



The Impact of the Working Time
Directive Proposed by the EU
Commission on Road Transport in
Ireland

(COM(1998) 662 final)

by

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Chapter 1: Background

The 1993 Directive and the 1998 Draft Directive

In 1993 the EU introduced a working time directive (93/104/EC) which laid down maximum hours to be worked per week by employees and provided for minimum requirements in terms of rest periods within the working day and at night and for annual leave entitlements. The main provisions were: -

- 11 consecutive rest hours in any 24-hour period;
- rest breaks to be provided within the working day if the day exceeded 6 hours;
- a 24-hour rest period in each calendar week;
- a 48 hour average maximum working week;
- 4 weeks annual leave;
- an 8 hours in 24 hours limit on night work.

At the time workers in a narrow number of sectors were excluded from the provisions of the directive, reflecting unresolved issues arising from particular features of these sectors. One of the sectors excluded was road transport. The Commission entered into commitments to bring the excluded sectors within the scope of the directive, if possible based on agreement between the "social partners" and between them and the Commission. In July, 1997, the Commission issued a White Paper on the question (COM (97) 334) which it asked the social partners to treat as the first stage in the consultation process.

In terms of choosing a policy option, the Commission stated that the criteria to be used were:

- health and safety with regard to working time;
- permitting flexibility to firms in operating the regime;

- the impact on employment; the burden on firms, especially small firms and those in the marine sector;
- subsidiarity;
- proportionality.

In the ensuing discussions and negotiations there was a large measure, but not complete agreement on the modalities of an extended working time directive. In the absence of total agreement, the Commission proceeded to draft a directive designed to produce something close to the positions reached between the social partners and between them and the Commission which enshrined the principles the Commission desired to see implemented. The draft directive provided specifically for a set of regulations to apply to mobile workers in the road transport sector. These were based on amendments to 93/104/EC. The main features proposed for road transport mobile workers are:

- sector specific regulations on rest periods, daily and weekly;
- a 48-hour average working week over a 4-month reference period with an absolute weekly maximum of 60 hours;
- permission to derogate the reference period to 6 months.

The treaty basis for the proposals and existing arrangements

The original legal basis for the directive and the proposals in the draft directive is to be found in articles 75 and 118 of the Treaty of Rome. The first of these concerns the application of common rules to international transport between member states or passing through member states, the conditions under which non-resident carriers may operate in another member state and "any other appropriate provisions". Originally (i.e., before Amsterdam) the treaty provisions provided for unanimous agreement requirements in the case of a serious economic impact of any proposal. Article 118 deals with "cooperation between member

states in the social field", and specifically mentions the prevention of occupational accidents and diseases as well as, more generally, working conditions.

The case for the imposition of a single standard across the union is based legally on the primary objective which is assigned to the directive of 1993 and, hence, to the current draft directive. This is workers' health and safety. In an ECJ decision of 1996 (C-84/94: United Kingdom v Council of the European Union) the court held that health and safety regulations designed to harmonise workers' conditions requires community-wide action. By introducing the draft directive on this basis the Commission was able to reduce issues such as subsidiarity and proportionality to matters pertaining to details of implementation.

In addition to member state regulation of working hours which affect road transport, the industry is also subject to the tachograph restrictions imposed by Council Regulation 3820/85. This limits continuous driving time (4.5 hours without a break), daily driving time (9 hours per day, extendable by one hour in each of two days per week) and weekly driving (56 hours, subject to a fortnightly maximum of 90 hours). It also distinguishes between one driver and two-driver operation of trucks.

The economic impact assessment

In accordance with its accepted modus operandi the Commission sought professional advice on the impact on business and the economy of the proposals embodied in the draft directive. It commissioned Cambridge Policy Consultants to produce an economic impact analysis, which was submitted in a principal report in October, 1998. In that report the consultants excluded any assessment of the impact of extending the 1993 directive to mobile workers in the road transport sector for reasons which are not immediately clear. In a separate study they provided such an assessment to the Commission, but this separate study was not generally released. Off the record information indicates that the cost impact

estimated by the consultants for mobile workers was ten times as severe as for non-mobile workers.

As will be made clear in the third chapter of this report, the conclusions of the consultants' study are critically dependent on the methodology they chose to evaluate the impact of the proposals on firms' cost bases and some key assumptions, implicit and explicit, about the constraints firms will face in implementing the proposals as they stand. A more dis-aggregated analysis which took into account the labour market and human resource management implications of the proposals would almost certainly have produced a substantially less optimistic forecast of the impact of the proposals.

It is a matter of some concern that the data availability for Ireland appears to have been so scant as to have resulted in a virtual absence of any estimate of the impact in this country of what would constitute a major change in the regulatory regime affecting road transport in a country which for all practical purposes is entirely dependent on road transport for the internal movement of goods.

Details of implementation

(a) Definitional problems related to working and driving.

The directive's proposals involve limiting working time rather than driving time. The definition of working time is based on whether or not the employee is being paid, not on whether he is expending any, or serious, effort working. A truck driver who is sitting beside his vehicle doing a crossword (or even sleeping) while waiting for his truck to be unloaded is "working". While any working period for any employee in any sector will involve some slack time, in the context of road transport, (both from a safety/occupational injury and an economic perspective) the simplistic approach to defining working time adopted by the Commission is commercially and logically unrealistic. There have been some improvements in the definition of working time since the draft proposals were first published, but there

will have to be substantial further changes if the Commission's objectives are to be reconciled with the reality in the sector. An obvious solution to this would be to base the definition of working time on the tachograph. Both mobile and self-employed drivers currently operate under the tachograph regulations (3820/1985), which allows up to 45 hours driving time, up to 68 hours working time and requires 100 hours rest time per week on average. The proposed directive could achieve its objectives while avoiding the problems of definition of working time and difficulties arising from employment status (see (c) Driver status below) by should including these hours that are currently worked by both employees and self-employed drivers.

(b) Treatment of other sectors and of working time in other parts of road transport.

The recent controversy over junior doctors has highlighted the fact that the proposals under the proposed WTD are far from neutral as between sectors. The Commission has recognised that the peculiar features of different sectors require a flexible approach to achieving its declared aims. For example, a sectoral agreement has been concluded for seafarers allowing an average working week of up to 72 hours in any seven-day period. In dealing with road transport the aspects of the sector which are peculiar to it should equally be taken into account in framing a regulatory environment. One such aspect is high seasonality.

The attempt to deal with the exposure of road transport to seasonal demand fluctuations reflects acceptance of the need to approach the sector on an ad hoc basis. However, as is obvious from the analysis of the impact of the proposals on road haulage, it is also clear that neither the Commission nor its advisors adequately took the question of seasonality into account. The calculation of the proposal's impact on labour requirements was based on annual average hours driven rather than by an analysis of peak and valley periods and their cost implications. In terms of trading off achievement of objectives with the costs of doing so, this leaves much to be desired, and to even a casual observer it appears

hard to object to the proposition that acknowledgement of sectoral problems requires that this question be re-visited.

(c) Driver status

The WTD in general accepts the principle that it applies to employees rather than the self employed. Even among employees there is a distinction between senior managerial employees and non-decision-making employees. There are sound practical as well as theoretical reasons for this approach. Unfortunately, it raises difficult issues in the case of road haulage. These arise from the fact that the haulage sector contains a very large number of small (even one-man) operations. Taking one man operations first, technically none of these drivers is an employee. The draft directive, however, in effect requires that they be treated as employees by making the firm using their services responsible for ensuring compliance with the proposed restrictions in cases where the firm concerned provides the bulk of the driver's work. This breach of the principle that the WTD applies to employees arises because the Commission does not want to encourage vertical as well as horizontal dis-integration in the road transport sector, which is quite understandable. Whether it is feasible or not, unfortunately, is another matter. Compliance costs are likely to increase geometrically with the number of "firms" to be monitored by a user. Further, it is hard to see how in practice a service user can establish a single, independent driver's working time as defined by the Commission. On the other hand, the tachograph, while an imperfect indicator of working hours, is much more easily checked and enforced, and new, improved tachograph systems are being introduced which will enhance ease of enforcement. The position is not significantly different if small (up to three, say, truck operations) are included, as the credibility of enforcing compliance by the authorities is low, while the burden of enforcement on users is high. Applying the same working time regulations as currently proposed, to both self employed and employee drivers is not feasible. Applying different working time regulations to self employed and employee drivers has substantial non-neutral implications for the organisation of the sector. Once again, this points at using the

tachograph rather than a separate measure of working time, as the least cost mechanism to ensure compliance with health and safety standards.

Economic regulation implications

The issues discussed so far raise questions as to the implicit design of the regulatory intervention in the market adopted by the Commission in applying the proposed WTD to road transport in the manner it has chosen. The first and most fundamental question is why regulatory intervention is necessary (as opposed to being legally permitted, as it appears to be under the provisions of the various treaties). The basic assumption behind regulation to affect markets is that the market(s) concerned are affected by "market failure" to an appreciable degree. In its approach to the issue of maximum working hours it is not at all obvious that the Commission has identified the nature or the extent of the market failure it seeks to rectify. Not surprisingly, therefore, there is no evidence of any consideration as to whether the measures adopted are prospectively justified, in the sense of the benefits derived (the avoided cost of the market failure) exceed the costs imposed on market agents by the regulation. Finally, the Commission at no stage appears to have asked itself whether the specific measures adopted were the least cost way to achieve the desired ends.

What market failure?

The declared object of the regulation is given as "to improve the health and safety of persons in road transport and to improve road safety and to align conditions of competition" (Report of the Permanent Representative Committee to the Council, 8948/99, p.7, para.2).

Health and safety of workers?

Introducing the kind of provision involved in the proposed WTD presumes that (1) the level of health and safety is below some desired level;

- (2) that the length of the working week in the sector concerned determines the level of health and safety;
- (3) that the desired level cannot be achieved by permitting agents (employers, employees, owner) drivers to determine the number of hours to be worked through normal industrial relations;
- (4) that the restriction on working hours imposed by the Commission will result in achieving an improvement in health and safety. It is immediately clear that this implies having a means of measuring the actual level of health and safety and changes in it. It implies a causal connection being established between working hours and health and safety. Finally, it implies that private negotiations between employers and workers do not produce a result in terms of health and safety which is consistent with some societal norm, which in turn begs the question as to why and to what extent is the level of health and safety which emerges from industrial relations negotiations less than what is desired socially.

The answer to this last question must be based on some form of spillover effect such that society is affected by the individual's health level independently of, and in excess of, the impact on the individual himself. While there are well-established instances in which this is true (vaccination, for example) a general application of this principle relies on the existence of some form of free riding by individuals on health care services. In short, health care is provided at a low or zero cost, so that individuals act in a way which increases demand for it by working harder, thus imposing costs on others, and the restriction on working hours is needed to reduce this cost. It is obvious, however, that the proximate cause is health care being supplied at a price below cost. The correct response from the authorities is to alter the effective prices facing decision-makers, not to apply a blanket and uniform restriction on all individuals.

While it is plausible, a priori, to posit a link between excessive work and diminished health status, and while there does exist evidence to support this proposal, actions taken to improve health status require a means of measuring it and establishing the gap between the actual and desired level of health.

Monitoring policy effectiveness requires being able to measure any change in health status. The Commission at no stage has shown any awareness of the need for these measures or their relevance to policy measures to limit the working week. To summarise: if we accept that the Commission is concerned with the level of occupational health and safety, and if we believe that the measure introduced are for the purposes of improving health and safety, there is no way to judge whether the measures proposed are of any benefit or are more or less than required, and no way to establish whether they are working. Not only is this nonsensical in terms of the economics of optimal intervention, but it means that the measures fail the EU Commission's own test of proportionality.

Road safety?

We examine in the next chapter of this report the degree to which road transport is a factor in determining the level of road safety (for which, at least, there are measuring systems available). The main conclusions of that analysis are

- (1) that commercial vehicles are a minor contributor to problems of road safety;
- (2) that restrictions on working hours as proposed by the Commission are unlikely (in the Irish situation for certain, and arguably elsewhere) to reduce the costs of accidents arising from the activities of road transport firms.

Once again, this implies that the Commission's declared objectives in introducing the restriction are at odds with the logic of optimal intervention and fail the proportionality test.

Road safety, furthermore, is surely a matter where the principle of subsidiarity applies. Restrictions on the behaviour of roads users, provided they are not discriminatory between road users from members states in using the roads in a particular member state, do not pose problems in terms of economic integration of the EU, as is obvious from even a casual examination of the position in the US. Hence there is no objective justification for applying a common set of standards

across the union, and, what is more important, a common set of standards when road conditions and traffic densities vary across member states is a logical absurdity.

Aligning competition?

It is accepted that there is a legal permission for the EU to impose common health and safety standards. That permission, however, is based on the potential for variations in health and safety conditions to distort competition within the union. It is part of the problem loosely described as "social dumping". The principle involved is that member states can distort competition in terms of production costs and location of foreign direct investment by, inter alia, accepting lower social standards on such things as pollution, health and safety, hiring and firing costs etc. The policy conclusion drawn from that is that the Commission may, and should, intervene to limit the impact of distortions by imposing common standards. A curious aspect of this is that at the same time, and following the Cassis de Dijon case, the question of product market standards is in principle left to member state decision making, while, somewhat incongruously, standards in the labour market or in production processes are a legitimate matter for union wide intervention ab initio. The economic logic of this is not clear. The political logic, of course, is easy to understand.

The first problem with standardisation of labour market conditions (including labour taxes) to obviate "social dumping" is that any uniform standard is itself likely to be distortionary. The imposition of a single standard to "level the playing field" means inevitably permitting high tax and high regulation economies to export some or all of their internal policy regime to states which have a revealed preference for lower taxes/standards that may have nothing whatsoever to do with maintaining a position of competitive advantage vis à vis the high tax/standard states. For example, to impose traffic regulations across the union which are based on the weighted average of a measure of traffic density (which is rather similar to the approach to determining maximum working hours under the proposed WTD)

inevitably means imposing unnecessary cost increases on low density states which actually reduces their competitiveness by restricting their exploitation of an area of comparative advantage. This is fundamentally to pervert the idea of integration based on fair competition.

The second problem (which is particularly the case in road transport) is what may be termed the "collateral damage problem". Standardising conditions affecting internationally traded services may be non-separable in theory and practice from standardising conditions in non-traded services. Thus, levelling the playing field in one sector may result in creating different playing fields in other sectors. In the case of road transport the way in which this works is as follows. The proximate political object, as is well understood, of the extension of the WTD to road transport in the form proposed is to create a level playing field in the market for long distance traded road transport freight services. With the liberalisation of road freight across the union and the extension of cabotage rights operators based in high regulation member states, especially France, came under severe competitive pressure from operators in low regulation states (especially Britain and Ireland in the case of France). For the purpose of the argument let us accept the proposition that the French regulatory standard is "correct" for long distance international road freight operators offering services in France, reflecting labour market and road usage conditions in France, and that, therefore, social dumping is taking place in the market for those road freight services. The proposed WTD attempts to resolve this problem by imposing the same conditions on all freight service suppliers so as to prevent a sub-group from abusing a position of competitive advantage based on the absence of a need to meet accepted standards. That sub-group is the British and Irish operators competing for back loads in France.

In France, where all operators are subject to high regulation, there is no impact on costs of users of internal transport services, and this is in a country in which a lower proportion of total freight movement is by road than in Ireland. In Ireland, however, where de facto almost all freight is by road, users of Ireland's internal transport services are now faced with higher costs based on the needs of

regulation of freight services in France. All these users are now facing an increase in costs which does not, ex hypothesi, flow from the demands of a level playing field.

The correct regulatory solution to the problem is to require all supplying road freight services in France to comply with French regulation while offering those services. In effect, Irish and British road freight operators would have to respect the same restrictions as their French counterparts while operating in France. Operations in Ireland would be unaffected.

Apart, then, from the assertion that the proposed WTD has an objective, namely the "alignment of competition" there is nothing in the consultants' report or the EU supporting documentation which supports the propositions that the proposed WTD (1) does in fact align competitive conditions, and (2) is necessary to align those conditions. It is simply a case of policy based on assertion.

The third problem with harmonising "social" standards is that it can be used explicitly (if disguised by the required rhetoric) by member states that, for purely internal reasons, have had to concede to the demands of interest groups to protect output and employment in those states from the consequences of those concessions by imposing similar costs on output and employment in member states where such concessions have not been made. It is hard not to believe that this is a major factor behind the social chapter in general and the WTD as proposed in particular.

Regulatory conflict

It should be noted that the proposed WTD takes no account of some other regulatory regimes affecting road transport. In particular, it ignores the problems arising from traffic management to deal with congestion in urban areas.

Restrictions on working time and further restrictions on night time driving will

make it more difficult and more costly to meet the demands imposed by the need to tackle the question of goods delivery in congested urban environments.

For example, Dublin Corporation has proposed a strategy⁽³⁾ designed to encourage goods movement and delivery at off-peak (including night time) hours. Dublin is far from unique in this respect. Not only is it unfortunate that the Commission's proposals would make the implementation of that strategy more difficult, but it highlights again the difficulties when the Commission decides not to respect the principle of subsidiarity.

Note 2: In part 1 of the consultants' study the authors state (p.5, para.1.3.12): "Broadly speaking, therefore, the key issues facing businesses which need to adapt to meet the requirements of the WTD are: can the tasks required of an employee be made compatible with the WTD? can the existing workforce be redeployed to provide sufficient labour to undertake the tasks required in aggregate? if additional employees are required, are they available?" The answer explicitly assumed in all three cases in quantifying the costs of the proposals is in the affirmative. Furthermore, the consultants assume no extra capital costs will be incurred.

Note 3: The details are contained in the Corporation's policy document, Commercial Vehicle Management Strategy for the Inner City.

Chapter 2: Health and Safety and the Working Time Directive

The stated motivation behind the extension of the working time directive to mobile workers in road transport is concern for health and safety. In the Proposal for a Council Directive (COM98/662, p.3 of the explanatory memorandum) the objective is described as being to ensure that "...they do not cause injury to themselves, to fellow workers or to others and that they do not damage their health, either in the short term or in the longer term".

This can be conveniently broken into two objectives: road safety consequences and job-related health risks. It is unquestionably true that driving is a sedentary occupation with an associated incidence of increased risk of heart disease arising from two factors: being sedentary and the impact of driving, especially over long periods, on blood pressure. It is not clear, however, that imposing a working time (as opposed to driving time) limit on these workers will result overall in a reduction of the job-related stress factors which are identified as a health risk. A tighter working time constraint could well be asserted to lead to increased driving-related stress as drivers attempt to achieve a target delivery out-turn within reduced permissible working hours. In the end, however, the question of the job-related stress impact of extending the proposed WTD must remain speculative. It has to be noted that the positive impact of the proposed WTD on health which is asserted by the Commission is just that, an assertion. Neither qualitatively nor quantitatively does the Commission provide evidence to warrant this assertion, which is quite remarkable, given that the Commission's proposals must have the potential in principle to cause considerable economic disruption. This point is tacitly accepted by the Commission in that it has sought (in our view, unsuccessfully) to demonstrate that there is no reason to be concerned about any such disruption.

The damage to others is, in effect, road safety related. Here, the question has to be to what extent the existing provisions and driving patterns contribute to road death and injuries, and the extent to which a reduction in working time is likely to improve that situation. In this section of the report we examine the road traffic statistics produced by the National Roads Authority to try to establish the degree to which goods vehicles are responsible for the level of death and injury on Irish roads.

Road safety and working hours.

The argument is frequently advanced that reducing driver fatigue will lower the incidence of road accidents, injuries and fatalities, and this is expressly offered as a rationale for the extension of the Working Time Directive to mobile workers in the road transport sector. In the context of current concerns for road safety it is understandable that policy makers might be sympathetic to changes in working hours being introduced in order to reduce the misery and economic costs of road accidents.

In the Irish context, however, even a casual reading of the latest data on road accidents places a serious question mark over the appropriateness of introducing this particular restriction as a contribution towards improved road safety. Furthermore, if the EU Commission is really concerned with road safety, it should surely first of all ask the question as to whether that issue is being adequately tackled by member state Governments. That issue is not addressed by the Commission. In the Irish case a five year strategy to deal with road safety problems is already in place and the modalities are already being implemented. That strategy contains initiatives related to driver education, road research, vehicle safety, traffic management and enforcement of regulations on road usage, including regulations affecting goods vehicles. the compatibility of the WTD proposals with existing road safety programmes is not considered by the Commission, which appears to believe that restrictions on working time (as opposed to driving time) are not only effective as a contribution to road safety, but

can be inserted incrementally into existing safety regimes without having any consequences for the effectiveness of those regimes.

Road safety: comparative statistics

In the first place, the official statistics make clear that the concentration on the absolute level of fatalities and accidents leads to a degree of concern over the incidence of accidental injury and death which obscures a quite dramatic improvement in road safety. In the second, it becomes evident on closer examination that the contribution of goods vehicles to injuries and deaths is quite low.

In the nine years from 1988 to 1997 deaths on the road per road vehicle fell from 0.47 per thousand, or just over one death per 2,000 vehicles, to 0.34, or one per 3,000 vehicles. In terms of road usage, deaths per thousand million kilometres driven at 13.1 (1996) were lower than those in Austria (15.3), Belgium (16.7), Denmark (13.6) (1995), France (17.0) and Germany (14.4). Of the 9 EU countries for which data is available, only Finland (9.5), Netherlands (10.7) and the UK (8.2) have lower rates. If the death rate per thousand of the population is used, again the Irish position is relatively good (12.4). Not only is the position relatively good even on these figures, but it has improved absolutely and relatively to a substantial degree over the last several years. In 1993, the death rate per thousand million kilometres driven was 16, when Ireland ranked fifth out of the EU countries reporting casualties on this basis. In 1978 the Irish figure was 35 deaths per thousand million kilometres, when road usage was 47% lower than in 1997. The value of 12.4 deaths per hundred thousand population in Ireland is frequently compared to those in the UK (6.4), Sweden (6.1) Netherlands (7.6) and Finland (7.9) and Denmark (9.8). However, when it is remembered that fatalities are more likely on long journeys than short ones, it is clear that urbanisation and population density are critical determinants of probability of road death. Similarly, in countries which are snow-bound for four months or more per annum a lower death rate is expected. Finally, it is established that motorway and divided highway

deaths are lower than single highway deaths. The conclusion is that, when one controls for these factors, the death rate from road accidents in Ireland, far from being on the high side, is on the low side by EU standards. The importance of this from the perspective of the proposed working time directive is that the contribution which might be expected from limiting goods vehicle drivers' working time to improving the safety position is limited by the fact that

- (a) the proximate causes of those deaths is not plausibly linked statistically to problems of goods driver fatigue arising from the current level of working hours;
- (b) limiting working hours will increase the number of goods vehicles on Irish roads and will decrease their efficiency.

Goods vehicles and road accident statistics

The contribution of goods vehicles to fatalities and injuries may be estimated by comparing the numbers of those killed or injured in accidents involving goods vehicles with those involving other goods, controlling for the numbers of those other vehicles. The EU Commission cites an involvement of coaches and trucks in 18% of fatal road accidents. Involvement, however, is not the same as causation. To evaluate the probable impact of the working time directive on road safety it is first necessary to be able to allocate responsibility for accidents plausibly between the parties involved. If we can establish an acceptable figure for road deaths and injuries caused by goods vehicle drivers (as opposed to figures for deaths and injuries arising from accidents in which they were involved) we are able to create a bench-mark level of damage which might be affected by the elimination/reduction of driver fatigue.

In 1997 92 pedestrians were killed and 1,368 were injured in Ireland by motor vehicles. Goods vehicles accounted for 4 of these deaths and 43 injuries. 106 people were killed as drivers or passengers in single vehicle accidents and 1,131 were injured. No goods vehicle drivers/passengers were killed, and 8 were injured. Two or more vehicle collisions killed 186 people and injured 8,271. 82 of these deaths involved goods vehicles, of which 5 were in collisions between goods

vehicles. 1,733 of the injuries in this category involved goods vehicles. Thus, of a total of road deaths of 472 in 1997, goods vehicles were involved in the deaths of less than one in six. The only category of road death where the absolute numbers killed in accidents involving goods vehicles is non-trivial is that of collisions between goods vehicles and cars. It is presumably this last category of accident and death or injury which gives rise to concern, and in relation to which it might be felt that work time restrictions could affect road safety in any significant fashion.

Given that goods vehicles drivers are in large measure dependent on driving for their livelihood and have (in the case of HGVs) passed additional testing, one might reasonably expect that the incidence of careless driving, dangerous driving, speeding and driving with alcohol would be lower, with a concomitant reduction in responsibility for road accidents. However, a priori reasoning needs to be supported by empirical evidence, and it is to this task we now turn. It will be seen from the following analysis that, independently of these prior expectations, the evidence from road accident data does little to support the proposition that a material improvement in death and injury statistics could be expected from the extension of the proposed WTD to mobile workers in the transport sector.

Pedestrians, cyclists, motor cyclists and goods vehicle occupants accounted for 246 killed from a total of 472 killed in 1997. Car occupants and drivers accounted for 219 killed. Of the former category, 33 were killed in accidents involving goods vehicles. Of the latter, 53 were killed in goods vehicle accidents. Thus out of a grand total of 472 killed, even if goods vehicle drivers were totally at fault in all cases, only 18.6% of deaths could possibly be held to be due to goods vehicle driving. 8,068 car users were injured, and 4,331 in the other categories listed. Goods vehicles were involved in the case of 1,268 car injuries and 473 injuries in the other categories. This sums to 14% of road injuries. These values of 18.6% and 14% constitute an upper bound on the level of responsibility for death and injury on the road assignable to goods vehicles. It is only in the category of multiple (two or more) vehicle collisions that any appreciable number of death or injuries involving goods vehicles occurs.

The question arises as to what percentage of the accidents involving goods vehicles can be attributed in the main to the behaviour of the goods vehicle driver involved.

The starting point is to try to establish a measure of likely responsibility for accidents in which drivers in a particular category are involved. We assume that the driver is always 100% responsible when a pedestrian is killed or injured (although police investigations lead them to treat the pedestrian as a "contributory factor" in 13% of accidents involving pedestrians) or there is a single vehicle accident (despite the police view that 10% of accidents involving vehicles are in part at least due to road, environmental or other factors). In this exercise we also assume 100% responsibility on the part of the driver of a car or goods vehicle in an accident affecting a cyclist, and 50% responsibility in the case of an accident involving a motor cyclist. In the case of a single vehicle accident we assume 100% driver responsibility. In the case of intra-category, we assume that we can apply a 50% responsibility (i.e., both are equally to blame, or 75%/25% or one is 100% to blame).

It is safe to assume that in a car on car or bike on bike collision at least one party is seriously at fault. As already indicated, we shall assume the driver to be responsible in the case of a pedestrian's death or injury. Perhaps a trifle severely, we might also hold a goods vehicle driver mostly responsible if a cyclist is killed. Having regard to the demographics of motor cycle driving it would hardly be rejected if one assumed that 50% of road accidents involving motor cycles are in large measure the responsibility of the rider.

The main problem arises with accidents between cars and goods vehicles. The two most serious causes of road deaths and injuries are car on car accidents and car on goods vehicles accidents. Almost 50% of road accidents involving cars were car on car in 1996, and these accounted for nearly 60% of deaths and injuries in accidents involving cars. Accidents between cars and goods vehicles accounted for 67% of accidents involving goods vehicles, but only 17% of accidents involving

cars. If we use car on pedestrian (100%), car on cycle (100%) and car on motor cycle (50%) and car on car (50%) as indicators of inherent liability for causing accidents (driver fault) in the case of accidents involving cars, and apply the same criteria to goods vehicles the following picture emerges.

Driver fault for cars and goods vehicles on this basis, which excludes car on goods vehicles collisions, is given as the sum of the pedestrian accidents, cycle accidents, half the motor cycle accidents and half the within category accidents divided by the total number of accidents for each category. In the case of cars this gives a fault ratio of 0.62(4103/6628) and in the case of goods vehicles 0.21 (241/1169). Assigning responsibility for car on goods vehicle accidents by reference to the relative fault ratio in the other categories would result in holding goods vehicle drivers responsible for 33.8% of the accidents between cars and goods vehicles. On that basis the estimated total of road accident deaths and injuries for which goods vehicles could be held responsible in 1996 would be 4 pedestrians killed, 42 injured, and 46 vehicle drivers/passengers killed and 930 injured, out of a total of 472 killed and 13,228 injured. That places responsibility for about 9% of the total cost of road accidents on goods vehicles.

When road usage is examined, the following approximate values emerge. Goods vehicles, accounting for 11% of the total number of vehicles, are responsible for between 30% and 35% of the road usage measured as vehicle miles driven. Private cars, which account for 80% of vehicles, are responsible for about 60% and of the road usage. 11% of vehicles, accounting for about one third of road usage, appear to be responsible for about 9% of the road accident casualties.

Driver fatigue and road safety

The issue for policy makers is by what amount could that total be reduced as a result of the putative reduction in driver fatigue as a result of extending the Working Time Directive to mobile workers in the road transport sector and at what cost. There is a body of research, mainly in the US, which seeks to identify the

level of the incidence of driver fatigue as a cause of goods vehicle accidents. That research unquestionably identifies driver fatigue as a serious problem as a potential contributor to accidents. One study suggests that fatigue may be a significant causal factor in as many as 31% of large vehicle accidents in which the driver died. As against this, only 15% of single goods vehicle fatal accidents (mainly leaving the road) appeared to involve fatigue as a significant causal factor.

Two aspects of this research are immediately relevant to the limits imposed by the proposed WTD. The first is that, consonant with the directive, work time, and not just driving time, is relevant to fatigue levels. The second, however, casts some question on the likely impact of the proposed WTD. The research suggests that it is persistent short sleep time which is the major factor, so that long working hours compensated for by adequate breaks and sufficient sleep time should not be a serious problem.

It is the conjunction of long hours and night-time driving which is the most serious contributor to fatigue. The identification of long hours as a major fatigue factor is in large measure a consequence of the fact that longer hours are associated with driving through the night. Finally, it should be noted that this research is based on examining working times of up to 15 hours plus per day over sustained periods, which is wildly in excess of the generality of goods vehicle working times in Europe, if we are to believe the EU Commission.

This points to a small likelihood that driver fatigue is a problem for road safety in Europe as affected by goods vehicle drivers. It also suggests that a better enforcement of existing tachograph legislation as is required by (3820/1985), is preferable to a reduction in working hours. In the Irish context, where internal road freight transport involves much less long distance and night time driving than on the EU mainland it seems odd to apply a set of regulations conceived to deal with a problem which has its origins in the consequences of prolonged driving periods over very great distances with a large night-time component to drivers

mainly concerned with shorter hauls and with a much lower exposure to night-time driving.

Perverse safety effects of restricted working time

In making an assessment of the desirability of increasing working time restrictions, policy makers should be aware that in imposing a working time directive which in effect over-rides the tachograph driving time regulation, they are changing the incentives facing road transport operatives. In particular, they are encouraging drivers to drive at higher speeds. At the margin this can only have the effect of increasing the risk to drivers and others per vehicle mile driven. It will also, of course, increase stress levels, with a negative effect on driver health.

Furthermore, as will be made clear in the next section of this report, one of the implications of the proposed WTD is that to deliver the same tonnage as at present in the face of the proposed restrictions on working hours will involve an increase in the number of goods vehicles and an increase in the total number of vehicle miles driven even though the average mileage per vehicle may fall. Since road accidents are an increasing function of both the number of vehicles on the road and the total mileage driven by the vehicle fleet, the inescapable conclusion is that, *cet. par.*, in this respect the implementation of the proposed WTD will be to increase the number of accidents rather than reduce it.

Note 4: The data quoted in this section of the report are drawn from the latest report of the National Roads Authority on the matter: Road Accident Facts 1997, published in November, 1998, and from the 1995 report.

Note 5: Wanf, J., and R. Knipling: Single Vehicle Roadway Departure Crashes: Problem Size Assessment and Statistical Description, US Department of Transportation (DOT HS 808 113) 1994.

Note 6: Mitler, M., J. Miller, J. Lipsitz, J. Walsh and D Wylie: The Sleep of Long Haul Truck Drivers, The New England Journal of Medicine, vol.337, no.11, pp.755-

761. In answering criticisms of their findings, the authors stated categorically: "We found that the prevalence of drowsiness was strongly correlated to the time of day but not significantly related to the number of hours spent on the job"; TNEJM, vol.338, pp.389-391. Enforcement of provisions on driving time, rest hours and nighttime driving are the solution to problems of driver fatigue.

Chapter 3: The Implementation Costs of the Proposed Extension of the Working Time Directive to Road Transport

EU Commission cost estimates

Costs and benefits

The starting point for analysis of the costs involved in the proposal is the explanatory memorandum to the EU Commission Communication COM(1998) 662 of November, 1998. This document cited the results of a study undertaken for the Commission by Cambridge Policy Consultants, which was completed in October, 1998. This study identifies the following sources of costs to firms arising from the proposal. These fall into three groups:

1. implementation and compliance costs;
2. additional labour costs;
3. costs arising from restructuring and re-organising working time, including the costs of new arrangements with unions and/or works councils.

These would be offset by gains from:

1. fewer accidents and reduced absenteeism;
2. improved productivity arising from reduced fatigue;
3. improved productivity from re-organised working arrangements;
4. reduced over-time labour costs;

The Commission believed that a precise estimate of the net costs and benefits was not really feasible, but stated that the net impact (costs minus benefits) in all transport and marine industries affected, taken together, was of the order of +/- 1% of the "average annual earnings of the workers concerned". This is approximated by the sectors' wage costs. In the Impact Assessment Form attached to the draft proposal extending the directive to road transport (98/0319 SYN), the Commission states that in the case of road transport "...the likely order of magnitude of the net impact of the proposal is of the order of 0.2% of the wage bill". This document also introduces the argument that a reduction in road transport working hours is desirable as a means of reducing the number and cost of road accidents, arguing that 18% of road accidents resulting in fatal injuries involve trucks or coaches, and that fatigue is a demonstrated contributory factor. The purpose of this section of the report is to analyse the reasoning behind the Commission's conclusions as to costs in relation to both sets of factors: the costs to firms of implementation, and the costs to society of the contribution of goods vehicles to accident costs.

Sectoral Costs: the EU Methodology

The Commission's view on costs is based on the Cambridge Policy Consultants study of October, 1998. The consultants, in a "health warning" in the executive summary, repeated in the main body of the report, caution the reader that the results of their investigation "...are subject to a wide margin of error and are intended only to provide a best indication of the likely order of magnitude of the net impacts". This reflects limited information availability and the necessity for the consultants to make many judgements based on partial evidence.

In analysing the costs to a business in complying with the constraint on input choice imposed by the draft directive, the consultants analysed the response to the imposition in terms of three options.

1. hire more labour to replace lost hours from the existing labour force;
2. reduce output in line with reduced labour availability;

3. trade off lower labour availability against revised labour usage to increase labour productivity.

While these are indeed correctly identified as three possible responses, two criticisms may be offered. The first is one based on an elementary economic analysis of input choices. Labour and other factors are imperfect substitutes as inputs. A firm faced with a higher actual or shadow price of labour has an incentive to substitute capital for labour in its input mix. Hence, to the three responses listed, the consultants ought to have added a fourth: an increase in the capital intensity of production. In terms of road transport, this means immediately considering the degree to which an existing volume of output may be achieved by adding truck capacity to compensate for reduced labour availability, and the degree to which reduced labour availability from an existing labour force requires additional truck capacity as a complement to any additional labour which is hired. The second criticism arises from the third option, and applies to several of the offsetting benefits which the consultants and the Commission rely on to reduce the net cost figure. If enhanced labour productivity is available from changed work practices, and if this reduced firm costs, it is hard to see why those changes are not already in place. There seems to be a hidden assumption that some form of managerial inertia has resulted in a failure to exploit potential cost savings from reduced fatigue, lower absenteeism, reduced overtime payments and superior organisation of labour utilisation. The imposition of the provisions of the directive will act as a sort of catalyst to release these sources of enhanced efficiency within the firm. No argument to back up such a viewpoint is offered either by the consultants or the Commission.

Both these criticisms are levelled at an analytical approach which does not sit easily with assumptions that agents in general act rationally in responding to the prices and other constraints they face and that markets, including internal labour markets within firms, are reasonably efficient in the long run. Indeed, this approach is explicitly stated when dealing with compliance costs. In stating what the consultants believe would be the maximum compliance costs (which exclude

any capital costs) the consultants argue that in practice there exists within firms a significant degree of labour slack which will enable some redeployment to take place more or less costlessly to help meet the demands of compliance (p.10, para.1.4.5).

Paradoxically, given the assumption of the existence of unexploited cost savings, the whole thrust of the consultants' approach to the analysis of firm response to the new constraints is based on an assumption that intra-firm decision making and resource allocation reflects "full freedom to manage". In particular, we note the absence in any serious sense of an appreciation of the importance of target income in under-pinning wage structures and working time arrangements (see for example, pp.10,11, paras. 1.4.7 - 1.4.10). Where this aspect of labour income is addressed, the approach of the consultants is to say that higher wage costs to take this into account might occur, but no attempt is made to allow for this in assessing the cost of the directive. In addition, there is a general assumption that firms face an infinitely elastic supply of labour at going prices. In particular this appears when it is asserted that the consultants argue that a benefit to firms arising from the proposed directive will be the ability to replace labour hours currently attracting overtime premia with hours paid at the base rate (p.12, para 1.4.14). This just might be true (although somewhat improbable) in the case of an individual firm, but it most certainly is not true of firms as a whole, or even of the totality of firms in a given sector.

Commission estimates

Turning, then to the actual estimates of the costs and benefits associated with the implementation of the draft directive in road transport, we find that in the report of November, 1998, the consultants confined themselves to the impact on road transport of applying the directive to non-mobile workers. This means that the main category of labour involved, drivers and assistants/helpers are excluded from the study. The report informs the reader that an assessment of the impact on mobile workers was prepared separately. This second report has not been released

by the Commission, but we have been given to understand that the magnitude of the net impact on sectoral costs is higher by a multiple of ten. It was based on a similar methodology to that used in the report which was made available.

The net impact on sectoral costs of the extension of all aspects of the directive to the non-mobile workers in transport is calculated by the consultants as 3 million ecus per annum, the surplus of an estimated extra gross cost of 28 million ecus over benefits of 25 million ecus.

On the basis of the views expressed to us that the likely impact in the case of mobile workers, based on the same methodology, would be ten times greater, the likely net cost envisaged by the consultants and the Commission would still be less than 30 million ecus per annum over the entire Community, which is hardly sufficient to cause a serious level of concern. When, however, we take into account four methodological problems associated with the estimates produced for the Commission by the consultants, it becomes clear that potentially a substantially higher level of cost is involved. It is also clear that the incidence of this cost will vary substantially across member states.

The four problems are the following:

1. The proposition that there are benefits to firms from productivity improvements which will flow as a consequence of their being constrained in their input choices but which they do not exploit unilaterally or by negotiation within firms in the absence of the constraint is extremely difficult to rationalise. If it was indeed possible to secure a shorter working week at what amounts to a trivial net cost to firms it is difficult to understand why this has not been realised in the course of negotiations on pay and conditions between firms and the union representatives of the driving operatives.
2. The tacit assumption that firms have "full freedom to manage" so as to be able to replace high marginal cost labour with standard wage cost labour is critical to the calculation as to the wage costs involved, and is totally at

variance with industrial relations reality as well as with the proposition just mentioned at 1 above.

3. In road transport it is not plausible to use a yardstick measure of 75 hours of standard labour costs to calculate hiring costs where (by definition) the directive involves adding to the total number of employees explicitly. Drivers have to be trained, and training costs are far from negligible. In any case, there is no evidence that an expanded pool of drivers is possible except in the long run.
4. The Commission argues that the capital costs of the extension of the directive to the excluded sectors is negligible. In road freight this is most emphatically not the case. As is explained in the following section of this report dealing with projected the cost impact on a sample of firms in three sectors which have a high dependence on road transport, restrictions on working hours will require in varying, but non-trivial, amounts additional (and excess) truck capacity to be rolled out and/or significant firm level (and possibly state level) infrastructural investment.

In order to appreciate the importance of these issues, consider the consequence of making a substantial change in just one of them on the calculation of net costs and benefits. In the consultants' report (table 4.2, p.37) is offered the basis for the conclusion that the net cost to firms of implementing the directive in the case of non-mobile workers will amount to a probable 0.02% of average annual earnings. Suppose, however, we argue that possible productivity gains are (i) zero, or (ii) half of the amounts included by the consultants. At zero, even on the consultants' calculations, the costs rise from 3 million ecus per annum to 28 million ecus per annum, or 0.2% of annual average earnings. At half the assumed level, the costs are about 0.1%. Using the factor of ten already indicated, this implies that without the productivity assumption the net cost of extending the directive to the mobile workers in the sector would be anything up to 2% of annual payroll costs.

There is no allowance in the case of road transport non-mobile workers for savings from replacing expensive overtime hours. In the case of mobile workers, however, this is a key element in the calculation of costs. In the case of non-mobile workers in sea transport the freedom to manage assumption (which underlies the ability to replace overtime hours with standard rate hours) reduces the consultants' estimated gross employment costs of implementing the directive from 5.01% of the wage bill to 2.89% of the wage bill. In the calculations for the rail sector the wage cost increase is reduced by a factor of 6 from 0.55% of earnings to 0.09%. Hence, the freedom to manage assumption is a major factor in permitting the Commission to conclude that the costs of the proposed WTD would be as low as they claim.

The conclusion to be drawn from these criticisms is that the estimates of costs used by the Commission are extremely sensitive to assumptions about the internal and external constraints which firms face and the freedom of firms to respond to changes in these constraints in a classical fashion. It is also apparent that, whether due to implicit assumptions or to a naive arithmetical approach to labour usage restrictions, there appear to be no capital cost implications associated with the proposed working time directive. At both a theoretical level and on the basis of data made available from a sample of high transport cost firms which are reported and analysed below, this is both implausible and quite misleading.

The approach adopted in the Business Impact Assessment was minimalist, producing results by assumption rather than by analysis of the factual situation. A more appropriate approach, given the importance of the issue, would be to look at the data and operating characteristics of the firms affected. This can only be done by detailed survey work.

In the following section of this report we describe the results of an examination of some firms in Ireland with own account transport or where dedicated firms service their transport needs. The issues raised with and by these firms revolved about testing the assumptions that underlay the CPC report:

- what impact would the proposed WTD have on the number of vehicles?
- what impact would the proposed WTD have on the number of drivers?
- what impact would the proposed WTD have on average hourly rates of pay?

The results obtained are based on firms' knowledge and experience, and suggest a result significantly different from that contained in the CPC report. The Commission, following the CPC report, assumes that there will be no non-trivial impact on truck numbers. It assumes that the number of drivers can be increased to make up for the reduction in working hours from existing drivers. It assumes that existing pay rates will remain unchanged when existing drivers' earnings are reduced. As will be seen, these assumptions are quite at odds with industry experience (as well as with economic and industrial relations logic).

Sectoral costs: Evidence from a sample of high transport exposure firms in Ireland

We undertook an in depth analysis of the transport costs of a group of large and small firms in the following sectors:

- Energy (LPG distributors and petrol/oil distributors)
- Construction (concrete and concrete products)
- Agri-business (milk processors).

The rationale behind this approach, which is not in any way an attempt to be some form of random sample, is to identify the impact of the costs on firms which have a high direct exposure to transport costs in the form of road haulage. It was also felt important to provide expressly for the possibility that seasonality factors could be a serious problem, a matter which is wholly unaddressed by the EU since it uses what amounts to aggregate data for various sectors over a notional year. The basis for this approach is that to ignore seasonality is both misleading as to actual cost in principle, and will seriously underestimate the relative cost on economies such as Ireland's, which are perhaps more than most affected by industries with serious seasonality.

For each of the firms approached we asked for the following information:

- 1: Existing transport costs, broken down by labour, running and capital costs.
- 2: Their cost base for the base line level of business.
- 3: A simulation of the impact of the proposed WTD's provisions affecting overall working time (48/60 hours) on transport costs, by component, based on an assumed 6 month (derogated) standard reference period of their choice under each of two scenarios:
 - (a) the first scenario involves the Cambridge Policy Consultants' assumptions which can be summarised as "complete freedom to manage": firms can re-organise the deployment of their work-force internally at will, and at no cost, to minimise transport costs under the WTD constraints, and can obtain and utilise additional labour at flat rate to replace labour currently employed in excess of 48 hours per week at overtime rates;
 - (b) in the second scenario firms were asked to give their best estimate as to what realistically could be achieved in terms of re-organisation of their work forces and compensation to their existing mobile workers for the impact on their expected earnings of the imposition of the WTD; it is still assumed that additional labour can be hired at no increase in wage rates; no allowance was made for any knock-on effects on the rest of the work-force of any increase in average hourly wage rates.

In these exercises there was no attempt to factor in putative productivity gains flowing from the imposition of the directive. As already explained, we regard such an exercise as at best highly suspect, and at worst logically contradictory, in the context of the freedom to manage assumption underlying the approach taken by the consultants on whose work the Commission's evaluation of the likely costs of the proposed WTD is based.

Sector specific cost factors arising from the proposed WTD

The sectors selected were chosen not simply because they have high transport exposure, but because they serve to highlight the kinds of problems in simulating the cost implications of the WTD and which are glossed over in the simplistic aggregated approach used in the EU Commission analysis. Such problems include the following:

- seasonality;
- restrictions on delivery/pick-up times;
- hazardous material related problems;
- product degradability.

Seasonality is the easiest to understand. Two examples will make the problem clear. The first is gas-oil delivery in the fuel sector. A large proportion of gas-oil sales is for domestic, commercial and institutional heating use. The demand for gas-oil for this use is highly seasonal, with two third or more of the business being undertaken in about one third of the year. If the delivery capacity and labour force could be used for other fuel deliveries at little or no conversion cost, and if there was an opposite seasonality pattern affecting demand for other fuels, this might not be a problem. Dedicated delivery capacity and/or an absence of compensating seasonality constitute sufficient conditions for the firms being unable to avoid seasonality-related costs. In the oil delivery business non-gas-oil demand has a very low seasonality factor. In many cases the delivery capacity used for gas oil cannot be transferred simply to the delivery of other oil products. Of necessity the delivery capacity has to be used more intensively in the high demand season, which implies using labour in a similar manner. Leaving labour earnings aside, restrictions on the hours worked by a given work force may require firms not simply to hire additional labour in the peak season, but to invest in additional delivery capacity if existing volumes are to be delivered, reflecting effective limits on delivery times. It is not commercially feasible to rearrange delivery schedules for domestic heating oil by asking householders to accept delivery at three in the morning.

The second example is taken from agri-business, and concerns milk collection and delivery to processors. There are two forms of milk, milk for consumption as such (termed liquid milk) and milk for processing (manufactured milk). Liquid milk production is engineered by dairy farmers to achieve as far as possible a non-seasonal flow throughout the year, reflecting non-seasonal demand for the final product. Manufactured milk, however, is highly seasonal, as it is (in part at least) a by-product, jointly supplied with beef production. As a result the supply of non-liquid milk, which constitutes a major part of the whole, is highly seasonal, reflecting the animal reproduction cycle. As with gas-oil, the trucking capacity has to reflect the peak load requirement.

Delivery time restrictions affect sectors differentially. Consider, for example, the problems of supplying ready-mix concrete. The user (a construction contractor) demands the product on a "just-in-time" basis. Hence the capital and labour design of the delivery system has to reflect the demand pattern of the user, since it is not possible to store the product. We have already noted the impact of delivery time restrictions as an additional problem to seasonality in the case of gas-oil. In the case of ready-mix concrete a predetermined flow per unit of time of product through a trucking "pipeline", when faced with a restriction on labour hours will in general require the producer not simply to alter the number of workers employed but also to increase his trucking capacity.

The nature of the product being transported affects the costs of meeting labour input restrictions. In the case, for example, of petrol, the cargo is highly inflammable, and the vapour in an empty tanker is equally highly flammable. As a result, the transporting of such materials is subject to considerable regulatory restriction. This has the effect of increasing the capital costs of transport in the face of labour use restrictions. At its simplest, consider what will happen if a driver of a returning tanker runs out of working time. He cannot simply park the truck and go to sleep somewhere until more working time is available. Again, by limiting the amount of time that an individual truck/driver combination may work

continuously, the WTD may impose a need for more trucks as well as new labour on the firm making the deliveries.

Product degradability independently of the other factors poses cost problems involving capacity for transport firms. Many products transported by road are perishable e.g. food, milk, tarmacadam, mortar or concrete. In the case of ready-mix concrete, the perishability of the product is high, and the product's useful life may extend to no more than three hours from loading to pouring for particular grades. With a given trucking capacity a restriction on working time can only be resolved either by investing in extra vehicle capacity or by moving to on-site production of ready-mix concrete, where this is possible, for the user. Both involve extra capital (and running) costs.

Estimates of the costs imposed by the WTD

For two reasons, the data in the following tabular presentation has to be offered in a manner that makes identity of the individual firms impossible. The first is the obvious problem of confidentiality affecting the provision of sensitive data on costs to other firms in the sector. The second is less obvious, but just as compelling. In several cases the cost data used come not from the firm originally approached in the study but from firms providing transport services to the principal firms. This occurs where a principal firm has decided to dis-integrate vertically and purchase in its transport service inputs rather than provide them in house. In some instances firms continue to provide some of the inputs internally. In others they purchase from a small or large number of competing suppliers of those services. In still others the principal firms have a contract for the supply of all or nearly all their requirements from one supplier. And, of course, some firms continue to provide all their needs internally.

In the case of vertical dis-integration the confidentiality issue is exacerbated by the problems of negotiating prices for service supply. Hence, confidentiality

requires that the data on transport costs be presented in such a way that purchasers of services cannot identify the costs of individual service suppliers. This study was limited to a number of companies that could be reasonably and properly assessed, allowing careful and detailed scrutiny of their current company accounts and providing clear understanding of the impact of the proposal on their operations. Not all those approached were in a position to offer detailed estimates of the cost implications of the proposed WTD.

The companies in the sample were selected on the basis that they were major users of road transport within Ireland and therefore the implications are expected to be representative of many Irish transport companies. Seasonality, product type, perishability, self-employed/employees and size were all taken into account, with individual companies operating up to 1000 vehicles.

The results given above make it clear that the plausibility of the Commission's assumptions and conclusions as concerns the cost impact of extending the WTD to mobile workers in the road transport sector is close to zero. The companies for which results are reported (all those which were in a position to supply details) above vary in size from extremely large to small, and there is at least one company from each of the sectors covered in the study.

The first feature to note is that even if the assumptions of the Commission on replacing high cost labour with low cost labour is accepted, the majority of firms are subjected to very significant increases in their capital and operating costs (Scenario 1).

It is, however, when the extreme assumptions of the CPC and the Commission are dropped that the full likely cost impact of the proposals begins to become visible. (Scenario 2).

The Commission view is that the likely cost increase will be of the order of 0.2% of the payroll of firms affected. In this truncated sample the highest value we found

was 86%, four hundred times higher than the Commission's estimate. In the rest of the sample, the average increase is a multiple of 150 times higher than that expected by the Commission.

Finally, note that no allowance is made under scenario 2 for any knock on effects on non-mobile worker remuneration arising from the implicit increase in hourly rates paid to mobile workers.

Data

	Existing cost base	Scenario 1	Scenario 2
Company " A"			
Annual capital costs	100	100	118.8
Annual running costs	100	100	139
Annual labour costs	100	100.8	114.5
Increase as % of relevant payroll cost		+0.07%	+34.8%
Company " B"			
Annual capital costs	100	128.1	128.1
Annual running costs	100	94.1	94.1
Annual labour costs	100	79.8	129.6
Increase as % of relevant payroll cost		0%	+49.7%
Company " C"			
Annual capital costs	100	117.3	117.3
Annual running costs	100	109.3	109.3
Annual labour costs	100	100	111.6
Increase as % of		+21.1%	+23.7%

relevant payroll cost			
Company " D"			
Annual capital costs	100	n.a.	132.8
Annual running costs	100	n.a.	128.8
Annual labour costs	100	n.a.	144.0
Increase as % of relevant payroll cost			+86%
Company " E"			
Annual capital costs	100	130.3	130.3
Annual running costs	100	130.3	130.3
Annual labour costs	100	96.6	125.1
Increase as % of relevant payroll cost		+27.7%	+56.2%
Company " F"			
Annual capital costs	100	107.3	107.3
Annual running costs	100	100	100
Annual labour costs	100	98.7	101.3
Increase as % of relevant payroll cost		+0.03%	+1.7%
Company " G"			
Annual capital costs	100	106.0	112.1
Annual running costs	100	106.0	112.0
Annual labour costs	100	105.1	113.5
Increase as % of relevant payroll cost		+10.0%	+23.5%
Company " H"			
Annual capital costs	100	109.7	109.7

Annual running costs	100	109.7	109.7
Annual labour costs	100	110	114.9
Increase as % of relevant payroll cost		+19.1%	+23.9%

The cost increase is taken as a percentage of relevant payroll costs for comparability with the Commission's estimates. The relevant payroll cost is the gross remuneration of drivers.

Chapter 4: The Overall Costs to the Economy of the Working Time

Directive

There is a lack of detailed data that would permit an estimate of the economy-wide effects of the implementation of the proposed directive. However it is possible to build up a picture of the impact from the sectoral breakdown contained in the 1993 Input-Output Tables (CSO 1999). The sector, inland transport, covers the main road transport services as well as rail transport. Own account transport is excluded, as this is regarded as a within sector activity (where firms in, for instance, the chemicals sector, provide their own transport services, this is regarded as an activity within the chemicals sector, rather than the transport sector). Own account transport is not separately identified in any data set, but it would appear from the registration data, and from the opinion of those in the sector that own account transport is about one-third of all road freight.

In order to derive the current level of activity of the sector we excluded rail transport from the 1993 data [\(7\)](#), grossed up the 1993 estimates in line with the growth in the distribution sector, allowing for price changes, and included an estimate for 1999 on the basis of current forecasts for the economy.

The following table provides a summary profile of the sector for 1999:

Inland Transport 1999 (excluding rail)	£ million
Gross Output	1,875
Inputs of Materials/services	920
Wages and Salaries	440
Profits	395
Depreciation	120

Inputs include fuel, repairs, insurance, business services, financial charges etc.

The critical factor is the impact on costs of the Working Time Directive. The survey

of companies identified increased labour costs, increased running costs, and increased capital costs as the main areas where the Directive would impact. Our scenario 2 represents what we believe is the more likely outcome. From an examination of the company data we can assume increases of 25%, 30% and 15% in labour, capital and running costs respectively. These apply to all costs, and not just segments, as there are few scale economies to be realised. In fact there may be some diseconomies as firms were concerned about generalised inefficiency that could arise with the increase in the number of vehicles and drivers. On this basis costs in this sector could increase by £285 million- or a 20% increase in costs. If we make an allowance for a general loss in efficiency this could rise to some £350 million.

These numbers are non-trivial at a sectoral level. The implementation of the Working Time Directive would have a significant and substantial effect on the costs of transport in Ireland. In aggregate terms the effect is equivalent to 1/2% of GDP, for a sector whose value-added is just under 2 % of GDP, and even in these terms is non-trivial. The relative importance of the effect can be seen by comparison with the estimated impact of the Single Market programme, where the whole programme was expected to have an impact equivalent to 4.8-6.7% of GDP. This single measure eats up a significant proportion of that gain. Even these numbers may understate the full impact, as the estimated effect is the direct impact. For an open economy, which is effectively a price taker, there may be little possibility of passing these cost increases on in price, so that there is a direct effect on the competitiveness of the sector. Even where costs can be passed on there are indirect effects through the impact on prices and hence wage rates in the economy.

These global figures also conceal the very different outcomes for different sectors in the economy. For some, e.g. the construction sector, oil delivery, milk collection, the costs will be very much greater than for other sectors, where transport is relatively less important.

Note 7: Rail accounts for only a tiny proportion of goods movement within the country, but as a result of the level of subsidization the apparent magnitude of rail freight services exceeds the actual importance. Hence, leaving the "output" of rail freight in the figures results in an upward bias in the level of activity.

Biographies of the Authors of the Report on the Impact of the Working Time Directive Proposed by the EU Commission on Road Transport in Ireland

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Joe Durkan is a Senior Lecturer in Economics and Director of the Centre for Health Economics at University College Dublin. He has a wide range of interests - from macro policy to health economics, and lectures accordingly. He is heavily involved in Business Education at UCD, lecturing on three MBA programmes and the Advanced Management Programmes.

Prior to joining UCD he worked in business with Coopers and Lybrand, NCB Stockbrokers, and DKM, Economic Consultants. Before that he had worked for 15 years in the ESRI, mainly on forecasting, being principal editor of the ESRI Quarterly Economic Commentary from 1973-1983. He also spent some 6 years in Africa: in Nigeria, where he was an Economic Planner and in Tanzania, where he was a teacher.

He has undertaken many applied economic projects, covering transport, the law, competition policy, health, housing, and the arts, among others.

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Moore McDowell is a Senior Lecturer in Economics at University College Dublin. His experience includes being a visiting lecturer at San Francisco State University (1977-78), University of California at Davis (1978, 1983, 1984-85); visiting professor at University of Delaware (1988, 1990, 1993). He was educated at University College Dublin and Worcester College, Oxford, and his publications include papers in the National Westminster Quarterly Review, the Irish Journal of Business and Administrative Research, Administration, the Economic and Social

Review, Irish Historical Studies, European Journal of Law and Economics, Weltwirtschaftliches Archiv, Journal of Economic Studies, British Review of Economic Issues.

His consultancy work includes expert testimony in competition cases including ASWEC v ESB, Mars v HB, Deane v VHI, Competition Authority v IRHA. and merger advice in major cases including Conoco and Statoil, Unilever and Lyons Irish Holdings, Guinness and UBH, Jurys and Doyle Hotels.

He was appointed by the Government to the Garda Promotions Advisory Council, and the Competition and Mergers Review Group and is a member of the Governing Authority of UCD.