

## Can Europe afford the future financing of the welfare states?

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## 1. Introduction: The challenge

The national social protection systems in Europe (here called in short and abstractly "the European Welfare States" or the "European Model of Social Protection") are under challenge. The key charge held against the European model of social protection is its alleged present or likely future financial and economic non-sustainability. The financial volume of social transfers and hence the necessary tax and contribution levels<sup>2</sup> as well as the allegedly perverse incentives they create, are seen as a threat to economic growth.

A closer look at the criticism shows that the argument has two aspects: one is that the present level of social expenditure is already unsustainable and the other is that the future demographic and economic developments in Europe will cause an "explosion" of social expenditure. Both - the static and the dynamic - arguments are used to justify calls for a fundamental redefinition of the "welfare states", which genuinely means a reduction of the level of social benefits.

This paper will address these two points separately. It sets out to question the notion of economic and financial non-sustainability and to demonstrate that the notion can almost entirely be translated into questions of political perceptions and misperceptions and changing political preferences. The paper intends to furnish the political, ethical and philosophical debate on the European Model of Social Protection with some alternative quantitative arguments.

### 1.1. Is the present European level of social expenditure sustainable?

Social protection systems are in effect income distribution mechanisms which generally redistribute income from some "financing" subgroups of the society (generally active members) to "benefiting" subgroups of the population (i.e. the sick, the old, the disabled, the unemployed, the poor). Social expenditure thus in fact only measures the extent of direct formal income redistribution through the social protection systems<sup>3</sup>. There is a priori no reason to believe that the extent of redistribution of income has a direct impact on growth as long as the overwhelming majority of all societal subgroups accept that level of redistribution and consequential reductions of income and profits by contributions and taxes. But in each society there are limits to solidarity and hence, to the acceptable level of redistribution, or in more concrete terms limits to the acceptance of tax and contribution rates. It is public acceptance rather than economic facts which marks the border line between sustainable and unsustainable levels of social expenditure and thus levels of social protection.

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<sup>2</sup> As long as these cannot be offset against compensations through the exchange rate.

<sup>3</sup> This includes transfers of income equivalents through benefits in kind (like health services) but generally excludes tax benefits (such as tax reductions for the disabled, the elderly or families with children).

There is no generic rule to determine the limit of solidarity in any given society. These limits can only be tested politically. The limits reflect basic societal concepts and values rather than economic parameters. What we observe in Europe is that these limits seem to change. Financing burdens appear to become increasingly "unacceptable". Non-acceptance (of financing burdens) is expressed as a criticism, citing the economic inefficiencies of the social protection systems which are allegedly creating perverse incentives for the non-employed and a level of labour cost which makes whole economies non-competitive. This criticism - convenient and valid as it may be in a microeconomic context - falls short of hitting the bull's eye of the target in a macro-economic and macro-social context. The European Social Protection System, or the European Welfare State, is only a part of the (Western) European Socio-Economic model, i.e. the whole pattern of the production of national output, the sharing of work and the distribution of income among the members of the respective society.

This exercise first tries to extract the key economic and social indicators of the European socio-economic model. The US economy, which is certainly not characterised by an over-generous social protection system, provides the points of reference for the diverse social and economic indicators. According to - at least European - conventional wisdom the US social protection system is (now) lean enough to be financially and economically sustainable and the economy is creating a higher level of employment than virtually all EU economies. The following sections try to shed new light on key performance indicators of the European vs the American socio-economic models, which have a potential impact on the acceptability of the two systems.

## 1.2. The key characteristics of the European and US socio-economic models

Annex tables 1 and 2 summarise the main characteristics of the European vs the US socio-economic models, in terms of levels of employment, GDP and crude productivity indicators and levels of redistribution through the national social protection system.

The figures and numbers displayed in the table have to be interpreted with some caution as they had to be extracted from different sources (i.e. ILO, EUROSTAT and OECD) and might hence not be fully compatible. Due to data limitations the findings cited here should be regarded as estimates rather than crystal clear facts. Much more detailed research into some of the phenomena is needed to make these findings more reliable. The GDP figures used in this comparison are expressed in ECUs which were converted from national currency units using the prevailing exchange rates in 1994.

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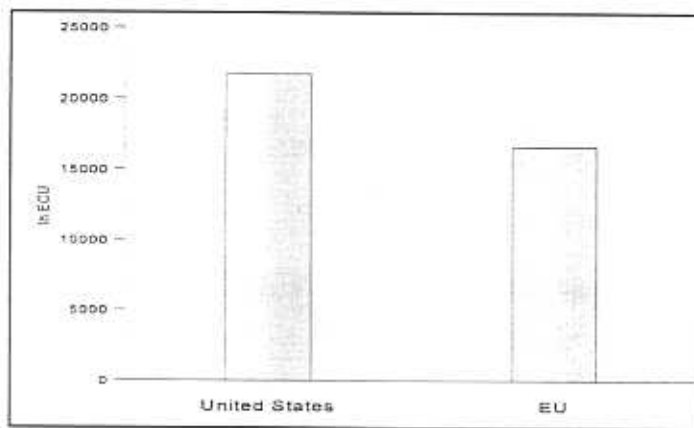
\* Throughout the last one and a half decades wage inequality in Europe and the US has increased substantially, inter alia triggered by increasing low wage employment. These developments resulted in a widening of the income distribution (cf. ILO: World Employment 1996/1997).

Five basic sets of facts describe the comparison of the US and the European model:

**Fact 1:** *The per capita GDP of the US is about 30% higher than the average GDP in the EU.*

This average, however, has a wide variance. When only taking the EU big four (France, Germany, Italy and the UK) the US advantage shrinks to 22% and when compared to the biggest EU economy (Germany) it falls to less than 3%<sup>3</sup>.

**Graph 1:** Per capita GDP in the US and in the EU, 1994



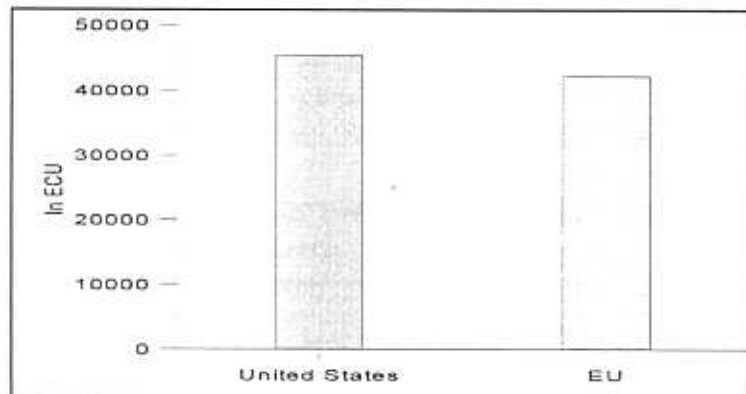
**Fact 2:** *GDP per employed person (i.e. productivity per employed person) is only about 7 to 8% higher in the US than in the EU.*

This again shows a wide variance, and the EU big four alone have virtually identical higher productivity levels when compared to the US. France for example exceeds the US productivity per worker by about 12% while Greece does not even reach 50% of the US level.

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<sup>3</sup> A comparison of the results with different US regions might provide further interesting insights into the EU and US difference of national output and productivity but is clearly outside of the scope of this paper.

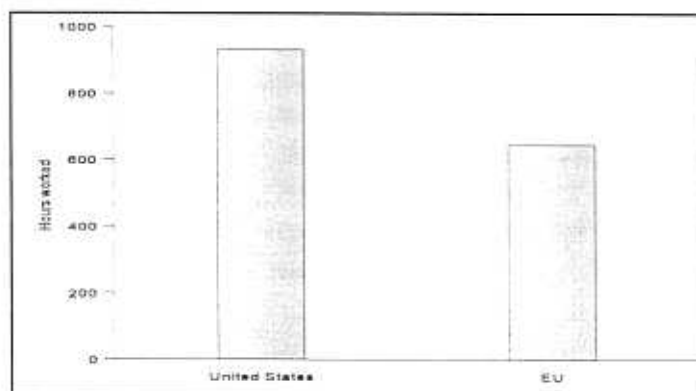
**Graph 2: GDP per employed person in the US and in the EU, 1994**



**Fact 3:** *Total number of hours worked per capita and year in the EU is only 70% of that of the US.*

This means that based on OECD estimates of the total number of effective hours worked per capita (which is a compound indicator of total employment combining the labour force participation with employment rates and average number of working hours per employed person), Europeans work on average 30% less than US residents. In this case the variation among Europeans is substantially less than for other indicators, only Luxembourg shows a per capita workload which is higher than the US level.

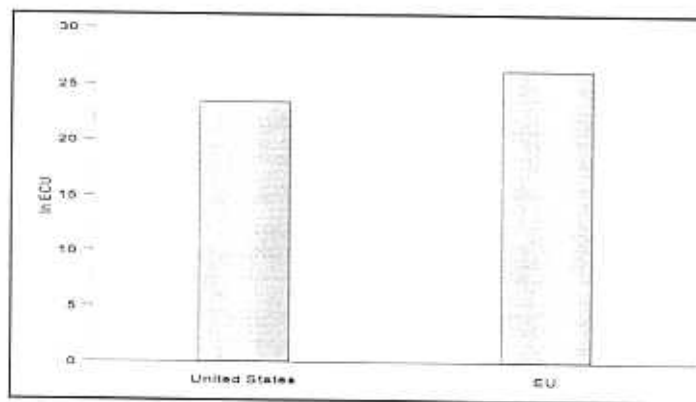
**Graph 3: Number of hours worked per capita per year in the US and in the EU, 1994**



**Fact 4:** *GDP per hour worked (i.e. productivity per hour worked) is about 13% higher in the EU than in the US.*

This is a direct consequence of the size of the differentials between per capita GDP and per capita workload. The productivity per hour in the big four is even 15% higher than in the US. The averages again hide a wide diversity, ranging from Portugal whose per hour productivity is only about one third of the US level to countries like Austria and Belgium which exceed the US level by up to two thirds.

**Graph 4:** Estimated GDP per hour worked in the EU and in the US, 1994



**Fact 5:** *Remuneration per hour worked is virtually identical between the US and the EU.*

On the basis of national accounts statistics of 1994 the total remuneration per hour worked and per employed person (excluding self-employed) was estimated. The US national accounts show a substantially higher share of GDP allocated to "the remuneration of employees paid by resident producers"<sup>6</sup> than most European national accounts. Even when divided by a higher number of total working hours, the total remuneration per employee (including social security contributions) and other benefits, the US value is still marginally higher than the average value for the EU, but lower than the combined figure for the big four and substantially lower than most of the western European countries. The latter fact is often interpreted as an incarnation of the competitive advantage of Europe vs the US. However, when GDP per hour is related to the estimated remuneration per hour (including social security and other employee benefits which actually is identical to labour cost), which describes the national output (measured in ECU) per ECU of labour cost, then the overall average "return on labour cost" in Europe is substantially higher than in the US<sup>7</sup>. This again is an indicator which shows less variation than for example

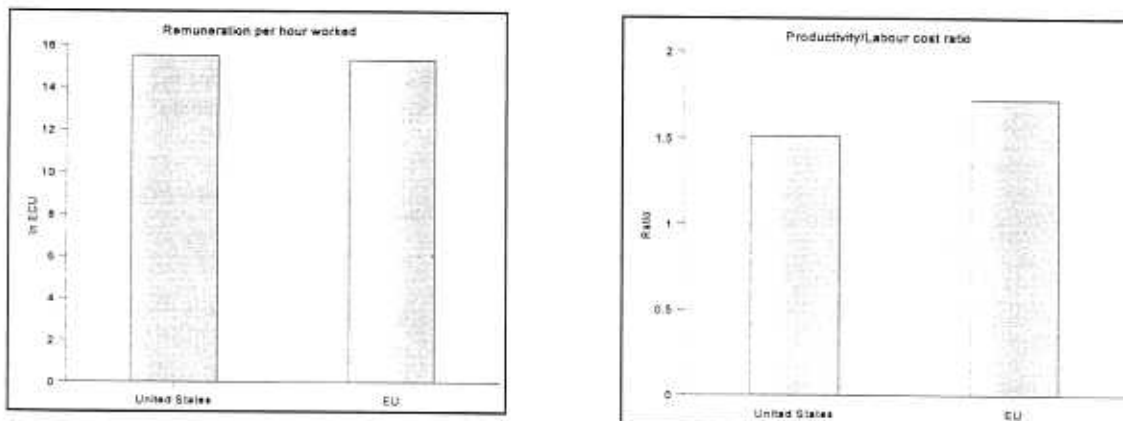
<sup>6</sup> OECD: Historical statistics, 1960 - 1994, Paris 1996.

<sup>7</sup> The productivity per hour was not adjusted for the differential productivity effect of the self employed.



the number of hours worked or the per capita GDP. This "return on labour cost" is allocated, according to the national accounts statistics' definitions, between "operating" surplus (i.e. profits), indirect taxes (less subsidies) and depreciation. The US "profit" share at GDP is about 30% whereas the EU-share is in the order of 25%. Most of the difference is explained by higher depreciations in Europe.

**Graph 5: Remuneration per hour worked and productivity-labour cost ratios in the US and in the EU, 1994**



A summary across 16 national economies is always at risk of oversimplification. Tentatively, however, it can be stated that Europeans are working less than Americans, but are more productive per hour worked. The productivity gap between the high income countries in the EU on the one hand i.e. (Austria, Belgium, Denmark, Finland, France, Germany) and the US on the other hand is substantial and big enough to compensate for lower productivity in lower income countries (notably Greece, Spain and Portugal) and pulls the average over the US benchmark. However, this greater productivity does not translate into higher total remuneration per hour worked since the higher depreciation of capital in the EU economy has to be financed from the greater difference between total output per hour and total labour cost. Profit margins in all EU and US economies do not seem to indicate that total labour costs are too high and that profit margins are squeezed to an extent which make the economies unattractive for investments. Hence, there is implicitly no economic reason to assume that social protection systems are unsustainable. Again, it is the public "acceptance" of the relationship between social charges plus taxes and net income within the overall labour cost as well as the difference between gross profits and net profits which determine the sustainability of the different social protection systems.

### 1.3 The redistributive outcomes of the different socio-economic models

Since the oil-shocks in the early 1970s, the European socio-economic model is characterised by four essential elements: high productivity and relatively high wages, high unemployment and decent levels of income transfers per beneficiary in the social protection



system<sup>8</sup>. These characteristics are not uniform throughout the EU, they hold true for 10 out of 15 member states of the Union (Austria, Belgium, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands and Sweden). When ranked by productivity per hour worked, Ireland and the UK would follow the above group with some distance and Greece, Spain and Portugal show substantially lower levels of productivity. However, for most of this exercise, the EU is considered to be de facto one big economy.

The above five facts are fully compatible with the following interpretation: The European model has relied on buying excess and unproductive labour out of the labour market through high social transfers which has facilitated the achievement or maintenance of high productivity levels<sup>9</sup>. High productivity in turn underpins the maintenance of high wage levels which in turn - not the least in light of international competition - triggers further productivity drives. The "American Model" on the other hand has relied on: low(er) productivity and low(er) or equal wages, low unemployment and low transfers.

Comparing the two social protection models exclusively on their outcomes in terms of total social expenditure and unemployment does not capture their full social and redistributive effects. The actual redistribution in the American system is much higher than the "official" direct social expenditure measured in GDP shares. The *implicit redistribution* (of the economic production system) which results from the employment of low productivity labour (which in turn reduces the overall national productivity level) has to be taken into account when the overall level of redistribution of the European vs the US social protection systems are compared. The following table 3 describes a methodology which estimates the overall level of redistribution in the major European and US economies. First, the overall "official" social expenditure in terms of GDP shares (i.e. the *explicit redistribution* through the social protection transfer system) are estimated from OECD data and then the implicit redistribution due to the productivity gap between the national economies and the most efficient European comparator country (here Austria) is calculated. The *sum of the explicit and implicit redistribution* is the *estimated total income redistribution*<sup>10</sup> (through the productivity gap and the social protection transfer system) in the economy.

The calculation of the implicit redistribution is based on the following reasoning. If the US were to follow a similar high productivity drive as most European countries, it could achieve the higher productivity level of the comparator country. At a constant level of GDP this higher

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<sup>8</sup> Through publicly financed social protection benefits.

<sup>9</sup> This interpretation in effect reverses the classical argument that high unemployment benefits (and other social protection benefits like early retirement pensions) induce increased permanent or temporary withdrawals from the labour market. It argues that benefits have to be high to permit the buying out of excess labour from the labour market. Both directions of this "chicken and egg" problem are compatible with the (albeit shaky) econometric evidence which correlates the duration of benefits utilisation to the level of benefits (as quoted for example in Gillion (1996)). Econometric equations only determine the degree of simultaneity of two or more phenomena, they can never establish a causal link.

<sup>10</sup> The total income redistribution is here limited to labour market related redistribution and social protection related redistribution. This is an obvious simplification as there are other redistributive mechanisms in a society which had to remain outside analysis of this paper (for example possibly the housing and education systems).

per hour productivity would lead to lower employment levels. The difference between the de facto and the theoretical (lower) employment level is here called the productivity gap in hours worked per capita and year. Then the total wage, theoretical amount of remuneration of the employed labour force of the country at the new employment levels and at the higher wage of the comparator country, is calculated. This is a conservative assumption as US workers might not be able to realize the same wage levels as Europeans at identical productivity levels. The difference between the new remuneration of all employed persons (at higher productivity and lower employment levels) and the old total amount of remuneration can be regarded as the amount implicitly redistributed due to low productivity as a consequence of high employment (or vice versa), which here is also called the "implicit low productivity tax".

**Table 3: Estimated total redistribution in the US and in the EU, 1994  
(GDP in ECU)**

	US	France	Germany	Italy	UK	EU
GDP per capita (ECU)	21751	19347	21185	14720	14709	16965
Hours worked per capita per year (working hours/tot. pop.)	931.4	624.0	674.7	583.3	742.0	645.5
GDP per hour (ECU)	23.4	31.0	31.4	25.2	19.8	26.3
Productivity gap per hour (ECU) compared to Austrian productivity (1)	12.3	4.6	4.2	10.4	15.8	9.3
Theoretical number of hours worked assuming Austrian productivity (2)	618.8	543.3	595.0	413.0	413.1	476.4
Total remuneration of employed persons under actual productivity and actual remuneration (ECU) (3)	11108.5	7731.8	8836.8	6214.8	6948.6	7028.5
Total remuneration of employed persons under Austrian productivity and Austrian remuneration (ECU) (3)	8900.0	7731.8	8668.4	6023.1	6018.6	6941.7
Difference	2208.6	0	168.4	191.8	930.1	86.8
Redistributed share of per capita GDP:						
(1) Explicit redistribution through Social expenditure per capita (ECU)	5028.8	5997.6	6503.8	3955.3	3603.7	4788.4
<i>In % of GDP</i>	23.1	31.0	30.7	26.9	24.5	28.2
(2) Implicit redistribution due to lower productivity (4)	2208.6	0.0	168.4	191.8	930.1	86.8
<i>In % of GDP</i>	10.2	0.0	0.8	1.3	6.3	0.5
Total of (1) and (2)	7237.4	5997.6	6672.2	4147.0	4533.8	4875.2
<i>Total in % of GDP per capita</i>	33.3	31.0	31.5	28.2	30.8	28.7

Sources: Same as for Annex tables. Own calculations.

- Notes:
- (1) Calculated as Austrian GDP per hour (the assumed maximum GDP per hour according to EU standards) minus GDP per hour in country or Union.
  - (2) Calculated as GDP divided by Austrian productivity.
  - (3) Excluding estimated taxes and contributions used to finance social protection.
  - (4) Equal wage sum differential.

The result of the exercise is striking. According to these estimates the US is redistributing roughly one third of the per capita GDP through the social transfer system plus the labour productivity gap. The labour productivity gap accounts for about 30% of that redistribution. The overall level of redistribution is virtually identical with that of France, Germany and the UK. Redistribution through the productivity gap only plays a minor role in France and Germany. The UK economy is - with respect to overall redistribution - "half way" between its European neighbours and the US. Italy shows a similar overall redistribution as the EU on the whole, with only a small proportion of the overall redistribution level coming from the labour market productivity gap. The overall EU level of redistribution appears to be lower than in the US, but the difference should not be overemphasised due to the possible margin of error due to data deficiencies. For the sake of completeness a similar exercise was undertaken using UN purchasing power parities for the comparison on national GDPs. The result on the relative redistribution are virtually identical as they are ultimately determined by the wage share differentials at GDP between the different economies.

However, a comparable or almost equal level of overall redistribution still does not automatically lead to comparative social outcomes. Within the overall envelop of redistribution, it is the relationship between the horizontal redistribution (i.e. redistribution between groups of equal income) and vertical redistribution (i.e. redistribution between different income groups) that determines the social outcomes of the overall system. The ultimate test of the social outcomes of any redistribution system is the extent to which it reduces or contains the level of poverty. The European socio-economic model has maintained low poverty levels. National cross comparisons of poverty levels conceptually "hinge" on the definition of comparable poverty lines. Uniform absolute lines expressed in currency units are virtually impossible to construct thus international comparisons usually resort to defining a relative poverty line in terms of a certain percentage of median per capita income. The following table 4 compares the developments of poverty rates, calculated as the number of persons with per capita income under 40% of the national median per capita income, between the late 1970s and the second half of the 1980s. It appears that according to this head count measure, poverty in the US remains double as high as in the more affluent European countries. According to the comparison of pre- and post transfer poverty rates in Europe and in the US, in a 1993 report of the EU commission<sup>11</sup> on social protection in Europe, the explicit US transfer system has remained remarkably unsuccessful in reducing the poverty head count. The persistence of the phenomenon of the working poor in the US furthermore leads to the conclusion that the implicit redistribution through the labour market is also less than fully successful.

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<sup>11</sup> cf. EU commission: Social protection in Europe 1993.

**Table 4: Pretax and transfer, and posttax and transfer poverty rates<sup>12</sup> among young adults (Household heads aged 20-29)**

Country, period	Pretax and transfer poverty rate	Posttax and transfer poverty rate
United States, 1979, 1986		
All households	17.8	17.4
All households with children	26.8	27.2
Households without children	11.6	10.7
United Kingdom, 1979, 1986		
All households	14.7	9.8
All households with children	20.4	14.2
Households without children	8.5	5.0
West Germany, 1981, 1984		
All households	12.1	8.6
All households with children	5.1	6.8
Households without children	15.3	9.4
Netherlands, 1983, 1987		
All households	27.6	11.4
All households with children	29.0	4.3
Households without children	27.2	13.8
France, 1979, 1986		
All households	14.4	8.0
All households with children	19.3	8.2
Households without children	8.8	7.8
Sweden, 1981, 1987		
All households	21.3	7.0
All households with children	19.7	6.3
Households without children	21.7	7.2

Source: McFate et al.: *Poverty, inequality and the future of social policy*, New York, 1995.

To sum up: In Europe around 30% of GDP is redistributed through social protection transfers financed through taxation and social security contributions. The US economy redistributes less through taxes and social security contributions but workers pay at least the difference through an implicit tax, which is equal to the loss of earnings due to lower productivity. This means in other words, about one third of the US redistribution system consists of the redistribution of jobs while the high income European economies almost exclusively rely on the direct redistribution of income. In spite of virtually equal levels of overall redistribution, the US system remains less successful with respect to the eradication of poverty - but in the US the poor tend to work whereas in Europe they tend to be unemployed. Since the US socio-economic model seems to be regarded as economically and financially sustainable - however loosely this term is defined - and since the overall level of redistribution in the EU and the US

<sup>12</sup> Pretax and transfer poverty rates measure poverty based on income levels before social transfers and taxes (and contributions) are paid to and by households or individuals and, posttax and transfer poverty rates are based on income levels after deduction of taxes and contributions and the payment of social transfers.

seem to be in the same order of magnitude, there is no reason to believe that the European model of social protection could not be maintained from an economic and a financial point of view.



## 2. The expected long-term development of social protection expenditure: Results from a EUROLAND simulation

If there is no reason to question the present level of overall national social expenditure (or better social redistribution) in economic and financial terms then the viability of the European Welfare States will depend on the likely future developments of the systems. The question is, will overall expenditure - given foreseeable economic or demographic trends - remain at levels which are acceptable to tax payers and contributors? The only way to approach an answer is to try to map the trend of future social expenditure.

Long-term social expenditure trends are here established by a simple forecasting model which extrapolates the present social expenditure levels in the EU into the future (assuming no change in the present legislative provisions). In order to avoid a distortion of the analysis and the debate by specific atypical national social protection provisions, a hypothetical country, here called Euroland, has been constructed as a "laboratory" for this exercise<sup>13</sup>. In 1995, the starting point of this analysis, Euroland has the demographic structure of the Netherlands. The population is then projected for 120 years (from 1995 to 2115) based on mortality and fertility developments assumed again for the Netherlands by the UN<sup>14</sup>, as well as the general pattern of the UN standard life tables. To simplify the social security projections, it has been assumed that the active population in the country is retiring at age 60 which is a fair approximation of the *de facto* low actual average retirement age in Western Europe<sup>15</sup>. It is then assumed that the social protection expenditure in our model country is identical to the average social expenditure structure in the European Union<sup>16</sup> in 1991.

This exercise is thus most relevant for countries in the EU but other countries notably the transition countries in Central and Eastern Europe - after the turbulent phase of transition - are likely to face similar long-term developments. It goes without saying that national social

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<sup>13</sup> Some EUROLAND simulations were already presented in Cichon: *The ageing debate in social security: Barking up the wrong tree?* Geneva, 1996. The simulations were modified for the purpose of this paper but the basic modelling approach is identical. The model is a deterministic forecast anchored to developments of real GDP and the changing demographic structure of the population.

<sup>14</sup> cf. United Nations: Department for Economic and Social Information and Policy Analysis: *World Population Prospects - The 1992 Revision*, New York, 1993.

<sup>15</sup> The relatively low *de facto* retirement age is a consequence of early retirement provisions as well as pre-retirement arrangements or the use of the invalidity outlet to leave the labour market. In total these effects lead to a *de facto* retirement age which is substantially lower than the legal retirement age.

<sup>16</sup> Commission of the European Communities: *Social Protection in Europe 1993*, Luxembourg 1994.



protection systems even within the EU are heterogeneous and a "typical country" is entirely fictitious, but this exercise only charts out broad development paths of typical national social protection expenditure with a full portfolio of benefits, replacement rates at or above the ILO minimum standards and almost universal coverage. These three characteristics are common to most European Social Protection Systems.

## 2.1. Scenario assumptions

The basic assumptions for the modelling exercise are summarised as follows:

### (1) *Economic assumptions*

The present level of employment in Euroland remains constant until the labour force of the shrinking population decreases to today's employment level. After that, the level of employment is identical to the (shrinking) labour force. Technological progress and international competition will most likely lead to further increases of the productivity of Euroland's workforce. At constant employment levels increasing productivity would lead to real economic growth. In order to avoid a too optimistic picture, the level of real GDP was kept constant throughout the projection period. Together with the above employment assumptions, this implicitly leads to the assumption that productivity increases translate into reduced working hours per worker until the point in time when the total number of employed workers is equal to the labour force (i.e. unemployment is abolished in calculations as a consequence of the demographic development). After this demographic "break even point" modest productivity increases per capita will be realized since a constant GDP has to be produced by a shrinking labour force. On balance these assumptions seem to be pessimistic rather than optimistic.

### (2) *Social protection assumptions*

The real level of all per capita social protection benefits is kept constant at the present level and the development of the number of benefit recipients follows the conditions set by the labour market and the demographic structure<sup>17</sup>.

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<sup>17</sup> In more details this means:

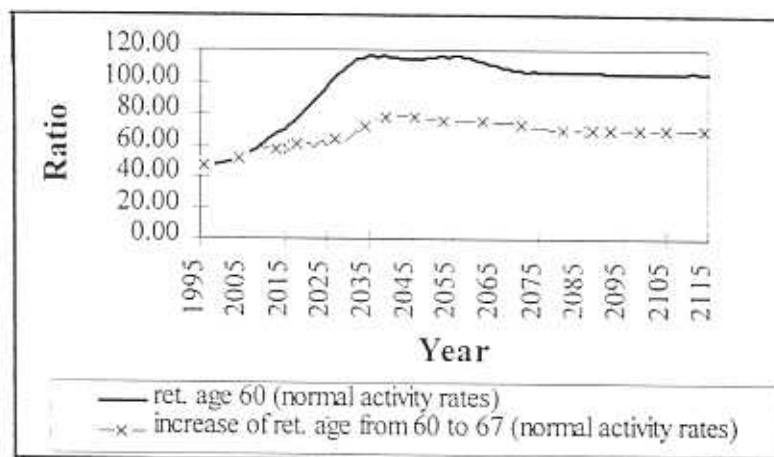
1. Expenditure on old-age pensions increases in line with the number of persons over retirement age;
  2. Expenditure on invalidity pensions increases in line with labour force and expenditure on survivors' pensions increases in line with the non-active population over the age of 20;
  3. Expenditure on health care increases as the population ages (it is assumed that persons over 60 consume about twice as much health services and health care goods as persons under age 60), but based on historical experience health expenditure is not assumed to decline after the demographic peak has been reached in 2040, the declining total population after that date would normally lead to an easing of the cost pressure on the system;
  4. Expenditure on family benefits moves with the number of persons under the age of 20;
  5. Unemployment benefit expenditure follows the projected number of unemployed;
  6. Other benefit expenditure (notably social assistance, housing assistance and some other income related benefits) is indirectly proportional to the development of per capita GDP.
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Three scenarios are analysed. The first projects the development of social protection expenditure (in terms of shares of GDP) under the present pension age, and the second assumes a phased increase of the retirement age to 67 after 2010. The latter might be unrealistic but it shows the potential maximum effect of the introduction of increased retirement ages or of benefit modifications in a wider sense. No increase of labour force participation rates was assumed, since it appears unlikely that labour force participation would increase noticeably when unemployment is persistently high over a long period. The third scenario assumes the present retirement age but combines it with real growth assumptions of 0.5% per year during the next two and a half decades. This scenario furthermore assumes that average wages per employee stay constant in real terms throughout the projection period, which would mean that the wage share at GDP would gradually be reduced by about 12%. This could, for example, be negotiated to accommodate increasing social security contributions. However, redistributive changes of such order of magnitude would also probably be unrealistic but again this scenario shows the potential effect of economic growth combined with redistribution on overall social expenditure. As the employment level is also kept constant the GDP growth translates into an increase of productivity of 0.5% per annum.

## 2.2. Projection results

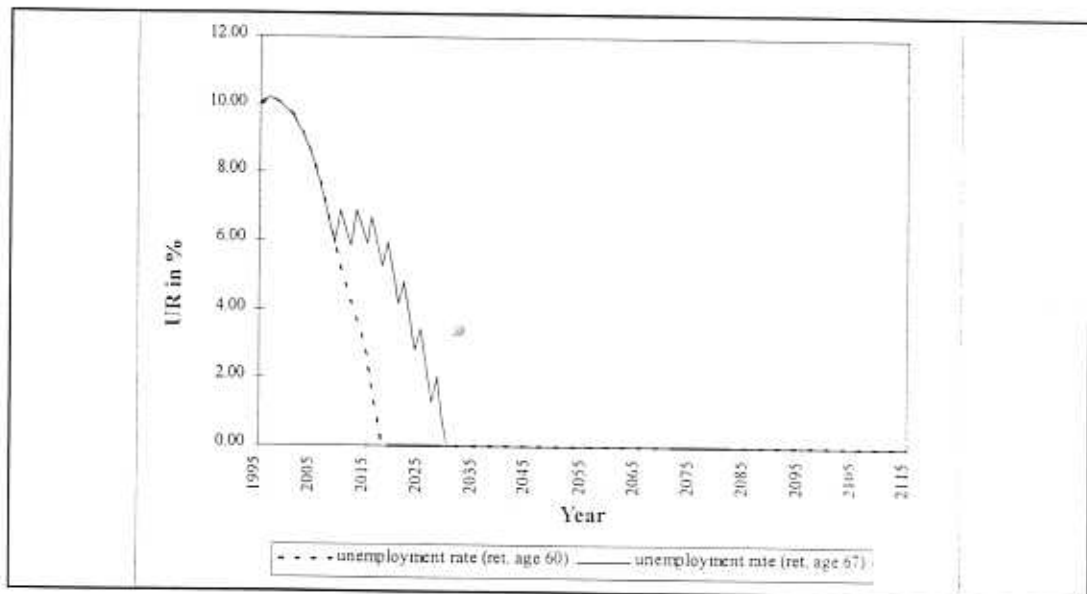
The key demographic developments which drive overall social expenditure are summarised by the following two graphs. Graph 6 shows the development of old age dependency rates (here defined as the number of people above assumed retirement age divided by the number of economically active people) under the two de facto retirement age assumptions. The move towards a seven year higher de facto retirement age would reduce the peak of the total demographic burden of the pension schemes by about one third.

**Graph 6: Long-term development of old-age system dependancy ratios, Euroland, 1995-2115**



Graph 7 describes the development of the unemployment rate (assumed to be initially 10%) under the above economic conditions and the two retirement age alternatives. It is obvious that the demographic development will theoretically and under status quo conditions abolish unemployment within the first quarter of the next century. Under the retirement age 67 variant the process of abolishing unemployment will take substantially longer (10 to 15 years). Due to the constant employment assumptions the higher growth scenario generates the development of unemployment as the base case. In reality unemployment will not disappear completely, as labour market restructuring processes will always lead to frictional unemployment. This generally low level of unemployment has been ignored here.

**Graph 7:** Projected long-term development of unemployment in Euroland, model calculations, 1995 - 2115



#### *Expected development of total social expenditure*

Table 5 depicts the results of the expenditure projections under the three variants:

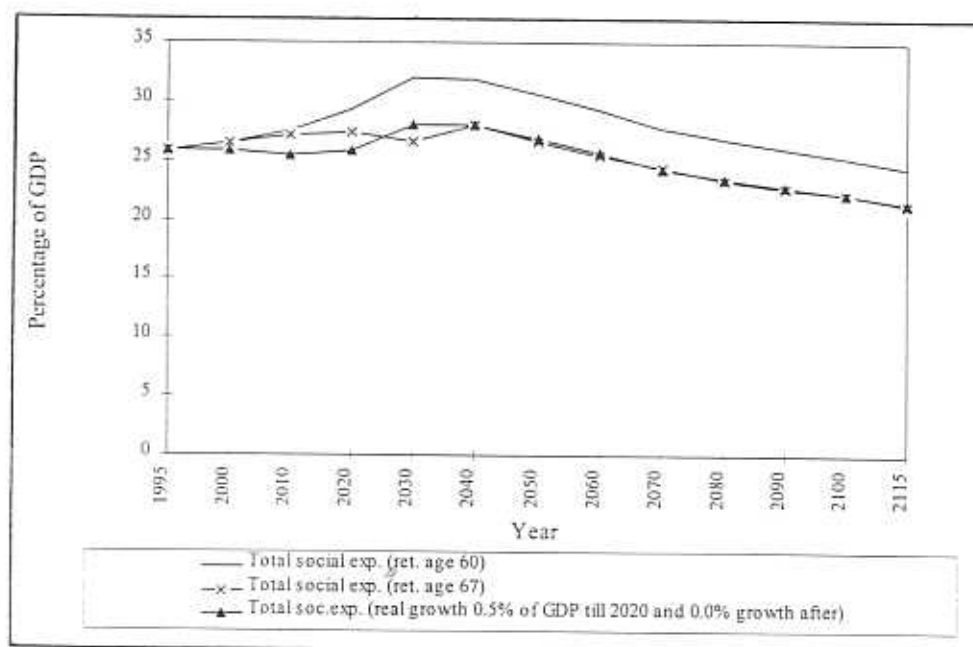
**Table 5: Projected development of total social expenditure in Euroland, GDP shares, 1995 -2115**

BASE SCENARIO - RETIREMENT AGE 60													
Year	1995	2000	2010	2020	2030	2040	2050	2060	2070	2080	2090	2100	2115
Health	6.5	6.6	6.8	7.1	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Old age	9.6	10.0	12.2	15.0	17.8	17.8	16.9	15.9	14.6	14.0	13.5	13.0	12.4
Surv.	2.1	2.2	2.1	2.2	2.0	2.1	1.9	1.7	1.6	1.5	1.4	1.3	1.2
Inv.	2.3	2.3	2.2	2.1	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3
Family	1.6	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.0
Unemp.	2.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3	1.3
Total	25.9	26.5	27.6	29.4	32.0	31.9	30.6	29.3	27.8	26.9	26.1	25.4	24.5
RETIREMENT AGE 67 SCENARIO													
Year	1995	2000	2010	2020	2030	2040	2050	2060	2070	2080	2090	2100	2115
Health	6.5	6.6	6.8	7.1	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Old age	9.6	10.0	11.4	11.8	12.0	13.6	12.7	11.9	11.1	10.3	9.9	9.6	9.1
Surv.	2.1	2.2	2.1	2.2	2.0	2.1	1.9	1.7	1.6	1.4	1.3	1.3	1.1
Inv.	2.3	2.3	2.3	2.3	2.3	2.0	2.0	1.9	1.8	1.8	1.7	1.6	1.6
Family	1.6	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.0
Unemp.	2.0	2.0	1.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.3	1.3
Total	25.9	26.5	27.2	27.4	26.7	28.0	26.7	25.5	24.4	23.4	22.8	22.2	21.4
BASE SCENARIO WITH REAL GROWTH OF 0.5% OF GDP TILL 2020 AND ZERO GROWTH THEREAFTER													
Year	1995	2000	2010	2020	2030	2040	2050	2060	2070	2080	2090	2100	2115
Health	6.5	6.4	6.3	6.3	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Old age	9.6	9.8	11.3	13.2	15.7	15.7	14.9	14.1	12.9	12.4	11.9	11.4	10.9
Surv.	2.1	2.1	2.0	1.9	1.8	1.8	1.7	1.5	1.4	1.3	1.2	1.2	1.1
Inv.	2.3	2.3	2.1	1.8	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2
Family	1.6	1.5	1.4	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	0.9	0.9
Unemp.	2.0	1.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	1.8	1.7	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0
Total	25.9	25.8	25.5	25.8	28.1	28.0	26.9	25.7	24.3	23.6	22.9	22.3	21.5

Source: ILO / SECFAS model calculations.

In all three model variants the first column for 1995 reflects the assumed average EU pattern of social protection expenditure.<sup>18</sup> The overall level of social expenditure in EU countries presently centres around 26% of GDP. Graph 8 traces the most important developments, i.e. the overall social expenditure under the three options as a share of GDP.

**Graph 8: Projected development of total social expenditure as a share of GDP, Euroland, 1995 -2115**



Total social expenditure peaks under all three scenarios between 2030 and 2040. The peak of the base case scenario is roughly a quarter higher than the present expenditure level. The expenditure peak still remains within the range of the highest national social expenditure figures measured in 1991 (e.g. for Denmark, France and the Netherlands).

The scenario with the retirement age at 67, would only lead to an expenditure peak which is about 7% higher than the present level. The higher growth scenario would reach a slightly higher peak than the second scenario but about 10 years earlier. The expenditure differences must be regarded as marginal and are clearly within the margin of uncertainty of projections for a complex financial system such as a national social protection system over a time span of more than a century. The critical phase for the European Social Protection systems are the next three and a half decades when the expenditure pressure on the system will increase.

<sup>18</sup> Sensitivity tests with alternative distributions of overall national social protection expenditure which placed slightly more emphasis on health care and family benefits, were also undertaken. They were found to only have a marginal impact on the long-term overall cost of the system.



While deterministic model projections should not be over interpreted, the simulations still indicate that - even under relatively pessimistic assumptions about future economic growth - the social protection expenditure in Europe is not likely to "explode". Flood warnings are in order, but there is no need to keep ringing the alarm bells, and evacuations (of political and ethical positions) are unnecessary. Hysteria does not help, but neither does exclusive reliance on whistling in the dark. Some pragmatic, realistic and consolidating policy measures might be necessary to dampen the increase of expenditure during the critical next three and a half decades. The ageing of the population which is often quoted as one of the major reasons for the future non-sustainability of the European Social Protection Systems will lead to increasing expenditure on old age benefits, and thus trigger structural shifts in the expenditure portfolio of the overall social protection systems, but these are likely to be compensated by reductions in other benefit systems. Furthermore ageing is a phenomenon, which is much more manageable than other risks, it is an almost certain event and it does not happen overnight, it leaves ample time for timely policy reaction. The real long-term challenge for the European social protection system is not of a demographic nature but whether the European economies can at least keep up the present levels of employment and GDP.

### 2.3. Potential policy measures to consolidate the present European Model of Welfare

Assuming - for the moment - as working hypotheses that:

- (1) the European model of Welfare can be maintained if the present level of expenditure or redistribution could be maintained, but
- (2) that - while possibly economically feasible - substantial increases of present redistribution levels will not be politically acceptable,

some corrective action would need to be taken to reduce the coming expenditure peak to the present level of expenditure. The development paths mapped out by the above scenario show that it should be possible to maintain the current level of overall national social protection expenditure and hence preserve the core of the present level of social protection for the members of the societies, provided that three crucial conditions are met:

- (1) that the European economies can maintain at least the present level of employment and GDP,
- (2) that resources can be shifted between different branches of the social protection systems, and
- (3) that some modifications can be made to the benefits levels (for example through slight reductions of the benefit levels) and to the eligibility conditions (for example through an increase of the retirement age).

These three conditions will pose formidable challenges for European social policy.

Maintaining or even increasing the level of employment (in terms of number of employed persons) might require accepting smaller average number of paid hours of work per employed person. The shift of resources between different branches of social protection, might involve changing the traditional financing systems (away from a strong reliance on the payroll as a financing base). The necessary benefit level adjustments might include less than 100% coverage of health care costs and longer working lives through the increase of retirement ages etc.

In addition the inevitable ageing of the European societies require a variety of structural adaptations of the social economic systems as a whole. Changes in the social system range from a contracting educational system to a modified health care delivery system, from the expansion of capacities for long-term institutional and ambulatory social and medical care to the extension of retraining facilities for older workers. Industrial production and the service sector will have to adapt to the changing consumption pattern of an ageing population. Many other structural impacts, due to the demographic change, on the economy can be quoted. Most of these changes will create additional demands and require investments. Many of them will require additional social sector employment, which will help stabilize the overall employment level, even at a lower level of measured productivity.

If initiated early these shifts can occur gradually and could be kept politically acceptable. The longer the changes are delayed the bigger they will have to be. However, the record of the last two decades shows that the European systems of social protection are able to react to change - even if these reactions might not have been politically unanimously welcomed in any single case. The pension systems for example have explicitly or implicitly shouldered a considerable share of the growing unemployment problem by earlier de facto retirement of older workers<sup>19</sup>, health care systems have managed in turn, between the late 1970s and the early 1990s, to contain the "cost explosion" and have thus implicitly contributed to freeing resources for the provision of cash transfers to alleviate open or hidden unemployment. The systems - different as they may be - have shown the flexibility to cope with the challenges of a changing economic environment.

#### 2.4. By way of conclusion: Can the Europeans afford their welfare states?

The answer given here is clear cut: Yes, they can.

But the question might be wrong - in the present political climate it should probably read: Do Europeans still want to pay for their present welfare states?

In the virtual political image of the world - it is perceptions that count. High social security contributions and taxes are interpreted as a sign of failure of the European model of

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<sup>19</sup> Effective retirement age in Europe dropped considerably between 1970 and 1990 (i.e. the period of rising unemployment), i.e. by up to five years for males, which might serve as an indicator that the social protection system shouldered some of the burden of financing excess labour (cf. *Effective retirement age and duration of retirement in the industrial countries between 1950 and 1990*, Issues in social protection: Discussion paper 2 (forthcoming), ILO Geneva, 1996).



redistribution even when levied on comparatively high wages and despite achieving relatively low poverty rates. Lower wages with lower public social charges (as in the American model of redistribution) are considered acceptable despite higher poverty. Unemployment serves as a central catalyst in the comparison of the two models, even if unemployment differentials bear no or little relationship to poverty differentials. Should there be a different European Model of Welfare or even a different European socio-economic model?

If one assumes:

- (1) optimistically, that increasing poverty will remain unacceptable in Europe, and
- (2) realistically, that economic growth rates in Europe are not likely to multiply in the near future

three potential options seem to emerge for the future of the European socio economic model from the above analysis.

- (1) Europeans can continue to share income explicitly and almost exclusively through their social transfers,
- (2) they could share more income implicitly through an American style "low productivity tax",
- (3) they could share more income through the explicit sharing of work (i.e. through reduced per capita working hours without compensation through higher wages).

More sharing of the existing workload might have considerable social dividends for the cohesion of the European societies. However, it will have to be done without jeopardising the productivity per hour and the high return on labour cost in the key competitive industries, as high productivity per hour worked will remain the key to maintaining the present economic performance in Europe in view of international competition<sup>20</sup>.

Alternatively Europe could finance additional (probably economically but not necessarily "socially" low productivity) employment from existing income. But again the effects on productivity and the effects on the income distribution and poverty have to be carefully monitored. Additionally, in order to avoid increases of poverty along the experience of the American model will require a reorientation of the social protection benefits to fend off the phenomenon of the working poor.

On the other hand, continuing to simply translate productivity gains into higher unemployment will probably be politically unacceptable.

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<sup>20</sup> Exports in EU account for about 28% of GDP while they account for only about 11% in the US, cf: OECD *Historical Statistics, 1960-1994*, pgs. 16 and 17.

According to the above comparison of the American and European model of redistribution, the overall effect on average individual disposable income of all of the above options can be expected to be almost identical. The feasibility depends on one critical prerequisite which is identical in all options: People need to accept to share: either income or work or both.

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## Annex 1: Sources

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Table 1: Crude productivity and social expenditure indicators, US and EU, 1994

Country	Total population (million)	Labour force (million)	Total employment (million)	GDP per capita (ECU) (1)	Labour force participation rate (per cent)	Proportion of labour force employed (per cent)	GDP per member of labour force (ECU)	Average number of hours worked per capita, per week (of pop.) (2)	GDP per hour worked (ECU)	Public expenditure on social protection in % of GDP (1993) (3)	Non-public health expenditure (1990/91)	Estimated total social protection expenditure in % of GDP (1990/91)	GDP/SE per employed person (ECU)	GDP/SE per hour (ECU)
USA	240.60	132.80	124.80	21751.00	50.56	93.94	42683.06	17.94	23.35	15.60	7.52	23.12	34918.25	17.95
Austria (587)	8.00	3.70	3.50	20819.00	46.25	94.59	45014.05	11.24	35.61	25.80	2.76	24.56	33995.64	25.44
Belgium (436)	10.10	4.20	3.70	19069.00	41.58	88.10	43712.12	9.40	38.53	27.00	0.90	27.99	37412.28	27.78
Denmark	5.30	2.90	2.50	23768.00	55.77	86.21	42618.48	11.81	38.65	30.96	1.21	32.17	33553.42	26.11
Finland	5.10	2.50	1.90	16122.00	49.02	76.09	32853.00	12.69	24.45	35.40	1.20	37.10	27224.94	15.38
France	57.90	22.50	22.10	19347.00	44.04	86.62	43929.07	12.00	31.00	28.70	2.30	31.00	34974.30	21.39
Germany	81.50	39.60	34.95	21185.00	48.59	88.13	41608.44	12.98	31.40	38.30	2.40	30.70	34284.19	21.76
Greece (6)	10.40	4.00	3.80	7735.00	38.46	95.00	20121.40	12.09	12.31	17.20	1.10	18.30	17304.40	10.05
Ireland	3.60	1.40	1.20	12253.00	38.89	85.71	31507.71	10.10	23.35	20.00	1.78	21.78	28752.89	18.25
Italy	57.30	23.20	19.90	14720.00	40.49	83.78	36355.86	11.22	33.24	25.00	1.17	26.47	30955.95	18.45
Luxembourg	0.40	0.21	0.21	29266.00	52.75	59.53	55480.57	16.70	33.71	30.96	0.60	31.56	18151.72	23.07
Netherlands (4)	15.40	7.10	6.70	18322.00	46.10	94.37	39740.68	11.66	30.22	30.20	2.21	32.41	28464.35	20.43
Portugal	9.90	4.80	4.50	7376.00	48.48	93.75	15213.00	17.55	8.08	16.40	2.64	19.08	13131.05	6.54
Spain	39.20	15.70	12.30	10791.00	40.05	78.34	35944.41	10.90	18.33	22.50	1.20	23.70	25367.23	13.98
Sweden	8.80	4.30	4.00	18866.00	48.86	93.02	38659.49	13.41	27.06	38.00	1.90	39.90	24944.63	16.26
United Kingdom	58.40	28.80	25.10	14709.00	49.32	87.15	29826.58	14.27	19.82	23.40	1.10	24.50	25818.61	14.97
EU total	371.20	167.91	146.31	16644.49	45.23	87.14	36795.90	12.41	26.28	26.91	1.89	28.22	30048.75	18.66
in % of US	142.44	120.44	117.24	76.52	88.77	92.92	86.21	69.31	112.54	172.48	22.08	122.08	86.05	100.92
EU less Four (D, F, I, UK)	255.10	117.10	102.00	17813.13	45.50	87.11	38849.11	12.68	27.26					
in % of US	97.49	88.18	81.73	81.99	90.08	92.69	91.02	70.66	116.73					

Sources: (1) Eurostat: National accounts (1970 - 1994) and World Bank, World Development Report 1996, Basic indicators, Table 1.

(2) ILO: Bulletin of labour statistics.

(3) OECD: New orientations for social policy, Paris, 1994.

Notes: (4) Employment figures refer to 1992.

(5) Employment figures from ILO Bulletin of labour statistics, 1996, 3, Geneva.

(6) Labour force estimated on the basis of ILO participation rates.

(7) Figures based on ILO data.

(8) Working time figures according to OECD: Employment Outlook, Paris 1996, except for Austria, Belgium, Greece and Ireland where they were estimated on the basis of ILO data.

Table 2: Estimated remuneration and productivity in the US and the EU, 1994

Country	Share of GDP paid to employee comp.	Share of self-employed at total employment (8)	Remuneration per employee (ECU)	Estimated remuneration net of social protection cost (ECU)	Remuneration per hour (ECU)	Remuneration per hour net of social transfer cost (estimated) (ECU)	Productivity per hour/remuneration per hour
USA	0.61	8.93	30171.95	23196.19	15.51	11.93	1.51
Austria (5)(7)	0.52	9.32	27255.22	19471.13	20.39	14.57	1.75
Belgium (4)(6)	0.54	14.29	32389.61	23352.91	24.05	17.34	1.60
Denmark	0.52	9.19	28418.89	19276.53	22.22	15.07	1.74
Finland	0.51	12.82	25469.58	16020.37	14.38	9.05	1.70
France	0.52	10.74	29357.30	20256.53	17.96	12.39	1.73
Germany	0.55	9.29	29777.95	20636.12	18.90	13.10	1.66
Greece (6)	0.32	32.97	10017.33	8184.16	5.82	4.75	2.11
Ireland	0.49	18.07	21894.51	17125.89	13.90	10.87	1.68
Italy	0.43	26.21	24470.09	17894.98	14.57	10.65	1.73
Luxembourg	0.58	10.06	35825.56	24519.02	21.67	14.83	1.56
Netherlands (4)	0.52	10.31	24275.53	16407.83	17.42	11.77	1.73
Portugal	0.48	22.30	10087.46	8162.78	5.03	4.07	1.61
Spain	0.45	21.27	18843.31	14377.45	10.43	7.96	1.76
Sweden	0.59	10.10	27332.84	16427.04	17.82	10.71	1.52
United Kingdom	0.55	12.74	21413.65	16167.31	12.40	9.36	1.60
EU total			25071.18	17831.86	15.31	10.89	1.72
in % of US			83.09	76.87	98.68	91.29	114.05
EU big Four (D, FR, I, UK)			26592.98	18919.41	16.16	11.50	1.69
in % of US			88.14	81.56	104.15	96.38	112.09

Sources: (1) Eurostat: *National accounts (1970 - 1994)* and World Bank, *World Development Report 1996, Basic indicators*, Table 1.(2) ILO: *Bulletin of labour statistics*.(3) OECD: *New orientations for social policy*, Paris, 1994.

Notes: (4) Employment figures refer to 1992.

(5) Employment figures from ILO *Bulletin of labour statistics*, 1996-3, Geneva.

(6) Labour force estimated on the basis of ILO participation rates.

(7) Estimates based on ILO data.

(8) Estimated on the basis of 50% of employment in agriculture plus self-employment in non-agricultural sectors, Sources ILO: *World employment and yearbook of labour statistics*, 1995, Geneva.