

**THE ECONOMIC IMPACT OF PRODUCT  
LIABILITY AND PRODUCT SAFETY  
REGULATIONS IN THE EUROPEAN UNION**

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*Abstract*

*In Europe a common standard of strict liability has been introduced with the EC directive 85/374. The implementation of this Directive has not led to an expansion of product liability cases. Moreover neither the product nor the insurance market has been dislocated as in the United States. Most liability cases continue to be discussed under national legislation, even if it may be based on liability with fault. We discuss the optional provisions that limit strict liability under the Directive but claim that the scarce recourse of consumers to liability laws - in spite of increasing concern for product safety - may be due to widespread compensation by the welfare state and to the cost of access to justice. While the American contingent fee system creates powerful incentives for consumers to go to courts, in Europe cost shifting rules make litigation so risky that only some victims can afford it. Given the limited scope for product liability, product safety regulation should have performed the deterrence function. We analyse thus the institutional interactions between product liability and safety regulation with particular reference to the EC Directive on general product safety and its relationship with quality control inside firms. We point out that the threat of reputation losses is a powerful incentive for firms to carefully control product safety when accidents are heavily advertised in the media.*

## 1.Introduction\*

Despite the general trend towards the deregulation and liberalisation of markets, in the last twenty years the production of rules concerning product safety has continued to increase in the European Union. Product liability concerns have led to the introduction in 1985 of the EC directive 85/374 establishing a strict liability regime in all member countries. The aim of standardisation of product safety rules has led to the introduction of a directive about general product safety in 1992 (92/59/CEE). In addition to these general directives, specific EC safety directives have been issued with respect to many products.

The increasing regulation of product quality at a European level is linked to the completion of the internal market, requiring uniform legislation in all countries in order to assure the same level of consumer protection to all European citizens and the elimination in the meantime of any non tariff barriers to intra-community trade. The great impetus that has been given to consumer protection is typical of advanced industrial economies to the extent that an increased demand for safety is linked to growing incomes. This impetus is reducing the differences with the American economy, whose attention for consumer welfare had led to the introduction of a strict liability regime for defective product in the sixties and to the continuous extension of product safety regulations.

However the US also experienced a crisis in their product liability system during the eighties, giving rise to a debate concerning the impact of product liability rules on market efficiency. This debate has probably conditioned the formulation of the EC directive that was introduced in that period. In fact the introduction of the EC directive on product liability has been accompanied by opposition from some portions of the business community, based on fears about the high liability burden that fell on American firms as a result of court decisions. The directive on product safety seems to have encountered less opposition and, to our knowledge, did not give rise to much debate.

Even though not many years have passed since the introduction of these laws, an assessment of their economic impact can now be attempted. The focus of this paper will be about the efficiency of product liability rules from the point of view of the general impact on the European economy. We shall also deal with product safety regulations especially

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concerning its relationship with product liability. This will lead us to discuss the impact of the directive about general product safety (92/59/CEE).

In section two, we deal with the economic impact of the EC directive. Despite the restricted empirical evidence at our disposal, the limited role played by liability laws in implementing product safety in Europe will clearly appear. Not only has national legislation has been more frequently invoked than the Directive in the case of accidents, but European consumers continue to be less keen to ask for compensation through the civil law than do American ones. We claim that the main reason for this is the diffusion in European countries of social security systems that insure any victim against the risk of product accidents. As costly access to justice in Europe is also frequently invoked too as a possible explanation, we shall deal with this issue by presenting some evidence about the legal costs of cross-border transactions and comparing the American and European legal systems in this respect. Given the restricted role played by product liability in Europe, safety regulations should have been comparatively more important in preventing product accidents. This has led us to explore the institutional and market interactions between product liability and product safety regulation in section three. The economic impact of the directive of general product safety on both the manufacturing and insurance industries is analysed in this respect. Some conclusions follow.

## **2. Product liability and compensation of product accidents in Europe.**

The EC directive on product liability was introduced with the aim of standardising the different national legislation existing in this field and guaranteeing a minimum level of product safety to all consumers in the European Union.. The directive 85/374 aimed at implementing a common scheme of strict product liability in European countries just when the US were experiencing a crisis in their liability system. Therefore, the business community feared an increase in insurance rates and the rise of claims and lawsuits that has characterised the American experience.

Sixteen years after the introduction of this Directive it is possible to state that these worries were not justified and that the European experience is completely opposite to that faced by the United States. The reduced concern about product liability in Europe, the relatively brief experience with the implementation of the EC Directive and the absence of data about out of court settlements limit the empirical evidence about European countries with respect to the United States. However, even the reduced evidence at our disposal enables us to state that there was neither an explosion of insurance costs due to the directive nor rise in claims and lawsuits feared by the manufacturing and insurance industries. We are less able to

trace the impact of the directive on the growth of accidents and product injuries, as the European statistics are very poor in this respect. The lack of data concerning accidents due to product defects, compensations paid by public social security systems in the case of product accidents, and out of court settlements are all obstacles to the evaluation of the magnitude of the social cost of accidents in the European Union.

### ***2.1 Optional provisions to limit strict liability in Europe***

Though the EC directive was inspired by the idea to extend the strict liability regime to all European Countries, the most substantial innovation has been the inversion of the burden of proof in liability lawsuits, as victims of a product injury are not required to prove that the manufacturer was negligent. They just have to prove the harm, the defect and the causal relationship between the injury and the defective product. However the recent green paper by the European Commission devoted to product liability<sup>1</sup>, points out that in some cases it is even difficult for the consumer to prove that the injury is actually due to the product. The asymmetric information between consumer and producer benefits the latter, giving him easier access to the technical knowledge that is necessary to exclude the possibility that the accident was due to a defective product. In view of this fact the European Commission wonders if some presumption<sup>2</sup> about the causal relationship should be included in the Directive (as is in German practice for example<sup>3</sup>) in order to overcome these obstacles to compensation. A recent proposal emerging from the replies to the Green paper and from the second study by the European Commission on the implementation of the Directive is to let firms pay the cost of independent experts and constrain consumers to a reimbursement of these fees only when their claim is unsuccessful.

The Directive allows national legislation to introduce limitations and defences that practically dilute the economic impact of strict liability. At present even if liability based on negligence (fault-based liability) and strict liability (liability not based on fault) can be distinguished in theory, in practice the distinction between the two is very fluid and depends also on procedural aspects. There is a threshold limit of 500 Euros that excludes from compensation a lot of consumers that suffer minor damages from product defects. This limit could be justified in order to provide incentives to risk sharing between consumers and firms

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<sup>1</sup> Cfr. Commissione delle Comunità europee, 1999, p. 18

<sup>2</sup> As the Commission states "The use of presumptions is a useful means in law to put the onus on the more informed person". Commission of the European Communities, (2001), p. 14

and to avoid moral hazard phenomena. However the establishment of a financial threshold gives unsatisfactory answers to small claims that are widespread in the field of consumer goods.

The Directive offered the option of excluding from strict liability primarily agricultural products and game (i.e. foods not being processed). The logic of this exclusion seems to be unclear to the extent that one cannot presume that consumers are well informed about risks associated with the consumption of hormone enriched, conserved, dyed and radiated foodstuff. The large economic losses following the impact of the mad cow disease and the scandal concerning chicken-breeding in Belgium, has led the European Union to take a different attitude towards these kinds of products, also extending to them the product liability regime contained in the 1985 EC directive<sup>4</sup>.

Another option concerned the adoption of a state of the art defence (or developmental risk defence) as stated in article 7 of the directive. Under this defence the producer must show that the state of scientific and technological knowledge was at such a level at the time the product was put into circulation that it was not possible to discover the existence of the defect. The inclusion of such a defence can be justified in order not to weaken the incentive of firms to introduce new products because of unpredictable liability consequences. The introduction of the state of the art defence can also be seen as a weakening of the strict liability regime the directive aimed to impose.

However the formulation of Article 7 is such that the defence would be hard to establish: if knowledge existed somewhere, then defendants could be held responsible even if they did not know it themselves. But the same principle can be formulated differently in national legislation. For example, concerning the UK implementation case, Burrows (1994) states that the formulation included in the Consumer Protection Act seems to place liability only upon producers who cannot show that the defect could not “reasonably” have been discovered. Such a formulation can lead the courts to a negligence evaluation of the net benefits of producer efforts to discover defects in product design. In such a legal environment producers will be motivated to keep private any information about product risks in order to avoid the liability burden<sup>5</sup>.

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<sup>3</sup> In Germany causality was established in several cases on the basis of *prima facie* proof. This means that the victim has the burden of proof for the defective product and the alleged damage, and “general experience” is decisive for the casual relationship. *Idem*

<sup>4</sup> Directive 1999/34/CE (Journal Officiel n° L 141, 4.06.99)

<sup>5</sup> Actually there are a number of cases where the dangers of products were known by producers long before serious harms occurred. Cfr. Burrows (1994), p.75.

In Germany national legislation concerning product liability before the Directive was such that the producer could only be exempted by showing either that the defective unit was the odd unit that escaped all controls or that the defect depended on a risk that the producer could not foresee at the time of manufacture. The German implementation of the European Directive on product liability with the *Produkthaftungsgesetz* of 15 December 1989 removed the *odd unit defence* and maintained the *product development risk defence*<sup>6</sup>. Depending also on the interpretation of such a defence, we can classify the European liability regime as one based on fault or not.

The European Commission challenged the UK implementation of the Directive 85/374 and the ECJ (European Court of Justice) held that in order to be exonerated from liability “the producer must prove that the objective state of scientific and technical knowledge, including the most advanced level of such knowledge, at the time when the product in question was put into circulation was not such as to enable the existence of the defect to be discovered. Further, that knowledge must have been accessible at the time when the product in question was put into circulation”<sup>7</sup>. So under the interpretation of ECJ the *state of the art defence* is much narrower than under national laws, as the test concerning knowledge is objective and the only subjective leeway lies on the issue of accessibility.

It is claimed that under strict liability, without a development risk defence, the producer will have greater incentive to reduce product risk. In some member countries – namely Luxembourg and Finland – the producer is liable also in cases of development risk. No cases of development risk are known in these countries<sup>8</sup>. Other countries limited this kind of liability to specific product sectors: food and pharmaceuticals in Spain and just pharmaceuticals in Germany. If the development risk is also difficult to insure, as industry claims, one wonders if the creation of a public fund to compensate victims is a better solution for these cases. Compensation funds set up by industry exist in the pharmaceutical sector both in Germany and in Sweden: manufacturers pay a percentage of turnover into a pool comprising the main insurers of these companies.

Cases involving development risk can be quite rare; however they typically involve damage on a large scale: blood transfusion in France, rape-seed oil in Spain, and blood products infected with the HIV virus in Germany and Denmark are examples. In these case

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<sup>6</sup> Cfr. Larouche 1999, p. 2-3

<sup>7</sup> ECJ judgement of 29 May 1997. Case C –300/95, commission vs. UK (1997) ECR I-2649. The UK had implemented Directive 85/374 in part I of the Consumer protection Act 1997, c .43. Cfr. Larouche, 1999.

<sup>8</sup> Cfr. Commission of the European Communities, 2001, p. 17

neither the Directive, nor national legislation was sufficient to compensate victims, and social solidarity in the form of a state intervention has been typical of the European experience<sup>9</sup>

The third optional provision is the adoption of a limit on the total liability for damage resulting from death or personal injury caused by identical items with the same defect. If this option is adopted the directive establishes a minimum liability limit of 70 million Ecus. Germany, Greece, Portugal and Spain have adopted total liability limits.

Any claim must be brought within three years of the date upon which the injured person became aware of the damage. A claim under the directive is lost if not brought within ten years from the date the producer put the product into circulation. Such a long statute of repose should force producers of durable goods like household appliances and cars to improve product safety with respect to the past.

## ***2.2 The economic impact of the EC Directive on product liability***

The first study carried out by the European Commission on the implementation of the EC directive, dated 1995, clearly reported that since 1985 there have only been three lawsuits based on the Directive<sup>10</sup>. Of course most actions are settled out of court but accounting for the fact that, according to a leading insurance company, just 5 % of total liability claims reach the European courts<sup>11</sup>, we can estimate that there has been about 60 liability claims based on the EC directive from 1988 to 1995. Interpreting this evidence, we must recall that the EC directive cannot be invoked for products sold before 1988, that product liability lawsuits require very long technical assessments, and that some European countries implemented the Directive with a significant delay. However the second study by the European Commission, dated January 2001, does not offer a substantially different picture concerning reported Court cases based on the directive: one case in Ireland, 2 cases in Italy, 3 cases in the UK, 3 cases in Belgium, Sweden and Finland, 30 decisions in Germany, 19 in Portugal and 20 to 25 cases in Austria.

Besides pointing out the continuous lack of information about product liability cases (90 % of cases continue to be settled out of court), the study definitely confirms that despite the implementation of the Directive, national legislation concerning tort law and contract law continues to be used instead of the EC directive. Despite the fact that national legislation can

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<sup>9</sup> *Idem* p. 11

<sup>10</sup> For example there is no major case involving the Consumer Protection Act of 1987 in the UK, while in Germany only one case on the *Produkthaftungsgesetz* has reached the Courts so far. Cfr. Larouche, 1999, p. 5.

<sup>11</sup> Cfr. Swiss Re (1996) p. 38. Surprisingly this percentage is practically identical to that estimated by Viscusi for the US. Cfr. Viscusi (1991)



even be based on a negligence regime (liability with fault), it can guarantee more protection to consumers. For example in national legislation threshold limits may be absent, prescription periods may be longer, and even non material damages can be covered.

Concerning the impact on insurance rates, the explosion of growth rates that was feared by the business community has not taken place. Insurance rates have increased but the growth rates are lower than expected. Moreover, the picture is not uniform in the single national markets of the European Union<sup>12</sup>. A relevant exception is Austria where nearly all cases are solved on the sole basis of the Directive. In this country insurance policies seem to have risen up to 100 % since the law transposing the Directive was passed<sup>13</sup>. The level of insurance that firms disposed of before the introduction of the directive has been evaluated as not sufficient, given the new regime. But according to the report on the implementation of the EC directive, the growth of insurance rates is not only due to the introduction of the Directive but to the increasing attention for product quality issues as well. To the extent that a reduction in insurance availability has been observed, it should be seen as a consequence of increasing competition in the insurance markets (some major risks are excluded from insurance in order to avoid competition on insurance rates) or of the macroeconomic cycle (some firms reacted to recession by choosing auto-insurance)<sup>14</sup>.

What is more important to note is the persistence of a very big difference between the European and the US market. In fact insurance rates imposed on European firms exporting in North America are significantly greater with respect to those imposed on firms that limit their activity to the European market. According to figures reported by Belgian industry, the US legislation renders exports from Europe to the United States two times (for textiles and steel), five times (for foodstuff) and ten times (for pharmaceuticals) more expensive than exports to other countries<sup>15</sup>. There could be different views on these results, as one could claim that the US liability regime places a high burden on firms and forms a non-tariff barrier to trade. But one could also argue that European firms are weaker with respect to American ones from the point of view of product safety, as they are still on the lower part of the learning curve. Some evidence on the relationship between innovation and product liability in the U.S. is provided by Viscusi (1991) which shows that firms introducing new products are characterised by a higher liability burden. In fact the average ratio between product liability insurance premiums

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<sup>12</sup> A trade association grouping the mechanical industry in Germany reported a growth rate between 10 and 15 % after the introduction of the directive. Some other firms quoted growth rate not larger than 7.5 %.

<sup>13</sup> Cfr. Commission of the European Communities, 2001, p. 12

<sup>14</sup> Cfr Hodges (1994)

<sup>15</sup> Cfr. Commission of the European Communities, 2001, p. 9

and firms sales appears to be 5 % greater for firms with significant product patents. However, the reverse is true for process patents: firms in industries without process patents have a 15% higher product liability cost rate. The reason may be that safety oriented innovation in the manufacturing process can reduce manufacturing defects and liability costs. Deeper statistical analysis concludes that overall product liability positively also affects product innovation, except at very high levels of liability where on balance there is a net discouraging effect (Moore and Viscusi, 1993).

Larouche (1999) argues that some issues that are specific to the Directive could explain its weak impact in Europe. He points out that while the Directive requires full harmonisation (with the exceptions we have already discussed in the last section) it leaves national laws untouched. According to his view, in one way or another the Directive is less protective than national laws in almost every State and this explains both the political difficulty to implement it in replacement of them and the fact that plaintiffs would continue to prefer national laws as a mean of redress. On the contrary, had the Community opted for minimal harmonisation without leaving national laws untouched it could have produced more convergence among national laws as a result. However the replies to the Green paper by the Commission generally oppose the idea of a “minimum clause” replacing full harmonisation.

### ***2.3 Compensation of product accidents: the welfare State and costly access to justice.***

In Europe major differences with respect to the US system exist with regard to damage awards. Non economic damages ( like pain and suffering ) are not recognised by the EC directive - but member states are allowed to include such damages in their national laws – and punitive damages are unknown in the European liability regime.

A very important difference between the two systems concerns the fact that physical injuries in Europe are compensated through the health care and the social security system, while in the US appeal to the liability system is much more widespread because Welfare State provisions are much more restricted with respect to the European countries<sup>16</sup>. In Europe the social security system is the principal mechanism for providing compensation to injured parties as recognised in the recent Green paper, in the replies to it and in the most recent study by the Commission on the implementation of the EC directive. In some countries (Belgium) compensation via the product liability regime is justified when welfare state provisions are not sufficient<sup>17</sup>, while in many others such as France, Finland and Spain compensation by the

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<sup>16</sup> Cfr. Silva F. and A. Cavaliere (2000)

<sup>17</sup> Cfr. Commissione delle Comunità Europee, 1999, p. 14.

social security system does not exclude the right to appeal to civil law. In most countries the social security authorities bearing the financial burden of compensation are entitled to take recourse against the producer of the defective item. However, while in France and Austria schemes are often applied which allow the social security authorities to bring a claim against the liable producer, neither in Italy nor in Germany have such authorities ever initiated a proceeding against the producer after having covered the victim expenses.

The idea of the liability system as a public insurance device to provide compensation to every consumer, so typical of the US experience, seems to be very distant from the implementation of product liability in Europe where some institutions of the welfare State operate with this same aim but are directed to the citizen as such and not only to him as a consumer. It is interesting to verify to what extent this difference negatively affects the other important function of tort liability: the internalisation of the cost of accidents in order to improve product safety. In order for a liability system to correctly perform its deterrence function a certain amount of liability claims (and lawsuits) should be in place. However the evidence at our disposal is very poor in this respect. Moreover to the extent that social security institutions do not take recourse against the producers, the cost of accidents are completely internalised by the State and not in the activities giving rise to them, as efficiency requires. Compensation via the welfare state can be inefficient to the extent that it has no deterrence function. On the contrary one could claim that this form of compensation is superior from the distributive point of view. Even if the amount of compensation can vary from one country to the other, depending on welfare state provisions, in Europe every injured victim automatically receives financial aid (free health care, redress and/or a public pension in case of damage to working capacity etc.) The civil liability system in the US awards huge benefits to a comparatively few injured victims at the risk of completely excluding from compensation those that are losers in the judicial system. On the contrary compensation in Europe, via the welfare State, can reach every victim but its amount is reduced and cannot be sufficient to recover non material damages like “pain and suffering”.

Some typical features of the American legal system that are not present in Europe have contributed to the expansion of product liability in the US and in the meantime can explain the weak role of product liability in Europe. We mainly refer to the respective role of juries and judges in lawsuits and to the contingent fee system with regard to attorneys compensation.

With the exception of Ireland, the US is the only country where liability lawsuits are decided by juries. The jury system certainly plays a role in allowing for disproportionate

awards to victims of product accidents, contributing thus to the unpredictability of the liability system. Decisions related to non-economic damages (pain and suffering and punitive damages) are largely subjective and under the rule of strict liability the actions of producers are irrelevant.

Attorney compensation has an impact on the number of lawsuits tried, the number of lawsuits settled prior to trial, and the level of damages awarded. In the US, attorney compensation is based on contingent fee arrangements: lawyers are paid for their service only if the plaintiff is successful, and the amount due depends on the size of the awards<sup>18</sup>. This kind of arrangement and the possibility for US attorneys to advertise their services makes it very easy for consumers to have access to compensation<sup>19</sup> but can also increase litigation over the amount that can be considered optimal from the point of view of the internalisation of the cost of accidents. In the UK, another legal system based on common law but where contingent fee arrangements are considered unethical, attorneys are much more likely to recommend abandonment or pre-trial settlements to injured consumers than in the United States (OECD, 1995).

Concerning attorney compensation, what is nevertheless important to notice is that in the European Union the loser of a lawsuit pays both his own and the opponent's legal costs. As the opponents of consumers are often big companies incurring high legal costs, generally a single consumer cannot afford the cost of legal action, and consumers associations in Europe generally lack the amount of resources that is necessary to patronise injured victims of product accidents.

One cause that has been frequently invoked for the reduced impact of the directive on the number of claims and lawsuits has been the cost of justice in the European Union. Some studies have been commissioned by the "Directorate General XXIV" of the European Commission to evaluate the cost of justice in the single market. These reports are mainly concerned with cross border transactions but we think that their results have a more general significance. The most recent of these reports clearly states that "the cost which the parties have to pay in obtaining justice are high and the duration [of civil proceedings] is long"<sup>20</sup>. The legal expenses are such that in most member states of the European Union only a dispute value of 50.000 Ecus might be a reasonable value to pursue a cross-border dispute. Actually,

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<sup>18</sup> A typical contract calls for the attorney to receive 33 1/3 % of the judgement, though the amount can range from 20 to 50 %. Cfr. OECD, op.cit.

<sup>19</sup> As a matter of fact attorney advertisement has been allowed since 1977 and we can observe that a significant growth of product liability cases in federal courts starts in 1978 (Viscusi, 1991).

<sup>20</sup> Cfr. Von Freyhold, Vial and Parteners (1998), p.275

legal costs in all member states soon exceed the value of the claim for all amounts of claim below 2000 ECU. Even at a dispute value of 50.000 Ecus the total legal fees are far more than half the value of the claim. Remembering that the European legal system imposes on the loser the obligation to also pay the legal expenses of his opponent (cost shifting rule) each party is basically at risk of losing 75.000 ECUs against the potential of winning 50.000 ECUs.

Moreover some other comparisons between the US and the European legal system can give further insights into the costly access to justice that European consumers experiment. Given that procedural norms and standards are oriented to aiding the party which is presumed to be weaker, under European legal concepts the weaker party is the defendant. Therefore the defendant should be given the right of forum at his place of residence or business and should be afforded the time necessary to be heard and defend himself. Under the American legal culture, as the defendant is a company deriving income from the place where the plaintiff resides, this is sufficient to provide for jurisdiction at the plaintiff's residence. In the US the plaintiff is held to be the party aggrieved by the defendant, which is the reason for seeking redress from the courts. Therefore court fees are particularly low and there is no cost shifting against the plaintiff in the event of losing the case.

Cost shifting rules not only double the risk for each individual party but work differently for consumers and for firms. Firms are *multiple players* in court proceedings and can make general litigation strategies<sup>21</sup>. Consumers are typically *one shotter* players and the cost shifting rule makes litigation so risky that they must be very sure to win before going to courts, as they cannot recover their legal fees in other cases. Improving consumer access to justice should enhance the compensation function of tort liability for product defects (litigation would increase). In the meantime if any offence or breach of contract can be easily taken to court there would also be a deterrent effect (litigation would decrease)<sup>22</sup>. Moreover, if the result of civil proceedings can be easily foreseen, legal security will be improved and this will have a positive impact on economic growth<sup>23</sup>. In fact it has been estimated that within the

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<sup>21</sup> For example, if after a number of litigations the company has recovered one ECU more in judgements than it has spent on legal fees its litigation strategy is profitable.

<sup>22</sup> One would not necessarily observe a decrease in the number of disputes. There could instead be an increase of settlements in an earlier stage or in out-of-courts settlements.

<sup>23</sup> Estimating the macroeconomic impact of the cost of judicial barriers, Wagner has shown that legal security is a major factor in economic growth, and the absence of legal security leads to economic slow-down. Cfr. Wagner H. "Macroeconomic Analysis of the Cost of Judicial Barriers for consumers in the Single Market" in von Freyhold, Gessner, Vial and Wagner (eds) "Cost of Judicial Barriers for consumers in the Single Market" A report for the European Commission, Brussels, 1995. Quoted in von Freyhold, Vial & Partener Consultants (1998) p. 276

context of cross border transactions, and considering all the economies in the EU, the current lack of legal security creates annual losses of 100 billion of Ecus.

### **3. Product Liability and Product Safety Regulations: Complements or Substitutes ?**

The existence of liability failures call upon the intervention of safety regulation to avoid the social cost of accidents. These failures occur in three main cases: 1) Compensation for damages exceeds firms' assets 2) Losses, considered from the point of view of a single individual, are so small that injured parties do not file claims 3) Asymmetric information about the cost of care, product risks and care efforts. It is thus clear why one cannot rely exclusively on tort liability instead of regulation to reach this objective. In economic reality the two institutions interact to control product safety risk. It would thus be interesting to see what is the nature of institutional interactions that take place in the US and the EU.

Concerning the US, the "appropriate division of labour" between regulation and product liability has been discussed by Viscusi (1988), who shows the inefficiencies that arise because of the overlap between the two policies. Actually regulatory agencies in the US do not make specific allowances for the role played by tort liability. But in practice tort liability prompts additional regulations<sup>24</sup> and the result may be a more than optimal level of safety. The most important issue discussed by Viscusi is the different consequences of regulatory compliance and regulatory violations concerning the attribution of liability in lawsuits. In fact regulatory compliance is admissible as a defence but does not assure that the product will not be subject to product liability lawsuits<sup>25</sup>. Regulatory violations instead have much more impact in showing that the producer was negligent.

The liability crisis of the mid-eighties together with the expanded scope of government regulation has caused the institutional overlap to be particularly felt in the US. Considering the asymmetric effect of regulatory compliance and regulatory violations Viscusi proposes exempting firms from potential liability if they can demonstrate compliance with government regulations. The proposal was based on the assumption that most government regulation is more stringent than the economically efficient risk level, so that the liability system creates inefficient safety incentives for firms already complying with regulations. For firms not complying with product liability, regulation represents an additional incentive. However, the

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<sup>24</sup> This result appears clearly in the case of Asbestos. Asbestos litigation was followed firstly by occupational regulation on the part of OSHA and subsequently environmental regulation on the part of EPA. Product liability lawsuits thus in practice led to additional regulation. Cfr. Viscusi (1988), p. 300

<sup>25</sup> However companies may use compliance to show that the risk utility test is favourable and the product cannot be considered defective.

Viscusi's proposal is less convincing from the point of view of the efficient insurance of accidents victims. Though it is true that third party insurance has caused some market failures in the U.S., one cannot exclude compensation on the grounds of the existence of health insurance programs especially if one consider that the National Health Care system in the US is not such as to protect all the population and assure complete risk coverage.

Of course the picture is quite different in Europe. The number of claims and lawsuits is so small in the EU that regulation should have been the main instrument for preventing product accidents. In a recent study by the European Commission a division of labour between regulation – assuring accidents prevention – and product liability- assuring victims' compensation - is explicitly established, forgetting that product liability should have both a deterrence and a compensation function .

The analysis of product safety regulation in Europe would require a separate work. However a few words are needed to explain the evolution from a command and control approach to a market oriented attitude of this branch of regulation.

The European regulation of product safety has always been concerned with two main aims: 1) to guarantee a minimum level of safety for all European consumers 2) to harmonise the different national legislation in order to prevent the interposition of non-tariff barriers to free trade among European countries. The Community wanted to avoid the introduction of very detailed directives focused on single products and has preferred to regulate wide product classes. Pharmaceutical and food have been a very important exception to this general rule of conduct. To impose the general principle of product safety and fill any existing gap in the European regulation concerning this issue a directive about general product safety (92/59/CEE) was introduced in 1992. We shall deal later on with the interactions between this directive and product liability.

To ensure standardisation it was necessary for bodies in charge of controlling product conformity to adopt homogeneous criteria and enjoy an international reputation. This aim was reached in Europe by adopting the quality control standard ISO (International Standardisation Institute) 9000 and ensuring in addition that private certification and testing institutes were credited and rated following the ISO 45000 standard. The conformity of products to EU directives is now also certified by use of the trade mark CE (93/465/CEE).

It has been noted (Marchetti, 1998) that the distinction between regulatory compliance and the voluntary adoption of a system of total quality control is less and less significant, given the main features of product safety regulation as embodied for example in the directive for general product safety. The analysis of this directive actually reveals that voluntary

certification along the lines of the ISO 9000 standard practically follows from the necessity to comply with its contents. In the meantime the increasing market concerns for product safety naturally leads many firms to adopt quality control in order to satisfy customers, resist competition and/or improve market positioning.

For example, if a dangerous product is discovered the authority in charge can impose its withdrawal from circulation (art. 3 of the directive). If the firm is unable to trace it, the same authority can impose withdrawal from circulation of all items and then forbid temporarily or permanently the marketing of this same product. A product is traceable and can be easily recalled (and modified if necessary) when firms are organised along the lines of the ISO 9004 standard. Voluntarily adopting this standard is thus convenient in order to avoid product withdrawal from the market only when some items are found to be defective. Quality control and especially the fact that lots of products are traceable under the ISO 9000 standards could show that only a few items are defective and avoid a public ban on product deliveries being imposed to the firm.

The adoption of a system of quality control can help firms reduce their exposure to product liability to the extent that product safety is increased and any defective product can be easily withdrawn and/or recalled without any impact on the firm's reputation. In fact behind the threat of product withdrawal deriving from enforcement of the directive (92/59/CEE), every firm risks even larger losses associated to its reputation when a product accident is heavily advertised in the media<sup>26</sup>. In fact it has been shown that consumers misperceptions are such that even very small risks give rise to an overreaction by consumers when these risk are highly publicised by the media (Viscusi, 1997). The final result is a collapse of sales and even in the value of the firm's assets<sup>27</sup>.

So even if product liability claims are not frequent in Europe, there is always the possibility that a product accident could impose significant losses to firms because of the

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<sup>26</sup> Concerning Italy the case of the Moulinex centrifuge, in May 1997 can be cited. Some of these products exploded because of a defect and consumers reported some injuries because of the accident. This event was reported by several newspapers on their front page and commented during the television news on at least two occasions. The company decided to carry on a safety campaign recalling some items and supplying some items without defects freely to consumers. Cfr. Marchetti (1998), p. 272.

<sup>27</sup> Losses can also extend to the stock market to the extent that the reduction of demand affects the value of firms share. Viscusi (1991) reports the case of Agent Orange Litigation in the US. Thousands of Vietnam veterans were exposed to the potent herbicide Agent Orange and filed claims against the producers of this chemical. The leading one was Dow Chemical. The original announcement of the Agent orange class action suit in the Wall Street Journal led to a 10-day loss for Dow Chemical of \$221 million. Three subsequent adverse events in the case imposed additional losses of almost \$ 400 million on Dow Chemical. A judge in the case decided that the plaintiffs had not conclusively established causality and in spite of the fact that plaintiffs won the case, the settlement amount was far below the previously anticipated level, causing the value of Dow Chemical Company to increase by over \$ 300 million. Cfr. Viscusi (1991), p. 88.



impact of negative advertisements. The best solution in fact is accident prevention though the adoption of total quality control. The reduction of product risk will have a further impact on production cost because insurance costs should also diminish.

The results of a study about the economic impact of the directive 92/59/CEE on insurance companies operating on the Italian insurance market can be quite interesting in this respect<sup>28</sup>. To carry out this research, 24 firms were selected. They belong to the top 10 firms operating in the Italian insurance market or to multinational companies. The answers come from 12 firms representing at least 60 % of the market, evaluated as the flow of new insurance contracts in the field of product liability. These results show an increase in the ratio between damage awards and cash premiums, which can be ascribed both to a major awareness of consumers and to the vulnerability of firms with respect to the information about product accidents diffused by the media. This vulnerability requires safety campaigns consisting in costly product recalls that can form the object of insurance contracts as product liability in lawsuits does. Another important result in this respect is the increasing burden for insurance companies due to these safety campaigns while the burden linked to consumer losses decreases. The opinion of insurers is actually that the directive 92/59/CEE will be successful in improving product safety for the benefit of consumers. Also the CE trade mark and the voluntary certification of quality will reduce risks. In fact, insurers place a lot of weight on the codification and traceability of product lots because damages are proportionate to the quantity of defective products and to their geographical spread.

#### **4. Conclusions**

Overall in Europe the liability burden on firms has been greatly reduced with respect to the US. The rise in insurance rates and the impact on the cost structure of firms seems not to have dislocated either the product and service market or the insurance market. As a matter of fact European consumers are not accustomed to turning to product liability, as shown by the reduced number of claims and lawsuits, even after the introduction of strict liability as a common standard in all countries of the European Union. Uncompensated damages have not been felt as an issue in these countries, because social security usually provides insurance coverage for the victims of injuries. So it is the difference of welfare State provisions between Europe and the USA that could also explain the different impact of product liability on the

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<sup>28</sup> We thank E. Marchetti, CER and IRS to allow us the publication of these results.

economic system. This could be a matter for further research concerning product liability and welfare state reforms in Europe.

Moreover there are more technical issues connected to the Directive 85/373 in itself that can help to explain the fact that consumers in European countries are still used to appealing to national legislation. The Directive has been conceived in such a way as to enable each country to keep national legislation that probably continues to be more favourable to consumers, at least in some features. That is why in practice there is less harmonisation than expected. The imposition of a minimal harmonisation, a part from national legislation, could probably have produced more convergence at least on some basic principles.

However, there could also be more substantial reasons for the lower number of claims. One of these is costly access to justice that is fostered by cost shifting rules still prevailing in European courts. The European legal system is general more risky for consumers than for firms. Transactions costs are also considerable and lawyers, not operating on a contingent fee basis, can extract rents only from the duration of lawsuits. One cannot thus be surprised about consumers habits with respect to tort liability. In fact, these habits seems to be at odds with respect to the increased consumer consciousness and demand for quality and safety that has been registered in all studies

Given the reduced appeal to product liability in European countries one wonders about the internalisation of the cost of accidents. Safety regulation in European countries should have worked in this respect, but only a deeper analysis of the data on product accidents could confirm this presumption. Moreover we could also question the fact that many claims and lawsuits are necessary to make product liability a serious deterrent for risky products. In fact, nowadays, in the event of an accident large losses in reputation can occur especially if newspapers and television give large attention to it. This could be a credible threat that works for deterrence even if no claims are filed in courts. A possible scenario for Europe is thus one in which compensation of the victims of product accidents is mainly provided through the welfare state and deterrence of product accidents is mainly provided by the market through the credible threat of reputation losses when one of these accidents occurs.

A further question concerns the impact of product liability on dynamic efficiency through the rate of innovation. Basically a trade-off has been presumed to exist between a strict liability system and product innovation, to the extent that this liability regime put a sort of tax on products that turned out to be dangerous per se, independently of the negligence of manufacturers. The development of new products may be discouraged to the extent that they have unpredictable liability effects. In order to avoid such an undesirable result, a *state of the*

*art defence* has been introduced in the EC directive, in order to protect producers from liability in the case that product defects were unknown when the product was put into circulation, given the state of scientific and technological knowledge. However empirical evidence concerning the US has shown that product liability can discourage product innovation but is an incentive for process innovation, so that it can generally be stated that product liability fosters innovation, except at very high levels of liability. Moreover European firms encounter substantial obstacles to their exports to the US just because of their vulnerability to American liability laws. One cannot avoid noting that the soft impact of the European liability regime represents an advantage for the domestic market but is a competitive disadvantage in markets that require a higher level of safety.

The provision of the *state of the art defence* has been seen as a sort of exemption from strict liability and a way to drive the European system towards a fault-based liability regime. However the interpretation given by the ECJ seems much narrower with respect to defences allowed by national legislation, thus supporting the conception of the regime introduced by the directive as a non-fault based one. There are very tricky issues that are connected to this feature of product liability. Firms can have private information about both the cost of care and care efforts they have no interest to reveal and unsafe products can be put into circulation unless a serious accident is publicised by media and sales collapse. In other cases firms really do not know that the product may be dangerous and discover product defects afterwards, when the product is already on the market. Moreover, consumers can overreact to information about product risks and discourage firms to reveal any information at all. That is why public programs of hazard warning may be useful in this respect. For example the present debate about the possible dangers for human health from mobile phones will probably require some more research before coming to a definite conclusion. But through mandatory hazard warnings public authorities should favour a cautious use of them also at present.

From our analysis we are led to conclude that while in the USA the internalisation of the cost of accidents has proved to be very costly for the economic system, in Europe cost internalisation is hidden in the welfare state financial accounts. However such a conclusion would be incomplete without considering both the impact of safety regulations and the issues linked to the definition of an optimal level of safety from the economic point of view.

As far as regulation is concerned, recent research has shown the positive impact of the EC directive about the general safety of products (92/59/CEE), to the extent that it seems to be consistent with market evolution and informational constraints. The directive works on the basis of the threat of product withdrawal from the market in case of defects and implicitly

incites firms to adopt quality control. Firms adopting ISO 9000 standards can rapidly organise product recalls if a defect is discovered after sale, avoiding incurring both negative advertisement and a product liability suit. As confirmed by insurers the directive may be really successful in accident prevention by enhancing product safety. In many cases the approach seems to be completely voluntary to the extent that quality control results from demand push and is completely independent of the knowledge of the EC directives. Regulation works here as a credible threat, and we can cast doubts about the fact that product liability could work as well in the framework of the European legal systems. It would then be risky to think of a reduction of the role played by regulation in order to promote product liability, coupled with firms' voluntary action fostered by their need to develop a reputation for good quality in the product market.

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