priorities.) However, most member countries consider the following to be particularly important: shorter periods of notice, more frequent use of fixed-term contracts, better trained job-seekers, wider wage differentials, greater emphasis on productivity in determining wages and salaries, lower starting salaries and more flexible working hours.

If economic policy and the two sides of industry were to translate the proposed measures into reality, 44 % of European firms would be induced to revise upwards[15] their employment plans for the next 12 months; on balance, an adverse effect on the expected numbers employed[16] (see Table 20) would occur in only just under 10 % of companies. So the probable net effect would be to increase employment in industry by some 2,7 %, the increase ranging from 1 % in Luxembourg to 7,3 % in Greece. Admittedly, these institutional changes cannot by themselves do enough to reduce the unemployment problem but their potential contribution is considerable and roughly corresponds to the effect on employment of two good economic years in industry. Nor would the increases in employment caused by such institutional changes on the labour market merely be a once-

GRAPH 9: **Expected net effect of proposed changes in the labour market on employment plans for the next 12 months in manufacturing industry by Member State**[1]





[1] For details see Table 20.
[2] Including 'no answer'.

Source: EC survey on employment and labour market, 1985/86, industry.

and-for-all effect; they would tend to make growth permanently more employment-creating. In future, each additional percentage point of growth would therefore be reflected in higher employment figures than it is today. Everything points to the fact — which is supported by the results of the survey in retail and wholesale trade — that such institutional changes on the labour market could also have a positive effect on employment outside industry.

3.1.7. Working time arrangements could be improved in over two-thirds of European industrial companies (see Tables 21 and 22 and Graphs 10 to 13)

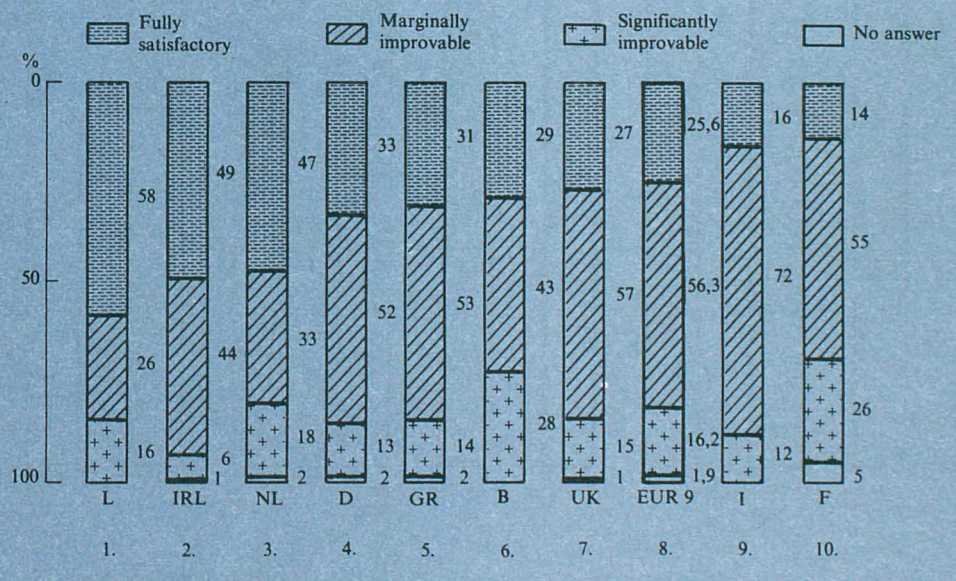
Only just over one-quarter of European industrial companies consider present working time arrangements to be fully satisfactory. More than half the firms (56 %) see scope for small improvements and a further 16 % actually see scope for considerable improvements. In France and Belgium in particular, more than the average number of firms feel that marked improvements in working time arrangements are possible (26 % and 28 % respectively).

In the past two or three years, approximately half the industrial companies in Europe have introduced flexible working time arrangements, but usually only on a small scale. In the next one or two years approximately half the firms expect to make organizational changes so as to achieve more flexible working hours. Italian firms in particular are expecting to make sweeping changes in this area in the next one or two years.

Where more flexible working hours have been introduced in the past, or are planned for the near future, the main intention is to use plant more intensively (63 % of companies). The second most important argument is also one of greater company efficiency: to adjust more easily to demand changes (51 % of companies). A far less important reason is to compensate for a reduction in standard weekly hours (31 % of companies). The Federal Republic of Germany is the only country where this reason carries substantially more weight (1984 collective agreements in the metal-working and printing industries). Only about one-quarter of companies cited employees' preferences as the main reason for introducing more flexible working hours. But as the employee survey showed, more flexible working hours — especially in conjunction with shorter annual working hours — arouse interest among a large proportion of workers.

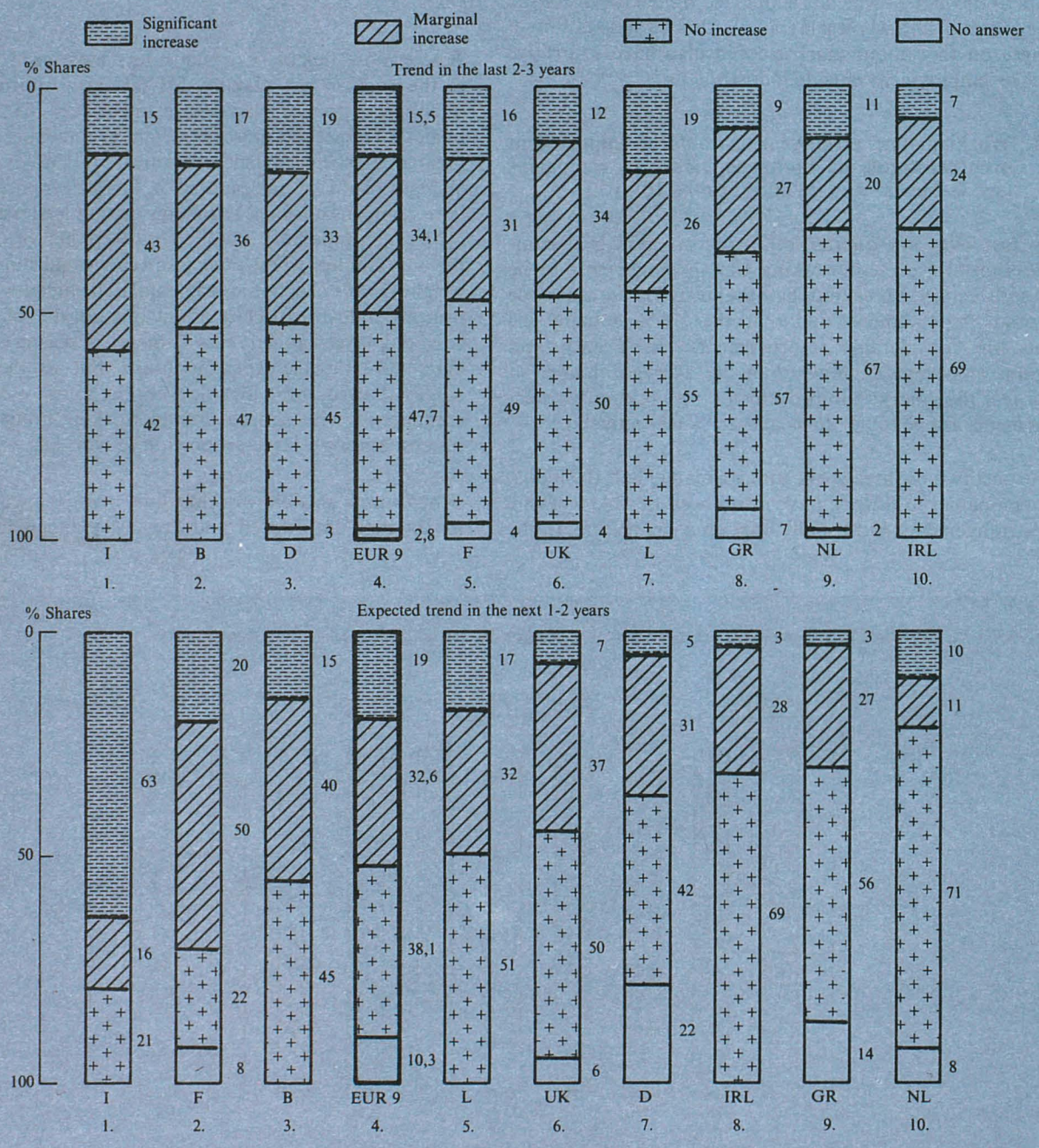
Where more flexible working time arrangements have not as yet been introduced and are not planned for the near

GRAPH 10: **Satisfaction with working arrangements in European industrial companies by Member State**[1]



[1] Order of member countries according to % share 'fully satisfactory'; for details see Table 21.
Source: EC survey on employment and labour market, 1985/86, industry.

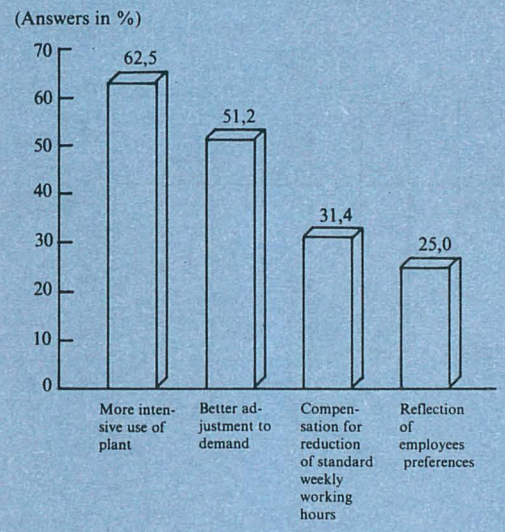
GRAPH 11: **Flexibility of working time arrangements in industrial companies by Member State**[1]



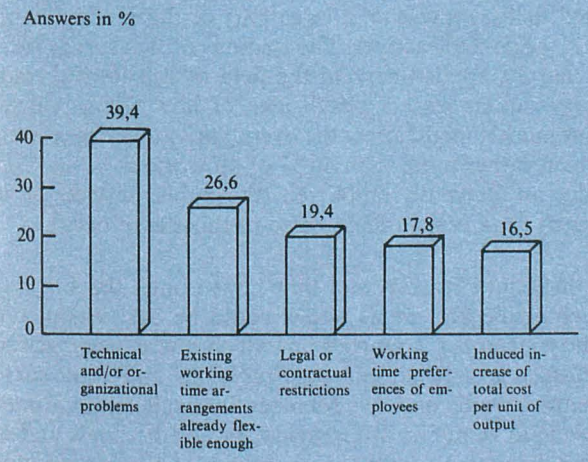
[1] For details see Table 21.

Source: EC survey on employment and labour market, 1985/86, industry.

GRAPH 12: **Main reasons lor flexible working time arrangements in manufacturing industry at Community level[1] (only if flexible working time arrangements already introduced or planned)**



GRAPH 13: **Main reasons against flexible working time arrangements in manufacturing industry at Community level[1] (only if no flexible working time arrangements already introduced or planned)**



[1] For details see Table 22.

Source: EC survey on employment and labour market, 1985/86, industry.

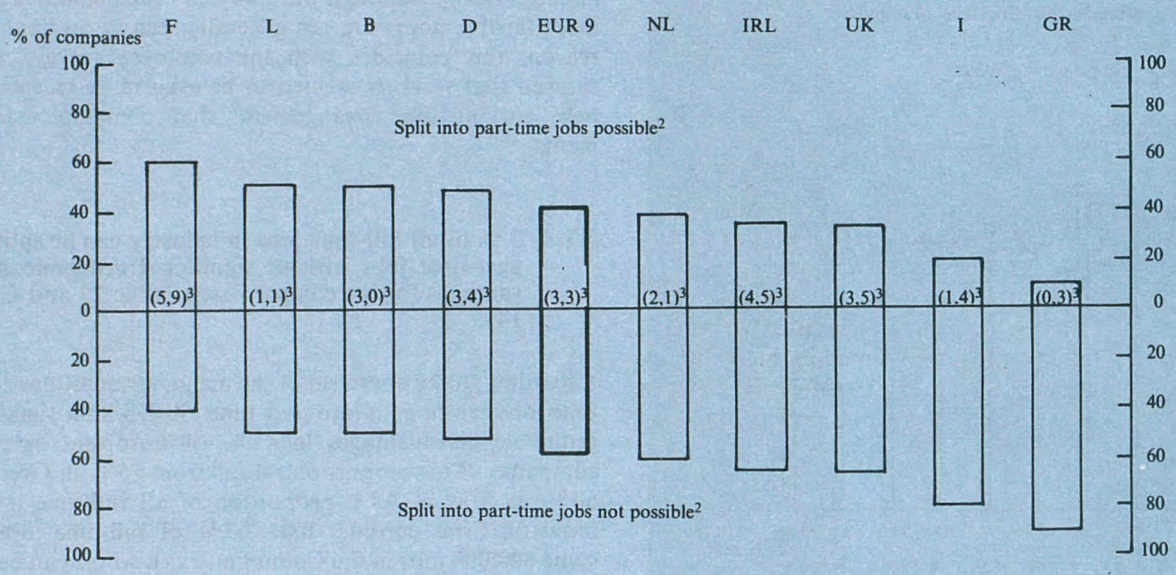
future, the main reason given is technical and/or organizational problems (39 % of companies). A further 27 % of firms consider that existing working time arrangements are already flexible enough. Employees' preferences against more flexible hours are not generally seen as an important reason; this coincides with the employee survey, which showed that workers seemed to be even more receptive to new working time arrangements than company managements.

3.1.8. 3 % of all full-time jobs in industry can be split into part-time jobs without significant economic disadvantages for the company (see Table 23 and Graph 14).

According to the appraisal of the managers questioned, full-time jobs can be split into part-time jobs without significant economic disadvantages in 41 % of European industrial companies. This proportion ranges from 10 % in Greece to 60 % in France. As a proportion of all full-time jobs in industry, firms consider that 3,3 % of full-time jobs, i.e. some 800 000 jobs in the Community as a whole can be split in principle without economic disadvantages to the company (e.g. two part-time workers instead of one full-time worker; three workers instead of two full-time workers, job-sharing models, etc.). The percentage ranges from 0,3 % in Greece to 5,9 % in France. The introduction of more part-time working by firms would probably arouse great interest among workers, as shown by the employee survey already published: according to that survey, about 6 % of today's full-time workers would prefer to work for under 30 hours a week, even if this were associated with a corresponding loss of pay. Table 24 shows how small the proportion of part-time jobs in industry still is today in the member countries. Apart from Italy and Greece, where part-time work in industry is still traditionally the exception (proportion 0,7 and 0,6 % respectively), the proportions are particularly low in Luxembourg (0,9 %) and Belgium (2,9 %). The United Kingdom is the only country where the proportion of part-time jobs is already considerable (13,2 %); in the Netherlands and France, too, the proportions are higher than average (6,9 % and 6,4 % respectively). Worth mentioning is the high proportion of part-time workers in the large British industrial companies with more than 1 000 employees (15 %) whereas in the other member countries part-time work is relatively most frequent in small and medium-sized industrial companies.

Various surveys have shown that part-time workers' productivity is usually above the average. They are also generally absent less frequently for sickness or other reasons. The disadvantage in employing part-timers is usually the greater cost of providing a job and of administrative expenditure.

GRAPH 14: **Split of full-time jobs into part-time jobs possible or not in manufacturing industry by Member State**[1]



[1] For details see Table 23.
[2] % of companies being able/not able to split full-time jobs into part-time jobs; for details see Table 23.
[3] % of full-time jobs, which could be split into part-time jobs (average); for details see Table 23.
Source: EC survey on employment and labour market, 1985-86, industry.

But on balance, opinion on part-time jobs is usually favourable.[17]

The new results of employee and company surveys should provide encouragement for giving more priority than in the past to the creation of part-time jobs. However, part-time workers must not lose out in terms of wages, career, social security cover and retirement pensions as compared with full-time workers.

3.2. Labour market survey in the retail and wholesale trades

3.2.1. Methodological remarks

In addition to industry, the retail and wholesale trades were included in the investigation. This seemed appropriate, since some 15 % of all workers in the Community are employed in this field: approximately 9 % in the retail trade and about 6 % in the wholesale trade. Apart from their own important role as employers, the distributive trades are also especially significant for the present investigation, since they can to some extent be taken as representative of the private services sector generally. The retail trade represents the more consumption-oriented services, while the wholesale trade which has more than half of its activities centred in production-related fields, represents a large part of the predominantly industry-oriented services. The findings of this survey therefore may be applied beyond the field of distributive trades and provide at least a rough idea of how changes in the labour market might affect the overall private services sector, in which rather more than 40 % of all workers in the Community are currently employed (the public services sector accounts for a further 20 % or so of those employed).

For budgetary reasons and time constraints, the survey of the wholesale and retail trades could be carried out only in those member countries in which there were already established groups of reporting firms. The retail trade survey therefore covered only five Member States (Belgium, France, the Federal Republic of Germany, the Netherlands and the United Kingdom); with the exception of the Netherlands, the same member countries took part in the wholesale trade survey. A list of the national institutions which carried out the survey in the different member countries is provided in the annex. As in industry, the results were weighted by size

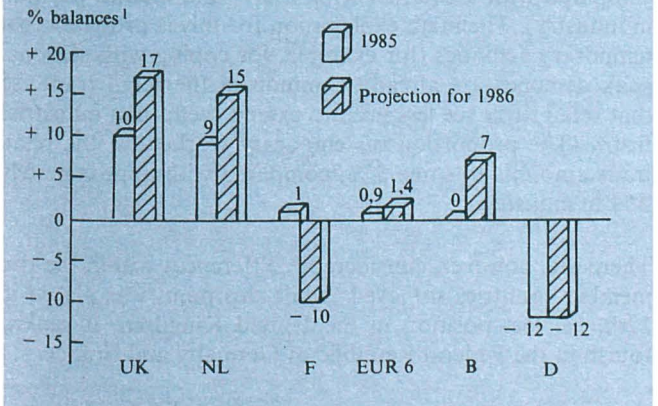
of company, so that any deficiencies in the sample could be smoothed out.

3.2.2. Detailed findings of the survey in the retail trade

3.2.2.1. The number of persons employed is expected to show only a slight increase in 1986

Retail firms in the Community expect that they will be able to cope with the sharp rise in private consumer demand expected in 1986 largely without altering their staffing levels or at best by taking on only a few additional workers. The picture broken down by member country is as follows: the slight upward trend in employment noted in the British and Dutch retail trades in 1985 is expected to intensify somewhat in both countries. In Belgium too, where numbers employed marked time in 1985, firms are planning to increase their work-forces slightly. By contrast, the numbers employed in the Federal Republic of Germany are continuing to fall. In France too, firms are planning to cut back on their work-forces in 1986 (see Table 25 and Graph 15).

GRAPH 15: **Employment trends in 1985 and 1986 in retail trade by Member State**



[1] Differences of percentage shares 'up' and 'down'; for details see Table 25.
Source: EC survey on employment and labour market, 1985/86, retail trade.

On average in the five member countries studied, therefore, and despite the anticipated cyclical upturn in sales this year, only a tiny increase in the numbers employed in the retail trade is expected — an increase which will be limited to larger firms (i.e. those employing more than 50 persons). This underlines the need for additional measures to increase employment, all the more so as there is unlikely to be a sharper growth in private consumption in the medium term than that experienced in 1986.

3.2.2.2. Which changes on the labour market would prompt Community retail firms to take on more staff than currently planned? (see Tables 26 and 27 and Graph 16)

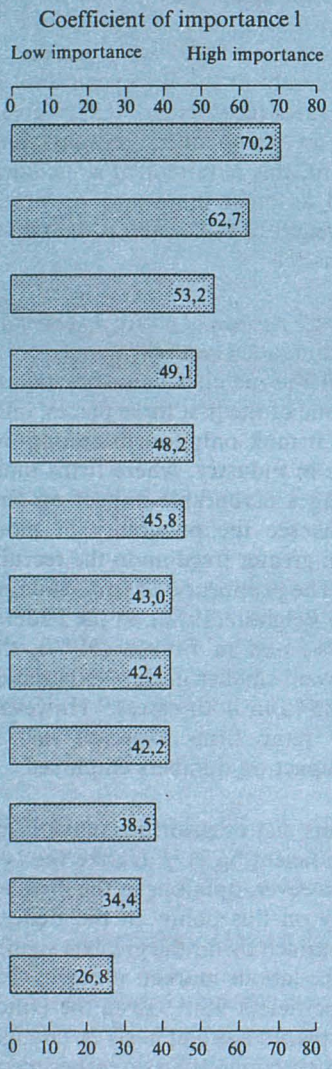
First place in the list of desiderata at the European level is taken by lower initial wage rates (coefficient 70,2).[11] Even in those member countries in which other reasons were seen as rather more important, this requirement is included amongst the three regarded as most important by firms. Retailers thus give greater weight to this point in their staff planning than industrial firms.[18]

Second place is taken by *shorter periods of notice and simpler legal procedures* in case of redundancies and dismissals (coefficient 62,7).[11] In almost all the member countries taking part, this reason appears in one of the first three places; only in the United Kingdom did it rank only fourth among the total of 12 points noted. As in industry, where firms most frequently saw this as having a favourable impact on employment, many retail firms see the possibility of more employment if they are given greater freedom in the recruitment and dismissal of staff. The proportion of firms holding this view is above average in Belgium (79 %), in the Federal Republic of Germany (57 %) and in France (51 %); the corresponding proportions were smaller in the Netherlands and the United Kingdom (35 % in both cases).[2] However, only 1,6 % of Community retail firms expected such a change to have a negative impact on numbers employed.

Third place in the retail firms' list of priorities is taken by *wider wage differentials* (coefficient 53,2).[11] Unlike the two points already mentioned, however, opinions in the member countries differ more widely on this point. In the Federal Republic of Germany, firms attach by far the greatest significance to such a change in the labour market; it comes first in their list of desiderata (coefficient 95).[11] Even the Dutch retail firms, which generally placed less emphasis on changes on the labour market than their counterparts in other member countries, attach great importance to this point (second place; coefficient 31).[11] By contrast, it ranked in the lower half of the list of priorities (ninth, eighth and seventh places respectively) in Belgium, France and the United Kingdom.

However, this must be qualified in the case of Belgium: even though a number of other points were clearly regarded as being even more important in Belgium, 61 % of Belgian retail firms still see this as having a positive impact on employment. In the case of Belgium, it is also particularly difficult to classify the changes in the labour market put up for discussion according to order of importance, since nearly all of them were regarded as very important.

GRAPH 16a: **Possible changes in the labour market ranked according to expected impact on employment plans in retail trade at Community level**



1. Introduction of 'initial wage rates' (i.e. lower wages/salaries for new starters)
2. Shorter periods of notice and simpler legal procedures in case of redundancies and dismissals
3. Introduction of wider wage differentials according to skills and working conditions
4. More flexible working time arrangements at company level
5. (Higher) temporary employment subsidies
6. More frequent use of temporary contracts (fixed term, interim work, etc.)
7. Introduction of (more) profit-oriented components in contractual salaries
8. More flexible shop opening hours
9. Better trained job-seekers
10. Reduction of redundancy payments that may have to be paid
11. Reduction in standard weekly working hours (cost-neutral)
12. Functional improvement of public employment offices

[1] The coefficient is calculated as difference of weighted positive impact ('significant positive impact' weight + 2; 'little positive impact' weight + 1 and negative impact (weight − 1)); for details see Table 26.

Source: EC survey on employment and labour market, 1985/86, retail trade.

As expected, small firms (those with fewer than five employees) attach much less significance to wider wage differentials than medium-sized and large firms (see Table 26).

More flexible working time arrangements were regarded in France as the most important single measure. On average in the five member countries surveyed, this point ranked fourth (coefficient 49,1).[11] Firms in the United Kingdom and the Federal Republic of Germany placed it no higher than eighth in the list of priorities. A breakdown by workforce size categories showed that the larger firms in the retail trade (those employing more than 50 workers) are most interested in a more flexible arrangement of working hours. In these larger firms, this point lies third at Community level, after 'lower initial wage rates' and 'shorter periods of notice'.

On average in the five member countries surveyed, temporary employment subsidies took fifth place (coefficient 48,2),[11] with retail firms in the United Kingdom, in particular, attaching great importance to this point (second place in the United Kingdom). By contrast, German firms place this point only 10th in order of importance; in Belgium and France too, it comes in the lower half of the priority scale.

Community retail firms clearly expect *more frequent use of temporary contracts* to have less of an impact on employment than industrial firms (coefficient 45,8[11] and sixth position, compared with a coefficient of 70,8[11] and second position in industry). The main explanation for this is probably that temporary activities (for example, for coping with seasonal peak demand) are already common in the retail trade, so that retail firms see less need to extend them than industrial firms. (The proportion of temporary workers in the retail trade amounts to some 5 %, compared with approximately 2 % in industry.)

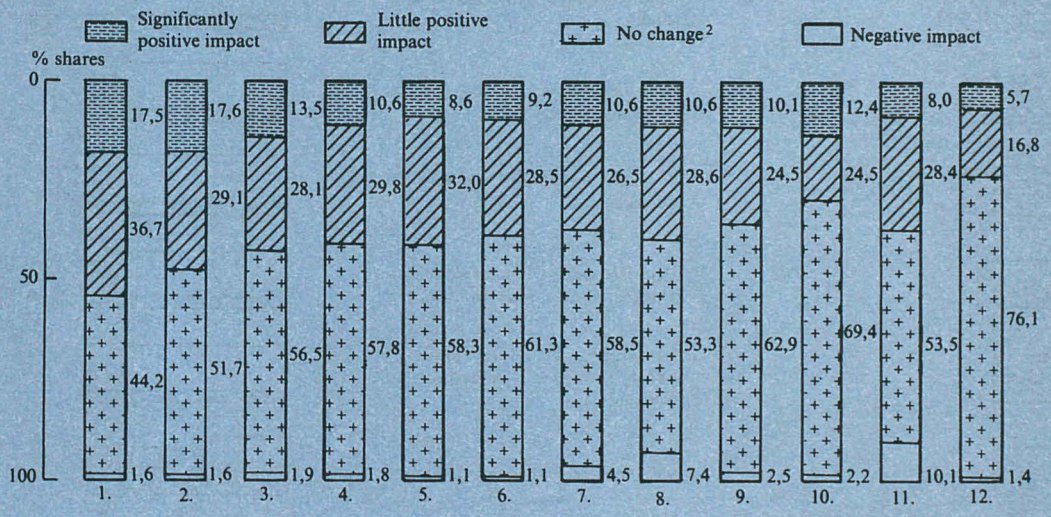
There are, however, considerable differences within the five member countries surveyed: while this point was placed in 12th, i.e. last position in the United Kingdom, it ranked fourth in the Federal Republic of Germany and France.

The retail trade also attached little importance to *the introduction of (more) profit-oriented components in contractual salaries* as a means of creating additional jobs (seventh position; coefficient 43,0).[11] However, the retail trade did anticipate a somewhat stronger employment effect from this measure than industry, which placed it last. Belgian retail

firms in particular were in favour of pay being more profit-oriented. At the opposite extreme were retailers in the United Kingdom and the Netherlands, only a small minority of whom thought that they would increase their employment as a result of such a measure (ranked in penultimate position in both member countries).

More flexible shop opening hours were viewed as having a positive employment effect by 39 % of European retailers and as having a negative employment effect by only 7 %. Even so, this point was ranked in only eighth position out of the 12 possible changes listed (coefficient 42,4).[11] Surprisingly, it was the retail trade in Belgium, where shop opening hours are at present already the most liberal among the five member countries surveyed, that was most in favour of introducing further flexibility. Exactly half the Belgian firms stated that, if opening hours were more liberal, they would revise their employment plans upwards, while only

GRAPH 16b: **Possible changes in the labour market and their expected impact on employment plans in retail trade at Community level**[1]



Order according to coefficients which are calculated as difference of weighted positive impact ('significant positive impact': weight +2, 'little positive impact' (weight +1) and negative impact (weight −1)).

1. Introduction of 'initial wage rates' (i.e. lower wages/salaries for new starters)

2. Shorter periods of notice and simpler legal procedures in case of redundancies and dismissals

3. Introduction of wider wage differentials according to skills and working conditions

4. More flexible working time arrangements at company level

5. (Higher) temporary employment subsidies

6. More frequent use of temporary contracts (fixed term, interim work, etc.)

7. Introduction of (more) profit-oriented components in contractual salaries

8. More flexible shop opening hours

9. Better trained jobseekers

10. Reduction of redundancy payments that may have to be paid

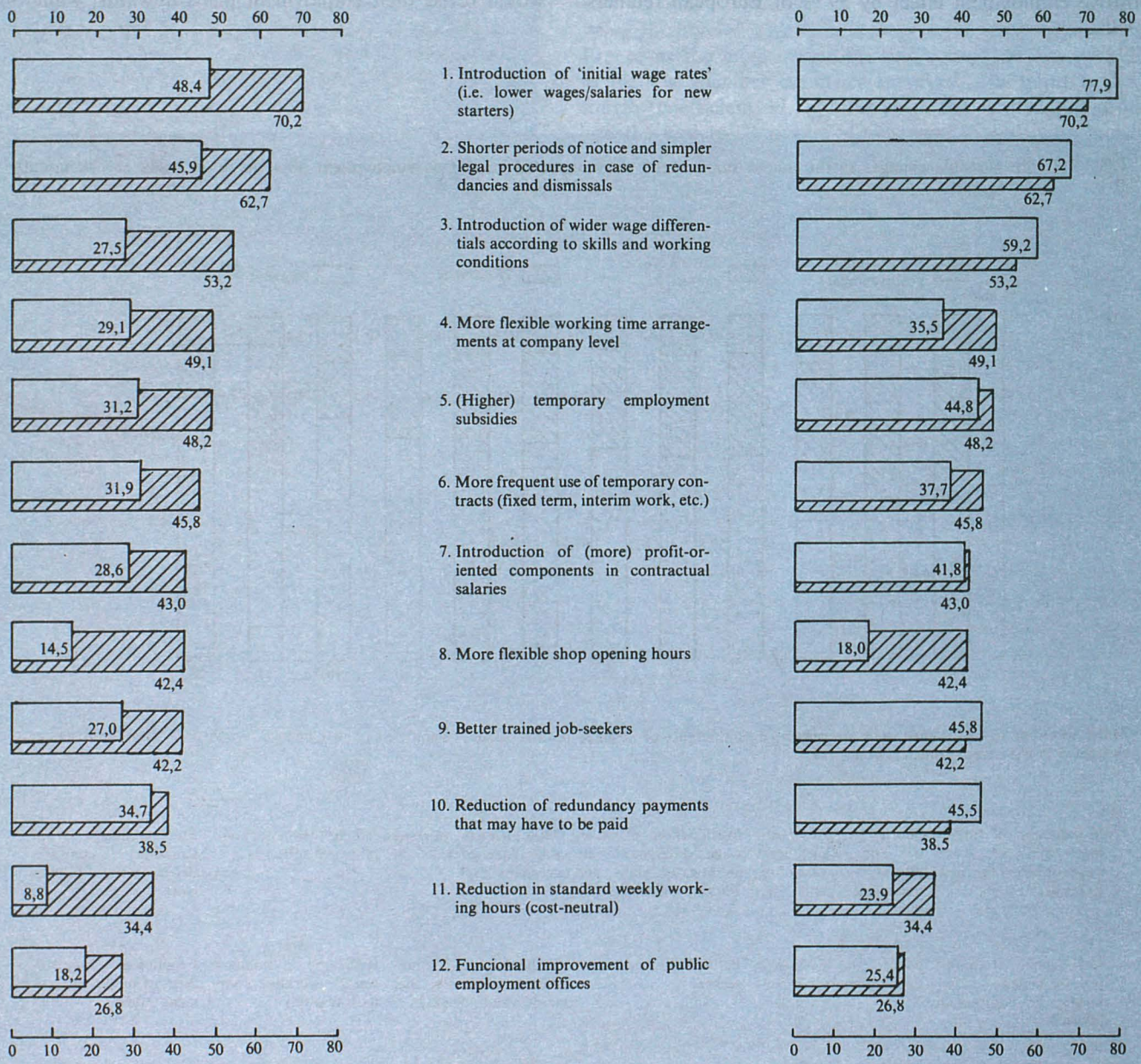
11. Reduction in standard weekly working hours (cost-neutral)

12. Functional improvement of public employment offices

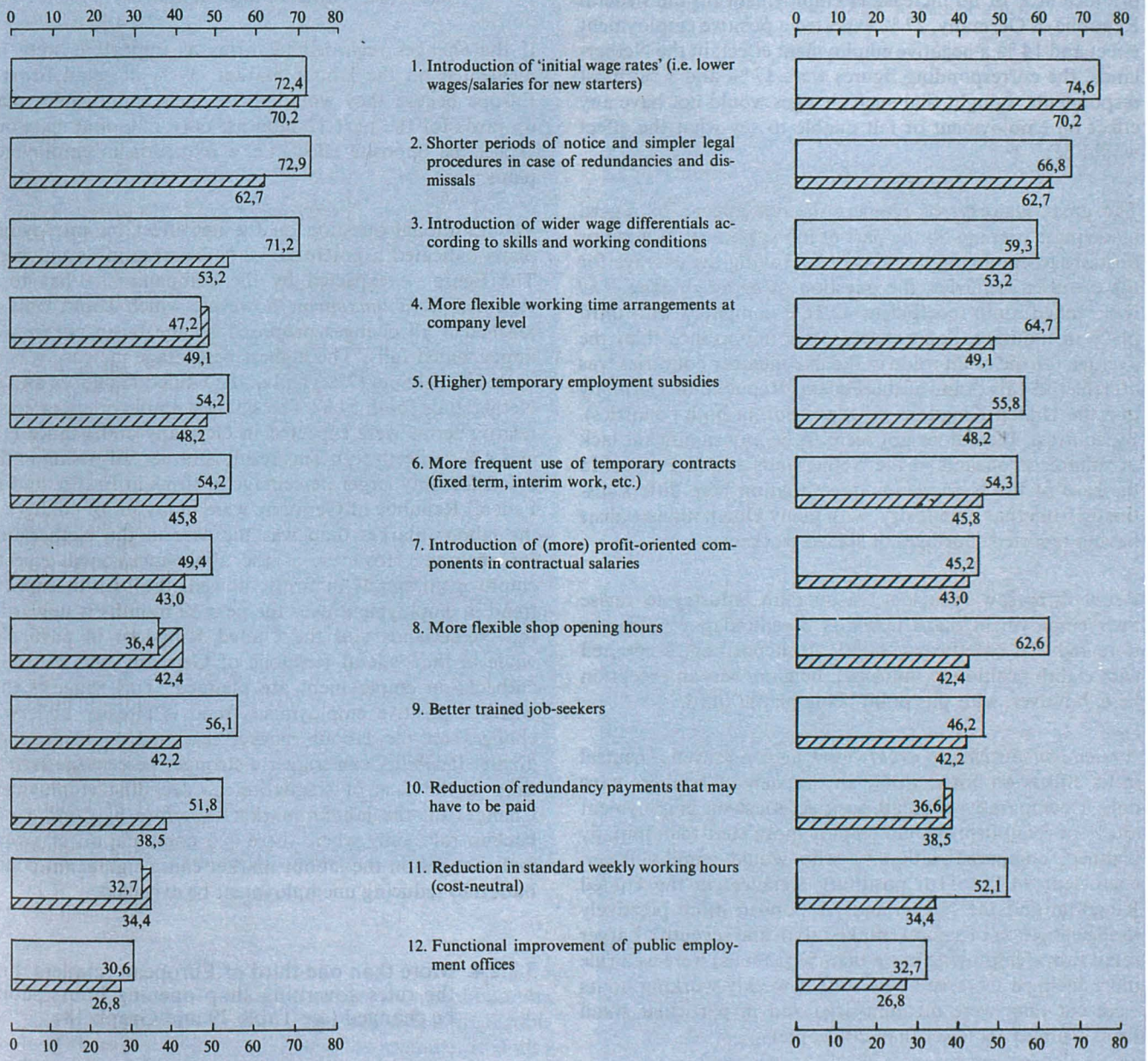
[1] For details see Table 26.
[2] Including no answer.

Source: EC survey on employment and labour market, 1985/86, retail trade.

GRAPH 16c: **Changes in the labour market ranked according to expected impact on employment plans by company size class in retail trade at Community level**
(Hatched columns: all sizes)



GRAPH 16c: *(cont.)*



[1] The coefficient is calculated as difference of weighted positive impact ('significant positive impact' weight +2, 'little positive impact' (weight +1) and 'negative impact' (weight −1)).

Source: EC survey on employment and labour market, 1985/86, retail trade.

4 % would cut back on staffing. Firms in France and the United Kingdom were also very much in favour of more flexible opening hours and on balance expected them to have a distinctly positive effect on employment. By contrast, retailers in the Federal Republic of Germany and the Netherlands, in both of which opening hours are comparatively short and in addition fixed, felt that liberalization would produce little or no increase in employment (in the Federal Republic of Germany, 27 % expected a positive employment effect and 14 % a negative employment effect; in the Netherlands, the corresponding figures were 17 % and 1 %; most respondents thought that such changes would not have any effect on employment or felt unable to say what the effect would be).

The great majority of retailers do not appear to regard inadequate training on the part of job applicants as a major obstacle to employing more people. Taking the average for the member countries, the question of *better training level* was ranked ninth (coefficient 42,2),[11] compared with third place in industry. Somewhat greater importance than the average for the retail trade in the five member countries was attached to this point in the Federal Republic of Germany and the United Kingdom (fifth position in both countries). By contrast, there does not seem to be any significant lack of suitable applicants in the Netherlands and in France. In the case of the Netherlands, the situation here differs distinctly from that in industry, with many Dutch industrialists having reported shortages of skilled workers.

Retail firms saw even less reason than industry to revise their employment plans upwards if redundancy payments were reduced (coefficient 38,5;[11] 10th position, compared with eighth position in industry). Belgium was an exception here, however, with this point being placed third.

A *reduction in standard weekly working hours*, even if neutral in its effects on costs, would in the view of retailers have only a comparatively small positive effect on employment (36 % of retail firms would employ more staff than initially planned, compared with 6 % who would employ fewer; coefficient 34,4;[11] 11th position). Retailers in the United Kingdom and the Netherlands responded more positively than average on this point (ranked sixth and seventh). Larger retail firms (employing more than 50 persons) were as a rule more inclined to recruit new staff if weekly working hours were cut than were medium-sized and in particular small firms (employing fewer than 20 people).

As was the case in industry, retail firms thought that *functional improvement of further employment offices* would produce only a small increase in the numbers they employ (coefficient 26,8;[11] 12th, i.e. last, position). This point ranked slightly higher in relative terms in the United Kingdom and amongst small firms (fewer than 20 employees), coming 10th in both cases.

3.2.2.3. Changes on the labour market could have the effect of increasing the retail trade employment plans (see Table 28 and Graph 17)

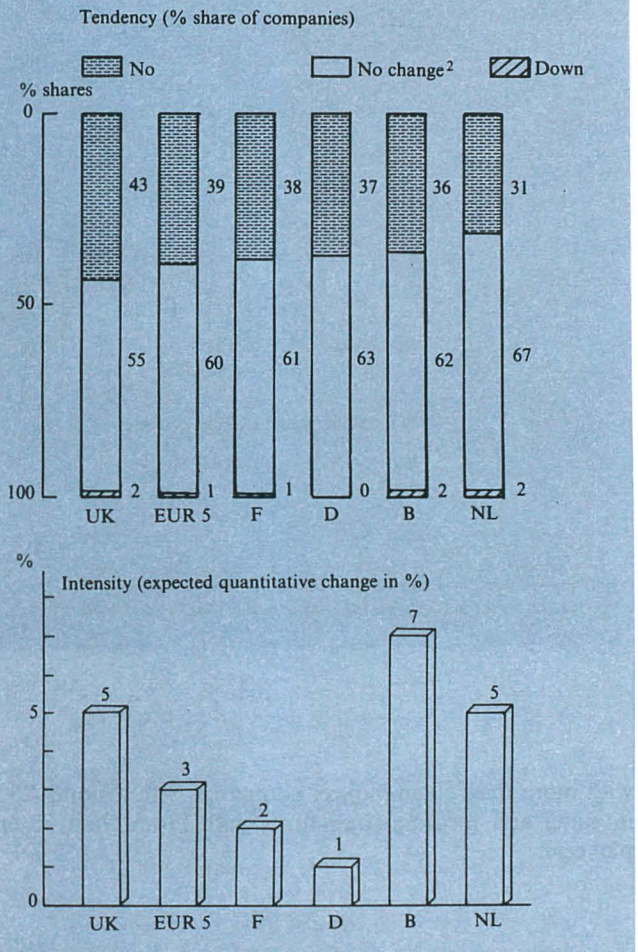
If the changes regarded by firms as important were implemented on the labour market, 39 % of retail firms in Europe believe they would revise their employment plans upwards for the next 12 months; only 1 % of firms would expect the opposite effect, i.e. a reduction in employment plans.

The additional question on the net effect on employment plans indicated a potential 3,2 % increase in employment. The figure — expected by the companies — has to be regarded *as a maximum*, however, which could only be reached if all changes proposed by the businessmen were implemented fully. The highest percentage increase was expected in Belgium (7 %) and in the United Kingdom and the Netherlands (both 5 %). The smallest employment effects in relative terms were expected in Germany and France (1 % and 2 % respectively). This result is rather surprising in that a considerably larger percentage of firms in France and the Federal Republic of Germany were in favour of changes on the labour market than was the case in the Netherlands, for example. However, as the above-mentioned expected employment trends in firms showed, the present expected trend in employment over the next 12 months is upward in the Netherlands and the United Kingdom in particular, while in the Federal Republic of Germany and in France cutbacks in employment are planned. This suggests that, where a positive employment trend is already underway, changes on the labour market designed to bring about greater flexibility can trigger a stronger percentage increase than in the case of stagnating or declining employment. Changes on the labour market therefore play more of a backup role; only where there is a combination of growth and changes on the labour market can a significant contribution to reducing unemployment be expected.

3.2.2.4. More than one-third of European retailers think the rules governing shop opening hours should be changed (see Table 29 and Graph 18)

A greater than average proportion of retailers in Belgium and the United Kingdom expressed dissatisfaction with existing shop opening hours (47 % and 46 % respectively). By contrast, only 10 % of Dutch retailers, 29 % of German retailers and 34 % of French retailers were in favour of

GRAPH 17: **Expected net effect of proposed changes in the labour market on employment plans for the next 12 months in retail trade by Member State**[1]



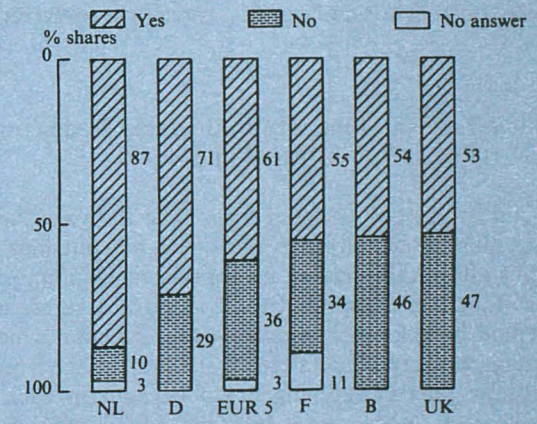
[1] For details see Table 28.
[2] Including no answer.

Source: EC survey on employment and labour market, 1985/86, retail trade

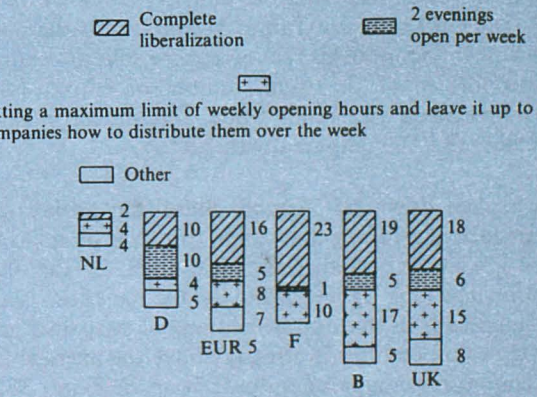
changes. This result is surprising, since opening hours are at present already considerably longer and also more flexible in Belgium than in the Netherlands, for example. It is also evident from this question that firms which have already become accustomed to more flexible working hours or more flexible use of staff are much more in favour of even greater liberalization than firms that have no direct experience of such flexible arrangements.

In so far as firms do want changes, the form most often cited is for *complete liberalization of opening hours* (23 % of firms in France, 22 % in the United Kingdom and 19 % in Belgium). Only 2 % of firms in the Netherlands and 10 % in the Federal Republic of Germany were in favour of complete liberalization. The second most frequently expressed desire was for opening hours which, although at the discretion of individual firms, were not allowed to exceed a

GRAPH 18; **Shop opening hours in retail trade by Member State**[1]
Are existing shop opening hours satisfactory?



If no, which changes are preferred?



[1] For details see Table 29.

Source: EC survey on employment and labour market, 1985/86, retail trade.

maximum per week (19 % of all retail firms in the United Kingdom, 17 % in Belgium, but only 4 % in both the Federal Republic of Germany and the Netherlands and indeed only 1 % in France). The compromise solution — with late opening until 20.00 twice a week — was favoured by much fewer firms (10 % of retailers in Germany, 7 % in the United Kingdom and 5 % in Belgium, with no firms whatsoever in France and the Netherlands in favour of this arrangement).

Broken down by size of firm, the figures show that, while larger retail firms (more than 50 employees) tended more than other companies to favour greater liberalization of opening hours (50 %), only 16 % of small firms and 32 % of medium-sized firms supported a change in opening hours. Among smaller retail firms (employing up to 20 persons), a maximum limit for weekly opening hours was preferred, while in the medium-sized firms (between 20 and 50 employees) and to an even greater extent in the larger firms complete liberalization of opening hours was preferred.

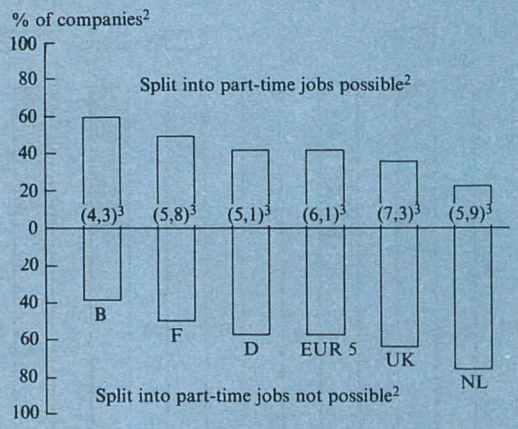
3.2.2.5. 6 % of full-time jobs in the retail trade could be split (see Table 30 and Graph 19)

As in industry, 41 % of retail firms take the view that the existing number of full-time jobs could be split into part-time jobs without this having any significant economic disadvantage for them. In spite of these identical figures, such a step would have a much greater impact on employment in percentage terms in the retail trade since a higher percentage of full-time jobs in retailing could be split in each firm (overall effect: 6,1 % of all full-time jobs compared with 3,1 % in industry). A qualifying factor, however, is that the proportion of part-time workers is already substantially higher in the retail trade than in industry (some 36 % compared with some 6 %; see Tables 31 and 24). If the number of full-time jobs that firms reckon can be split are expressed as a proportion of the total number of employees, the disparity between the retail trade and industry narrows appreciably (3,9 % compared with 2,9 %).

When broken down by Member State, the proportion of full-time jobs in retailing that can in principle be split ranges from 4,1 % in the Netherlands to 7,3 % in the United Kingdom. The high figure for the United Kingdom is all the more significant in that the percentage of part-time jobs in retailing in that country is already above the average (50 % of all employees compared with 45 % in Belgium, 36 % in the Netherlands, 28 % in the Federal Republic of Germany and only 22 % in France).

Generally speaking, the larger the firm, the greater the percentage of full-time jobs that could be split (7 % in firms

GRAPH 19: **Splitting of full-time jobs into part-time jobs possible or not in retail trade by Member State**[1]



[1] For details see Table 30.
[2] % of companies able/not able to split full-time jobs into part-time jobs.
[3] % of full-time jobs which could be split into part-time jobs (average).
Source: EC survey on employment and labour market, 1985/86, retail trade.

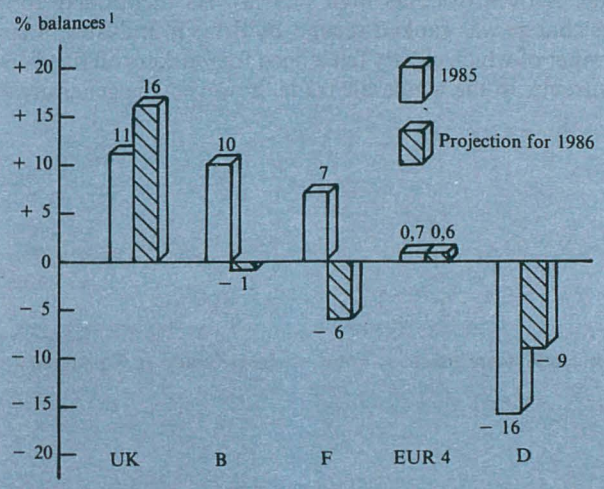
with more than 50 employees compared with around 4,5 % in small and medium-sized firms with fewer than 50 employees).

3.2.3. Detailed findings of the survey in the wholesale trade

3.2.3.1. Number of employees expected to remain roughly unchanged in 1986 (see Table 32 and Graph 20)

Taking the average for the four Member States that took part in the survey, the number of employees will rise only a little in 1986; it is only in the United Kingdom that employment, hitherto set on no more than a slightly upwards path, will be somewhat higher in 1986. By contrast, in the other Member States surveyed (Belgium, Federal Republic of Germany and France), wholesale firms expect staff size to remain unchanged or, if anything, to dip a little in 1986. This picture — rise in the United Kingdom, no change or slight decline in the other three Member States — characterizes all the size categories in the wholesale trade without exception.

GRAPH 20: **Employment trends in 1985 and 1986 in wholesale trade by Member State**



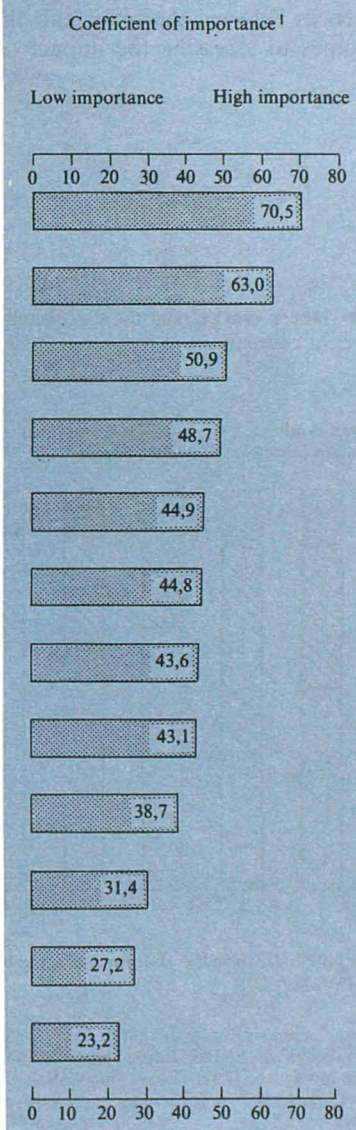
[1] Balances of % shares 'up'-'down'; for details see Table 32.
Source: EC survey on employment and labour market, 1985/86.

3.2.3.2. What changes in the labour market would prompt wholesale firms to revise their employment plans upwards? (see Tables 33 and 34 and Graph 21a/b/c).

The profile of replies is only slightly different from that for the retail trade. For this reason, only the differences — in relation to the retail trade and industry alike — will be examined.

As in industry, firms in the wholesale trade expect *shorter periods of notice and simpler legal procedures* to have the most impact on employment (coefficient 70,5).[11] In second place, and only a little way behind, come *lower initial wages/salaries* (coefficient 63,0).[11] Thus, for the first two positions, the order of priority is reversed. Both the wholesale and the retail trade are in agreement as to the third most important change, *wider wage differentiation* (coefficient 50,9).[11] A *reduction in redundancy payments* (coefficient 49,7)[11] would lead more firms in the wholesale trade to revise their employment plans upwards than would be the case in industry and the retail trade (fourth position compared with eighth and tenth position respectively). In Belgium particularly, the wholesale trade clearly regards such a step as being of major

GRAPH 21a: **Changes in the labour market ranked by wholesale trade enterprises according to expected impact on employment plans — Total wholesale trade at Community level (EUR 5)**



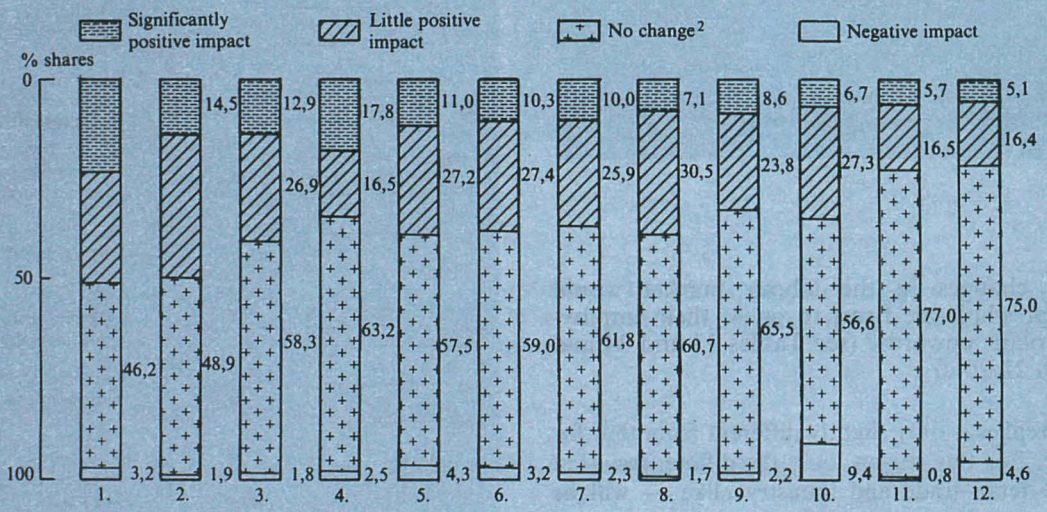
1. Shorter periods of notice and simpler legal procedures in case of redundancies and dismissals
2. Introduction of 'initial wage rates' (i.e. lower wages/salaries for new starters)
3. Introduction of wider wage differentials according to skills and working conditions
4. Reduction of redundancy payments that may have to be paid
5. Introduction of (more) profit-oriented components in contractual salaries
6. More frequent use of temporary contracts (fixed term, interim work, etc.)
7. Better trained job-seekers
8. (Higher) temporary employment subsidies
9. More flexible working time arrangements at company level
10. Reduction in standard weekly working hours (cost-neutral)
11. Functional improvement of public employment offices
12. More flexible opening hours

[1] The coefficient is calculated as difference of weighted positive impact ('significant positive impact' weight +2; 'little positive impact' weight +1 and negative impact (weight −1)).
Source: EC survey on employment and labour market, 1985/86.

significance for its employment plans (placing it in second position).

Wholesalers also expect *more profit-oriented wage/salary arrangements* (coefficient 44,9)[11] to have a greater impact on employment than do retailers and firms in industry (fifth position compared with seventh and twelfth position respectively). There are no differences between the retail and the wholesale trade when it comes to assessing the impact on total employment of *more fixed-term contracts* (coefficient 44,8).[11] This result is a little surprising in so far as the proportion of employees on fixed-term contracts in the wholesale trade (2 %) is at the moment no higher than in industry, whereas the corresponding figure for the retail trade is over twice as high (4,9 %). As mentioned above, this change was ranked second by firms in industry, a large number of which clearly felt a need for workers on fixed-term contracts. In the wholesale trade, however, the generally low

GRAPH 21b: **Changes in the labour market and their expected impact on employment plans — Total wholesale trade at Community level** (% shares of companies)[1]



Order according to coefficients wich are calculated as difference of weighted positive impact ('significant positive impact' weight +2; 'little positive impact' weight +1 and 'negative impact' (weight −1)).

1. Shorter periods of notice and simpler legal procedures in case of redundancies and dismissals

2. Introduction of 'initial wage rates': i.e. lower wages/salaries for new starters

3. Introduction of wider wage differentials according to skills and working conditions

4. Reduction of redundancy payments that may have to be paid

5. Introduction of (more) profit-oriented components in contractual salaries

6. More frequent use of temporary contracts (fixed term, interim work, etc.)

7. Better trained jobseekers

8. (Higher) temporary employment subsidies

9. More flexible working time arrangements at company level

10. Reduction in standard weekly working hours (cost-neutral)

11. Functional improvement of public employment offices

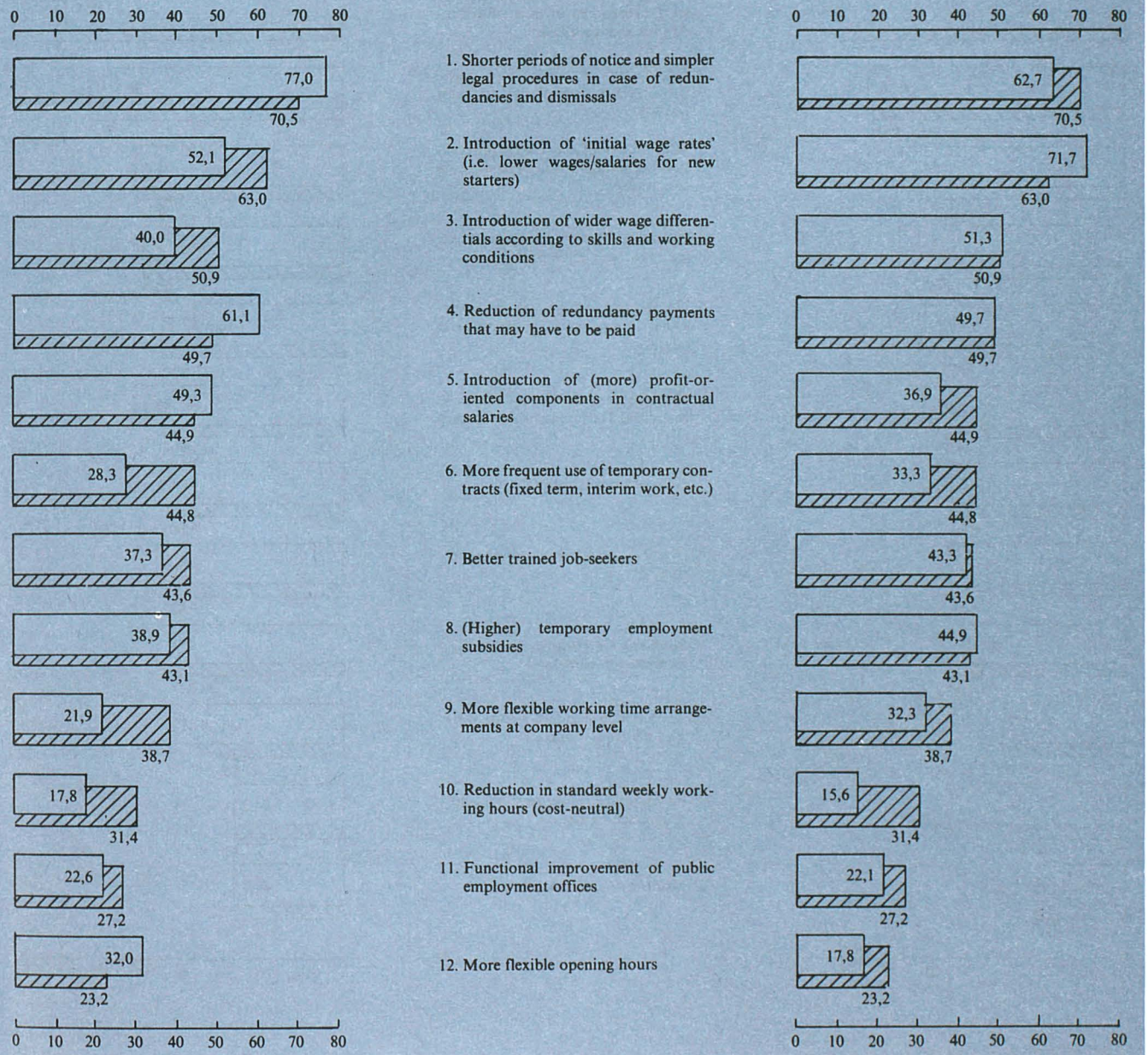
12. More flexible opening hours

[1] For details see Table 33.

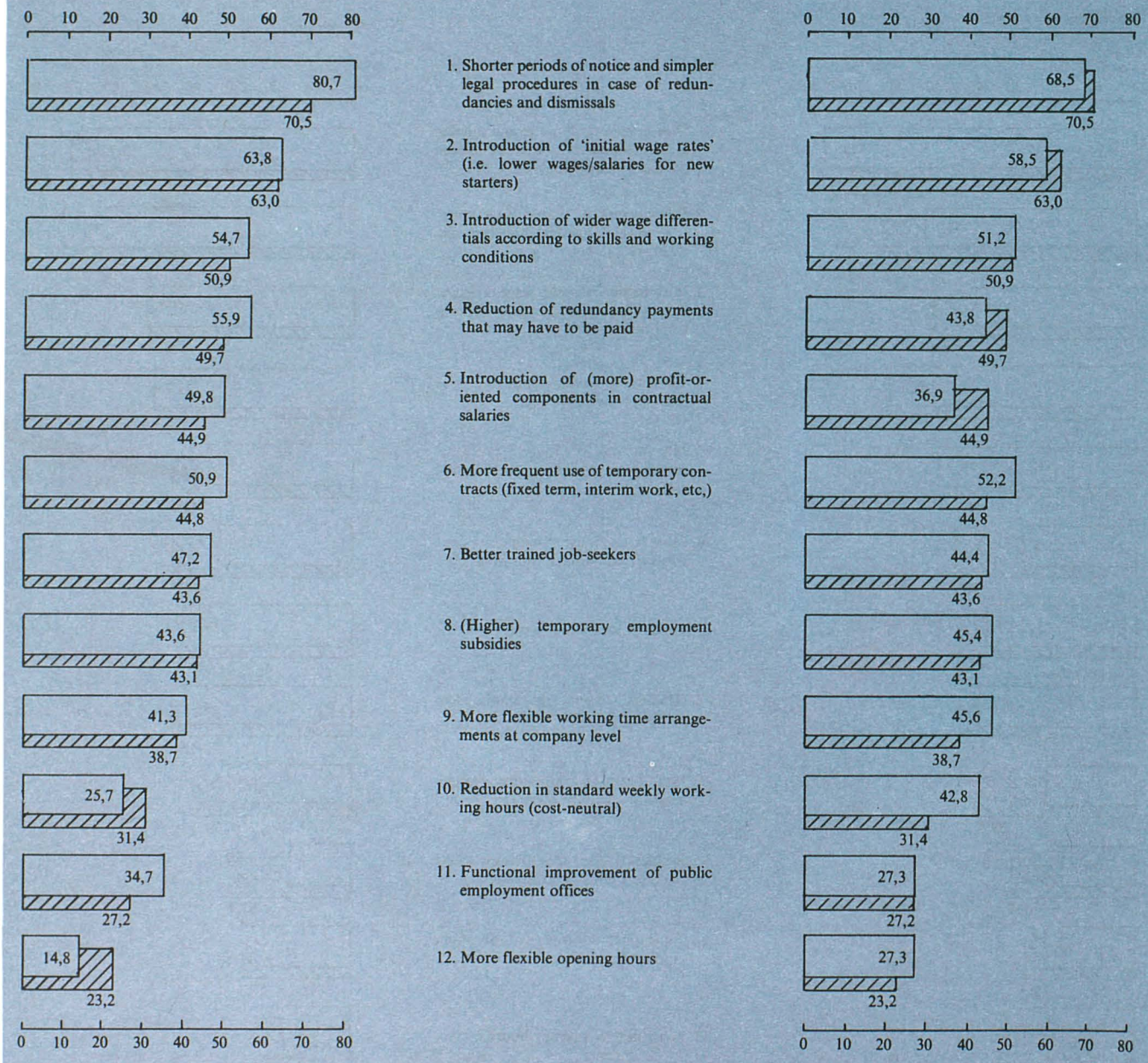
Source: EC survey on employment and labour market 1985/86.

GRAPH 21c: **Changes in the labour market ranked according to expected impact on employment plans — by company size class — Total wholesale trade ad Community level[1]**

(Hatched columns: all sizes)



GRAPH 21c: *(cont.)*



[1] For details see Table 33.
[2] The coefficient is calculated as difference of weighted positive impact ('significant postive impact' weight +2; 'little positive impact' (weight +1 and 'negative impact' weight −1)).
Source: EC survey on employment and labour market 1985/86.

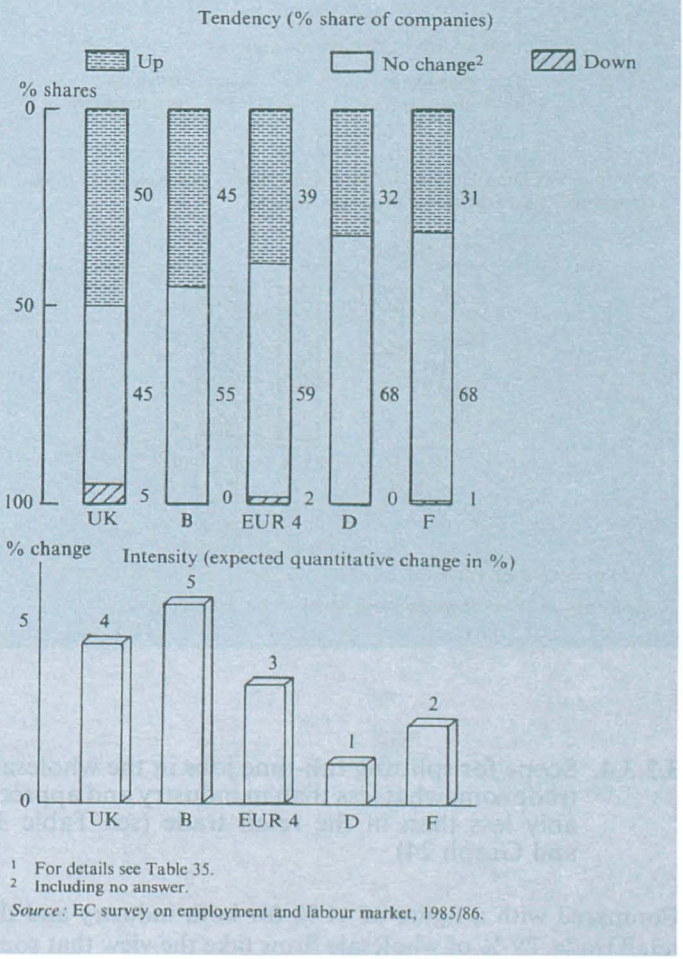
priority attached to more fixed-term contracts is confined to smaller firms, while firms with 50 or more employees place this change in third position.

Better trained job-seekers (coefficient 43,6)[11] would, it is true, prompt a slightly higher percentage of firms in the wholesale trade than in the retail trade to revise their employment plans upwards (seventh and ninth position respectively). However, the discrepancy in relation to industry, where this point is ranked third, is considerable. Evidently, the distributive trades, i.e. both the wholesale and the retail trades, experience much less difficulty in finding suitably trained workers than firms in industry. Like industry, the wholesale trade expects *temporary wage and salary subsidies* (coefficient 43,1)[11] in respect of unemployed persons difficult to place in employment to bring about only a small increase in employment (eighth position in the case of the wholesale trade and ninth position in the case of industry). Once again, it is only in the United Kingdom that an above-average number of firms expect this factor to have a positive impact on employment (placing it in second position). The wholesale trade attaches less importance where employment is concerned in *more flexible working time* (coefficient of 38,7)[11] than the retail trade and industry (ninth position compared with fourth and seventh position respectively); an exception here is France, where more flexible working time is seen by firms in the wholesale trade, as well as by their counterparts in industry and in the retail trade, as making an important contribution towards resolving the unemployment problem (second position). Although neutral in its impact on costs, *a general reduction in weekly working hours* (coefficient 31,4)[11] also has a fairly low ranking in the scale of priorities for the wholesale trade (10th position: coefficient 33).[11] Further down the rankings we find *functional improvement of employment offices* (last-but-one position; coefficient 27,2)[11] and *more flexible shop opening hours* (last position, coefficient 23,2),[11] neither of which is expected by wholesale firms to have any marked impact on employment. In spite of the relatively low impact on employment, 41 % of the wholesale firms surveyed did advocate a change in opening hours, sharing a preference for complete liberalization. Although a functional improvement of employment offices is ranked very low down, it would probably be taking too narrow a view to assess this change solely in the light of the foreseeable direct short-term impact on employment.

3.2.3.3. Possible impact on employment of changes in the labour market deemed to be just as large in percentage terms in the wholesale trade and in industry (see Table 35 and Graph 22)

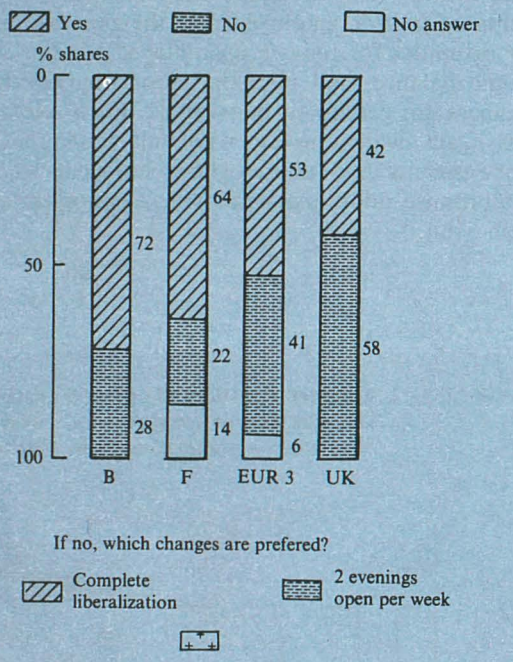
If the changes in the labour market envisaged by wholesale firms were to occur, they would revise their employment plans upwards by 2,5 %; in comparison, the potential impact on employment was given as 2,7 % in industry and 3,1 % in the retail trade. These, it should be noted, are maximum figures that could be expected to materialize only if all of the measures deemed important by firms were adequately implemented. This though is unrealistic since the protected rights of today's employed and the possible employment opportunities for today's unemployed have to be weighed in the balance, and here the labour-market demands of business are certain to be whittled down. Nevertheless, it was again evident in the wholesale trade that, provided managements and unions show sufficient willingness to compromise, additional employment opportunities could be significant.

GRAPH 22: **Expected net effect of proposed changes in the labour market on employment plans for the next 12 months — wholesale trade by Member State**



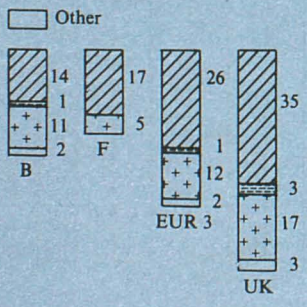
[1] For details see Table 35.
[2] Including no answer.
Source: EC survey on employment and labour market, 1985/86.

GRAPH 23: **Shop opening hours**
Are existing shop opening hours satisfactory?
Wholesale trade by Member State[1]



If no, which changes are prefered?

Setting a maximum limit of weekly opening hours and leave it up to the companies how to distribute then over the week



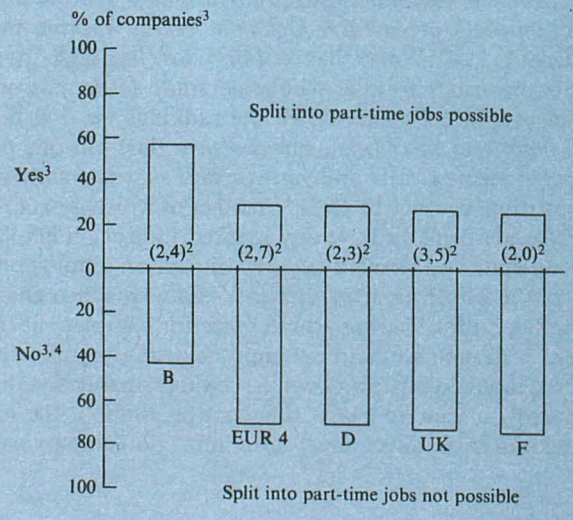
[1] For details see Table 36.

Source: EC survey on employment and labour market, 1985/86.

3.2.3.4. Scope for splitting full-time jobs in the wholesale trade somewhat less than in industry and appreciably less than in the retail trade (see Table 37 and Graph 24)

Compared with a figure of 41 % for both industry and the retail trade, 29 % of wholesale firms take the view that some of their present full-time jobs could be split into part-time jobs without this producing any significant economic disadvantage for them. The foreseeable potential quantitative impact on employment, measured as a percentage of full-time jobs, is slightly smaller in the wholesale trade (2,7 %) than in industry (3,1 %) and much smaller than in the retail trade (6,1 %). These differences remain even if the full-time jobs that can be split are expressed as a percentage of the total number of those currently employed (2,4 % compared with 3,9 % in the retail trade and 2,9 % in industry). Clearly, the wholesale trade, which at the moment accounts in Europe for some 11 % of part-time employment (compared with some 36 % in the retail trade and some 6 % in industry; see Tables 38, 31 and 24), feels there is less scope for increasing this percentage share than industry and the retail trade.

GRAPH 24: **Split of full-time jobs into part-time jobs possible or not in wholesale trade by Member State[1]**



[1] For details see Table 37.
[2] % of full-time jobs, which could be split into part-time jobs (average)
[3] % of companies being able/not able to split full-time jobs into part-time jobs
[4] Including 'no answer'.

Source: EC survey on employment and labour market, 1985/86.

[1] A detailed analysis can be found in the Commission's Annual Economic Report 1985 – 86, 'A cooperative growth strategy for more employment', *European Economy* No 26.

[2] Results in brief have been published in *European Economy*, Supplement B, October 1985 (employee survey) and Supplement B, April 1986 (survey in industry).

[3] Like any instrument of empirical economic and social research, surveys have their strengths and weaknesses. One advantage over econometric models, which are mostly fairly global in their approach, is that they allow the potential reactions of economic agents (employers and employed) to policy actions to be identified. Ultimately, changes in the economy as a whole are dependent upon such individual decisions. A disadvantage of the microeconomic approach of surveys is that they do not always take macroeconomic relationships and repercussions fully into account. This is one of the strengths of econometric models such as the Compact model presented in this volume. The two investigative approaches can therefore complement each other very usefully.

[4] These percentage figures are calculated on the base of the data presented in Table 3; employees not specifying either their personal or their preferred working hours (in total 11 %) have been excluded from these calculations.

[5] The survey does not reveal whether it is primarily evening or Saturday work which deters around half the advocates of the more flexible management of working hours.

[6] Proportion of companies with too large a work-force less the proportion of companies with too small a work-force.

[7] Denmark, which did not take part in this survey, also belongs to this group.

[8] The coefficient was calculated as twice the proportion of 'very important' replies plus once the proportion of 'important' replies. The maximum value of the indicator is hence 200; this would be reached if all firms considered the reason in question to be 'very important'.

[9] The coefficient here is based on the data of eight Member States only, since this question was not asked in the United Kingdom.

[10] Cf. Deutsches Institut für Wirtschaftsforschung (DIW), *Strukturbericht* (Structural report), 1984, Berlin; also: Werner Friedrich and Eugen Spitznagel, 'Wachstum, Beschäftigung und Investitionstätigkeit im Verarbeitenden Gewerbe' (Growth, employment and investment activity in manufacturing industry) in *Beiträge zur Arbeitsmarkt- und Berufsforschung*, No 49, Nuremberg, 1981.

[11] This coefficient was calculated by doubling the proportion answering 'significantly positive impact on your employment plans for the next 12 months' and counting once the proportion answering 'positive impact'; the proportion answering 'negative impact' was deducted from the first two. This coefficient can therefore range from + 200 to − 100.

[12] Experiences on the German labour market in the period 1974 – 76 confirm this scepticism towards temporary employment subsidies for problem cases. At that time only 6 – 8 % of companies made use of such subsidies. There were also clear indications of 'mechanical effects' in that the subsidies were mainly claimed by companies which were doing well and would probably have taken on additional labour anyway. Apart from the low effects, in terms of numbers, even such measures were also unsuccessful at that time in the Federal Republic of Germany in persuading companies to give greater preference to handicapped or older workers (see Werner Friedrich and Eugen Spitznagel, loc. cit.).

[13] In Germany companies planning to increase employment in the next 12 months (32 %) ranked cost-neutral shortening of weekly working hours eighth on the priority scale. Companies planning to decrease their staff size in the next 12 months (18 %) attribute significantly higher employment effects to this measure (first place on the priority scale). This reenforces the argument that shortening of weekly working hours is a more suitable instrument for saving existing jobs rather than creating new ones.

[14] In the UK there may have been a change in companies' assessment of profit-sharing schemes in recent weeks. The method suggested in this year's government budget seems to have been welcomed by a large number of British businessmen. The proposed tax incentives could possibly lead to a higher employment effect of profit-sharing than was expected by businessmen when this survey took place at the end of 1985.

[15] By an average of 7 % or so.

[16] By an average of just under 4 %.

[17] W. Friedrich and E. Spitznagel, 'Growth, employment and investment activity in manufacturing industry', p. 13.

[18] In industry, lower initial wage rates came only sixth in the list of priorities (coefficient 58,7).[12]

[19] The figures given in brackets represent the sum of the two types of positive replies ('significantly positive impact' and 'little positive impact').

Table 1

Increase in pay or shorter working time preferred?

Question: If the choice were offered at the next wage round, which of the following possibilities would you prefer?

1. Increase in pay, for the same hours of work as now
2. No increase in pay but shorter working time
? Don't know

	1	2	?	Total
Community level (EUR 10)				
Total of all employees	61	31	8	100
Sex				
— Men	62	31	7	100
— Women	60	31	9	100
Age (years)				
— Under 25	67	28	5	100
— 25-39	59	34	7	100
— 40-54	62	31	7	100
— 55 and older	59	25	16	100
Family income (income pyramid)				
— Lower quartile	62	22	16	100
— Second quartile	65	29	6	100
— Third quartile	64	30	6	100
— Upper quartile	56	39	5	100
Function				
— Manual worker	66	29	5	100
— White collar/office worker	59	34	7	100
— Executive/top management	62	30	8	100
Union membership				
— Active member	62	32	6	100
— Only paying member	60	34	6	100
— Not member but sympathetic	61	32	7	100
— Not member and not interested	62	30	8	100
Weekly working time (hours)				
— Less than 25	69	24	7	100
— 25-34	67	24	9	100
— 35-40	59	37	4	100
— 41 and more	68	27	5	100
Sector				
— Public	61	33	6	100
— Private	61	30	9	100
Member countries				
— Belgium	58	36	6	100
— Denmark	38	51	11	100
— FR of Germany	56	30	14	100
— Greece	68	26	6	100
— Spain	64	31	5	100

Table 1 *(continued)*

	1	2	?	Total
— France	62	34	4	100
— Ireland	78	19	3	100
— Italy	55	39	6	100
— Luxembourg	58	36	6	100
— The Netherlands	46	47	7	100
— Portugal	82	11	7	100
— United Kingdom	77	19	4	100
European Community (EUR 12)	62	30	8	100

Source: EC employee survey 1985/86.

Table 2

Present and desired working time

Question: 1. what is your present working time per week?
2. You sometimes hear that not everyone is fully satisfied with his/her current working time. Assuming that the present hourly wage rate remained unchanged how many hours per week would you like to work?

(Answers in %)

		Weekly working hours								
		less than 20 h	20 to 24 h	25 to 29 h	30 to 34 h	35 to 40 h	41 to 44 h	45 and more	No answer	Total
Community level (EUR 10)										
Total of all employess	1 (actual)	7,5	4,8	2,8	3,8	55,0	12,4	10,2	3,4	100,0
	2 (ideal)	7,7	4,9	4,8	17,5	48,3	6,3	3,7	6,6	100,0
Sex										
— Men	1 (actual)	1,5	1,3	0,7	2,8	61,6	16,3	13,4	2,4	100,0
	2 (ideal)	1,8	1,6	3,3	17,6	56,3	8,0	5,3	6,1	100,0
— Women	1 (actual)	17,0	10,3	6,3	5,5	44,5	6,3	5,0	5,1	100,0
	2 (ideal)	17,2	10,3	7,4	17,3	33,5	3,5	1,2	7,6	100,0
Age (years)										
— Under 25	1 (actual)	4,7	3,1	2,4	4,0	61,1	11,5	10,8	2,4	100,0
	2 (ideal)	2,1	3,1	4,2	18,6	51,8	7,3	7,2	5,7	100,0
— 25-39	1 (actual)	8,5	4,7	2,2	4,6	54,7	13,4	9,9	2,1	100,0
	2 (ideal)	8,7	4,8	4,8	19,8	47,3	6,2	2,8	5,6	100,0
— 40-54	1 (actual)	6,9	5,9	3,5	3,0	55,5	13,0	8,7	3,5	100,0
	2 (ideal)	7,9	6,0	5,3	16,2	49,8	5,9	3,4	5,6	100,0
— 55 and older	1 (actual)	9,7	4,2	4,1	2,7	46,2	8,1	14,9	10,1	100,0
	2 (ideal)	11,5	4,7	4,7	10,1	43,1	6,8	3,9	15,2	100,0
Family income (income pyramid)										
— Lower quartile	1 (actual)	2,9	8,1	3,0	2,4	52,1	12,7	6,0	12,8	100,0
	2 (ideal)	6,7	3,5	5,8	9,4	53,7	7,7	0,8	12,4	100,0
— Second quartile	1 (actual)	7,1	3,6	2,1	2,7	62,7	13,4	5,7	2,7	100,0
	2 (ideal)	7,2	4,5	4,6	17,5	52,7	6,1	1,5	5,9	100,0
— Third quartile	1 (actual)	7,0	4,7	2,8	3,8	59,0	11,0	10,3	1,4	100,0
	2 (ideal)	7,2	5,2	4,5	17,3	50,0	7,2	4,9	3,7	100,0
— Upper quartile	1 (actual)	6,1	4,0	3,2	5,0	54,1	12,8	13,5	1,3	100,0
	2 (ideal)	8,4	5,3	4,4	22,1	45,8	5,3	4,2	4,5	100,0
Function										
— Manual worker	1 (actual)	8,6	4,3	2,4	2,3	58,5	13,3	8,7	2,0	100,0
	2 (ideal)	7,2	4,8	3,8	15,9	53,4	7,0	3,8	4,0	100,0
— White collar/office worker	1 (actual)	7,4	5,3	3,5	5,0	57,3	11,0	7,9	2,9	100,0
	2 (ideal)	9,0	5,4	6,0	19,6	46,3	5,2	2,4	6,1	100,0
— Executive/top management	1 (actual)	4,3	2,4	1,0	4,1	42,9	17,8	23,4	2,1	100,0
	2 (ideal)	4,6	3,3	3,2	19,1	41,7	8,4	11,1	8,6	100,0
Union memberschip										
— Active member	1 (actual)	2,5	1,4	2,6	3,2	66,5	13,7	8,8	1,3	100,0
	2 (ideal)	3,5	1,6	5,1	24,6	51,0	4,9	5,6	3,7	100,0
— Only paying member	1 (actual)	4,4	3,3	3,3	6,1	62,2	12,7	7,4	0,6	100,0
	2 (ideal)	4,3	5,4	6,8	18,5	50,8	5,7	3,7	4,8	100,0

Table 2 *(continued)*

		Weekly working hours								
		less than 20 h	20 to 24 h	25 to 29 h	30 to 34 h	35 to 40 h	41 to 44 h	45 and more	No answer	Total
— Not member but sympathetic	1 (actual)	9,5	6,1	1,9	3,2	53,1	12,3	10,1	3,8	100,0
	2 (ideal)	8,9	5,2	4,5	15,9	52,0	5,1	2,0	6,4	100,0
— Not member and not interested	1 (actual)	10,0	5,5	2,9	3,0	49.0	12,5	12,1	5,0	100,0
	2 (ideal)	10,8	5,5	3,7	16,8	43,8	8,1	4,4	6,9	100,0
Weekly working time (hours)										
— Less than 25	1 (actual)	61,3	38,7	—	—	—	—	—	—	100,0
	2 (ideal)	50,7	24,4	4,4	2,8	13,2	0,5	1,6	2,4	100,0
— 25-34	1 (actual)	—	—	42,5	57,5	—	—	—	—	100,0
	2 (ideal)	8,8	12,7	27,9	35,0	9,9	0,2	—	5,5	100,0
— 35-40	1 (actual)	—	—	—	—	100,0	—	—	—	—
	2 (ideal)	1,2	1,8	4,0	22,7	63,5	2,4	1,1	3,3	100,0
— 41 and more	1 (actual)	—	—	—	—	—	55,0	45,0	—	100,0
	2 (ideal)	0,8	0,4	1,0	9,8	46,7	21,8	13,1	6,4	100,0
Sector										
— Public	1 (actual)	8,9	5,1	4,5	6,2	57,6	8,5	7,6	1,6	100,0
	2 (ideal)	9,6	6,9	6,4	19,5	45,6	4,3	3,0	4,7	100,0
— Private	1 (actual)	6,8	4,6	2,0	2,6	53,6	14,5	11,5	4,4	100,0
	2 (ideal)	6,8	3,9	4,1	16,4	49,8	7,4	4,1	7,5	100,0
Member countries										
— Belgium	1 (actual)	6,0	6,2	1,8	5,2	68,3	5,7	5,7	1,0	100,0
	2 (ideal)	6,2	5,5	7,3	22,6	46,5	4,7	1,8	5,5	100,0
— Denmark	1 (actual)	4,4	5,7	5,7	5,1	60,5	5,4	9,5	3,8	100,0
	2 (ideal)	3,5	5,9	5,6	18,9	51,5	4,1	3,0	7,4	100,0
— FR of Germany	1 (actual)	3,8	3,5	2,2	2,3	54,0	18,4	6,8	8,9	100,0
	2 (ideal)	4,7	2,2	1,8	13,9	54,9	8,1	2,2	12,0	100,0
— Greece	1 (actual)	2,1	1,6	5,3	4,3	64,4	10,6	9,6	2,1	100,0
	2 (ideal)	2,1	4,3	8,5	20,7	54,3	3,7	2,1	4,3	100,0
— Spain	1 (actual)	1,9	0,5	3,0	6,0	53,5	18,3	16,2	0,6	100,0
	2 (ideal)	4,4	3,0	5,6	13,9	55,2	8,5	4,5	4,9	100,0
— France	1 (actual)	5,2	5,8	2,6	3,5	60,8	12,4	8,5	1,3	100,0
	2 (ideal)	3,8	5,6	3,6	17,6	53,2	7,8	3,7	4,8	100,0
— Ireland	1 (actual)	4,0	1,4	2,2	5,0	62,9	15,1	9,0	0,4	100,0
	2 (ideal)	4,7	3,2	3,2	20,1	56,1	5,4	4,7	2,5	100,0
— Italy	1 (actual)	5,3	4,3	2,2	4,6	56,3	10,2	14,9	2,2	100,0
	2 (ideal)	6,8	5,6	9,0	24,5	43,0	4,3	3,1	3,7	100,0
— Luxembourg	1 (actual)	2,8	6,5	1,9	1,9	65,4	14,0	7,5	—	100,0
	2 (ideal)	1,9	8,4	1,9	8,4	66,4	6,5	2,8	3,7	100,0
— The Netherlands	1 (actual)	11,2	5,3	2,7	4,9	53,4	6,3	12,2	4,0	100,0
	2 (ideal)	9,7	9,5	3,6	12,4	48,4	4,2	5,6	6,6	100,0
— Portugal	1 (actual)	1,8	2,7	2,5	4,1	34,1	26,6	24,2	4,0	100,0
	2 (ideal)	1,9	3,0	4,1	16,8	42,6	19,5	3,7	8,4	100,0
— United Kingdom	1 (actual)	15,3	5,4	3,8	4,5	47,2	10,8	12,2	0,6	100,0
	2 (ideal)	15,6	5,7	5,7	16,2	40,2	5,8	6,0	4,8	100,0
European Community (EUR 12)	1 (actual)	6,7	4,3	2,8	4,0	54,2	13,5	11,3	3,1	100,0
	2 (ideal)	7,2	4,6	4,9	17,1	48,9	6,9	3,8	6,5	100,0

Source: EC employee survey 1985/86.

Table 3

Actual and preferred working time (micro analysis; EUR 10)

(Answers in %)

Whole of wage-earners	Actual working time (weekly hours)						
	Less than 20	20-24	25-29	30-34	35-40	41-45	More than 45
Ideal working time (weekly hours)							
— Less than 20	74	14	13	6	1	—	1
— 20-24	3	58	20	7	2	1	1
— 25-29	5	4	44	16	4	2	—
— 30-34	3	2	5	57	23	12	7
— 35-40	12	15	9	10	63	50	42
— 41-45	0	1	0	0	2	28	14
— More than 45	0	3	0	0	1	3	26
— No answer	3	3	9	4	4	4	9
Total	100	100	100	100	100	100	100
(% share of this category of actual working time)	(7.5)	(4,8)	(2.8)	(3.8)	(55.0)	(12,4)	(10,2)

Men	Actual working time (weekly hours)						
	Less than 20	20-24	25-29	30-34	35-40	41-45	More than 45
Ideal working time (weekly hours)							
— Less than 20	73	20	—	4	—	1	—
— 20-24	1	51	2	7	1	—	—
— 25-29	4	—	72	13	4	1	—
— 30-34	9	28	19	60	21	12	7
— 35-40	—	1	2	14	67	51	41
— 41-45	1	—	—	1	3	27	14
— More than 45	4	—	—	—	1	3	29
— No answer	8	—	5	1	3	5	9
Total	100	100	100	100	100	100	100
(% share of this category[1] of actual working time)	(1,6)	(1,3)	(0,7)	(2,7)	(61,6)	(16,3)	(13,4)

Women	Actual working time (weekly hours)						
	Less than 20	20-24	25-29	30-34	35-40	41-45	More than 45
Ideal working time (weekly hours)							
— Less than 20	74	13	15	7	3	—	5
— 20-24	3	59	24	7	3	2	1
— 25-29	5	5	40	18	6	2	—
— 30-34	2	3	3	55	27	13	8
— 35-40	14	12	10	8	56	50	47
— 41-45	—	1	—	—	2	32	12
— More than 45	—	4	—	—	—	—	13
— No answer	2	3	8	5	3	1	13
Total	100	100	100	100	100	100	100
(% share of this category[1] of actual working time)	(16,9)	(10,2)	(6,4)	(5,6)	(44,5)	(6,4)	(5,0)

[1] The figures do not add up exactly to 100% as between 2 and 5% of interviewed persons did not specify their present working time.

Source: EC employee survey 1985/86.

Table 4

Flexible working time

Question: Let us assume that more flexible working time arrangements will be offered in the near future. Which one would you prefer assuming that the salary is the same?

1. Same working hours every day
2. Fixed amount of working hours per month but the number of working days and working hours per day could be agreed on according to production and/or work organization requirements
3. Fixed amount of working hours per year but with periods of hard work which would involve long hours and other periods of shorter hours or holidays according to production and/or work organization requirements

? Don't know

(Answers in %)

	1	2	3	?	Total
Community level (EUR 10)					
Total of all employees	38	39	16	7	100
Sex					
— Men	37	38	18	7	100
— Women	38	41	13	8	100
Age (years)					
— Under 25	39	42	15	4	100
— 25-39	36	41	18	5	100
— 40-54	37	41	14	8	100
— 55 and older	46	23	16	15	100
Family income (income pyramid)					
— Lower quartile	36	33	17	14	100
— Second quartile	42	35	14	9	100
— Third quartile	39	42	14	5	100
— Upper quartile	31	43	23	3	100
Function					
— Manual worker	42	37	14	7	100
— White collar/office worker	35	41	18	6	100
— Executive/top management	30	43	21	6	100
Union membership					
— Active member	38	43	16	3	100
— Only paying member	42	37	17	4	100
— Not member but sympathetic	32	43	16	9	100
— Not member and not interested	39	36	17	8	100
Weekly working time (hours)					
— Less than 25	44	40	8	8	100
— 25-34	40	32	18	10	100
— 35-40	42	40	14	4	100
— 41 and more	27	42	25	6	100
Sector					
— Public	37	41	17	5	100
— Private	38	38	16	8	100

Table 4 *(continued)*

	1	2	3	?	Total
Member countries:					
— Belgium	62	23	11	4	100
— Denmark	48	31	13	8	100
— FR of Germany	31	43	13	13	100
— Greece	73	14	11	2	100
— Spain	54	27	11	8	100
— France	34	41	23	2	100
— Ireland	46	37	15	2	100
— Italy	36	38	18	8	100
— Luxembourg	33	45	17	5	100
— The Netherlands	44	38	12	6	100
— Portugal	43	37	7	13	100
— United Kingdom	39	39	16	6	100
European Community (EUR 12)	40	38	15	7	100

Source: EC employee survey 1985/86.

Table 5

New working time arrangements

Question: Supposing you were offered the following working time arrangements:

You work for example one Saturday a month, or else you work five times a month up to 22.00 in the evening, and as a counterpart, your working time per year is reduced by 5% (that could be 2 hours less work per week in the average or else it could be two weeks more vacation a year).

What is your personal opinion on such an arrangement?

Are you 1. very much in favour
2. rather in favour
3. rather against
4. very much against
5. indifferent
? Don't know

	1	2	3	4	5	?	Total
Community level (EUR 10)							
Total of all Employees	12	26	20	14	18	10	100
Sex							
— Men	14	26	19	13	19	9	100
— Women	11	25	21	15	16	12	100
Age (years)							
— Under 25	13	29	21	11	19	7	100
— 25-39	13	28	20	14	16	9	100
— 40-54	10	23	20	16	20	11	100
— 55 and older	10	19	14	15	20	22	100
Family income (income pyramid)							
— Lower quartile	10	24	16	12	18	20	100
— Second quartile	11	26	18	16	19	10	100
— Third quartile	11	27	20	15	19	8	100
— Upper quartile	17	25	20	13	18	7	100
Function							
— Manual worker	14	24	20	14	19	9	100
— White collar/office worker	12	28	19	15	17	9	100
— Executive/top management	12	27	16	13	23	9	100
Union membership							
— Active member	12	24	22	17	17	8	100
— Only paying member	14	25	19	17	17	8	100
— Not member but sympathetic	11	27	18	11	22	11	100
— Not member and not interested	12	26	20	14	17	11	100
Weekly working time (hours)							
— Less than 25	11	27	18	17	17	10	100
— 25-34	12	25	19	13	22	9	100
— 35-40	12	26	22	15	18	7	100
— 41 and more	14	27	17	12	20	10	100
Sector							
— Public	13	26	18	15	18	10	100
— Private	12	26	20	14	18	10	100

Table 5 *(continued)*

	1	2	3	4	5	?	Total
Member countries							
— Belgium	15	19	29	18	12	7	100
— Denmark	11	19	14	20	16	20	100
— FR of Germany	8	28	17	9	24	14	100
— Greece	26	20	12	18	15	9	100
— Spain	12	28	20	13	18	9	100
— France	14	33	23	13	13	4	100
— Ireland	25	28	11	12	13	11	100
— Italy	14	25	20	18	11	12	100
— Luxembourg	10	26	20	19	16	9	100
— The Netherlands	12	20	19	29	12	8	100
— Portugal	12	31	16	2	25	14	100
— United Kingdom	13	21	18	13	25	10	100
European Community (EUR 12)	12	26	20	14	18	10	100

Source: EC employee survey 1985/86.

Table 6

Connection between readiness to evening and Saturday work and preferred changes in daily working hours (micro analysis; EUR 10)

(Answers in %)

For or against more flexible working hours	For or against more flexible organization of working time including evening and Saturday work				
In favour of:	For	Against	Indifferent/ no answer	Total	
— same hours every day	28	44	28	100	(38%)[1]
— fixed amount of working hours per month but the number of working days and working hours per day could be agreed on according to production and/or work organization requirements	46	31	23	100	(39%)[1]
— fixed amount of working hours per year but with periods of hard work which would involve long hours and other periods of shorter hours or holidays according to production and/or work organization requirements	55	23	22	100	(23%)[1]

[1] % share of this category.
Example how to read the figures in the table: Of the respondents in favour of same hours every day (38% of all employees interviewed) 28% are for more flexible organization of working time including evening and Saturday work.
Source: EC employee survey 1985/86.

Table 7

Solidarity with company in bad times

Question: In some countries salaried people are accepting lower salaries when their company is in difficulty, with the understanding that when the company will do better, they will get a share of the profits.

What is your personal opinion on such arrangements?

Are you 1. very much in favour
2. rather in favour
3. rather against
4. very much against
5. indifferent
? Don't know

	1	2	3	4	5	?	Total
Community level (EUR 10)							
Total of all Employees	18	33	18	11	14	6	100
Sex							
— Men	18	31	19	13	13	6	100
— Women	17	37	16	8	14	8	100
Age (years)							
— Under 25	16	32	19	13	16	4	100
— 25-39	19	36	19	11	11	4	100
— 40-54	16	34	18	9	15	8	100
— 55 and older	19	23	12	10	20	16	100
Family income (income pyramid)							
— Lower quartile	23	27	15	8	14	13	100
— Second quartile	15	32	21	13	10	9	100
— Third quartile	17	37	14	12	16	4	100
— Upper quartile	21	36	18	9	13	3	100
Function							
— Manual worker	19	31	18	13	14	5	100
— White collar/office worker	17	35	19	10	14	5	100
— Executive/top management	18	40	13	9	12	8	100
Union membership							
— Active member	18	31	17	19	11	4	100
— Only paying member	18	30	20	15	13	4	100
— Not member but sympathetic	15	37	17	8	16	7	100
— Not member and not interested	20	34	17	8	14	7	100
Weekly working time (hours)							
— Less than 25	22	42	14	4	12	6	100
— 25-34	18	36	16	14	14	2	100
— 35-40	16	33	20	12	15	4	100
— 41 and more	21	33	16	12	13	5	100
Sector							
— Public	17	35	17	12	14	5	100
— Private	18	33	18	10	14	7	100

Table 7 *(continued)*

	1	2	3	4	5	?	Total
Member countries							
— Belgium	13	26	28	17	10	6	100
— Denmark	18	28	14	16	12	12	100
— FR of Germany	7	31	18	8	25	11	100
— Greece	25	18	19	17	9	12	100
— Spain	23	32	17	9	13	6	100
— France	22	41	16	8	11	2	100
— Ireland	29	32	15	10	9	5	100
— Italy	20	35	21	13	5	6	100
— Luxembourg	21	31	26	12	6	4	100
— The Netherlands	20	44	9	17	4	6	100
— Portugal	14	42	18	—	16	10	100
— United Kingdom	24	31	16	11	13	5	100
European Community (EUR 12)	18	33	18	11	14	6	100

Source: EC employee survey 1985/86.

Table 8

Bonus or profit-sharing

Question: In 1984, did you personally get some bonus or profit-sharing because of the performance of the company you work with? If yes, how much approximately was this bonus or profit-sharing? The equivalent of one week of salary, one month of salary?

	Nothing	Less than 1 month salary	1 month's or more	Not been working in 1984 or no answer	Total
Community level (EUR 10)					
Total of all employees	77	10	6	7	100
Sex					
— Men	76	11	8	5	100
— Women	78	9	4	9	100
Age (years)					
— Under 25	76	14	5	5	100
— 25-39	79	10	6	5	100
— 40-54	77	9	8	6	100
— 55 and older	72	8	6	14	100
Family income (income pyramid)					
— Lower quartile	78	7	3	12	100
— Second quartile	78	10	5	7	100
— Third quartile	77	12	6	5	100
— Upper quartile	78	9	10	3	100
Function					
— Manual Worker	77	12	5	6	100
— White collar/office worker	79	9	7	5	100
— Executive/top management	65	10	20	5	100
Union membership					
— Active member	78	9	8	5	100
— Only paying member	79	12	6	3	100
— Not member but sympathetic	77	8	6	9	100
— Not member and not interested	76	10	7	7	100
Weekly working time (hours)					
— Less than 25	85	7	2	6	100
— 25-34	86	8	2	4	100
— 35-40	79	12	6	3	100
— 41 and more	71	10	12	7	100
Sector					
— Public	89	4	4	3	100
— Private	71	13	8	8	100
Member countries:					
— Belgium	81	11	5	3	100
— Denmark	87	3	2	8	100
— FR of Germany	79	4	6	11	100
— Greece	76	9	4	11	100
— Spain	71	7	7	15	100
— France	71	14	10	5	100
— Ireland	77	10	6	7	100
— Italy	85	8	2	5	100
— Luxembourg	69	10	18	3	100
— The Netherlands	77	8	12	3	100
— Portugal	84	5	5	6	100
— United Kingdom	73	16	8	3	100
European Community (EUR 12)	77	10	6	7	100

Source: EC employee survey 1985/86.

Table 9

Salaries according to personal efficiency

Question: In some places, individual salaries for the same job are different according to the personal efficiency at work of the people.
What is your opinion on such an arrangement?
Are you 1. very much in favour
2. rather in favour
3. rather against
4. very much against
5. indifferent
? Don't know

	1	2	3	4	5	?	Total
Community level (EUR 10)							
Total of all Employees	24	32	16	11	11	6	100
Sex							
— Men	26	31	16	11	11	5	100
— Women	21	34	17	12	9	7	100
Age (years)							
— Under 25	22	33	16	13	12	4	100
— 25-39	25	32	17	13	9	4	100
— 40-54	22	32	18	10	12	6	100
— 55 and older	30	29	11	8	8	14	100
Family income (income pyramid)							
— Lower quartile	18	31	18	10	13	10	100
— Second quartile	18	34	16	11	14	7	100
— Third quartile	24	32	16	13	10	5	100
— Upper quartile	31	32	16	11	8	2	100
Function							
— Manual worker	23	29	19	13	12	4	100
— White collar/office worker	23	34	16	12	10	5	100
— Executive/top management	45	30	9	7	5	4	100
Union membership							
— Active member	21	31	19	17	8	4	100
— Only paying member	25	28	17	14	12	4	100
— Not member but sympathetic	21	34	17	10	12	6	100
— Not member and not interested	28	33	15	10	8	6	100
Weekly working time (hours)							
— Less than 25	22	37	16	10	10	5	100
— 25-34	27	27	15	14	13	4	100
— 35-40	23	32	18	12	12	3	100
— 41 and more	31	32	15	10	8	4	100
Sector							
— Public	24	32	19	12	9	4	100
— Private	24	32	15	11	11	7	100

Table 9 *(continued)*

	1	2	3	4	5	?	Total
Member countries							
— Belgium	17	26	27	12	13	5	100
— Denmark	25	20	11	26	8	10	100
— FR of Germany	17	33	13	10	19	8	100
— Greece	36	26	13	12	5	8	100
— Spain	26	31	15	15	7	6	100
— France	24	37	20	11	6	2	100
— Ireland	31	32	15	8	8	6	100
— Italy	27	34	18	11	4	6	100
— Luxembourg	30	24	14	21	8	3	100
— Netherlands	20	41	13	18	4	4	100
— Portugal	10	43	19	5	16	7	100
— United Kingdom	32	26	16	11	11	4	100
European Community (EUR 12)	24	32	16	11	11	6	100

Source: EC employee survey 1985/86.

Table 10

Connection between interest in payment related to profits and/or losses and to performance (micro analysis; EUR 10)

(Answers in %)

For or against a temporary reduction in pay if the employee's company is in difficulty (provided that the employee later shares in the profits when the firm is doing better again)	For or against wages or salary being in accordance with personal performance				
	In favour	Against	Undecided/ no answer	Total	
— Very much in favour	71	23	6	100	(18%)[1]
— Rather in favour	59	27	14	100	(33%)[1]
— Rather against	51	35	14	100	(18%)[1]
— Very much against	43	46	10	100	(11%)[1]
Total	46	27	17	100	(100%)

[1] % share of this category; the figures do not add up to 100% because 20% of the respondents had no definite opinion.
How to read the table (example): of the respondents very much in favour of profit and loss sharing (18% of total employees) 71% are also in favour of payment by personal performance.
Source: EC employee survey 1985/86.

Table 11

Wage differences at place of work

Question: At your place of work, would you say that the differences in pay between people who are more efficient and the other people are:

1. fully sufficient
2. more or less sufficient
3. not sufficient
4. other answer (volunteered)
? Don't know

	1	2	3	4	?	Total
Community level (EUR 10						
Total of all employees	16	25	26	15	18	100
Sex						
— Men	16	27	28	14	15	100
— Women	15	22	24	17	22	100
Age (years)						
— Under 25	16	24	23	17	20	100
— 25-39	17	25	28	15	15	100
— 40-54	17	27	25	14	17	100
— 55 and other	8	18	28	18	28	100
Family income (income pyramid)						
— Lower quartile	13	27	25	11	24	100
— Second quartile	15	24	24	18	19	100
— Third quartile	15	26	28	16	15	100
— Upper quartile	18	26	29	14	13	100
Function						
— Manual worker	16	25	26	14	19	100
— White collar/office worker	15	26	27	16	16	100
— Executive/top management	25	24	30	12	9	100
Union membership						
— Active member	14	25	29	16	16	100
— Only paying member	21	20	26	17	16	100
— Not member but sympathetic	15	25	25	16	19	100
— Not member and not interested	13	28	28	14	17	100
Weekly working time (hours)						
— Less than 25	14	22	19	22	23	100
— 25-34	14	18	30	15	23	100
— 35-40	16	26	30	15	13	100
— 41 and more	18	28	25	15	14	100
Sector						
— Public	16	21	29	19	15	100
— Private	15	27	25	13	20	100

Table 11 *(continued)*

	1	2	3	4	?	Total
Member countries						
— Belgium	25	33	18	10	14	100
— Denmark	28	13	14	19	26	100
— FR of Germany	17	30	23	9	21	100
— Greece	32	22	26	3	17	100
— Spain	18	23	29	12	12	100
— France	18	20	33	16	13	100
— Ireland	15	28	18	12	27	100
— Italy	6	24	26	28	16	100
— Luxembourg	28	18	22	20	12	100
— Netherlands	26	29	23	10	12	100
— Portugal	13	29	20	1	37	100
— United Kingdom	13	23	28	15	21	100
European Community (EUR 12)	16	25	26	14	19	100

Source: EC employee survey 1985/86.

Table 12

Connection between assessment of wage differentials and general interest in payment by performance (micro-analysis; EUR 10)

(Answers in %)

% assess the differences in payment where they work to be	Amongst employees who are in favour of payment by performance...		
	Total (56%)[1]	Public sector (56%)[1]	Private sector (56%)[1]
— Fully sufficient	15 } 41	12 } 33	16 } 44
— More or less sufficient	26 }	21 }	28 }
— Not sufficient	33	38	30
— Other response	13	17	12
— No answer	13	12	14
	100	100	100

[1] % share of employees in favour of payment by performance in this category.
How to read the figures in the table (example): Of all respondents in favour of payment by performance (56% in total) 15% assess the differences in payment at the place where they work to be fully sufficient.

Source: EC employee survey 1985/86.

Table 13

Survey results of unemployed, European Community (EUR 12)

Questions:

	Total of all employees		Unemployed	
You sometimes hear that not everyone is fully satisfied with his/her current working time. Assuming that the present hourly wage rate remained unchanged, how many hours per week would you like to work?				
— Less than 30 hours	17		13	
— 30-34 hours	17		15	
— 35 hours and more	60		57	
— Indifferent	6		15	
	100		100	
Let us assume that more flexible working time arrangements will be offered in the near future. Which one would you prefer (assuming that the salary is the same)?				
Same working hours every day	40		41	
Fixed amount of working hours per month but the number of working days and working hours per day could be agreed according to production and/or work organization requirements	38	53	35	49
Fixed amount of working hours per year but with periods of hard work which would involve long hours and other periods of shorter hours or holidays according to production and/or work organization requirements	15		14	
Indifferent/don't know	7		10	
	100		100	
Supposing you were offered the following working time arrangements: You work for example one Saturday a month, or else you work five times a month up to 22.00 in the evening, and as a counterpart, your working time per year is reduced by 5% (that could be 2 hours less work per week in the average or else it could be two weeks more vacation a year) What is your personal opinion of such arrangements? Are you...				
— very much in favour	12	38	13	43
— rather in favour	26		30	
— rather against	20	34	15	25
— very much against	14		10	
— indifferent	18		14	
— don't know	10		18	
	100		100	
In some countries salaried people are accepting to get lower salaries when their company is in difficulty, with the understanding that when the company will do better, they will get a share of the profits. What is your personal opinion of such arrangements? Are you...				
— very much in favour	18	51	13	44
— rather in favour	33		31	
— rather against	18	29	16	27
— very much against	11		11	
— indifferent	14		13	
— don't know	6		16	
	100		100	

Table 13 *(continued)*

	Total of all employees		Unemployed	
In some places, individual salaries for the same job are different according to the personal efficiency at work of the people. What is your opinion of such arrangements? Are you...				
— very much in favour	24	56	20	48
— rather in favour	32		28	
— rather against	16	27	15	29
— very much against	11		14	
— indifferent	11		9	
— don't know	6		14	
	100		100	

Source: EC employee survey 1985/86.

Table 14

Survey results of students, European Community (EUR 12)

Questions:

	Total of all employees	Employees younger than 25 years	Students (15-24 years)
Let us assume that more flexible working time arrangements will be offered in the near future. Which one would you prefer (assuming that the salary is the same)?			
Same working hours every day	40	39	27
Fixed amount of working hours per month but the number of working days and working hours per day could be agreed according to production and/or work organization requirements	38	41	45
	53	56	62
Fixed amount of working hours per year but with periods of hard work which would involve long hours and other periods of shorter hours or holidays according to production and/or work organization requirements	15	15	17
Don't know	7	5	11
	100	100	100
Supposing you were offered the following working time arrangements:			
You work for example one Saturday a month, or else you work five times a month up to 22.00 in the evening, and as a counterpart, your working time per year is reduced by 5% (that could be 2 hours less work per week in the average or else it could be two weeks more vacation a year) (Show card)			
What is your personal opinion of such arrangements. Are you...			
— very much in favour	12	13	11
— rather in favour	26 38	29 42	33 44
— rather against	20	20	17
— very much against	14 34	11 31	9 26
— indifferent	18	19	17
— don't know	10	8	13
	100	100	100
In some countries salaried people are accepting to get lower salaries when their company is in difficulty, with the understanding that when the company will do better, they will get a share of the profits.			
What is your personal opinion of such arrangements. Are you...			
— very much in favour	18	16	11
— rather in favour	33 51	33 49	35 46
— rather against	18	18	16
— very much against	11 29	12 30	8 24
— indifferent	14	16	17
— don't know	6	5	13
	100	100	100
In some places, individual salaries for the same job are different according to the personal efficiency at work of the people. What is your opinion of such arrangements?			
— very much in favour	24	22	21
— rather in favour	32 56	34 56	32 53
— rather against	16	15	17
— very much against	11 27	14 29	10 27
— indifferent	11	11	8
— don't know	6	4	12
	100	100	100

Source: EC employee survey 1985/86.

Table 15

Assessment of staff size in manufacturing industry by Member State

Question: In relation to each category of worker you employ, could you say whether the present number of workers in that category is larger than you really need — in relation to current and expected levels of demand — about right or smaller than you need?

(total industry: answers in %)

	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
Skilled manual workers										
. . larger	15	8	16	25	12	34	13	2	14	17
. . about right	54	57	71	51	73	55	57	59	60	57
. . smaller	31	33	10	16	8	11	29	31	20	22
. . No answer	0	2	3	8	7	0	1	8	6	4
	100	100	100	100	100	100	100	100	100	100
Balance[2]	−16	−25	6	9	4	23	−16	−29	−6	−5
Unskilled manual workers										
. . larger	34	15	26	53	18	77	20	14	21	35
. . about right	45	77	62	36	67	23	79	58	65	56
. . smaller	21	4	4	2	5	0	0	8	3	3
. . No answer	0	4	8	9	10	0	1	20	11	6
	100	100	100	100	100	100	100	100	100	100
Balance[2]	13	11	22	51	13	77	20	6	18	32
Technicians										
. . larger	3	7	10	9	5	9	14	2	4	7
. . about right	72	60	73	67	66	77	49	55	55	64
. . smaller	25	29	15	17	11	14	36	28	28	23
. . No answer	0	4	2	7	18	0	1	15	13	6
	100	100	100	100	100	100	100	100	100	100
Balance[2]	−22	−22	−5	−8	−6	−5	−22	−26	−24	−16
Office/Sales staff										
. . larger	15	11	19	35	13	51	15	4	16	24
. . about right	77	81	71	56	76	48	81	76	70	67
. . smaller	8	6	9	4	10	1	4	9	7	5
. . No answer	0	2	1	5	1	0	0	11	7	4
	100	100	100	100	100	100	100	100	100	100
Balance[2]	7	5	10	31	3	50	11	−5	9	19
Management										
. . larger	6	5	18	7	9	10	1	2	13	8
. . about right	90	83	69	70	80	89	95	80	71	79
. . smaller	4	8	11	16	10	1	3	11	9	9
. . No answer	0	4	2	7	1	0	1	7	7	4
	100	100	100	100	100	100	100	100	100	100
Balance[2]	2	−3	7	−9	−1	9	−2	−9	4	0
Total										
. . larger	26	12	17	42	17	60	15	5	15	27
. . about right	66	70	61	50	70	38	70	62	54	56
. . smaller	8	18	9	4	9	2	15	27	11	11
. . No answer	0	0	13	4	4	0	0	6	20	6
	100	100	100	100	100	100	100	100	100	100
Balance[2]	18	−6	8	38	8	58	0	−22	4	16

[1] Without Denmark, Portugal and Spain.
[2] Difference of the percentage shares 'larger' and 'smaller'.
Source: EC survey on employment and labour market, 1985/86, industry.

Table 16

Employment trend in manufacturing industry, by Member State

Question: What has been the trend over the last year and what is the expected trend over the next 12 months?

(total industry: answers in %)

	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
Past 12 months										
. . up	45	43	21	27	33	11	46	41	37	32
. . no change	27	37	43	6	33	12	21	38	26	25
. . down	28	18	33	64	33	77	33	21	37	42
. . No answer	0	2	3	3	1	0	0	0	0	1
	100	100	100	100	100	100	100	100	100	100
Balance[2]	17	25	−12	−37	0	−66	13	20	0	−10
Next 12 months										
. . up	20	32	17	9	18	5	37	36	28	21
. . no change	52	45	54	33	55	22	61	45	47	40
. . down	28	18	28	57	25	73	2	15	24	37
. . No answer	0	5	1	1	2	0	0	4	1	2
	100	100	100	100	100	100	100	100	100	100
Balance[2]	−8	14	−11	−48	−7	−68	35	21	4	−16

[1] Without Denmark, Portugal and Spain.
[2] Difference of the percentage shares 'up' and 'down'.
Source. EC survey on employment and labour market, 1985/86, industry.

Table 17

Obstacles to more employment in manufacturing industry by Member State

Question: Following is a list of reasons which employers have given for not being able to employ more people. In relation to employment in your firm, could you say whether each reason is very important, important or not (so) important?
(order according to the importance given by companies at the Community level)

(total industry: answers in %)

	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
(1) Present and expected levels of demand for your products										
. . very important	52	43	26	37	58	62	56	29	65	50
. . important	32	28	27	34	27	30	37	27	22	28
. . not important	16	25	26	25	13	8	7	40	8	18
. . No answer	0	4	21	4	2	0	0	4	5	4
	100	100	100	100	100	100	100	100	100	100
Coefficient[2]	136	114	79	108	143	154	149	85	152	128
(2) Insufficient profit margin due to competition (domestic and foreign), which does not allow sufficient prices[3]										
. . very important	42	25	40	44	46	37	34	17	:	33
. . important	39	31	31	27	34	43	46	23	:	34
. . not important	19	39	13	25	18	20	20	54	:	30
. . No answer	0	5	16	4	2	0	0	6	:	4
	100	100	100	100	100	100	100	100	:	100
Coefficient[2]	123	81	111	115	126	117	114	57	:	100
(3) Insufficient profit margin due to non-wage labour cost level (e.g. employers' social security contribution, pay roll taxes, allowances, etc.)										
. . very important	63	28	15	42	40	46	5	15	9	30
. . important	27	39	33	31	44	46	51	32	25	35
. . not important	10	28	27	23	13	8	44	48	50	29
. . No answer	0	5	25	4	3	0	0	5	16	7
	100	100	100	100	100	100	100	100	100	100
Coefficient[2]	153	95	63	115	124	138	61	62	43	95
(4) Insufficient flexibility in hiring and shedding labour (i.e. necessary redundancies/dismissals and new recruitment may be difficult and costly)										
. . very important	38	23	45	48	41	68	30	19	7	33
. . important	37	33	22	33	27	15	26	32	19	27
. . not important	25	39	19	15	30	17	44	45	58	33
. . No answer	0	5	14	4	2	0	0	4	16	7
	100	100	100	100	100	100	100	100	100	100
Coefficient[2]	113	79	112	129	109	151	86	70	33	93
(5) Rationalization and/or introduction of new technologies										
. . very important	24	11	19	31	21	27	36	16	30	23
. . important	42	38	20	31	44	44	36	30	45	38
. . not important	34	46	37	34	33	29	28	49	13	33
. . No answer	0	5	24	4	2	0	0	5	12	6
	100	100	100	100	100	100	100	100	100	100
Coefficient[2]	90	60	58	93	86	98	108	62	105	84

Table 17 *(continued)*

	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
(6) Insufficient profit margin due to wage and salary levels in your firm										
. . very important	19	14	13	8	15	23	6	7	18	15
. . important	52	45	36	39	61	50	53	24	41	44
. . not important	29	35	26	49	22	27	41	65	30	35
. . No answer	0	6	25	4	2	0	0	4	11	6
	100	100	100	100	100	100	100	100	100	100
Coefficient[2]	90	73	62	55	91	96	65	38	77	74
(7) Insufficient profit margin due to other than labour costs (e.g. capital costs etc.)										
. . very important	12	7	32	18	8	43	4	6	9	17
. . important	41	33	25	22	39	29	43	20	25	28
. . not important	47	51	23	56	47	28	53	67	50	47
. . No answer	0	9	20	4	6	0	0	7	16	8
	100	100	100	100	100	100	100	100	100	100
Coefficient[2]	65	47	89	58	55	115	51	32	43	62
(8) Shortage of adequately skilled applicants										
. . very important	16	25	13	8	6	3	9	21	17	15
. . important	35	28	22	28	14	39	34	23	20	28
. . not important	49	43	44	60	78	58	57	50	50	51
. . No answer	0	4	21	4	2	0	0	6	13	6
	100	100	100	100	100	100	100	100	100	100
Coefficient[2]	67	78	48	44	26	45	52	65	54	58
(9) Increase in contracting out										
. . very important	4	2	5	3	4	3	0	2	5	3
. . important	22	10	5	17	8	13	24	17	17	14
. . not important	74	82	59	76	86	84	76	74	60	75
. . No answer	0	6	31	4	2	0	0	7	18	8
	100	100	100	100	100	100	100	100	100	100
Coefficient[2]	30	14	15	23	16	19	24	21	27	20
(10) Insufficient production capacity										
. . very important	5	3	8	3	4	2	3	5	5	4
. . important	19	11	15	7	19	7	12	14	13	10
. . not important	76	79	50	86	76	91	85	76	64	78
. . No answer	0	7	27	4	1	0	0	5	18	8
	100	100	100	100	100	100	100	100	100	100
Coefficient[2]	29	17	31	13	27	11	18	24	23	18

[1] Without Denmark, Portugal and Spain.
[2] Coefficient is calculated as twice percentage share 'very important' plus 'important'; the coefficient is thus in the range O till + 200.
[3] The question on 'Competition' has not been asked in the United Kingdom: the EUR total thus refers here only to eight Member States.
Sources: EC Survey on employment and labour market 1985/86, Industry.

Table 18

Changes in the labour market and their impact on employment plans in manufacturing industry by Member State

Question: Looking at the list of possible changes below, which effect do you think each might have on your employment plans for the next 12 months? Significant positive impact/little positive impact/no change/negative impact/no answer
(order according to the importance given by companies at the Community level)

(total industry: answers in %)

	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
(1) Shorter periods of notice in case of redundancies, dismissals and simpler legal procedures										
. . significant positive	33	31	50	18	4	79	13	6	6	31.0
. . little positive	41	32	26	30	31	9	41	41	22	25.7
. . no change	25	34	14	34	62	11	45	49	66	37.1
. . negative	1	1	1	13	3	1	1	1	3	3,7
. . No answer	0	2	9	5	0	0	0	3	3	2.6
	100	100	100	100	100	100	100	100	100	100,0
Coefficient[2]	106	93	125	53	36	166	66	52	31	84.1
(2) More frequent use of temporary contracts (fixed term, interim work, etc.)										
. . significant positive	30	23	29	13	3	47	9	4	4	20,7
. . little positive	33	51	21	41	44	16	60	28	23	34.4
. . no change	31	22	31	40	48	21	30	61	66	37.1
. . negative	6	2	6	1	4	16	1	3	4	5.1
. . No answer	0	2	13	5	1	0	0	4	3	2.7
	100	100	100	100	100	100	100	100	100	100,0
Coefficient[2]	87	95	73	66	46	94	77	33	27	70.8
(3) Better trained job seekers										
. . significant positive	26	26	43	1	1	56	56	4	9	22.5
. . little positive	33	36	23	18	13	17	10	31	31	27.3
. . no change	40	37	20	75	85	27	32	60	52	46.3
. . negative	1	0	3	1	0	0	2	2	6	2.1
. . No answer	0	1	11	5	1	0	0	3	2	2.1
	100	100	100	100	100	100	100	100	100	100,0
Coefficient[2]	84	88	106	19	15	129	120	37	43	70.7
(4) Introduction of wider wage differentials according to skills and working conditions										
. . significant positive	26	18	46	8	3	64	6	8	3	21.5
. . little positive	38	40	33	21	15	16	43	32	14	25.6
. . no change	31	39	5	64	79	20	49	55	75	48.0
. . negative	5	1	3	2	2	0	2	1	3	1.6
. . No answer	0	2	13	5	1	0	0	4	5	3.2
	100	100	100	100	100	100	100	100	100	100,0
Coefficient[2]	85	75	122	35	19	144	53	47	17	67.1
(5) Greater emphasis on productivity in determining wages and salaries										
. . significant positive	39	20	77	10	6	53	44	5	3	21.8
. . little positive	34	45	11	28	33	26	28	31	14	29.6
. . no change	22	30	4	51	48	20	25	55	50	36.6
. . negative	5	2	0	6	13	1	3	4	28	8.6
. . No answer	0	3	8	5	0	0	0	5	5	3.5
	100	100	100	100	100	100	100	100	100	100,0
Coefficient[2]	107	83	165	42	32	131	113	37	−8	64.5

Table 18 *(continued)*

	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
(6) Introduction of 'initial wage rates' (i.e. lower wages salaries for new starters)										
. . significant positive	17	10	35	8	4	26	22	2	5	12.0
. . little positive	36	34	31	32	30	55	31	25	30	36.1
. . no change	43	53	22	54	65	18	45	68	60	47.9
. . negative	4	1	2	1	0	1	2	1	2	1.3
. . No answer	0	2	10	5	1	0	0	4	3	2.6
	100	100	100	100	100	100	100	100	100	100,0
Coefficient[2]	66	53	99	47	38	106	73	28	38	58.7
(7) More flexible working time arrangements at company level										
. . significant positive	33	13	30	14	2	13	24	6	3	11.7
. . little positive	27	38	31	48	14	58	29	30	19	38.1
. . no change	35	43	22	31	81	27	46	56	69	43.8
. . negative	5	3	2	2	2	2	1	3	6	3.3
. . No answer	0	3	15	5	1	0	0	5	3	3.1
	100	100	100	100	100	100	100	100	100	100,0
Coefficient[2]	88	61	89	74	16	82	76	39	19	58.1
(8) Reduction of redundancy payments that may have to be paid										
. . significant positive	26	21	28	7	3	29	7	1	6	16.0
. . little positive	37	25	33	15	30	49	45	11	17	25.8
. . no change	36	50	24	67	63	21	48	80	71	52.6
. . negative	1	2	2	6	3	1	0	1	4	2.9
. . No answer	0	2	13	5	1	0	0	7	2	2.6
	100	100	100	100	100	100	100	100	100	100,0
Coefficient[2]	88	65	87	23	33	106	59	12	25	54,9
(9) (Higher) temporary employment subsides for employing unemployed persons, who have particular difficulties in finding a job, (e.g. young people, women, older workers, etc.)										
. . significant positive	7	7	24	3	2	47	6	2	7	13.7
. . little positive	29	26	27	18	40	24	22	23	40	27.5
. . no change	54	64	31	74	57	29	70	71	50	55.4
. . negative	10	1	4	0	1	0	2	0	1	1.0
. . No answer	0	2	14	5	0	0	0	4	2	2.5
	100	100	100	100	100	100	100	100	100	100,0
Coefficient[2]	33	39	71	24	43	118	32	27	53	53.9
(10) Functional improvement of public employment offices (better services provided by official employment agencies regarding job-seekers, professional training, etc.)										
. . significant positive	11	9	9	1	0	17	33	2	2	7.2
. . little positive	32	34	22	8	15	46	28	20	10	24.9
. . no change	56	54	51	85	85	37	39	73	85	64.5
. . negative	1	0	1	1	0	0	0	0	0	0.2
. . No answer	0	3	17	5	0	0	0	5	3	3.2
	100	100	100	100	100	100	100	100	100	100,0
Coefficient[2]	53	52	39	9	15	80	94	24	14	39.0

Table 18 *(continued)*

	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
(11) Reduction in standard weekly working hours without increasing total production costs (i.e. cost-neutral)										
. . significant positive	24	24	13	4	2	3	36	6	6	11.5
. . little positive	34	36	20	28	36	19	20	38	40	31.9
. . no change	18	26	24	56	57	16	27	47	43	34.2
. . negative	24	10	28	7	3	62	17	4	7	18.7
. . No answer	0	4	15	5	2	0	0	5	4	3.7
	100	100	100	100	100	100	100	100	100	100,0
Coefficient[2]	58	74	18	29	37	−37	75	46	45	36.1
(12) Introduction of (more) profit-oriented components in contractual salaries										
. . significant positive	31	12	27	7	4	5	8	2	2	8.1
. . little positive	38	38	25	30	34	22	38	23	12	26,9
. . no change	29	43	29	56	55	51	50	66	68	52,5
. . negative	2	4	4	2	6	22	4	2	14	9.0
. . No answer	0	3	15	5	1	0	0	7	4	3.4
	100	100	100	100	100	100	100	100	100	100,0
Coefficient[2]	98	58	75	42	36	10	50	25	2	34.2

[1] Without Denmark, Portugal and Spain.
[2] Coefficient is calculated as difference of the weighted positive impact ('significant positive impact' weight + 2; 'little positive impact' weight + 1) and the negative impact (weight −1); the coefficient is thus in the range −100 till +200.
Source: EC survey on employment and labour market, 1985/86, industry.

Table 19

Changes in the labour market and their impact on employment plans in manufacturing industry by Member State

(Ranks according to employers' survey; rank 1 is the measure with the expected most positive impact, 12 the measure with the least positive impact; for details see Table 18)

(total industry, ranks)

Changes	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
Shorter notice in case of redundancies/dismissals and simpler legal procedures	2	2	2	3	5/6	1	8	1	5	1
More frequent temporary contracts	6	1	9	2	1	8	4	7	6	2
Better trained job-seekers	8	3	4	11	11/12	3	1	5/6	3	3
Wider wage differentials	7	5	3	7	9	7	10	2	9	4
Greater emphasis on productivity in wage determination	1	4	1	5/6	7	2	2	5/6	12	5
Lower initial wage rates	9	10	5	4	3	5/6	7	8	4	6
More flexible working time	4/5	8	6	1	10	9	5	4	8	7
Reduction in redundancy payments	4/5	7	7	10	8	5/6	9	12	7	8
Temporary employment subsidies	12	12	10	9	2	4	12	9	1	9
Functional improvement of employment offices	11	11	11	12	11/12	10	3	11	10	10
Reduction in standard working hours	10	6	12	8	4	12	6	3	2	11
More profit oriented components	3	9	8	5/6	5/6	11	11	10	11	12

[1] Without Denmark, Portugal and Spain.

Source: EC survey on employment and labour market, 1985/86, industry.

Table 20

Expected employment effect of proposed changes in manufacturing industry by Member State

Question: What could be the *net effect* of all the changes described in Table 18 on your *employment plans for the next 12 months?*
Up/no change/down; if up or down: by what percentage?

	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
					Answer in % (tendency)					
Net effect next 12 months										
. . up	44	50	52	31	38	59	26	39	34	44
. . no change	54	46	36	39	56	2	73	50	58	40
. . down	2	0	2	3	3	39	1	6	6	9
. . No answer	0	4	10	27	3	0	0	5	2	7
	100	100	100	100	100	100	100	100	100	100
Balance[2]	42	50	50	28	35	20	25	33	28	35
					Change in % (quantitative)					
up by %	6,0	4,6	14,0	5,2	7,0	9,0	4,2	11,0	8,0	6,8
down by %	−1,0	0	0	−7,4	−11,0	−1,0	−12,5	−16,0	−6,0	−3,6
overall effect (by %)	2,6	2,3	7,3	1,4	2,3	4,9	1,0	3,3	2,4	2,7

[1] Without Denmark, Portugal and Spain.
[2] Difference of %-shares 'up' and 'down'.

Source: EC survey on employment and labour market, 1985/86, industry.

Table 21

Working time arrangements at company level in manufacturing industry by Member State.

Question: (a) Apart from the length of the standard working week, do you consider that the existing working time arrangements in your company are fully satisfactory/could be marginally improved/could be significantly improved?

(b) Has your company increased or is it about to increase significantly the flexibility of working time arrangements? Last 2-3 years/Next 1-2 years

(total industry, answers in %)

	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
(a) Working time arrangements										
. . fully satisfactory	29	33	31	14	49	16	58	47	27	26
. . marginally improved	43	52	53	55	44	72	26	33	57	56
. . significantly improved	28	13	14	26	6	12	16	18	15	16
. . No answer	0	2	2	5	1	0	0	2	1	2
	100	100	100	100	100	100	100	100	100	100
(b) Last 2-3 years										
. . yes, significantly	17	19	9	16	7	15	19	11	12	16
. . yes, slightly	36	33	27	31	24	43	26	20	34	34
. . no	47	45	57	49	69	42	55	67	50	48
. . No answer	0	3	7	4	0	0	0	2	4	2
	100	100	100	100	100	100	100	100	100	100
Next 1-2 years										
. . yes, significantly	15	5	3	20	3	63	17	10	7	19
. . yes, slightly	40	31	27	50	28	16	32	11	37	33
. . no	45	42	56	22	69	21	51	71	50	38
. . No answer	0	22	14	8	0	0	0	8	6	10
	100	100	100	100	100	100	100	100	100	100

[1] Without Denmark, Portugal and Spain

Source: EC survey on employment and labour market, 1985/1986, industry.

Table 22

Main reasons for and against flexible working time arrangements in manufacturing industry by Member State

If flexible working time arrangements already introduced or planned

(total industry, answers in %)

Main reasons for	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
(1) — to use plant more intensively	61	70	24	70	24	91	60	14	37	63
(2) — to compensate for reduction in standard weekly working hours	25	66	14	19	2	15	5	11	14	31
(3) — to reflect employees' preferences	25	42	16	30	14	4	46	16	17	25
(4) — better adjustment to demand	42	46	17	67	23	86	48	14	30	51
(5) — other reasons	8	8	3	6	3	2	0	1	3	5

If no flexible working time arrangements already introduced or planned

Main reasons against	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
(1) — existing working time arrangements are already flexible enough	22	31	22	24	25	28	0	13	25	27
(2) — legal or contractual restrictions	43	28	16	11	3	34	0	6	5	20
(3) — technical and/or organizational problems	49	59	24	36	33	36	97	42	18	39
(4) — working time preferences of employees	31	22	18	19	23	17	4	4	12	18
(5) — induced increase of total cost per unit of output	12	17	22	9	18	30	70	9	13	17
(6) — other reasons (please specify)	11	6	1	2	4	8	0	1	2	5

[1] Without Denmark, Portugal and Spain.

Source: EC survey on employment and labour market, 1985/1986, industry.

Table 23

Split of full-time jobs into part-time jobs in manufacturing industry by Member State

Question: It has sometimes been suggested that full-time jobs could be split into part-time jobs as a way of reducing the impact of unemployment. Such suggestions can take the form of two part-time workers instead of one full-time, 3 part-timers instead of two full-time, job-sharing, etc. Do you think any of the full-time jobs in your firm could be split into part-time jobs without significant economic disadvantages for your firm?

No

Yes: if yes, about what percentage of the full-time jobs in your firm could be split?

(total industry, answers in %; % share)

	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
. . No (% share)	50	52	90	40	65	80	49	61	66	59
. . Yes (% share)	50	48	10	60	35	20	51	39	34	41
If yes:										
. . (a) 1-2 (%)	8	12	3	32	1	:	46	5	5	11
. . (b) 3-4 (%)	14	13	2	32	7	:	2	3	9	13
. . (c) 5-10 (%)	16	16	3	27	15	:	2	10	9	13
. . (d) 11-20 (%)	8	4	0	7	6	:	1	6	6	4
. . (e) more than 20%	4	3	2	3	4	:	0	15	3	3
Average (% of total full-time jobs)	3,0	3,4	0,3	5,9	4,5	1,4	1,1	2,1	3,5	3,3

[1] Without Denmark, Portugal and Spain

Source: EC survey on employment and labour market, 1985/86, industry.

Table 24

Structure of employment in manufacturing industry by Member State

(% share - 1985)

	B	D	GR	F	IRL	I	L	NL	UK	EUR 9[1]
Full-time	97,1	96,4	99,4	93,6	95,9	99,3	99,1	93,1	86,8	94,2
Part-time	2,9	3,6	0,6	6,4	4,1	0,7	0,9	6,9	13,2	5,8
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Of which on a temporary basis	3,9	1,9	8,4	2,2	4,7	1,1	1,4	2,9	1,5	2,0
				Absolute figures (1985, estimates in 1 000)						
Full-time	713	7 358	667	4 191	183	4 348	38	755	4 818	23 072
Part-time	22	272	4	288	8	30	—	56	734	1 414
Total	735	7 630	671	4 479	191	4 378	38	811	5 552	24 486
Of which on a temporary basis	29	143	56	100	9	47	1	23	82	490

[1] Without Denmark, Portugal and Spain.

Source: Estimates of Commission's Services (absolute figures):
EC survey on employment and labour market 1985/86 (% shares).

Table 25

Employment trend in retail trade by Member State and company size class

Question: What has been the trend over the last year and what is the expected trend over the next 12 months?

(retail trade; answers in %)

	B	D	F	NL	UK	European Community (EUR 5)				
						Less than 5	5-19	20-50	More than 50	All sizes (total)
						employees				
Past 12 months										
. . up	31	13	35	22	31	9,1	16,2	25,0	33,6	26,1
. . no change	38	61	30	63	46	77,0	59,8	45,0	29,7	47,4
. . down	31	25	34	13	21	11,7	23,0	29,0	32,4	25,2
. . No answer	0	1	1	2	2	2,2	1,0	1,0	4,3	1,3
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Balance[1]	0	−12	1	9	10	−2,6	−6,8	−3,9	1,2	0,9
Next 12 months										
. . up	21	12	15	22	29	6,7	10,6	15,3	30,1	19,9
. . no change	65	59	59	65	55	80,9	71,3	63,1	38,2	58,0
. . down	14	24	25	7	12	8,8	14,8	17,2	25,1	18,5
. . No answer	0	5	1	6	4	3,6	3,3	4,4	6,6	3,6
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Balance[1]	7	−12	−10	15	17	−2,1	−4,2	−1,9	5,0	1,4

[1] Difference between the percentage shares 'up' and 'down'.

Source: EC survey on employment and labour market, 1985/86, retail trade.

Table 26

Changes in the labour market and their impact on employment plans in retail trade by Member State and company size class

Question: Looking at the list of possible changes below, which effect do you think each might have on your employment plans for the next 12 months?
Significant positive impact/little positive impact/no change/negative impact/no answer
(order according to the importance given by companies at the Community level; at the national level the ranking may be different).

(retail trade; answers in %)

	B	D	F	NL	UK	European Community (EUR 5)				
						Less than 5	5-19	20-50	More than 50	All sizes (total)
						employees				
(1) Introduction of 'initial wage rates' (i.e. lower wages/salaries for new starters)										
. . significant positive	35	26	11	3	16	12,4	23,3	18,8	17,8	17,5
. . little positive	37	29	47	25	38	25,1	32,5	36,9	39,9	36,7
. . no change	28	39	32	68	41	49,0	37,1	37,6	36,0	39,5
. . negative	0	1	2	1	2	1,4	1,3	2,2	0,9	1,6
. . No answer	0	5	8	3	3	12,1	5,8	4,5	5,4	4,7
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	107	80	67	30	68	48,4	77,9	72,4	74,6	70,2
(2) Shorter periods of notice and simpler legal procedures in case of redundancies and dismissals										
. . significant positive	50	30	15	4	9	13,5	19,7	22,8	19,4	17,6
. . little positive	29	27	36	31	26	21,1	29,6	30,4	30,1	29,1
. . no change	19	37	37	60	60	51,4	42,4	38,2	44,4	46,4
. . negative	2	0	3	1	2	2,2	1,7	3,1	2,0	1,6
. . No answer	0	6	9	4	3	11,8	6,6	5,5	4,1	5,3
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	127	87	63	38	42	45,9	67,2	72,9	66,8	62,7
(3) Introduction of wider wage differentials according to skills and working conditions										
. . significant positive	19	28	6	3	8	7,5	15,3	19,3	14,5	13,5
. . little positive	42	39	23	26	22	15,8	30,1	33,5	31,2	28,1
. . no change	36	28	62	67	62	59,1	46,1	41,7	48,0	51,4
. . negative	3	0	1	1	4	3,4	1,5	0,9	0,9	1,9
. . No answer	0	5	8	3	4	14,2	7,0	4,6	5,4	5,1
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	97	95	34	31	34	27,5	59,2	71,2	59,3	53,2
(4) More flexible working time arrangements at company level										
. . significant positive	32	16	15	2	3	6,9	9,3	11,0	14,1	10,6
. . little positive	31	26	45	22	24	16,9	19,5	28,0	36,9	29,8
. . no change	32	48	30	70	67	61,5	62,0	52,8	41,2	51,5
. . negative	5	3	1	3	1	1,7	2,5	2,8	0,5	1,8
. . No answer	0	7	9	3	5	13,0	6,7	5,4	7,3	6,3
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	90	55	74	23	29	29,1	35,5	47,2	64,7	49,1

Table 26 *(continued)*

	B	D	F	NL	UK	European Community (EUR 5)				
						Less than 5	5-19	20-50	More than 50	All sizes (total)
						employees				
(5) (Higher) temporary employment subsidies for employing unemployed persons, who have particular difficulties in finding a job, e.g. young people, women, older workers, etc.										
. . significant positive	21	8	6	2	11	8,1	10,9	13,2	7,0	8,6
. . little positive	41	24	27	26	42	15,7	24,6	28,7	42,7	32,0
. . no change	35	61	58	67	43	63,4	55,5	51,6	44,8	53,2
. . negative	3	1	1	1	1	0,7	1,5	0,7	0,9	1,1
. . No answer	0	6	8	4	3	12,1	7,5	5,8	4,6	5,1
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	80	39	38	29	63	31,2	44,8	54,2	55,8	48,2
(6) More frequent use of temporary contracts (fixed term, interim work, etc.)										
. . significant positive	27	16	13	2	1	7,8	10,0	14,7	2,1	9,2
. . little positive	38	37	35	20	18	17,4	19,6	27,0	36,6	28,5
. . no change	31	39	42	75	76	61,3	61,7	50,4	47,4	55,3
. . negative	4	1	1	1	1	1,2	1,8	2,2	0,5	1,1
. . No answer	0	7	9	2	4	12,3	6,9	5,7	6,4	5,9
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	88	68	60	23	19	31,9	37,7	54,2	54,3	45,8
(7) Introduction of (more) profit-oriented components in contractual salaries										
. . significant positive	36	17	9	1	6	7,0	11,3	10,7	11,9	10,6
. . little positive	32	33	38	15	15	16,6	22,0	30,5	28,4	26,5
. . no change	30	38	44	73	66	61,2	55,0	49,5	46,0	51,6
. . negative	2	6	1	4	6	2,1	2,8	2,5	6,9	4,5
. . No answer	0	6	8	7	7	13,1	8,9	6,8	6,8	6,8
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	102	61	55	13	21	28,6	41,8	49,4	45,2	43,0
(8) More flexible shop opening hours										
. . significant positive	25	12	12	1	9	4,4	5,0	8,9	15,8	10,6
. . little positive	25	15	36	16	37	12,8	19,1	27,7	36,4	28,6
. . no change	46	55	42	78	45	63,1	59,0	48,4	38,2	49,2
. . negative	4	14	2	1	7	7,1	11,1	9,2	5,5	7,4
. . No answer	0	4	8	4	2	12,6	5,8	5,8	4,1	4,1
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	71	25	58	17	48	14,5	18,0	36,4	62,6	42,4
(9) Better trained job-seekers										
. . significant positive	26	18	4	1	8	5,7	13,5	15,4	9,7	10,1
. . little positive	30	27	17	18	28	15,8	20,2	26,7	30,6	24,5
. . no change	43	49	70	78	55	66,2	57,9	51,8	51,0	57,9
. . negative	1	1	1	1	5	0,2	1,3	1,4	3,7	2,5
. . No answer	0	5	8	2	4	12,1	7,1	4,7	5,0	5,0
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	81	62	24	19	39	27,0	45,8	56,1	46,2	42,2

Table 26 *(continued)*

	B	D	F	NL	UK	European Community (EUR 5)				
						Less than 5	5-19	20-50	More than 50	All sizes (total)
						employees				
(10) Reduction of redundancy payments that may have to be paid										
. . significant positive	36	21	10	1	7	10,6	14,3	15,2	12,6	12,4
. . little positive	32	18	14	7	16	15,6	19,1	24,2	13,6	16,0
. . no change	31	55	65	83	71	59,4	56,3	53,4	66,6	64,4
. . negative	1	1	3	1	3	2,2	2,3	2,8	2,2	2,2
. . No answer	0	5	8	8	3	12,2	8,0	4,4	5,0	5,0
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	103	59	31	8	27	34,7	45,5	51,8	36,6	38,5
(11) Reduction in standard weekly working hours without increasing total production costs (i.e. cost-neutral)										
. . significant positive	13	16	4	1	5	2,9	6,4	9,1	11,2	8,0
. . little positive	21	31	15	21	37	11,4	21,7	25,4	40,3	28,4
. . no change	43	34	69	70	42	64,0	53,0	49,4	32,4	47,9
. . negative	23	13	4	2	12	8,3	10,7	10,9	10,6	10,1
. . No answer	0	6	8	6	4	13,4	8,2	5,2	5,5	5,6
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	24	50	19	21	35	8,8	23,9	32,7	52,1	34,4
(12) Functional improvement of public employment offices (better services provided by official employment agencies regarding job-seekers, professional training, etc.)										
. . significant positive	13	8	4	2	5	4,3	5,8	7,3	6,4	5,7
. . little positive	36	19	14	13	16	9,9	14,5	16,9	21,4	16,8
. . no change	50	66	73	80	72	71,4	70,0	69,1	65,8	70,3
. . negative	1	1	1	1	2	0,4	0,8	1,0	1,4	1,4
. . No answer	0	6	8	4	5	14,0	8,9	5,7	5,0	5,8
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	61	34	21	16	24	18,2	25,4	30,6	32,7	26,8

[1] Coefficient is calculated as difference of weighted positive impact ('significant positive impact', weight +2; 'little positive impact', weight +1 and the negative impact, weight −1); the coefficient is thus in the range −100 till +200.

Source: EC survey on employment and labour market, 1985/86, retail trade.

Table 27

Changes in the labour market and their impact on employment plans in retail trade by Member State

(ranks according to employers' survey; rank 1 is the measure with the expected most positive impact; rank 12 the measure with the least positive impact; for details see Table 26)

(retail trade; ranks)

Changes	EUR 5	B	D	F	NL	UK
Lower initial wage rates	1	2	3	2	3	1
Shorter notice in case of redundancies and simpler legal procedures	2	1	2	3	1	4
Wider wage differentials	3	9	1	8	2	7
More flexible working time	4	5	8	1	5/6	8
Temporary employment subsidies	5	8	10	7	4	2
More frequent temporary contracts	6	6	4	4	5/6	12
More profit-oriented components	7	4	6	6	11	11
More flexible opening hours	8	10	12	5	9	3
Better trained job-seekers	9	7	5	10	8	5
Reduction in redundancy payments	10	3	7	9	12	9
Reduction in standard weekly working hours	11	12	9	12	7	6
Functional improvement of employment offices	12	11	11	11	10	10

Source: EC survey on employment and labour market, 1985/86, retail trade.

Table 28

Employment effect of proposed changes in retail trade by Member State and company size class

Question: What could be the net effect of all the changes described in Table 26 on your employment plans for the next 12 months?
Up/no change/down
If 'up' or 'down': by what percentage?

(retail trade; answers in %)

	B	D	F	NL	UK	European Community (EUR 5)				
						Less than 5	5-19	20-50	More than 50	All sizes (total)
						employees				
Net effect next 12 months	Answers in % (tendency)									
. . up	36	37	38	31	43	22,0	33,6	42,8	45,2	39,1
. . no change	62	59	38	63	55	63,8	53,5	47,6	45,8	52,7
. . down	2	0	1	2	2	0,8	1,8	0,6	2,0	1,2
. . No answer	0	4	23	4	0	13,4	11,1	9,0	7,0	7,0
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Balance[1]	34	37	37	29	41	21,2	31,8	42,2	43,2	37,9
	Change in % (quantitative)									
. . up by %	19	3	7	16	12	22,8	10,3	7,1	4,6	8,5
. . down by %	0	0	−17	−10	−9	−9,4	−8,5	−5,8	−5,1	−8,0
. . Overall effect (by %)	7	1	2	5	4	4,9	3,3	3,0	2,0	3,2

[1] Difference of % shares 'up' and 'down'.
Source: EC survey on employment and Labour Market, 1985/86, retail trade

Table 29

Shop opening hours in retail trade by Member State and company size class

Question: Do you consider the existing shop opening hours to be satisfactory?
Yes/No
If no, which change of the shop opening hours would you prefer?
Complete liberalization/2 evenings open per week/setting a maximum limit of weekly opening hours/other

(retail trade; answers in %)

	B	D	F	NL	UK	European Community (EUR 5)				
						Less than 5	5-19	20-50	More than 50	All sizes (total)
						employees				
Existing shop opening hours satisfactory?										
Yes	54	7	55	87	53	77,8	70,3	63,2	45,8	60,9
No	46	29	34	10	47	15,6	24,0	32,2	49,8	36,2
No answer	0	0	11	3	0	6,6	5,7	4,5	4,4	2,9
	100	100	100	100	100	100	100	100	100	100,0
If no, which change would you prefer?										
Complete liberalization	19	10	23	2	18	4,1	6,3	13,3	24,3	15,9
2 evenings per week (till 20.00 or longer)	5	10	0	0	6	0,8	3,5	4,6	8,1	5,3
Setting a maximum limit of weekly opening hours and leave it up to the companies how to distribute them over the week	17	4	1	4	15	6,7	9,9	8,6	8,6	7,7
Other changes	5	5	10	4	8	4,1	4,3	5,7	8,8	7,3

Source: EC survey on employment and labour market, 1985/86, retail trade.

Table 30

Split of full-time jobs into part-time jobs in retail trade by Member State and company size class

Question: It has sometimes been suggested that full-time jobs could be split into part-time jobs as a way of reducing the impact of unemployment. Such suggestions can take the form of two part-time workers instead of one full-time, three part-timers instead of two full-time, job-sharing, etc. Do you think any of the full-time jobs in your firm could be split into part-time jobs without significant economic disadvantages for your firm?

No

Yes: if yes, about what percentage of the full-time jobs in your firm could be split?

(retail trade; answers in %)

	B	D	F	NL	UK	European Community (EUR 5)				
						Less than 5	5-19	20-50	More than 50	All sizes (total)
						employees				
No (share)	61	42	50	23	36	18,3	26,9	31,2	56,0	41,1
Yes (share)	39	56	36	75	64	73,8	66,4	64,1	38.0	54.8
No answer	0	2	14	2	0	7,9	6,7	4,6	6,0	4,1
	100	100	100	100	100	100,0	100,0	100,0	100,0	100,0
If yes,										
(a) 1 — 2%	17	6	4	1	4	2,3	3,0	2,7	7,1	4,8
(b) 3 — 4%	31	3	4	1	3	1,5	1,7	6,6	5,5	3,9
(c) 5 — 10%	4	13	27	3	9	1,2	7,5	10,4	20,4	14,1
(d) 11 — 20%	3	17	10	4	8	3,6	8,4	6,3	16,5	10.8
(e) more than 20%	6	3	5	14	12	9,2	6,3	5,3	6,9	7,6
Average (% of total full-time jobs)	4,3	5,1	5,8	5,9	7,3	4,8	4,7	4,3	7,0	6,1

Source: EC survey on employment and labour market, 1985/86, retail trade.

Table 31

Structure of employment in retail trade by Member State

(% share (1985))[1]

	B	D	F	NL	UK	EUR 5
Full-time	55,3	72,0	78,3	63,7	50,0	64,4
Part-time	44,7	28,0	21,7	36,3	50,0	35,6
Total	100,0	100,0	100,0	100,0	100,0	100,0
of which						
on a temporary basis	5,1	0,9	8,2	5,3	5,8	4,9
			Absolute figures 1985[2] (in 1 000)			
Full-time	88	1 225	1 091	217	1 056	3 677
Part-time	72	476	303	124	1 056	2 031
Total	160	1 701	1 394	341	2 112	5 708
of which						
on a temporary basis	8	16	115	18	123	280

[1] EC survey on employment and labour market, 1985/86, retail trade.
[2] Estimates of Commission's services.

Source: EC survey on employment and labour market, 1985/86, retail trade.

Table 32

Employment trend in wholesale trade by Member State and company size class

Question: What has been the trend over the last year and what is the expected trend over the next 12 months?

(wholesale trade; answers in %)

	B	D	F	UK	European Community (EUR 4)				
					Less than 5	5-19	20-50	More than 50	All sizes (total)
					employees				
Past 12 months									
. . up	31	12	41	37	15,7	22,3	28,1	37,0	29,3
. . no change	48	60	25	36	74,2	53,7	37,8	26,8	41,8
. . down	21	28	34	26	9,8	23,4	33,6	35,2	28,6
. . No answer	0	0	0	1	0,3	0,6	0,5	1,0	0,3
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Balance[1]	10	7	11	11	5,9	−1,1	−5,5	1,7	0,7
Next 12 months									
. . up	23	14	28	28	18,0	18,4	17,4	17,6	17,8
. . no change	53	69	64	55	71,0	69,6	62,4	55,7	62,1
. . down	24	19	20	12	4,0	10,3	18,0	23,4	17,2
. . No answer	0	2	2	5	7,0	1,7	2,2	3,3	2,9
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Balance[1]	−1	−9	−6	16	13,9	8,1	−0,6	−5,8	0,6

[1] Difference between the percentage shares 'up' and 'down'.

Source: EC survey on employment and labour market, 1985/86, wholesale trade.

Table 33

Changes in the labour market and their impact on employment plans in wholesale trade by Member State and by company size class

Question: Looking at the list of possible changes below, which effect do you think each might have on your employment plans for the next 12 months?
Significant positive impact/little positive impact/no change/negative impact/no answer
(order according to the importance given by companies at the Community level; at the national level the ranking may be different)

(wholesale trade; answers in %)

	B	D	F	UK	European Community (EUR 4)				
					Less than 5	5-19	20-50	More than 50	All sizes (total)
					employees				
(1) Shorter periods of notice and simpler legal procedures in case of redundancies and dismissals									
. . significant positive	47	29	19	16	32,6	21,9	26,6	19,8	22,9
. . little positive	23	29	33	23	19,1	21,7	31,1	31,5	27,8
. . no change	29	39	37	54	36,3	49,3	34,4	44,7	42,8
. . negative	1	1	4	5	7,2	2,9	3,6	2,7	3,2
. . No answer	0	2	7	2	4,8	4,2	4,3	1,3	3,3
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	116	86	67	50	77,0	62,7	80,7	68,5	70,5
(2) Introduction of 'initial wage rates' (i.e. lower wages/salaries for new starters)									
. . significant positive	31	16	10	14	20,0	18,2	14,9	10,7	14,5
. . little positive	36	32	37	37	19,6	35,8	35,4	38,5	35,3
. . no change	32	48	45	46	48,4	41,6	43,0	47,9	45,6
. . negative	1	1	1	2	7,5	0,5	1,4	1,1	1,3
. . No answer	0	3	7	1	4,5	3,9	5,3	1,8	3,3
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	97	63	56	63	52,1	71,7	63,8	58,8	63,0
(3) Introduction of wider wage differentials according to skills and working conditions									
. . significant positive	29	20	8	7	18,3	13,0	15,4	10,7	12,9
. . little positive	34	34	24	21	14,1	25,7	25,9	30,9	26,9
. . no change	33	41	60	67	52,3	55,5	51,4	55,5	54,5
. . negative	4	1	1	3	10,8	0,4	2,0	1,1	1,8
. . No answer	0	4	7	2	4,5	5,4	5,3	1,8	3,9
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	88	73	39	32	40,0	51,3	54,7	51,2	50,9
(4) Reduction of redundancy payments that may have to be paid									
. . significant positive	43	22	11	15	30,1	17,6	19,4	14,3	17,8
. . little positive	21	18	18	13	8,7	16,9	20,0	16,9	16,5
. . no change	36	56	61	67	49,0	58,6	52,5	65,4	59,9
. . negative	0	1	3	4	7,7	2,5	2,9	1,6	2,5
. . No answer	0	3	7	1	4,5	4,4	5,2	1,8	3,3
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	107	61	37	39	61,1	49,7	55,9	43,8	49,7

Table 33 *(continued)*

	B	D	F	UK	European Community (EUR 4) Less than 5 employees	5-19 employees	20-50 employees	More than 50 employees	All sizes (total)
(5) Introduction of more profit-oriented components in contractual salaries									
. . significant positive	34	13	10	6	11,7	9,2	12,3	10,0	11,0
. . little positive	35	26	37	19	26,2	22,7	28,0	22,8	27,2
. . no change	31	54	45	65	57,3	59,6	49,9	59,0	53,9
. . negative	0	3	1	9	0,3	4,2	2,8	6,0	4,3
. . No answer	0	4	7	1	4,5	4,3	7,0	2,2	3,6
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	103	49	56	22	49,3	36,9	49,8	36,9	44,9
(6) More frequent use of temporary contracts (fixed-term, interim work, etc.)									
. . significant positive	23	16	12	1	9,5	8,0	12,3	10,8	10,3
. . little positive	37	37	30	14	18,2	22,0	29,0	31,6	27,4
. . no change	35	43	50	78	58,9	60,6	50,1	55,1	56,2
. . negative	5	2	1	6	8,9	4,7	2,8	1,1	3,2
. . No answer	0	2	7	1	4,5	4,7	5,8	1,4	2,9
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	78	67	53	10	28,3	33,3	50,9	52,2	44,8
(7) Better trained job-seekers									
. . significant positive	26	17	3	6	11,6	9,4	12,9	9,4	10,0
. . little positive	31	26	16	33	14,5	26,8	23,7	28,5	25,9
. . no change	43	54	73	53	63,1	57,2	56,5	57,9	58,2
. . negative	0	0	1	6	0,3	2,3	2,3	2,8	2,3
. . No answer	0	3	7	2	10,6	4,4	4,6	1,4	3,6
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	83	60	21	39	37,3	43,3	47,2	44,4	43,6
(8) (Higher) temporary employment subsidies for employing unemployed persons, who have particular difficulties in finding a job, e.g. young people, women, older workers, etc.									
. . significant positive	14	5	6	9	9,6	6,9	8,0	6,2	7,1
. . little positive	29	25	20	45	27,4	33,0	28,9	34,0	30,5
. . no change	50	65	66	42	50,4	53,3	55,3	57,3	56,8
. . negative	7	1	1	2	7,8	1,9	1,4	1,1	1,7
. . No answer	0	4	7	2	4,8	4,9	6,4	1,4	3,9
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	50	34	31	61	38,9	44,9	43,6	45,4	43,1
(9) More flexible working time arrangements at company level									
. . significant positive	18	7	13	5	4,3	9,2	8,9	8,7	8,6
. . little positive	27	26	36	11	14,1	16,5	25,5	30,7	23,8
. . no change	50	62	43	80	76,6	67,0	57,7	56,7	62,1
. . negative	5	2	1	3	0,8	2,6	2,0	2,5	2,2
. . No answer	0	3	7	1	4,2	4,7	5,9	1,4	3,3
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	58	38	61	18	21,9	32,3	41,3	45,6	38,7

Table 33 *(continued)*

	B	D	F	UK	European Community (EUR 4)				
					Less than 5	5-19	20-50	More than 50	All sizes (total)
					employees				
(10) Reduction in standard weekly working hours without increasing total production costs (i.e. cost-neutral)									
. . significant positive	11	9	4	6	1,3	3,9	6,2	8,9	6,7
. . little positive	34	25	23	32	20,2	19,5	23,2	34,8	27,3
. . no change	30	52	60	53	68,9	61,2	54,8	45,1	53,3
. . negative	25	11	6	8	5,1	11,7	9,9	9,8	9,4
. . No answer	0	3	7	1	4,5	3,7	5,9	1,4	3,3
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	31	32	25	36	17,8	15,6	25,7	42,8	31,4
(11) Functional improvement of public employment offices (better services provided by official employment agencies regarding job-seekers, professional training, etc.)									
. . significant positive	23	8	4	2	5,4	4,5	7,5	5,7	5,7
. . little positive	17	18	14	17	12,1	14,2	20,8	16,4	16,5
. . no change	57	70	74	77	71,6	75,3	64,6	75,5	72,7
. . negative	3	1	1	0	0,3	1,0	1,1	0,4	0.8
. . No answer	0	3	7	4	10,6	5,0	6,0	2,0	4.3
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	60	33	21	21	22,6	22,1	34,7	27,3	27,2
(12) More flexible shop opening hours									
. . significant positive	12	4	4	6	10.8	5,0	3,5	4,4	5,1
. . little positive	14	7	23	21	11,8	11,4	12,4	21,5	16,4
. . no change	71	79	65	66	71,5	73,2	72,2	68,1	70,4
. . negative	3	5	1	4	1,4	3,6	4,6	2,9	3,5
. . No answer	0	5	7	3	4,5	6,8	7,3	3,1	4,6
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Coefficient[1]	35	10	30	29	32,0	17,8	14,8	27,3	23,2

[1] Coefficient is calculated as difference of weighted positive impact ('significant positive impact', weight + 2; 'little positive impact', weight + 1) and the negative impact (weight − 1); the coefficient is thus in the range − 100 till + 200.

Source: EC survey on employment and labour market, 1985/86, wholesale trade.

Table 34

Changes in the labour market and their impact on employment plans in wholesale trade by Member State

(Ranks according to employer's survey; rank 1 is the measure with the expected most positive impact; rank 12 the measure with the least positive impact; for details see Table 33)

(wholesale trade; ranks)

Changes	EUR 4	B	D	F	UK
Shorter notice in case of redundancies and simpler legal procedures	1	1	1	1	3
Lower initial wage rates	2	4	4	3	1
Wider wage differentials	3	5	2	6	7
Reduction in redundancy payments	4	2	5	7	4/5
More profit-oriented components	5	3	7	3	9
More frequent temporary contracts	6	7	3	5	12
Better trained job-seekers	7	6	6	11/12	4/5
Temporary employment subsidies	8	10	9	8	2
More flexible working time	9	9	8	2	11
Reduction in standard weekly working hours	10	12	11	10	6
Functional improvement of employment offices	11	8	10	11/12	10
More flexible opening hours	12	11	12	9	8

Source: EC survey on employment and labour market, 1985/86, wholesale trade.

Table 35

Employment effect of proposed changes in wholesale trade by Member State and company size class

Question: What could be the net effect of all the changes described in Table 33 on your employment plans for the next 12 months?
up/no change/down; if 'up' or 'down': by what percentage?

(wholesale trade, answers in %)

	B	D	F	UK	European Community (EUR 4)				
					Less than 5	5-19	20-50	More than 50	All sizes (total)
					employees				
Net effect next 12 months	Answers in % (tendency)								
. . up	45	32	31	50	35,5	36,4	44,4	38,7	38,5
. . no change	55	65	34	45	56,3	54,6	45,4	46,0	49,3
. . down	0	0	1	5	0,0	1,5	1,4	2,6	1,9
. . No answer	0	3	34	0	8,2	7,5	8,8	12,7	10,3
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
Balance[1]	45	32	30	45	35,5	34,9	43,0	36,1	36,6
	Change in % (quantitative)								
. . up by %	12	2	8	9	16,2	9,2	6,2	3,9	6,6
. . down by %	0	0	−8	−4	0,0	−5,5	−4,7	−1,5	−3,5
Overall effect (by %)	5	1	2	4	5,7	3,3	2,7	1,5	2,5

[1] Difference of % shares 'up' and 'down'.

Source: EC survey on employment and labour market, 1985/86, wholesale trade.

Table 36

Shop opening hours in wholesale trade by Member State and company size class

Question: Do you consider the existing shop opening hours to be satisfactory?
Yes/No
If no, which change of the shop opening hours would you prefer?
Complete liberalization/2 evenings open per week/setting a maximum limit of weekly opening hours/others

(wholesale trade; answers in %)

	B	F	UK	European Community (EUR 4)				
				Less than 5	5-19	20-50	More than 50	All sizes (total)
				employees				
Existing shop opening hours satisfactory?								
Yes	72	64	42	72,1	54,6	61,5	43,7	53,5
No	28	22	58	20,5	40,6	30,3	51,0	40,7
No answer	0	14	0	7,4	4,8	8,2	5,3	5,8
	100	100	100	100,0	100,0	100,0	100,0	100,0
If no, which change would you prefer?								
Complete liberalization	14	17	35	13,1	22,4	15,5	31,5	25,8
2 evenings per week (till 20.00 or longer)	1	0	3	0,4	3,9	2,5	3,4	1,6
Setting a maximum limit of weekly opening hours and leave it up to the companies how to distribute them over the week	11	5	17	7,0	12,0	11,5	13,3	11,6
Other changes	2	0	3	0,0	2,3	0,7	2,8	1,7

Source: EC survey on employment and labour market, 1985/86, wholesale trade.

Table 37

Split of full-time jobs into part-time jobs in wholesale trade by Member State and company size class

Question: It has sometimes been suggested that full-time jobs could be split into part-time jobs as a way of reducing the impact of unemployment. Such suggestions can take the form of two part-time workers instead of one full-time, three part-timers instead of two full-time, job-sharing etc. Do you think any of the full-time jobs in your firm could be split into part-time jobs without significant economic disadvantages for your firm?

No

Yes: if yes, about what percentage of the full-time jobs in your firm could be split?

(wholesale trade; answers in %; % share)

	B	D	F	UK	European Community (EUR 4)				
					Less than 5	5-19	20-50	More than 50	All sizes (total)
					employees				
No (% share)	57	29	26	27	8,6	21,1	28,8	38,0	29,1
Yes (% share)	43	71	54	73	85,6	74,9	66,0	56,1	65,5
No answer	0	0	20	0	6,4	4,0	5,2	5,9	5,4
	100	100	100	100	100,0	100,0	100,0	100,0	100,0
If yes									
(a) 1 — 2%	11	5	7	2	0,5	1,6	1,5	9,0	4,9
(b) 3 — 4%	39	5	6	4	4,5	2,8	9,8	8,5	6,8
(c) 5 — 10%	3	13	9	12	0,3	8,5	11,5	13,7	11,0
(d) 11 — 20%	3	5	3	7	1,6	5,9	4,5	4,8	5,0
(e) More than 20%	1	1	1	4	1,6	1,8	1,2	2,3	2,0
Average (% of total full-time jobs)	2,4	3,3	2,0	3,5	0,8	2,3	2,3	3,3	2,7

Source: EC survey on employment and labour market, 1985/86, wholesale trade.

Table 38

Structure of employment in wholesale trade

(% share (1985))

	B	D	F	UK	EUR 4
Full-time	80,6	87,6	93,3	90,3	89,7
Part-time	19,4	12,4	6,7	9,7	10,3
Total	100,0	100,0	100,0	100,0	100,0
of which					
on a temporary basis	3,8	0,9	4,0	1,0	2,0

Absolute figures 1985 (in 1 000)[1]

	B	D	F	UK	EUR 4
Full-time	124	818	702	833	2 477
Part-time	30	116	50	89	285
Total	154	934	752	922	2 762
of which					
on a temporary basis	6	9	31	9	55

[1] Estimates of Commission's services (absolute figures).
Source: EC survey on employment and labour market, 1985/86, wholesale trade (% share).

Annexes

I — Institutes carrying out the surveys

II — Survey results in manufacturing industry by branch and company size class at Community level

Annex I: Institutes carrying out the surveys

Survey:	Enterprises	Employees[1]
Spain	—	Instituto de Investigación Gallup
Belgium	BNB Banque nationale de Belgique	Dimarso NV
Denmark	—	Gallup Markedsanalyse AS
Federal Republic of Germany	IFO Institut für Wirtschafts-forschung	Emnid-Institut GmbH
Greece	IEIR Institute of Economic Research	ICAP Hellas SA
France	INSEE Institut national de la statistique et de études économiques	Institut de sondages Lavialle
Ireland	CII and ESRI Confederation of Irish Industries and Economic and Social Research Institute	Irish Marketing Surveys Ltd
Italy	ISCO Istituto per lo studio della congiuntura	Istituto per le ricerche statistiche e l'analisi dell'opinione pubblica (DOXA)
Luxembourg	STATEC Service central de la statistique et des études économiques	Institut luxembourgeois de recherches sociales (Ilres)
The Netherlands	NIPO Nederlands Instituut voor de Publieke Opinie en het Marktonderzoek	Nederlands Instituut voor de Publieke Opinie (NIPO) BV
Portugal	—	NORMA - Sociedade de Estudos para o Desenvolvimento de Empresas, SARL
United Kingdom	CBI Confederation of British Industry	Social Surveys (Gallup poll)

[1] International coordination: Hélène Riffault (Faits et opinions, Paris)

Annex II — Survey results in manufacturing industry by branch and company size class at Community level

Table 39*

Assessment of staff size in manufacturing industry by branch and company size class at Community level[1]

Question: In relation to each category of worker you employ, could you say whether the present number of workers in that category is larger than you really need—in relation to current and expected levels of demand—about right or smaller than you need?

(answers in %)

	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
Skilled manual workers								
. . larger	17,2	13,5	20,8	8,9	11,6	16,2	23,0	17,4
. . about right	60,9	53,6	59,0	65,3	62,2	61,1	47,5	56,6
. . smaller	18,0	30,0	16,2	21,4	22,2	21,1	26,3	22,1
. . No answer	3,9	2,9	4,0	4,4	4,0	1,6	3,2	3,9
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Balance[2]	−0,9	−16,5	4,5	−12,4	−10,5	−4,9	−3,2	−4,7
Unskilled manual workers								
. . larger	42,2	26,2	39,3	22,7	28,7	30,2	43,2	35,3
. . about right	47,7	64,2	50,9	64,3	61,8	62,3	50,6	55,1
. . smaller	3,4	3,5	3,7	4,3	4,3	3,2	2,9	3,3
. . No answer	6,7	6,1	6,1	8,7	5,2	4,3	3,3	6,3
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Balance[2]	38,8	22,8	35,6	18,4	24,4	27,0	40,3	31,9
Technicians								
. . larger	7,5	9,6	3,8	3,7	4,5	6,5	11,0	6,8
. . about right	66,2	50,8	75,2	67,6	68,4	61,0	51,6	63,8
. . smaller	18,6	36,0	13,6	28,5	23,1	29,8	35,3	23,2
. . No answer	7,7	3,6	7,4	10,2	4,0	2,7	2,1	6,2
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Balance[2]	−11,2	−26,5	−9,7	−14,9	−18,6	−23,3	−24,3	−16,4
Office/Sales staff								
. . larger	31,9	17,4	24,6	11,2	16,0	19,6	33,4	23,8
. . about right	58,9	74,4	67,6	78,4	75,6	73,7	58,1	67,5
. . smaller	4,9	5,6	4,7	5,8	5,9	4,8	6,1	5,2
. . No answer	4,3	2,6	3,1	4,6	2,5	1,9	2,4	3,5
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Balance[2]	27,1	11,7	19,9	5,5	10,1	14,9	27,3	18,6
Management								
. . larger	10,7	10,4	5,2	5,1	5,6	7,4	13,7	8,4
. . about right	77,3	74,3	84,9	82,3	82,0	82,5	70,4	78,7
. . smaller	7,1	11,8	6,0	6,7	9,4	7,6	13,1	8,5
. . No answer	4,9	3,5	3,9	5,9	3,0	2,5	2,8	4,4
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Balance[2]	3,5	−1,4	−0,8	−1,6	−3,8	−0,2	0,6	−0,1

Table 39* *(continued)*

	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
TOTAL								
. . larger	28,0	19,9	33,3	13,7	19,1	19,9	37,6	27,1
. . about right	61,3	57,7	53,7	70,9	65,1	63,7	41,7	56,3
. . smaller	5,7	16,9	7,1	9,5	9,9	9,4	14,5	10,7
. . No answer	5,0	5,5	5,9	5,9	5,9	7,0	6,2	5,9
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Balance[2]	22,3	3,0	26,2	4,2	9,1	10,5	23,1	16,5

[1] Without Denmark, Portugal and Spain.
[2] Difference of the percentage shares 'up' or 'down'.
Source: EC survey on employment and labour market, 1985/86, industry.

Table 40*

Employment trend in manufacturing industry by branch and company size class at Community level[1]

Question: What has been the trend over the last year and what is the expected trend over the next 12 months?

(answers in %)

	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
Past 12 months								
. . up	26,4	43,5	24,4	29,1	38,5	34,7	36,4	32,3
. . no change	22,5	23,9	27,3	41,1	25,8	25,4	13,8	24,2
. . down	49,4	31,5	47,4	28,8	34,9	38,9	48,8	42,2
. . No answer	1,7	1,1	0,9	1,0	0,8	1,0	1,0	1,3
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Balance[2]	−23,0	12,1	−22,9	0,2	3,6	−4,3	−12,4	−9,9
Next 12 months								
. . up	13,2	31,7	17,3	22,7	22,9	21,2	25,0	21,3
. . no change	38,5	39,4	41,2	55,2	46,8	44,2	24,0	39,8
. . down	46,1	26,0	39,9	20,3	28,3	31,4	48,5	36,8
. . No answer	2,2	2,9	1,6	1,8	2,0	3,2	2,5	2,1
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Balance[2]	−32,9	5,7	−22,7	2,5	−5,5	−10,2	−23,6	−15,5

[1] Without Denmark, Portugal and Spain.
[2] Difference of the percentage shares 'up' and 'down'.
Source: EC survey on employment and labour market, 1985/86, industry.

Table 41*

Obstacles to more employment in manufacturing industry by branch and company size class at Community level[1]

Question: Following is a list of reasons which employers have given for not being able to employ more people. In relation to employment in your firm, could you say whether each reason is very important, important or not (so) important?
(order according to the importance given by companies at Community level)

(answers in %)

	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
(1) Present and expected levels of demand for your products								
. . very important	50,5	44,5	54,1	45,0	51,6	53,8	43,9	49,8
. . important	27,1	30,4	26,5	30,7	26,1	24,7	31,5	28,2
. . not important	18,5	21,3	14,8	19,4	18,3	18,3	21,5	18,2
. . No answer	3,9	3,8	4,6	4,9	4,0	3,2	3,1	3,8
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	128,1	119,3	134,8	120,6	129,3	132,4	119,3	127,7
(2) Insufficient profit margin due to competition (domestic and foreign), which does not allow sufficient prices[3]								
. . very important	36,0	25,8	40,0	34,3	31,9	30,5	32,7	33,3
. . important	33,8	29,4	35,8	35,0	32,8	37,3	26,8	32,9
. . not important	26,4	40,7	20,7	26,6	31,4	30,0	37,2	30,0
. . No answer	3,8	4,2	3,5	4,1	3,9	2,2	3,3	3,8
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	105,6	81,0	115,9	103,6	96,7	98,3	92,3	99,6
(3) Insufficient profit margin due to non-wage labour cost level (e.g. employers' social security contribution, pay roll taxes, allowances, etc.)								
. . very important	35,2	26,7	32,6	39,2	30,4	26,4	23,5	29,8
. . important	33,0	37,0	39,8	34,1	38,1	45,4	36,4	34,9
. . not important	25,1	30,0	20,5	18,8	24,3	24,0	34,9	28,5
. . No answer	6,7	6,3	7,1	7,9	7,2	4,2	5,2	6,8
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	103,5	90,4	105,0	112,3	98,9	98,3	83,4	94,5
(4) Insufficient flexibility in hiring and shedding labour (i.e. necessary redundancies/dismissals and new recruitment may be difficult and costly)								
. . very important	33,2	27,1	38,5	38,4	28,9	28,5	22,4	33,1
. . important	21,7	29,9	25,7	22,8	25,7	30,1	36,1	26,3
. . not important	38,1	38,3	28,9	31,1	37,7	36,3	37,9	34,2
. . No answer	7,0	4,7	6,9	7,7	7,7	5,1	3,6	6,4
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	88,0	84,2	102,6	99,8	83,5	87,0	81,0	92,5
(5) Rationalization and/or introduction of new technologies								
. . very important	32,8	17,1	23,0	19,5	26,1	27,0	26,2	22,7
. . important	37,9	40,2	38,1	38,5	40,0	43,3	39,3	38,8
. . not important	22,6	37,5	33,0	34,5	28,3	26,3	30,4	32,6
. . No answer	6,7	5,2	5,9	7,5	5,6	3,4	4,1	5,9
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	103,5	74,5	84,1	77,5	92,2	97,3	91,7	84,2

Table 41* *(continued)*

	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
(6) Insufficient profit margin due to wage and salary levels in your firm								
. . very important	11,1	11,6	20,9	17,5	15,8	12,2	9,6	15,3
. . important	41,0	43,6	44,8	43,1	40,6	47,2	44,9	43,3
. . not important	41,9	39,5	27,9	32,4	37,5	36,9	41,1	35,5
. . No answer	6,0	5,3	6,4	7,0	6,1	3,7	4,4	5,9
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	63,3	66,8	86,6	78,2	72,2	71,6	64,1	73,9
(7) Insufficient profit margin due to other than labour costs (e.g. capital costs etc.)								
. . very important	19,5	7,4	26,9	17,5	12,7	11,4	15,3	16,7
. . important	27,1	29,6	31,7	30,9	30,2	37,6	24,3	28,1
. . not important	46,1	55,3	33,4	42,5	47,4	45,1	55,0	47,2
. . No answer	7,3	7,7	8,0	9,1	9,7	5,9	5,4	8,0
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	66,0	44,5	85,5	65,9	55,6	60,3	54,9	61,5
(8) Shortage of adequately skilled applicants								
. . very important	8,6	22,5	12,1	17,4	14,9	14,9	15,8	15,2
. . important	22,8	32,1	28,6	26,3	29,6	26,9	25,9	27,9
. . not important	61,9	42,9	52,6	49,5	49,6	53,9	53,9	51,2
. . No answer	6,7	2,5	6,7	6,8	5,9	4,3	4,4	5,7
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	40,0	77,1	52,8	61,1	59,5	56,6	57,5	58,4
(9) Increase in contracting out								
. . very important	2,0	3,5	3,8	6,6	3,8	2,4	1,9	3,2
. . important	10,6	18,1	12,2	16,1	13,7	16,3	14,9	13,9
. . not important	78,7	71,9	75,8	68,3	72,9	75,0	77,8	75,1
. . No answer	8,7	6,5	8,2	9,0	9,6	6,3	5,4	7,8
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	14,6	25,0	19,9	29,4	21,3	21,2	18,8	20,3
(10) Insufficient production capacity								
. . very important	4,0	3,0	3,2	5,4	4,2	2,3	2,7	3,5
. . important	11,9	10,5	9,6	16,2	15,3	10,4	7,8	10,5
. . not important	75,8	79,4	78,7	69,2	71,3	79,4	84,1	78,1
. . No answer	8,3	7,1	8,5	9,2	9,2	7,9	5,4	7,9
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	20,0	16,6	16,0	27,0	23,6	15,0	13,2	17,6

[1] Without Denmark, Portugal and Spain.
[2] Coefficient is calculated as twice percentage share 'very important' plus 'important'.
[3] The question on 'Competition' has not been asked in the United Kingdom: the EUR total thus refers here only to 8 member countries.
Source: EC survey on employment and labour market, 1985/86, industry.

Table 42*

Changes in the labour market and their impact on employment plans in manufacturing industry by branch and by company size class at Community level[1]

Question: Looking at the list of possible changes below, which effect do you think each might have on your employment plans for the next 12 months? Significant positive impact/little positive impact/no change/negative impact/no answer
(order according to the importance given by companies at Community level)

(answers in %)

	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
(1) Shorter periods of notice in case of redundancies dismissals and simpler legal procedures								
. . significant positive	29,0	26,0	37,6	38,4	28,2	26,7	18,3	31,0
. . little positive	23,4	29,7	23,2	25,5	30,1	31,4	24,2	25,7
. . no change	42,5	39,0	31,3	29,8	37,5	38,5	49,9	37,0
. . negative	3,1	3,3	4,9	2,4	1,7	2,3	6,7	3,7
. . No answer	2,0	2,0	3,0	3,9	2,5	1,1	0,9	2,6
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	78,4	78,5	93,5	100,0	84,9	82,6	54,2	84,1
(2) More frequent use of temporary contracts (fixed-term interim work, etc.)								
. . significant positive	17,5	21,0	23,1	22,4	20,0	16,9	15,8	20,7
. . little positive	27,0	42,1	31,6	30,2	36,8	40,3	44,9	34,4
. . no change	49,4	32,5	33,7	40,5	38,8	39,9	33,8	37,1
. . negative	3,6	1,9	8,3	2,5	1,7	1,0	4,7	5,1
. . No answer	2,5	2,5	3,3	4,4	2,7	1,9	0,8	2,7
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	58,4	82,1	69,6	72,5	75,1	73,1	71,9	70,8
(3) Better trained job-seekers								
. . significant positive	15,5	21,5	28,1	21,3	16,7	11,0	18,9	22,5
. . little positive	21,8	34,5	23,8	28,7	33,2	33,2	24,9	27,3
. . no change	58,4	40,4	43,5	44,9	45,4	52,7	52,8	46,4
. . negative	2,2	1,5	1,7	1,7	2,1	2,2	1,9	1,7
. . No answer	2,1	2,1	2,9	3,4	2,6	0,9	1,5	2,1
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	50,6	76,0	78,3	69,6	64,6	53,0	60,8	70,7
(4) Introduction of wider wage differentials according to skills and working conditions								
. . significant positive	19,9	14,4	30,0	30,2	19,4	15,4	10,8	21,5
. . little positive	19,8	32,7	23,3	27,5	29,9	32,0	21,3	25,6
. . no change	55,6	48,6	41,0	36,3	45,6	49,2	64,4	48,1
. . negative	1,8	1,0	1,4	1,3	1,5	1,3	1,7	1,6
. . No answer	2,9	3,3	4,3	4,7	3,6	2,1	1,8	3,2
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	57,9	60,4	81,8	86,7	67,2	61,5	41,2	67,1

Table 42* *(continued)*

	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
(5) Greater emphasis on productivity in determining wages and salaries								
. . significant positive	23,8	16,8	26,1	27,6	20,6	17,2	12,9	21,8
. . little positive	23,1	34,2	29,8	30,2	29,5	33,3	30,3	29,6
. . no change	39,3	39,0	31,6	32,3	35,8	34,4	42,0	36,6
. . negative	10,3	6,8	8,9	5,9	10,3	13,6	11,8	8,6
. . No answer	3,5	3,2	3,6	4,0	3,8	1,5	3,0	3,4
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	60,5	60,9	73,2	79,5	60,4	54,1	44,4	64,5
(6) Introduction of 'initial wage rates' (i.e. lower wages/salaries for new starters)								
. . significant positive	18,0	8,6	12,6	25,2	15,8	9,9	4,2	12,0
. . little positive	28,7	34,9	42,5	32,7	34,3	31,5	31,1	36,1
. . no change	49,3	52,6	41,0	36,6	46,0	55,8	61,9	48,0
. . negative	1,6	1,2	0,8	1,8	1,2	0,9	1,2	1,3
. . No answer	2,4	2,7	3,1	3,7	2,7	1,9	1,6	2,6
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	63,1	50,9	66,8	81,2	64,6	50,5	38,3	58,7
(7) More flexible working time arrangements at company level								
. . significant positive	12,3	10,4	13,2	18,1	14,4	13,2	9,7	11,7
. . little positive	31,5	37,8	41,0	25,7	29,9	34,1	49,8	38,1
. . no change	49,3	46,8	37,8	47,2	48,3	45,8	35,8	43,8
. . negative	4,1	2,1	4,4	4,8	4,4	4,6	3,1	3,3
. . No answer	2,8	2,9	3,6	4,2	3,0	2,3	1,6	3,1
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	52,1	56,4	63,2	57,2	54,2	55,8	66,0	58,1
(8) Reduction of redundancy payments that may have to be paid								
. . significant positive	18,2	17,0	15,0	26,6	18,3	14,3	6,5	16,0
. . little positive	16,9	21,6	35,3	22,4	22,6	22,6	22,5	25,8
. . no change	59,2	55,4	44,8	43,9	54,2	58,5	65,7	52,7
. . negative	3,3	3,3	1,9	3,1	2,5	3,1	3,8	2,9
. . No answer	2,4	2,7	3,0	4,0	2,4	1,5	1,5	2,6
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	50,0	52,3	63,6	72,5	56,8	48,1	31,8	54,9
(9) (Higher) temporary employment subsidies for employing unemployed persons, who have particular difficulties in finding a job, (e.g. young people, women, older workers, etc.)								
. . significant positive	12,9	6,6	22,5	18,0	10,7	8,0	6,6	13,7
. . little positive	26,9	28,1	27,2	31,1	32,8	27,9	23,6	27,5
. . no change	56,7	62,0	46,0	45,0	53,1	61,8	67,6	55,3
. . negative	1,1	0,9	1,0	1,7	0,7	0,5	0,7	1,0
. . No answer	2,4	2,4	3,3	4,2	2,7	1,8	1,5	2,5
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	51,6	40,3	71,3	65,3	53,5	43,5	36,1	53,9

Table 42* *(continued)*

	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
(10) Functional improvement of public employment offices (better services provided by official employment agencies regarding job-seekers, professional training, etc.)								
. . significant positive	9,8	7,4	5,4	9,2	7,0	4,0	5,7	7,2
. . little positive	14,7	27,9	29,4	22,8	21,5	23,4	22,4	24,9
. . no change	72,7	61,5	61,2	62,3	68,0	70,4	70,8	64,5
. . negative	0,1	0,1	0,5	1,0	0,2	0,4	0,0	0,2
. . No answer	2,7	3,1	3,5	4,7	3,3	1,8	1,1	3,2
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	34,1	42,6	39,6	40,1	35,5	31,1	33,8	39,0
(11) Reduction in standard weekly working hours without increasing total production costs (i.e. cost-neutral)								
. . significant positive	8,9	15,7	9,5	10,2	13,8	13,4	13,9	11,5
. . little positive	38,2	30,3	28,6	25,5	33,8	43,1	33,9	31,9
. . no change	36,3	35,0	31,8	35,1	32,7	29,0	37,9	34,2
. . negative	12,7	15,3	26,2	24,4	16,0	12,3	10,8	18,7
. . No answer	3,9	3,7	3,9	4,8	3,7	2,2	3,5	3,7
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	43,3	46,4	21,5	21,5	45,3	57,5	51,0	36,1
(12) Introduction of (more) profit-oriented components in contractual salaries								
. . significant positive	7,0	9,1	9,3	15,1	11,0	9,1	4,1	8,1
. . little positive	29,7	29,6	22,8	29,2	30,5	30,2	25,1	26,9
. . no change	53,5	52,0	51,4	42,6	46,6	49,1	61,2	52,6
. . negative	7,1	6,3	12,3	8,5	8,3	9,6	7,6	9,0
. . No answer	2,7	3,0	4,2	4,6	3,6	2,0	2,0	3,4
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Coefficient[2]	36,6	41,5	29,2	50,8	44,3	38,7	25,8	64,5

[1] Without Denmark, Portugal and Spain.
[2] Coefficient is calculated as difference of weighted positive impact ('significant positive impact' weight +2, 'little positive impact' weight +1) and the negative impact (weight −1).
Source: EC survey on employment and labour market, 1985/86, industry.

Table 43*

Expected employment effect of proposed changes in manufacturing industry by branch and company size class at Community level[1]

Question: What could be the *net effect* of all the changes described in Table 42 on your *employment plans for the next 12 months?* up/no change/down: if up or down: by what percentage?

(answers in %)

	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
Net effect next 12 months				Answers in %				
. . up	39,3	44,7	47,5	50,0	44,6	38,9	37,8	43,9
. . no change	40,5	39,3	39,8	33,3	41,1	46,8	47,5	39,8
. . down	11,4	9,7	6,6	10,3	8,6	8,2	5,7	9,2
. . No answer	8,8	6,3	6,1	6,4	5,7	6,1	9,0	7,1
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Balance[2]	27,9	35,1	40,8	39,7	36,0	30,7	32,1	34,7
				Change in %				
Up by %	6,0	5,4	8,6	8,3	5,6	4,8	4,2	6,8
Down by %	−3,8	−3,1	−3,5	−3,7	−4,0	−3,1	−2,2	−3,6
Overall effect (by %)	1,9	2,1	3,9	3,8	2,1	1,6	1,5	2,7

[1] Without Denmark, Portugal and Spain.
[2] Difference of % shares 'up' and 'down'.
Source: EC survey on employment and labour market, 1985/86, industry.

Table 44*

Working time arrangements at company level in manufacturing industry — by branch and company size class at Community level[1]

Question: (a) Apart from the length of the standard working week, do you consider that the existing working time arrangements in your company are
fully satisfactory/could be marginally improved/could be significantly improved?

(b) Has your company increased or is it about to increase significantly the flexibility of working time arrangements?
Last 2-3 years/Next 1-2 years

(answers in %)

	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
(a) Working time arrangements								
. . fully satisfactory	26,8	27,2	24,6	40,4	27,0	25,4	16,0	25,6
. . marginally improved	53,3	53,9	59,6	45,2	53,8	53,8	62,6	56,3
. . significantly improved	17,9	17,9	14,2	12,5	17,0	20,2	21,0	16,2
. . No answer	2,0	1,0	1,6	1,9	2,2	0,6	0,4	1,9
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
(b) Last 2-3 years								
. . yes, significantly	21,0	19,2	8,9	10,1	12,7	17,5	23,9	15,5
. . yes, slightly	27,4	33,6	39,2	22,9	35,2	33,0	38,8	34,1
. . no	48,4	44,7	48,7	64,1	49,0	45,3	35,2	47,6
. . No answer	3,2	2,5	3,2	2,9	3,1	4,2	2,1	2,8
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Next 1-2 years								
. . yes, significantly	20,5	12,0	23,7	10,0	11,1	14,6	18,0	19,0
. . yes, slightly	30,8	36,1	30,4	26,4	32,6	35,6	45,8	32,6
. . no	41,3	37,7	37,9	55,4	45,1	38,7	23,9	38,1
. . No answer	7,4	14,2	8,0	8,2	11,2	11,1	12,3	10,3
	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

[1] Without Denmark, Portugal and Spain.
Source: EC survey on employment and labour market, 1985/86, industry.

Table 45*

Main reasons for and against flexible working time arrangements in manufacturing industry by branch and company size class at Community level[1]

If flexible working time arrangements already introduced or planned

(answers in %)

Main reasons for	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
(1) to use plant more intensively	56,5	67,5	59,5	58,1	55,3	55,4	75,1	62,5
(2) to compensate for reduction in standard weekly working hours	23,9	50,2	16,6	22,2	30,2	33,7	45,5	31,4
(3) to reflect employees' preferences	21,3	30,8	22,7	23,3	25,2	23,9	34,0	25,0
(4) better adjustment to demand	47,1	46,9	59,3	57,5	43,9	43,1	54,6	51,2
(5) other reasons	5,3	4,7	4,9	2,8	5,3	4,6	6,9	5,0

If no flexible working time arrangements already introduced or planned

(answers in %)

Main reasons against	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
(1) existing working time arrangements are already flexible enough	28,6	30,1	26,7	33,1	28,5	25,1	22,8	26,6
(2) legal or contractual restrictions	14,0	19,2	20,9	14,7	22,8	26,1	15,8	19,9
(3) technical and/or organizational problems	42,3	39,5	39,9	42,0	43,5	37,7	36,2	39,4
(4) working time preferences of employees	19,6	18,4	19,5	24,0	19,3	19,1	14,0	17,8
(5) induced increase of total cost per unit of output	16,5	18,2	13,9	15,9	13,2	17,7	18,0	16,8
(6) other reasons, please specify	3,1	6,4	2,5	2,0	2,9	5,0	7,6	4,5

[1] Without Denmark, Portugal and Spain.
Source: EC survey on employment and labour market, 1985/86, industry.

Table 46*

Split of full-time jobs into part-time jobs in manufacturing industry by branch and company size class at Community level[1]

Question: It has sometimes been suggested that full-time jobs could be split into part-time jobs as a way of reducing the impact of unemployment. Such suggestions can take the form of two part-time workers instead of one full-time, three part-timers instead of two full-time, job-sharing, etc. Do you think any of the full-time jobs in your firm could be split into part-time jobs without significant economic disadvantages for your firm?

No

Yes: if yes, about what percentage of the full-time jobs in your firm could be split?

(answers in %)

	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
. . No (% share)	58,3	57,8	62,0	69,6	60,5	48,0	43,2	59,4
. . Yes (% share)	41,7	42,2	38,0	30,4	39,5	52,0	56,8	40,6
. . (a) 1-2 (%)	9,4	11,8	11,2	4,3	6,7	11,9	22,0	11,3
. . (b) 3-4 (%)	15,3	14,5	8,6	8,6	13,0	17,6	16,6	12,6
. . (c) 5-10 (%)	12,1	14,2	12,4	10,5	14,7	13,9	16,3	13,0
. . (d) 11-20 (%)	4,6	4,0	4,6	5,2	3,4	5,6	3,6	4,4
. . (e) More than 20%	2,9	3,0	2,6	2,7	2,5	2,4	3,3	2,9
Average (% of total full-time jobs)	3,2	3,4	2,8	2,7	3,0	3,3	4,0	3,1

[1] Without Denmark, Portugal and Spain.
Source: EC survey on employment and labour market, 1985/86, industry.

Table 47*

Structure of employment in manufacturing industry by branch and company size class at Community level[1]

	Branch			Size class (employees)				All sizes
	Intermediate goods	Investment goods	Consumer goods	Less than 200	200-499	500-1 000	More than 1 000	
	% share 1985 (according to survey)							
Full-time	96,3	95,9	92,9	94,8	95,0	95,6	94,7	94,9
Part-time	3,7	4,1	7,1	5,2	5,0	4,4	5,3	5,1
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Of which on a temporary basis	1,7	2,2	2,8	2,5	2,7	2,3	1,5	2,2
	Absolute figures (1985, estimates) (1 000)							
Full-time	6 791	9 007	7 475	9 937	3 944	2 765	6 592	23 238
Part-time	263	384	573	543	208	128	369	1 248
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Of which on a temporary basis	119	207	225	260	111	65	205	542

[1] Without Denmark, Portugal and Spain.
Source: Estimates of Commission's services (absolute figures);
EC survey on employment and labour market 1985/86 (% share).

Compact — A prototype macroeconomic model of the European Community in the world economy

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1. Introduction

The Compact world model in its present formulation is based on a decomposition of the world economy into three behavioural models for EUR 10 as a homogeneous whole, the United States of America and Japan. The system is closed by a rest-of-world module which is mostly determined as a residual item in order to ensure world accounting consistency for international trade and capital flows.

The EC module which is presented in Section 2 is, by necessity, somewhat stylized since the introduction of institutional constraints and national specificities has to wait for the development of national models. It includes, however, all the basic elements of an operational model, i.e.

(i) a final demand block,

(ii) a production and factor demand block,

(iii) a wage and price block,

(iv) a public sector block,

(v) a monetary block,

(vi) a linkage and balance-of-payments block.

The estimation is done on yearly data coming mostly from the EC aggregate series published in the Statistical annex of the 'Annual Economic Review' (*European Economy*, November issue).

Given the small size of the model, it is used as a test-bed for some new developments in applied econometrics. It should also be understood that the use of the European Community as a homogeneous whole is but a temporary experiment pending the development of the country-based final model.

Leaving aside the trade linkage part, the EC model includes 50 endogenous variables determined by 28 behavioural equations and 22 identities. The USA and Japan modules were derived from existing material, i.e. from the world model built by the Economic Planning Agency (EPA) of the Japanese Government. The reasons for this choice and the methodology used are described in Section 3. After analytical reduction, these two models were compacted from about 70 behavioural relations to 18 equations, the coefficients of which are combinations of the initial published parameters.[1]

The rest-of-world module includes only international trade and capital variables, and an estimate of its GDP, as computed in the LINK model (1983). In this module, current and capital account balances are determined so as to implement world consistency, i.e. to constrain current and capital world balances to sum over zero.

The linkage equations allocate imports amongst the four zones and compute dollar import prices as the weighted average of dollar export prices from the four zones. The rest-of-world and linkage equations are presented in Section 3.

The in and out-of sample simulation properties of the system are assessed in Section 4.

In its present form, Compact is basically a tool for the simulation of international policy scenarios between the USA, Japan and the EC as a whole. Its small size also makes it suitable for the application of a game theory approach to the problem of international coordination (Hughes-Hallet, 1984).

Section 5 gives policy simulation exercises for the EC module, analysing standardized policy shocks.

Section 6 presents revisions and developments that have been or will be applied to the version described here, which is the one used for all simulation exercises contained in the 'Annual Economic Review 1985–86', Chapter 6, *European Economy*, No 26, November 1985.

The appendices give the complete listing of all estimated equations and an analysis of the properties of the USA and Japan compacted form.

2. The EC module

2.1. Basic structure

The experiment of constructing an aggregate model for the EC, linked to the other main regions of the world is of interest in itself. However, the EC module is a test-bed for the most important theoretical principles to be used in the future models of EC national economies. The main features are:

(i) the attention paid to both stock and flow equilibrium in the flow-of-funds matrix between economic agents, namely households, enterprises, public authorities and the foreign sector;

(ii) the inclusion of wealth effects in consumers' demand;

(iii) the disaggregation of total unemployment between classical, Keynesian and frictional shares using a labour market disequilibrium approach;

[1] See bibliography for complete references.

(iv) the integration of the balance-of-payments item with the determination of the public sector borrowing requirement and money supply;

(v) the integration of the distinction between Keynesian and classical unemployment into the wage determination process and, via wages, into the inflation process.

These features may be summed up as follows:

2.1.1. Financial balances

Ignoring for the time being (and for illustrative purposes only) the subdivision between households and enterprises, there are two basic financial constraints in the economy.

(i) The first distributes private savings (Sp) into holdings of money (Mp), net assets or liabilities on both the domestic economy (Bp) and the foreign sector (Bfp), in national currency terms, er being the exchange rate and D the first difference operator

$$Sp - DMp - DBp - er.DBfp = 0 \quad (1)$$

(ii) The second is the public sector budget constraint, i.e.

$$Sg + DMg - DBg - er.DBfg - er.DR = 0 \quad (2)$$

where variables have the same meaning as above, except that they are related to the public sector, which also holds foreign reserves R (the central bank is consolidated within the government sector).

Given the consolidation of the private sector, we also have that

$$Bp + Bg = 0 \quad (3)$$

$$Mp = Mg \quad (4)$$

The balance-of-payments constraint also links Bfp, Bfg, R and er, i.e. in its simplest form

$$CURBAL + er.CAPBAL = er.DR \quad (5)$$

with CURBAL = current balance
CAPBAL = DBfp + DBfg

Finally, at world level, to any net increases in foreign assets in country i should correspond net increases in foreign liabilities in one or more countries j. Hence:

$$\sum_i D(Bfp_i + Bfg_i) = 0 \quad (6)$$

Given these constraints, one must decide beforehand which variables will be determined by independent behavioural relations, and which others obtained by identities. Usually, private domestic bond holdings are defined as an identity in this way. Furthermore, either er (floating exchange rate) or R (fixed exchange rate) is determined by the balance-of-payments constraint. Since money demand clearly needs a behavioural explanation and since savings are determined from the behavioural relations present in the national accounts part of the model, one must choose between the private or public net foreign assets or liabilities position, Bfp or Bfg. In the present version, Bfg (public external borrowing, for all practical purposes) is defined as a residual item by an identity.

At world level, given data availability, constraint (6) should be used to define the rest-of-world capital balance.

The next issue to consider in this context is whether bonds are perfect substitutes at the international level or not. In theoretical models, perfect substitution is often imposed and this results in the introduction of the interest rate parity equilibrium condition, which means that the forward exchange rate should also become an endogenous variable. Furthermore, these formulations are generally derived in a two-country framework and their generalization to an n-country model is far from clear.

The implication of perfect substitution is that bond holders are indifferent between domestic and foreign bond holdings and that the interest rate parity condition should always be maintained. The outcome is that it is impossible to determine the allocation between domestic and foreign bonds through behavioural equations.[2] In other words, this allocation must be fixed exogenously, which means that in policy simulations it will remain invariant. Furthermore, in fixed exchange rate mode, one and only one interest rate in the system can be determined independently. Should the US rate be the leader (as usually assumed) and the forward rate be determined by market expectations, the EC interest rate is merely the US rate times the forward premium, which means that the EC monetary authorities have no control on their interest rate.

Although these assumptions and their logical consequences are extremely convenient in terms of data requirements and model simplification, they restrict considerably the usefulness of the model for policy analysis. It was decided therefore to assume in Compact that domestic and foreign bonds are

[2] The same indeterminacy applies in theoretical models with two consumers and two firms where the consumers are indifferent between the goods produced by the two firms. In that case, it is not possible to determine the allocation of the two goods between the two consumers.

not perfect substitutes. Accordingly, the allocation between them is made by a net foreign assets demand function, using income, wealth, interest rate (domestic and foreign) and exchange rates as explanatory variables.

The current balance being computed elsewhere in the model, these foreign asset equations feed back into the model through the definition of private net wealth and through either foreign reserve fluctuations (which act on the public sector budget constraints) or through exchange rate fluctuations. Finally, it makes sense to have an interest rate equation which is not simply an interest rate parity condition.

2.1.2. Aggregate supply and demand conditions

The aggregate EC model uses a CES production frontier for the derivation of labour demand relations. The production frontier itself is used to derive target levels for potential employment and output, subject to a given capital stock. The targets are the potential level of aggregate supply compatible with full employment of the capital stock and potential labour demand in the sense of Sneessens (1983), i.e. the maximum quantity of labour which firms are ready to hire, dependent both on capital stock and real factor costs.

Aggregate demand (excluding inventories) is determined in the usual way as the sum of private and public consumption, fixed investment and net exports. Private consumption includes both income and wealth effects, which gives a direct feedback from the monetary sector to the real sector. The determination of fixed investment also takes into account monetary variables (i.e. the long-term real interest rate) in the definition of capital user costs. This is compared to the marginal product of capital, which is equal in long-run equilibrium to its real rate of return, hence establishing a linkage with profitability conditions. Net exports are determined in the linkage part (see below).

With a given level of aggregate demand, inventories and prices fluctuate in order to ensure ex-post short-run equilibrium between aggregate supply and demand on the goods market.

On the labour market side, the approach follows Sneessens (1983–84), i.e. effective observed labour demand (L) is defined as the minimum of

(i) potential demand, i.e. the maximum amount firms are ready to hire given the existing capital stock and factor costs (LP);

(ii) 'Keynesian' demand defined as a log-linear function of final demand and the relative cost of labour (LK), together with terms-of-trade effects;

(iii) labour supply (LS) defined as a log-linear function of active population.

These elements are combined with an adaptive adjustment lag in order to take into account labour market rigidities, i.e. in log-linear form

$$\log L = a \min(\log LP, \log LK, \log LS) + (1\text{-}a) \log L_{-1} + u$$

The equation for LS is, of course, a poor substitute for a 'true' labour supply equation endogenizing participation rates, but the latter involves taking into account not only economic factors but also demographic (shifts in age groups) and sociological factors. Until now, it has proved difficult to obtain a satisfactory estimate of all these factors. For simulation purposes, the active population is given by an identity:

$$PA_t = pa_t \,.\, PWA_t$$

where PA = active population (employment and unemployment)
PWA = population in working age group
pa_t = average participation rate (exogenous).

The constant in the relation between LS and PA takes into account frictional unemployment. The feedback to the rest of the model goes through the wage equation.

According to the production block formulation, long-run consistency implies that equilibrium real wage costs should be determined by equilibrium real labour productivity and the elasticity of substitution, i.e.

$$\log W_r^* = \text{constant} + 1/s \log plr^*$$

with s the CES elasticity of substitution.

For empirical application, there should, of course, be adjustment lags as in the labour demand formulation. The length of the adjustment lag is influenced by the degree of pressure on the labour market measured by the share of Keynesian unemployment in total unemployment.

In other words, when unemployment is inherently of a classical nature (with therefore a low share of Keynesian unemployment), the relation between real wage cost per person employed and real productivity per person employed will still work as if the unemployment rate were low.[3]

[3] Although the influence of Keynesian unemployment appears quite clearly from 1970 to 1980 in the evolution of real wages, one may argue that classical unemployment should also play a role since its determinants will be directly felt by participants in the wage determination process. This point should be clarified by further empirical investigation.

2.1.3. Prices and income

The approach for price inflation is based on the microeconomic approach to average cost pricing. The domestic deflator is linked to expected average cost, as given by the production block through an adjustment lag of the error-learning kind. It also uses 'surprises' in the form of increases in the rate of variation of the import price and the money stock (giving therefore a second-order equation) and also of variations in the pressure of demand indicator defined as the ratio of potential capital output as computed in the production block to total demand minus imports.

The consumption and investment prices are linked to the domestic deflator, with a terms-of-trade effect.

Disposable income is reconciled with the financial constraints and defined as the sum of the wage bill, interest and dividend income on domestic private and public bonds and on foreign bonds.

2.1.4. Government sector

Most relations in this block are in fact identities, using average tax rates, etc., as policy variables on the income side. On the expenditure side, the main variables are fixed exogenously, either in real or in nominal terms according to the kind of policy scenario introduced in the model.

Similarly, the interest on public debt equation is replaced by an identity using an average rate of return concept. This average rate of return (total of interest paid divided by the stock at the beginning of the period) is then linked to short and long-term interest rates through a Koyck lag. When going to country-based models, it will, of course, be necessary to have a more refined approach, in terms of specific maturity structures, etc.

2.1.5. Monetary relations

As mentioned above, behavioural relations are needed for all asset demands not given by identities.

Money demand (M2/M3) is determined as a function of nominal income (transaction motive) and of short-term interest rates (as proxy for the yield of interest-bearing elements in M2/M3) and long-term interest rates (as proxy for alternative asset yields). The stock of foreign reserves is either exogenous or endogenous according to the exchange rate determination model (see below, Section 2.1.6).

Net assets on the private sector are determined through the private sector balance sheet. There remains therefore the net foreign assets position. The equation used is a standard stock allocation relationship from a modified portfolio adjustment function, as proposed by L. Klein and K. Marwah (1983).

The ratio of the net capital inflow (or outflow, according to sign) to the net foreign assets stock at the beginning of the period is a function of:

(i) the rate of change in net foreign assets;

(ii) the level of and change in the difference between domestic and foreign yields, as measured by domestic and foreign interest rates, given the exchange rate (for simplicity the forward premium is implicitly constant);

(iii) an expectation factor on the exchange rate measured as the discrepancy between the rate of change in the exchange rate and the difference between domestic and foreign inflation rates, as an attempt to measure the influence of expectations about future PPP-driven exchange rate movements;

(iv) the current balance, as a share of net foreign assets (matching credit creation to finance trade, plus active search of capital inflows or outflows to offset current account deficits or surpluses).

As far as the government position is concerned, when a distinction between domestic and foreign debt is included, an equation is needed for distribution between the two.

The ratio of domestic debt in total debt is a function of the existing debt to GDP ratio, the expected growth in the money stock and variations in real long-term interest rates, domestic and foreign.

Finally, the variation in the share of new domestic debt in new total public debt feeds back into the term structure equation for the long-term rate, together with the US rate for the non-US zones.

2.1.6. The exchange rate problem

Two polar regimes may in principle be introduced into a model: either fixed rates where international reserves fluctuate in order to maintain the balance-of-payments identity; or fully floating rates where there is no change in international reserves (DR = o).

In between, and approaching some actual institutional arrangements, two intermediate approaches have been developed:

(i) the EPA model 'Flex' (Amano, 1981) approach which introduces explicit constraints on the range of desired variations in exchange rates such as the fluctuation margin in the European Monetary System. When the constraints are binding, then international reserves change through official interventions. Should a constraint on reserves be reached, the interest rates would have to move;

(ii) the Klein-Marwah (1983) approach, where a semi-market clearing equation is introduced, with, as the explained variable, the difference between the rate of change of the exchange rate and the rate of change of the stock of net foreign assets, giving in some sense the rate of change of the exchange rate that would have taken place in the absence of government intervention.

In the present formulation, the EPA approach is retained for the ECU/dollar and yen/dollar exchange rates. The rest-of-world module is defined in dollar terms. Its implicit exchange rate follows therefore strictly the US dollar.

2.2. Main estimation results

In this section, estimation results will be presented for the most important equations. A full listing of estimation results and a description of the estimation technique are given in Appendix A. Simultaneous equation techniques were used in the labour market, wage and price blocks. The small number of observations does not allow for a joint estimation of the full model. The presentation will follow the usual order, i.e. final demand, factor demand, wage and prices, public sector receipts and expenditures, monetary variables and balance-of-payments flows.

2.2.1. Private consumption

The literature about the consumption function is particularly abundant and the formulation retained here is fairly straightforward and compatible with the life-cycle hypothesis, i.e. it includes wealth together with income.

The specification also incorporates the usual Koyck lag. The first year marginal propensity to consume is 0,385 with a long-run propensity of 0,827 on real disposable income. The propensity to consume on net wealth in the first year is 10 times smaller, i.e. 0,0305 and 0,0676 in the long term. An explicit price inflation effect is also introduced with an implicit elasticity at the mean of about $-0,08$ short-term and $-0,17$ long-term.

2.2.2. Investment

The investment function is always a critical one in macroeconomic models: whereas the various theories about the aggregate consumption function lead to fairly similar specifications, the investment functions show considerable variations in their analytical expression and explanatory variables.

In terms of long-run equilibrium, the cost minimization hypothesis combined with a production function leads to well-defined desired capital stock relations. However, as pointed out already in 1960 by Haavelmo, the demand for investment cannot simply be derived from the demand of capital since a finite addition to the *stock* of capital can lead to any rate of investment *flows* depending on the hypothesis made about the speed of reaction of capital users and, more specifically, about the factors influencing that speed of reaction.

Compact uses the formulation proposed by Gandolfo (1978) and Knight and Wymer (1981) and assumes that net investment depends on the difference between the desired capital stock and the actual stock in existence at the beginning of the period, through a partial adjustment lag. The desired rate of growth of the capital stock is a linear function of the difference between the marginal product of capital and its marginal real user cost. The integration of these elements leads to a second-order equation linking variations in the rate of growth of net investment to the discrepancy between marginal product and marginal costs and to the former period rate of growth of the actual capital stock. The marginal product variable is derived from the CES production frontier and is therefore compatible with the labour market approach (see Section 2.2.4).

Although well-suited to the long run 'supply-side' determinants of investment, this function neglects in the short run the more usual acceleration effect linking directly investment to variations in effective demand. This formulation may therefore underestimate the speed of reaction of investment to policy shocks (cf. below, Section 5.3, p. 135, and Section 6, p. 144).

Variations in inventories also follow a desired stock approach, when the desired variation is determined as a function of the discrepancy between potential output and effective final demand (excluding inventory variations), with a partial adjustment lag.

In the CES or Cobb-Douglas formulation, the real marginal product of capital is equal to its long-run real rate of return. Furthermore, the elasticity of the rate of return with respect

to the real wage rate may be measured by the ratio of the share of labour to the share of capital in value added. In other words, an increase in real wages will ultimately cause a fall in the marginal product of capital, hence a deceleration of net capital formation. This in turn will reduce potential output and potential employment as defined in the labour market section, contributing to an increase in classical unemployment for a given labour supply.

The estimation results show that a 1 % change in the discrepancy between marginal product and marginal costs in one period of time will change the rate of growth of the desired rate of growth of the capital stock by 1,8 percentage points, which, given the adjustment lag, leads to an effective change of 1,0 percentage point in the rate of growth of net investment during the same period.

2.2.3. Imports

Given the aggregate nature of the EC module, external trade flows incorporate only extra-EC trade. This does not cause problems for GDP determination since intra-EC exports and imports should of course balance. Indeed, the flow data are adjusted by Eurostat in order to obtain that balance, any residual item being transferred to the 'rest of the world'.- The trade balance remains therefore the same with extra-EC flows as with total flows.

The specification is the usual demand formulation, with demand for imports a function of final demand and relative prices (import prices divided by the domestic price index). In the initial Compact formulation, it was proposed to disaggregate final demand into gross fixed capital formation on the one hand, and total consumption plus exports on the other. Similarly, an attempt was made to get separate elasticities for dollar import price, exchange rate and domestic prices. Although these disaggregations work very well in some EC country models (and in some European modules of the Japanese EPA model), none proved to be workable at the aggregate EC level: one of the side-effects of geographical aggregation of economic data is the partial cancellation of country variations going in opposite directions. In other words, EC data are as a rule smoother than individual country data, which cause colinearity problems in estimation when a large number of explanatory variables are used. The problem is, of course, a general one, but the import function seemed to be particularly vulnerable.

Finally, a case may be made for the use of the degree of capacity utilization in the import equation as a linkage to a disequilibrium situation on the goods market, in accordance with the approach retained for the labour market (cf. below, Section 2.2.4). This will be done in future developments.

Estimation results show an import elasticity of 1,33 with respect to final demand and −0,26 with respect to relative prices. These may seem low compared to results obtained in other models, but are consistent with the fact that they relate to extra-EC flows only. The latter are growing at a slower rate than total country imports and include a larger share of raw materials which have lower price elasticities than manufactured goods.

2.2.4. Labour market and derived concepts

The approach follows closely that proposed by H. Sneessens in various publications (1981, 1983, 1984) and may therefore be linked to the seminal works written on the present nature of unemployment by Malinvaud (1977) and others.

As mentioned above, the equations of the model determine three concepts, i.e.

(i) potential labour demand (LP), defined as the maximum amount of labour firms are ready to hire, given existing capacity and factor costs;

(ii) Keynesian labour demand (LK) with effective domestic final demand as the critical explanatory variable;

(iii) labour supply (LS) as a function of active population (PA). Taking into account frictional unemployment, LS is therefore always smaller than PA.

In the absence of adjustment lags, effective labour demand would be the smallest level between LP, LK, LS, with three possible outcomes represented by three binary variables:

0_1 = 1 if LK $\geq$ LP, 0 otherwise

0_2 = 1 if LK $\geq$ LS, 0 otherwise

0_3 = 1 if LP $\geq$ LS, 0 otherwise.

The case $0_2 = 0_3 = 1$ is the repressed inflation case (both Keynesian and potential labour demand are larger than supply).

The case $0_1 = 1$ and $0_3 = 0$ is the classical case (maximum demand by firms is smaller than both supply and purely demand-oriented labour demand).

Finally, $0_1 = 0_2 = 0$ is the Keynesian regime.

One has therefore for effective employment L

L = minimum (LP, LK, LS).

In the real world, of course, firms are not able to adjust instantaneously to equilibrium values and one has an adjust-

ment process which, in Sneessens's works, is a standard partial adjustment mechanism.

$$\frac{L}{L_{-1}} = \left[\frac{\min (LP,LK,LS)}{L_{-1}}\right]^{a} \qquad (7)$$

with $0 < a < 1$

Hence, one is practically never in a 'pure' case with the economy switching instantaneously from one regime to another at a given date.[4]

Results for the initial Sneessens approach are the following:

(i) The estimated long-run elasticity of substitution between labour and capital for EUR 10 is 0,967. As should be remembered, in a CES framework, this elasticity is also the equilibrium own-price elasticity of labour demand with respect to real wage costs. Although the value is statistically different from 1, it tends to confirm that on aggregate data the Cobb-Douglas hypothesis of unitary elasticity of substitution is a good approximation.

(ii) The adjustment speed with respect to factor price changes is fairly slow, with 16,4 % of the adjustment in the first year, and about 4 1/2 years for total adjustment, all other things being equal.

(iii) The long-run value for labour-increasing technical progress is estimated at 2,7 % and capital-increasing technical progress at 3,3 %. Tests were made for non-constancy of these coefficients but it made the estimation problem intractable, other coefficients of the production frontier taking absurd values.

(iv) The adjustment coefficient between regimes (a in equation (7)) appears to be high, i.e. 0,63, meaning a fairly fast adjustment between regimes. This also implies a high short-term elasticity of Keynesian labour demand to output changes, i.e. 0,55, a value higher than the one usually obtained, i.e. 0,3 to 0,4.

When the estimation is redone by imposing a Keynesian labour demand onto all observations, the short-term elasticity of labour demand with respect to final demand falls to 0,37. This confirms the results obtained for France by Lambert et al. (1984) and for Belgium by Sneessens (1981) (on quite different samples) and gives an idea of the kind of bias obtained in standard Keynesian analysis for individual coefficients.

(v) The equations can be used to compute the evolution of potential and Keynesian employment. As in all similar studies, however, the levels are undetermined, but variations are correct. Potential employment was therefore scaled so as to have in every period a positive discrepancy and in at least one period a zero discrepancy between potential and actual employment. The evolutions are compatible with those found by Sneessens (1984) for the four main countries, with an increasing discrepancy between labour supply and potential employment since 1972/73, whereas all three series (LP, LK, LS) fluctuate in a parallel way before that time. It should, however, be pointed out that due to the very low level of unemployment in EUR 10 during the 1960s, the proportions for that period are somewhat unreliable since a very small change in parameters is able to cause shifts between regimes. Since 1973, however, differences are more clear-cut and proportions more usable. Table 1 therefore gives the proportions since 1973 only.

Table 1 gives the amount of the observed unemployment rate that can be attributed to either Keynesian or classical unemployment.

[4] Since the estimation of the labour market equations, a further paper applied to the French data only, by Lambert, Lubrano and Sneessens has appeared, where the partial adjustment is replaced by a CES smoothing, i.e.

$$L = \left[LP^{-r} + LK^{-r} + LS^{-r}\right]^{-\frac{1}{r}} \leq \min (LP, LK, LS) \qquad (2)$$

Table 1

EC unemployment rate — Breakdown between Keynesian and classical rates

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Classical[1]	2,3	2,6	3,4	4,4	4,5	4,8	5,3	5,8	6,0	7,4
Keynesian	0,1	0,3	0,9	0,5	0,8	0,6	0,2	0,3	1,9	2,2
Total	2,4	2,9	4,3	4,9	5,3	5,4	5,5	6,1	7,9	9,6

[1] Including frictional unemployment.
Source for total: Statistical annex– *'Annual Economic Review 1983-84'*, Table 3.

In accordance with the theoretical background of the model, the evolution of Keynesian unemployment follows closely the cyclical variations of real GDP with expansion of Keynesian unemployment during the low growth years (1974/75, 1980/82) and quick reduction during cyclical recovery (1973, 1976, 1979). Classical unemployment, on the other hand, may be related to the very fast expansion of real wages after the first oil shock and to the considerable slowdown of fixed investment formation after both oil shocks.

It should be stated at this stage that the disequilibrium approach in Compact is limited at present to the labour market and, more specifically, to the labour demand determination by firms. The present formulation, therefore, is not consistent with a full disequilibrium approach for *all* agents, including, for example, rationing on the goods market or investment demand (see below, Section 6, p. 144). The problem of returns to scale should also be investigated in that framework. Methodological problems for a full (and consistent) disequilibrium approach are, however, considerable and the present formulation should be considered only as a first step in that direction.

2.2.5. Wage determination

The CES formulation rests upon the hypothesis of a long-run equilibrium relation between real wage cost and real labour productivity, the long-run elasticity between these two variables being the elasticity of substition of the underlying CES function.

Expected labour productivity is therefore taken as a target in wage determination and is represented by a distributed lag over present and past observed variations in output per occupied person. This target may, however, be over or under-reached, according to the respective bargaining power of employers' and employees' representatives during wage negotiations. In the Compact formulation, this aspect is taken into account by making the adjustment speed an inverse function of Keynesian unemployment plus 1 % before 1971 and 2 % later, representing in a somewhat ad-hoc way frictional unemployment. It also avoids division by zero when the Keynesian part of unemployment (nearly) disappears.[5]

There remains, however, the problem that real wages are an ex-post concept, i.e. nominal wages deflated by either output prices (cost concept) or consumption prices (income concept). An equation using the data series on real wages as dependent variables introduces therefore a kind of automatic 100 % indexation process since, for accounting consistency, nominal wages must be defined by an identity (price times real wage). Therefore an indexation process was combined with the real wage determination in a two-equation system, i.e. with

W_n and wr = nominal and real wage costs
prl = labour productivity
U_{shk} = Keynesian unemployment rate
* = desired or expected variable.

$$wr^* = a\ prl^*$$
$$prl^* = \Pi\ prl^{wi}{}_{-i}$$

$$Dlog\ wr = \frac{d}{a + b.U_{shk}} . Dlog\ wr^*$$

$$Dlog\ W_n = b\ Dlog\ p + (1-b)\ Dlog\ p_{-1} + Dlog\ wr$$

The opportunity was also taken to include a concept of real net after-tax target for wage-earners through the introduction of the difference between nominal net (after-tax) wage growth and consumer price inflation, lagged one period, as third explanatory variable.

When solving the system for the real wage-cost target, one is left with one equation linking variations in *nominal* wage cost to

(i) real productivity changes with an adjustment lag function of the unemployment rate as described above;

(ii) price changes;

(iii) discrepancy between net wage-income changes and the inflation rate lagged one year.

The main quantitative results are:

(i) In a situation of Keynesian full employment, the long-run productivity coefficient is equal to 0,978 and does not statistically differ from the elasticity of substitution of the implicit CES function.

(ii) The adjustment is distributed over three years with proportions 1/4, 1/2 and 1/4 in t_0, t_{-1} and t_{-2} respectively.

(iii) The adjustment to price inflation is equal to 0,872 the first year and 0,128 the second year (the fact that both coefficients sum to 1 had to be imposed a priori).

(iv) An increase by 1 % of Keynesian unemployment in a given year (which is a significant change; see Table 1) will cut during that year the adjustment of wages to productivity by one half with respect to its full employment trajectory. However, given the distributed lag over productivity, the net effect on wage cost will be much less in relative terms.

[5] See footnote 3.

(v) A fall by 1 % of the purchasing power of net, after-tax, wages will cause an increase by 0,39 % of nominal wage cost the following year, all other things being equal.

2.2.6. Prices

The price determination section starts from the GDP price deflator, used as general inflation indicator in the model. Other prices are expressed as function of the GDP price plus correction for relative import costs (consumption and investment deflators) or export prices. The alternative formulation would have independent and specific price functions for all final demand categories, then computing the GDP deflator as a weighted average of these prices. The main drawback of the latter approach compared to that chosen is that it requires more complicated estimation work and cumulates all errors in individual demand components with no guarantee that they will cancel out. Since the GDP deflator plays an important role in the labour market and investment equations, this cumulation of errors was deemed undesirable in terms of simulation properties.

The equation for the GDP price deflator takes into account the evolution of average costs, as computed from the CES production frontier. Since in the short run the economy may be off its production frontier, this element may be taken as a long-run price target. In the short run, deviations around this target are determined by any acceleration or deceleration in import costs and money supply, these two elements being taken as proxy for expectations of future increase or decrease in the average rate of inflation. The equation also uses Hendry's error correction mechanism for its dynamic formulation.

Results are very good for an equation expressed in rates of growth (it explains 92 % of the variance in inflation rate) and are consistent with the theoretical postulates of the CES model in a profit maximation mode. In the long run, the average cost elasticity is 0,998 and not statistically different from 1. In the short run, any acceleration of import costs by one percentage point will add 0,05 points to the general inflation level. Similarly, a variation of one point in money supply (M2/M3) growth will cause an increase of 0,18 points in inflation in the first year, all other things being equal. Finally, any discrepancy in t_{-1} between computed average costs and effective price increases will appear in year t with a coefficient of 0,72, all these coefficients being highly significant.

For consumption and investment prices, the simplified equations work very well, with R^2 of 0,98 (over rates of growth), the coefficients being respectively about 0,87 and 0,85 for the GDP deflator and 0,09 and 0,12 for the terms-of-trade effect (price of imports over price of exports). Finally, the export price is a function of the EC's GDP deflator, with a weight of 0,67 and of extra-EC world export price variations, with a weight of 0,36. The pricing behaviour may therefore be interpreted as two-thirds price setter and one-third price taker.

2.2.7. Public sector and incomes

The public sector and income part of Compact-EC needs little elaboration here since it is composed mostly of identities, with average rate of taxation, social security contributions, etc., taken as policy instruments. This part of the system will therefore be strongly revised in the future country modules, where institutional divergences and reaction function for the public authorities may more properly be introduced.

2.2.8. Monetary and financial equations

Money demand in nominal terms is determined by the most usual formulation with nominal GDP, short-term and long-term interest rates as explanatory variables. The elasticity is 1,1 for nominal GDP. The short-term interest rate elasticity is small (0,18) and is not significantly different from zero.[6] The long-term interest rate elasticity, however, is equal to − 1,02 and significant.

The short-term interest rate equation should be considered as a reaction function. The main factors included are the discrepancy between nominal GDP growth and M2/M3 growth, the exchange rate variations and the US short-term interest rate. The equation was estimated with a Koyck lag and gives the following results:

A discrepancy of one percentage point between money growth and nominal GDP growth will change the short-term rate by 0,226 points in the short run, by 1,14 points in the long run. A 1 % increase in the USD/ECU rate will decrease the short-term rate by 0,017 points (short run) or 0,09 points in the long run. The US rate will affect the EC rate by 0,10 points in the short run, 0,513 points in the long run. The average lag length is four years.

The long-term interest rate is related to the short-term rate (term structure equation) with a coefficient of 0,48 in the

[6] The fact that the short-term interest rate has a positive elasticity comes from the heterogenous nature of the monetary aggregate at the EC level, i.e. a mixture of M2 and M3 which contains interest-bearing assets reacting positively to changes in the short-term interest rate.

short run, 0,736 in the long run. The acceleration of inflation taken as an expectation of future inflation is not significant. An increase in the PSBR as a percentage of GDP will increase the long-run rate by 0,18 points in the short run, 0,27 in the long run. The average lag length is 2 1/2 years.

2.2.9. Balance of payments

External capital net inflows are given by a portfolio allocation equation following the model proposed and tested by L. Klein and K. Marwah (1983). The net capital flow in country or zone i, expressed as a ratio to the stock of net foreign assets at the beginning of the period, is a function of

(i) the rate of change in net foreign assets;

(ii) the yield differential both in level and in first differences;

(iii) the price-parity deviation of the exchange rate (variation in exchange rate parity minus the relative price change between domestic and foreign prices);

(iv) the current account balance as a fraction of net foreign assets at the beginning of the period, representing both credit creation to finance trade or active search of capital inflows or outflows to offset the current account position.

Given the poor quality of capital flow data, the estimates should be taken with caution. It should also be remembered that elasticities apply to a ratio. Therefore, a high elasticity with respect to the share of capital inflows in wealth may correspond to a small adjustment in the stocks. The estimated coefficient on the rate of change in total net foreign assets is 0,48. The interest rate differential impact is also substantial with a coefficient of 0,12 for the differential itself and 0,093 for its variation. The purchasing power parity discrepancy is weakly significant with a coefficient of $-0{,}112$. Finally, the current balance term has a coefficient of $-0{,}412$.

3. United States of America, Japan, rest-of-world and linkage module

3.1. Methodology for the USA and Japan modules

It was considered inadvisable to re-estimate the USA and Japan equations since this would have greatly lengthened the time required to built Compact. Two alternatives were therefore considered:

(a) Minimal approach: this would have consisted of making direct use of multiplier tables from other sources. The equations might have been of the form (taken from Helliwell and Padmore, 1981)

$$d\%Y_{USA} = 1{,}18\, d\%X_{USA} + 0{,}2\, d\%X_{JA} + 0{,}05\, d\%X_{EC} + 0{,}69\, d\%X_{USA_{t-1}} + 0{,}02\, d\%X_{JA_{t-1}} + \text{etc...} \quad (9)$$

where $d\%Y_{USA}$ = impact on US income of a 1 % change ($d\%X$) in public expenditure in Japan, EC in periods t, $t-1$, etc.

These relations are, of course, very easy to use and build, but published material on policy shocks are extremely heterogenous and not always well documented. Besides, international exercises (the only ones that are truly relevant for our purpose) are limited to a few case studies. This means that the possible use of the Compact model as far the USA and Japan are concerned would be limited to what has already been done elsewhere.

(b) A second approach, that which was retained, requires the availability of a US and a Japanese model together with a minimal subset of its data base (the most recent preferably). This requirement is met by the USA and Japan modules of the EPA world model since both equations and simulation results for $1982-83$ together with exogenous hypotheses are published in the EPA Discussion Paper No 15, March 1983. Furthermore, the monetary equations of the US model have been revised by Flint Brayton (Federal Reserve Board) in EPA Discussion Paper No 26, May 1983, and may be taken into account since they incorporate the impact of the most recent institutional development in US financial markets. Since Brayton's equations are relatively self-contained, the substitution may be done without difficulty.

The procedure may be decomposed in two steps:

(i) Analytical linearization of the models. Since 99 % of any model's behavioural equations are either linear or linearized for estimation (through logarithms etc.), the process is quite simple.

Example: a standard Cobb-Douglas production function $Y_o = AK^a{}_o L^b{}_o e^{gto}$ may be rewritten

$$\log Y_o = \log A + a \log K_o + b \log L_o + gto \text{ giving}$$

$$\frac{dY}{Y_o} = a\frac{dK}{K_o} + b\frac{dL}{L_o} \quad \text{or}$$

$$DY = a\frac{Y_o}{K_o}DK + b\frac{Y_o}{L_o}DL + gY_o$$

a linear relation in the first differences (after switching from continuous to discrete time), the index o denoting the period around which the model is linearized and D being the first difference operator.

(ii) Condensation of the linearized model into a semi-reduced form. Once the model is linearized, it may be written for any period t

$$A_t DY_t = B_t DX_t + C_t \qquad (10)$$

The vector DY_t represents the first differences in the endogenous variables, the vector DX_t the first differences in the contemporaneous exogenous variables. A_t, B_t are matrices of coefficients. C_t is a matrix of constant, incorporating not only trend constant terms but also all predetermined variable impacts (i.e. those relative to lagged values of Y and X).

A condensed semi-reduced form of the system will be written

$$A^r_t DY^r_t = B^r_t DX_t + C^r_t \qquad (11)$$

where DY^r_t denotes the vector of first differences in *retained* endogenous variables, i.e. a subset of the initial endogenous coverage of the initial model. The method used is Gauss pivotal substitution which means that the reduced matrices A^r, B^r, C^r will nevertheless contain the same information set as in A, B, C (the coefficients of the former being linear combinations of those of the latter). Thanks to this procedure, a simultaneous model of say 50 equations may be compressed into 10 or less behaviourals without losing information in the process. Of course, the full analytical derivation of coefficients A^r_t, B^r_t, C^r_t from A_t, B_t, C_t would be extremely cumbersome, but their numerical computation is always possible since, in an actual model, all these coefficients are numbers.

The main advantage of this procedure is that the final output is still a simultaneous system that may be linked to the other components of the complete model and used for simulations with possible shocks both on the exogenous variables dX_t but also on the retained endogenous variables.

It may also be noted that it is not necessary to consider all exogenous variables. Should some of them be judged irrelevant or better kept invariant, they may be transferred into the constant matrix C_t.

As proposed above, the US and Japanese modules of Compact are semi-reduced forms of the corresponding Economic Planning Agency (EPA Tokyo) world model.

These were chosen for the following reasons:

(i) They are published and well documented, together with numerous simulation results.

(ii) They have reasonably good properties at least in their 'constrained exchange rate' mode.

(iii) They are much smaller than most other USA or Japan models in existence but still contain all that is needed in Compact, i.e. final demand, labour market, wages, prices, monetary and financial equations with a complete presentation of all balance-of-payments flows, wealth, and real balance effects, etc.

(iv) They were built from the start as components in a multinational model and, although not identical (as in Comet), their basic macro-structures are quite comparable.

(v) Their analytical formulation (basically log-linear) is easily tractable for linearization and partial reduction.

Although much smaller than the US and Japanese models used in other institutions, the USA and Japan modules of the EPA model are still large compared to the proposed EC module. Excluding the linkage part, the number of behavioural equations is 74 in the US model and 69 in the Japanese model, with the following breakdown:

	USA	Japan
Final expenditure	9	16
Labour market and capacity utilization	4	4
Prices and wages	17	12
Income distribution	8	8
Government	1	4
Money and finances	16	8
Balance of payments	19	17
	74	69

It is therefore necessary to reduce the size of the system, according to the substitution methodology proposed above.

The final structure is the following:

Endogenous variables present in the USA and Japan compacted modules (eq = defined by a behavioural equation, id = defined by an identity)

1. Private consumption (eq)
2. Gross domestic fixed capital formation (eq)

3. Changes in inventories	(eq)	= 5 final expenditure equations
4. Exports, goods and services	(eq)	
5. Imports, goods and services	(eq)	
6. GDP	(id)	
7. Employment	(eq)	= 2 labour market equations
8. Unemployment	(eq)	
9. Wage cost per employee	(eq)	
10. Domestic deflator	(eq)	
11. Export deflator	(eq)	= 4 price and wage equations
12. Import deflator	(eq)	
13. GDP price	(id)	
14. Disposable income	(eq)	= 1 income equation
15. Private net worth	(id)	
16. Net government surplus	(id)	
17. Money demand	(eq)	
18. Short-term interest rate	(eq)	= 3 monetary equations
19. Long-term interest rate	(eq)	
20. Net service balance	(eq)	
21. Current balance	(id)	= 3 balance-of-payments equations
22. Private capital balance	(eq)	
23. Reserves or exchanges rate	(eq)	
		= 18 behavioural equations

As far as exogenous variables are concerned, the initial set in the EPA models is too large to be used easily. Therefore only a subset is retained here as basic exogenous values, the other being included in the residual adjustment item used for the calibration of the equations.

The remaining instruments are:

(i) government current expenditure in real terms,

(ii) average tax rates,

(iii) population in working age group,

(iv) discount rate,

(v) required reserve ratio,

(vi) net transfers in balance of payments,

(vii) exchange rate or reserve constraint.

As can be inferred from equation 11, the coefficients of the Compact module are linear combinations of the initial parameters. Their interpretation is therefore difficult. In order to give a better idea of the key coefficients, expressed in the usual macroeconomic formulation (propensity to consume, own-price elasticity, etc.), a short description of the initial equations is given in Appendix B.

3.2. Rest-of-world module

As indicated in the introduction, the equations for the rest-of-world component are at this stage primitive, with no other aim than to close the system. Rest-of-world (ROW) GDP (representing about 22 % of world GDP) is linked to the combined GDP of the EC, the USA and Japan. The short-term elasticity is 0,39, the long-term elasticity 1,18. This relation, however, explains only 75 % of the variance in the ROW rate of growth.

Imports of goods are linked to GDP with an elasticity of 0,327 short-term, 0,998 long-term. Price effects are introduced through terms-of-trade change, the ratio of dollar export prices to dollar import prices being weakly significant at 0,211 short-term, 0,643 long-term. Export prices (in dollar terms) are related to the aggregate EC-USA-Japan export price with an elasticity of 0,638.

Real exports of goods and import prices are given by the linkage equation.

All other balance-of-payments items are determined as residuals so as to ensure summation over zero for world current and capital balance positions.

It is planned to introduce at a later stage specific commodity price equations in this module, in order to be able to simulate more closely the relations between economic developments in the EC, USA and Japan zones and commodity price evolution. At present, specific commodity price shocks must be introduced by ad hoc adjustment in the rest-of-world export price equation.

3.3. Linkage equations

The linkage methodology is taken directly from the Desmos system (Dramais, 1975).

The basic assumption is that similar goods produced in different countries are not perfect substitutes. This leads to bilateral export equations that are highly non-linear but may be linearized by taking their Taylor expansion truncated after the first-order term. As a by-product, the linearized system is automatically additive. In other words, the world consistency constraint for the trade balance may be ensured without need for a country or zone to be determined as a residual.

The linkage equations are bilateral and relate changes in market shares to relative dollar prices, relative potential

output and relative degree of use of capacity. As in Desmos, the potential output term represents the notion of growth-propelled exports. The degree of use of capacity acts as a proxy for non-price cyclical factors affecting exports. A Koyck lag acts on prices and potential output, but not on the degree of use of capacity.

The dependent variables are not real bilateral export flows as such, but the difference between the effective export flow from i to j (X_{ij}) minus what it would have been, were market shares constant. Calling M_j the import demand from country j, and a_{ij} ($= X_{ij}/M_j$) the market share in the base year to, the constant share export amount would have been $a_{ij}.M_j$.

For the EC, the relative price elasticities are $-0{,}053$ short-term and $-0{,}442$ long-term. The relative potential output term has a short-term elasticity of 0,093, becoming 0,768 in the long run. Finally, the degree of use of capacity has an impact elasticity of $-1{,}03$.

It results from these parameters that bilateral export flows will be more affected by comparative changes in productive capacity and its degree of use than by relative price effects.

4. Basic simulation results

4.1. Methodology

Any model may be simulated in four possible modes:

Since lagged endogenous variables are used as explanatory variables, the user may decide for a given period t to use either the observed values of the lagged endogenous variables (when available) or the values computed by the model itself during the solution of period $t-1$, $t-2$, etc. The first case is called *static* simulation and the second *dynamic* simulation.

All behavioural equations estimated by econometric techniques contain a residual error term of mean zero over the estimation sample but with a non-zero variance around that mean. When simulating the model, these residuals may be set equal to zero or may be given random values drawn from a given statistical distribution (most often the normal or Gaussian distribution) with mean zero and variance equal to the residual variance of the equation. The first case will be called *deterministic* simulation, the second *stochastic* simulation.

The combination of these polar cases leads to four possible simulation sets, i.e. deterministic-static, stochastic-static, deterministic-dynamic and stochastic-dynamic.

Over the historical sample, these simulation sets are essentially reliability tests showing the properties of the model as a global system. To make an analogy with engineering systems, it is well-known that in a system with many components, the fact that all individual components have a very low probability of failure does not preclude the fact that the probability of failure of the global system might become very large indeed. In modelling terms, the combination of equations yielding very good independent results may produce an unstable or explosive system.

In most cases, simulations are presented in a deterministic way, i.e. with residuals set to zero.[7] This is the most convenient and time-saving procedure, but it causes some conceptual difficulties. As shown theoretically by Howrey and Kelejian in 1971, the application of non-stochastic simulation procedures to econometric models that contain non-linearities in the endogenous variables yields results that are not consistent with the properties of the reduced form of the model. In other words, the multiplier analysis based on deterministic simulations yields results that do not apply to the corresponding historical value. The correct procedure should be to run a large number of simulations using the same levels or shocks for exogenous variables but different random values for the residuals and then compute the statistical mean (and variance if need be) of the multipliers, in order to check whether discrepancies between deterministic and stochastic results may be ignored.

For Compact, two sets of simulations are presented here, giving the two polar cases, i.e. deterministic-static and stochastic-dynamic. These sets are completed by a deterministic-dynamic simulation made on a forecasting period consistent with the short-term forecasts made in the autumn of 1984. Since the estimation period stops in 1982, the dynamic simulation covers the years 1983, 1984 and 1985.

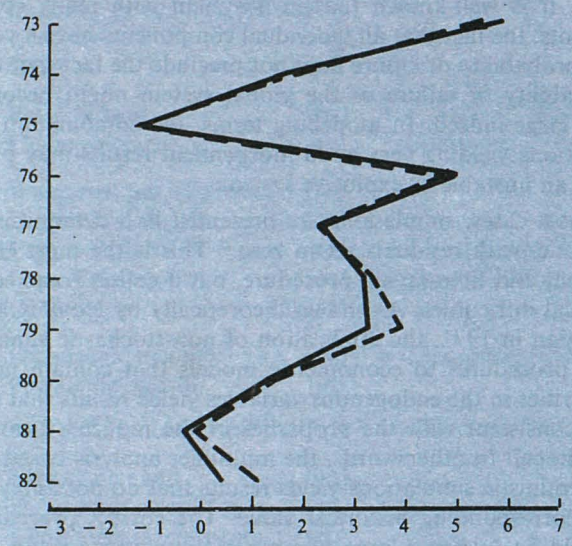
4.2. Historical period, deterministic-static solutions

The historical simulations were run on the last 10 years of the sample, i.e. $1973-82$.

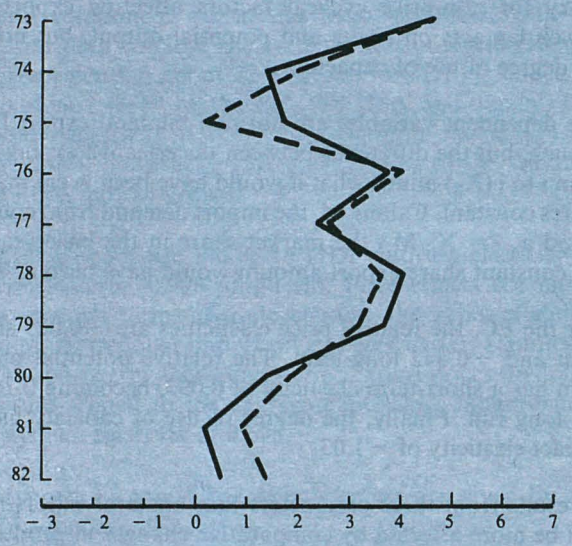
As is always the case in modelling work, historical simulations are difficult to present analytically since there is no single criterion from which to evaluate the precision of the model as such. All aggregated statistics (Theil's inequality coefficient, root-mean-squared-errors, etc.) relate to individual variables. One may, of course, build weighted averages of root-mean-squared-errors, but the weighting pattern is always arbitrary: on which criteria should one weight final demand errors versus price errors, etc.

[7] The fact that residuals may be given ad-hoc values during forecasting exercises (the so-called calibration of the model) has nothing to do with stochastic simulations and does not change the deterministic nature of the exercise.

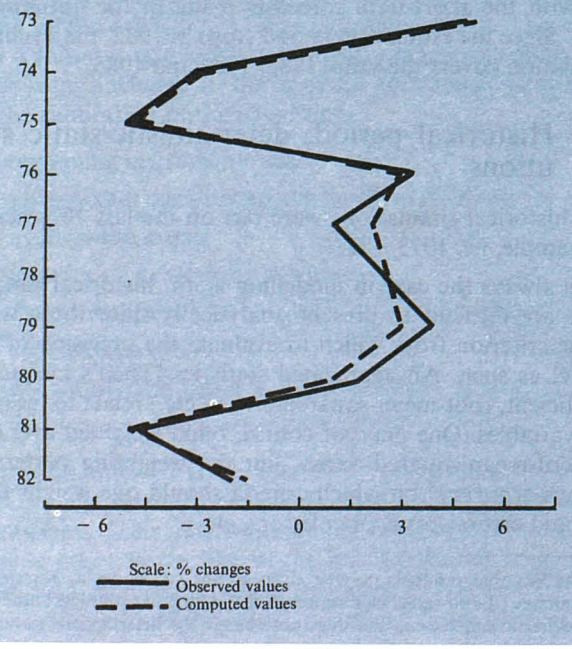
GRAPH 1: **GDP, 1975 prices**



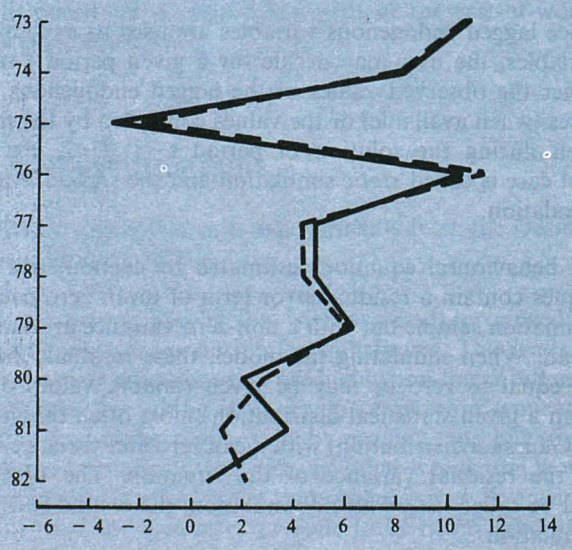
GRAPH 2: **Private consumption, 1975 prices**



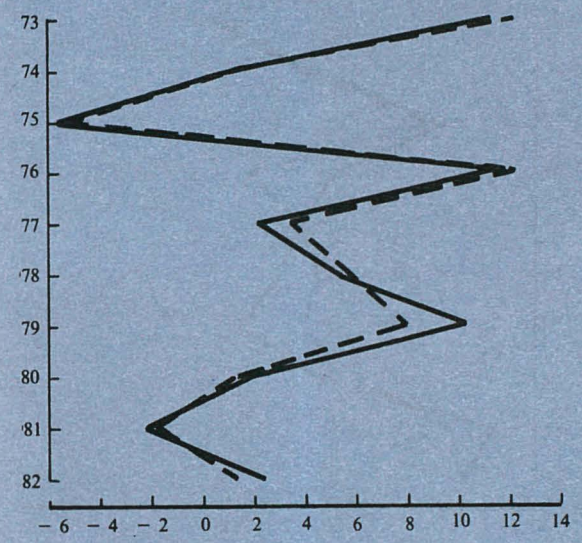
GRAPH 3: **Gross fixed capital formation, 1975 prices**



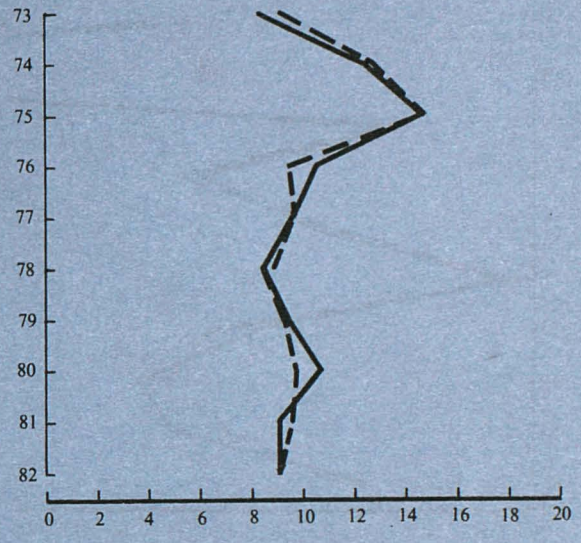
GRAPH 4: **Exports, 1975 prices**



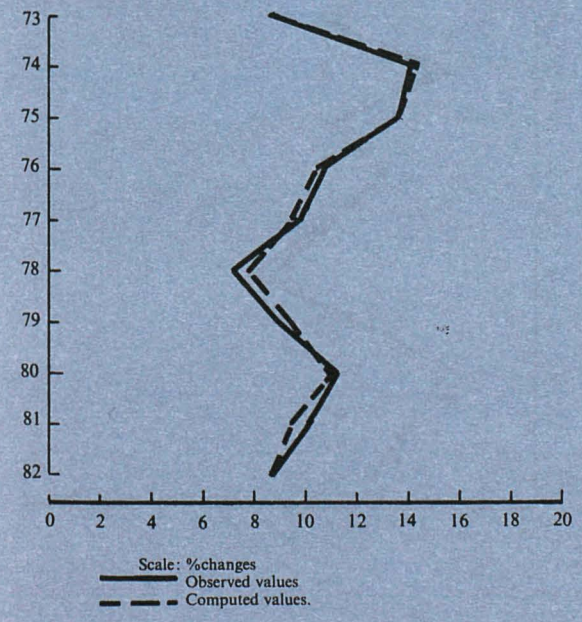
GRAPH 5: **Imports, 1975 prices**



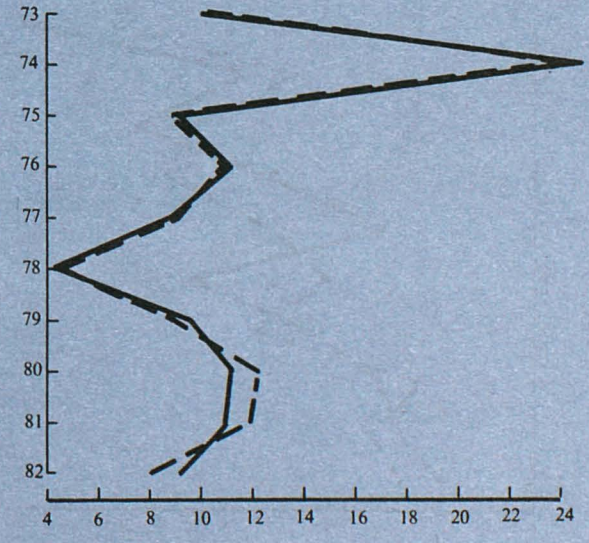
GRAPH 6: **GDP deflator**



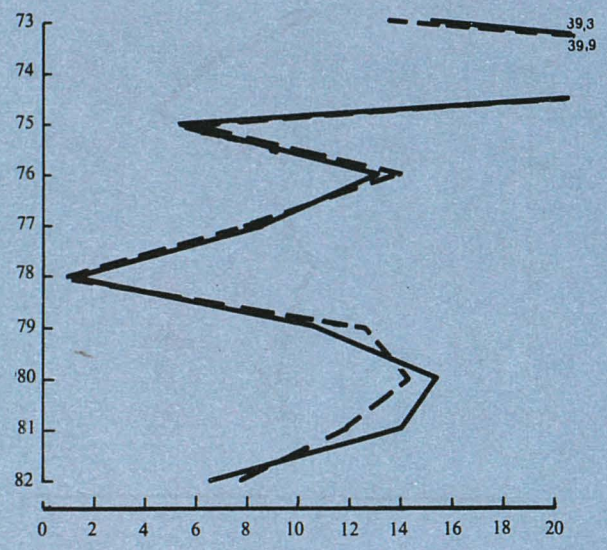
GRAPH 7: **Private consumption price**



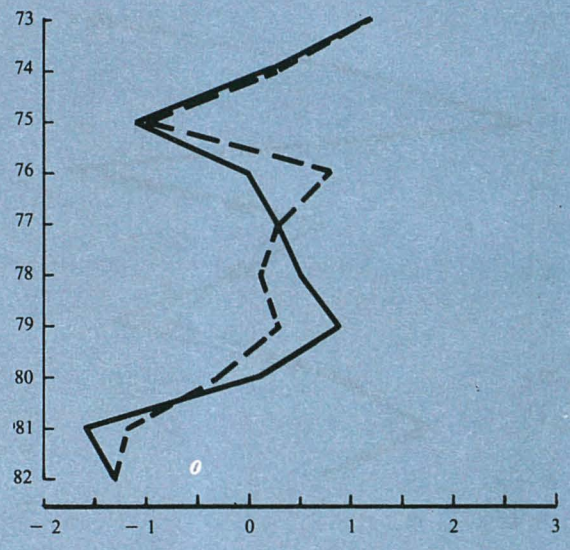
GRAPH 8: **Export price**



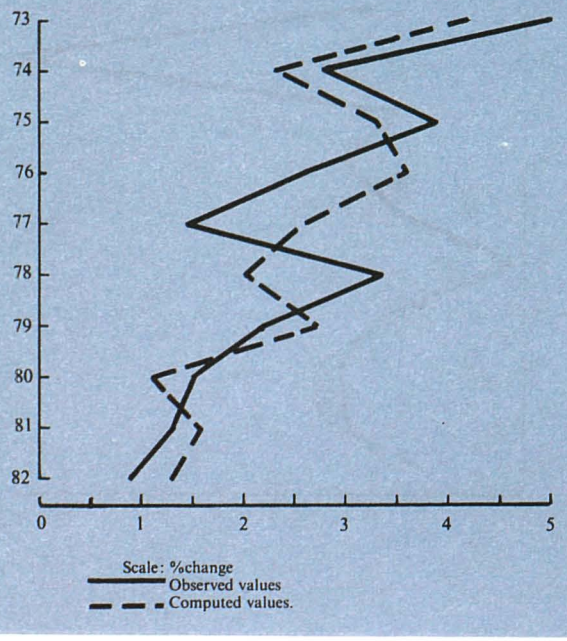
GRAPH 9: **Import price**



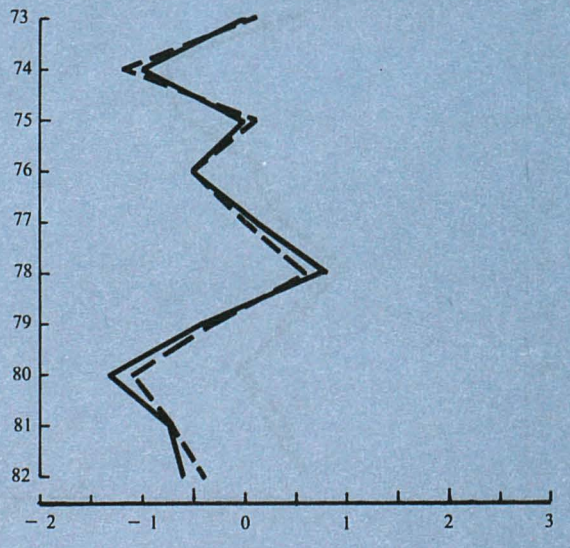
GRAPH 10: **Total employment**



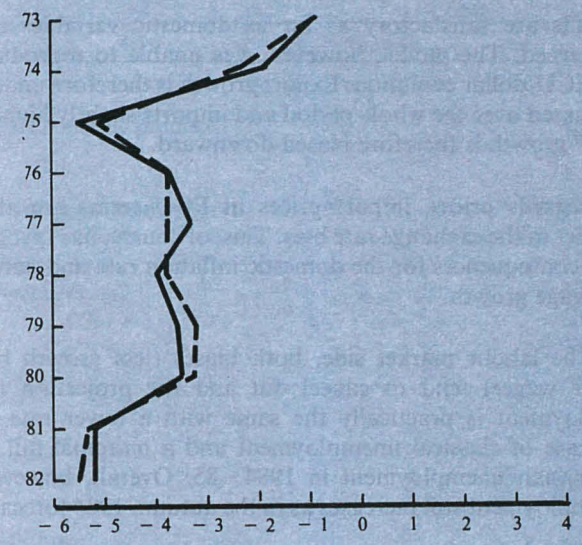
GRAPH 11: **Real wages**



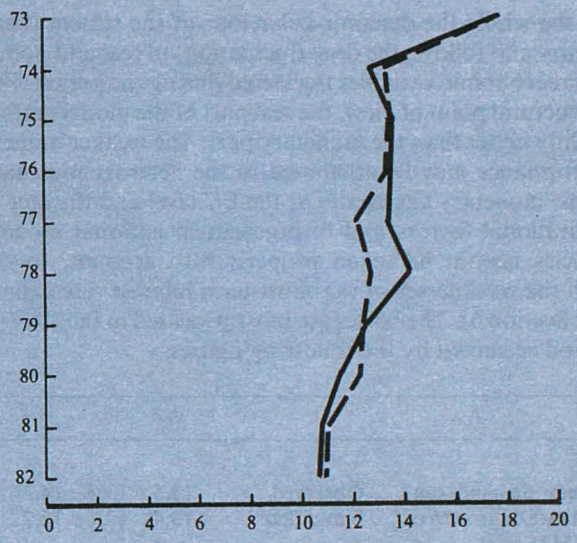
GRAPH 12: **Current balance (% of GDP)**



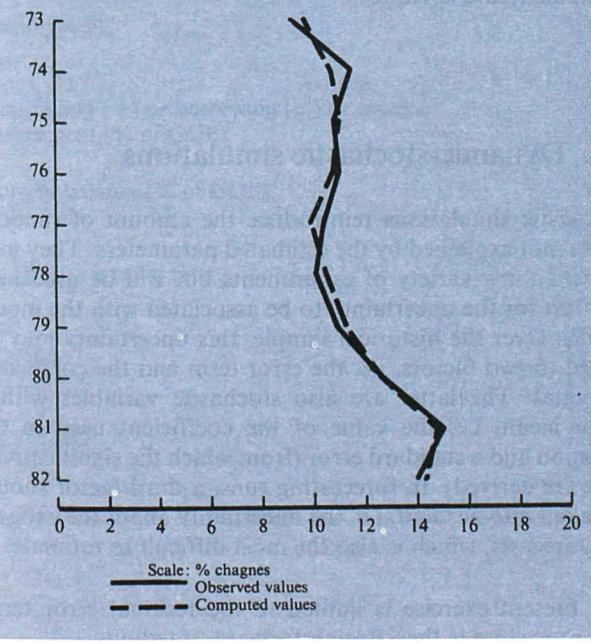
GRAPH 13: **Government net lending (% of GDP)**



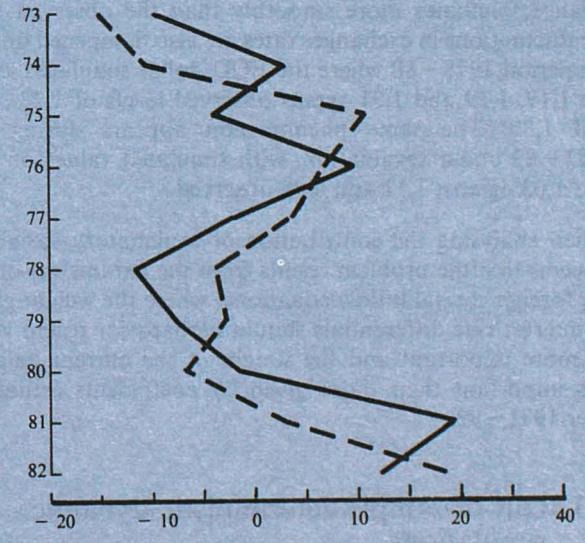
GRAPH 14: **Money demand (M2/M3)**



GRAPH 15: **Long-term interest rate**



GRAPH 16: **Exchange rate ECU/USD**



For these reasons, this first presentation is limited to graphs of the key variables and comments are confined to the most critical issues.

On the whole the dynamic behaviour of the system is satisfactory and follows the deep fluctuations in real and nominal macroeconomic variables registered during the period. From a structural point of view, the real part of the model performs slightly better than the monetary part. The weaker monetary performance may be attributed to the heterogenous nature of the monetary aggregates at the EC level and the fact that institutional factors and divergences in national monetary policies cannot be taken properly into account, together with the weaknesses of the short-term interest rate equation (see Section 6). The biases are mostly located in the 1977 – 78 period as shown by the following figures.

		1976	1977	1978	1979
Money demand (annual rate of growth of M2/M3)	Observed	13,5	13,4	14,2	12,6
	Simulated	13,4	12,1	12,7	12,4

The model therefore does not reflect correctly the substantial change in apparent velocity during 1977 – 78 where in fact the rate of growth of nominal GDP decreased.

Also difficult is the determination of the exchange rate as an equilibrium variable in the balance-of-payment identity, notably when the evolution of official foreign currency reserves is set exogenously. Since the simulated net capital balance fluctuates more smoothly than the observed one, the fluctuations in exchanges rates are also dampened during the period 1978 – 80 where the ECU/dollar simulated levels are 1,19, 1,29 and 1,31 versus observed levels of 1,27, 1,37 and 1,39. The same phenomenon appears during the 1981 – 82 dollar revaluation, with simulated values of 1,17 and 1,03 against 1,11 and 0,98 observed.

When analysing the contribution of explanatory variables, it seems that the problem results from the parameters of the net foreign capital inflow equations, where the weight given to interest rate differentials should perhaps for recent years be more important and the weight of the current balance less important than those given by coefficients estimated over 1971 – 82.

4.3. Out-of-sample deterministic-dynamic simulations

The out-of-sample simulation was run on the same exogenous assumptions as those published in the economic forecasts made in the autumn of 1984. As said above, since the estimation data base stops in 1982, the simulation covers in fact three years.

Results are satisfactory as far as domestic variables are concerned. The model, however, was unable to reproduce the ECU/dollar evolution. Export growth is therefore underestimated over the whole period and imports slightly higher. GDP growth is therefore biased downward.

As regards prices, import prices in ECU terms are also subject to the exchange rate bias. This, of course, has favourable consequences for the domestic inflation rate and nominal wage growth.

On the labour market side, both biases (less growth but lower wages) tend to cancel out and the projection for employment is practically the same with a lower rate of increase of classical unemployment and a marginal fall of Keynesian unemployment in 1984 – 85. Overall, however, unemployment still increases as in the autumn 1984 forecast.

On the monetary side, the lower growth on nominal GDP leads to some underestimation of the M2/M3 evolution. Interest rates follow the right profile, but are overestimated by about 1/2 point.

With respect to the latest estimations for the effective rate of growth 1983 – 84, besides exchange rates, the major difference in assumptions stays at the level of public consumption in 1984, forecast to grow at 0,6 % only, whereas the latest available figure is 1,2 %.

4.4. Dynamic-stochastic simulations

Stochastic simulations reintroduce the amount of random 'noise' not explained by the estimated parameters. They may be used for a variety of experiments but will be used here as a test for the uncertainty to be associated with the model results. Over the historical sample, this uncertainty may be linked to two factors, i.e. the error term and the coefficient estimates. The latter are also stochastic variables with a given mean, i.e. the value of the coefficient used in the equation and a standard error (from which the significativity tests are derived). In forecasting runs, a third factor should be taken into account, i.e. the uncertainty about the exogenous forecasts, which is also the most difficult to estimate.

The present exercise is limited to the residual error term. The procedure is then straightforward, if tedious.

Table 2

Comparison of Compact's forecasts and DG II's official forecasts of autumn 1984

		1983	1984
Gross domestic product	DG II forecast	0,90	2,20
	Compact	0,60	1,90
	Latest estimates	1,00	2,20
Private consumption	DG II forecast	1,20	1,20
	Compact	1,00	1,10
	Latest estimates	1,10	1,00
Investment	DG II forecast	−0,10	3,20
	Compact	−0,50	2,80
	Latest estimates	0,00	2,30
Exports	DG II forecast	1,90	7,60
	Compact	1,50	6,00
	Latest estimates	1,70	7,10
Imports	DG II forecast	0,00	6,80
	Compact	0,50	7,60
	Latest estimates	1,40	6,30
GDP price	DG II forecast	6,40	4,70
	Compact	6,10	4,50
	Latest estimates	7,80	5,80
Consumption price	DG II forecast	6,00	4,90
	Compact	5,80	4,60
	Latest estimates	7,60	6,20
Export price	DG II forecast	4,70	6,20
	Compact	4,50	6,00
	Latest estimates	6,30	7,50
Import price	DG II forecast	3,20	7,00
	Compact	3,00	6,60
	Latest estimates	4,90	8,30
Employment	DG II forecast	−0,80	0,00
	Compact	−1,00	−0,10
	Latest estimates	−0,90	0,30
Net lending (+) or borrowing (−) of general government (% of GDP)	DG II forecast	−5,50	−5,40
	Compact	−5,30	−5,20
	Latest estimates	−5,40	−5,30
Current balance (% of GDP)	DG II forecast	0,10	0,00
	Compact	0,00	−0,10
	Latest estimates	0,10	0,10
Long-term interest rate	DG II forecast	12,20	11,60
	Compact	13,00	12,10
	Latest estimates	12,70	10,90
M2/M3	DG II forecast	10,10	8,40
	Compact	9,80	8,00
	Latest estimates	10,70	10,40
ECU/USD	DG II forecast	10,10	12,50
	Compact	5,60	5,80
	Latest estimates	9,10	11,50

Step 1: Residuals are built for equation i in period t as

$$u_{it} = s_u \cdot \left(\sum_{j=1}^{24} r_j - 12 \right) \quad \text{for all i, t}$$

where s_u is the estimated standard error of the residuals in equation i (as given by the regression programme) and the r_j computer generated random numbers drawn from the (0,1) interval. The u_{it} have all properties of a normal distributed variable with mean zero and standard error s_u.

Step 2: The model is solved in the usual way.

Step 3: The process step 1-step 2 is repeated 50 times.

The end result is therefore 50 computed values for each endogenous variable in each period, y_{itk}, giving 50 simulation residuals $s_{itk} = y_{it}-y_{itk}$, when y_{it} is the observed value of y. The mean ($E(s_{itk})$) and variance ($V(s_{itk})$) of these residuals may then be computed giving a measure of any systematic bias in the equation and of the potential variability of its simulation results, i.e. a measure of the uncertainty associated with the equation. Should there be no problem of misspecification, no error in the stochastic simulation process and no error from the parameter estimates, then the average of the s_{itk} for all i, t should be zero. None of these assumptions is likely to be satisfied, but the net effect on $E(s_{itk})$ is difficult to assess since no analytical solution is possible. The most important feature should therefore be the evolution of the $E(s_{itk})$ as t varies.

For Compact also, for any period t the mean value may differ from zero, but the average over time is indeed zero, i.e. there is no systematic bias in the model over its sample period. The dispersion, however, may be larger and is given in the following table for GDP, the GDP deflator, labour demand, wage rate, long-term interest rate, money supply and ECU/USD rate. The data are the standard errors of the simulation residuals as computed by stochastic simulation and are normalized so as to be expressed in percentage points to be compared with the average rate of growth, except for the interest rate.

Table 3

Estimated standard errors of simulation results for 1973-82

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	Average
Real GDP	0,23	0,38	0,34	0,27	0,22	0,40	0,36	0,30	0,31	0,29	0,31
GDP deflator	0,32	0,43	0,51	0,58	0,60	0,54	0,61	0,72	0,76	0,69	0,57
Labour demand	0,06	0,05	0,08	0,09	0,08	0,09	0,10	0,09	0,09	0,09	0,08
Real wage rate	0,26	0,33	0,39	0,31	0,29	0,32	0,28	0,27	0,31	0,29	0,31
Long-term interest rate	0,46	0,51	0,49	0,55	0,57	0,56	0,59	0,61	0,69	0,79	0,58
Money (M2/M3)	0,83	0,74	0,72	0,76	0,78	0,75	0,72	0,77	0,75	0,76	0,76
ECU/USD rate	0,49	1,09	1,10	1,20	1,23	1,20	1,32	1,30	1,31	1,46	1,22

Should the residuals follow a normal distribution, these figures would mean that the margin of uncertainty for the variables given here is equal to ± 1,96 times the standard error contained in the table. The error on real GDP would be about 0,6 points, about 1,1 points for the inflation rate, etc. As could be expected, the exchange rate results are significantly worse than the others, illustrating clearly the difficulty of handling the ECU/dollar rate in economic terms only.

It should be stated again that these results are partial since they ignore parameter variability and that they are essentially useful in a comparative way between models or formulations inside a model, since it gives a statistical basis on which to appreciate which model or specification performs best over a given period of time.

5. Multipliers

5.1. Basic definitions

In order to simplify comparison with other models' results, all tables in this note are given in percent or percentage point differences between shock and baseline. If we call m_i the multiplier for variable i, S_i the level reached by variable i after a given policy shock and B_i its level in the baseline solution, the multipliers are defined for any period t as:

$$m_{i,t} = 100 * (S_{i,t} - B_{i,t})/B_{i,t}$$

This formula generally applies, the only exceptions being variables defined as ratios (current balance and budget defi-

cit as a percentage of nominal GDP, unemployment as a percentage of active population) or variables already expressed in percent, such as the interest rates. Since percentage changes in a ratio are difficult to interpret, these variables will have multipliers expressed in level differences, i.e.

$m_{j,t} = S_{j,t} - B_{j,t}$

The units are therefore percent for $m_{i,t}$ and points for $m_{j,t}$.

Since it sometimes causes some confusion, it may be useful to remember here the relation between multipliers as defined and average annual rate of growth for the relevant variables.

Multipliers $m_{i,t}$ give the percentage differences *in the levels* of the variables. As the simulation goes on, they represent therefore the *accumulated* discrepancy between shock and baseline and *not* the yearly changes. In order to get the changes in the annual average *rate of growth* of the variables, one should therefore take the first difference in the multipliers ($m_{i,t} - m_{i,t-1}$).[8]

For instance, if the multipliers over four years are

1,1 1,3 1,0 0,6

the changes in annual rate of growth in percentage points will be

+1,1 +0,2 −0,3 −0,4

Should the baseline rate of growth be

2,3 2,5 2,6 2,7

they become

3,4 2,7 2,3 2,3

For multipliers $m_{j,t}$ (in percentage points), the problem does not exist and they may be added to or subtracted from the relevant baseline levels directly.

The baseline is the solution of the model for 1981−84, recalibrated so as to reproduce the macroeconomic evolution contained in the Statistical annex of the 'Annual Economic Report and Review 1984−85'.

5.2. Definition of the shocks

As a rule, shocks are given in normalized form, when shocks are in monetary units. Specifically, the ex-ante amount of the shock is then expressed as the amount equivalent to 1 % of baseline GDP. This is a matter of pure technical convenience, since it makes multipliers comparable beween shocks, in the sense that one may appreciate their relative efficiency in terms of a given target (growth, inflation, unemployment, etc.) without need for auxiliary computations.[9]

As a rule, shocks are sustained over a period of five years, to show the development of dynamic effects.

In terms of policy setting, the basic shocks are given in the most general way of model work, i.e. with fixed money supply target (except of course when the money supply target itself is shocked) and floating exchange rates. The implications of other modes of operation will be developed in a specific section.

As a final word, it should be clear from the beginning that what is described are the properties of a still experimental model on which judgment should be applied before making any linkage to the reactions of the real world. This qualification should always be kept in mind when reading the following sections.

5.3. Public investment shock (Table 1)

Shocks on public investment are the most widely used in published material about model simulations. The general mechanisms are also straightforward, but for comparison with other shocks, it may be worthwhile repeating them here.

Public investment is a component of GDP. Hence, the ex-ante impact on GDP is necessarily strictly equal to the shock. This in turn feeds into the income-expenditure relations of the private sector. Given the lags in these relations and the usual leakages into savings and imports, the initial induced impact on GDP is very small but still positive during the first two years. Negative factors, however, also build up from the first period on.

Given the fixed money supply target, interest rates, both short-term (immediately) and long-term (with a lag) increase with negative feedback on expenditures and positive

[8] Mathematically speaking, this is only an approximation of the change in rate of growth but, given rounding errors, the slight loss of precision is of no consequence.

[9] This is the basic distinction between sensitivity analysis (as here) and policy scenarios where shocks should be fixed in terms of room for manoeuvre and political credibility.

feedback on inflation. The latter is also increased initially by the increase of the degree of use of capacity and later on by the acceleration of wage inflation resulting from increases in labour productivity and the indexation mechanisms.

These negative feedbacks on domestic demand and net exports become sufficiently strong after the fourth year to cancel the initial ex-ante impulse and bring GDP down towards its baseline level.

At the level of labour demand, the initial impact is positive due to the induced increases in expected supply and resulting increases in productive capacity. Given the adjustment lags, this process is, however, slow and labour demand is limited to potential demand and below what is implied by the pure Keynesian effect during the first two years. Besides, the difference between Keynesian and potential demand acts negatively on the structure of unemployment where the Keynesian share is progressively replaced by the classical and frictional shares. This, combined with productivity increases, strongly accelerates the growth of real wage cost, bringing potential labour demand down. At the same time, the interest-rate-induced increase in capital costs and progressive deterioration of domestic demand and real trade balance act negatively on expected supply and net investment, leading to further reductions in potential labour demand.

All in all, employment ends up in the fifth year at the same level as in the baseline.

At the level of the government sector, the absence of sustained expansion dynamic does not enable a full resorption of the initial increase in the budget deficit.

The exchange rate answer results from several conflicting influences: the deterioration of the current balance is a depreciating factor as is the inflation differential at the level of the capital balance.

The interest rate differential, however, and the current balance deficit itself,[10] act in a revaluing direction on the capital balance. The net effect is therefore ambiguous a priori. Ex-post, it turns out in Compact that depreciating factors are slightly dominant, leading to a mild depreciation of the ECU.

Compared to the average EUR 4 results of Eurolink, Compact gives a more pessimistic view. Leaving aside differences in parameters, two structural characteristics of Compact may be quoted as contributory factors:

(i) The Gandolfo-Wymer investment function does not include the usual cyclical acceleration mechanism and is in some sense purely 'supply-sided'. It may therefore underestimate the cyclical reaction of investment during the first two or three years, before crowding-out effects enter significantly into play.

(ii) The labour market approach of Compact leads to much lower labour demand answers than in Eurolink. All other things being equal, this checks the expansion of total wage income and keeps private consumption on a lower trajectory. Conversely, the progressive conversion of Keynesian unemployment into classical unemployment generates through the wage equation a rate of wage inflation in the medium term that is about as large or larger than in Eurolink. In other words, weaker domestic and foreign demand in Compact than in other models do not necessarily mean weaker inflationary pressures, provided of course that wage formation behaviour remains as estimated in the model.

5.4. Public consumption

For the time being, public consumption in real terms is exogenous in Compact as an aggregated whole, just like public investment. Furthermore, both intervene in the model in a similar way for GDP definition, import content, etc. Public consumption shocks *done without any other ad hoc change in the model* would therefore only replicate the public investment shock, a situation similar to the one used in US models where public investment as such is never disaggregated and the shocks made on real expenditure, the most usual distinction being between military and non-military goods and services.

This has little consequence at present for operational use in fiscal shock studies, since an expansion of public consumption is somewhat unlikely in the present circumstances but is, of course, unsatisfactory from a methodological point of view and does cause conceptual problems in some simulations involving wage moderation exercises (see below, Section 9).

For the future, therefore, it should be necessary, data permitting, to separate explicitly the wage-employment components of public expenditure from goods and services and rework the general structure of the model in accordance with it.

[10] Acting as a proxy for active search of foreign capital inflows in order to finance the current deficit.

Table 4

Autonomous increase in public investment, by 1% of baseline GDP, sustained 1986-90 (relative discrepancy with respect to baseline levels, in % except when noted)

	1986	1987	1988	1989	1990
Real GDP	1,1	1,3	0,9	0,6	0,5
Nominal GDP	1,3	1,6	1,8	1,9	2,2
Real private consumption	0,2	0,4	0,3	0,2	0,2
Real private investment	0,9	1,4	1,1	0,5	−0,4
Real exports	−0,2	−0,4	−0,6	−0,7	−0,9
Real imports	1,3	1,6	1,4	1,0	0,9
GDP deflator	0,2	0,3	0,9	1,3	1,7
Consumption deflator	0,2	0,4	1,0	1,4	1,8
Export deflator (in ECU)	0,1	0,3	0,8	1,0	1,4
Import deflator (in ECU)	0,0	0,1	0,2	0,3	0,3
Real labour productivity	0,8	0,9	0,6	0,5	0,4
Real wage-cost rate	0,1	0,4	0,9	1,0	1,3
Total employment	0,3	0,4	0,3	0,1	0,0
Unemployment rate[1]	−0,3	−0,4	−0,3	−0,1	0,0
Budget deficit (% GDP)[1]	−0,9	−0,7	−0,6	−0,6	−0,7
Current balance (% GDP)[1]	−0,3	−0,6	−0,5	−0,4	−0,4
Long-term interest rate[2]	0,4	0,7	1,2	1,7	2,2
Exchange rate (ECU/USD)	0,1	0,3	0,4	0,4	0,5
Wage share in GDP[1]	−0,6	−0,5	0,3	0,5	0,9
Real gross operating surplus	3,5	2,9	0,1	−1,0	−2,3

[1] Differences in percentage points with respect to baseline level.
[2] Cumulated changes in interest rate levels, in percentage points.

5.5. Cut in household direct taxes

The mechanisms in action in this simulation are somewhat different from the public investment case. Although the ex-ante change in the budget deficit is the same in absolute values, taxes as such do not appear in the GDP definition but in households' disposable income. The initial direct impact therefore only goes through the consumption function. Now all models exhibit some form of distributed lags on income increases, implying a short-run marginal propensity to consume significantly lower than the average long-run equilibrium propensity. The ex-ante impact on domestic demand of a 1 % GDP change in direct taxes is therefore much less powerful than a corresponding change in public investment. Since the tax cut is maintained, the marginal propensity to consume goes progressively up towards its long-run value and private consumption also benefits from induced income effects and net wealth effect as a counterpart to increased saving.

On the whole, therefore, multipliers for GDP and its components are initially lower than in the expenditure shock but increase progressively over a longer period. As a consequence, the negative feedbacks coming from inflation and interest rates appear more progressively, the turning point in multipliers appearing only between the fourth and fifth years, rather than during the third.

As far as investment and labour demand are concerned, the points raised in Section 2 also apply and the response to consumers' increased demand is very sluggish. This simulation may therefore err somewhat on the pessimistic side but in any case, and thanks to the inertia of private consumption and its larger share in GDP, the economic position at the end of the fifth year is better than in the public investment shock, with GDP and employment still higher in level than in the base case, and the budget deficit less deteriorated than in the fifth year of the public investment shock. The main price to pay is at the level of the current balance, where the

present consumption-lead expansion brings a larger negative impact.

5.6. Increase in indirect taxes

The impact of an increase in indirect taxes corresponding to an ex-ante increase of public income by 1 % of GDP are the mirror image of the direct tax cut. Since the increase in the VAT rate is passed through into consumer prices, it causes an immediate fall in real disposable income and real wealth.

As before, the reaction of investment is weak in the first year, but is affected by the reduction in supply afterwards. These reactions, however, are here again weaker than in models based on the accelerator principle.

In this simulation, labour demand is determined by its Keynesian component which falls more than potential demand despite the fall in real wage costs.

Table 5

Autonomous decrease in households' direct taxes, by 1% of baseline GDP, sustained 1986-90 (relative discrepancy with respect to baseline levels, in % except when noted)

	1986	1987	1988	1989	1990
Real GDP	0,3	0,5	0,7	0,8	0,7
Nominal GDP	0,3	0,7	1,2	1,5	1,7
Real private consumption	0,7	1,1	1,2	1,2	1,1
Real private investment	0,1	0,4	0,9	1,1	0,8
Real exports	0,0	0,0	−0,1	−0,2	−0,4
Real imports	0,5	0,9	1,1	1,2	1,0
GDP deflator	0,0	0,2	0,5	0,7	1,0
Consumption deflator	0,1	0,3	0,7	0,9	1,2
Export deflator (in ECU)	0,0	0,1	0,4	0,6	0,8
Import deflator (in ECU)	0,0	0,1	0,1	0,2	0,2
Real labour productivity	0,2	0,3	0,4	0,5	0,5
Real wage-cost rate	0,1	0,2	0,4	0,6	0,9
Total employment	0,1	0,2	0,3	0,3	0,2
Unemployment rate[1]	−0,1	−0,2	−0,3	−0,3	−0,2
Budget deficit (% GDP)[1]	−0,9	−0,8	−0,7	−0,7	−0,6
Current balance (% GDP)[1]	−0,1	−0,2	−0,3	−0,4	−0,4
Long-term interest rate[2]	0,2	0,4	0,7	1,1	1,4
Exchange rate (ECU/USD)	0,1	0,2	0,2	0,3	0,4
Wage share in GDP[1]	−0,1	−0,1	0,0	+0,1	+0,3
Real gross operating surplus	0,7	0,9	0,7	0,4	−0,9

[1] Differences in percentage points with respect to baseline level.
[2] Cumulated changes in interest rate levels, in percentage points.

At the level of external trade, however, exports are less affected since export prices are exempted from value-added tax and react only partly to the increase in domestic costs. Imports, on the other hand, fall less than domestic demand, thanks to the improvement in their competitive position. The improvement in the current balance is therefore limited.

The budget balance is, of course, improved, but by less than the ex-ante amount due to the built-in stabilizer effect, nominal receipts growing less fast than nominal expenditure.

In the medium term, the effect of VAT increases on prices begins to die away from the third year on due to the negative pressure on wage costs brought by the increase in Keynesian unemployment and to the lower degree of use of capacity.

At the level of interest rates, the constant money target tends to push the short-term rate initially following the increase in nominal GDP but this effect is reversed from the third year on. Long-term interest rates, on the other hand, follow the short-term rate and adjust also initially to the acceler-

ation of inflation. They are, however, negatively influenced by the improvement of the government budget position. Real interest rates, however, are unambiguously reduced in all five years.

The exchange rate finally tends to appreciate during the first two years but depreciates afterwards due to the cumulative impact of price and interest rate differentials on the capital balance.

5.7. Cuts in social security contributions of employers

The social security contributions of employers represent about 15 % of wage costs and from the firm's point of view are clearly a tax on labour use. A cut in those contributions would therefore reduce the level of wage costs *without* negative side effects on household demand since net wage earnings would not be affected.

The end-result of such a measure is, however, crucially dependent upon public behaviour and pricing behaviour, in order for it to produce its maximal effects. From the government side should come the assurance that the measure will be maintained once implemented. On the firm side, it should be emphasized that the ex-ante reduction in wage costs *must* be passed through into prices rather than go into profit margins. In that way, the positive supply-side effect on the wage-cost cut (notably on potential labour demand) will be paralleled by increases in real disposable income and wealth and therefore in private consumption, the most important component (quantitatively at least) of final demand.

In that way, the Compact simulation shows the appearance of a form of virtuous circle.

At the level of factor prices, the measure will tend to modify the factor mix in favour of labour. This means that it will not, by itself, favour investment initially. However, the induced fall in average costs and prices will push private consumption and net exports from the first year on. This demand increase will have two favourable effects (besides the mechanical one on GDP growth):

Table 6

Autonomous increase in indirect taxes, by 1% of baseline GDP, sustained 1986-90
(relative discrepancy with respect to baseline levels, in % except when noted)

	1986	1987	1988	1989	1990
Real GDP	−0,4	−1,0	−1,3	−1,3	−1,1
Nominal GDP	0,7	0,5	0,2	−0,2	−0,3
Real private consumption	−0,6	−1,2	−1,8	−1,8	−1,6
Real private investment	−0,1	−1,0	−1,6	−2,0	−1,5
Real exports	−0,1	−0,3	−0,5	−0,5	−0,4
Real imports	−0,1	−0,6	−1,2	−1,4	−1,3
GDP deflator	1,1	1,5	1,5	1,1	0,8
Consumption deflator	1,4	1,8	1,8	1,3	1,1
Export deflator (in ECU)	0,3	0,5	0,5	0,4	0,2
Import deflator (in ECU)	−0,1	−0,1	0,0	0,3	0,6
Real labour productivity	−0,3	−0,6	−0,6	−0,3	−0,2
Real wage-cost rate	−0,2	−0,4	−0,5	−0,5	−0,4
Total employment	−0,2	−0,5	−0,8	−1,2	−1,3
Unemployment rate[1]	0,2	0,4	0,7	1,1	1,2
Budget deficit (% GDP)[1]	0,9	0,8	0,6	0,5	0,4
Current balance (% GDP)[1]	0,2	0,3	0,3	0,3	0,2
Long-term interest rate[2]	0,4	0,9	1,1	0,9	0,7
Exchange rate (ECU/USD)	−0,1	−0,2	0,0	0,3	0,5
Wage share in GDP[1]	0,1	0,2	0,1	−0,2	−0,2
Real gross operating surplus	−0,8	−1,8	−1,7	−0,5	−0,3

[1] Differences in percentage points with respect to baseline level.
[2] Cumulated changes in interest rate levels, in percentage points.

(i) It will cause an increase in Keynesian labour demand, compatible with the increase in potential demand. Indeed, in the logic of the disequilibrium approach of the labour market, *both* should increase if one wants a significant acceleration of labour demand.

(ii) It will, with a lag, increase expected supply. This in turn will ensure the acceleration of capital demand needed to sustain potential labour demand in the long run, once the changes in factor prices are absorbed. The resulting expansion of productive capacity will also help to contain demand-pulled inflationary pressures.

A complex process of supply-demand interactions is in that way put into motion, leading to a new equilibrium position with higher GDP, higher employment and capital stock, a higher share of profits and a lower share of wages in value-added, lower prices and interest rate levels. The major constraint will come from the balance of payments, which deteriorates due to negative terms-of-trade effects and the fact that the strong induced demand will cause imports to grow faster than exports once price differentials are stabilized. Exchange rates are once again submitted to conflicting influences, the improvement in price competitivity acting as a revaluing factor, whereas the fall in interest rates and the deterioration of the current balance act in a depreciating way. In Compact, the depreciating factors become dominant but changes in exchange rates are small. They contribute partly, however, to the stabilization of inflation at the end of the period.

It may also be of interest to note that given GDP and labour demand growth, the simulation gives very low productivity gains (if any), which helps to limit claims for real wage increases despite the reduction in unemployment.

For public finances, finally, the expansion of the economy and the fall in the unemployment rate and interest rates leads to a full reabsorption of the initial ex-ante cut in public receipts at the end of the period.

5.8. Social security contributions of households

In their implementation in Compact, social security contributions of households are not strictly speaking an independent instrument: the model in effect implies that a cut in social security contributions paid by households is totally allocated to households, just as employers' contributions were allocated to employers for decreases in wage costs, prices, etc.

For households, however, it simply means (in the model) that net transfers to government are reduced at the level of disposable income, just as in the case of a tax cut. Results are therefore similar to those obtained from a tax cut of the same magnitude and need not be repeated here.

It also results from the fact that in Compact the social security sector is consolidated in the government sector. Given the rather complex structure of social security contributions in most countries, this simplification may cause some distortion since cuts or increases in social security contributions of households are generally not neutral with respect to the subdivision of households into income classes or socio-professional groups. Since it is well-known that marginal propensity to consume varies across these classes or groups, it is important to know where the cut or increase is mostly supported. The degree of disaggregation needed for that kind of analysis is, however, considerable and impossible to reach in any case in Compact.

5.9. Money expansion

A simulation was made with money expansion in Compact, increasing the money target in the short-term interest rate equation by one percentage point with respect to baseline. Since then, however, the assessment of the monetary part has shown that the short-term interest rate equation is in clear need of a revision and implies notably too long a lag in the adjustment of the short-term rate to its new equilibrium value. Results in this simulation are therefore rather low too, and likely to be misleading. A new table will therefore be produced after revision.

For the other simulations of this note, however, the problem is different since the critical rate is the long-term interest rate which, beside its linkage through a term structure with the short-term rate, also contains direct impacts of changes in inflation rates and government debt that are consistent with what should be its evolution. Also, given its lag structure, the speed of reaction of the long-term rate to changes in its explanatory variables is faster than the reaction of the short-term rate. The biases introduced by the behaviour of the short-term rate should therefore be alleviated.

5.10. Exchange-rate changes

The determination of exchange rates in Compact is as delicate as in other models. The simulation experiments showed that the use of the Klein-Marwah approach for capital movements creates a kind of built-in stabilizer at the level of the exchange rate when in floating mode: any change in the current balance will be, all other things being equal, partly compensated by an opposite change in the capital

Table 7

Autonomous decrease in employers' social security contributions by 1% of baseline GDP, sustained 1986-90 (relative discrepancy with respect to baseline levels, in % except when noted)

	1986	1987	1988	1989	1990
Real GDP	0,3	0,5	0,9	1,3	1,5
Nominal GDP	−0,4	−0,7	−0,4	0,0	0,1
Real private consumption	0,2	0,4	0,8	1,0	1,1
Real private investment	0,3	0,8	2,2	3,1	4,2
Real exports	0,3	0,7	0,9	1,1	1,2
Real imports	0,0	0,2	0,7	1,1	1,3
GDP deflator	−0,7	−1,2	−1,3	−1,3	−1,4
Consumption deflator	−0,5	−1,0	−1,2	−1,2	−1,3
Export deflator (in ECU)	−0,5	−0,9	−1,0	−1,1	−1,2
Import deflator (in ECU)	0,0	+0,1	+0,2	+0,4	+0,5
Real labour productivity	0,2	−0,1	−0,1	−0,1	−0,2
Real wage-cost rate	−1,1	−0,6	−0,5	−0,7	−0,7
Total employment	0,1	0,6	1,0	1,4	1,7
Unemployment rate[1]	−0,1	−0,5	−0,9	−1,3	−1,5
Budget deficit (% GDP)[1]	−0,9	−0,7	−0,5	−0,3	−0,1
Current balance (% GDP)[1]	−0,1	−0,2	−0,3	−0,2	−0,2
Long-term interest rate[2]	−0,2	−0,7	−0,9	−1,0	−1,1
Exchange rate (ECU/USD)	+0,1	+0,2	+0,2	+0,3	+0,4
Wage share in GDP[1]	−1,0	−0,4	−0,4	−0,6	−0,5
Real gross operating surplus	4,3	2,1	2,5	3,7	3,5

[1] Differences in percentage points with respect to baseline level.
[2] Cumulated changes in interest rate levels, in percentage points.

balance, dampening the fluctations of the exchange rate. And, indeed, although pointing at least in the right direction, Compact was quite unable to reproduce the deep fluctuations registered in the USD/ECU rate in the recent past.

The model, however, can also be used in fixed exchange rate mode with foreign reserves adjusting to the current and capital balance evolution.

Since the external sector in Compact is fairly standard, results are similar to former ones.

The simulation is based on a 10 % revaluation of the ECU, compared to the base case, against *all* other currencies (i.e. 10 % in effective terms).

The impacts show (as usual) unambiguous implications for prices but conflicting influences for real demand and income effect.

As far as prices are concerned, the initial ex-ante pass-through into import price is distributed over two years; the global effect, however, is smaller than the amount of the revaluation due to the induced inflationary effects on other countries and zones.

Domestic prices and export prices in domestic currency follow the fall in import costs, leading also to a decrease in nominal wages. The latter being, however, smaller than the price decrease, real wage incomes are initially increased. Finally, long-term interest rates also follow the decrease in prices.

Demand effects, on the other hand, are more mixed. At the level of the real trade balance, the impacts are, of course, negative throughout. From the third year on, however, the negative impact is progressively dampened through the reduction in price differential coming from the EC disinflation and from the compression of import demand. Domestic

components of GDP are, however, in the short run positively influenced since real disposable income and wealth are initially increased and capital user costs fall slightly. This helps to explain that GDP is hardly affected in the first year but this conclusion may be optimistic since a better inclusion of rational expectations in the system should lead to the reverse results: given the unavoidable future loss of income associated with the evolution of the foreign sector and the substitution of domestic goods by imported products, real income gains may rather go into cautionary savings which would accelerate the loss in growth. In the present formulation of the model, however, these negative effects have to wait for the second year when expected supply acts negatively on investment and on labour demand. Private consumption and inventories, however, still keep total domestic demand above its baseline value until the third year and it does not fall by much afterwards. Domestic absorption therefore helps to keep the cumulated loss of GDP to 0,3 % after five years.

Labour demand, both Keynesian and potential, is negatively affected by reductions in final demand and expected supply and by the initial increases in real wage costs.

The current balance in nominal terms is influenced by J-curve effects during the first year. Afterwards, volume effects become dominant, but are still dampened by price effects. Finally, at the level of the budget deficit, both receipts and expenditures fall in nominal terms. Since, however, real expenditures are invariant, whereas real receipts are linked to a level of domestic demand and income that is initially increased but which falls after the third year, the budget balance as a percentage of nominal GDP is initially slightly improved but becomes more negative than in the baseline from the third year on.

Table 8

Autonomous revaluation of the ECU by 10% with respect to baseline, sustained 1986-90 (relative discrepancy with respect to baseline levels, in % except when noted)

	1986	1987	1988	1989	1990
Real GDP	−0,1	−0,3	−0,5	−0,4	−0,3
Nominal GDP	−0,9	−1,5	−2,1	−2,2	−2,2
Real private consumption	0,5	0,6	0,4	0,2	0,0
Real private investment	−0,1	−0,2	−0,5	−0,4	−0,4
Real exports	−1,5	−1,7	−1,6	−1,5	−1,3
Real imports	1,4	2,6	2,3	2,1	1,9
GDP deflator	−0,8	−1,2	−1,6	−1,8	−1,8
Consumption deflator	−1,2	−2,0	−2,2	−2,3	−2,3
Export deflator (in ECU)	−2,3	−4,1	−5,2	−5,3	−5,3
Import deflator (in ECU)	−5,1	−6,2	−6,9	−7,1	−7,0
Real labour productivity	0,0	0,1	−0,2	0,0	−0,1
Real wage-cost rate	0,1	0,0	−0,1	−0,1	−0,2
Total employment	−0,1	−0,2	−0,3	−0,4	−0,3
Unemployment rate[1]	0,1	0,2	0,3	0,4	0,3
Budget deficit (% GDP)[1]	0,1	0,1	0,0	−0,0	−0,1
Current balance (% GDP)[1]	0,0	−0,3	−0,4	−0,4	−0,3
Long-term interest rate[2]	−0,5	−1,0	−1,6	−2,0	−2,2
Exchange rate (ECU/USD)	10,0	10,0	10,0	10,0	10,0
Wage share in GDP[1]	0,1	0,0	0,0	−0,1	−0,1
Real gross operating surplus	−0,5	−0,3	−0,5	0,0	0,1

[1] Differences in percentage points with respect to baseline level.
[2] Cumulated changes in interest rate levels, in percentage points.

5.11. Wage moderations, with and without nominal GDP targets

Compact was used for income policy shocks similar in principle to those done with Eurolink in 1984.[11] The mechanisms are broadly the same except that labour demand impacts coming from Compact are more strongly differentiated between the case of wage moderation alone and wage moderation with nominal GDP target. In the former case, Keynesian impacts are dominant in the short term and cause a larger negative impact on unemployment since potential labour demand is never reached due to the deficiency of household demand.

When nominal GDP is maintained invariant, the medium-term evolution becomes dominated by supply-side effects on investment and potential labour demand. On a five-year horizon, Compact leads to a larger fall in the unemployment rate than the EUR 4 average of Eurolink, since as in cuts in social security contributions, Keynesian demand is also strong.

Results of these simulations may, however, be distorted by two factors, the first methodological, the second factual.

(i) One of the major mechanisms of the model over its historical sample, i.e. the formation of wages, is in fact eliminated in these shocks where the dynamic trajectory of wages is autonomously fixed. The question may then be asked whether other mechanisms in the model are still valid, such as price formation.

(ii) Public expenditure remains fixed in real terms since the wage moderation is done under the *ceteris paribus* condition. Results for global demand may therefore be optimistic since real public consumption should fall if the wage moderation is applied also in the public sector.

As a final word, comparison of Table 9 with Table 7 shows clearly that demand support during wage moderation is critical: a cut in payroll taxes reducing wage costs without reducing wage earnings is definitely more efficient than a cut in overall wage levels, leaving social security and tax rates constant.

5.12. Changes in policy settings

As said earlier, most simulations were made in a non-accommodating monetary policy, floating exchange rate mode. Combining these cases, all simulations but two should be repeated in four different modes, i.e.

non-accommodating — floating,
accommodating — floating,
non-accommodating — fixed exchange rates,
accommodating — fixed exchange rates.

This, however, would result in a considerable number of tables, comments on which would by necessity be extremely dull and repetitive.

A priori, it is quite clear that comparative results will be highly dependent on

(i) the sensitivity of global demand to interest rate changes;

(ii) the sensitivity of exchange rates to the policy context and their implications on real demand.

As regards (ii), all simulations made until now reveal a rather weak sensitivity of exchange rates to various shocks. The same shocks done in a non-accommodating, fixed exchange rate mode should therefore not lead to very different results.

The interest rate question, however, is more open. In principle, the absence of interest rate feedback should have positive effects on private consumption and investment (and also on the budget deficit). It should, however, affect negatively the exchange rate.

In Compact, differences between the various cases are rather small, but the question should be reassessed once a new monetary sector is in operation.

5.13. Conclusions

The sensitivity analyses applied to the EC module of Compact show that the inclusion of supply-side factors into a model, however imperfect and partial they still may be, certainly has important consequences for the dynamic implications of policy shocks. Simulations involving supply-side shocks only have, however, also showed that supply shocks without perspective of significant demand expansion are just about as worthless as demand shocks made without regard to their medium-term supply consequences.

In terms of the model itself, the sensitivity analysis showed that

(i) the investment function should probably be more related to cyclical fluctuations without sacrificing its long-run properties;

[11] Annual Economic Review, Chapter 9, *European Economy*, No 22, November 1984.

Table 9

Nominal wages per employee kept 5% below baseline, 1986-90, without demand support (relative discrepancy with respect to baseline levels, in % except when noted)

	1986	1987	1988	1989	1990
Real GDP	−1,0	−0,3	0,1	0,5	0,7
Nominal GDP	−2,8	−3,4	−3,2	−2,9	−2,8
Real private consumption	−1,3	−1,3	−1,0	−0,5	−0,1
Real private investment	−0,5	0,3	2,3	3,3	4,5
Real exports	0,5	1,1	1,5	1,8	1,9
Real imports	−0,6	−1,5	−0,9	−0,3	0,3
GDP deflator	−1,8	−3,1	−3,3	−3,4	−3,5
Consumption deflator	−1,6	−2,9	−3,1	−3,2	−3,3
Export deflator (in ECU)	−1,3	−2,2	−2,5	−2,7	−2,7
Import deflator (in ECU)	−0,2	−0,3	−0,3	−0,4	−0,4
Real labour productivity	−0,7	−0,1	−0,4	−0,7	−0,9
Real wage-cost rate	−3,2	−1,9	−1,7	−1,6	−1,5
Total employment	−0,3	−0,2	0,5	1,2	1,6
Unemployment rate[1]	0,3	0,2	−0,4	−1,1	−1,4
Budget deficit (% GDP)[1]	−0,3	−0,2	0,0	0,2	0,4
Current balance (% GDP)[1]	0,3	0,3	0,2	0,2	0,2
Long-term interest rate[2]	−0,6	−1,3	−1,9	−2,8	−3,0
Exchange rate (ECU/USD)	−0,4	−0,4	−0,5	−0,6	−0,6
Wage share in GDP[1]	−1,9	−1,4	−1,0	−0,7	−0,6
Real gross operating surplus	6,6	5,3	4,1	3,3	3,1

[1] Differences in percentage points with respect to baseline level.
[2] Cumulated changes in interest rate levels, in percentage points.

(ii) the sensitivity of the short-term interest rate to money supply shocks should be increased;

(iii) exchange rate determination is a weak spot.

Models being a simplification of reality, other points might be raised, but these are, I believe, the most critical, and will be revised in the definitive operational version of Compact.

6. Future developments

As mentioned in the introduction, Compact is only a prototype of the future multinational model of the Directorate-General for Economic and Financial Affairs, to be based on national models for the EC member countries and main trading partners. The existence of Compact is therefore limited in time and, as a consequence, improvements will mostly be concentrated in the most critical areas.

The short-term interest rate equation was revised in order to allow a more direct influence of inflation, both domestic and foreign, than through the simple presence of the exchange rate. Replacing er by domestic inflation rates in the EC and the USA, one arrives at a much smaller lagged adjustment, the mean lag being equivalent to three months.

The short-run effect of a discrepancy between nominal GDP and money supply stays at 0,206. The inflation coefficients are +0,32 for EC inflation and −0,33 for US inflation. Since these values are not statistically different, the individual rates were replaced by the inflation differential, with coefficient 0,325. The US short-term rate becomes more significant in the short run with a short-run coefficient of 0,409. Finally, the lagged value of the short-term rate intervenes with a coefficient of 0,186. The adjustment improves significantly, the corrected R^2 becoming 0,934 versus 0,814 for the original equation.

Table 10

Nominal wages per employee kept 5% below baseline, 1986-90, with public expenditure increases so as to keep nominal GDP at baseline level (relative discrepancy with respect to baseline levels, in % except when noted)

	1986	1987	1988	1989	1990
Real GDP	1,3	2,0	2,9	3,2	3,4
Nominal GDP	0,0	0,0	0,0	0,0	0,0
Real private consumption	−0,8	−0,3	0,6	1,6	2,1
Real private investment	0,8	2,6	3,5	4,3	5,9
Real exports	0,6	2,0	2,4	2,5	2,5
Real imports	0,8	2,2	2,9	3,1	3,2
GDP deflator	−1,3	−2,0	−2,9	−3,2	−3,4
Consumption deflator	−1,1	−1,8	−2,7	−3,0	−3,2
Export deflator (in ECU)	−0,9	−1,4	−2,2	−2,5	−2,7
Import deflator (in ECU)	0,1	0,2	0,4	0,5	0,6
Real labour productivity	1,0	0,5	−0,1	−1,0	−1,1
Real wage-cost rate	−3,7	−3,0	−2,1	−1,8	−1,6
Total employment	0,3	1,5	3,0	4,2	4,5
Unemployment rate[1]	−0,3	−1,3	−2,7	−3,8	−4,0
Budget deficit (% GDP)[1]	−1,2	−0,6	−0,2	0,2	0,5
Current balance (% GDP)[1]	−0,3	−0,6	−0,6	−0,5	−0,5
Long-term interest rate[2]	−0,4	−1,0	−1,8	−2,2	−2,5
Exchange rate (ECU/USD)	0,2	0,3	0,4	0,5	0,8
Wage share in GDP[1]	−3,5	−2,6	−1,5	−0,6	−0,4
Real gross operating surplus	15,3	12,4	10,9	6,4	5,0

[1] Differences in percentage points with respect to baseline level.
[2] Cumulated changes in interest rate levels, in percentage points.

For private investment, the problem is more substantial and involves more reworking. Leaving aside a better disaggregation of investment (which will be done in the national models), the Gandolfo-Wymer approach may be refined by using a disequilibrium approach linked to the labour market developments. More specifically, the present formulation can be used for a determination of 'classical investment' coming from supply-side conditions (discrepancy between marginal productivity and marginal costs). This could be completed by a 'Keynesian' demand using the usual accelerator-formulation and being therefore basically demand-driven. Effective investment can then be determined by a convex combination of the two, with weights taking into account the degree of classical regime versus Keynesian regime on the labour market, in order to be consistent with the other parts of the model.

With respect to exchange rates, trials will be made with alternative specifications, using either a reduced-form, behavioural equation for the exchange rate, with central bank interventions as a main policy parameter, or a generalization of the intertemporal balance of payments equilibrium conditions as proposed notably by P. Kouri.

More ad-hoc or limited adjustment will also be made in other parts of the system, namely in the introduction of inflation and tax wedges into the wage formation process and in the determination of public debt where the present approach proved to be cumbersome and bringing little improvement with respect to a more straightforward formulation.

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Appendix A: *The EC module of the Compact model — Technical information*

A1 — List of variables in the EC module

AVC = average cost
Bd = domestic private bonds (stock)
Bpf = foreign bonds held private sector (stock)
Cp = private consumption
d = depreciation rate (exogenous)
DI = variation in inventories
DM = final demand
DTC = direct taxes on corporations
DTH = direct taxes on households
er = spot exchange rate ECU/USD
EX = exports, goods and services
G = public consumption (exogenous)
GD = government debt (stock)
GDD = domestic public debt (stock)
GDF = foreign public debt (stock)
H1, H2 = conventional working time for labour and capital (exogenous)
IIP = interest payments on public debt
IM = imports, goods and services
IT = indirect taxes
itc = average indirect tax rate (exogenous)
K = capital stock
Kuc = capital user's cost
L = total employment
LK = Keynesian labour demand
LP = potential labour demand
LS = labour supply
M_0 = stock of notes and coins in circulation
M2/3 = money stock (M2/M3)
MG = imports of goods
MS = imports of services
NFA = net foreign assets (stock)
NKT = net capital transfers, government
NW = financial net wealth
NWIH = non-wage income
OCFX = other counterpart elements (gold revaluations etc.) (exogenous)
OTG = other net current expenditure
OTX = current transfer balance nie (exogenous)
P = value-added deflator
Pa = participation rate (exogenous)
Pc = private consumption deflator
PD = domestic price index
Pg = government consumption deflator
PM = import prices, national currency
PM$ = dollar import price
Pv = investment deflator
PWA = population in working-age group (exogenous)
PX = export price index
PX$ = dollar export price, goods
R = foreign reserves (stock)
rex = average unit yield, foreign bonds
rdg = average unit yield, domestic public debt
rdo = average unit yield, domestic private bonds
rl = long-term interest rate
r^l_{us} = US long-term interest rate
rs = short-term interest rate
sscr = average employers' social security rate (exogenous)
sshr = average employees' social security rate (exogenous)
STH = social security transfers to households
STPH = social security contributions, households
SUB = subsidies (exogenous)
tc = average corporation tax rate (exogenous)
tdh = average household tax rate (exogenous)
tw = average direct tax and social security contribution rate on wages (exogenous)
Ur = unemployment rate
Vg = public gross domestic fixed capital
Vp = private gross domestic fixed capital formation
Wcn = nominal wage cost
Wn = net (after tax) wage rate
Wco = real wage cost
XG = export of goods
XS = export of services
Y = GDP
YD = disposable income
YS = potential output

Symbols
ln = natural logarithm
D = first difference operator
D^2 = second difference operator

A2 — Analytical structure of Compact and estimation results for the EC

1.1. Final demand

Private consumption, 1975 prices

$$(1)\quad Cp = a_0 + b_0 \frac{YD}{Pc} + c0 \left(\frac{NW}{Pc}\right)_{-1} + d_0\, D\ln Pc. \left(\frac{YD}{Pc}\right) + c_0\, Cp_{-1}$$

Public consumption, 1975 prices

G = exogenous (historical period simulations)

or $G = Gv/Pg$

$\ln GV = \overline{a_1} + \overline{b_1} \ln \overline{(P.Y)}$

with $\overline{P.Y}$ = nominal GDP target

Private investment

$$(2)\quad D^2 \ln K = a_2 \left\{ b_2 + c_2 \left[d_2 \frac{YS}{K_{-1}} - Kuc \right] - D \ln K_{-1} \right\}$$

$$Vp = K - (1-d)\,\kappa_{-1}$$

Public investment

Vg = exogenous

Inventories

$$(3)\quad DI = a_3 \{YS - [Cp + G + Vp + Vg + EX - IM]\} + B_3\, DI_{-1}$$

Exports of goods

$$(4)\quad XG = (XG_{CU} + XG_{CJ} + XG_{CR}) \cdot \frac{er}{er\ base}$$

Exports of services

$$(5)\quad XS = a_4 + b_4\, XG + c_4\, XS_{-1}$$

Total exports

$$(6)\quad EX = XG + XS$$

Equations and variables[1]		Coefficients	Standard errors
Eq (1) Private consumption			
Disposable income	(b_0)	0,385	0,097
Financial wealth	(c_0)	0,0305	0,009
Consumption price	(d_0)	−0,097	0,042
Consumption lagged	(e_0)	0,534	0,098
Constant	(a_0)	0,713	0,837
Corrected R^2		0,997	
Autocorrelation test		1,935	
Eq (2) Private investment			
Adjustment coefficient	(a_2)	0,565	0,107
Constant	(b_2)	−0,103	0,015
Marginal coefficient	(c_2)	1,866	0,214
Productivity coefficient	(d_2)	0,425	0,192
Corrected R^2		0,767	
Autocorrelation test		1,618	
Eq (3) Changes in inventories			
Supply-demand discrepancy	(a_3)	0,902	0,267
Lagged changes in inventories	(b_3)	0,096	0,051
Corrected R_2		0,542	
Autocorrelation test		2,533	
Eq (5) Exports of services			
Exports of goods	(b_4)	0,050	0,030
Export of services, lagged	(c_4)	0,704	0,231
Constant	(a_4)	0,101	5,386
Corrected R^2		0,905	
Autocorrelation test		2,250	

[1] Equations are listed in the numerical order of Section A2. Equation numbers not present in the list are those of identities. In all equations, the use of Koyck lags is indicated by the presence of the dependent variable name in the explanatory variables list with the term 'lagged'.

Imports of goods

(7) $\ln MG = a_5 + b_5 \ln DM + c_5 \ln (PM/PD)$

Imports of services

(8) $MS = a_6 + b_6 MG + c_6 MS_{-1}$

Total imports

(9) $IM = MG + MS$

Final demand

(10) $DM = C + G + Vp + Vg + DI + EX$

Equations and variables		Coefficients	Standard errors
Eq (7) Imports of goods			
Import demand	(b_5)	1,331	0,083
Relation price	(c_5)	−0,264	0,106
Constant	(a_5)	−4,273	0,584
Corrected R^2		0,996	
Autocorrelation test		1,910	
Eq (8) Imports of services			
Imports of goods	(b_6)	0,051	0,023
Imports of services, lagged	(c_6)	0,547	0,349
Constant	(a_6)	0,186	0,172
Corrected R^2		0,811	
Autocorrelation test		2,048	

2. Production block

Potential supply

$$YS^* = A \{\beta [LP.H_1.e^{\lambda 1 t}] - \rho + (1 - \beta) [K_{-1} H2\ 2^{\lambda 2 t}] - \rho\}^{-\frac{1}{\rho}}$$

$$\sigma = \frac{1}{1+\rho}$$

Expected supply

(11) $YS = \alpha YS^* + (1-\alpha) \quad YS^*_{-1} - Y_{-1}$

Potential labour demand

(12) $$\ln LP = \ln \frac{\beta}{1-\beta} + (1 - \sigma)(\lambda_2 - \lambda_1) t + (1 - \sigma) \ln \frac{H_2}{H_1} + \sigma \ln \frac{Kuc}{Wco} + \ln K_{-1}$$

Eq (11) Expected supply			
Allocation coefficient	(β)	0,747	0,218
Technical progress, labour	(λ_1)	0,027	0,012
Technical progress, capital	(λ_2)	0,033	0,015
Exponent	(ρ)	0,034	0,008
Elasticity of Substitution	(σ)	0,967	
Adjustment parameter	(α)	0,812	0,087
Scaling constant	(A)	0,281	imposed

Keynesian labour demand

$$(13)\quad \ln LK = a_7 + b_7\{c_7 \ln DM + d_7 \ln (PM/PD)\} + e_7 \ln \frac{Kuc}{Wco} + f_7 t$$

Labour supply

$$(14)\quad \ln LS = a_8 + b_8 \ln (pa.PWA)$$

Effective labour demand

$$(15)\quad \ln L = a_9 \min \ln (LP, LK, LS) + (1 - a_9) \ln L_{-1}$$

Nominal wage-cost

$$(16)\quad Dln\ Wcn = a_{10}\, Dln\ P + (1 - a_{10})\, Dln\ P_{-1} + b_{10}\,(Dln\ Wn_{-1} - Dln\ Pc_{-1}) + (c_{10}/Ur.Suk).\sum_{i=0}^{2} w_i\, Dln \left(\frac{Y}{L}\right)_{-i} + (d_{10}/Ur.Suk)\, Dln\ Wco_{-1}$$

$$(17)\quad Wco = Wcn/P$$

$$(18)\quad Wn = (1 - t_w)\, Wcn$$

Real rental price of capital goods

$$(19)\quad Kuc = \frac{1 - tc.Z}{1 - tc}\left(\frac{Pr}{P}[(1 - tc)\, rl + d]\right)$$

$$Z = \frac{1/T}{\left[(1-tc)r_l + \frac{1}{T}\right]} \cdot \left[1 - \left(\frac{1 - 1/T}{1+(1-tc)r_l}\right)\right]$$

$$T = \frac{2.5}{d}$$

3. Prices

Expected average cost

$$(20)\quad AVC = (Wcn.LP + P^e.Kuc.K_{-1})/YS$$

Equations and variables		Coefficients	Standard errors
Eq (13) Keynesian labour demand			
Adjustment parameter	(b_7)	0,877	0,642
Demand parameter	(c_7)	0,881	0,015
Relative price	(d_7)	0,158	0,025
Relative factor cost	(e_7)	0,456	0,251
Time trend	(f_7)	−0,020	0,005
Constant	(a_7)	−1,651	0,832
Eq (14) Labour supply			
Active population	(b_8)	0,972	0,047
Constant	(a_8)	−0,071	0,058
Eq (15) Effective labour demand			
Adjustment parameter	(a_g)	0,632	0,049
Goodness of fit for effective Labour demand		0,9532	
Autocorrelation test		1,572	
Eq (16) Nominal wage rate			
GDP Deflator	(a_{10})	0,872	0,044
Real wage income, lagged	(b_{10})	−0,390	0,152
Productivity	(c_{10})	1,326	0,282
Real wage cost, lagged	(d_{10})	0,319	0,052
Corrected R^2		0,681	
Autocorrelation test		2,241	

Value-added deflator

(21) $\text{Dln } P = a_{11} + b_{11} \text{ Dln AVC} + c_{11} \text{ D}^2\text{ln PM} + d_{11} \text{ D}^2\text{ln M2/3} + e_{11} \text{ Dln [YS/(DM} - \text{IM)]} + f_{11} (\text{Dln AVC}_{-1} - \text{Dln P}_{-1})$

Consumption and investment deflators

(22) $\text{Dln Pc} = a_{12} + b_{12} \text{ Dln P} + c_{12} \text{ Dln (PM/PX)} + \text{Dln itc}$

(23) $\text{Dln Pv} = a_{13} + b_{13} \text{ Dln P} + c_{13} \text{ Dln (PM/PX)} + \text{Dln itc}$

Export prices

(24) $\text{Dln Px} = a_{14} + b_{14} \text{ Dln P} + c_{14} \text{ Dln PW} + d_{14} \text{ Dln PX}_{-1}$

Import prices

(25) PM = PM$. (er/er base)

(26) $\text{Dln P}^e = \sum_{i=1}^{3} \alpha_i \text{ Dln P}_{-i} + \sum_{i=0}^{3} \beta_i \text{ Dln M2/3}_{-1}$

4. Taxes and transfers

Direct taxes, households

(27) DTH = tdh. [(1 − sscr + sshr).Wcn.L + NWIH]

Equations and variables		Coefficients	Standard errors
Eq (21) Value-added deflator			
Average cost	(b_{11})	0,998	0,011
Import price acceleration	(c_{11})	0,053	0,022
Money stock acceleration	(d_{11})	0,184	0,099
Degree of capacity utilization	(e_{11})	0,252	0,127
Error-learning term	(f_{11})	0,722	0,117
Constant	(a_{11})	−0,054	0,072
Corrected R^2		0,921	
Autocorrelation test		1,902	
Eq (22) Consumption price			
GDP price	(b_{12})	0,869	0,121
Terms of trade	(c_{12})	0,094	0,103
Constant	(a_{12})	0,216	0,855
Corrected R^2		0,976	
Autocorrelation test		1,743	
Eq (23) Investment price			
GDP price	(b_{13})	0,853	0,049
Terms of trade	(c_{13})	0,119	0,066
Constant	(a_{13})	−0,192	0,543
Corrected R^2		0,966	
Autocorrelation test		2,242	
Eq (24) Export price			
GDP price	(b_{14})	0,574	0,204
Extra-EC world export price	(c_{14})	0,310	0,099
Export price, lagged	(d_{14})	0,146	0,039
Constant	(a_{14})	0,212	0,848
Corrected R^2		0,977	
Autocorrelation test		2,115	
Eq (25) Expected value-added price			
Past price increases	t-1	0,743	0,193
	t-2	−0,199	0,167
Money stock growth	t	0,004	0,145
	t-1	0,514	0,179
	t-2	0,047	0,165
Corrected R^2		0,861	
Autocorrelation test		2,017	

Direct taxes, corporations

(28) $DTC = tdc.[(P.Y. - (IT - SUB) - Pv.d.K._{-1} - Wcn.L - (STH - STPH)]$

Indirect taxes

(29) $IT = (itc/(1 + itc)/[Pc.Cp + Pv.(Vp + Vg)]$

Social security contributions, households

(30) $STPH = sshr.Wcn.L$

Social security transfers to households

(31) $\ln STH = a_{15} + b_{15} \ln P.Y + c_{15} \ln.U + d_{15} \ln STH_{-1}$

Interest paid on public debt

(32) $IIP = rdg.GDD_{-1} + rex.er.GDF_{-1}$

Other net current expenditure nie

(33) $\ln OTG = a_{16} + B_{16} \ln P.Y + c_{16} \ln OTG_{-1}$

Government budget constraint

(34) $D\,GDF = DTH + DTC + IT + STPH + sscr\ Wcn.L + DM_0 - Gv + Pv.Vg + SUB + STH + IIP + OTG + NKT - DGDD - er.DR$

(35) $D\,GD = G\,GDD + D\,GDF$

5. Income and wealth

Private sector budget constraint

(36) $D\,Bd = YD - Pc.Cp - D\,GDD - Der.Bpf - DM_0$

Financial wealth

(37) $D\,NW = D\,Bd + Der.Bpf + D\,GDD$

Non-wage income

(38) $NWIH = rdg.GDD_{-1} + rdo.Bd_{-1} + rex.er.Bpf_{-1}$

Equations and variables		Coefficients	Standard errors
Eq (31) Social transfers to households			
Nominal GDP	(b_{15})	0,095	0,009
Unemployment	(c_{15})	0,207	0,123
Social transfers, lagged	(d_{15})	0,508	0,148
Constant	(a_{15})	−28,681	54,799
Corrected R^2		0,997	
Autocorrelation test		1,802	
Eq (33) Other net current expenditures, nie			
Nominal GDP	(b_{16})	0,261	0,102
Other net current expenditures, lagged	(c_{16})	0,747	0,058
Constant	(a_{16})	−0,558	0,287
Corrected R^2		0,912	
Autocorrelation test		1,943	

Disposable income

(39) $YD = [(1 - (sshr + sscr)).Wcn.L] + NWIH + STH - DTH$

Gross domestic product

(40) $Y = Cp + G + Vp + Vg + DI + EX - IM$

6. Monetary and financial equations

Money demand (M2/M3)

(41) $\ln M2/3 = a_{17} + c_{17} \ln P.Y. + d_{17} rl + d_{17} r_s$

Short-term interest rate

(42) $r_s = a_{18} + b_{18} [D\ln P.Y. - D\ln M2/3] + c_{18} D\ln er + d_{18} r^s_{us} + e_{18} rs_{-1}$

Long-term interest rate

(43) $rl = a_{19} + b_{19} r_s + c_{19} D^2 \ln P + d_{19} D\frac{D.GD}{P.Y} + e_{19} rl_{-1}$

Equations and variables		Coefficients	Standard errors
Eq (41) Money demand (M2/M3)			
Nominal GDP	(c_{17})	1,099	0,338
Long-term interest rate	(d_{17})	−1,020	0,414
Short-term interest rate	(e_{17})	0,181	0,639
Constant	(a_{17})	2,372	
Corrected R^2		0,899	
Autocorrelation test		1,981	
Eq (42) Short-term interest rate			
Nominal GDP growth minus money stock growth	(b_{18})	0,226	0,174
Spot exchange rate	(c_{18})	0,017	0,008
US short-term rate	(d_{18})	0,100	0,062
Short-term rate, lagged	(e_{18})	0,801	0,155
Constant	(a_{18})	−0,100	0,404
Corrected R^2		0,814	
Autocorrelation test		1,499	
Eq (43) Long-term interest rate			
Short-term interest rate	(b_{19})	0,478	0,077
Acceleration of inflation	(c_{19})	0,005	0,012
Increase in public debt as percentage of GDP	(d_{19})	0,177	0,104
Long-term rate, lagged	(e_{19})	0,351	0,059
Constant	(a_{19})	−0,173	0,499
Corrected R^2		0,899	
Autocorrelation test		2,466	

Domestic public debt equation

$$(44)\quad D\left(\frac{GDD}{NW_{-1}}\right) = a_{20} + b_{20}\, D\left(\frac{M_0}{GD}\right) + c_{20}\, D\left(\frac{GDF}{GD}\right)_{-1} + d_{20}\left(\frac{GDF}{GD}\right)_{-1} + e_{20}\, Drl + f_{20}\, Dr_{us} + g_{20}\frac{GDD_{-1}}{NW_{-2}}$$

Private net foreign assets equation

$$(45)\quad D\frac{Bpf}{NFA_{-1}} = a_{21} + b_{21}\, Dln\, NFA + c_{21}\frac{r_l - r_{us}}{e_r} + d_{21}\, D\left(\frac{r_l - r^l_{us}}{er}\right) + e_{21}\left[Dln\, er - Dln\,\frac{PX}{Pc}\right] + f_{21}\left[\frac{(DNFA - D\,Bpf - D\,CDF)}{NFA_{-1}}\right]$$

Total net foreign assets

$$(46)\quad D\,NFA = [(PX.EX - PM.IM) + rex.er.(bpf_{-1} + GDF_{-1}) + OTX] + [D\,Bpf + D\,GDF]$$

Balance-of-payments constraint

$$(47)\quad D\,NFA = er.\,[DR + OCFX]$$

Bridge equations

$$(48)\quad r_{dg} = a_{22} + b_{22}\, r_l + c_{22}\, rdg_{-1}$$

$$(49)\quad r_{do} = a_{23} + b_{23}\, r_l + c_{23}\, rdo_{-1}$$

$$(50)\quad r_{ex} = a_{24} + b_{24}\, r_{us} + c_{24}\, rex_{-1}$$

7. Miscellaneous

$$(51)\quad U = pa.PWA - L$$

$$(52)\quad ur = U/(Pa.PWA)$$

$$(53)\quad Suk = \frac{LP - L}{LS - L}$$

$$(54)\quad PD = (Pc.C + Pg.G + Pv\,(Vp + Vg) + P.DI)/(Y - EX + IM)$$

Equations and variables		Coefficients	Standard errors
Eq (44) Domestic public debt			
Variation in the share of monetary financing	(b_{20})	−0,178	0,052
Variation in the share of foreign financing	(c_{20})	0,010	0,006
Share of foreign financing, lagged	(d_{20})	0,015	0,010
Long-term interest rate	(e_{20})	−0,061	0,030
US long-term rate	(f_{20})	0,052	0,028
Domestic debt, lagged	(g_{20})	0,832	0,176
Constant	(a_{20})	−0,004	0,046
Corrected R^2		0,681	
Autocorrelation test		1,562	
Eq (45) Private net foreign capital flows			
Net foreign assets	(b_{21})	0,481	0,246
Interest rate differential	(c_{21})	0,120	0,059
Change in interest rate differential	(d_{21})	0,093	0,056
Purchasing power parity test	(e_{21})	−0,112	0,059
Current account	(f_{21})	−0,412	0,098
Constant	(a_{21})	−0,029	0,016
Corrected R^2		0,708	
Autocorrelation test		2,175	
Eq (48) Effective yield, public debt			
Long-term interest rate	(d_{22})	0,149	0,065
Effective yield, lagged	(c_{22})	0,792	0,125
Constant	(a_{22})	0,178	0,496
Corrected R^2		0,975	
Autocorrelation test		2,334	
Eq (49) Effective yield, private bonds			
Long-term interest rate	(b_{23})	0,187	0,066
Effective yield, lagged	(c_{23})	0,699	0,148
Constant	(d_{23})	0,157	0,451
Corrected R^2		0,929	
Autocorrelation test		1,708	
Eq (50) Effective yield, foreign assets			
US long-term interest rate	(b_{24})	0,111	0,044
Effective yield, lagged	(c_{24})	0,802	0,057
Constant	(a_{24})	0,123	0,236
Corrected R^2		0,901	
Autocorrelation test		2,525	

A3 — Estimation techniques for the EC module

The approach retained in the estimation of the EC module of Compact is, as in other models, a compromise, using different techniques for different blocks of equations.

The need for a compromise results mostly from the use of yearly data: the maximum number of observations being 25 (1958 − 82), it is technically impossible to estimate the full model in one step, with a simultaneous equation estimation technique.

The structure of the production block precludes out of hand the use of ordinary least squares (OLS). A modified form of the full information maximum likelihood (FIML) technique was therefore used for the following sub-systems:

Sub-system 1
- all labour demand equations (eq (11) — (15))
- investment equation (eq (2))
- changes in inventories equation (eq (3))

Sub-system 2
- nominal wage equation (eq (16))
- price equations (eq (20) — (24))

The other equations are estimated by OLS with correction of the autocorrelation of residuals when needed. A test was made of an FIML estimation for the monetary and financial equations but the data and specification problem proved to be particularly severe in that field (as could be expected), giving implausible results for some parameters, together with a high sensitivity to changes in sample size. For these equations, the OLS estimates, although not perfect, proved to be definitely more robust.

The structural parameters are presented with their standard errors and with the usual information about the equation, in terms of R^2 and autocorrelation test. It should be pointed out that the R^2 concept is irrelevant for FIML estimates. What is given under that name is the ratio of the variance of the computed values of the endogenous variable to the variance of the observed ones, which is also what R^2 measures in a linear, least squares, context.

The following paragraphs summarize the nature of these estimation techniques and explain the criteria used in selecting those actually adopted for different parts of the model.

From a theoretical point of view (Intriligator, 1978), the estimation of structural parameters in a given equation must use all the available information about the variables and parameters in order to be efficient. In the context of a macroeconomic model, it means that the estimation of a behavioural equation should use information relative to the status (endogenous or exogenous) of the explanatory variables in the full model. The estimation procedure should also use the information available about variables that are included in the model but excluded from the equation under consideration. In other words, the entire system of simultaneous equations forming the model should be estimated as a block, in a single round of estimation giving all the structural parameter estimates as output.

Such a method uses all the information quoted above about the explanatory variables, plus any other relevant information available about the parameters: for example, cross-equation restrictions in order to ensure unicity of some crucial parameters (e.g. the elasticity of substitution between labour and capital) when they appear in different equations, additivity restrictions, etc. It is therefore called a full-information approach and includes two specific estimators, three-stage least squares (3SLS) and full-information maximum likelihood (FIML).

When one ignores the problem of numerical computation of the estimator, FIML is always better or at least as good as any other technique provided that the model is correctly specified, the variables are correctly measured and the number of observation points is large.

The fact that FIML is not applied as a matter of course by model builders comes purely from operational considerations. The first step in the use of FIML is the construction of the likelihood function of the model, i.e. a function incorporating the analytical formulation of *all* the equations in the model, together with the variance-covariance matrix of *all* the stochastic disturbances.

The term maximum likelihood means that the structural coefficients should be estimated so as to maximize the likelihood of observing the values contained in the endogenous variables, i.e. to maximize the likelihood of the model being a good formalization of the real world.

In practice, this requires that one must obtain in a second step the *analytical* expression of the first *and* second derivatives of the likelihood function with respect to all the structural parameters which, for non-linear functions, is particularly awkward.[1] The third step involves the application of a numerical algorithm to solve the system. Since in most cases the first and second derivative formulae will be highly non-

[1] Some solution techniques use a numerical approximation of the derivatives which elimates the analytical derivation, but may increase considerably the computation time.

linear, the algorithm must be an iterative one starting from given initial values for all parameters and recomputing them (according to a given criterion) until the difference between two successive values of any parameter becomes negligible. For complex models, these techniques may require a considerable amount of computer time when one wants to be reasonably sure of the precision of the estimates.

To sum up, the estimation of a full model by FIML is a formidable undertaking, and in fact may not always be possible or even desirable, for the following reasons.

First, one must have a number of observation points larger than the total number of structural parameters, a condition that is practically never met when working with yearly data. It is therefore necessary, as has been done in Compact, to limit the application of FIML to sub-systems of equations where either the application of FIML is compulsory (labour market equations) or where simultaneity biases are critical (wage price nexus).

Second, FIML is extremely sensitive to both specification error and measurement error since, by the very nature of the method, an error in one equation or in one variable will propagate throughout the whole system. Macroeconomic data and specifications being what they are, FIML should therefore be used with great caution.

The other extreme is to estimate the parameters equation by equation, using the most 'limited information' technique available, i.e. single-equation ordinary least squares. In that case, all computational problems disappear or may be considerably alleviated through the use of specific single equation techniques. Similarly, errors of specification or measurement in one equation or variable are acting only on that particular equation or equations using effectively that particular variable.

The OLS estimates are sometimes called 'naïve' estimates since, to take one example, the estimation of the wage equation will use prices but will ignore that prices in turn are influenced by wages, causing the appearance of what is called a simultaneity bias in the estimated coefficient. On the other hand, OLS estimates tend to exhibit both efficiency and insensitivity to specification errors when compared to more sophisticated methods. Therefore, OLS estimates should not always be rejected out of hand, since in empirical studies the data frequently exhibit such inaccuracy and/or the specification of the model is so uncertain that any reasonable round off of results would tend to eliminate the differences between the rival estimation techniques.

To sum up, Compact contain FIML estimates for 13 behavioural equations in two blocks, and OLS estimates for the remainder, i.e. 15 equations.

A4 — Data sources for the EC module

All data used for the EC module come from official EC publications. The methods used for aggregation of the national data into EC data are therefore always those used either by the Statistical Office of the European Communities in its Eurostat publications or by DG II services in their own publications. All monetary aggregates are expressed in billions of ECU. All indices are set equal to 1,00 in 1975.

The dominant source is the Statistical annex of the Annual Economic Review 1983 – 84 (November 1983), for the period 1960 – 82. More specifically, the Statistical annex was used

(i) for GDP and its main components both in value and 1975 prices (Tables 6, 8, 10 to 20, 26 to 33);

(ii) for total employment, unemployment and wages (Tables 2, 3, 22 to 24)

(iii) for money supply, interest rates and exchange rates (Tables 37 to 39, 41);

(iv) for current receipts, total expenditure and net lending or borrowing, general government (Tables 45 to 47).

All detailed public sector data were taken from the Eurostat national accounts for the period 1970 – 82, using the detailed tables by sector (namely Table 4.8 — General government). In the same way, disposable income comes from the household account (Table 4.3 — Households). Finally, depreciation is taken from the Eurostat national account aggregates (fixed capital consumption A1) for the period 1960 – 82. All balance-of-payments items come from the Eurostat balance-of-payments data for the period 1970 – 82.

Stocks are computed by cumulation of net flows starting from an ad-hoc benchmark value. For fixed capital, the benchmark was built by assuming a capital-output ratio of 2,5 in 1960. For government debt, the 1974 ratio of public debt to GDP was used (Annual Economic Review 1983 – 84, Chapter 5, Table 5.5). For private domestic bond holdings, net national income in 1970 was used as benchmark proxy. Due to the lack of adequate information, the benchmark for private foreign asset holdings is arbitrarily set equal to the stock of international reserves in 1960.

Appendix B: *USA, Japan and rest-of-world modules*

B1 — Main parameters

Private consumption

United States of America: The original consumption functions distinguish durables, non-durables and services, all linked to real disposable income, net wealth and inflation. The equation for durables also incorporates the unemployment rate and the real interest rate.

The long-term values of the marginal propensity to consume are 0,553 on real disposable income and 0,0971 on net wealth. An increase in inflation by 1 % would cause in the long run a fall in real private consumption equal to 0,8 % of real disposable income. For durable goods, a 1 % increase in the unemployment rate causes a fall equal to 0,2 % of disposable income.

Japan: In the Japanese model, private consumption is represented by a bi-logarithmic equation, giving elasticities rather than marginal propensities. As regards disposable income, the short and long-run elasticities are 0,297 and 0,804 respectively. The equivalent data for net worth are 0,106 and 0,286.

Investment

United States of America: Non-residential fixed investment is following a standard Jorgenson (1967) approach, using distributed lags over first differences in GDP levels and real interest rates, plus an amortization term equal to 0,04 % of the capital stock at the beginning of the period. In the long run, a cumulative increase in GDP equal to 1 % would cause a growth in investment of 0,37 % of GDP, an increase in real interest rates by 1 % would cause a fall of investment by about 0,5 %.

Japan: Here also, equations are in logarithms and are somewhat specific in their formulations since the explained variable is net investment as a percentage of capital stock at the beginning of the period and the explanatory variables are wage share and import shares in final demand, with long-run elasticities of $-3,09$ and $-1,36$ respectively, relative changes in depreciation allowances (elasticity $-0,69$) and real interest rates with an elasticity of 0,017.

Imports

The equations for import demand are standard with the usual final demand and relative price effects (plus the oil price shock dummies).

United States of America: Final demand is split up between investment with an elasticity of 0,32 and other components of final demand with an elasticity of 1,33. The relative import price elasticity is $-0,39$.

Japan: Income elasticities are 0,47 (short-term) and 1,18 (long-term) with a relative price elasticity of $-0,42$ (short-term) and $-0,97$ (long-term).

Employment

United States of America: The evolution of hours worked per employee is given by a quadratic time trend. Total number of hours worked shows an elasticity of 0,51 with respect to present GDP growth, and 0,49 to former period growth, i.e. a unit elasticity in long-run equilibrium. Technical progress is introduced as a negative time trend of 0,4 %per year.

Labour supply is exogenous.

Japan: The Japanese model uses a different approach with employment obtained from an identity, the behavioural relations explaining labour supply and unemployment. Labour supply is linked to population in working age via the participation rate explained by GNP growth, real wage growth, unemployment rate and non-active population. The unemployment rate is itself explained by GDP with a long run elasticity of $-0,68$, the wage share in value-added, with a long run elasticity of 2,03 and non-active population (total population minus labour force) with an elasticity of 2,35.

Wages

United States of America: Nominal wages are explained through a standard Phillips curve, the indexation to prices being very long (4 years) with immediate first-year transfer from prices to wages of 0,45, the final impact being 0,95.

Japan: Relative changes in nominal wage rates are related to relative changes in prices with a coefficient of 0,96 over four quarters, to the share of non-wage income in total income at the beginning of the period with a coefficient of 0,15, and to the participation rate with a coefficient of 0,04.

Prices

United States of America: The domestic demand price deflator is linked to labour productivity with a long-run elasticity of −0,37, to wage costs with a long-run elasticity of 0,95 and to import prices with an elasticity of 0,035.

The export price is linked to the domestic price (elasticity 1,14), to the world minus US export price (elasticity 0,24) and to the effective exchange rate (elasticity −0,20).

Japan: The relative changes in the domestic demand deflator is linked to relative changes in unit labour costs with a coefficient of 0,942 and in labour productivity with a coefficient of −0,40.

Export prices are linked to domestic prices (elasticity 0,82), to world prices (elasticity 0,16) and to the yen/USD exchange rate (elasticity 0,31).

Money demand

United States of America: Money demand (M2) in real terms is explained on the basis of its components with long-run GDP elasticities of 1,29 for currency held by the public, and 0,70 for demand deposits. Time and saving deposits as a fraction of net worth have a long-run elasticity of 0,52 with respect to GDP over net worth. Interest rate elasticities for a one percentage point increase in interest rates are about −0,76 for note issue and −0,96 for demand deposits. As regards time and saving deposits, their share in net worth will decrease by 0,3 percentage points when the discrepancy between Treasury Bill rates and bank rates increases by one percentage point.

Japan: The presentation is the same as in the US model, with M2 disaggregated into currency, demand and time deposits. All equations, however, express the dependent variable as a fraction of net worth, in logarithmic form. The income element is therefore always nominal GDP divided by net worth. All equations also include the level of net worth as explanatory variable, together with the interest rates.

With respect to net worth (as share of GDP), the elasticities are 1,36 for note issue, 1,6 for demand deposits and 1,05 for time deposits. With respect to net worth itself, the elasticities are 0,19, 0,22 and 0,06 in the same order. Interest rate elasticities[2] are −0,4 (short-term) and −0,9 (long-term) for currencies and −1,2 (short-term) and −2,9 (long-term) for demand deposits. For time deposits, the equation incorporates both short-term and long-term rates with elasticities of 12,8 and −9,2 respectively. In order to appreciate the exact meaning of these figures, one should keep in mind that they apply to a ratio: an elasticity of 12,8 means therefore that a ratio of 10 % would go to 11,28 %. In other words, the shares of currencies and demand deposits (equal to the share of M1) in net worth are practically invariant with respect to interest rate changes whereas M2 will show larger variations.

Finally, the international influence is established through the Euro-dollar rate computed in the US model from the US short-term rate. Elasticities are −0,37 for currencies, −1,11 for demand deposits and −0,09 for time deposits.

Interest rates

United States of America: The leading rate in the model is the three-month Treasury Bill rate fixed by the exogenous discount rate and exogenous policy variables.

The commercial bank short-term rate is itself linked to the Treasury Bill rate through a very long lag structure and to exogenous policy adjustment dummy variables. Given the form of the equation, this bank rate shows a considerable inertia since the short-term coefficient of the Treasury Bill rate is only 0,006 whereas the former period level of the bank rate itself has a coefficient of 0,989.

The long-term interest rate (AAA corporate bonds) is itself linked with unit coefficient to a long moving average of Treasury Bill rates (over 14 quarters with linearly decreasing weights 14, 13, 12, etc.). It is also linked to the same moving average applied on the inflation rate, with coefficient 0,11. Finally, it reacts by 0,14 percentage points to any contemporaneous change of one percentage point in the level of the Treasury Bill rate.

Japan: The short-term rate (three-month bonds) is linked to the (exogenous) discount rate with coefficient 0,83, to domestic inflation with coefficient 0,17 and to policy variables. The long-term rate is linked to lagged values of the short-term rate with a long-run coefficient of 0,77, to the ratio of GDP over net worth (coefficient 0,34) and to the ratio of demand and time deposits over net worth (coefficient −0,35).

Balance-of-payments equation

Due to the requirements of Amano's Flex approach (1981) for exchange rate determination, the number of equations in the non-goods balance-of-payments flows is considerable,

but the explanatory variables are the usual ones in portfolio models, i.e. relative GDP, interest rate differentials, exchange rate movements and net worth for capital flows. Data on capital flows being what they are, this particular set of equations should be taken with caution.

Exchange rates and foreign reserves

For the USA, the exchange rate is given by an identity as a computed effective exchange rate from a weighted average of other countries' bilateral spot rates with respect to the dollar. In the Japanese model, the yen/dollar exchange rate solves the balance-of-payments identity, and the international reserves equation explains relative variations in the stock of reserves by expected spot rate changes with elasticity −2,2 and the ratio of imports to the stock of reserves at the beginning of the period, with coefficient 0,26. The expected spot rate variation itself is a function of the trade balance as a percentage of GDP, the variation in the trade balance ratio and relative Japan-USA prices. The elasticities are −3,38, −1,69 and 0,093 respectively. The adjustment explains only about one half of the observed variance of reserves (R^2 = 0,57).

B2 — Rest-of-world equations

The behavioural equations for the rest-of-world module are described in Section 3.3. The precise numerical results are the following, with

WGDP = rest-of-world GDP, billions of dollars, 1975 prices
GDPC = combined EC-USA-Japan GDP, billions of dollars, 1975 prices
WIMG = rest-of-world imports of goods, billions of dollars, 1975 prices
WPX = rest-of-world export prices, 1975 = 1,0
WPM = rest-of-world import prices, 1975 = 1,0
PXC = combined EC-USA-Japan export price, 1975 = 1,0
ln = natural logarithm

$$\ln WGDP = -0{,}485 + 0{,}391 \ln GDPC + 0{,}666 \ln WGDP_{-1}$$

(0,212) (0,177) (0,234)

Corrected R^2	0,752
Autocorrelation test	1,851

$$\ln WIMG = -0{,}235 + 0{,}327 \ln WGDP - 0{,}211 \ln (WPM/WPX) + 0{,}672 \ln WIMG_{-1}$$

(0,211) (0,106) (0,112) (0,284)

Corrected R^2	0,898
Autocorrelation test	2,211

$$\ln WPX = -1{,}016 + 0{,}638 \ln PXC$$

(0,512) (0,307)

Corrected R^2	0,652
Autocorrelation test	1,574

All data (except the combined EC-USA-Japan magnitudes) come from the LINK Group, Philadelphia.

B3 — Linkage equations

The linkage equations have the following analytical expression, with

$X\$_{ij}$ = exports of goods from country i to country j, billions of dollars, 1985 prices
$M\$_j$ = imports of goods, country j, billions of dollars, 1975 prices
$PX\$_i$ = dollar export price, country i, 1975 = 1,0
IYP_i = potential output index, country i, 1975 = 1,0
$IDUC_i$ = degree of use of capacity index, country i, 1975 = 1,0
a_{ij} = market shares in 1975 = $X\$_{ij,1975}/M\$_{j,1975}$

The bilateral data are built from bilateral import flows in order to ensure that

$\Sigma_i X\$_{ij} = M\$_j$ for all periods. Hence $\Sigma_i a_{ij} = 1$

The following variables are computed:

$PM\$_j = \Sigma_i a_{ij} PX\$_i$ = dollar import price, country j
$AYP_j = \Sigma_i a_{ij} IYP_i$ = competitors' potential output index on market j
$ADUC_j = \Sigma_i a_{ij} IDUC_i$ = competitors' degree of use of capacity on market j

The analytical form is

$$X\$_{ij} = a_{ij} M\$_j + b_j X\$_{ij,1975} (PX\$_i - PM\$_j) + c_j X\$_{ij,1975} (IYP_i - AYP_j) + d_j X\$_{ij,1975} [(IDUC_i - ADUC_j) - e_j (IDUC_i - ADUC_j)_{-1}] + e_j (X\$_{ij} - a_{ij} M\$_j)_{-1}$$

Given the definitions of a_{ij}, $PM\$_j$, AYP_J, $ADUC_j$ and the fact that $\Sigma_i a_{ij} = 1$ one checks easily that

$$\Sigma_i X\$_{ij} = M\$_j$$

The linkage equations are therefore automatically additive and ensure world consistency of trade flows.

[2] Defined as the percentage change in the dependent variable caused by a one percentage point change in interest rates.

Results are

Import, Market j	b_j	c_j	d_j	e_j	Corrected R^2
EC	−0,053 (0,030)	0,093 (0,027)	−1,030 (0,433)	0,879 (0,096)	0,986
USA	−0,128 (0,127)	0,131 (0,100)	−1,208 (0,770)	0,830 (0,087)	0,987
Japan	−0,136 (0,084)	0,010 (0,200)	−1,104 (0,488)	0,757 (0,092)	0,969
Rest of world	−0,494 (0,300)	0,083 (0,399)	−0,902 (0,900)	0,600 (0,147)	0,854

Potential output and degree of use of capacity are derived for the USA, Japan and the rest-of-world module from the discrepancy between effective real GDP and its exponential trend value computed over the 1973-85 period.

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