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M E M O R A N D U M

on the Reduction and Reorganisation of Working Time

(submitted to the Council by the Commission)

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Memorandum on the Reduction and Reorganisation
of Working Time

I - Introduction

1. Unemployment is the most pervasive problem currently facing the economies of the Community and others in the industrialised world. In 1970 the overall unemployment rate in the Community was 2% and it had risen to 6.2% by 1980. Now, towards the end of 1982, it is already over 10%, meaning that more than 11 million people are unemployed. On present demographic and economic trends this figure will reach 12 million in 1983 and with the net annual addition to the labour force likely to remain at about 700,000 for the next two or three years, there is no immediate prospect of a slowing of this trend. The demand for jobs will in particular be reinforced both by more (especially married) women trying to find jobs and the expected labour-saving effects of the wide-scale introduction of new technologies. Without major changes in employment structures working time arrangements, a growth rate of 3-3,5% would be needed merely to prevent a further increase in unemployment, a rate of growth unlikely to be achieved in the coming years.

2. In the light of this bleak medium-term outlook, there has been increasing interest (which is shared by the Commission) in the possibilities for offering employment to a larger number of people which may be created by various ways of reorganising working time, including in particular reducing the working time of individual employees. Apart from the hardships which unemployment brings to those out of work, the risk it poses to the social fabric and its democratic institutions is real. Among other policy responses to the unemployment problem, the Commission believes that there is an urgent need for a new approach to the question of reducing and reorganising working time which recognises the positive contribution it can make.

II - Community Activities in the Recent Past

3. A debate on the contribution that the reduction and reorganisation of working time can make to the creation of employment opportunities and the alleviation of unemployment has been going on within the Community for several years.

4. The Council's Resolution of 18 December 1979 (1) on the adaptation of working time established guidelines in the following fields of action:

- overtime,
- flexible retirement,
- part-time work,
- temporary work,
- shift work,
- annual working time,
- combined work and training schemes (dealt with in a separate Resolution).

5. The Commission has already submitted a number of proposals to the Council in accordance with the Resolution. A Draft Directive on voluntary part-time work was submitted on 4 January 1982; another draft Directive on temporary work was tabled on 7 May 1982; and a draft Recommendation on flexible retirement on 15 December 1981.

6. The Council has on a number of occasions since December 1979 drawn attention to the potential importance of adapting and reallocating working time in order to improve the employment situation. The Joint Council meeting of 11 June 1981 involving Ministers of Economic Affairs and Finance and Ministers of Labour and Social Affairs and the European Council meeting on 29 and 30 March 1982 both referred to the question in their conclusions, which were in turn reflected in the Council Resolution of 12 July 1982 on Community action to combat unemployment. This Resolution took

(1) OJ C2 of 4 January 1980

account of the possibilities revealed by experiments in the field of adapting and reallocating working time for achieving a more flexible use of productive capacity and improving the employment situation. It also called for the continuation of the dialogue with and between the two sides of industry regarding working hours and noted that the Commission would submit a memorandum on the matter by the end of 1982.

7. In carrying out this mandate the Commission has sought to gather together the relevant information from Member States on experiments and measures in the field of reducing and reorganising working time. A working paper of the Commission's services (which is attached to this memorandum) was prepared as a basis for discussion at a seminar held in October 1982, involving experts drawn from Member States, whose experience and insight could assist the Commission in its reflections on this subject.

8. The Commission has throughout its work conducted a dialogue with the two sides of industry, both bilaterally with European-level delegations from the representatives of trade unions and of employers and on a joint basis. These contacts have so far failed to produce an agreed basis for discussion between the two sides on the reduction and reorganisation of working time.

9. The question of working time has most recently been discussed at Community level in the Joint Council of Minister of Finance and Economic Affairs and Employment and Social Affairs held on 16 November. The Council had before it a communication from the Commission (1) including a section on the reduction and reorganisation of working time, in which its possible contribution to reducing unemployment was discussed. The Council's conclusions on this point are annexed to the present communication.

(1) Com (82) 719 final.

III. Problems and Opportunities of a Reduction in Working Time
- General considerations at enterprise and aggregate level

10. In the traditional bargaining context, changes in working time have been undertaken mainly in the spirit of improving living and working conditions and as part of an overall package involving pay and other benefits. Gradual reductions of annual working time have taken place over the years in the form, for example, of shorter weekly working hours for day workers, even shorter ones for shift workers and night workers, compensatory time-off for overtime, longer annual holidays and special leave for personal reasons or training. Over the working lifetime, increasing recourse has been made to part time work, permanently or for temporary periods, longer periods for initial training, retraining or re-education courses and early or flexible retirement. In general, however, the overall purpose of working time reductions has until recently been to improve working and living conditions without any specific employment goal.

11. Against the background of current economic problems, however, and the urgent need to stem the tide of rising unemployment, a more positive approach to working time as an instrument of employment policy is urgently required. The Commission has thus seen it as its task to establish in what conditions measures to reduce and/or reorganise working time might make a durable contribution towards creating employment opportunities and to determine whether those conditions can realistically be achieved. In no circumstances can reductions in individual working time alone resolve the employment crisis. The Commission believes, however, that appreciable positive results can be obtained if suitable conditions exist or are created which allow reductions in working time (annual or weekly) to lead not only to a direct and immediate increase in jobs available, but also - possibly in combination with measures of reorganisation - to productivity

increases as well, so that long-term employment prospects are also improved. Under-utilised manpower and capital resources could be put to more economically productive purpose by combining reorganisation with reductions in working hours, with both economically and socially beneficial results. Changes would of course need to avoid increasing unit production costs, so that the crucial drive for greater industrial competitiveness is not impeded. Indeed, there is evidence that working time reorganisation is increasingly regarded as inevitable and that once accomplished it contributes positively to the ability of enterprises to respond to the competitive challenge, especially where new technologies are being introduced.

12. In several Member States measures have recently been taken or are planned to reduce individual working time with the aim of creating jobs. In France, a decree at the beginning of the year reduced the working week by one hour (from 40 to 39 hours) lengthened paid holidays, limited overtime and made more flexible existing regulations concerning the use of the workforce. The French government estimate that 70 - 80,000 jobs have been created or maintained. In Belgium, the government is proposing to reduce annual working time by 5% in 1983 and to require employers to enlarge their workforces by 3%. The social partners are to work out the details. In the Netherlands, the social partners have reached a nation-wide agreement that the expected increase in pay to take account of higher prices normally due to be paid in 1983 will be earmarked for the creation of additional jobs in combination with shorter individual working hours, the detailed provisions to be negotiated at branch or enterprise level. In Luxembourg, legislative action has been taken to reinforce existing measures on limiting overtime and to ensure respect for the 40 hour working week in the case of multiple job holders.

13. Examination of the effects at the plant level of reducing and reorganising working time, despite the wide range of variables involved and the difficulty therefore of establishing any very clear-cut pattern, reveals a number of fairly consistent trends:

(a) A reduction in working time is generally accompanied, at least in the short run, by an increase in labour productivity per hour. There tends to be an intensification of work, a reduction of idle time and less absenteeism. In order to maintain the same level of production, therefore, the work force needs to be increased less proportionately than hours are reduced. The increase in productivity is not, of course, sufficient to obviate the need to take on any new workers at a given production level; the precise effect on employment, costs, and overall productivity development depends on agreements reached about the extent of wage compensation (1), on measures of reorganisation which may alter the relative input of labour and capital and on the level and elasticity of demand and other market conditions in which the firm operates.

(b) Small reductions in working time can generally be met by the existing organisation and equipment and any direct employment-creating effect is consequently small. With bigger reductions, the organisation of work has to be reshaped and often new investments undertaken, with potentially greater direct and indirect effects on employment, but also greater risks and potential cost effects. It is not possible to be precise about what constitutes a big or a small reduction for these purposes. The introduction of flexibility measures on a voluntary basis, for example, can allow adjustment to relatively big reductions without major organisational changes.

(c) The preference of workers would be for a reduction in working time without any substantial measures of reorganisation. Moreover, their preferences about how a reduction and reorganisation in working time should be arranged (whether it should be in terms of daily or weekly hours, through longer holidays or more part-time

(1) ie the extent to which losses in an individual's wages as a result of reduced working hours are made good by increases in hourly rates or other pay increases with equivalent effects.

work, etc.) tend to favour arrangements which have smaller potential employment effects. This generalisation may be affected by many factors, in particular agreements on wage compensation, but there is evidence of a sufficiently strong trend for this to represent a potential problem in negotiations and thus a factor to be weighed when formulating an overall policy.

(d) Increases in production costs can be avoided - and indeed reductions achieved - if a reduction in working time is combined with measures of reorganisation which lead to increased plant operation time and thus a more profitable utilisation of machinery. It is the way resulting productivity gains are used (wage compensation, improved price competitiveness, job creation through further working time reduction etc.) which determines the eventual employment impact. Such measures of reorganisation of working time might involve the need for more shift work, work outside what are now regarded as normal hours, week-end work, and so on. If changes on these lines are to be introduced harmoniously, there will need to be adequate assurances that they will not represent a retrograde step in terms of the fundamental social rights of workers.

(e) The scope for improving productivity varies considerably according to the type of production process and of firm concerned. It is clear, for example, that a continuous production process offers no scope for increased plant operation time. Similarly, big organisations can generally achieve proportionately greater employment effects than small ones, because size per se gives room for manoeuvre in terms of internal organisation.

14. At macro-economic level, a number of model calculations have been carried out to establish the effect of a reduction in working time on certain economic variables, such as employment, demand, consumption, investment, inflation and the balance of payments. Not surprisingly, there are no very clear-cut results since there are so many other variables. It is clear that, at the macro as at the micro level, maintaining or increasing the degree of utilisation of capital equipment (production time)

is one of the key factors in assuring the creation of more employment opportunities. The degree of wage compensation (wholly, partially or not at all) does not appear on its own to be a determining factor in terms of employment creation. The results depend rather on the underlying assumptions about the behaviour of management concerning investment, the relative input of capital and labour and so on. Full wage compensation, leading to increased production costs, however, is generally inflationary, and brings about a loss in competitiveness with the standard negative consequences for the external balance. Despite considerable variations, the majority of these model calculations show positive employment effects as a result of a general reduction in working time.

15. While reductions in working time are generally expressed in terms of a shorter working week for the individual - and this indeed is the policy route chosen by those governments which have taken recent initiatives in this field - positive employment effects do certainly result over a longer period from changes involving the reduction of working time over a whole lifetime. Such reductions may in some cases (for instance, if more time is spent on education and/or training) have beneficial economic effects in themselves. Others, such as an increase in part-time work and a tendency towards earlier retirement, have the advantage of redistributing employment opportunities with little direct effect on the costs of enterprises. Still others, such as a tendency (still only slight) for more men to take parental leave, are offset, in this case by women needing to take less time off to bring up their families. The amount of work done over a lifetime by individuals is ultimately the measure of whether there has been an equitable distribution of employment opportunities and these developments are therefore of great importance in the present discussion, quite apart from their contribution to other Community policy aims such as equal opportunities for men and women.

16. It seems probable that the largest direct employment effects would be achieved by a substantial general reduction in working time over a fairly short time, allowing an appreciable redistribution

of existing employment opportunities. An important factor is likely to be a greater inclination to show solidarity on the part of employees than would result from a slower and more piecemeal approach. In order to ensure that such a reduction did not damage the competitiveness of firms and thus in the longer run have a negative effect on employment and the economy in general, accompanying measures would need to be introduced which would be designed to ensure

- the maximum possible offsetting increase in productivity (although this would reduce the direct employment effect at a given level of production);
- an equitable sharing among employees, employers and public authorities of any remaining costs.

These measures would include in particular a more efficient and flexible organisation of working time which might involve some fairly radical changes in existing patterns. The greater the effort in terms of productivity and the greater the extent to which any immediate costs can fall other than on enterprises, the better the long-term prospects for competitiveness and thus for growth in activity and employment.

17. The overall strategy, involving both public authorities the social partners, would need to take account of a wide range of possible obstacles that might arise for workers and companies. For example:

- (a) There will be a need to adjust the public infrastructure to take account of different working patterns. Transport systems and facilities for the care of young children are important examples.
- (b) Workers are reluctant to forego wage compensation at a time when real incomes are already declining. The introduction of profit-sharing or capital growth-sharing schemes for workers as a substitute (to some degree) for wage compensation might be considered.

- (c) The absence of wage compensation risks falling more heavily on those who can least afford it. Careful consideration will need to be given to the implications for minimum pay legislation (where appropriate) and to the impact on take-home pay for different income groups, given progressive taxation rates.
- (d) The more abrupt the change, the greater the difficulty for all concerned to bear costs which if spread over a longer period would be easier to accommodate. Governments could consider to what extent they might share in the short-term costs. The pressure on public funds will be eased to the extent that any reductions in unemployment will mean lower expenditure on social benefits and transfers and increased tax receipts.
- (e) Firms employing a very small workforce have a limited capacity for generating additional employment opportunities through reducing and reorganising working hours. Any overall policy will need to leave room for exceptions and variations to take the needs of small enterprises and possibly other similar cases into account.
- (f) Imperfections in occupational and geographical mobility risk causing bottlenecks in the supply of labour.
- (g) Efforts to reduce systematic overtime have so far had only limited success and would need to be reinforced if reductions in working time were not to be offset by increases in the overtime worked by those already in employment instead of by the recruitment of additional workers.
- (h) Existing attitudes to part-time work, resulting from its present low status and from unjustified inequalities in the treatment part-time workers receive, are an impediment to the more widespread introduction of this kind of work and of other changes through which individuals could by

their own choice contribute to the more flexible organisation of work.

IV - Conclusions and Policy Recommendations

18. The Commission emphasises that policy on the reduction and reorganisation of working time should be embedded in a global strategy of economic recovery and should be fully consistent with the various strands of that strategy, especially in promoting the competitiveness of the Community's industry. It should also be seen in the light of other strands of that policy, in particular the drive for an expansion of investment, which if pursued successfully are likely to enhance its effectiveness. Within the framework of greater macro-economic stability, the control of public deficits and a shift in the structure of public expenditure in favour of public investment, measures such as the reduction and reorganisation of working time which contribute to a reduction in unemployment and thus to reduced public expenditure on social benefits can help in the achievement of sustained growth. At the micro-economic level, there is already evidence that working time reorganisation leading to greater flexibility in the organisation of production, is a necessary and positive element in the process of adjustment to new technologies.

19. Where the adaptation of working time increases the production hours of a firm and results in a more intensive use of production capacity, this can lead to a reduction in unit production costs. There is potential for lowering prices and/or improving profitability, with the attendant likelihood of higher output and increased employment and generally positive effects in the medium term. This is the pattern which reorganisations in working time, including reductions in individual working time, should aim to achieve. The detailed process of reducing and reorganising working time should take place at sector or enterprise level, with the creation of viable jobs as a principal objective. Wages, working conditions, productivity arrangements and cost developments should thus be negotiated by the social partners along with working time and its employment creation effects.

Measures in the public sector, the biggest employer, could have a quantitatively appreciable effect and set an example. The Commission, in the belief that the combined efforts of governments and social partners can ensure that the right pattern of conditions is achieved, considers that the Community should explicitly support and actively promote the combined reduction and reorganisation of working time as an instrument of economic and social policy.

20. During the last three years the discussions which have been held with the social partners at Community level with the aim of arriving at a common Community policy approach regarding annual working time, including overtime, have been unsuccessful. The Commission, nevertheless, believes that a further effort should be undertaken to reconcile the views of the two sides of industry at the European level on a policy framework in the field of the reduction and reorganisation of working time in order to support national efforts to combat unemployment and to provide a basis for policies in the Member States which will narrow rather than widen existing differences.

21. The Commission will seek to direct contacts with and between the social partners towards providing a basis for the eventual achievement at Community level of an agreement among the Member States to undertake action to accelerate the trend in the reduction and reorganisation of working time, accompanied by measures to improve competitiveness and to safeguard basic social rights. In the Commission's view, the eventual aim should be to set a broad target for a substantial reduction in individual working time, possibly expressed as a percentage range. Bearing in mind the considerations developed earlier in this document, a guideline of this kind would of course need to be carefully framed to leave room for considerable variations to take account where necessary of differences in the economic situation in each Member State, in existing law and practice in the Member States and of the needs of different sectors and of smaller firms. It would be up to the two sides of industry at the level of the firm or sector to give specific form to this general policy. The proposed European-level contacts with the social partners will take place over the next quarter, giving particular attention

to the possibility of quantifying the target for working time reduction, following which the Commission intends to make proposals to the Council with a view to the development of a Community policy framework on these lines.

22. In order to ensure that reduction and reorganisation of working time contribute to the creation of durable employment and to the recovery of industrial competitiveness, the Commission will recommend accompanying measures, in particular:

- more flexible forms of work organisation should be planned at enterprise level; they should aim to achieve a more efficient utilisation of equipment through longer production times which would improve the productivity of capital;
- strictly limited wage compensation is the logical corollary of a policy on the reduction of working time the main aim of which is to create jobs; even where there are gains in productivity, these should, especially in the early stages, contribute to job creation and improved competitiveness and should not therefore be absorbed by wage increases; and measures should be taken which ensure that any necessary income sacrifices are inversely correlated with the existing pay hierarchy, resulting in an equitable burden-sharing among all income groups;
- action to promote geographical and occupational mobility should be reinforced so that labour market rigidities do not impede the job creation effects of the reduction and reorganisation of working time;
- short-term financial assistance should be considered at national and Community level which would help the process to get started and overcome the initial problems encountered by workers and companies;
- existing provisions which may effectively deter employers from recruiting new workers should be reexamined and where appropriate adapted to remove obstacles to the expansion of workforces following the reduction and reorganisation of working time.

23. Reductions in working time risk being offset by increased overtime if steps are not taken to prevent this. A clear distinction needs to be made between, on the one hand, systematic overtime and on the other, overtime which is needed to provide flexibility in the production process, especially in certain types and sizes of firms. The part of annual working time which consists of systematic overtime should be limited, as agreed by the Council in its resolution of 18 December 1979 and be compensated by time off in lieu rather than by additional payments. The Commission will present a draft Council instrument calling for national measures in this sense.

24. The Commission recommends that not only the reduction and reorganisation of working hours should be pursued, but also changes in the pattern of the working lifetime, various forms of individual work/leisure trade-offs and a more widespread introduction of part-time work. The social partners should include these matters in their negotiations on the creation of employment, it being understood in particular that there will be no unjustified differences in treatment between traditional full-time workers and part-time employees. In this context the implementation of the draft Directive on voluntary part-time work, which is now before the Council, is of great importance.

25. Once again the Commission wishes to stress the complicated nature of this area of policy and the widely varying range of existing practices and future options. Although action by public authorities is necessary to provide the necessary framework at the national and Community level for measures to reduce and reorganise working time, it is the two sides of industry who will have the task of putting such measures into effect through negotiation.

CONCLUSIONS OF THE JOINT COUNCIL (ECO/FIN-SOC) ON 16 NOVEMBER 1982

Reorganizing of working time

The Council considers that a reorganisation of working time, possibly in combination with a reduction in working hours, can under certain conditions help improve employment, in particular if a more flexible use of the means of production is involved. The Council :

- agrees that a reorganisation and a reduction of working hours can only have positive employment effects if the competitive position of firms is not impaired, if there is sufficient flexibility in the labour market to prevent bottlenecks, and if appropriate account is taken of the specific and sectoral characteristics - notably the size of the firms;
- notes with satisfaction that the Commission intends to present before the end of 1982 the memorandum on working time requested by the Social Affairs Council on 27 May 1982;
- notes that the Commission will continue its work towards the formulation of a Community approach, where appropriate, on the reorganization of working hours, in accordance with the Council Resolution of 18 December 1979;
- invites the Social Council to conclude its consideration of the proposed directive on voluntary part-time employment and the draft recommendation on flexible retirement.

Annex to the memorandum

on the

reorganisation and reduction of working time

(working document of the services of the Commission)

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Introduction

For several years now Community institutions have been dealing with questions relating to different aspects of work sharing and the adaptation of working time, i.e. to redistribute the total volume of work available in the economy in order to increase employment opportunities for all those wishing to work. On the basis of the conclusions of the Tripartite Conference of 27 June 1977, Governments and the social partners have been examining the relevant objectives and consequences on various occasions, notably at the following Tripartite Conference of 9 November 1978.

At the request of the European Council meeting of March 1979 the Commission drew up a communication to the Council - on 9 May 1979 - on the distribution of work. On the basis of this document the Council adopted a Resolution - on 18 December 1979 - on the adaptation of working time, taking into account the fact that employment problems in the 1980's will be aggravated by demographic trends, the prospects of moderate economic growth, the problems of adjustment caused by the hike in oil prices, the structural problems of the labour market and the progressive introduction of new technologies. It is important to continue with policies aimed at increasing growth potential, competitiveness and innovation, improving the employment situation and responding to the emergence of new social needs in a non-inflationary manner, and measures to adapt working time might be integrated in this overall strategy as additional support for policies designed to improve the employment situation. These additional measures would have to be assessed primarily for their effects on the productive capacity of undertakings, productivity changes and wage compensation.

In the Resolution of December 1979 the following fields of action are listed:

- overtime
- flexible retirement
- part-time work
- temporary work
- shift work
- annual working time
- combined work and training schemes (sandwich courses) dealt with in a separate Resolution.

In accordance with the final provisions of the Resolution, the Commission prepared two draft Directives on part-time work and temporary work (transmitted to the Council on 4 January 1982 and 7 May 1982 resp.) and a draft Recommendation on early retirement (transmitted to the Council on 15 December 1981).

The framework programme of the Commission 1982/1983 put continued emphasis on the need to combat unemployment in line with the conclusions of the Joint meeting of the ministers of economic affairs, finance and social affairs on 11 June 1981. Among other points this strategy proposed the thorough examination of an adaptation of the annual working time, while avoiding damage to the Community's competitiveness. A similar statement was included in the foreword of the Fifth Programme on medium term economic policy, sent to the Council in July 1981.

Why adjust working time ?

In the light of the ever increasing unemployment rate in the Community (9.4 % of the civilian working population, i.e. 10.7 m registered unemployed in July 1982) and given that prospects for an acceleration of economic growth in the medium term remain bleak, there are in the view of the Commission, strong arguments for exploring all possibilities for offering employment to a larger number of persons through various arrangements aimed at reducing the working time of the individual employees. The main purposes should be to distribute work more equally by putting underutilized manpower to more economically productive purpose and putting into practical effect basic social rights on employment and progress towards more equal and better chances on the labour market for those willing and capable of working. Furthermore, the dangers of widespread unemployment for the democratic institutions of our societies as such and the mounting indirect social costs resulting from it should not be underestimated.

The present document will focus on the reduction of the annual working time together with increasing the flexibility of the organisation of working hours in order to meet the individual, company and social needs of the persons and groups concerned in the context of a more efficient macro-economic policy. The rather reticent positions taken so far by Community and national bodies

have to be reviewed under the mounting evidence of the failure to reduce unemployment by the instruments utilised to date, although the Commission is of the opinion that the adaptation of annual working time alone is not enough; it should be embedded within the larger ambit of a qualitatively orientated growth policy striving to meet economic and social needs at the same time. This document does not deal with longer periods of education and training in school and the lowering of the retirement age, policies which are designed - among other even more important objectives - to reduce life time at work. The most important measures discussed within the framework of the reduction of the annual working hours are the general reduction of the actual working week (either by reducing the number of hours worked per day or by reducing the number of days worked per week), a restriction on overtime, an increase in part-time work and a lengthening of annual holidays.

Generally speaking, a distinction can be made between a general reduction in working hours agreed nationwide or by branch of industry (a collective approach), and an increase in part time work (a hitherto more individual approach) although in some cases these two basic approaches might be rather similar in their consequences.

Special attention will be given to experiments with new forms of work organisation which reduce the annual working time per worker but maintain or increase the production time.

A - 1. The notion of working time

The notion of working time in a specific situation, i.e. inside a company, is of a rather heterogenous nature and much more complicated than that reflected by macro-economic considerations. This implies that reductions and/or adaptations of working time (which quite often go hand in hand) are not clear-cut either. Under the heading of a 40-hour week very different actual types of time organisation can be covered (normal 8-hour working day, different hours per week but on average 40 hours, including or excluding certain interruptions in working time -paid or unpaid-, average per year but different working times for different times of the year, etc.). In the same way reductions in working time corresponding to the different schemes in operation lead to varied patterns even within one company. This often results in a reorganisation of work itself if and where the reduction of working time is substantial, considered as definite or forms part of a longer term policy planned well ahead in certain stages to which the individual companies can effectively stick. Such changes and possible overlapping working schedules which will result in order to ensure continuity are the type of costs which have to be paid for the gains in productivity which are very often associated with the shortening of working hours. Another consideration is that the creation of an additional shift in shift working will only take place if there is a substantial reduction in working hours. Other less far-reaching methods, i.e. smaller cut in working time, might involve the scheduling of more free days but sticking to the present shift rhythm. In the case of a 4 shift system, the operating time of the company is already at its maximum and existing equipment cannot be utilized more than that. If there is still "leisure time" of capital equipment it is possible to extend operation time and shorten working hours, i.e. introducing rotation on a yearly, monthly, weekly, daily basis or intermediary formulae to keep manning at a pre-determined level. It is clear that the reduction of working time has to be greater if it is supposed to apply to a daily work schedule in order to arrive at workable schemes. Over a longer time-period there is more flexibility by cutting in free days at intervals so that the average individual reduction can be fine-tuned. On the other hand, of course, this means that the whole production process can be adjusted in a way that employment creation effects might be minimal. For example, if a major reduction in working time per day from

1 shift working 8 hours to 2 shifts working 6 hours proved impossible, it might still be feasible to create a "full-time" (1 x 7) shift plus a "part-time" shift (1 x 3). On a weekly basis the question is whether a reduction might be arrived at in working also on Saturdays or even Sundays, so giving more flexibility for organizing working time but on the other hand giving up acquired rights which form part of the standard of living. This corundum might be avoided by resorting to longer working days but more free days. In such a way there are numerous combinations possible if individual working time and operating time are both variables and there might exist "optimal" combinations in the sense that equipment might be used much longer and more profitably (e.g. when changing from 1x8 to 2x6 hours from 40 to 60 hours per week (+50 %) while individual working time is reduced differently (in this case by 25 % per person)).

In the framework of a medium term programme of the reduction of working time it might be conceivable that free days granted during the first year might be carried over to a later year so that at that moment the reduction can be more substantial, partly financed by wages voluntarily left in the enterprise earlier considered as a sort of investment wage "frozen" for a certain amount of time and "released" in the year of benefit. These amounts would have to be taken into account and balanced with possible wage reductions or lower increases than otherwise would have been the case. This scenario, however, exceeds the annual working time adjustment envisaged in this memorandum but it might form a link with measures aiming at regulating life-time employment.

The notion of working time as such is also becoming more "blurred" in the course of economic development. When goods used to be produced by hand or with the help of simple technical instruments, the link between the time spent for manufacturing a final product could be determined rather accurately. In the course of time with the introduction of sophisticated machinery and the large extension of the tertiary sector, working time as such has gradually been changing its meaning, indeed the notion of work itself has undergone considerable modifications. While in the industrial process work can still be related to a large extent to the production of goods, the concepts of work, working time and productivity become much more difficult to measure in office, conceptual, administrative, caring and other

service activities. This trend will be strongly reinforced by the introduction of new technologies in which case the input of workers will be limited to designing and supervising the whole process of production of goods and services without requiring the presence of persons at their work place in many cases.

If working time as a meaningful concept has become eroded of its substance it becomes clearly more difficult to formulate policies, especially from the commanding heights of the economy, to achieve specific objectives such as increasing employment. Working time tends to be defined more often than in the past as a certain period of the day, the week, etc. rather arbitrarily limited by conventions which themselves have only a very loose relationship with work done in the more traditional sense of the word.

The Commission is of the opinion that these factors and elements have to be taken into account if and when a policy of working time is drafted and that its effects on other economic and social variables will vary accordingly.

A - 2. A general reduction in annual working time

Introduction

The trade union movement at national and Community level is particularly in favour of a (gradual, i.e. within some years) reduction of the working week from generally 40 hours to 35 hours. This amounts to a reduction in working time by about 10 - 12 %. Crucial to a successful (in terms of employment) reduction are the conditions under which it can be implemented and the behaviour patterns of the persons and enterprises concerned. In a general way it can be said that the absence or presence of the following factors is of major importance for conditioning success or failure. They have to be considered in any form of reduction in working hours:

- (a) maintenance (or even increase) of production time;
- (b) wage compensation for the fewer hours worked;
- (c) availability of capital stock;
- (d) productivity increase per hour as a result of shortening the working time;
- (e) existence of an internal manpower reserve;
- (f) mobility and flexibility on the labour market to fill the hours released by the reduction in working time.

Problems management have to face

Whilst in theory a reduction of even one hour per week would correspond to about the normal working time of $2\frac{1}{2}$ million persons per year throughout the Community, it is certain that taking into consideration the above the actual figure would be much less. The actual employment impact would depend largely on how these factors show up in reality where their effects appear in a complex interrelationship. The cost effects for the enterprise as a result of a reduction of working time depend largely on the way in which working hours are reduced, the agreements reached as to possible wage compensation, and the alteration in the relative input of labour and capital.

The question of the possible cost increases caused by measures to reduce working time is very often not easy to solve. It is a problem which crops up during collective bargaining when the cost dimension of a range of various non-monetary claims has to be established in order to be compatible with wage claims.

One illustration of this is the 1978/79 agreement in the German metalworking industry to reduce annual working time by increasing paid holidays, where the two negotiating sides arrived at different figures from the same basic premise.

The union side considered that the crucial factor lay in the question of a change in staff costs in relation to a change in net production to the extent the latter is caused by a reduction in working time. Choosing a macro-economic approach in order to get methodologically comparable results and taking the specific example in the metal-working industry the unions come to the conclusion that one extra holiday would "cost" 0.4 %.

The calculation made by the employers organisation departs from the position that extra holidays do not result in an incremental productivity gain induced by the reduction in working time (the trade unions assumed that half of the cost rise would be offset by a productivity increase) and that in addition to the direct labour cost increase other cost effects should be taken into account which have been caused by the extension of the holiday period. On this basis one more holiday would lead to a 0.7 % increase of staff costs per hour plus 0.1 to 0.3 % follow-up costs per hour (drop in capacity utilisation, more overtime and/or recruitment costs), totalling 0.8 to 1.0 %, i.e. more than double the trade union figure.

Next to the cost factor the opportunity for management to increase the number of employees which in turn depend on technical factors as well as on the qualitative and quantitative situation on the labour market play a major role.

In the past the reduction of working time took place gradually, negotiated together with other factors such as pay increases in a package deal. Generally this reduction did not lead to a proportional decrease in pay per week, on the contrary the only question at issue was whether otherwise pay increase would have been higher. If and when there are - as in the past - continuous productivity increases the problem only consisted of sharing the increase in a different split between pay increase and more leisure time.

At present the problem is put in much sharper relief, since a reduction in working time might be accompanied by an actual drop in pay. The effects as a result of work sharing measures depend to a large extent on the reactions of management vis-à-vis such a policy. These can include:

- cutting production corresponding to the reduction in hours of work;
- increasing overtime, additional shifts, and/or mobilisation of internal manpower reserve;
- increasing productivity;
- increasing manpower.

The first reaction it is likely to be a short-term one to cope with adjustment problems, or a more long term one if the firm faces a declining market. A production cut-back might lead to higher unit costs since fixed costs have to be borne by lower production.

As far as overtime work is concerned this - according to theoretical assumption but also on the ground of empirical surveys - is probably also a transitional phenomenon. One reason for this is the higher costs for this measure which amounts to maintaining original production at a higher cost level.

An increase in productivity is especially possible in the case of under-utilised capacity and by increasing the intensity of work per hour, possibly by the reduction of absenteeism and other effects to reduce idle time during the production process. It is possible that these effects are of a transitional nature too; an increase in work intensity is much less likely nowadays than when working hours were reduced in previous times.

Thus, an increase in the manpower of the firm will only happen if jobs are economically viable. Reducing working time may increase costs to hire new staff, train new people, set up new facilities, etc... But there are also chances that increase in production or the use of spare capacity may lead to unit cost digression effects because of a better utilisation of equipment. While there are often limits on production functions, especially in industry, and a certain minimum size of enterprise seems to be needed to employ any additional workers (if the hours released correspond at least to the working time for one new person) it is however possible - and proved empirically - for the flexible utilization of the workforce to continue. This is evident if compared with the cyclical flexibility of the workforce - especially if a more flexible working time organisation is chosen to employ part-time personnel to fill some of the gaps in the new organizational set-up. If the company goes over to

or extends shift work even more possibilities open up, although at a higher labour cost, which could be offset by the more profitable utilisation of equipment, always provided that demand is sufficient. As far as small companies are concerned the limitations might not be too serious since the new workers employed would not be restricted to just one job; it is typical for these enterprises that the workers are versatile and can exercise different functions according to the needs arising.

If it is not possible for the company to obtain cost digression in the ways depicted they will try to recoup cost elements in their prices; the success of this policy depends largely on the competition within the branch and the general monetary policy. Furthermore, eventual cost increases due to the reduction of working time might lead management to resort to rationalisation investment which would boost productivity once more (as has probably been the case in the past). In fact trade unions argue often in favour of higher wages to stimulate enterprises to rationalise which opens up prospects for future pay increases. In this situation it was assumed, however, that those laid off would find a new job elsewhere, a pre-condition, which is no longer fulfilled at present nor for the years ahead.

Labour market problems

The employment effect could be hampered, furthermore, by structural and behavioral characteristics on the labour market. Because of regional and sectoral immobilities as well as disparities in qualifications it is often argued that it is difficult to find suitable workers to fill the vacant posts. This is certainly true in a number of cases, and largely because of increasingly high unemployment which in a way has had the selection function of eliminating mainly the least skilled from their jobs, making re-entry difficult especially if higher qualifications are required. However, we should not underestimate the fundamental elasticity of the labour force. The intra- and inter-company exchange of workers (layoff, transfers, hire) still functions to a large extent (although less than in former times when unemployment was not so widespread and persistent), which illustrates that "the employed" and "the unemployed" are not fixed blocks of persons but that there is, still, continuous inflow and outflow so that the composition of the two blocks changes. In addition recent research in the Federal Republic of Germany shows that only less than a quarter of those made redundant took up

work again in the same branch of industry; according to the Federal Labour Bureau a large proportion of job placements were for unemployed workers whose previous jobs did not correspond to the job description evaded by the Bureau. 36 % of cases did not correspond to the broader job definition, and 56 % did not correspond to the narrower definition. In many cases unskilled workers were placed in formally skilled workers' positions.

To a certain extent enterprises could lower their very high demands as to the qualification of people, since very often this can be gained through short training periods and learning on the job, while also what is often needed by companies are people with general characteristics such as reliability, willingness to learn, etc. With more and more people unemployed with higher levels of qualification those general characteristics are often present, and with fast-changing technological advances it often seems less important that a specific knowledge is already present beforehand. Recent research suggests that a certain qualitative polarisation occurs in the labour market: relatively few functions requiring highly skilled expertise, with an increasing number of functions only needing people with less developed formal capabilities and who in fact are frequently occupied below their "theoretical" level.

Macro-economic demand effects

The size of the employment effect resulting from shortening working hours will be influenced by whether general demand will go down as a consequence, which would certainly lead management to cut down on new recruitment. Falling demand cannot be completely excluded, especially if no wage compensation is granted which in the first round would lead to a drop in consumer demand and consequently in demand-oriented investment. This could even happen if correspondingly more people were hired so that the gross wage per company remained stable. On the macro-economic level, however, the total amount of unemployment and related benefits would be reduced as more employment was created, which could cause a drop in demand although because of progressive taxation net wages will fall less per person than gross wages. Furthermore the State could lower unemployment insurance contributions to correspond to fewer total benefits which would boost private demands as well.

In the case of full wage compensation higher demand will stimulate production and employment; in the longer run, however, rationalisation investment because of cost increases for the companies may lead to a decrease in employment quite apart from the fact that inflation might increase and consequently lower the real value of the full wage compensation.

It might therefore be worthwhile to think about other forms of compensation (apart from more leisure time which in itself might lead to more demand for "leisure goods", but also to more "black work" threatening legitimate employment in the sectors concerned). One way might be to consider the introduction of systems of profit or capital-growth sharing. This would avoid a drain on liquidity for the company and at the same time provide a flexible approach giving employees some assurance that funds are earmarked for investment designed to stabilize and create employment. The details of such an approach would have to be negotiated between the unions and employers involved within the framework of the total collective agreement package.

The reorganisation of production time

A crucial factor for a successful reduction of working hours will be the question whether production time will be reduced proportionally. If this is the case and if there is full capacity use at the outset there will not be an employment effect. On the other hand, if production time is maintained the otherwise negative production effect can be avoided by rotation schemes and the extension of shift work. Since the equipment will be used more efficiently, unit capital costs might go down although they have to be balanced with higher labour costs resulting from shift work. There are theoretical modes which assume that a generalisation of shift work linked to a general reduction of working time to about 30 hours per week would virtually abolish unemployment. Instead of the daily working time of roughly 8 hours, two shifts of 6 hours each would be introduced in most companies and other institutions. Unit production costs would be cut by the more efficient use of capital installed and the system would enforce the hiring of new staff. As to the question of wage compensation preliminary computerised simulation seems to indicate that earnings could be maintained (shift and

weekend supplements, however, would not be paid). This would be possible by the disbursement of fewer unemployment benefits coupled with a greater tax intake by the government to be used for wage subsidisation, not to mention the fact that a reduction in capital cost would make funds available for wage compensation. It is evident that the implementation of such a plan would need widespread adjustments in the social spheres which in itself might lead to more employment, e.g. in social services such as crèches.

Questions of income distribution

The reduction of working hours may lead to changes in the wage hierarchy and possibly to anomalies between persons still working full time and those working reduced working hours. If there is no wage compensation it means that for those people who only earn the minimum wages fixed nationally or collectively it would mean a reduction in this pay which is already considered as a minimum. On the other hand if wages are only fully compensated for the low paid this would compress the pay differentials considerably at the below-average end of the income brackets which - certainly in some countries such as the Netherlands - might lead to unacceptable income relations and where these are of importance for the efficient functioning of the labour market - to a loss of otherwise possible job creation. There might also be tendency among low paid workers to try to increase their income by more overtime which obviously runs counter to the very aims of a reduction in working time.

Worksharing can be viewed as a means of getting a more equitable income distribution in the sense that unemployment on one hand and the opportunity to earn a living on the other should be spread more evenly throughout the working population via a reduction in working hours. But even viewed from an efficiency angle it can be maintained that making people redundant due to a drop in demand (and expecting them to find a more rewarding job elsewhere) may be less than cost effective if not only the costs to the company are considered but also additional costs created by unemployment itself, such as loss of training and skills specific to the job. If unemployment insurance systems were designed in such a way as to avoid a bias towards out and out redundancy and more towards maintaining employment a system might evolve which would ensure a more even spread of social justice in the wider sense.

Concluding remarks on a collective reduction in working time

The previous discussion of various aspects of a collective reduction in annual working hours has shown that numerous factors are involved which might form or change the actual goal of this form of work sharing policy, i.e. the reduction of unemployment. In contrast to the period of growth of GDP in the sixties when the reduction of working hours occurred more or less automatically in the framework of collective bargaining with a view to improve working conditions and an increase in leisure time being achieved together with the increase of material well-being, the redistribution of work now is becoming a policy objective in its own right, i.e. redistributing the now scarce number of jobs available. Apart from the problems just discussed it is important to consider how far a general reduction in working hours should be achieved in one stroke or on a more gradual and progressive basis over time and related to the situation in different branches of industry, etc. Both solutions have their advantages and their drawbacks. Advantages of the "big bang" solution are:

- a drastic reduction confronts the economic operators with a clear-cut situation to which they have to adjust structurally;
- it is often more cost-effective to introduce work organisation changes contingent upon reduced hours at one stroke rather than piecemeal;
- the organisation of work has to be rearranged within a rather short time so that it might not be possible to design all sorts of techniques to avoid creating more employment;

- the psychological solidarity effect among employees might be stronger than when implementation is slow and unequal across branches of industry.

The drawbacks of this approach might be considered as advantages of the "progressive" scheme:

- a progressive implementation can take into account different situations in branches (capital vs. labour intensive, growth or declining branches, bottlenecks on the labour market etc.);
- individual enterprises have the time to adjust slowly but this means that by temporary intensification of work, more overtime, hiring of part-timers, etc. the employment of full-time staff might be avoided;
- it leaves more flexibility as to the individual working time since more differentiation is possible;
- it offers the possibility of a choice between different forms of reduction of annual hours of work most suitable to the company and parties concerned (e.g. longer annual paid holidays, reduction of overtime by fixing a maximum per day, week, month or year, with additional compensation via leisure time), all these having different consequences for the actual work organisation;
- costs of adjustment are probably lower than in the "big bang" solutions;
- it is easier for the employees to change their daily, weekly etc. life rhythms to the new situation;
- some sectors are especially suitable for work sharing - e.g. public service in general, welfare services - so experience could be gained and possibly these sectors would play a leading role in advancing the reduction of working time more generally;
- it can be adjusted more easily to certain groups of people who have a "burdensome" working life.

It should, however, be noted that possibly the employment effect of the second approach is less far reaching since companies can deploy defensive strategies by resorting to more part-time and temporary work and by adjusting their production programme generally by using all means of intensifying work as such. This has to be contrasted with the strong disruptive effects of the

"big bang" solution leading itself most likely to a considerable loss of production and employment. With the gradual approach measures such as a progressive adaptation of overtime - in order to overcome reluctance by workers because of income loss - are more easily obtainable as well as ensuring a smoother adjustment to all sorts of communication and coordination problems within the enterprise. Furthermore, the introduction of new technology can be implemented more coherently in a framework of a gradual reduction of working time.

The more flexibility there is and the more gradually it takes place, the more a general reduction in annual working time has in common with the other basic approach to reduce working time and make it more flexible i.e. part-time work.

A - 3. Part-time work and job-sharing

In a communication of the Commission to the Council (COM(80)405 final) of 6 November 1980 the Commission has already set out its ideas on voluntary part-time work, taking into account the four leading principles which the Council laid down in its Resolution of 18 December 1979. Of particular importance in the present context is principle no. 4 which states that "part-time work should not be limited to half-time work; it could be on a daily, weekly or monthly basis according to the needs of different groups of workers and to those of undertakings." In this way part-time work could be seen as a flexible approach to reduce the annual amount of working hours.

Main advantages:

... for the employer:

- higher flexibility in the production process;
- probably higher productivity per hour so that the "surplus value" in case of a constant hourly pay rate is increased;
- probably less absenteeism and less inefficient use of working time;
- part-time workers might be less unionised and less demanding as to working conditions in general.

... for the individual employee:

- more flexibility to adapt work to individual circumstances;

- he/she is included in the labour force (if otherwise unemployed) with the advantage of keeping in touch with working life, and being safeguarded against loss of skills due to unemployment;
- partially disabled people could have the opportunity to find a job;
- in combination with another person individual job-sharing or job-splitting arrangements are possible.

... for the society at large:

- less absenteeism and less industrial illness might lead to lower social security charges;
- unemployment could be reduced;
- gaining experience and social contacts particularly valuable for new entrants on the labour market i.e. otherwise no jobs.

Disadvantages

These generally accepted advantages have to be offset against various disadvantages on different levels:

... for the employer:

- part-time work requires more coordination and communication;
- probably higher investment costs for the production process and facilities;
- higher social security charges because of ceilings up to which social security contributions are payable;
- training is less productive;
- social overhead costs increase;
- difficulties in group work where one person's work depends on the presence of other employees;
- part-time work in managers' functions might be difficult to implement.

... for the individual worker:

- pay is reduced at least proportional while productivity might increase;
- difficulties in following a normal career pattern;
- social security provisions (e.g. bread winner provisions) prevent part-timers from being adequately covered;
- less training invested in part-timers so that they fall behind.

Current situation

Up to now part-time work is largely dominated (about 90 %) by women and this form of work is concentrated in the less skilled functions. Male-dominated

managerial jobs in the private and public sector are practically excluded from part-time arrangements. So, this means that the increase in flexibility of the labour market claimed when part-time is used is rather restricted to the lower end of the market with the possible danger of aggravating the polarisation into a primary and secondary labour market, quite apart from the sex-discrimination aspects. Although many efforts have been undertaken in the political and legal field to strengthen the position of the part-time worker the fact remains that he/she is in a weaker position on the labour market. Furthermore, this flexibility of the labour market to which part-time work contributes might be transformed into the opposite if part-time and all sorts of different individual time schedules are introduced at all levels of the job hierarchy because the coordination and communication problems are increasing exponentially.

More specifically with a view to reducing unemployment it has been shown by evidence that the creation of part-time jobs incites a higher supply of people who present themselves on the labour market which in itself will reduce hidden unemployment but not registered unemployment to the same extent. Since hidden unemployment is to a large extent concentrated among married women their appearance on the labour market has tended to increase certain prejudices and discrimination regarding part-time work.

Furthermore, it remains to be seen whether the creation of different individual part-time patterns will increase employment opportunities at large. The more "efficient" use of manpower might lead to cuts in the workforce and to the elimination of hitherto existing jobs.

Part-time jobs might be created as a corollary to a general reduction of working time - especially when production time is maintained - in order to fill gaps in the workers' rotation schemes. This would result in the two basic concepts of the reduction of the annual working time being considered not mutually exclusive but that part-time work would probably keep its lower status as being complementary to the work done by reduced full-timers. If on the other hand part-time work tended to become more general it would produce similar effects to a general reduction of working time. If it leads to many more households with two part-time work incomes it would approach the objectives of a 5 hour working day or 3 day working week.

Possibilities for improvements

The rather unattractive picture of part-time work in its different forms can, however, be improved by a variety of measures. First of all means should be found to promote part-time work in functions and branches of industry where male occupations predominate, in order to break through the barrier of the largely female part-time labour market (cf. efforts by the Commission's action programme on equal opportunities for men and women)(1). Part-time is furthermore of interest to persons who are temporarily or permanently looking for a job with individually reduced working hours and could be a particularly valuable instrument for reducing youth unemployment by designing jobs for younger workers (cf. the experiments) and thus to help them participate in working life while possibly continuing education and training. In this context the job-sharing model can be of particular use. It implies that one full-time job be shared among two or more persons, each with his or her own work contract, but all together responsible for certain obligations inherent to the job. Evidence in a growing number of companies and public institutions shows that this particular form of part-time work is also being introduced at higher levels of the professional hierarchy, that it can be attractive especially to those whose income is relatively high or who have a partner with an income, that it can be useful to reconcile family and job life in a better way than hitherto, and that employed persons who opt for this job splitting release a full-time job which can be occupied by an unemployed person.

Of crucial importance, however, is that these job arrangements are not used to exploit the stronger bargaining position of the employer, particularly in the light of rising unemployment. A larger role would have to be played by the works councils or other forms of worker representation who could negotiate with management on the options and possibilities available. Legal instruments to support persons working hitherto unusual working hours would be advisable to strengthen working time arrangements which up to now are dominated by individual contracts between an employee and management. In this context the importance of the Draft Directive on part-time work presented to the Council early this year should be underlined (A Proposal for a Directive on Voluntary Part-Time Work (COM(81)775 of 21 December 1981). With legal backing, where necessary, works councils could discuss the reorganisation

(1) A New Community Action Programme on the Promotion of Equal Opportunities for Women 1982-1985 (COM(81)758 final) of 9 December 1981

of working time including the possible commitment of the employer to recruit new staff for jobs which have been (partially) released. Working-time contracts might be signed which stipulate the total volume of annual working time within which a large flexibility per individual can be introduced without neglecting the social protection indispensable for the workers concerned. Empirical surveys show that there is a large reserve of people seeking to increase the flexibility of their working schedule (both by reducing working time and increasing variable working hours). To the extent that staff in the higher income brackets participate it is possible (in the usual case of a corresponding pay cut) for the personal income hierarchy to be levelled off. It might also be worthwhile, however, not to reduce pay proportionally since practically all empirical data shows that productivity per hour of a part-time worker is higher than that of a full-time worker, especially in the case of daily and weekly part-time, probably less so in an arrangement of yearly part-time work. It might be part of the negotiations between the worker representatives and management to determine to what extent this productivity gain (especially when production time is not reduced so that machines would continue to operate) might be shared out to the part-time workers involved. In this way individually reduced working hours become more attractive and full-time jobs might become available to those who need them most. It is also conceivable that these sorts of company contracts could be financially supported in the sense that savings on unemployment benefits which, in the case of redundancies, would otherwise have been paid out could be used to subsidize individual pay decreases or used in other ways to be decided by the worker representatives to increase employment opportunities, finance training programmes, etc.

A wider acceptance of job sharing arrangements would also help to bridge the existing gap between the labour market for full-time employees and the one for part-time workers. By making flexible arrangements more "normal", particularly with the backing of worker representatives, they become valid alternatives to a full-time job and not treated differently on the labour market. According to surveys in Rheinland-Pfalz (FRG) a large number of jobs are "sharable" (e.g. a study of the Ministry of Social Affairs of Rheinland-Pfalz (F.R. of Germany) concludes that about 2/3 of all jobs in industry could be split); the potential of bringing the two markets together is thus quite substantial.

On the other hand it has to be noted that the offer of part-time functions remains much below the level demanded. This would lead to the impression that companies do not see part-time work easily introduced at all levels, otherwise it would have been happening already. The employment creation potential of part-time work might thus not be very high (as is suggested by certain research results) and one has to be careful with the introduction of new rules etc. which might lead management to a further limitation of the offer of part-time jobs.

B - Some Scientific Developments in the Last Two Years

Introduction

This chapter gives a brief survey on the effects of a reduction in working time on other economic variables, notably employment, estimated on the basis of some macro-economic models or scenario's in Member States, which have not yet been covered in the publication "European Economy" No. 5 issued in March 1980 by the Directorate-General for Economy and Finance of the Commission.

For some countries two or more models have been presented in order to show that different assumptions and underlying hypotheses in the model construction can lead to rather different results and policy implications. This has notably been the case of two French model simulations, reported in "European Economy" mainly as a consequence of the introduction of different investment functions. The advantage of such model exercises lies especially in the fact that complex interrelationships between different variables can be shown which otherwise could remain undiscovered because forces mutually reinforcing or cancelling each other are difficult to be visualised without a framework which tries to overcome partial reasoning.

Federal Republic of Germany

Institute for Planning and Decision Systems (IPES) (1)

In a research exercise for the "Bundesanstalt für Arbeit" in the F.R. of Germany Prof. John Henise has presented a model which looks into employment effects of a reduction of working time using simulation techniques to account for important interdependencies which - according to the author - have been inadequately considered in previous analyses. The author evaluates, among others, four policies containing a one-step 5 % reduction in hours worked per person with several options as to the amount and type of wage compensation.

Option 1 : no wage compensation;

Option 2 : with wage compensation being paid by employers in an amount equal to the savings occurring from the productivity gain resulting from the shorter hours;

(1) J. Henise: An evaluation of the effects of a reduction in working hours using the German employment policy model, August 1980

Option 3 : with wage compensation being paid by the Government in an amount equal to the deficit reduction (increased tax intake and decreased unemployment expenditure resulting from the higher employment levels obtained);

Option 4 : with 100 % wage compensation where employers contribute in an amount equal to the cost savings occurring from productivity gains and the government contributes the rest.

The base simulation with which the four policy strategies are compared departs from an annual productivity increase of 4 %, a yearly reduction in working time by 1 % (empirical trend), an increase by 2.6 % of the manpower potential between 1978 and 1985, an annual 10 % price rise of raw material imports, a real growth of exports by 3 % per year and a "neutral" government economic policy.

The model used for the various simulations computes the employment effects at 3 years after policy initiation, taking into account indirect effects relating to the links between cost, prices and demand.

The author stresses the rather unexpected result of the simulations, namely the small influence on real demand exerted by a reduction in working hours with no compensation. This effect results from three countering influences:

- due to income tax progression net wages are much less affected than gross wages;
- the same progressive income tax effect also reduces government tax intake overproportionally causing an unplanned fiscal policy stimulus;
- the productivity increase resulting from the working time reduction serves to reduce unit labour costs slowing the rate of inflation and thus stimulating real demand.

The final net effect is that a 5 % reduction in working hours without wage compensation increases employment by 3.6 %, with 100 % wage compensation the employment increase amounts to 4.4 %. After the basic period of 3 years, increased inflation associated with option 4 will eventually reduce these slightly better employment results so that over the longer run there appears to be little difference in the employment effects resulting from strategies implementing full or no wage compensation.

The Universities of Tübingen and Freiburg (1)

On the basis of a macro-econometric model developed by the Universities of Tübingen and Freiburg two variants of reduction in working time were examined:

- (1) reduction of normal weekly working hours without wage compensation while pay rates are geared to price and productivity developments;
- (2) reduction of normal weekly working time with full wage compensation.

It is assumed that working time will be reduced by 4.8 hours gradually in the course of three years to reach 35 hours per week in the end. The model itself determines effective working time (overtime, compulsory short-time working, part-time work), effective earnings, supply and demand on the labour market and labour productivity. The simulations show that the question of wage compensation is of crucial importance to the reaction of model variables as well as to multiplier processes.

In the case of no formal wage compensation the main factor is a cut in private consumption caused by loss of earnings, mainly because of decrease in working hours and not so much due to the comparatively little increase of pay rates (themselves linked to prices and productivity). This fall in consumption leads to negative employment effects since companies are not willing to invest - in spite of declining unit costs of production - in a climate of gloomy demand prospects whilst public expenditure does not change. Multiplier effects of the reduction in working time seem to have finished after 6 to 7 years when macro-economic variables (including employment) stabilize at a lower level.

In the case of full wage compensation a wage-price spiral starts which leads to demand and cost-price variations. Decisive for the macro-economic effects are the reactions of the firms faced with a higher wage bill in combination with factors such as capacity utilization, productivity, global demand and effective working hours. It is expected that rationalisation investments are initiated during the three years of reducing working time to counter increased labour costs, these decisions being backed up by a continuously high demand. Positive employment effects will be largely compensated by the

(1) F.Fotiadis : Die Eignung einer Verkürzung der Wochenarbeitszeit als arbeitsmarktpolitisches Instrument

marked increase in labour productivity, higher capacity utilisation and the greater use of overtime, the last factor playing a considerable role in the course of time. Although private demand still pulls up employment, the number of jobs will decrease once the effect of labour-saving investment are felt. Private consumption will fall partly because real wages are going down and neither public expenditure nor private investment can offset this trend. Contrary to the short and medium term simulations, the employment effects of a policy of reducing working hours with full pay compensation are difficult to estimate in the long term while on the other hand even in the short term inflation spirals upwards and the balance of trade deteriorates. Another important elements is the point of business cycle at which measures to reduce working time are implemented; the intensity of the model reactions as to prices, demand and employment are much stronger when these measures are taken during a recession.

In conclusion these simulations suggest that positive employment effects in the short and medium term could be expected when the reduction in working hours is accompanied by full wage compensation whereas in the longer run such a policy would have to be sustained by other employment creating measures.

Belgium

Belgian Plan Bureau (1)

The Belgian Plan Bureau has estimated certain macro-economic effects of a reduction in weekly working time amounting to 3 % annually in the years 1983-1986 reaching a weekly working time of about $34\frac{1}{2}$ hours in 1986. It is hypothesized that without any deliberate policy weekly working time would have been reduced by 1 % annually during the years 1981-1986.

Assuming that normal working time is reflected entirely in effective working time, implying that overtime and partial unemployment are transitory phenomena, the machinery of the Maribel econometric model leads to the following results as regards employment and productivity developments. The theoretically deduced trade-off between those two variables determined by the model are clearly visible while wages are supposed to develop in line with productivity per hour without any initial wage compensation.

(1) Bureau du Plan: Effets macroéconomiques d'une réduction accélérée du temps de travail hebdomadaire (1982)

In 1983 employment in the company sector would go up by 0.9 % compared with the reference model while hourly productivity shows an additional increase of 1 %. Whilst in the year 1984 there is still a small increase in employment, in 1985 and 1986 the reduction in working time would only be able to smooth the job cut forecasted under the reference model but would not lead to a net creation of jobs. The additional hourly productivity increase resulting from the reduction will continue and even increase to 1.3 % in 1986. Unit costs of production, i.e. taking into account the hourly productivity increase, move up practically in line with the percentage as in the reference model while real unit costs decrease even a little more than forecast. As far as pay per employee is concerned the model estimates show that the employees redistribute - in real terms - between 1 and $1\frac{1}{2}$ % of the forecasted growth of their remuneration (the difference between the grow rates with and without reduction in working time) declining in the course of time.

Finally, it should be pointed out that real economic growth of GNP is practically not affected by a reduction in working time whereas inflation will be a bit higher resulting from the net effect of the real unit cost decrease and the higher level of capacity utilisation pushing prices up. Volume effects on exports and imports are of little importance.

The following table shows key macro-economic variables and their percentage change in time:

		1983	1984	1985	1986
GNP growth (in %)	reference model	1.8	1.6	1.6	1.7
	worksharing variant	1.7	1.5	1.5	1.6
unemployment (in thousand)	reference model	496	535	581	636
	worksharing variant	469	482	507	543
change in employment (in thousand)	reference model	+ 8.6	-10.1	-25.9	-35.5
	worksharing variant	+35.7	+14.8	- 4.0	-16.5
Consumer prices rise (in %)	reference model	8.5	7.9	6.4	5.1
	worksharing variant	8.6	8.1	6.7	5.5
nominal unit production costs (in %)	reference model	6.7	8.1	6.0	4.4
	worksharing variant	6.3	8.0	6.3	4.8
real unit production costs (in %)	reference model	-1.6	0.2	-0.4	-0.7
	worksharing model	-2.1	-0.1	-0.4	-0.7
real pay per employee (in %)	reference model	0.4	2.5	2.4	2.6
	worksharing model	-1.2	1.2	1.4	1.7

The "Palasthy model"

The model developed by Prof. Palasthy has as its objective to reach four goals at the same time without resorting to restrictive monetary and fiscal policies as experimented in a number of industrialised countries:

- to absorb unemployment completely
- to increase return on capital invested
- to reestablish budgetary equilibrium
- to improve the balance of payments.

The decisive factor in this model is that profitability will be increased by using equipment more efficiently, in particular by lengthening production time to 12 hours per day together with a reduction of individual working time to six hours. This implies the introduction of a system of 2 shifts daily. Each job is thus manned by three persons, two working, with the third having leisure time, which altogether would result in the absorption of unemployment. By using equipment longer (without increasing production, however), unit production costs could be lowered considerably since only the most efficient machines would be used any longer (implying that 1/3 of existing capital equipment would be scrapped). Together with lower social security contributions because of the reduction of unemployment, higher profits and thus higher profit tax receipts, better use of collective investment, etc., the result would be that the purchasing power of the individual employee could be maintained.

The Belgian Plan Bureau has tested the Palasthy model by adjusting its SERENA model, sometimes rather heroically. Results are not yet known but several factors are likely to play a major role in obstructing the realisation of the stated objectives (1):

- Scrapping 1/3 of the capital stock and switching over to the new one will most probably reduce employment possibilities considerably due to the lower labour coefficient of newer equipment;
- structural problems on the labour market (comparatively little regional and sectoral mobility, qualification profiles) would increase distortions between supply and demand on the labour market, especially because of the large scale of the operation (Palasthy estimates that within 3 years the "switch" could be implemented);
- the question remains whether productivity gains will be high enough to permit a reduction of unit labour costs and a maintenance of the purchasing power of employees;

(1) Planbureau: Het Palasthy model - diskussienota, 1982

- the impact on the public budget might very well be much less favourable than expected.

On the other hand it could be said that existing macro-economic models are not constructed with a view to dealing with drastic structural changes and that, consequently, the effects of such a large scale restructuring of the economy cannot be accurately estimated. Recent experience in several countries shows that the reliability of these models vis-à-vis the gradual introduction of new policies and their consequences is already low. This, however, does not mean that the SERENA exercise underestimates the positive effects of the Palasthy model, it might even overestimate them since most macro-models assume that social processes are reversible (which rather often is not the case in reality) leading thus to an underestimation of resulting frictions in the economic process.

Denmark

Ministry of Finance (1)

At the request of Danish Parliament (the Committee for Political and Economic Questions), the Ministry of Finance has used the macro-economic model "ADAM" used by Danmark Statistik to simulate the effects in 1983 to 1987 of a reduction in the normal weekly working time of one hour in one year only (1983), and based on four hypotheses, i.e. with and without pay compensation and with and without loss of capacity. It is assumed that the fiscal policy of the Government will be such that the balance of payments will not be affected by the reduction in working time. Furthermore it is stipulated that hourly labour productivity will rise by 1/3 of the reduction in working hours and that public employment will be increased by $\frac{1}{2}$ % for a 1% reduction in working time.

The following table gives a summary view of the employment effects in the various years:

Change in	1983	1984	1985	1986	1987
balance of payments	0	0	0	0	0
private employment (*)	in thousand				
(a) <u>without loss of capacity:</u>					
- without pay compensation	24	27	30	33	35
- with pay compensation	22	20	17	15	14
(b) <u>with loss of capacity:</u>					
- without pay compensation	26	26	26	28	31
- with pay compensation	23	19	13	10	10

(*) current unemployment figure: 250 000

(1) Samfundspøkonomiske virkninger af en nedsættelse af arbejdstiden, 1982

As is shown the best combination to increase employment would be a policy to maintain capacity use without pay compensation. The variants with wage compensation give clearly a less satisfactory result in terms of employment but it does not seem to be very important if there is a loss of capacity or not. This is due to the fact that more investment triggered off by a loss of capacity seems to crowd out private consumption always assuming that the balance of payments position is not affected.

Capacity loss or not, however, is of essential importance as to the development of real disposable income of wage earners and persons living on transfer income. The variant no wage compensation/no capacity loss will lead to an annual $3/4$ % decrease of real disposable income whereas with capacity loss this drop is 4% in 1983 diminishing till 1987 to $3/4$ %. This is due to tight fiscal policy which is designed to make room for investment.

For the development of real income it is of much less importance whether pay compensation is granted or not although in the first case real disposable income would be $3/4$ % higher in the years 1983 till 1987 than if there is no compensation. This little difference is largely due to the tight policy, safeguarding the balance of payment position and trying to reestablish competitiveness lost by wage cost increases in the case of full wage compensation.

The Economic Council (1)

Shorter working hours as a remedy against unemployment are discussed in the May 1982 report of the Economic Council. In a simulation comparing the situation in 1982 with a basic scenario of the economy in 1990 (assuming no change in policy) various scenarios are composed involving shorter weekly working hours or restricting labour supply by early retirement, sabbatical arrangements and extended parental leave, and their effects observed on a number of macro-economic variables. It is assumed that normal annual working time would be declining by $3/4$ % per year without any deliberate policy. In view of the need to reduce the balance of payments deficit in the coming years, a drastic monetary/fiscal policy would inevitably increase the already high level of unemployment. In such a situation a deliberate policy to reduce labour supply might be recommendable. In the simulations it is considered that the

(1) Det økonomiske råd: Dansk økonomi, 1982

balance of payments will have to be in equilibrium and unemployment should be reduced to 2% (compared with 9.8 % in 1982). Under further assumptions concerning the public sector and assuming that the reduction in weekly working time would be 30 % offset by higher productivity, the scenario with full wage compensation will lead to a weekly working time of about 30 hours in 1990 (against 40 in 1982 and $37\frac{1}{2}$ in the basic scenario). However, employment would still be more than 8% lower than in the reference scenario whilst production in the private economy would go down by more than 20 %. In spite of wage compensation real disposable income would sink by over 1 % per year.

In the variant with no wage compensation, working time reduction to reach the two goals would be 12 % compared with the reference scenario leading to 33 hours per week in 1990. Private employment would go up by 2.5 % and real disposable income would show a small annual increase, private sector production, however, would be 6% lower compared with the reference scenario.

In another scenario annual working time is reduced by sabbatical arrangements and other forms of partial withdrawal from the labour market. For these forms of leave it is assumed that they will be paid at a rate amounting to current unemployment benefits. Under this arrangement employment and private sector production will be nearly 7 % lower than in reference scenario.

In all the three variants (especially scenario one) GNP growth in real terms would be less than assumed in the reference scenario.

Netherlands

Social and Economic Council (1)

In the Netherlands earlier research quoted in "European Economy" of March 1980 has been continued by the SER (Social and Economic Council) using the Vintaf II model for the Central Plan Bureau. Two variations have been worked out:

- working time will be reduced by 2.5 % per year for a period of 5 years, the productivity per hour increases by 0.3 % whilst wages follow the drop in productivity per week, savings in the public budget resulting from the working time reduction are translated into lower social security contributions by the working population;
- in the second variant the additional assumption is made that capacity is lost to the same extent as is indicated by the reduction in working hours.

(1) SER: Advies sociaal-economisch beleid op middellange termijn; 1981

In terms of employment the results are quite different as to which variant is used. If production time is maintained employment would increase by 330 000 (unemployment reduced by 220 000) over 5 years, i.e. unemployment would be reduced by 5 % compared with an unchanged economic policy. If capacity is lost unemployment would be going down by about 40 000 full-time persons, i.e. about 1 %. The calculations show also that annual real disposable income per average worker would decrease by 0.9 % under the first variant and 1.6 % under the second.

Social and Cultural Plan Bureau (1)

On behalf of the Minister of Social Affairs and Employment the Social and Cultural Plan Bureau has calculated the effects of a general 10 % cut in working time with a correspondent decrease in gross pay (which amounts to a drop in purchasing power between 6 to 8 %). Departing from the hypothesis that all released jobs can be filled and that this happens in a proportion of 2/3 by registered unemployed and 1/3 by unregistered unemployed people 425 000 new jobs would be created under these optimistic assumptions. The Social and Cultural Planbureau is aware of the fact that this schematic approach cannot reflect reality; it is intended, however, as a reference point from which to measure what is actually happening if more refined calculations were carried out. One major result of the 10 % cut are the consequences for income distribution, for the income of a large number of households would fall below the current level of the minimum wage. Although this phenomenon could be compensated for by income subsidies made possible by savings in social security payments this would lead to a far-reaching levelling off of incomes at the lower end of the income hierarchy.

University of Amsterdam (2)

Four economists (C.v.Ewijk, R.de Klerk, G.Reuten and B.Thio) have presented a model for the medium term economic policy (1980-85) which notably differs from the CPB simulations based on the Vintaf II model by its rather Keynesian spending structure which includes especially that price substitution effects play only a minor role and wage rate changes have hardly any effect on the level of spending and of employment.

(1) SCP: Een algemene arbeidsduurverkorting met 10 procent; 1982

(2) C.v.Ewijk, R.de Klerk, G.Reuten, B.Thio: Bestedingsbeleid en werkgelegenheid in lange termijnperspectief; in: ESB, 5 May 1982

Departing from a base simulation computed with the CPB model relating to economic development in the period 1980-1985, the effects of a 2.5 % reduction in working time per year are calculated with different assumptions concerning production time and an increase in intensity of work per hour, both having an effect on production capacity as such. In the calculations pay is maintained at the original level.

Under various assumptions departing from a cut in production time corresponding to 25 % of the reduction in working time and varying increases in intensity of work per hour, employment could increase by between 32 000 and 44 000 full-time jobs per year. This result could possibly be improved by more shift-work which increases capacity. According to the authors a reduction in pay would not have any important volume effect on employment nor on production; macro-economically speaking there would be a shift away from exports to private consumption leading to a deterioration of the current account balance.

In conclusion it can be said that according to this model unemployment - which amounted to 450 000 at the end of 1981 - could be reduced to about 300 000 in 1985 if at the same time the economy is stimulated sufficiently in order to stabilize the level of employment and to increase capacity utilisation. This contrasts with the prediction that unemployment would increase by 44 000 per year (1.1 % of jobs) if existing policies were continued.

United Kingdom (1)

The analysis of the economic effects of a shorter working time is based on the econometric model of the Treasury. The estimates start from an assumed general reduction of two hours in the normal working week for all employees. The actual change in employment, however, will depend on the extent to which this potential is offset through more overtime working, higher output per hour or a fall in output. The effects on unit labour costs will not only depend on these factors but also on the extent of wage compensation or not.

(1) R.Allen: The Economic Effects of a shorter working week, H.M. Treasury, June 1980

It is assumed that the initial impact will enable 45 % of the potential loss in output to be made up by overtime, and that a productivity increase will offset 30 % of the working time reduction in the private sector. In the public sector the simulations assume that 25 % of hours lost is offset by overtime and 25 % by greater employment.

Three simulations were run on the Treasury model, two of which assume that basic weekly wage rates remain unchanged (full pay compensation), but have different monetary policy assumptions, whereas the third variant does not provide for a wage compensation. All three variants assume a freely floating exchange rate.

In the first variant on the assumption of an accommodating monetary policy and fixed nominal interest rates, the two hour reduction would increase employment by about 370 000 and reduce unemployment by 260 000 (1.1 % of active population) as a direct effect in the first year. After four years, however, about 60 % of the employment gain would have been lost and the interaction of wages, prices and the exchange rate would add about 2 % to the inflation rate throughout the period.

In the second variant the initial impact effect is very similar to that in the first one. Thereafter, however, a tight monetary policy results in a moderation in inflation, but only at the expense of output and employment. After four years the latter will have fallen below its base level.

In the third simulation (which implies a fall in weekly earnings and a fall of unit wage costs because of the assumed higher productivity per hour) the initial increase in employment generated by the reduction of 2 hours is maintained throughout the whole period.

The model simulations show the crucial importance of the assumption about wage compensation. Adverse effects on competitiveness might be eased if work sharing is adopted internationally but even then a reduction in real wages would have to be accepted by the workers.

The results are summarized in the following table:

effect after four years	unemployment in thousand	average inflation rate	real earnings per week
Variant 1	- 110	+ 2.6 %	+ 2.8 %
Variant 2	30	+ 1.8 %	+ 2.5 %
Variant 3	- 250	- 0.1 %	- 0.8 %

A model calculation for the Community (1)

In a study undertaken by D.Hanekuyk on behalf of the Commission the Comet III model was used to quantify the effects of changes in working time on employment, wages and other economic variables. The following three variants have been used in the simulations:

- a one-time reduction in working time by 2.5 % in 1982 and a corresponding wage cut per person;
- additionally a 2.5 % reduction in capital hours;
- full compensation of wages lost as a result of the reduction in working time.

To enable the results to be properly assessed the effects of concerted action by all EC Member States are presented in a number of methods which amount to combinations of the three variants:

- Method 1 corresponds to Variant 1;
- Method 2 gives the effects of a 2.5 % reduction in working time, in wages and capital hours (production time) (Variants 1 and 2);
- Method 3 gives the effects of 2.5 % reduction in working time with full compensation for lost wages (Variants 1 and 3);
- Method 4 gives the effects for 2.5 % in reduction in working time and capital hours and full compensation for lost wages (Variant 1, 2 and 3).

Table 1

Deviation from the base simulation in 1985	Methods			
	1	2	3	4
	(concerted action - in all Member States)			
real wage rate per head (1)	- 2.1	- 2.3	- 1.0	- 1.2
employment (1)	2.1	1.9	2.0	1.8
trade balance (2)	10.9	4.5	3.4	- 3.0
retail prices (1)	0.9	2.4	2.9	4.4

(1) in percent

(2) in billions of ECU

Compared with the weighted sum of action by individual countries, coordinated action gives some different results.

(1) D.Hanekuyk: The Macroeconomic effects of the reorganization of working time in the Community; 1981

If the first variant is taken the effects of coordinated action are worse than those of individual action, mainly by a fall in demand and rising inflation which is exported through the high level of inter-Community trade.

The second variant gives the effects of an externally induced reduction of capital hours. In the case of coordinated action the negative effects on output for individual countries are reduced through increased bilateral trade flows, which leads to a higher degree of capacity utilisation and to more investment.

In the case of the third variant coordinated action increases the level of output and employment although inflation is pushed up.

Looking at the table where various combinations of the variants are shown it is rather surprising to see how little the effect on employment is no matter whether wages are compensated or not. This corroborates the findings of Henize and the Dutch group of economists. On the other hand the effect of different assumptions on real wage rates, retail prices and the trade balance can be much more pronounced.

Conclusion

The short presentation of some macro-economic models in which measures to reduce working time are introduced with a view to calculating their effects on certain macro-economic variables, in particular on employment, has shown, not surprisingly, that there are no clear-cut solutions since there are many intervening variables which determine levels of employment. It seems that maintaining or increasing production time is one of the key factors conducive to more employment while the question of wage compensation (wholly, partially or not at all) appears to lead to quite different results in terms of employment depending on the underlying assumption on the behaviour of management. Full wage compensation may, however, be conducive to a higher rate of inflation and to a deterioration of the balance of trade.

More detailed knowledge in this area can probably only be gathered if more is known on what is really happening at enterprise level where actual reductions in working time have to be put in practice. Despite a growing tendency towards "distrust" in macro-econometric models enterprise level analysis would not suffice since a macro-economic analysis is needed to determine the overall effects. Macro-economic reasoning has at least the

advantage of showing some possible indirect effects of a "deus ex machina" policy measure, although it is clear that a reduction of working time as such depends on many other variables in the economic process and cannot be classified as simply being initiated externally.

It might be worthwhile to point out, on the other hand, that most of the macro-economic models introduce rather small reductions in working time at once or gradually over a number of years. For such a limited series of interactions they might be adequate. However, this is less likely to be the case if drastically shorter working hours, such as a 30 hour working week or a 5 hour working day, are being thought of since then the underlying parameters of the models (which are derived from past experience and thus describe economic "reality") would not be "true" any longer. They would, consequently, not be able to describe correctly the actions and reactions in the economic process which would result from such an adaptation of working time. This opinion is also expressed in the response of the Danish Ministry of Finance to the request of the Political and Economic Committee of Parliament when it asked for the estimation of the effects of the introduction of a 6 hour working day with full wage compensation on employment and other variables.

C - Situation and Trends in Member States

Belgium

At the beginning of 1981 reduction in working time to less than 40 hours per week was provided for by various agreements at sectoral and company level covering about 70 % of all employees, including public sector workers. Nearly 45 % of employees have been working 38 hours or less. A two-year agreement between employers and unions reached in February 1981 links wage restraint and the reduction in working time. This agreement allows workers on more than 38 hours to try to negotiate a cut to 38 hours. Those already on 38 hours are permitted only to claim a further cut of one hour or a 1 % wage rise instead. After the conclusion of this agreement further reductions in working time have been negotiated in certain sectors. In 1983, the 38 hour working week should be common practice and in some branches and enterprises 36 hours will be attained, which in certain cases have already been in existence for a couple of years.

Government

In the framework of an agreement on employment (which was, however, not signed by the unions), the government is seeking to redistribute work by various measures in ways which would not push up labour costs. Along with a further reduction in working time the wider use of part-time work in both the private and public sector is to be stimulated as well as more flexible schemes for earlier retirement, more possibilities to interrupt a career (parental leave, educational leave, etc.), regulation of overtime so that overtime is compensated for by extra time off, and restrictions as to the accumulation of several jobs.

Furthermore, the government is preparing agreements between the employers, the unions and the State under which companies will be allowed to experiment with new types of work organisation to reduce the working time of existing employees to a floor of 32 hours per week (with a corresponding pay cut) allowing for new employment and a more intensive use of equipment while keeping the total wage bill constant. The State will reimburse administration costs resulting from new recruitment and will partially make up (decreasing over time) the reduced income of the existing employees.

After giving a legal framework to part-time work in 1981 and adjusting social security legislation in 1982, the government has established the general conditions for the introduction of part-time work in the public service (half-time work which may be extended to 3/4 of full-time for a maximum period of 10 years during a career for personal reasons and 5 years for social or family reasons). It is hoped that this will lead to more employment and more flexible work arrangements. By Royal Decree of March 1982, the opportunity has been given for persons who accept to work part-time in order to prevent redundancies to receive unemployment benefit as a supplement to their reduced income.

Among other measures the government has drawn up a scheme to progressively reduce pensionable age for men to 60 years (currently 65 years) on a voluntary basis (the employer being obliged to replace such a man by an unemployed person). Men retiring under the scheme would be allowed to work part-time (under certain conditions). This scheme would be applicable for three years starting in January 1983.

Trade Unions

The Trade Unions, both Christian and Socialist, are in general striving for a reduction in weekly working time and they stress that government plans should be linked to the renewal of the interprofessional agreement of February 1981. The unions have not yet taken a formal stance as to the size and speed of the general reduction (sometimes the figure of 32 hours per week is bodied about). They are of the opinion that a general application of part-time work is not a suitable means to redistribute work and create jobs. Furthermore, the unions are sceptical about the proposed reform of overtime; they oppose the introduction of more flexibility for the employer and doubt the positive employment effects of such a measure.

Employers

The employers strongly oppose further overall moves by collective agreements to shorten working time (already on average the lowest in the Community) because of fears that their international competitiveness might be endangered and that, contrary to the objective, unemployment might even increase. They are, however, inclined to examine individual reductions of working time (part-time work schemes) which do not lead to an increase in production costs.

As to the proposed reform of overtime the employers are in favour of less regulation and believe that the government's proposal does not go far enough. Like the unions they are, however, sceptical about expected additional employment effects, the problem being more to maintain existing jobs.

Denmark

The normal working week is 40 hours. In 1981 the 5th holiday week was introduced. Since 1973 the working week is 38 hours for shift workers (2x8 and 3x8 shifts) giving the right to 2 leisure hours per week which are accumulated to increase annual holiday entitlement. According to an agreement reached between the unions (LO) and the employers (DA) the working week will be reduced to 37 hours and 3 leisure hours will be given as from October 1982. Since 1979 there has been an early retirement scheme enabling unionized workers to retire from the age of 60 with special pre-pension benefits which decrease gradually as normal pension age (67) is approached.

Government

The government is strongly in favour of an internationally coordinated action on the reduction of working time alongside national traditions and procedures. It will open negotiations with both sides of industry. It has presented before Parliament a plan limiting overtime to 100 hours per worker per year with detailed arrangements for implementing it being left to collective agreements. The government strongly recommends extra time-off compensation for overtime hours worked.

Trade Unions

The trade unions movement in general strives for the gradual introduction of the 35 hour working week, and does not plan to encourage more part-time work, fearing that this would create a secondary labour market.

Employers

The employer organisation is against a general reduction in working time because it would endanger competitiveness and existing employment. It has

forwarded proposals for a partial pension scheme from 60 years onwards combined with part-time work enabling the beneficiaries to claim special pension benefits from the State to make up for the loss of full-time pay. The experience of the older workers could thus be used to train younger workers taking over part of the job.

Federal Republic of Germany

In the FRG 95 % of all employees have a normal working week of 40 hours. In the cigarette industry a collective agreement was reached in 1981 stating that two years before they are entitled to early retirement benefits employees have the choice to work for 40 hours, or 20 hours with full pay or retire early while receiving 75 % of last earnings. In another collective agreement for lawyers' employees in Berlin it is stipulated that the 38 hour week will be introduced in 1983 (40 hours in 1981, 38½ hours in 1982). Altogether there are about 400 000 employees whose collective agreements provide for a reduction in weekly working time up to 1984. But generally speaking the reduction of annual working time concentrated up till now on a phased increase in holidays. 3/4 of all workers under collective agreements now have at least a 5 week holiday while 25 % already enjoy 6 weeks. In some industries longer annual paid holidays for older workers are available.

In a number of branches, such as foodstuffs and catering, certain textile industries, iron and steel, printing and newspaper, chemical processing industry, banking and insurance, public services, railways and postal services, the employees obtain up to 4 time-off shifts, in the cigarette industry up to 8 time-off shifts (for 160 shift working days).

Government

At the end of 1981 a draft law (within the framework of a comprehensive law on safety and health at work) was presented providing for hours of work to be restricted to 9 hours per day and 48 hours per week including overtime with both sides of industry remaining free to organise hours of work on a different basis.

New plans by unions and others to strengthen the instrument of early retirement with a view to creating employment have been received favourably by the

government which is considering the drafting of a framework law facilitating the conclusion of collective agreements in the field of early retirement. It is planned to allow employees from the age of 58 to retire with an income of 68 % of previous net pay, their social contributions being paid by their employer and the Federal Agency of Labour. The employer would be obliged to replace the pensioner by an unemployed person, preferably a younger worker. The implementation of such provisions would not impose extra financial burdens on pension funds since savings on unemployment benefits to the younger workers taking up the released jobs would be used to offset the additional pension costs.

Trade unions

The German trade unions agree on the fact that the working time should be shortened. They differ, however, as to the methods and speed with which to introduce specific measures. The metal-working union is stressing moves in the direction of 35 hours working week, with negotiations to be started in 1983 when existing framework collective agreements expire. Other unions, such as for food and beverages and the chemical industry favour models to reduce life-time work by earlier and/or progressive retirement, institutionalizing retirement pensions by collective agreement. The union of chemical workers proposed a scheme whereby persons from 58 of age should receive 75 % of lost gross pay out of a fund financed partly by money saved through postponed wage increases while half the continuing social security contributions were to be paid by employers. For 59 and 60 years of age employers should pay 68 % of previous net pay supplemented by 10 % from the fund. After 60 years the legal early retirement scheme would operate.

Part-time work and individual time flexibility formulae are met with considerable reserve, since they not only weaken the position of the individual employee, but also because of their generally very limited employment effects.

Employers

The employers' organisations refuse to consider a reduction of the 40 hour working week. Schemes of early/progressive retirement are met with considerable scepticism. The employers in the chemical industry did not

want to enter into negotiations on this subject. But the attitude differs and depends to a certain extent as to how the question of financing these schemes is solved. Generally speaking, the employers expect that a reduction in working time could only marginally contribute to the fight against unemployment and then only under favourable conditions. They fear a disruption of the production process, bottlenecks on the labour market and a deterioration of competitiveness. Part-time and flexible time arrangements are viewed more favourably; in certain companies voluntary approaches have been successful or are under discussion such as a job-sharing model in the chemical industry.

Greece

Collective working time in general varies between 36 and 42 hours, in 1982 maximum weekly working time has been reduced to 41 hours, as from January 1983 this will be 40 hours.

In almost all sectors of public employment the $37\frac{1}{2}$ hour (5 day) week was introduced in 1981, this example being followed by a number of large private industrial companies.

France

By decree the 39 hour working week (subject to a maximum daily working time of 10 hours) was introduced in the beginning of 1982. This decree is largely based on an initial framework agreement reached in 1981 by the employers' organisation and the major trade unions (except the CGT). It forms part of a phased introduction of the 35-hour working week by 1985 (for continuous shift workers by the end of 1983). At the same time the 5th week paid holiday (after 12 months' service), limitation of overtime (annual quotas be fixed by ministerial decree with possible alterations by collective agreement) and more flexibility of night and shift work are to be introduced.

Furthermore retirement age will be reduced - as from 1 April 1983 - to 60 years generally when social security contributions have been paid for $37\frac{1}{2}$ years. In addition the general application of an early retirement scheme at 55 years is proposed.

"Solidarity contracts" are introduced for companies which make a special effort to create jobs, especially to provide financial compensation in the form of exemptions from social security contributions by the employer for a reduction in working time or (as in the large majority of cases) early retirement from 55 years of age (completely or half time) and matching new recruitment. Until end of June 1982, 2355 solidarity contracts have been signed, 95 % referring to early retirement and 5 % to a reduction in weekly working time.

In some public organisations, half-time and four fifth-time work possibilities (also in the form of 4 days per week) are offered with a corresponding pay cut.

The legal measures have been incorporated in some important collective agreements. In most cases wage compensation for the hours reduced was 100 %, in the metal-working industry 100 % for the first hour and 70 % for subsequent hours. The legal minimum wage had to be paid integrally.

Often general commitments for job creation are given and in some cases (e.g. National Railways) actual figures are agreed. Furthermore, compensatory rest periods are agreed upon as well as - occasionally - rules on working time reorganisation at company level.

Government

The objective is the introduction of the 35 hour working week by 1985 but the government has postponed any further action pushing this development by legal or other measures till the end of 1983.

Trade Unions

The trade union movement is in favour of reaching the 35 hour week towards 1984/85. The CGT did not sign the initial framework agreement with the employers in 1981 because it thought that the cut in working hours was too little. In general the trade unions are sceptical about the employment effects of the measures taken so far, an important question being whether effective working time will be dropping.

Employers

Although the employers' organisation signed the framework agreement of July 1981 it remains hostile to a legal regulation of questions of working

time. It is of the opinion that the introduction of a 35 hour week is not in itself a considered response to the unemployment problem.

At company level numerous arrangements exist as to the introduction of part-time, flexible working hours and shift work schemes with reduced working hours.

Ireland

Few practical moves have been undertaken in Ireland to reduce working hours, basic working week being 40 hours for manual workers and 35/36 hours for white-collar-workers.

Current situation

As regards annual holiday entitlement the statutory minimum remains at 15 days, although collective agreements have usually managed to establish an entitlement of 20 days. Part-time work has not increased significantly over the past year or so, and the normal age for retirement remains at 65; no consideration has been given to schemes for flexible retirement or early retirement.

On the question of overtime working a national study carried out in 1979 indicated the potential for extra employment creation through a reduction in overtime. 56 % of firms in the production sector and 40 % of firms in the service sector were found to be working overtime, accounting for 72 million hours per year. The most effective way of limiting overtime, it was suggested, would be to impose a 150 hour maximum per year by law, and the then Minister of Labour indicated that legislative proposals to limit overtime working were under consideration. However, no actual legislation has yet been drafted.

Collective Bargaining Developments

Despite trade union commitment to a 35-hour-week in line with ETUC policy, few individual negotiations have actually dealt with the issue of working hours.

The "National Understanding" in 1979 concluded between Central employer and trade union organisations contained commitments to improving holiday entitle-

ment by working towards a minimum 17 days annual paid leave, investigations into work-sharing as a possible means of job creation, and a law to reduce the statutory limits on working hours. The second National Understanding in 1980, however, stated that standard working hours would remain at their prevailing level for the length of the Agreement (15 months), but that employers would consider shorter working hours during negotiations for a further agreement, depending on the economic and social context and international developments. The second Agreement also committed the Government to introduce a Bill on reducing the statutory limit on working hours (normally 48 hours per week) in 1981. During 1981, though, no progress was made in any of these areas.

Italy

Normal weekly working time amounts from 36 to 40 hours. In some industries, notably textile, shift work is organised with a working week of 36 hours spread over 6 days. In the public service particularly a 36 hour week (sometimes with flexible hours) is often worked. Part-time work is included in some nationwide sectoral agreements (textile, retail trade and motorways services). In 1980 about 15 company agreements on part-time work were concluded in the textile industry, 7 company agreements in the metal-working sector, 5 with chemical and 3 with food firms. Outside the industrial sector agreements were reached in retailing and motorway services. In the State-owned Ansaldo Group part-time was introduced on an experimental basis, making part-time jobs available to existing full-time staff for a period of one year. With a view to promoting employment the government has issued rules which try to limit considerably the use of overtime in the industrial sector.

Government

The government stresses that measures for the general reduction of working time should be planned in the Community context. It has recently introduced a bill with some statutory provisions for part-time employees (working up to 50 % of the normal working time fixed in the relevant collective agreement) leaving details to be negotiated through collective bargaining. On request it would be possible for the workers to convert from full to part-time or vice versa.

Trade Unions

The trade unions are - in a diversified way - embarking on measures to achieve the 35 hour working week gradually by 1985, although the CGIL doubts very much the positive employment effects of this. Specific claims are made by unions for construction, chemical and metal workers, the last group is also in favour of sabbatical leave. The unions are constantly maintaining their efforts to limit overtime and are largely advocating the 5th shift for continuous work. The objective for holidays is 6 weeks of annual leave and retirement should be at 60 for all. Despite the existence of some agreements, the unions (especially the CGIL) are reluctant to allow part-time work to play a greater role because of the fear of creating a secondary labour market. They are strongly against initial recruiting of part-timers and would like to see a quota fixed per company.

Employers

The general reduction in working time is opposed on grounds of increasing costs and is seen as even endangering existing jobs. Part-time work is considered as a means of increasing flexibility and reducing labour costs by more efficient manpower assignment and use. It is not viewed as an instrument to increase employment.

Luxembourg

Most collective agreements provide for a 38-40 hour working week and several include provisions on working time. In the iron and steel industry certain company agreements stipulate one day of additional leave for night workers for each block of 37 night shifts.

In 1980 the existing compulsory early retirement scheme from the age of 57 (52 for miners) was made optional. By Regulation it can be stipulated that other elderly workers can only opt for the scheme if replaced by a younger (up to 30 years of age) who is unemployed and is recruited from outside the company. Up to one third of the early retirement pension might be financed by the State.

Government

The Government is considering a regulation introducing flexible working time (which exists already in some branches) as a general practice in the public services. The presentation of a draft law on the adaptation of working time has been promised. The Committee on Women's Employment has issued a report on part-time work; while not recommending an active policy in this area, it stresses the need to apply the same principles to part-time work as full time work to prevent part-time being put in an even more marginal position.

Trade Unions

The trade union (CGT) is striving for a 35 hour working week together with a selective reduction of shift work (continuous and non-continuous).

Netherlands

The situation in the Netherlands is largely determined by normal working time as agreed upon in collective agreements. In practically all collective agreements the normal weekly working time amounts to 40 hours, apart from an agreement in the ports which fixes an average normal working time of 38 3/4 hours per week and some enterprises where 4-5 and 5 shifts are applicable for certain workers. In 26 enterprises a system of 4-5 or 5 shifts is already in operation or will be introduced for part of the workforce totalling about 10 000 employees. Average working time per week is then roughly 35 hours or even 33.6 hours in case of a pure 5 shift scheme. As far as results about the introduction of these shift schemes are known they show that as a consequence of their introduction the number of jobs was increased by roughly 5 to 10 %.

In the metal working industry a common study will be carried out on the chances of increasing youth employment by sharing 20 hour working weeks with persons of 60 and 61 of age. As it stands now the older persons would still receive 90 % of their gross pay for working half-time.

Government

In its employment plan published in March 1982 the then government stated that a major reduction of unemployment can only be achieved by a

redistribution of work. In the short run a larger contribution is expected from the promotion of part-time work while in the longer run a general reduction in working time might be the most significant development. Since costs per unit of production must not increase a certain number of conditions are laid down conducive to reaching the goal envisaged. These include a proportional decrease in income, reoccupation of jobs, maintaining/extending the operation time of the enterprises and no increase in the burden of taxes and social security contributions. At the same time it must be ensured that there is sufficient supply of suitable manpower available.

The parties forming the present government put a somewhat different emphasis on work sharing. While the Christian-Democrats seem to be more in favour of reduced hours for youth and other newcomers on the labour market, the "left" liberals D-66 think that types of part-time work are more convenient than a general reduction in working time but that social partners have to negotiate about appropriate policies.

The Minister of Social Affairs and Employment does not intend to impose redistribution of work from above, but if agreements are reached by the social partners, the Minister is prepared to spend money to finance the initial costs of specific experiments with reduction in working time in named branches. Existing subsidies for the creation of part-time jobs will be discontinued.

Trade Unions

The Trade Unions (both FNV and CNV) are advocating the 35-hour working week to be achieved gradually and possibly by way of a daily reduction in working time. They recognize that a partial financial participation by workers will be inevitable, to be paid out of the inflation compensation. Agreements on reductions in working time should be reached in a decentralized way within a national framework. Possible methods might be the extension of production time, perhaps with the creation of two shifts working 6 hours each per day (but other schemes are possible as well), and ploughing back savings made by reduced unemployment benefits. The creation of more part-time work is seen as a low-profile solution since it is not likely to create jobs. However, if it were combined with a general reduction in working time it might have a positive impact. The FNV is of the opinion that, if

part-time work is intended to play a larger role, it should be included in collective agreements and that part-time workers are treated in the same way as full-time workers.

The introduction of a 5th shift is attractive in a number of cases, but only a limited number of employees are concerned.

Fighting unemployment with early retirement (which exists already for 80 % of the wage earners) is met with scepticism because the job creation effect seems to be rather limited (only 25 % of the jobs released are filled by new recruits). In this context the Social and Economic Council is looking for ways and means to improve this ratio, e.g. by offering the vacant posts to unemployed young people as part-time jobs. In general the unions did not succeed in the 1982 collective agreements in reducing the normal working week below 40 hours. For next year's negotiations this remains, however, the central item on the agenda. It is thought that within the civil service a reduction of working time could provide the lead, especially with people working in subsidized institutions, since wages are comparatively high and the demand for these jobs is already high and will be increasing.

Employers

The employers' organisations are of the opinion that a general reduction in working time would not lead to more employment (rather the contrary) because of structural discrepancies on the labour market and because there exists already a surplus of labour in many companies. The employers are in favour of more part-time work and greater flexibility of the use of workers in general. The largest private employer, Philips, is prepared to enter negotiations with the unions on more flexibility and the creation of more part-time jobs. An overall reduction of working time per week in Philips enterprises would endanger the creation of jobs because of a cost increase.

United Kingdom

The reduction of working time in the UK is taking place in various forms, longer holidays, early retirement schemes, an increase in short-time and part-time work, and job-sharing. In the main reductions in working time have been part of the collective bargaining process; for the trade unions

as a means of improving working conditions and attempting to increase employment creation opportunities, and for employers negotiations over reductions in working time in manufacturing industry have enabled them to improve productivity and efficiency, thereby preventing any increase in manufacturing costs.

Since the question of working time is predominantly a collective bargaining issue, Government involvement has been limited to certain specific areas, such as protection for categories of workers like women and young people, health and safety matters, and more recently the job release scheme (early retirement), short time working (Temporary short time work compensation scheme), youth training scheme (extension of training time - due to start in September 1983) and a recently announced plan for job-splitting.

Government

As already indicated Government action in the field of working hours is of a strictly limited nature. However, some Government schemes have an overall impact on working hours and maintaining or creating jobs;

- early retirement is encouraged via the Job Release Scheme whereby workers nearing the end of their career cease working and are paid a weekly allowance until normal retirement age by the Government on condition that an unemployed person is taken on to replace them. In May 1982 the scheme was covering 67 000 people;
- a new youth training scheme is due to come on stream in September 1983 to provide a year's foundation training for 16 and 17 year old school-leavers, which will have the effect of reducing their working time;
- a recently announced scheme for job-splitting is proposed to encourage more flexibility in employment by enabling two workers to do one job. Experience so far has shown job-sharing to be a more attractive alternative to part-time work, particularly for women. Employers involved in job-sharing schemes have generally been in the public white-collar sector and had mostly favourable reaction to job-sharing.

Trade Union Aims

Achieving a 35-hour working week has been a trade union objective since the early '70's and became a central theme in the TUC's platform for

economic and social advance in 1979 (in line with the ETUC's overall campaign for a 35-hour week). However, so far in the collective bargaining framework trade unions have been generally tending to agree to cost-saving measures in return for shorter working hours, thereby obviously limiting any employment creation impact. Reducing manual working hours has also caused white-collar unions to push for further reductions in hours for their members (usually already shorter than manual hours).

Employers' views

Perhaps surprisingly employers have often been taking the initiative in reducing working time; a series of case studies in 1981 revealed that half the cuts in working hours were due to management decisions, either to keep in step with competitors' practices, give workers a better quality of life or as a means of achieving higher productivity. Employers' associations or individual employers have mainly insisted on offsetting the increased cost of shorter hours without loss of pay by time or cost savings in other areas. Negotiations over shorter working hours have therefore provided employers with an opportunity to introduce streamlined working practices, thereby improving the overall efficiency and competitiveness of private companies. Since in some companies it was found that production hours had only accounted for 75 % of hours actually clocked-on, it was clear that a scope did exist for cutting down on non-productive time as a means of compensation for shorter hours. In the public sector agreements have similarly insisted on cooperation to minimise extra costs, exclude additional manning, no extra overtime, etc.

Collective Bargaining Developments

The first major breakthrough in reducing weekly working hours was the agreement signed in the engineering industry by the Engineering Employers Federation and the Confederation of Shipbuilding and Engineering Unions in October 1979. It provided for a cut in the basic working week from 40 to 39 hours without loss of earnings and with a commitment to increase productivity so as to avoid any increase in manufacturing costs, and the implementation date was set for November 1981. This agreement laid down the pattern and terms for most subsequent agreements on cutting working hours, with the

obvious implication that any employment-creation potential would be severely limited. To date well over 6 million manual workers have been covered by such agreements (over half the country's manual labour force) usually with the twin theme in common of deferring implementation and preventing cost-increases, despite the TUC's declared aim in reducing hours as an employment-creation policy. While most reductions have been from a 40 to 39 hour week, some sectors or companies have gone further. For instance in the Chemical Industry, ICI has agreed to a one-step reduction from 40 hours to $37\frac{1}{2}$ from January 1983. The 35 hour week is already a reality for a number of (mainly white-collar) workers. Only a few sectors have not followed the trend, e.g. food and drink, textiles and clothing.

As already indicated white-collar staff in industry have traditionally worked shorter hours than manual workers (at least those in non-works related posts). While in some cases additional cuts in working hours have been negotiated to maintain the differential over manual grades, an increasing number of employers have been utilising cuts in manual hours as a means of moving towards a harmonisation of working hours between grades. Works-related white-collar staff (e.g. supervisors) have usually had their working hours cut at the same time as manual workers.

At the same time as reductions in working hours, the number of annual paid holiday, has generally been increased through agreements. Over 75 % of manual grade workers are entitled to at least four weeks annual paid holiday with an additional 11 % to between 3 and 4 weeks basic, although even here entitlement to four weeks comes usually after two years service. The trend towards five weeks holiday is therefore well established (already exists for some groups of workers) as longer holidays feature increasingly in collective agreements; in almost a third of recent agreements annual holidays were increased.

D - Examples of the reduction and adaptation of working time with a view to creating more employment

Introduction

The following chapter gives examples of firms which have introduced or will be introducing measures (in most cases negotiated with the representatives of the employees) to adapt working time in variety of ways aimed at creating employment or at least preventing otherwise inevitable redundancies. The examples illustrate that these job creation effects (to which the employers commit themselves) can be achieved in many ways, and that a reduction in average working hours, very often combined with a new work organisation, must not necessarily lead to a proportional pay cut. On the contrary, expected or actual productivity increases due to more efficient capital utilization often allow full wage compensation for the whole workforce or at least the lower paid grades. Other forms of work-sharing concentrate on the income/time trade-off by which the individual welfare (seen as an optimal combination of leisure time and income) can be enhanced, while part-time in the form of job-sharing may be a successful way to introduce people on the labour market or to reconcile family and work.

Shorter working week

- Some major French companies are currently studying ways of allowing the voluntary introduction of a 35-hour week with a non-proportional cut in pay (the actual cost of cutting weekly hours from 39 to 35 would be around 8 %; pay could be reduced by 4 %, the other 4 % savings being used to take on workers without increasing costs. New recruitment would be for on the basis of the 35 hour week with a corresponding wage.

- A French food manufacturer signed an agreement for 35 hours to be worked from 1-1-84 coupled with a reduction of pay scales of 3.3 % in 1983 and 3.7 % in 1984. Along with a solidarity contract for early retirement this agreement should provide 400 extra jobs. In addition a 10 % rise in productivity is expected via the reorganisation of work and better use of equipment.

- A firm in the service industry introduced 35 hours in May 1982 offset against a general wage freeze (while maintaining purchasing power for low wages). Again, productivity gains and improved use of equipment are

involved, and employment creation should be equal to 8 % of existing workers in the relevant category.

- An industrial firm is applying 35 hours in 1983 with loss of pay (around 10 % theoretically) and the agreement of all trade unions (CGT included). Manual and non-manual working hours will be 38 3/4 from October 1982 and 35 hours from October 1983. The costs will be split more or less half and half between the firm and the workforce, the firm hoping to recoup via productivity gains, and the 5 % loss of purchasing power for the workers will be spread over time. 28 new jobs (20 % of present workforce) will be created in 1982/83.
- A provisional agreement in a brewery establishment lays down 35 hours without loss of pay, the workers agreeing to work a maximum of 16 half-days on Saturdays in the high season (opposed by the trade unions). If this agreement works and is extended to other establishments of the firm, new recruitment linked to lower hours will be considered. (Some companies would be prepared to pay 40 hours for only 16 to 20 hours actual work if carried out at weekend, this being more cost effective than stopping the machinery.)
- In the public sector of the Netherlands shorter working hours are recommended by both the government and the main opposition parties. Two major reasons are suggested for public institutions taking the lead in implementing a reduction in working time:
 - The nature of the activities lends itself in a large number of cases to work sharing and capital costs to create new posts are comparatively low;
 - the income level of even the lower grade civil servants is such that a small pay cut for shorter working hours would not lead to an income falling below the national minimum wage.
- In a research study commissioned by the Commission the "Société d'Etudes pour le Développement Economique et Social" (Paris) has examined the job creation potential in the French electronic and chemical industries by shortening the working week by 2½ hours and the simultaneous introduction

of other measures (reduction in overtime, 5th shift and lowering the retirement age). According to the results of the study the volume of jobs theoretically made available is substantial, i.e. 8 % more jobs in the chemical sector and 5.3 % in electronics; in subsectors the volume would even be higher. However, restrictions at the individual, organisational and labour-market level and sectoral trends would cause the figures to go down considerably, to 2.8 % for the chemical industry and 2.9 % for electronics, where more than half of the effect would be created by shortening weekly working time. At the time of the study (1979) the jobs created would have been sufficient to absorb approximately half the unemployed in these sectors.

- According to a survey organised by the "Centre d'Etudes des Problèmes de l'Emploi et du Chômage (Belgium)" on the question of whether a reduction in weekly working time would lead to job creation, eight firms replied categorically in the negative while three others saw no reason to take on new workers. 3 further firms replied positively.

3 major instruments are used to cope with a reduction in working time in order to maintain or even increase production:

- rationalisation investments to increase productivity;
- reorganisation of work to make more efficient use of manpower;
- fight against absenteeism and "unnecessary" breaks (in fact, absenteeism rates amounted to 7 to 22 % in the firms concerned).

The enterprises which recruited workers as a corollary to the reduction in working time were mostly those which added an additional shift, especially where continuous work was technically indispensable and where demand prospects were good. In certain cases it was observed that the reduction in working hours had to reach a certain magnitude in order to trigger off more employment; reducing working time in small steps was offset by other means. Often the reduction of working time helped, however, to avoid redundancies.

The survey with the industrial enterprises showed that work sharing through more part-time work was not a viable option for industrial activities.

Two case studies in the public service show that in these cases the reduction of the weekly working time from 40 to 38 hours resulted in new recruitment of respectively 2.5 and 3.2 % of staff.

Reduction in annual working time

- In a large Dutch chemical concern an agreement has been signed (supported by the majority of workers) stating that as from January 1982 each employee will get 25 to 27 extra holidays per year, this number to be reduced, however, by the amount of days taken up as sickness leave. This scheme implies roughly a 10 % reduction in effective working time per year with full pay compensation. It is expected that 500 to 600 new jobs (about 5 % of the total workforce) will be created. Management sees the scheme as less costly than the introduction of a 5th shift and as a more efficient instrument than a general reduction in working time.
- A large electrical appliance manufacturer in Italy which employs some 33 000 workers has recently signed an agreement with the unions linking a reduction on working time to improved attendance. The agreement provides for an extra five days' paid annual leave to be granted to workers where their annual absenteeism rate falls below 10 % (manual) or 5 % (non-manual workers).

Shift work

- A Belgian pulp and paper manufacturer with 997 employees (665 manual workers) a union claim to reduce the working week from 38 to 36 hours was the reason for the implementation of a 5 shift system under which 47 % of the manual workers operate. The new system led to an average working week of 33.6 hours so that for every 350 days 15 extra days had to be worked to reach the agreed 36 hours. The management did not intend to increase the size of the workforce and the reorganisation of work made it possible to avoid the otherwise necessary recruitment of about 6 % of staff. Although there was no net creation of jobs it can be argued that redundancies due to new rationalisation investment were prevented. The reduction in working hours did not affect pay which remained at previous levels.
- In the Netherlands 4-/5 shift (mainly 9 months work in 5 shifts and 3 months in 4 shifts) or 5 shift work is introduced or will be introduced in 26 enterprises. The number of employees is about 36 400 of which about 10 150 (will) work in 4-/5 shift (about 8000) or 5 shift work (about 2250). 5 shift work actually exists in only 3 enterprises at the

moment, most of the other firms are planning its introduction in 1983. In all cases where the new schemes for shift work are or will be introduced the average working week will be shortened considerably, to about 35.6 hours, by means of increasing the number of extra days off from 13-15 per year in a 4 shift cycle to 29 in the new scheme. The introduction of (4-/)5 shifts leads in almost all cases to job creation or to a reduction of redundancies.

On average the net increase lies around 5 to 10 % of the number of persons that worked previously in 3 or 4 shifts. In one company 700 people worked in 4 shifts whereas now 1000 persons work in 5 shifts, 2/3 of this increase being directly related to the introduction of the new system.

In most cases the (4-/)5 shift system leads to higher costs for the company as the net result of more labour employed and a small reduction in the shift supplement per worker.

It can be said that in the case of 25 % shift work in an enterprise and reducing the working week from 40 to 35 hours while maintaining production, about 14.5 % more labour is employed while the workers concerned experience a 3 % cut in annual pay. Total wage cost increase for the employer would then amount to about 3 %.

In some cases the expected cost increases have caused the companies to cancel a planned institutionalization of the (4-/)5 shift system or even to abolish existing schemes.

- In a container terminal centre in the port of Rotterdam the introduction of a 5 shift system will reduce weekly working time on average by 6.25 hours from 38.75 to 32.5 hours, expressed in 16 extra days off per year. Pay is fully compensated (but annual leave is reduced by 2 days) and the employer committed himself to extend the workforce by 55 persons i.e. about 13 %.
- In an industrial firm in Amiens (France) 50 workers work at present in two shifts (2x8) for five days per week. The introduction of a third shift is planned thus reducing average weekly working hours to 33 according to the following schedule: 36 hours per week for two weeks (four working days, Saturdays included) and 27 hours in the third week with three working days. Every week the crews will together work 99 hours in total (2 x 9 x 5 + 1 x 9 on Saturday) instead of 80 hours at present.

- A company in the electrical engineering industry has at present one shift of eight hours per day. An agreement was signed to introduce two shift working $7\frac{1}{2}$ hours per day leading to a 100 % increase in labour. The enterprise would thus be open 15 hours a day instead of the present 8 hours.

Earnings per person will be unchanged, a shift bonus replacing the reduction of nominal pay.

Job sharing

- A British company in the field of telecommunications introduced a job sharing scheme to help the integration of young unemployed into economic life. There are currently 37 pairs (74 young people) involved in both clerical and manual jobs sharing 39 hours per week. After 18 months the job-sharers are eligible for any suitable full-time vacancies that may arise.

The scheme involves each of the sharers working $2\frac{1}{2}$ days per week with the commitment that either will work in the absence of the other. Pay is at the normal hourly rate and as social security contributions are pro rata with pay there is no increase in the company's unit labour costs. The resulting weekly pay exceeds single person's social security benefits so that the scheme offers for the young worker a valuable alternative to unemployment. The sharers also undertake a day's further education per week without pay.

A similar scheme covering over 50 pairs, mainly adults, was introduced as a way to re-employ redundant workers following an earlier reduction in employment.

Income/time trade-off

- In some French public utility companies employees may reduce weekly working hours by 50 %, 25 % or 20 % leading to a corresponding pay cut. Furthermore the option has been introduced to take up in "time" the 13th month pay whereby unpaid holidays can be increased. After two years of operation about 50 % of the 13th month pay has been transformed into holidays, thus opening up the possibility of increasing employment correspondingly.

- In certain companies the income/time trade-off is even more individualised in the sense of the so-called cafeteria-plans. This means, e.g. in a specific case in France, that workers can vary weekly working time, determined in advance, between 20 to 39 hours with the same hours per day but between 6.00 h and 22.00 h. Furthermore part-time work schemes are made possible and taking up holidays can be spread throughout the whole year. In the framework of this reorganisation of work employees change the actual workplace regularly and often at their own initiative, leading to job-enrichment. Experience with the new work pattern is very positive since productivity increased substantially and absenteeism fell from 11.3 % to 3.5 % over a period of ten years.

E - Conclusions

The various model calculations described above reveal a wide range of possible results, a range of variation stemming from the large number of interlinked factors which need to be taken into account, including hypotheses and parameters applied to describe the likely actions and reactions of the various decision makers in economic and social life. The macro-economic reasoning of models, however, remains the major possible way to measure the direct and indirect effects of a reduction and adaptation of working time on the macro-economic variables, such as employment, investments, income, inflation, etc.. Any policy proposals in this field should therefore not ignore these results.

Empirical evidence relating to the introduction of shorter working hours is rather scarce, since most of the practical cases available for study are too recent and/or too limited in scope to offer reliable results on a wider scale. They were also often designed to serve other aims with job creation appearing, if at all, merely as a by-product. Up to now, the principal aim has been the improvement in living and working conditions, a continuing process in which gradual reductions were entirely appropriate and negotiated by both sides of industry as part of general bargaining involving wages, working conditions and other issues. Although these more traditional arguments remain valid, the present concern is with the creation of employment opportunities for those who are able and willing to work and this raises a whole range of different questions including a deliberate policy on working time as such and the possible need for more abrupt and larger reductions in order to achieve the desired effect.

The case for seeking to maintain and create jobs through the reduction in working time rests principally on the desirability of achieving greater equity at a time of very high and rising unemployment. It is important to avoid the hardening of two distinct groups in society - those with stable employment and those without - a development which would have disruptive social consequences (reflected in stress, ill health, family problems, crime, etc.) and would endanger the very foundations of our democratic societies in the longer run.

This reasoning is reinforced by the growing conviction of a large number of economists and policy-makers that even the restoration of reasonable rates of economic growth (itself limited by energy and environmental constraints) will not create sufficient employment to provide job opportunities for all willing and able to work in the next decade, especially when the wide-scale introduction of new technologies in the traditionally labour-intensive branches of industry is taken into account. There are also other more short-term economic arguments, including expected improvements in productivity (as a basis for the creation of future employment) and discouragement of the "shadow" economy. Any successful measures to reduce unemployment would also cut government spending on unemployment benefits (which in 1982 will possibly come to about 60 mrd ECU, that is about 5 % of the total wage bill of about 1350 mrd ECU) and increase the State's tax and social security contributions. They would also reduce all other macro-economic costs resulting from unemployment such as a loss of output in the short run and, in the medium term, a drop in real income through lower investment in human capital, particularly in the case of rising youth unemployment.

Although a reduction in working time will not automatically lead to a solution to the employment crisis, it could make a valuable contribution, as long as it were designed flexibly within a suitable policy framework.

At the level of the macro-economic policy framework measures designed more specifically to encourage a more equitable distribution of available work should be examined in a balanced way taking into account the impact of such policies not only on overall production costs, but also on global demand, growth, inflation, income distribution, etc. These policies might include a readiness at least to maintain the purchasing power of the lowest paid while demanding certain relative net income sacrifices of the higher income brackets. Feared adverse effects on labour costs might be mitigated by ploughing back expected savings in unemployment insurance payments to the company sector.

On the labour market itself the process of reducing working hours would have to be accompanied by increased efforts to promote occupational and geographical mobility in order to avoid recruitment problems for employers and to reduce bottlenecks on the labour market which might endanger the potential job creation effects of a reduction in working time.

As far as the specific mechanisms to be implemented in any particular scheme are concerned they would need to be based on the premise that the amount of available work should be at least maintained and if possible increased. Efforts to achieve a better distribution of that work should not be made at the expense of the volume of work. Potential measures should therefore preserve and if possible enhance the viability, productivity and competitiveness of enterprises.

They could be geared to different situations in the various Member States, in branches of industry, the public service, etc., accompanied by more or less limited wage compensations plus subsidies and possibly profit sharing/investment wage schemes, the maintenance or even extension in actual operating time to lead to a more economical use of capital resources, changes in work organisation in order to minimize additional organisational burdens, etc. Measures might also be necessary to encourage greater flexibility in the organisation of working time (2x6 hour shift, part time work, especially in male-dominated areas, job-sharing) which are arguably a necessary complement to measures to reduce working time. In order not only to limit as much as possible segregation into a stable full time and a marginal part time labour market which might result from an adaptation in working time but also to increase the employment effects, flexibility orientated measures would have to be embedded into the negotiating process between both sides of industry.

Mechanisms and policies would be inadequate to the task, however, if there were not a fundamental and radical change of attitude on the part of employers and employees alike. The acceptance of far-reaching changes in the traditional pattern of work organisation, including possibly a new approach to shift work and weekend working, would depend on the development of a greater degree of consensus between the social partners. Such a consensus is unlikely to develop spontaneously despite the pressures in that direction created by a common interest in economic revival. In this wider framework the reduction of working time amounts largely to a policy of redistributing employment opportunities (and thus income-generation opportunities for individual citizens), and demanding from the public authorities and the two sides of industry a commitment to spread opportunities and burdens in a socially and economically acceptable way.

STATISTICAL ANNEX

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TABLE I.-

LEGAL WORKING WEEK AND/OR COLLECTIVELY AGREED WORKING WEEK

COUNTRY	LAW	COLLECTIVE AGREEMENT
Belgium	40	36 to 39
Denmark	-	40
F.R. of Germany	48	40
Greece	-	36 to 42
France	39	36 to 39
Ireland	48	35 to 40
Italy	48	35 to 40
Luxembourg	40	38 to 40
Netherlands	48	40
United Kingdom	-	37.5 to 40

Source : ETUI : Collective Bargaining in Western Europe 1980-1981 and prospects for 1982

AVERAGE WEEKLY HOURS OF WORK OFFERED TO MANUAL WORKERS IN INDUSTRY (NACE 1 - 5)*)

	Belgium		F.R.Germany		France		Ireland		Italy		Luxembourg		Netherlands		United Kingdom	
	IV	X	IV	X	IV	X	IV	X	IV	X	IV	X	IV	X	IV	X
1975	36.8	37.1	40.6	40.9	42.6	42.4	-	-	41.3	41.5	40.6	40.9	40.8	40.8	-	41.8
1976	38.2	38.5	41.4	42.3	42.5	42.2	-	-	41.5	41.6	39.8	40.3	41.0	41.2	-	42.2
1977	37.3	37.1	41.8	42.1	41.8	41.7	-	-	41.6	41.5	40.4	39.5	40.9	41.1	-	42.3
1978	36.9	37.6	41.8	42.0	41.4	41.3	-	-	38.9	39.4	38.9	40.2	41.0	41.1	-	42.2
1979	37.1	38.1	41.9	42.1	41.1	41.1	-	-	39.0	39.7	40.3	40.8	41.0	41.1	-	42.0
1980	36.9	35.7	41.8	41.6	40.9	40.9	42.2	42.3	39.2	38.5	40.7	40.2	41.0	40.8	-	40.7
1981	34.7		41.1		40.6		41.4		37.9		40.5		40.6		-	-

*) No data for Denmark and Greece

IV = April

X = October

Source: Hourly Earnings - Hours of Work
S O E C

DEVELOPMENT OF WORKING TIME (1970 - 1980/1981) IN INDUSTRY

	Belgium	Denmark	F.R.Germany	France	Greece	Ireland	Italy	Luxemburg	Netherlands	United K.
Change in collectively agreed working time in industry per week	-11 %	- 5 %	- 1,2 %	0 ^{*)}	-11,5 %	- 4,6 %	-11,6 %	- 7 %	- 7,2 %	- 4,3 %
Change in effective working time in industry per week	-15,9 % (1980)	- 9,1 % (1980)	- 6,4 % (1981)	-10,5 % (1981)	-12,7 % (1981)	- 4 % (1980)	- 9,6 ^{**)} (1980)	-10,7 % (1980)	- 7,9 % (1980)	- 4,8 % (1981)
Collectively agreed basic annual leave in days										
1970	18	18	16-24	24	6-12	12-18	12-15	18-24	15-18	12-18
1981	24	30	21-30	24	12	17-19	20-24	25	20-23	18-23

*) Legal working time

**) work offered in 1980

Source : Chiffres significatifs de l'évolution sociale dans la Communauté européenne, 1982.

HOURS WORKED DURING THE YEAR PER MANUAL WORKER
(hours actually worked) and
NON-MANUAL WORKER (customary hours)
ALL INDUSTRIES (NACE 1 - 5)

		Belgium	Denmark	F.R.Germany	France	Ireland	Italy	Luxembourg	Netherlands	United Kingd.
1972	manual	1758	1703(1)	1778	1976	-	1668	1965	-	1911 (1)
	non-manual	1934	-	1863	2011	-	1900	1869	1793 (2)	1794 (1)
1975	manual	1550	1678	1680	1862	2051	1521	1773	-	1940
	non-manual	1866	1829	1830	1854	1847	1794	1856	1661 (2)	1847
1978	manual	1527	1709	1715	1785	1989	1643	1681	-	1969
	non-manual	1820	1848	1873	1886	1834	1851	1815	1654 (2)	1827

(1) figures concerne the year 1973

(2) manual and non-manual workers together

Source: Labour cost Survey SOEC

TABLE V.-

NORMAL ANNUAL WORKING TIME in the metal working industry (March 1982)	
C O U N T R Y	52 WEEKS - (Annual holiday as per collective agreement + Statutory public holidays) x WEEKLY WORKING TIME AS PER COLLECTIVE AGREEMENT
Belgium	1,748/1,656 hours
Denmark	1,796 hours
F.R. Germany	1,760 hours
Greece	1,902 hours
France	1,755 hours
Ireland	1,856 hours
Italy	1,800 hours
Luxembourg	1,800 hours
Netherlands	1,832 hours
United Kingdom	1,778 hours (Blue-collar)

Source: European Metalworks' Federation in the Community.

CHANGES IN TOTAL ANNUAL WORKING HOURS IN THE MANUFACTURING INDUSTRY

in some industrialized countries
(annual changes in %)

1973 - 1980	Belgium	Denmark	F.R.Germany	France	Italy	Netherlands	United Kingdom	U.S.A.	Japan
1974	- 1.0	- 1.7	- 5.4	- 0.3	1.4	- 3.6	- 2.0	- 1.9	- 4.3
1975	- 11.2	- 11.3	- 9.6	- 6.0	- 5.5	- 5.1	- 5.1	- 9.7	- 7.6
1976	- 1.7	- 1.0	0.8	- 1.1	3.8	- 4.2	- 1.9	4.9	3.6
1977	- 5.4	- 1.5	- 2.4	- 1.3	1.0	- 3.0	0.2	4.2	0.1
1978	- 3.9	- 1.6	- 1.9	- 2.4	- 1.1	- 3.9	- 2.6	4.4	- 0.5
1979	- 2.6	1.2	- 1.3	- 2.2	- 0.6	- 2.6	- 3.0	2.0	1.1
1980	- 4.7	- 1.7	1.0	- 1.7	- 0.2	- 2.7	- 9.6	- 4.1	0.8
1973 - 1980 (annual average)	- 4.5	- 2.2	- 2.6	- 2.1	- 0.1	- 3.7	- 2.9	0.7	- 0.7
1973 - 1980 (cumulative)	- 26.7	- 15.1	- 17.7	- 13.3	- 1.4	- 22.7	- 22.0	- 0.9	- 7.0

Source: Monthly Labour Review, December 1981.

TABLE VII.-

LEGAL DURATION AND/OR COLLECTIVELY AGREED
DURATION OF ANNUAL PAID LEAVE

COUNTRY	LAW	COLLECTIVE AGREEMENT
Belgium	4 weeks	4 to 6 weeks
Denmark	5 weeks	cf. law
F.R. of Germany	3 weeks	5 - 6 weeks
Greece	2 weeks	2 wks to 4 wks 2 days
France	5 weeks	5 - 6 weeks
Ireland	3 weeks	3 wks 4 days
Italy	2 weeks	4 to 6 weeks
Luxembourg	5 weeks	cf. law
Netherlands	3 weeks	4 - 5 weeks
United Kingdom	-	4 to 6 weeks

Source : ETUI : Collective Bargaining in Western Europe 1980-1981 and prospects for 1982

TABLE VIII.-

ANNUAL PAID HOLIDAY AS FIXED BY LAW AND COLLECTIVE AGREEMENT (5-DAY WEEK) in the metal working industry (March 1982)				
C o u n t r y	By law	by col- lective agreement	Special holidays	Public holidays
Belgium	20	20	On average: 1 day after 5 years' service - max. 5 days	10 - 11
Denmark	25	25	--	10 1/2
F.R. Germany	15	30	--	9 - 13
Greece	10 (1)	≤ 18 yrs. = 15 days > 19 yrs. = 10 days	1 day for each 6 months' service - max. 26 days (6-day week)	13
France	25	25	1 day after 10 years' service, 2 days after 15 years and 3 days after 20 years	8 - 11
Ireland	15	20	--	8
Italy	10	20 + 5 (2)		8 - 10
Luxemburg	25	25	6 days for handicapped workers	10
Netherlands	15	24	19 years = + 5 days 50-54 years = + 3 days 55-60 years = + 5 days 61, 62, 63 and 64 years = respectively + 6, + 7, + 8 & + 9 days As from 25 years' service = + 3 days	7
United Kingdom	--	24 (25 in Nov. 1982)	--	8

(1) In 1982-83, the annual paid holiday entitlement will be increased to 20 days and the extra holiday entitlement for young workers will be doubled.

(2) Statutory public holidays to be made up.

TABLE IX.-

PERCENTAGE OF PERSONS WITH A MAIN OCCUPATION
WORKING PART-TIME

Country		%			
		1973	1975	1977	1979
Belgium	T	2.8	4.1	5.8	5.7
	M	0.4	0.6	1.0	0.8
	F	8.2	11.6	16.1	16.0
Denmark	T	-	17.0	18.4	19.4
	M	-	1.9	2.7	2.3
	F	-	40.3	42.4	43.0
F.R. Germany	T	7.7	9.0	9.6	9.5
	M	1.0	1.1	1.1	0.9
	F	20.0	22.8	24.4	24.2
France	T	5.1	6.6	7.3	7.1
	M	1.4	2.1	2.3	2.0
	F	11.2	14.0	15.2	15.2
Ireland	T	-	4.0	3.7	3.1
	M	-	1.8	1.6	1.3
	F	-	9.9	9.6	8.0
Italy	T	3.9	4.6	2.5	2.6
	M	2.3	2.7	1.2	1.2
	F	8.5	9.9	5.9	6.0
Luxembourg	T	4.5	5.0	4.1	5.6
	M	(0.9)	(0.9)	(0.8)	(0.7)
	F	13.9	15.4	12.3	17.2
Netherlands	T	4.4	5.6	5.9	7.5
	M	1.1	1.5	1.5	1.8
	F	15.5	18.6	19.0	23.2
United Kingdom	T	15.3	16.9	16.9	15.4
	M	1.8	2.2	2.1	1.3
	F	38.3	40.9	40.4	37.7

Source: Labour Force Sample Survey
1973 - 1975 - 1977 - 1979.

Spring 1979

AVERAGE NUMBER OF HOURS WORKED BY PERSONS WHO WORKED DURING THE REFERENCE WEEK

		Belgium	Denmark	F.R.Germany	France	Ireland	Italy	Luxembourg	Netherl.	United K.	EUR 9
Persons with a main occupation	T	41.4	37.9	41.2	42.4	46.2	40.8	40.8	39.7	38.5	40.7
	M	42.9	42.1	43.5	44.6	48.9	41.9	42.1	42.3	43.5	43.4
	F	38.1	32.0	37.3	38.8	38.7	38.2	37.9	32.7	30.5	35.8
of which: Full-time	T	42.5	41.4	43.2	43.9	46.8	41.2	42.0	41.2	42.0	42.6
	M	43.1	42.5	43.7	45.0	49.1	42.1	42.2	42.6	43.8	43.6
	F	41.1	38.6	42.0	42.0	40.1	38.9	41.3	36.3	37.5	40.2
of which: Part-time	T	22.1	23.3	22.6	22.0	25.0	26.8	22.0	21.8	19.2	21.4
	M	24.4	22.3	23.3	24.6	30.3	28.9	(25.2)	26.7	21.6	24.6
	F	21.9	23.4	22.5	21.6	22.8	25.9	21.7	20.8	19.1	21.1

Source: Labour Force Sample Survey 1979 - SOEC

Survey Unit: the household

TABLE X.-

Spring 1977

AVERAGE NUMBER OF HOURS WORKED BY PERSONS WHO WORKED DURING THE REFERENCE WEEK

		Belgium	Denmark	F.R.Germany	France	Ireland	Italy	Luxembourg	Netherl.	United K.	EUR 9
Persons with a main occupation	T	41.2	39.2	41.5	43.0	45.7	41.6	41.6	40.2	38.6	41.1
	M	42.7	43.2	43.8	45.2	48.3	42.7	42.5	42.6	43.9	43.8
	F	37.9	33.0	37.5	39.4	38.6	38.9	39.3	33.2	30.2	36.0
of which: full-time	T	42.3	42.7	43.5	44.6	46.6	42.0	42.4	41.4	42.7	43.1
	M	42.9	43.7	44.0	45.7	48.6	42.9	42.7	42.8	44.4	44.1
	F	40.8	40.1	42.4	42.6	40.3	39.7	41.9	36.2	38.2	40.7
of which: part-time	T	23.3	23.1	22.6	22.7	23.0	26.9	20.7	21.7	18.7	21.1
	M	24.3	22.0	23.2	25.4	25.1	29.0	21.9	26.0	19.0	23.6
	F	23.2	23.2	22.6	22.1	22.0	25.9	20.5	20.6	18.6	20.8

Source: SOEC
Labour Force Sample Survey 1977

Survey unit: The household

Spring 1975

AVERAGE NUMBER OF HOURS WORKED BY PERSONS WHO WORKED DURING THE REFERENCE WEEK

		Belgium	Denmark	F.R.Germany	France	Ireland	Italy	Luxembourg	Netherl.	United K.	EUR 9
Persons with a main occupation	T	42.5	39.5	41.6	42.8	46.8	41.5	42.3	40.6	39.3	41.3
	M	43.9	43.7	43.7	43.7	49.4	42.5	43.1	42.6	44.3	43.9
	F	39.4	33.1	38.0	38.9	39.5	38.9	40.3	34.1	31.3	36.4
of which: full-time	T	43.4	42.8	43.5	44.2	47.6	42.2	43.3	41.7	43.4	43.3
	M	44.1	44.0	43.9	45.5	49.8	42.9	43.3	42.9	44.8	44.2
	F	41.8	39.6	42.4	41.8	41.0	40.0	43.4	37.0	39.5	41.0
of which: part-time	T	21.5	23.3	23.1	22.7	27.0	29.1	22.9	22.4	19.5	22.1
	M	21.8	23.3	24.7	26.0	32.2	29.9	(24.1)	25.9	20.1	25.4
	F	21.5	23.3	22.9	21.8	24.3	28.5	22.7	21.5	19.6	21.6

Source: SOEC
Labour Force Sample Survey 1975

Survey Unit: the household

Spring 1973

AVERAGE NUMBER OF HOURS WORKED BY PERSONS WHO WORKED DURING THE REFERENCE WEEK

		Belgium	Denmark	F.R.Germany	France	Ireland	Italy	Luxembourg	Netherl.	United K.	EUR 9
Persons with a main occupation	T	43.8	-	43.0	45.2	-	42.3	44.3	42.4	40.0	-
	M	45.0	-	45.3	47.6	-	43.2	45.2	44.3	44.7	-
	F	41.0	-	38.9	41.2	-	39.8	41.9	35.9	32.0	-
of which: full-time	T	44.4	-	44.7	46.4	-	42.8	45.2	41.7	43.7	-
	M	45.1	-	45.5	47.8	-	43.4	45.3	42.9	45.1	-
	F	42.7	-	42.8	43.6	-	40.8	44.9	37.0	39.8	-
of which: part-time	T	21.9	-	23.3	22.7	-	30.2	25.0	22.4	19.8	-
	M	21.6	-	24.4	26.0	-	31.9	25.5	25.9	21.0	-
	F	21.9	-	23.2	21.8	-	28.8	24.9	21.5	19.7	-

Source: SOEC
Labour Force Sample Survey 1973

Survey unit: the household

TABLE XIII.-

TABLE XIV.-

The Number of Wage Earners in the Secondary and Tertiary Sectors and the Percentage of Shiftworkers Among them.

C o u n t r y	Secondary Sector		Tertiary Sector	
	Wage Earners	% Employees on Shiftwork	Wage Earners	% Employees on Shiftwork
Belgium	1,266,000	23.0	1,646,000	18.6
Denmark	658,000	11.1	1,196,000	22.9
F.R. Germany	10,438,000	20	10,637,000	16.1
France	7,298,000	20.6	9,560,000	20.9
Ireland	301,000	13.7	395,000	22.3
Italy	6,284,000	18.1	6,256,000	9.6
Luxembourg	54,000	41.1	63,000	13.7
Netherlands	1,568,000	10.6	2,369,000	15.8
United Kingdom	9,463,000	20.5	12,150,000	20.8

Sources: Eurostat 1978 and 1977.

DISTRIBUTION OF EMPLOYEES ACCORDING TO SHIFTWORK BY COUNTRY

C o u n t r y	Secondary Sector					Tertiary Sector				
	Employees on Shiftwork	Full Contins	Semi-cont.	Dis-cont.	Others	Employees on Shiftwork	Full Contins	Semi-cont.	Dis-cont.	Others
Belgium	23.0	4.1	12.5	6.3		18.6	4.4	0.6	4.1	9.5
Denmark	11.1	2.0	3.7	-	5.5	22.9	2.8	-	2.2	17.9
F.R. Germany	20.0	2.6	3.2	12.8	1.4	16.1	3.5	0.5	6.9	5.3
France	20.6	2.8	11.6	6.2		20.9	3.5	0.4	3.5	13.5
Ireland	13.7	2.9	3.3	7.1		22.3	5.4	0.7	1.8	14.2
Italy	18.1	2.1	12.7	3.2		9.6	6.2	0	3.4	-
Luxembourg	41.1	8.9	17.8	14.4		13.7	-	-	-	-
Netherlands	10.6	2.8	3.6	4.1	-	15.8	-	-	-	-
United Kingdom	20.5	4.5	4.0	12.0		20.8	4.3	1.1	2.2	13.2
TOTAL	20.0	-	-	-	-	17.8	-	-	-	-

Source: Eurostat 1978 - Eurostat 1977. Regional Statistics plus National Reports.

TABLE XVI.-

WORKING TIME FOR SHIFTWORKERS in the metal working industry (March 1982)					
Country	2-Shift	3-Shift	Semi-continuous	Continuous	Time off to compensate for overtime worked
Belgium	38/36	38/36	38/36	38/36	By law - overtime worked on Sundays & public holidays By coll. agreement - most overtime
Denmark	37	37	37	37	Equal amount of time Time off to be taken within 4 months
F.R. Germany	40	40 (1)	40 (1)	40 (1)	
Greece	41	41			
France	39-44 (2) -30' in March '82 -30' in Jan. '83	39-44 (2) -30' in June '82	39-44 (2) -30' in June '82	33h36' from 1983/84	<ul style="list-style-type: none"> For maximum of 94hrs. per year - partial recovery of time worked negotiated per company. 50% of time off in lieu for overtime over 41 hours per week.
Ireland	40 (3)	40 (3)	40 (3)	40 (3)	
Italy	40	40		40	Overtime worked on public holidays
Luxembourg	40 36h30'(4)	40 36h30'(4)	40 36h30'(4)	40 36h30'(4)	Overtime worked on public holidays
Netherlands	40	40	40	40	Compensation on the basis of company agr.
United Kingdom	37h30'	37h30'	37h30'	39 (3)	Iron & steel

(1) Extra public holidays with pay granted to the workers in the iron and steel industry: 39h.5'/week calculated on the annual schedule for workers on round-the-clock shifts or who do regular night-work; 38h.37'/week for workers of 50 years of age and over.

(2) Average weekly working hours for all workers.

(3) Shiftworkers have extra holiday.

(4) Iron and steel sector.