MONITORING THE LABOUR MARKET: A PROPOSAL FOR A COMPREHENSIVE APPROACH IN OFFICIAL STATISTICS (ILLUSTRATED BY RECENT DEVELOPMENTS IN FRANCE, GERMANY AND THE U.K.)[1]

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This paper analyses the weakness in labour demand which appeared in 1973–78 in France, Germany, and the U.K. and attempts a comprehensive assessment of it. Hitherto, the situation in labour markets has usually been measured by official figures of the registered unemployed which tend to understate unemployment itself and neglect other dimensions of labour slack, such as reversal of previous migration flows or declines in labour force participation or in working hours which may contain highly significant cyclical movements cushioning unemployment.

The report proposes the adoption of a more comprehensive concept for labour market monitoring, along lines already used in the annual reports of the German Institute of Employment Research. Such an approach presents advantages in economic and labour market policy analysis. A simplified form of the proposed monitoring tables is presented in Annex Tables F-1 to F-4, G–1 to G–4 and U-1 to U-4. They can be considered as a potential satellite to existing national accounts.

It is also suggested that analysis of the degree to which labour potential is used be conducted on a regular basis. The possibilities of this approach are outlined in considerable detail in Section V and in the annex. The different dimensions of the use-of-potential account are summarised in Table 3.

The report contains a review of the literature on the full employment rate of unemployment and its components. This is one of the major issues on which a judgement must be made in use-of-potential analysis. This review is presented in Section VI of the report.

It emerges from the analysis that Germany had the biggest labour slack (8.6 percent of potential) in 1978 though its unemployment rate (3.8 percent of the labour force) was the lowest of the three countries.

I UNEMPLOYMENT IN THE 1970s

Since 1973, unemployment has re-emerged as a major social problem for the first time in the postwar period. In the three biggest EEC countries, it averaged less than 2 per cent of the labour force in 1960–72, but by 1977–78 was more than $2\frac{1}{2}$ times as big and involved 3.8 million people. Higher rates of unemployment have persisted long enough (six years) to be regarded as a chronic rather than a

TABLE 1

UNEMPLOYMENT AS A PERCENT OF THE TOTAL LABOUR FORCE

	1960–72	1973	1974	1975	1976	1977	1978
France	2.0	2.7	2.8	4.1	4.5	5.0	5.2
Germany	0.8	1.0	2.2	4.1	4.1	4.0	3.8
U.K.	2.9	2.9	2.9	4.1	5.6	6.2	6.1
Arithmetic Average	1.9	2.2	2.6	4.1	4.7	5.1	5.0

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cyclical phenomenon. The big recession of the 1970s occurred in 1974–75, but unemployment persisted and even increased in the "recovery" years.

In fact, the rise in unemployment has been relatively modest, given the retardation in economic growth which has occurred. During 1973–78, output growth of the three countries averaged 2.6 percentage points a year below that of 1960–73. If one assumes that this shortfall in performance was due to demand conditions rather than to a fundamental decline in production potential, then the cumulative shortfall of output below potential by 1978 was around 13 percent (5 times the 2.6 point annual shortfall). In this context, the rise in the average unemployment rate from 1.9 percent in 1960–73 to 5 percent in 1978—a shortfall of only 3.1 percent— is relatively modest.

TABLE 2

G.D.P. GROWTH RATES

(Annual average compound rates of growth)

	1960–73	1973–78	Difference in Growth Rates in the Two Periods
France	5.5	2.8	−2.7
Germany	4.5	1.9	−2.6
U.K.	3.1	0.8	−2.3
Arithmetic Average	4.4	1.8	−2.6

The rise in unemployment has been lower than could legitimately have been expected, partly because governments have tried to mitigate the social impact of their cautious macroeconomic policies by diverting labour slack into channels other than overt unemployment. These policies have been most vigorously pursued in Germany, where three other dimensions of labour slack are clearly significant in relation to the officially registered unemployment of 993 thousand in 1978:

(a) The previously large inflow of migrant workers has been reversed following the *Anwerbestopp* of November 1973. In the five years 1973–78, the foreign labour force in Germany fell by 0.6 million, whereas in the preceding five years it had risen by 1.5 million;
(b) People were encouraged to withdraw from the labour force by schemes to promote early retirement or to retain young people in education and training. The officially financed German Institut fur Arbeitsmarkt und Berufsforschung (IAB) in Nuremberg estimates that the *Still Reserve* (reserve of discouraged workers) amounted to 642 thousand in 1978;
(c) The German authorities encourage work sharing by paying unemployment insurance for those working short-time.

II REASONS FOR A MORE COMPREHENSIVE ANALYSIS OF LABOUR MARKET DEVELOPMENTS

In view of these developments it is not surprising that German labour market analysis has moved beyond the rather myopic preoccupation with unemployment characteristic in other countries. There are several advantages in establishing a

broader set of labour market accounts even in countries where the labour market policy menu is less rich than in Germany:

(a) It can help identify the nature of the existing economic situation more clearly;
(b) It can improve the clarity of national policy analysis. This is particularly necessary in the labour market field where new policy initiatives have mushroomed since 1973, and where conflicts of objective between macro (deflationary) and micro (job creating) instruments are obviously likely to arise;
(c) It can facilitate international comparison of both policy problems and policy options, particularly in situations where the national policy-mixes vary a good deal, e.g. where Germany has more labour slack than the U.K., but a lower unemployment rate;
(d) It can help improve the sophistication of economic forecasting;
(e) It can improve the analysis of productivity trends and the accuracy of international comparison of productivity levels;
(f) It can improve the quality of academic research which in the past has concentrated very heavily on unemployment as a labour market indicator to the exclusion of other elements of labour slack, e.g. in Phillips curve analysis, or in the new monetarist emphasis on the natural rate of unemployment;[2]
(g) The process of merging manpower data from different sources into a coherent accounting system will provide new crosschecks on the accuracy of previous estimates and stimulate wider use of the EEC Labour Force Sample Surveys;
(h) Better manpower accounts provide a major contribution towards a wider system of regular socio-demographic monitoring which can illuminate many social policy issues, e.g. the extent to which behaviour patterns are altered by increased levels of social benefit.

III The Nature of the Present Proposal

The present proposal for refinement of official labour market analysis has two components.

The Monitoring Account

(a) A proposed set of annual accounts merges data from different sources to analyse labour market developments in a comprehensive framework which takes account of both the demographic context and changes in working time per person.

[2]The Phillips curve is that showing the relation between the unemployment rate and the rate of increase in money wages, see A. W. Phillips, The Relation Between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861–1957, *Economica*, November 1958. The natural rate of monetarist theory is the rate of unemployment at which the consumer price index is neither accelerating nor decelarating. There have been some earlier efforts to use broader measures of labour slack on lines similar to the present approach, e.g. by R. J. Gordon, The Recent Acceleration of Inflation and Its Lessons for the Future, *Brookings Papers on Economic Activity*, No. 1, 1970, p. 21; J. Taylor, *Unemployment and Wage Inflation*, Longman, London, 1974; and D. Lal, *Unemployment and Wage Inflation in Industrial Economies*, O.E.C.D., Paris, 1977.

The different components when multiplied are equal to the total labour input used to produce gross domestic product. The proposed accounts are simply a merger of existing manpower statistics and a recommendation for their use in the same spirit which applies in the national accounting field. The proposal may be regarded as adding a labour input "satellite" to the national accounts.

"Use of Potential" Accounts

(b) The second proposal is more ambitious than the first. It carries the analysis further, in a direction quite familiar in ministries responsible for macro-economic policy since Okun first popularized the idea of measuring lapses from potential output in 1962.[3] As in all contra-factual propositions the major conceptual difficulty in "use of potential" analysis is in establishing what is "normal." This is obviously an area in which judgements can differ. The present paper makes suggestions in four areas: "normal migration," "normal activity rates," "normal hours," and "normal unemployment rates." There is already a huge academic literature on the fourth topic, a rapidly burgeoning one on the second issue, and major political discussion on the first. Nevertheless it seems useful to review the literature on these issues, and to assess the possibilities of formulating a policy-institutional view of normality (as distinct from a more statistical deviation-from-trend analysis). The third point, on normal hours, has perhaps been the most neglected in the past, but further statistical progress is quite feasible and integration of this dimension into a coherent accounting framework can be most illuminating.

IV The Monitoring Account

(a) *Demographic Context and Activity Rates*

The first table in the monitoring accounts (Annex Tables F-1, G-1 and U-1) simply sets labour force developments in a demographic context, showing activity rates by sex. In this table no age breakdown of the labour force is given although there are appreciable differences in the movements and level of activity rates for different groups. The main point is to show the trend in activity rates and to reveal the possible presence of cyclical variations, e.g. the phenomenon of workers "discouraged" or "added" during recessions. In Germany, there has clearly been an unusually large fall in male activity in the 1970s, and a less marked dip in activity for women, which the IAB has interpreted as an indication that people who really want work have stopped looking for it. In France and the U.K. it is difficult to discern any cyclical component in activity rates, though the longer term movements (up for females and down for males) are remarkably clear.

Changes in activity rates are of great significance in labour market analysis, and Tables F-1, G-1 and U-1 present one of the simplest approaches available. Apart from further specification by age group one could usefully have break-

[3]See A. M. Okun, Potential G. N. P.: Its Measurement and Significance, American Statistical Association, 1962, *Proceedings of the Business and Economics Section.*

downs by marital status and family responsibility, with categorisation of reasons for nonactivity (such as are derived from some labour force sample surveys). In spite of the burgeoning literature on this topic,[4] it is not current official practice in the U.K. to supply labour force figures in a demographic context. This is not done in the monthly *Gazette*, or in the annual *British Labour Statistics*. It should also be noted that the IAB's published analysis on this topic is still rather skimpy for Germany. The presentation proposed here is not at all novel in official circles. It has been followed in OECD's *Labour Force Statistics* for two decades, and is also used in the summary presentation of the results of the EEC Labour Force Sample Survey by Eurostat.

There are a few problems concerning the scope of the labour force and employment figures which are worth noting. In the U.K., unpaid family workers are thought to be so negligible that no attempt is made to include them in the labour force estimates. The U.K. is the only EEC country which does not ask questions about family helpers in the EEC Labour Force Sample Survey. In France and Germany the 1975 EEC Survey showed more than a million such people (4.3 percent of the German labour force and 5.1 percent in France). The smallest EEC share of such workers was in the Netherlands (1.9 percent). In France and Germany about two thirds of family workers are in agriculture, and it is plausible that the U.K. situation differs here because U.K. agriculture is much smaller, and is characterised by capitalist rather than peasant modes of production. However, it is difficult to believe that family enterprise in the service sector in the U.K. differs so drastically from continental practice, so there may well be 250 thousand unrecorded family workers in the U.K. service sector. It is sometimes argued that the U.K. tax system inhibits unpaid family activity but it is not clear that the U.K. tax/social security situation is so unique. It should be noted that the 1975 EEC survey records only 1.06 million family workers in Germany, whereas the IAB includes 1.42 million such workers in the same year. The trend of unpaid family activity is sharply downward. In Germany there were 2.2 million females in this category in 1960 and 1.1 million in 1978. If they were to be excluded from the German labour force, the female activity rate would have shown a rise from 38 percent in 1960 to 43 percent in 1978 instead of the static level actually recorded.

Another point to be noted is that the U.K. official statistics on labour force and employment refer to job holders rather than persons. Multiple job holders are counted for each job they hold. The 1975 EEC Labour Force Sample Survey showed 1.6 percent of persons having a second activity as a proportion of persons with a main occupation in the U.K. In France and Germany, the figures used here appear to refer to persons rather than jobholders. It would not be difficult to adjust the U.K. figure to refer to persons rather than jobs. No adjustment is made here, because the British figures on hours also refer to hours per job rather than hours per person, so the overstatement of employment is offset by lower hours per head in arriving at the ultimate estimate of total hours worked.

[4]The most substantial work in this field is W. C. Bowen and T. A. Finegan, *The Economics of Labor Force Participation*, Princeton, 1969. A recent survey of the literature can be found in C. Greenhalgh and K. Mayhew, Labour Supply in Great Britain: Theory and Evidence, Treasury/DE/MSC Conference, Oxford, 1979.

Finally, it should be noted, *pro memoria*, that in all three countries, the burden of tax and social security payments is such as to produce a growing incidence of illicit labour force activity on tasks which are quite legal, but carried out illicitly for tax avoidance reasons. It is not easy to estimate the importance of this phenomenon which is also likely to be excluded from the national accounting definition of output, but semi-official guesses are in the range of 3.5–7.5 percent of the labour force.[5]

(b) *Stock of Migrants and Their Labour Market Characteristics*

Explicit inclusion of international migratory movements in the labour market accounts is obviously desirable in countries where their role is significant and where migration control is an instrument of labour market policy. In the U.K., there have been relatively big flows both in and out of the country, but most migrants have been settlers.[6] Migration controls are now substantial but have not been used as an instrument of labour market policy. Hence table 1b has not been included in the proposed monitoring account for the U.K., whereas it is for both France and Germany.

German immigrants are mostly "guestworkers" and their families, whose sojourn is considered to be temporary in principle. The flow has been closely controlled in the past by official policy in line with the labour market situation. Even if the 1973 restrictions are regarded as permanent, a quarter of the migrants in Germany are from EEC countries who are legally free to come and go as they please. Their number fell substantially from 1973 to 1978 (by about 200,000), but would obviously rebound if the labour market situation improved.

In France, the situation is different from that in both the U.K. and Germany. Many of the immigrants are from countries which were once French colonies but their legal status in France is different from that of Commonwealth citizens in the U.K. and their motives for migration are more mixed. Some intend to stay permanently and become naturalized as French citizens, but a larger proportion intend to return to their home country eventually even though their stay in France may be quite lengthy. In the period 1962–75, the increase in the number of French citizens by naturalization was only 110,000. French government policy on migration has been varied in line with the labour market situation, but not so strictly or effectively as in Germany, and the number of foreign workers did not show cyclical influences until 1978. In a situation where the gross flow of migrants is large, restrictions may not work as intended if they induce a lower number of exits as well as entries. There may also be a bigger phenomenon of illegal entry and unregistered activity in France than Germany. The 1975 census showed a foreign

[5]The *International Herald Tribune* of 27 July, 1979, carried an article "Moonlighting: British, Italian Style", which quoted the chairman of the Board of Inland Revenue's estimate that the black economy represents 7.5 percent of the U.K. G.N.P. An article of 26 July on the same theme quotes M. Stoleru in a context which suggests that the equivalent of 800,000 persons in France are engaged in *travail noir*.

[6]The only substantial number of EEC migrants in the U.K. labour market are those from the Irish Republic and the cyclical element is important in this case, see B. M. Walsh's model of the Irish labour market and its sensitivity to U.K. unemployment and to the relative level of unemployment benefit in the two countries in H. G. Grubel and M. A. Walker, *Unemployment Insurance*, Fraser Institute, Vancouver, 1978.

labour force 10 percent higher than the annual survey. A smaller proportion than in Germany are from EEC countries (about 200,000 workers which is 13 percent of the foreign labour force).

(c) *Employment Rates by Sex*

Tables F-2, G-2, and U-2 show absolute figures for employment and unemployment and employment rates. For France and the U.K. it was felt necessary to use adjusted unemployment figures rather than the usual official figures on registration that were used for Germany. The French registration series is misleading because the coverage of unemployment insurance has increased a good deal in the past fifteen years, and U.K. unemployment insurance excludes a good many married females who can opt out of insurance.

The problem of standardized unemployment measures has been treated in great detail by C. Sorrentino, *International Comparisons of Unemployment*, U.S. Bureau of Labor Statistics, 1978. Sorrentino kindly supplied unemployment estimates for the U.K., and the French unemployment figures were also reworked to conform to the standardized ILO definition, as described in the notes to Table F-2. In the case of France, the official registration series is now wide enough in coverage so as to present few problems. In the U.K., the divergence between the definition proposed here and present official practice is more substantial. The U.K. has hitherto shown official reluctance to widen its official unemployment estimates,[7] and there are those who would argue for a move in a different direction than is proposed here, were a change envisaged.[8] Perhaps there would be less of a problem of new definitions in the context of an annual comprehensive review of labour market trends than if such a proposal were directed at modification of the present monthly official indicator. In any case, presentation of the proposed monitoring account incorporating the present U.K. official definitions of unemployment would still be a useful exercise.

(d) *Annual Working Time Per Person*

This is the area in which the greatest detail is presented in this proposal. It is an area rather neglected in the past, but one in which substantial further refinement is possible. Tables F-3, G-3 and U-3 show the allocation of days in the year with an eightfold breakdown explaining days not worked. The first three columns are self-explanatory. There is a difference between the assumption on Saturday working for Germany and the other two countries. In Germany, IAB assumes that half day Saturday working was universal in 1960 and was gradually and totally phased out by 1970. For the other two countries it is assumed that Saturday was a free day throughout, though there was probably some Saturday working in the 1960s, and it has not completely disappeared even now in any of the countries. However, error on this score does not affect the final calculation of labour input, as weekly hours are reduced to a daily basis by dividing by 5.

[7]See *Unemployment Statistics*, Report of an Inter-departmental Working Party, HMSO 1972 (Cmnd. 5157).

[8]See J. B. Wood, *How Little Unemployment?*, IEA, London, 1975.

Another assumption about Saturday work would simply mean division of weekly working hours by a different denominator.

The fourth column refers to statutory public holidays which are assumed to be 100 per cent effective in reducing work time in France and the U.K., i.e. if they fall on weekends, they are assumed to be matched by compensatory reductions elsewhere in the week. In the case of Germany, where there are more public holidays, IAB assumes no compensation for public holidays which fall on weekends, and we have followed IAB practice.

Column 5 on days of vacation is pieced together from various sources, but there seems no doubt about the order of magnitude of absence from this cause or its rising trend.

Column 6 on absence through sickness, accidents and pregnancy is based on days of certificated absence which are available from social security sources, and does not cover periods of non-certificated sickness which are not negligible, but have probably declined in magnitude as more people are covered by sickness insurance schemes. The source notes give some indication of the information available on non-certificated absence from various surveys, but at this stage, there did not seem to be sufficient evidence to warrant an estimate here.

Column 7 on days lost through bad weather was only available for Germany, where bad weather compensation is payable in the construction industry. An entry of 1 day was made for France throughout as no figure was available. It was assumed to be less than in Germany as the German system of bad weather money seems likely to encourage time lost for this reason. For the U.K. bad weather time losses are covered by the short-time column of Table U-4.

Column 8 on absence for personal reasons was available annually only for France. For Germany, such absences are caught by the hours data of Table G-4 where overtime hours are measured on a net basis. For the U.K., a 2 day loss per year was assumed throughout on the basis of limited survey evidence.

Column 9 on time lost through industrial disputes, was available for all countries, and is generally a negligible item, apart from the May 1968 losses in France.

Tables F-4, G-4 and U-4 show average hours worked per day unaffected by absence (except as noted for Germany). For the U.K. and Germany it was possible to get a breakdown of basic hours, overtime and short-time working and the impact of part-time workers on the total. For France, this detail was not available. Data on working hours are usually only available for a short period of the year. In the British case, the most comprehensive source, the New Earnings Survey, refers only to one pay period in April, so the figures may not be as representative as might be hoped.

In all cases, the working hours figures used here refer to wage and salary earners and not to all persons employed. In 1977, wage and salary earners were 83 percent of persons employed in France, 85 percent in Germany and 91 percent in the U.K. There are several surveys which provide figures on working hours of the self-employed and family workers, e.g. the Eurostat Labour Force Sample Surveys (see 1975 edition, p. 106). These are invariably higher than for wage and salary earners, but they are not available as a regular time series for France and the U.K. and are probably less reliable as hours of such people are less subject to control, less regular and the boundaries of work and leisure are vaguer.

In the case of the U.K., the hours figures, like the employment figures, refer to the average per job holder, not per person in the labour market, i.e. they include people more than once if they have more than one job. This lowers average hours, but there is an offsetting exaggeration of employment.

V "Use of Potential" Accounts

Potential Population

The most logical starting point for the "use of potential" accounts is the possible divergence between actual and potential population. In France and Germany, both the nature of the immigrant population and of government policy on migration are likely to make the size of population vary for cyclical reasons, and in both these cases it seems worthwhile to analyse deviations between actual and potential population, though IAB does not do so.

In Germany, the cyclical character of migration was obvious in 1967–68, when the previous rapid rise in the proportion of foreign workers was reversed, and the absolute number of foreign workers fell by more than 200,000. In the two years following that recession, the number of foreign workers rose by 800,000 as job opportunities increased. In the period of recession and slow growth since 1973, the proportion of foreign workers has fallen from 9.6 to 7.7 percent of the labour force. It is, of course, difficult to say what the potential is, because there are different bases for such a judgement, e.g. what would it have been without the 1974–75 recession, or what would be in future if economic policy were to become more expansionary. It may well be that German policy on non-EEC migration has changed on a long term basis, but EEC migration is important, will grow if the EEC is enlarged, and a country with negative natural population growth and a high per capita income will remain attractive to immigrants. We have therefore assumed that, without the recession, the foreign labour force would have remained at its 1973 level, and that a major expansion in economic activity could easily induce a return to this level which is only 550,000 higher than the 1978 level. The gap in foreign working population is therefore assumed to be the difference between the 1973 level and the actual level.

For France, the data situation is weaker than for Germany, and as already explained, the cyclical sensitivity of population is smaller. We have assumed that there was a shortfall of population below potential only in 1978, and that the proportion of foreign workers in the labour force would have reached 7 percent instead of 6.7 percent in that year, in the absence of government policy to restrain migration.

Potential Activity Rate

Job shortage in recession may spontaneously induce a "discouraged worker" phenomenon, and governments may also promote exits from the labour force by policy measures to facilitate early retirement or to widen training opportunities. This has certainly occurred in both France and Germany. On the other hand a serious recession may have the converse effect of inducing labour market entry by

secondary workers (e.g. married women) in households whose incomes are likely to be or are threatened by unemployment or short-time working of the primary income earner. This is what Woytinsky called the "added" worker phenomenon, which seems to have predominated in the U.K. and France.

There is little doubt that a greater disaggregation of activity rates by age group would show offsetting discouraged and added worker phenomena in France and the U.K., but in the present paper we simply note that, overall, the net change over the period covered in these two countries was not negative. In Germany, by contrast, where measures to promote early retirement and encourage education were rather firmly pursued, and where the social climate and trade union attitudes encouraged departures from the labour force, the decline in activity rates for males was rather noticeable in the recession and after.

The IAB has made rather detailed calculations of normal activity rates, and has arrived at estimates of the net stock of discouraged workers by allowing for the impact of demographic and institutional factors as well as special *ad hoc* policy measures. The detail of the IAB calculations has not been published. The IAB estimates start from the premise that the stock of discouraged workers is zero in years of peak economic activity, the peak being defined in terms of the year of minimum unemployment. For IAB the peak year was 1970, rather than 1973 as we have taken here, so that they assume Germany to have entered the 1973–78 period of slower growth with a margin of discouraged workers. Our own assumption treats 1973 as the pre-recession peak for all the three countries under review. Our estimates of potential activity rates are based on simple extrapolation of the clear downward movement which took place between 1963 and 1973 assuming these to be business cycle peaks.

Potential Employment Rate

There is a huge literature on the "full employment rate of unemployment," which is analysed in Section VI. The position taken here is that there has probably been some lengthening in the normal duration of job search, and hence of unemployment levels, as a result of increased social security benefits and the increased levels of wealth which have accompanied economic growth. Hence, it is suggested that the "normal" level of unemployment in conditions of high demand in the 1970s was higher than the minimum levels of the 1960s. However, "neo-structural" arguments which have been used to explain 1970s levels of unemployment as normal, are rejected. As a matter of pragmatic convenience, it is simply assumed here that the 1973 rates of unemployment, i.e. the immediate pre-recession peak level, constituted the level potentially attainable, and that divergences from this level represent the unemployment gap.

Potential Working Hours Per Person Employed

Worksharing by reduction in hours worked per person has been an objective of policy in both France and Germany where unemployment insurance permits compensation for part-time unemployment. In addition there is some spontaneous work-sharing by collective agreement or entrepreneurial decision, and such a work-sharing arrangement is often preferable to dismissing workers, now

that workers' rights to redundancy compensation have been greatly enhanced. Working time can be shortened in several ways, e.g. by shorter hours per week, by reducing the number of weeks worked, by increasing public holidays or vacations. Monitoring the full impact of changes in time worked is statistically a difficult job, and it is clear that officially compensated short-time working is only part of the problem. It is difficult to distinguish involuntary from voluntary cuts in working time, particularly when the long term trend in working hours is so obviously downward in all three countries. However, the fact that working time per person continued to decline quite sharply in this period when real income increases were rather modest, does suggest that some of the reduction was of a cyclical character.

In the case of Germany and the U.K., figures are available in some detail, which permit a differentiation between basic hours of full-time workers, the hours of part-time workers, overtime and short-time working. We have assumed for these two countries that the gradual reduction of basic hours in the 1970s and the increasing role of part-time workers were a continuation of long term trends and

TABLE 3

RATIO OF ACTUAL TO POTENTIAL LABOUR INPUT AND ITS COMPONENTS

	A Ratio of Actual to Potential Population of Working Age			B Ratio of Actual to Potential Activity Rate		
	France	Germany	U.K.	France	Germany	U.K.
1973	100.00	100.00	100.00	100.00	100.00	100.00
1974	100.00	99.82	100.00	100.00	99.26	100.00
1975	100.00	99.18	100.00	100.00	98.37	100.00
1976	100.00	98.69	100.00	100.00	97.77	100.00
1977	100.00	98.53	100.00	100.00	97.47	100.00
1978	99.64	98.48	100.00	100.00	97.91	100.00

	C Ratio of Actual to Potential Employment Rate			D Ratio of Actual to Potential Hours Worked Per person		
	France	Germany	U.K.	France	Germany	U.K.
1973	100.00	100.00	100.00	100.00	100.00	100.00
1974	99.90	98.79	100.00	99.54	98.95	97.58
1975	98.56	96.87	98.76	98.37	97.18	97.21
1976	98.15	96.87	97.23	98.12	97.88	98.21
1977	97.64	96.97	96.58	97.87	97.53	99.10
1978	97.43	97.17	96.67	97.63	97.52	99.23

	E Ratio of Actual to Potential Labour Input		
	France	Germany	U.K.
1973	100.00	100.00	100.00
1974	99.43	96.92	97.58
1975	96.96	91.87	95.96
1976	96.34	91.54	95.49
1977	95.53	90.86	95.71
1978	94.72	91.41	95.91

that the cyclical influence was confined to the reduction of net overtime below its 1973 level. This is a modest assumption in the case of Germany, as net overtime was smaller in 1973 than in 1970, and there was a somewhat large drop in basic hours in 1974–75.

In the case of France, information on overtime and short-time working was inadequate and we take the deviation of working hours per person in 1973–78 from the 1963–73 trend as an indicator of the cyclical shortfall.

The basic data on days worked per year in Tables F-3, G-3 and U-3 are presented in considerable detail, but no use of this table is made here for "use of potential" analysis. For Germany, the IAB has noted a perverse cyclical movement in sickness absence. This happens partly because people are scared of losing their jobs for malingering in times of slack demand, and hence cut down on sickness absence for cyclical reasons. Another reason may be that the people who are normally most prone to sickness absence are those most likely to be unemployed or to leave the labour force in recessions. There is some evidence of the same phenomenon in France. Unfortunately the quality of U.K. information on sickness absence deteriorated from 1974 onwards, so it is less easy to monitor the situation there very accurately. For this reason, we have taken no account of possible cyclical movement in sickness absence in the present estimates.

Ratio of Total Labour Input to Potential

Table 3 summarises the results of the "use of potential" analysis. The difference between this approach and the traditional unemployment indicator can be seen by comparing part E of the table with part C. In 1978, the difference between the actual unemployment level and the full employment (1973) level was similar in the three countries, ranging from over 3 percent in the U.K. to over 2.5 percent in France (see last line of part C). In part E of the table, much wider variation in the country situations emerges. The overall labour slack was about 4 percent in the U.K., but 8.6 percent in Germany. Hence this approach suggests a much bigger slack in Germany, and much greater scope for expansionary policy, than would traditional reliance on the unemployment indicator. The relative importance of different components in the labour market situation vary a good deal between countries. In Germany, all four items, A, B, C and D, play a significant part. In the U.K. only two items are significant. The timing in the course of the cycle is also worth noting. In the U.K., cuts in working time absorbed the first shock of the recession, unemployment took more of the slack in 1976–78. In France and Germany the pattern was different.

It should be noted that the use-of-potential analysis presented here is only illustrative. More sophistication, more detail, and different judgements are all feasible. In national analysis, more detailed probing should be possible by age and sex, and other items may be treated as cyclical which are ignored here, sucl. as sickness absence, Anglo-Irish migration etc. The analysis of causality in variation of activity rates could also benefit from integration into a wider system of socio-demographic monitoring which included factors governing entry and exit into education, retirement decisions, and the role of women in the economy. It is quite possible to conduct the analysis with different assumptions about what constitutes full employment.

VI The Full Employment Rate of Unemployment

The most controversial issue in use-of-potential analysis is the judgement on the degree of unemployment which should be accepted as "normal" in "full employment" conditions, either because it is "voluntary" or necessary for efficient functioning of the economy. "Normality" may change over time for institutional or demographic reasons which are unconnected with business cycle developments, e.g. higher unemployment benefits may permit people to be more choosy about a prospective job and lengthen search time, or the size of the youth cohort may swell in echo of a previous baby boom. Cyclical developments may have a ratchet effect, in that they induce labour slack which would have been "avoidable" if the recession had not occurred, but which is not "recuperable" *ex post*. Even more fundamental objections to the notion of a full employment unemployment target[9] are raised by non-Keynesian approaches to stabilisation policy. This whole range of issues is surveyed in this section.

Traditionally unemployment has often been broken down into seasonal, frictional, structural and demand-deficient components, and this continues to be a reasonable breakdown. Sometimes demand-deficient unemployment is called "cyclical," but "demand-deficient" is preferred here because the experience of the 1970s as well as that of prewar years shows clearly that demand deficient unemployment may extend well beyond the recession phase of business cycles. The first three types of unemployment can be regarded as a normal feature of the labour market and when added together constitute the "full employment rate of unemployment."

The Beveridge Definition of Full Employment

Full employment norms were first quantified by Beveridge in his wartime report which had such a major impact on postwar macro-economic policy goals and instruments.[10] Beveridge's theoretical ideas in 1944 were largely based on those of Keynes, and his main aim was to eliminate demand-deficient unemployment by fiscal policy. His postulated full employment rate of unemployment (FEUR) was 3 percent of the labour force. This figure was regarded as ambitious at the time and was based on rather pragmatic guesswork. In his text (pp. 127–129), Beveridge allocates 1 percent unemployment to seasonal factors, 1 percent to frictional, and 1 percent to fluctuations in international trade. In fact, the latter component can be considered either as part of structural unemployment or as an element of cyclical unemployment. Beveridge's taxonomy of unemployment in the text of his book is rather puzzling because it differs from the treatment in his Appendix D (pp. 408–410) where he mentions structural unemployment, but not unemployment due to fluctuations in international trade. His original 1909 study of unemployment which was mainly concerned with the excessive seasonal and frictional variations which might be

[9]See F. T. Blackaby, The Target Rate of Unemployment, in G. D. N. Worswick, ed., *The Concept and Measurement of Unemployment*, Allen and Unwin, London, 1976 for a review of British official policy targets. In France and Germany official policy has generally not included explicit unemployment targets.

[10]See W. H. Beveridge, *Full Employment in A Free Society*, Allen and Unwin, London, 1944.

mitigated by the creation of Labour Exchanges, also had essentially the same classification as his 1944 Appendix D.[11]

Keynes' Concern with Involuntary Unemployment and Fuzziness on Voluntary Unemployment

Keynes in his analysis of unemployment was not concerned with specific FEUR targets. His aim was to provide a theoretical explanation of "involuntary" unemployment, the existence of which neoclassical economists had denied. Pigou for instance had argued that unemployment was voluntary and was caused by people holding out for unrealistically high wages, rather than by deficiency of aggregate demand. In the 1930s, unemployment was so high that detailed argument about the components of FEUR did not seem too relevant. As a result, the demarcation between voluntary and involuntary unemployment is embarrassingly vague in Keynes' analysis, as was recently admitted by Lord Kahn, Keynes' disciple.[12]

Search Theories of Frictional Unemployment

This gap in unemployment analysis has been filled in recent years by the new microeconomics of unemployment, which can be viewed either as a complement to neo-classical analysis, in that it explains why unemployment is positive even in a long run equilibrium situation, or as filling the gap in Keynesian analysis (which Beveridge filled on a purely pragmatic basis) because it identifies that portion of unemployment which policy should accept.

The new microeconomics is mainly concerned with the rationality of job search unemployment, in that it explains why unemployed people do not take the first job offered, why younger people have higher unemployment rates than older people etc.[13] It explains why more generous unemployment insurance (in the sense of wider coverage or an increase in the net benefit/net wage position) reduces the cost of job search, and leads to longer spells and higher rates of unemployment. It also explains why an increase in the proportion of secondary wage earners (young people and women) in the labour force will tend to raise the average unemployment rate for frictional reasons, as these people tend to go in and out of the labour force and to have more spells of unemployment than prime age males. This body of literature has greatly illuminated labour market analysis, and demonstrates the usefulness of having data on gross flows into and out of unemployment with detailed data on average duration and length of completed spells of unemployment, broken down by age and sex.[14] The quantitative

[11]See W. H. Beveridge, *Unemployment: A Problem of Industry*, Longmans Green, London, 1909, p. 13.

[12]See his contribution to G. D. N. Worswick, ed., *The Concept and Measurement of Involuntary Unemployment*, Allen and Unwin, London, 1976.

[13]See E. S. Phelps, ed., *Microeconomic Foundations of Employment and Inflation Theory*, Macmillan, London, 1970.

[14]See T. F. Cripps and R. J. Tarling, Duration of Male Unemployment in Great Britain, 1932–1973, *Economic Journal*, June 1974, and R. F. Fowler, *The Duration of Unemployment on the Register of Wholly Unemployed*, H.M.S.O., London, 1968.

conclusions about how much extra frictional unemployment is induced by extended unemployment insurance or changing demographic structures is still a matter for interpretation and disagreement,[15] but there is no doubt of the value of more detailed data in sharpening analysis in this domain.

In principle, frictional unemployment is necessary for economic efficiency and individual welfare. There is no hope of eliminating it. All the unemployment service can do is to provide information which increases the transparency and fluidity of labour markets. What appears in the statistics as the annual proportion of unemployment is only the tip of the frictional iceberg. In 1975, about 1 million people in Great Britain were registered unemployed on average for the year, but about 4.6 million new registrations occurred in the course of the same year. In France between 1971 and 1976, the number of annual spells of unemployment was three to five times larger than the average stock of unemployed. In Germany in 1975, the number experiencing unemployment was about three and a half times greater than the average stock for the year.[16] Most people entering unemployment did so for a brief spell and then stayed in a job. These are frictionally unemployed. Unemployment for long periods, or for persons who have repeated brief spells is not frictional.[17]

Seasonal Unemployment

This is a minor category of unemployment in present circumstances. Analytically it lies somewhere between frictional and structural. It can be squeezed down to residual levels by policy action and by the dynamics of a labour market with a long experience of full employment, but it cannot be eliminated and is not an important source of policy concern.

Seasonal unemployment was very roughly targetted at 1 percent of the labour force by Beveridge, by adjustment of estimates by Saunders. Saunders estimated

[15]See H. Gruebel and M. A. Walker, eds., *Unemployment Insurance: Global Evidence of its Effects on Unemployment*, Fraser Institute, Vancouver, 1978 for a theoretical exposition, an international comparison and country studies including five papers on postwar unemployment in individual EEC countries (including France and Germany). For the U.K., there are more studies than for France and Germany. M. Scott and R. A. Laslett, *Can We get Back to Full Employment*?, Macmillan, London, 1978 is a recent extensive discussion with rather high estimates of the increment in frictional unemployment. Lower estimates are presented by S. J. Nickell, The Effect of Unemployment and Related Benefits on the Duration of Unemployment, *Economic Journal*, March 1979. It should be noted that none of these estimates imply that increased unemployment for this reason is undesirable.

[16]See P. Gutman, Spells of Unemployment and Their Average Duration, mimeographed, 1976 and L. Reyher, M. Koller and B. Spitznagel, *Beschaftigungspolitische Alternativen zur Arbeitslosigkeit*, I.A.B., Nuremberg, April 1979. It should be noted that there is also a good deal of frictionless job change. In U.K. manufacturing in 1976, 24.3 percent of employees left their jobs and the same proportion received new jobs. Many of them did so without becoming unemployed, see *British Labour Statistics, Yearbook 1976*, H.M.S.O., London, p. 174 for the figures.

[17]The exact definition of frictional unemployment is a matter of pragmatic judgement on which opinions may differ, particularly when job search is lengthened by higher unemployment benefits. It is also clear that if it is defined simply as unemployment below a certain time span, that it will be affected by cyclical influences. The nearest approach to an official estimate of frictional unemployment I have found is the response of the US Bureau of Labor Statistics to Senator Humphrey's request for such a figure, see *Congressional Record-Senate*, August 10th 1976. This took a 4 week cut-off period in 1975 and found 2.4 percent of the labour force in this category in 1975; 1.4 percent of these were new entrants, 0.4 percent were job leavers, and 0.6 percent were job losers. In European countries the figure is likely to be well below the US figure as unemployment rates for new entrants are a fraction of US rates.

the annual average impact of seasonal unemployment at 1.9 percent of the U.K. labour force in 1924, 2.0 percent in 1928 and 2.3 percent in 1932. In the course of a year he estimated 5–7 percent of the labour force to be affected in some degree by this phenomenon.[18] Saunders' estimate was higher than Beveridge's, but Saunders noted that seasonal unemployment was higher in recessions, so Beveridge's estimates for the full employment situation seemed reasonable. In fact postwar losses of employment for seasonal reasons have averaged a good deal less than 1 percent of the labour force in these countries. If one defines seasonal unemployment as the difference between actual annual average unemployment and what it would have been if the same seasonal conditions had prevailed in each month as in the month when the seasonal adjustment factor was most favourable to employment, then for 1978, seasonal unemployment was 0.6 percent of the labour force in France, 0.5 percent in Germany and 0.3 percent in the U.K.[19] The long run decline in seasonal unemployment is partly due to the fact that high levels of employment reduce the supply of labour to fluctuating trades and force employers there to stabilise their work opportunities, partly to the very big decline in the role of agriculture, and in Germany to the large payments for bad weather and winter time losses in building, which are not classified as unemployment.

Structural Unemployment

Structural unemployment is a greater source of policy concern than frictional or seasonal unemployment because it may last for prolonged periods and cannot be removed by expansionary macro-economic policy.[20] A good deal of structural unemployment arises from the longer term adjustments required by economic change. Each specific structural problem can be mitigated by policy action, but as economic structure is in permanent flux, some degree of structural unemployment is inevitable.[21] It can be due to changes in production techniques (technological unemployment), changes in consumer demand, in industrial location, or to changes in skill requirements. It can equally be caused by certain characteristics of the labour force, e.g. their level of education, the number of handicapped persons etc.

Structural unemployment in this sense is an inevitable concomitant of economic development. The faster the rate of growth, the more structural change there is likely to be. There have been several attempts to measure the pace of structural change in this traditional sense in the 1970s. Most of these have found no accentuation of structural problems in the 1970s. This is true of a study of industrial change in five countries including France, Germany and the U.K. by Turvey. The I.A.B. in Nuremberg found a *decline* in the structural component of unemployment in Germany in the 1970s, when measured either in terms of

[18]See C. Saunders, *Seasonal Variations in Employment*, Longmans Green, London, 1936.

[19]The same method is used to calculate seasonal unemployment by E. G. Gilpatrick, *Structural Unemployment and Aggregate Demand*, Johns Hopkins, 1966.

[20]The classic analysis of structural unemployment is by R. G. Lipsey, in A. M. Ross, ed., *Employment Policy and the Labor Market*, Berkeley, 1965, p. 215.

[21]See A. Maddison, Economic Growth and Structural Change in the Advanced Economies, in Hudson Institute, *Western Economies in Transition*, New York, 1979, for a historical review of structural change and its causes.

regional or occupational mismatch of jobs and vacancies, or in terms of the pace of change in industrial structure. An O.E.C.D. study found no evidence of a worsening in the structural distribution of employment opportunity.[22] No hard evidence has been adduced of rising unemployment due to greater skill mismatches in the 1970s, though changes have occurred in the relative pay of different educational categories. There is little evidence that the structural pattern of unemployment by age and sex has shifted in the recession for structural reasons.

Youth unemployment declined abnormally in the U.K. in 1973 when the school leaving age was raised and thereafter rose rapidly as a share of total registered unemployment, but unemployed youth are now eligible for income maintenance benefits if they register, whereas their incentive to do so was very much smaller in earlier years. In all three countries, policies of job protection for older workers have to some extent damaged the prospects for young people, but this effect can hardly be considered structural.[23]

Neo-Structural Unemployment

In every major recession there is a new crop of structuralist diagnosis and advocacy of structuralist remedies. The incentive to follow such reasoning is all the greater when expansionary macro-policy is so firmly ruled out by the authorities, but when structuralist arguments may succeed in persuading the same authorities to spend a good deal more on selective manpower policies. One must always be rather sceptical of structuralist elements whose onset coincides with a recession.[24] It is true that the 1974–75 recession was strongly influenced by the OPEC oil price hike, but curiously enough the structuralist pundits have given remarkably little weight to energy price changes as a cause of structural unemployment.

In the 1970s, the most sophisticated new element in the "structural" discussion is the argument that rising wages have squeezed profits and forced investment into a labour saving pattern. Scrapping of older capital stock which involved more labour intensive technology is alleged to have created a shortage of capital which makes full employment difficult or impossible to attain. In fact it is

[22]See R. Turvey, Structural Change and Structural Unemployment, *International Labour Review*, September–October 1977; U. Cramer, W. Klauder, D. Mertens, L. Reyher and E. Spitznagel, Zum Problem der Structurellen Arbeitslosigkeit, *Mitteilungen aus der Arbeitsmarkt und Berufsforchung*, 1976, 1. The 1978 O.E.C.D. report *Medium Term Strategy* endorses this evidence as follows (p. 56): "To judge from regional, industrial and occupational differences between unemployment rates, there is no evidence that the dispersion and thus the likelihood of a mismatch between supply and demand patterns has increased during the recent recession." Elsewhere it strikes a discordant note. (Chapter I and Annex II).

[23]The O.E.C.D. diagnosis of youth unemployment rejects "structuralist" interpretations of the phenomenon, see *Youth Unemployment*, Vol. I, O.E.C.D., Paris, 1978, p. 49.

[24]There is a recurrent tendency, when actual economic growth falls significantly below potential, for structural problems to be rediscovered or reemphasized. Concern with structural problems is in fact a cyclical phenomenon.—It has been given considerable emphasis in interpretations of prewar European and particularly of British problems, see I. Svennilson, *Growth and Stagnation of the European Economy*, E.C.E., Geneva, 1954. It was given great emphasis in the discussion of automation in the Eisenhower years in the U.S.A. For a critique of such views see R. M. Solow, *The Nature and Sources of Unemployment in the United States*, Almquist and Wiksell, Stockholm, 1964, and the contributions of Solow and Okun to E. Ginzberg. *Jobs for Americans*, Prentice-Hall, New Jersey, 1976.

not possible to determine empirically what portion of investment is labour saving, or indeed what the rate of scrapping is, and it is also unlikely that productive technology is so inflexible as to make such a capital shortage plausible when the capital stock is generally underutilized. However, this neostructuralist argument has been advanced in all seriousness in a recent O.E.C.D. report and it has gained official endorsement in the Netherlands where the argument has been developed in its most elaborate form.[25]

The policy implication of this type of argument is a squeeze on wages by union restraint or a boost to profits by tax privileges. It is in fact an econometric variant of the old neo-classical argument that unemployment is caused by excessive wage demands, except that it is more extreme, in that wage restraint is not expected to provide a solution until the capital stock has had time to change its characteristics.[26]

One structural change which has caused concern for its productivity implications is the phenomenon of deindustrialisation. The most buoyant sector in terms of output and employment is the service sector which has slow productivity growth. It is not clear why this should exacerbate the unemployment problem. The reverse could rather be expected. However, the recent O.E.C.D. *Medium Term Strategy* report (p. 33) argues that this phenomenon contributes to unemployment because it is alleged that the service sector differs from other sectors because it recruits a large proportion of its new employees from outside the ranks of the unemployed. But, in fact, the sectoral patterns of recruitment do not vary much by sector.[27]

Demand Deficient Unemployment

In this paper, no attempt has been made to produce a refined estimate of the full employment rate of unemployment (FEUR), because the main point here is to emphasise the non-unemployment components of labour slack. As explained above, we have simply taken the 1973 levels of unemployment to represent FEUR, and have included only the excess of actual unemployment above this figure as a component of labour slack. Within FEUR, there are three components of which the frictional is the biggest. In passing, it should be noted that the German FEUR of 1 percent is much lower than the 2.7 percent for France and 2.9 percent for the U.K. for three reasons (a) Germany treats most seasonal unemployment as employment; (b) unemployment of new entrants is much lower

[25]See H. den Hartog and H. S. Tjan, Investments, Wages, Prices and Demand for Labour, A Clay–Clay Vintage Model for the Netherlands. *De Economist*, 1976, 1/2 Issue.

[26]For detailed criticism of the structuralist arguments, see W. Driehuis, Capital-Labour Substitution and Other Potential Determinants of Structural Employment and Unemployment, O.E.C.D., *Structural Determinants of Employment and Unemployment*, Paris 1979; F. H. Gruen, Structural Unemployment as a Rival Explanation—A Survey of an Inconclusive Argument, in H. Giersch, ed., *Capital Shortage and Unemployment in the World Economy*, Mohr, Tubingen, 1978, and R. A. de Klerk, H. B. M. van der Laan and K. B. T. Thio, Unemployment in the Netherlands: A Criticism of the den Hartog–Tjan Vintage Model, *Cambridge Journal of Economics*, 1977, I, pp. 291–306.

[27]The EEC *Labour Force Sample Survey* for 1975, pp. 132–7, shows that of new entrants into each sector since the previous year in France, 92.5 percent of those recruited for services were not from the ranks of the unemployed, 92.1 percent in industry, and 95.5 percent in agriculture. On the general theme of deindustrialisation, see F. Blackaby, *De-Industrialisation*, Heinemann, London, 1979.

in Germany than in the other countries because of the close link between school and work for teenagers; (c) the use of foreign workers as a buffer cuts down the unemployment level.

Our approach to FEUR is not very different from that of Beveridge's 1944 Keynesianism. In recent years there has been a resurgence of neoclassic theories which seek to extend the range of unemployment which is considered to be voluntary. The neostructuralist argument is only one example of this line of argument. Virtually all of these theories contend that unemployment is due to high or sticky wage levels and the causal role of deficient demand is rejected. "All these new theories of employment and unemployment start from the neoclassical assumption that there exists a market-clearing real wage. If the labour market appears in fact not to clear, it must then, in a rational world, be because labour *chooses* to price its services so as to maintain an excess of supply over demand. In search models, labour does so in order to spend time productively searching, in the contract theories, so that it can buy more wage stability than the market would otherwise provide. In the non-market clearing models it is true that unemployment is involuntary, but this is not taken by the most up-to-date theorists as grounds for thereby turning away from such models—the unemployed are in that state involuntarily, but the blame is due to other participants in the labour market keeping wages too high."[28]

In the 1973-78 period the deficiency of demand which led to increased unemployment was deliberately contrived by government macro-policy which in most cases has been seeking thereby to ease inflationary pressures or balance of payments problems. Phillips curve analysis has been influential in government policy making over a good part of the postwar period, and in the 1970s, as the pace of inflation accelerated it was felt that a higher unemployment trade-off was required. This change in policy attitudes is illustrated in a speech by the British Prime Minister in September 1976: "It used to be thought that a nation could just spend its way out of recession and increase employment by cutting taxes and boosting government spending. I tell you in all candour that that option no longer exists. In so far as it existed in the past, it had always led to a bigger dose of inflation followed by a higher level of unemployment."[29]

Thus there has been a move of policy in a "monetarist" direction in France and the U.K., with a closer convergence towards views which have always been stronger in German macro-economic policy than in the other two countries. The monetarist goal is a non-accelerating rate of inflation, and a "natural" but unspecified level of unemployment. In fact, the peak rate of price increase occurred in 1975, and between then and 1978, prices were decelerating, so that on monetarist criteria, unemployment was above the natural rate. In fact, policy has been more ambitious. Non-accelerating inflation was not enough. There was an attempt to return to "acceptable" but not always clearly specified rates of price increase and to let unemployment rise above the natural rate, whilst converting as much unemployment as possible into less overt forms of labour slack.

[28]T. Hazeldine, Employment Functions and the Demand for Labour in the Short-Run, Economic Council of Canada, mimeographed, August 1979.

[29]Quoted by M. Scott and R. A. Laslett, *Op. cit.*, p. 1.

By the end of 1978, after five years of cautious macro policy it seemed that the economic situation was ripe for reduction of unemployment by more expansionary policy. The pace of price increases had decelerated below previous peaks, the current balance was positive in all three countries and all of them had bigger exchange reserves than in 1973. However, inflation and balance of payments difficulties have reemerged because of the O.P.E.C. price increases in 1979, so the outlook is again one of below-potential growth and increasing labour slack.

It is clear from the foregoing that designation of a full employment rate of unemployment is a controversial issue. To characterise the whole of our fourth component of unemployment as "demand deficient" may be somewhat anachronistic, but it is the part of unemployment which might be removable by more successful macro policy (including incomes policies), as distinct from the three other components (seasonal, frictional and structural) which can only be mitigated by labour market or regional policies.

Tables F-1 to F-4, G-1 to G-4, and U-1 to U-4 constitute the proposed minimal set of accounts for labour market monitoring. Tables F-5, G-5 and U-5 summarise the use-of-potential analysis.

Table

F-1 Labour Force, Population of Working Age and Activity Rates in France 1960–78.

F-1b Foreigners in Population, Labour Force, Employment and Unemployment in France 1970–78.

F-2 Employment, Unemployment and Employment Rates by Sex in France 1960–78.

F-3 Average Allocation of Days per Year per Employee in France 1960–78.

F-4 Hours Worked per Person and Total Hours Worked in France 1960–78.

F-5 Comparison of Actual and Potential Labour Input in France 1973–78.

G-1 Labour Force, Population of Working Age and Activity Rates in Germany 1960–78.

G-1b Foreigners in Population, Labour Force, Employment and Unemployment in Germany 1960–78.

G-2 Employment, Unemployment, and Employment Rates by Sex in Germany 1960–78.

G-3 Average Allocation of Days Per Year Per Employee in Germany 1960–78.

G-4 Hours Worked Per Person and Total Hours Worked in Germany 1960–78.

G-5 Comparison of Actual and Potential Labour Input in Germany 1973–78.

U-1 Labour Force, Population of Working Age and Activity Rates in the U.K. 1960–78.

U-2 Employment, Unemployment and Employment Rates by Sex in U.K. 1960–78.

U-3 Average Allocation of Days per Year per Employee in the U.K. 1960–78.

U-4 Hours Worked per Person and Total Hours Worked in U.K. 1960–78.

U-5 Comparison of Actual and Potential Labour Input in the U.K. 1973–78.

TABLE F-1

LABOUR FORCE, POPULATION OF WORKING AGE AND ACTIVITY RATES IN FRANCE, 1960–78

	Total Labour Force (All ages) (000s)	Total Population Aged 15–64 (000s)	Activity Rate (Col. 1 ÷ 2) (Percent)	Male Labour Force (All ages) (000s)	Male Population Aged 15–64 (000s)	Male Activity Rate (Col. 4 ÷ 5) (Percent)	Female Labour Force (All ages) (000s)	Female Population Aged 15–64 (000s)	Female Activity Rate (Col. 7 ÷ 8) (Percent)
1960	19,723	28,319	67.3	13,014	14,058	92.6	6,709	14,261	47.0
1961	19,694	28,552	68.8	13,063	14,202	92.0	6,631	14,350	46.2
1962	19,737	29,138	67.7	13,212	14,527	90.9	6,525	14,611	44.7
1963	19,989	29,736	67.2	13,476	14,847	90.8	6,513	14,889	43.7
1964	20,080	30,072	66.8	13,629	15,021	90.7	6,451	15,051	42.9
1965	20,236	30,368	66.6	13,734	15,173	90.5	6,501	15,195	42.8
1966	20,267	30,618	66.2	13,579	15,302	88.7	6,688	15,316	43.7
1967	20,316	30,840	65.9	13,429	15,417	87.1	6,887	15,423	44.7
1968	20,495	31,071	66.0	13,342	15,540	85.8	7,153	15,531	45.7
1969	20,687	31,348	66.0	13,281	15,702	84.6	7,406	15,646	47.3
1970	20,903	31,666	66.0	13,223	15,894	83.2	7,680	15,772	48.7
1971	21,044	31,978	65.8	13,257	16,073	82.5	7,787	15,905	49.0
1972	21,375	32,269	66.2	13,402	16,236	82.5	7,973	16,033	49.7
1973	21,574	32,550	66.3	13,465	16,397	82.1	8,109	16,153	50.2
1974	21,878	31,826	68.7	13,578	16,556	82.0	8,300	16,270	51.0
1975	22,052	33,041	66.7	13,567	16,681	81.3	8,485	16,360	51.9
1976	22,216	33,402	66.5	13,572	16,753	81.0	8,644	16,649	51.9
1977	22,522	33,762	66.7	13,653	16,824	81.2	8,869	16,938	52.4
1978	22,603	33,944	66.6	13,689	16,915	80.9	8,914	17,029	52.3

TABLE F-1b

FOREIGNERS IN POPULATION, LABOUR FORCE, EMPLOYMENT, AND UNEMPLOYMENT IN FRANCE, 1970–78

	Foreign Population Aged 15–64 (000s)	Foreign Labour Force (000s)	Foreign Activity Rate (Percent)	Foreigners As Percent of Labour Force	Foreigners Employed (000s)	Foreigners Unemployed (000s)
1970	1,628	1,140	70.0	5.5	1,112	28
1971						
1972						
1973	1,746	1,195	68.4	5.5	1,163	32
1974	1,818	1,260	69.3	5.8	1,226	34
1975	1,931	1,377	71.3	6.2	1,307	70
1976	2,055	1,432	69.7	6.4	1,338	94
1977	2,205	1,550	70.3	6.9	1,447	103
1978	2,284	1,518	66.5	6.7	1,395	123

TABLE F-2

EMPLOYMENT, UNEMPLOYMENT, AND EMPLOYMENT RATES BY SEX IN FRANCE, 1960–78

	Employment (000s)	Unemployment (000s)	Employment as Percent of Labour Force	Male Employment (000s)	Male Unemployment (000s)	Male Employment as Percent of Male Labour Force	Female Employment (000s)	Female Unemployment (000s)	Female Unemployment as Percent of Labour Force
1960	19,343	380	98.1	12,879	135	99.0	6,464	245	96.4
1961	19,346	348	98.2	12,934	129	99.0	6,412	219	96.7
1962	19,414	323	98.4	13,085	127	99.0	6,329	196	97.0
1963	19,686	303	98.5	13,338	138	99.0	6,348	165	97.5
1964	19,744	336	98.3	13,489	140	99.0	6,255	196	97.0
1965	19,913	323	98.4	13,595	139	99.0	6,317	184	97.2
1966	19,888	379	98.3	13,426	153	98.9	6,462	226	96.6
1967	19,930	386	98.1	13,253	176	98.7	6,677	210	97.0
1968	20,024	471	97.7	13,149	193	98.6	6,875	278	96.1
1969	20,231	456	97.8	13,096	185	98.6	7,135	271	96.3
1970	20,393	510	97.6	13,030	193	98.5	7,363	317	95.9
1971	20,475	569	97.3	13,042	215	98.4	7,433	354	95.5
1972	20,780	595	97.2	13,172	230	98.3	7,607	366	95.4
1973	20,998	576	97.3	13,252	213	98.4	7,746	363	95.5
1974	21,263	615	97.2	13,352	226	98.3	7,911	389	95.3
1975	21,150	902	95.9	13,178	389	97.1	7,972	513	94.0
1976	21,223	993	95.5	13,170	402	97.0	8,053	591	93.2
1977	21,389	1133	95.0	13,193	460	96.6	8,196	673	92.4
1978	21,416	1187	94.8	13,184	505	96.3	8,232	682	92.4

TABLE F-3

AVERAGE ALLOCATION OF DAYS PER YEAR PER EMPLOYEE IN FRANCE, 1960–78

	Days Per Year	Free Sundays Per Year	Free Saturdays Per Year	Public Holidays	Days of Vacation	Days of Incapacity	Days Lost Through Bad Weather	Days Lost For Personal Reasons	Time Lost Through Industrial Disputes	Days Worked
1960	366	52	53	10.0	18	13.18	1	1.77	0.057	216.99
1961	365	53	51	10.0	18	13.22	1	1.73	0.139	216.91
1962	365	52	52	10.0	18	13.30	1	1.70	0.101	216.90
1963	365	52	52	10.0	18	13.36	1	1.66	0.303	216.68
1964	366	52	52	10.0	18	13.52	1	1.62	0.131	217.73
1965	365	52	52	10.0	18	13.52	1	1.58	0.050	216.85
1966	365	52	53	10.0	24	13.64	1	1.55	0.128	209.68
1967	365	53	52	10.0	24	13.69	1	1.51	0.213	209.59
1968	366	52	52	10.0	24	13.80	1	1.47	7.344	204.39
1969	365	52	52	10.0	24	13.25	1	1.44	0.111	211.20
1970	365	52	52	10.0	24	13.28	1	1.40	0.086	211.23
1971	365	52	52	10.0	24	13.17	1	1.36	0.216	211.25
1972	366	53	53	10.0	24	13.51	1	1.32	0.184	209.99
1973	365	52	52	10.0	24	13.67	1	1.29	0.189	210.85
1974	365	52	52	10.0	24	13.74	1	1.25	0.162	210.85
1975	365	52	52	10.0	24	14.50	1	1.21	0.199	210.09
1976	366	52	52	10.0	24	13.96	1	1.18	0.242	211.62
1977	365	52	53	10.0	24	13.56	1	1.14	0.177	210.12
1978	365	53	52	10.0	24	13.59	1	1.10	0.177	210.13

TABLE F-4

HOURS WORKED PER PERSON AND TOTAL HOURS WORKED IN FRANCE 1960–78

	Average Hours Worked Per Employee In Weeks Unaffected by Absence	Average Hours Worked Per Employee Per Day (Assuming 5 Day Week)	Average Hours Worked Per Employee Year	Total Hours Worked Per Year (million)
1960	45.7	9.14	1983.3	38,363
1961	45.9	9.18	1991.2	38,522
1962	46.1	9.22	1999.8	38,825
1963	46.1	9.22	1997.8	39,328
1964	45.9	9.18	1998.8	39,464
1965	45.6	9.12	1977.7	39,381
1966	45.8	9.16	1920.7	38,198
1967	45.5	9.10	1907.3	38,011
1968	45.2	9.04	1847.7	36,998
1969	45.1	9.02	1905.0	38,540
1970	44.7	8.94	1888.4	38,510
1971	44.3	8.86	1871.7	38,323
1972	44.9	8.98	1885.7	39,185
1973	43.4	8.68	1830.2	38,430
1974	42.9	8.58	1809.1	38,467
1975	42.1	8.42	1769.0	37,414
1976	41.8	8.36	1769.1	37,546
1977	41.4	8.28	1739.8	37,212
1978	41.1	8.22	1727.3	36,991

Source Notes for French Tables

Table F-1

Labour force 1963–78 estimated by linking annual data from INSEE *Enquetes sur l'Emploi* to benchmark estimates in the censuses of 1962, 1968, 1975. 1960, 1961 and 1962 from G. Bloch and M. Praderie, *La Population Active dans les Pays Developpés*, Cujas, Paris, 1966 (linked to 1954 and 1962 censuses). The figures refer to March of each year. Population aged 15–64 by sex from Eurostat, *Population et Emploi*, 1950/76, Brussels 1977, 1977 from *Telegramme Statistique*, Eurostat, 25th October 1978, and 1978 from INSEE, *Comptes de la Nation*, 1978, Vol. II. The population figures refer to the midyear situation.

Table F-1b

Labour, force, employment and unemployment from INSEE, *Enquetes sur l'Emploi*, and refer to the situation in March of each year.

Table F-2

Unemployment 1970–78 estimates from INSEE, *Comptes de la Nation de l'Année 1978*, Vol. II, p. 67. These estimates are based on the ILO definition of unemployment[1] which has been used by INSEE since 1973 in its labour force survey (annual in March to 1977, since when it has been conducted twice yearly, in

[1]See I.L.O., *International Recommendations on Labour Statistics*, Geneva, 1976, pp. 28–32.

TABLE F-5

COMPARISON OF ACTUAL AND POTENTIAL LABOUR INPUT IN FRANCE, 1973–78

	Actual Weekly Hours Worked Per Employee	Trend Weekly Hours Worked Per Employee	Actual Daily Hours Worked Per Employee	Potential Daily Hours Per Employee	Actual Days Worked Per Year	Actual Annual Hours Worked Per Person	Potential Annual Hours Worked Per Person	Ratio of Actual to Potential Annual Hours Worked Per Person
1973	43.4	43.4	8.68	8.68	210.85	1830.2	1830.2	100.00
1974	42.9	43.1	8.58	8.62	210.85	1809.1	1817.5	99.54
1975	42.1	42.8	8.42	8.56	210.09	1769.0	1798.4	98.37
1976	41.8	42.6	8.36	8.52	211.62	1769.1	1803.0	98.12
1977	41.4	42.3	8.28	8.46	210.12	1739.8	1777.6	97.87
1978	41.1	42.1	8.22	8.42	210.13	1727.3	1769.3	97.63

	Actual Labour Force (000s)	Potential Labour Force (000s)	Ratio of Actual to Potential Labour Force	Actual Employment Rate	Potential Employment Rate	Ratio of Actual to Potential Employment Rate	Actual Total Hours Worked (Millions)	Potential Total Hours Worked (Millions)	Ratio of Actual to Potential Labour Input
1973	21,574	21,574	100.00	97.3	97.3	100.00	38,430	38,430	100.00
1974	21,878	21,878	100.00	97.2	97.3	99.90	38,467	38,689	99.43
1975	22,052	22,052	100.00	95.9	97.3	98.56	37,414	38,588	96.96
1976	22,216	22,216	100.00	95.5	97.3	98.15	37,546	38,974	96.34
1977	22,522	22,522	100.00	95.0	97.3	97.64	37,212	38,954	95.53
1978	22,603	22,685	99.64	94.8	97.3	97.43	36,991	39,053	94.72

March and October). For years before 1973, the labour force surveys used the French census definition of unemployment which was slightly lower than that of I.L.O. For the years 1960–69, the estimates were made by R. Granier on the basis of the relationship observed for 1970–78 between the different sources. The estimates are an annual average which is derived by applying the relationship of the March labour force survey figure and the unemployment registration figure for that month to the monthly registration figures. Employment is derived by deducting unemployment from the labour force as shown in Table F-1. This leads to slight error as the labour force figures refer to March and the unemployment figures are annual averages.

Table F-3

The first 3 columns are self-explanatory. Columns 4 and 5 from Eurostat, *Indicateurs Sociaux pour la Communaute Europeenne, 1960–1975* (Serie "Statistiques Sociales"), 1976.

Column 6 refers to the number of days of absence compensated for sickness, maternity and work accidents from Caisse Nationale d'Assurance Maladie, *Resultats Statistiques*, 1977 edition for 1968–77, and 1978 edition for 1978. The 1960–67 figures are estimates by R. Granier.

Column 7. No figures were available and one day a year is assumed here *pro memoria* as a rough order of magnitude.

Column 8 estimates are available only for 1951 and 1974 (see INSEE, *Statistiques Sociales*, 1978, p. 104). The column shown here is based on interpolation and extrapolation of these benchmark figures.

Column 9. Official Ministry of Labour estimates.

Table F-4

First column. Weekly hours worked (horaires affichés) by wage and salary workers in most private sectors of the economy (as collected annually by INSEE from employers), see INSEE, *Donnes Sociales*, 1978, Table 57, p. 95 for 1960–76, and *Rapport sur les Comptes de la Nation de l'Annee 1978*, Vol. II, p. 65 for 1977–78. Second column equals first divided by 5. Column 3 is column 2 multiplied by last column of Table F-3, column 4 is column 3 multiplied by employment. Hours figures are the annual average of quarterly employer returns.

TABLE G-1

LABOUR FORCE, POPULATION OF WORKING AGE AND ACTIVITY RATES IN GERMANY, 1960–78

	Total Labour Force (All ages) (000s)	Total Population Aged 15–64 (000s)	Activity Rate (Col. 1 ÷ 2) (Percent)	Male Labour Force (All ages) (000s)	Male Population Aged 15–64 (000s)	Male Activity Rate (Col. 4 ÷ 5) (Percent)	Female Labour Force (All ages) (000s)	Female Population Aged 15–64 (000s)	Female Activity Rate (Col. 7 ÷ 8) (000s)
1960	26,351	37,697	69.9	16,555	17,598	94.1	9,796	20,099	48.7
1961	26,622	37,735	70.5	16,770	17,670	94.9	9,852	20,065	49.1
1962	26,689	37,958	70.3	16,855	17,869	94.3	9,834	20,089	49.0
1963	26,782	38,063	70.4	16,927	17,988	94.1	9,855	20,075	49.1
1964	26,787	38,175	70.2	16,984	18,098	93.8	9,803	20,077	48.8
1965	26,916	38,350	70.2	17,102	18,261	93.7	9,814	20,089	48.9
1966	26,847	38,411	69.9	17,130	18,323	93.5	9,717	20,088	48.4
1967	26,276	38,141	68.9	16,801	18,141	92.6	9,475	20,000	47.4
1968	26,162	37,987	68.9	16,694	18,064	92.4	9,468	19,923	47.5
1969	26,419	38,219	69.1	16,871	18,263	92.4	9,548	19,956	47.8
1970	26,719	38,602	69.2	17,106	18,574	92.1	9,613	20,028	48.0
1971	26,824	38,966	68.8	17,170	18,856	91.1	9,654	20,110	48.0
1972	26,826	39,224	68.4	17,129	19,047	89.9	9,697	20,177	48.1
1973	26,921	39,509	68.1	17,082	19,262	88.7	9,840	20,247	48.6
1974	26,737	39,654	67.4	16,870	19,370	87.1	9,868	20,284	48.6
1975	26,340	39,606	66.5	16,358	19,344	85.5	9,803	20,262	48.4
1976	26,093	39,592	65.9	16,338	19,356	84.4	9,756	20,236	48.2
1977	26,023	39,732	65.5	16,229	19,471	83.3	9,794	20,261	48.3
1978	26,153	39,849	65.6	16,304	19,528	83.5	9,849	20,321	48.5

TABLE G-1b

FOREIGNERS IN POPULATION, LABOUR FORCE, EMPLOYMENT, AND UNEMPLOYMENT IN GERMANY, 1960–78

	Foreign Population Aged 15–64 (000s)	Foreign Labour Force (000s)	Foreign Activity Rate (Percent)	Foreigners As Percent of Labour Force	Foreigners Employed (000s)	Foreigners Unemployed (000s)
1960		302		1.1	301	1
1961		502		1.9	501	1
1962		662		2.5	663	1
1963	927	810	87.4	3.0	808	2
1964	1,076	941	87.5	3.5	939	2
1965	1,312	1,160	88.4	4.3	1,158	2
1966	1,460	1,289	88.3	4.8	1,285	4
1967	1,245	1,073	86.2	4.1	1,057	16
1968	1,230	1,070	87.0	4.1	1,064	6
1969	1,541	1,417	91.9	5.4	1,414	3
1970	1,944	1,863	95.8	7.0	1,858	5
1971	2,320	2,195	94.6	8.2	2,183	12
1972	2,598	2,360	90.8	8.8	2,343	17
1973	2,871	2,580	89.9	9.6	2,560	20
1974	2,997	2,517	83.9	9.4	2,448	69
1975	2,884	2,284	79.2	8.7	2,133	151
1976	2,765	2,108	76.2	8.1	2,002	106
1977	2,842	2,046	72.0	7.9	1,954	92
1978	2,739	2,025	73.9	7.7	1,928	97

TABLE G-2

EMPLOYMENT, UNEMPLOYMENT, AND EMPLOYMENT RATES BY SEX IN GERMANY, 1960–78

	Employment (000s)	Unemployment (000s)	Employment as Percent of Labour Force	Male Employment (000s)	Male Unemployment (000s)	Male Employment as Percent of Male Labour Force	Female Employment (000s)	Female Unemployment (000s)	Female Employment as Percent of Labour Force
1960	26,080	271	99.0	16,377	178	98.9	9,703	93	99.1
1961	26,441	181	99.3	16,652	118	99.3	9,789	63	99.4
1962	26,534	155	99.4	16,752	103	99.4	9,782	52	99.5
1963	26,596	186	99.3	16,797	130	99.2	9,799	56	99.4
1964	26,618	169	99.4	16,869	115	99.3	9,749	54	99.4
1965	26,769	147	99.5	16,996	106	99.4	9,773	41	99.6
1966	26,686	161	99.4	17,014	116	99.3	9,672	45	99.5
1967	25,817	459	98.3	16,466	335	98.0	9,351	124	98.7
1968	25,839	323	98.8	16,459	235	98.6	9,380	88	99.1
1969	26,240	179	99.3	16,746	125	99.3	9,494	54	99.4
1970	26,570	149	99.4	17,013	93	99.5	9,557	56	99.4
1971	26,639	185	99.3	17,069	101	99.4	9,570	84	99.1
1972	26,580	246	99.1	16,989	140	99.2	9,591	106	98.9
1973	26,648	273	99.0	16,932	150	99.1	9,716	124	98.7
1974	26,155	582	97.8	16,545	325	98.1	9,610	258	97.4
1975	25,266	1,074	95.9	15,915	623	96.2	9,351	452	95.4
1976	25,033	1,060	95.9	15,771	567	96.5	9,262	494	94.9
1977	24,993	1,030	96.0	15,711	518	96.8	9,282	512	94.8
1978	25,160	993	96.2	15,815	489	97.0	9,345	504	94.9

TABLE G-3

AVERAGE ALLOCATION OF DAYS PER YEAR PER EMPLOYEE IN GERMANY, 1960–78

	Days Per Year	Free Sundays Per Year	Free Saturdays Per Year	Public Holidays	Days of Vacation	Days of Incapacity	Days Lost Through Bad Weather	Days Lost For Personal Reasons[a]	Time Lost Through Industrial Disputes	Days Worked
1960	366	52	26.50	9.80	15.52	13.90	0.61		0.001	247.67
1961	365	53	28.05	10.00	16.09	14.16	0.77		0.004	242.93
1962	365	52	31.20	11.50	16.67	13.72	1.61		0.021	238.28
1963	365	52	33.80	12.50	17.24	13.42	2.84		0.086	233.11
1964	366	52	36.40	11.10	17.82	12.24	1.51		0.001	234.93
1965	365	52	39.00	9.40	18.35	12.56	1.73		0.002	231.96
1966	365	52	42.40	9.00	18.98	12.35	1.11		0.012	229.15
1967	365	53	44.20	9.95	19.60	10.60	0.92		0.018	226.71
1968	366	52	46.80	12.50	20.13	11.63	1.18		0.001	221.76
1969	365	52	49.40	12.00	20.64	11.92	1.90		0.012	217.13
1970	365	52	52.00	10.90	21.21	13.12	1.76		0.004	214.01
1971	365	52	52.00	8.90	21.77	12.74	1.42		0.196	215.97
1972	366	53	53.00	9.80	22.33	12.69	0.90		0.002	214.28
1973	365	52	52.00	11.50	23.04	13.66	1.06		0.024	211.72
1974	365	52	52.00	12.50	23.67	13.20	0.59		0.048	210.99
1975	365	52	52.00	12.20	24.27	11.97	0.60		0.004	211.96
1976	366	52	52.00	8.90	24.70	12.68	0.99		0.024	214.71
1977	365	52	53.00	8.80	25.30	12.42	0.88		0.001	212.60
1978	365	53	52.00	9.80	26.30	12.54	1.04		0.239	210.08

[a]Pro memoria only. In the case of Germany, deductions for absence of this kind are not necessary as the overtime figure is net of such absence, but its magnitude is not known.

TABLE G-4

HOURS WORKED PER PERSON AND TOTAL HOURS WORKED IN GERMANY, 1960–78

	Basic Weekly Hours Of Full Time Workers	Impact of Part-Time Workers Hours On Average Weekly Hours Worked	Weekly Overtime Hours	Average Weekly Short-Time Hours	Average Weekly Hours Worked per Employee	Average Hours Worked per Employee per Day	Average Hours Worked per Employee per Year	Total Hours Worked per Year (Million)
1960	44.56	−0.45	2.15	−0.00	46.26	8.41	2082.9	54,322
1961	44.46	−0.53	2.02	−0.00	45.94	8.43	2047.9	54,149
1962	44.02	−0.59	2.08	−0.00	45.52	8.43	2008.7	53,299
1963	43.75	−0.65	2.22	−0.00	45.31	8.47	1974.4	52,511
1964	43.13	−0.71	2.50	−0.00	44.94	8.48	1992.2	53,028
1965	42.82	−0.76	2.71	−0.00	44.78	8.53	1978.6	52,965
1966	42.55	−0.79	2.60	−0.01	44.36	8.53	1954.6	52,160
1967	42.18	−0.83	2.44	−0.08	43.73	8.49	1924.8	49,692
1968	42.10	−0.86	3.12	−0.01	44.37	8.70	1919.3	49,851
1969	41.75	−0.93	3.75	−0.00	44.54	8.82	1915.1	50,252
1970	41.49	−1.06	4.13	−0.01	44.55	8.91	1906 8	50,664
1971	41.14	−1.12	3.63	−0.04	43.60	8.72	1883.3	50,169
1972	41.02	−1.23	3.45	−0.04	43.20	8.64	1851.4	49,210
1973	40.91	−1.28	3.54	−0.02	43.15	8.63	1827.1	48,689
1974	40.73	−1.27	3.21	−0.15	42.50	8.50	1793.4	46,906
1975	40.32	−1.31	2.76	−0.42	41.35	8.27	1752.9	44,289
1976	40.25	−1.28	2.77	−0.14	41.60	8.32	1786.4	44,719
1977	40.22	−1.37	2.60	−0.12	41.35	8.27	1758.2	43,943
1978	40.18	−1.37	2.55	−0.10	41.25	8.25	1733.2	43,607

TABLE G-5

COMPARISON OF ACTUAL AND POTENTIAL LABOUR INPUT IN GERMANY, 1973–78

	Basic Weekly Hours Per Employee (Full and Part Time)	Net Overtime Worked Per Week	Actual Weekly Hours Worked Per Employee	Potential Weekly Working Hours Per Employee	Actual Daily Hours Per Employee	Potential Daily Hours Per Employee	Actual Days Worked Per Year	Actual Annual Hours Worked Per Person	Potential Annual Hours Per Person	Ratio of Actual to Potential Annual Hours Per Person
1973	39.63	3.52	43.15	43.15	8.63	8.63	211.72	1827.1	1827.1	100.00
1974	39.46	3.06	42.50	42.96	8.50	8.59	210.99	1793.4	1812.4	98.95
1975	39.01	2.34	41.35	42.53	8.27	8.51	211.96	1752.9	1803.8	97.18
1976	38.97	2.63	41.60	42.49	8.32	8.50	214.71	1786.4	1825.0	97.88
1977	38.85	2.48	41.35	42.39	8.27	8.48	212.60	1758.2	1802.8	97.53
1978	38.81	2.45	41.25	42.32	8.25	8.46	210.08	1733.2	1777.3	97.52

	Actual Population Aged 15–64 (Millions)	Potential Population Aged 15–64 (Millions)	Ratio of Actual to Potential Population Aged 15–64 (Percent)	Actual Activity Rate (Percent)	Potential Activity Rate (Percent)	Ratio of Actual to Potential Activity Rate (Percent)	Ratio of Actual to Potential Employment Rate (Percent)	Actual Total Hours Worked (Millions)	Potential Total Hours Worked (Millions)	Ratio of Actual to Potential Labour Input (Percent)
1973	39,509	39,509	100.00	68.1	68.1	100.00	100.00	48,689	48,689	100.00
1974	39,654	39,724	99.82	67.4	67.9	99.26	98.79	46,906	48,397	96.92
1975	39,606	39,935	99.18	66.5	67.6	98.37	96.87	44,289	48,208	91.87
1976	39,592	40,117	98.69	65.9	67.4	97.77	96.87	44,719	48,853	91.54
1977	39,732	40,326	98.53	65.5	67.2	97.47	96.97	43,943	48,366	90.86
1978	39,849	40,466	98.48	65.6	67.0	97.91	97.17	43,607	48,704	91.41

Source Notes for German Tables

All figures cover the Federal Republic and West Berlin.

Table G-1

Midyear population of working age from O.E.C.D. *Labour Force Statistics*, 1978 supplied by O.E.C.D. Secretariat. Labour force data supplied by I.A.B.

Table G-2a

Supplied by IAB. The employment figures refer to people employed in Germany (Beschaftigungsortskonzept or Inlandskonzept) and not to employed people living in Germany (Inländerkonzept). The difference between the two concepts is in practice negligible.

Table G-2b

Supplied by I.A.B.

Table G-3

Derived from I.A.B., H. U. Bach, H. Kohler, L. Reyher and B. Teriet, Arbeitszeit und Arbeitsvolumen in der Bundesrepublik Deutschland 1960–1975, *Mitteilungen* 1/1977, p. 30, to 1975, later data supplied by I.A.B. These estimates are taken from the I.A.B. table showing both hours and days. Time lost through bad weather and industrial disputes is given by I.A.B. in terms of annual hours, it has been converted to days by the implicit I.A.B. coefficient for converting annual hours of overtime into days. There is no entry in column 8 as absence of this kind is caught in the hours figures in Table G-4.

Table G-4

Hours figures derived from I.A.B. *Op. cit.*, daily hours derived by dividing by 5 for 1970–78, by 5.5 in 1960 declining to 5 in 1970. For France and U.K. we assumed a 5 day week throughout, making for higher 1960s hours per day, but the net effect on hours per person per year is zero, because the longer hours per day are offset *pro tanto* by the number of days worked. I.A.B. makes separate estimates of the hours of self-employed persons and family workers (and also breaks down hours by sex and by industry) but we have used the employee hours as a proxy for hours of all persons engaged, in view of the poor quality of data for non-employees. See *Arbeitszeit und Arbeitsvolumen in der Bundesrepublik Deutschland 1960–1975, Beiträge* 23, I.A.B., Nuremberg 1978 for a detailed presentation of I.A.B. hours figures and a description of sources.

TABLE U-1

LABOUR FORCE, POPULATION OF WORKING AGE AND ACTIVITY RATES IN THE U.K., 1960–78

	Total Labour Force (All ages) (000s)	Total Population Aged 15–64 (000s)	Activity Rate (Col. 1÷2) (Percent)	Male Labour Force (All ages) (000s)	Male Population Aged 15–64 (000s)	Male Activity Rate (Col. 4÷5) (Percent)	Female Labour Force (All ages) (000s)	Female Population Aged 15–64 (000s)	Female Activity Rate (Col. 7÷8) (Percent)
1960	24,777	34.195	72.5	16,603	16,815	98.7	8,174	17,380	47.0
1961	24,981	34,384	72.7	16,679	16,946	98.4	8,302	17,438	47.6
1962	25,304	34,644	73.0	16,844	17,119	98.4	8,460	17,525	48.3
1963	25,515	34,864	73.2	16,930	17,256	98.1	8,585	17,608	48.8
1964	25,630	35,038	73.1	16,926	17,393	97.3	8,704	17,645	49.3
1965	25,776	35,120	73.4	16,921	17,446	97.0	8,855	17,679	50.1
1966	25,874	35,145	73.6	16,893	17,455	96.8	8,981	17,690	50.8
1967	25,827	35,104	73.6	16,851	17,424	96.7	8,976	17,680	50.8
1968	25,688	35,046	73.3	16,696	17,401	95.9	8,992	17,645	51.0
1969	25,607	35,101	73.0	16,566	17,390	95.3	9,041	17,611	51.3
1970	25,517	34,948	73.0	16,419	17,369	94.5	9,098	17,579	51.8
1971	25,273	34,956	72.3	16,172	17,394	93.0	9,101	17,562	51.8
1972	25,525	34,971	73.0	16,227	17,413	93.2	9,298	17,558	53.0
1973	25,743	35,030	73.5	16,194	17,457	92.8	9,549	17,573	54.3
1974	25,819	35,050	73.7	16,044	17,487	91.7	9,775	17,563	55.7
1975	25,968	35,085	74.0	16,078	17,524	91.7	9,890	17,561	56.3
1976	26,250	35,199	74.6	16,257	17,596	92.4	9,993	17,603	56.8
1977	26,508	35,339	75.0	16,266	17,674	92.0	10,242	17,665	58.0
1978	26,573	35,533	74.8	16,200	17,796	91.0	10,373	17,737	58.5

TABLE U-2

EMPLOYMENT, UNEMPLOYMENT, AND EMPLOYMENT RATES BY SEX IN U.K., 1960–78

	Employment (000s)	Unemployment (000s)	Employment as Percent of Labour Force	Male Employment (000s)	Male Unemployment (000s)	Male Employment as Percent of Labour Force	Female Employment (000s)	Female Unemployment (000s)	Female Employment as Percent of Labour Force
1960	24,255	552	97.8	16,259	344	97.9	7,966	208	97.5
1961	24,475	506	98.0	16,353	326	98.0	8,122	180	97.8
1962	24,588	716	97.2	16,379	465	97.2	8,209	251	97.0
1963	24,646	869	96.6	16,362	568	96.6	8,284	301	96.5
1964	24,987	643	97.5	16,512	414	97.6	8,475	229	97.4
1965	25,215	561	97.8	16,559	362	97.9	8,656	199	97.8
1966	25,282	592	97.7	16,500	393	97.7	8,782	199	97.8
1967	24,959	868	96.6	16,264	587	96.5	8,695	281	96.9
1968	24,842	846	96.7	16,109	587	96.5	8,733	259	97.1
1969	24,830	777	97.0	16,027	539	96.7	8,803	238	97.4
1970	24,732	785	96.9	15,892	527	96.8	8,840	258	97.2
1971	24,303	970	96.2	15,551	621	96.2	8,752	349	96.2
1972	24,479	1,046	95.9	15,516	711	95.6	8,963	335	96.4
1973	24,993	750	97.1	15,701	493	97.0	9,292	257	97.3
1974	25,068	751	97.1	15,539	505	96.9	9,529	246	97.5
1975	24,903	1,065	95.9	15,356	722	95.5	9,547	343	96.5
1976	24,782	1,468	94.4	15,235	1,022	93.7	9,547	446	95.5
1977	24,858	1,650	93.8	15,200	1,066	93.5	9,658	584	94.3
1978	24,941	1,632	93.9	15,179	1,021	93.7	9,762	611	94.1

TABLE U-3

AVERAGE ALLOCATION OF DAYS PER YEAR PER EMPLOYEE IN THE U.K., 1960–78

	Days Per Year	Free Sundays Per Year	Free Saturdays Per Year	Public Holidays	Days of Vacation	Days of Incapacity	Days Lost for Personal Reasons	Time Lost Through Industrial Disputes	Days Worked
1960	366	52	53	7	12.0	(13.8)	2.0	0.13	226.1
1961	365	53	51	7	12.4	(13.9)	2.0	0.13	225.6
1962	365	52	52	7	12.8	(14.1)	2.0	0.25	224.8
1963	365	52	52	7	13.2	14.2	2.0	0.07	224.5
1964	366	52	52	7	13.6	14.5	2.0	0.10	224.8
1965	365	52	52	7	14.0	15.1	2.0	0.12	222.8
1966	365	52	53	7	14.4	15.1	2.0	0.10	221.4
1967	365	53	52	7	14.8	15.8	2.0	0.12	220.3
1968	366	52	52	7	15.2	16.6	2.0	0.20	221.0
1969	365	52	52	7	15.6	17.1	2.0	0.30	219.0
1970	365	52	52	7	16.0	16.7	2.0	0.49	218.8
1971	365	52	52	7	16.5	16.0	2.0	0.61	218.9
1972	366	53	53	7	17.0	16.3	2.0	1.08	216.6
1973	365	52	52	7	17.5	16.7	2.0	0.32	217.5
1974	365	52	52	7	18.0	16.6	2.0	0.65	216.7
1975	365	52	52	7	18.5	(16.4)	2.0	0.27	216.8
1976	366	52	52	7	19.0	(17.3)	2.0	0.15	216.5
1977	365	52	53	7	19.5	(18.1)	2.0	0.45	212.9
1978	365	53	52	8	20.0	(18.7)	2.0	(0.42)	210.9

TABLE U-4

HOURS WORKED PER PERSON AND TOTAL HOURS WORKED IN U.K., 1960–78

	Basic Weekly Hours of Full Time Workers	Impact of Part-Time Workers' Hours On Total Hours Worked	Weekly Overtime Hours	Average weekly Short-time Hours	Average Weekly Hours worked per Employee	Average Hours Worked per Employee Per Day	Average Hours worked per Employee Per Year	Total Hours worked per Year (Million)
1960			2.42	−0.11	42.28	8.46	1912.8	46,338
1961			2.33	−0.13	41.75	8.35	1883.8	46,106
1962			2.19	−0.19	41.25	8.25	1854.6	45,601
1963			2.32	−0.15	41.37	8.27	1856.6	45,758
1964			2.72	−0.04	41.87	8.37	1881.6	47,016
1965			2.93	−0.07	41.25	8.25	1838.1	46,471
1966			2.87	−0.12	40.27	8.05	1782.2	45,058
1967			2.72	−0.18	40.19	8.04	1771.2	44,207
1968			2.98	−0.05	40.42	8.08	1785.7	44,360
1969			3.10	−0.07	40.42	8.08	1769.5	43,937
1970			3.19	−0.08	39.63	7.93	1735.1	42,912
1971	39.11	−2.67	2.62	−0.20	38.86	7.77	1700.9	41,337
1972	39.06	−2.80	2.67	−0.37	38.56	7.71	1670.0	40,880
1073	39.10	−2.74	3.25	−0.06	39.55	7.91	1720.4	42,998
1974	38.89	−2.82	2.88	−0.63	38.32	7.66	1659.9	41,610
1975	38.67	−2.47	2.52	−0.41	38.31	7.66	1660.7	41,356
1976	38.63	−2.74	2.71	−0.19	38.41	7.68	1662.7	41,205
1977	38.68	−2.85	2.99	−0.16	38.66	7.73	1645.7	40,909
1978	38.60	−2.89	3.01	−0.11	38.61	7.72	1628.1	40,606

TABLE U-5

COMPARISON OF ACTUAL AND POTENTIAL LABOUR INPUT IN THE U.K., 1973–78

	Basic Weekly Hours Per Employee (Full and Part Time)	Net Overtime Worked Per Week	Actual Weekly Hours Worked Per Employee	Potential Weekly Working Hours Per Employee	Actual Daily Hours Per Employee	Potential Daily Hours Per Employee	Actual Days Worked Per Year	Actual Annual Hours Worked Per Person	Potential Annual Hours Worked Per Person	Ratio of Actual to Potential Annual Hours Per Person
1973	36.36	3.19	39.55	39.55	7.91	7.91	217.5	1720.4	1720.4	100.00
1974	36.07	2.25	38.32	39.26	7.66	7.85	216.7	1659.9	1701.1	97.58
1975	36.20	2.11	38.31	39.39	7.66	7.88	216.8	1660.7	1708.4	97.21
1976	35.89	2.52	38.41	39.08	7.68	7.82	216.5	1662.7	1693.0	98.21
1977	35.83	2.83	38.66	39.02	7.73	7.80	212.9	1645.7	1660.6	99.10
1978	35.71	2.90	38.61	38.90	7.72	7.78	210.9	1628.1	1640.8	99.23

	Actual Employment (000s)	Potential Employment (000s)	Ratio of Actual to Potential Employment (Percent)	Actual Total Hours Worked (Millions)	Potential Total Hours Worked (Millions)	Ratio of Actual to Potential Labour Input (Percent)
1973	24,993	24,993	100.0	42,998	42,998	100.00
1974	25,068	25,068	100.0	41,610	42,643	97.58
1975	24,903	25,215	98.76	41,356	43,077	95.96
1976	24,782	25,489	97.23	41,205	43,153	95.49
1977	24,858	25,739	96.58	40,909	42,742	95.71
1978	24,941	25,802	96.67	40,606	42,336	95.91

Source Notes for U.K. Tables

Tables U-1 and U-2

Employment 1960–76 from *British Labour Statistics Yearbook 1976*, HMSO, London, 1978, pp. 122–23, 1977–78 from Department of Employment, *Gazette*. All figures are annual averages of quarterly data. They refer to jobs rather than persons. Total unemployment 1960–78 and by sex 1960–71 supplied by U.S. Bureau of Labor Statistics calculated on the lines described in C. Sorrentino, *International Comparisons of Unemployment*, U.S. Bureau of Labor Statistics, 1978. The B.L.S. estimates differ from the official U.K. figures mainly in respect of female unemployment, which is undercounted in U.K. registrations because married women can opt out of insurance. For 1972 onwards, the B.L.S. figures were not available by sex, so for 1972–78, the U.K. official estimates of male unemployment were used, females being taken as a residual. Midyear population aged 15–64 by sex from O.E.C.D., *Labour Force Statistics* (1961–65 figures slightly revised for consistency with later estimates). Labour force is the sum of employment and unemployment, and the ratios are derived from the absolute figures.

Table U-3

The first three columns are self explanatory. It is assumed that Saturday was a free day throughout, though there was probably some Saturday work in the 1960s. However, error on this score does not affect the final calculation of labour input, as the weekly hours are reduced to a daily basis by dividing by 5. Another assumption about Saturday work would simply mean division of weekly working hours by a different denominator.

For the fourth column, it is assumed that bank holidays which fall at weekends are compensated by reductions in working time elsewhere in the week. The rise from 7 to 8 in 1978 is due to the introduction of May 1st as a bank holiday.

Column 5 on days of paid vacation is pieced together from various sources, including an indication for 1974 from Mr. Kavanagh (Dept. of Employment, letter of 21 May, 1979). Some of the sources are cited in A. Maddison, *Economic Growth in the West*, Allen and Unwin, London, 1964, pp. 227–229. See also, Wages Policy at Home and Abroad, *Westminster Bank Review*, November 1962, p. 33, *New Patterns for Working Time*, O.E.C.D., 1973; E. F. Denison, *Why Growth Rates Differ*, Brookings, 1967, p. 363, and A. A. Evans, *Hours of Work in Industrialized Countries*, I.L.O., Geneva, 1975.

Column 6 on days of incapacity is based on data in F. E. Whitehead, Trends in Certificated Sickness Absence, *Social Trends*, HMSO, No. 2, 1971, pp. 14–15 on total days of incapacity and number of persons at risk derived from social security records. The figure here reflects average days per person at risk adjusted to a calendar year basis. Updated information has been provided by the Dept. of Health and Social Security, and some estimation was required because data on absence were not available for 1975–76 and 1978–79, and the number of persons at risk was not available after 1973–74 or for some of the earlier years. The figures do not cover short spells of incapacity of less than 4 days unless such spells are linked to previous illness, but this understatement may be offset by the fact that Saturdays are counted. There is some evidence on the relative incidence of

certified and uncertified sickness in the New Earnings Survey for April 1970, and an earlier survey for September 1968, see *British Labour Statistics, Historical Abstract 1886–1968*, table 82 and *British Labour Statistics, Yearbook 1970,* Table 63. These suggest that uncertified sickness was quite large (for manual females almost as big as certificated absence), but its importance has probably declined as the scope of sickness insurance has increased. The EEC *Labour Force Sample Survey 1975*, 1976, Luxembourg, 1977 (sic) pp. 110–111 contains estimates of numbers affected by sickness absence (lower than in the estimates used here). They, like the other surveys, refer to only one week of the year. The social security data refer to averages for the year.

Column 7 on days lost through bad weather is omitted here as bad weather absence is covered by the figures for short-time working in Table U-4.

The column on days lost for personal reasons is a necessary entry here as the hours figures in U-4 refer to hours worked by people not affected by absence. The September 1968 survey (quoted in the source note for column 6 above) suggests that hours lost by voluntary absence of manual workers amounted to about 1.9 days a year of working time. The EEC Survey (cited above) gives a figure of persons affected by absence for other reasons, which may cover this item plus bad weather absence. It amounted to 1.25 percent of people working in the survey week.

The penultimate column is derived from the *Dept. of Employment Gazette*, January 1979, p. 29 (which gives 1968–1977 figures for EEC countries) and p. 31 for 1978. Earlier years from *British Labour Statistics: Historical Abstract 1886–1968*, Dept. of Employment, HMSO, London, 1971, p. 396 and 227. The last column is a residual.

Table U-4

The estimate of weekly and daily hours is derived by merging data from different sources. The most comprehensive source on hours is the *New Earnings Survey* (NES) which has been available annually since 1970 and is a sample intended to cover all employees in Great Britain. The sample covers jobs rather than people, and may include people more than once if they are multiple job holders. The main drawback is that the figures refer only to one pay period in the month of April, and this may not be too representative for the year as a whole, particularly for overtime. The NES does not contain usable data on short time working. Monthly figures of overtime and short-time working of operatives in manufacturing are available for the whole period under examination, and are published regularly in the *Department of Employment Gazette.* These are derived from a monthly (L) return by employers. The figures in columns 3 and 4 of Table U-4 are annual averages of these monthly figures. The short-time figures include short-time due to bad weather as well as other causes.

The first two columns of Table U-4 are derived from the NES by weighting the different categories of employee shown in Table 27 (*Part A Report and Key Results*), by the number for whom weekly hours are available (which is not as big as the total in the sample). These two columns exclude all employees whose pay was affected by absence. Thus in the first column of Table U-4 for 1971, the 39.11 figure on basic hours of full-time employees is equal to the total average hours of

such employees (41.92) minus their weekly average overtime as recorded by NFS (2.81). The second column of Table U-4 is equal to the difference between total average hours of full-time employees (41.92) and total average hours for all employees (39.25).

Column 5 on average hours worked by all employees is the sum of the preceding 4 columns. For 1960–69, the figures are from the old earnings survey (average of twice yearly April and October figures). The old survey (which is still continued for April) covers only full-time manual workers, whereas the NES covers non-manual and part-time workers as well. As non-manual and part-time workers have lower hours than manual workers, the old survey figures need downward adjustment. The 1970 ratios of the April New Survey figures for total employees to October Old Survey (no April survey was conducted on the old basis in 1970) full time manual workers were 95.186 percent for males and 87.73 percent for females. These adjustment factors were applied to the 1960–69 figures, and male and female employment was weighted by figures derived from O.E.C.D., *Labour Force Statistics.* The resulting estimate was adjusted by deducting column 4 on short-time working. The Dept. of Employment has suggested that this adjustment procedure may lead to understatement of 1960 hours relative to 1969 insofar as the ratio of non-manual and part-time workers (with their lower hours) was probably smaller in 1960 than in 1969. However, between 1970 and 1977 these ratios of old to new survey figures held rather steady, so I feel that my procedure is probably reasonably robust.

The sixth column is the fifth divided by 5. The seventh column is the sixth multiplied by days worked. The eighth column is the seventh multiplied by the number employed.

This merge procedure involves the assumption that employee basic hours are representative for all persons at work, that hours in Northern Ireland are the same as in Great Britain, and that overtime and short-time working by operatives in manufacturing are representative for all persons at work. Some of these assumptions are open to challenge, but with present data availability, no better procedure seemed feasible.