

Pack Sizes in the EU

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WORKING PAPER
Enterprise DG

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This is a consultation document by the Enterprise DG of the European Commission.

The aim is to collect opinions on the issue raised in the document with a view to formulating policy as regards pack sizes.

The consultation of stakeholders is part of the Commission's impact assessment pilot project, which includes a survey of consumers, a business test panel and a study on innovation aspects.

This working paper does not commit the European Commission.

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I. INTRODUCTION

1. Background

Pre-packed goods show great diversity over sectors. Often there are many different sizes in different countries, and there is much intra-Union trade.

Legislation at national and EU levels defines the sizes of packages allowed for sale. A typical range of sizes allowed for a product could be 5cl, 10cl, 20cl, 50cl, 1L, 2L etc. The effect of fixing a mandatory range of sizes for a product is to allow a few quantities and to exclude all others.

Four different contexts exist:

- Mandatory harmonised sizes with no different national pack sizes allowed. This concerns wine, champagne, spirits, coffee extracts, sugar and knitting yarns.
- Mandatory harmonised sizes alongside different national sizes. A recent Court of Justice ruling, Case 99/3⁽¹⁾, highlighted mutual recognition of all national sizes legally marketed in any Member State;
- No harmonised pack sizes exist, but there may be national ones: e.g. canned fish, potato crisps, biscuits and honey; mutual recognition is the rule;
- No regulation, either harmonised or national; products circulate freely.

In the framework of the SLIM-IV exercise (Simpler Legislation for the Internal Market), the Commission asked a team, comprising members designated by the Council and independent experts, to advise on pack sizes. They found that simplification could be attained and improvements made in the Union ranges of prescribed quantities for pre-packaged products⁽²⁾. The Commission welcomed the findings and undertook to study the issues further.

A meeting with stakeholders in December 2000⁽³⁾ and this working paper by the Commission services are steps on the way to honouring the commitment to SLIM-IV.

The working paper should also be seen in the light of the Lisbon aim to “become the most competitive and knowledge-based economy in the world”⁽⁴⁾ and as contribution to the Commission pilot project to improve impact assessment of policies before resorting to legislative drafts⁽⁵⁾.

2. Scope

The first EU legislation for ranges of sizes for pre-packaged products dates from 1975. It includes regulation for both metrological requirements and ranges of sizes for liquids. A year

¹ European Court of Justice, [Case C-3/99](#). Judgement of the Court (Sixth Chamber) of 12 October 2000. Cidrerie Ruwet SA v Cidre Stassen SA and HP Bulmer Ltd

² [COM\(2000\)56 final](#), pp 9-11 and 21-22

³ [Minutes](#) of the meeting on 8/12/00 about the follow-up of SLIM-IV on pre-packaging

⁴ [Conclusions](#) of the Lisbon European Council 2000 of 23/24 March 2000

⁵ [Press release IP/01/323](#) of 07.03.2001 concerning simplifying the regulatory environment in the EU and [Commissioner Liikanen's speech of 22 April 2002](#) on "Better Regulation after Barcelona"

later, in 1976, the metrological requirements for non-liquids were regulated and in 1980 the ranges of sizes for non-liquid products were regulated. The legislation is summarised in the table below.

	Liquids	Non liquids
Metrological requirements	Directive 75/106 Annexes 1 & 2	Directive 76/211 ⁽⁶⁾
Ranges of sizes /quantities	Directive 75/106 ⁽⁷⁾ Annex 3	Directive 80/232 ⁽⁸⁾

Table 1. Summary of legislation

This working paper analyses only the justifications for the legislation of “Ranges of sizes/quantities” and not the metrological requirements. The terms ‘pack’, ‘size’ and ‘quantity’ are used as synonyms throughout this document and should be taken as meaning a *pack or bottle size* containing a *pre-packaged quantity* of X kilograms or Y litres.

Nor does this paper deal with packaging issues which are not related to ranges, such as, for example, a possible need to fix the maximum content for water in large containers in order to reduce the hazard to health due to bacterial growth during use.

3. Content

After a short description of the justifications for the existing legislation, this paper discusses the factors that may influence quantities of pre-packaging, for example:

- Changes in society and innovation of pack sizes. Particular attention will be given to the differences in the approach to innovation by sectors where pack sizes are fixed and those where they are not.
- Market failures, because they are generally considered to justify legislation.
- Other relevant factors such as regulation of sizes by major trading partners.

The analysis will be followed by a review of justifications for fixed sizes. In particular, the paper considers whether there are potential benefits that cannot be achieved by means of the market, and therefore require legislation or alternatives to legislation for fixing sizes. Each chapter ends with concluding remarks.

4. Aims

The main aims of this working paper are to provide a basis for assessment and discussion, and to determine the criteria for policy analysis and evaluation.

⁶ Council Directive [76/211/EEC](#) of 20 January 1976 on the approximation of the laws of the Member States relating to the making-up by weight or by volume of certain pre-packaged products

⁷ Council Directive [75/106/EEC](#) of 19 December 1974 on the approximation of the laws of the Member States relating to the making-up by volume of certain pre-packaged liquids

⁸ Council Directive [80/232/EEC](#) of 15 January 1980 on the approximation of the laws of the Member States relating to the ranges of nominal quantities and nominal capacities permitted for certain pre-packaged products

4.1. Provide a basis for assessment and discussion

The current document is a first attempt to signal issues and give, where possible, elements of assessment. The issues analysed in this document would tend to cover all elements involved, with a view to facilitating and structuring the discussion.

Stakeholders are invited to give assessments and detailed presentations of their views, preferably by also using the leads that have been given in this document. Quantification of any strategic costs and benefits are welcomed.

Individual stakeholders including firms and members of the public are also invited to make their views known. Questions contained in the document will be regrouped in three surveys, one for consumers, one for small and medium sized enterprises producing products, and one for retailers. The surveys are annexed but are also available on the Internet.

4.2 Determine criteria for policy analysis and evaluation

In this working paper, criteria for the evaluation of the policy for ranges of sizes are developed to enable ongoing evaluation. The criteria can be applied to drafts of measures (ex ante) and also after a final measure has been implemented (ex post). Commission services will further refine these criteria in the light of contributions.

II. JUSTIFICATIONS IN EXISTING LEGISLATION

1. Introduction

Before beginning to analyse the various factors, which may be thought to influence pack sizes, it is useful to have a look at the justifications given over time for the legislation on sizes.

2. Justifications

The three types of justifications that have been used in the Directives 75/106 and 80/232 are eliminating barriers to trade, consumer protection and market transparency.

2.1 Barriers to trade

The first justification for legislating ranges of sizes was about eliminating barriers to trade. Harmonisation of different sets of national law was needed because Member States had regulated mandatory sizes, which differed from one another and therefore hindered trade.

“Whereas in most of the Member States the conditions of presentation for sale [...] in pre-packages are the subject of mandatory regulations which differ from one Member State to another, thereby hindering trade in such pre-packages; whereas such provisions must therefore be approximated”⁽⁹⁾

2.2 Consumer protection

The second justification concerns consumer protection. Initially, the motive mentioned in the Directive of 1975 was:

“It is necessary to reduce as far as possible the number of volumes of contents that are too close to others of the same product and which consequently are liable to mislead the consumer.”⁽¹⁰⁾

In 1978 when the numbers of sizes in the ranges were increased, the same motive was adapted⁽¹¹⁾; it was mentioned in 1979⁽¹²⁾ and redrafted in 1980. This redraft will be discussed in the following section.

2.3 Market transparency

In the non-liquids Directive 80/232, the justification concerning consumer protection was linked to the motive of improving market transparency:

⁹ Dir. 75/106, 1st recital and Dir. 80/232, 2nd recital

¹⁰ Dir. 75/106, 4th recital

¹¹ Dir. 78/891, 2nd recital : “a simpler classification of pre-packaged products is bound to facilitate their preparation for sale and offer the consumer a wider choice of pre-packaged products.”

¹² Dir. 79/1005, 3rd recital : “the Council, with a view to providing better protection for the consumer, requested [...] a new proposal [...] eliminating values that were too close to one another.”

“Whereas, for a given product, the number of quantities which are so close to each other that they risk confusing the consumer should be reduced as far as possible, in the interests of greater market transparency;”⁽¹³⁾

In 1988, when the total harmonisation of the sizes for champagne and spirits was added, the market transparency motive was mentioned without reference to consumer protection⁽¹⁴⁾. The last change in 1989 extended the market transparency motive to cover the full production process⁽¹⁵⁾.

3. Mandatory ranges (total harmonisation)

In 1985 the harmonised range of wine sizes was made “total”. Total harmonisation means that only the EU sizes are allowed and the Member States had to withdraw any alternative sizes they had allowed until then. This key change was simply motivated by the phrase: *“the total harmonisation ... now appears necessary”*⁽¹⁶⁾.

4. Concluding remarks

In the interest of good governance it is necessary to analyse whether the aims expressed in these justifications have been achieved by the Union’s policy on pack sizes. This will be done in the following three chapters, after which the justifications for the policy will again be the subject of the sixth chapter. The discussion will show whether there exists a public need to justify legislation on pack sizes.

¹³ Dir. 80/232, 3rd recital

¹⁴ Dir. 88/316, 3rd recital : *“it is advisable, whenever possible, to ensure total harmonisation of ranges of pre-packed products in order to establish a transparent market for them.”*

¹⁵ Dir. 89/676, 2nd recital : *“in view of developments in vatting, bottling and labelling of wine, it is necessary to modify this range”*

¹⁶ Dir. 85/10, 1st recital

III. CHANGE AND INNOVATION

This chapter discusses the factors driving change and the resulting effects on innovation. A distinction is made between various types of innovation, and the question whether mandating size could influence innovation choices is addressed. As the existing legislation dates from the end of the 1970s, it is relevant to look at the structural changes that have occurred since. If change influences pack sizes, it may also have an effect on innovation.

Innovation can concern both products and processes. Products may change due to trends in demography, lifestyles and wealth. Processes may change due to management of retailing and flexibility of the machinery used for production. A key question for sizes is whether new products and new processes interact and whether there is synergy.

1. Causes of change to pack sizes

1.1 More smaller households: more smaller sizes

The size of EU households is gradually diminishing. Since 1983, the share of one- and two-person households in the EU has risen by 7 percentage points to reach 59% in 2000. The rise was the same in both the north and the south of the EU¹⁷, but from different levels. Only 55% of households in southern Europe are small; in the north it is over 65%.

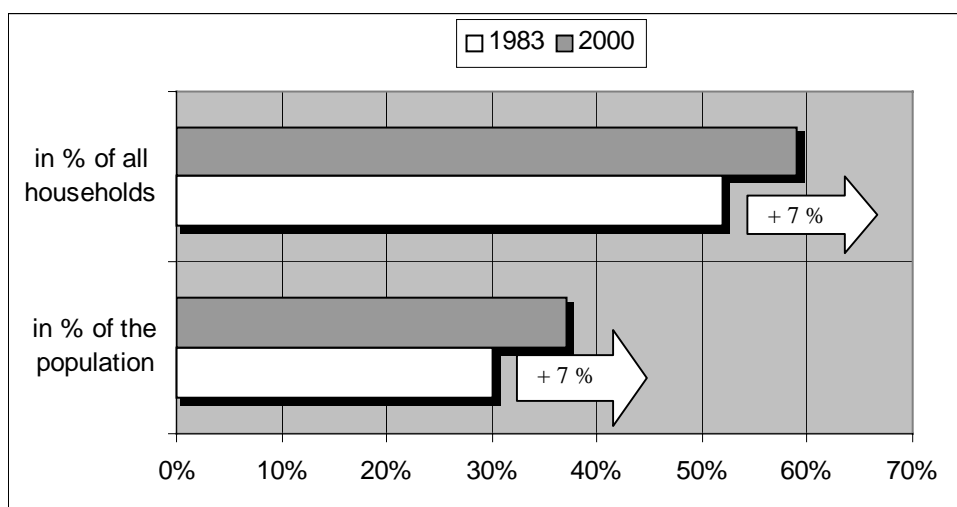


Table 2. Numbers of households of one and two persons in the EU

However, in 2000 only 37% of the EU population resided in one- and two-person households. Further details are in Annex 1.

Population growth in the EU is amongst the lowest in the world. With population growth of less than 5% during 20 years, the EU lags behind the US (nearly 20%) and the rest of the world (35%). While in the US, the population growth averaged nearly 1% per year, in the EU it grew annually by only a quarter of one percent.

¹⁷ Northern EU (11 Member States, 2/3 of EU population): Denmark, Germany, France, Ireland, Luxembourg, Netherlands, Austria, Finland, Sweden United Kingdom
Southern EU (4 Member States, 1/3 of EU population) : Greece, Spain, Italy, Portugal)

- ➔ EU population growth is low while households are tending to become smaller. Demand for smaller sizes may have increased.

1.2 Wealth and lifestyle: more variation

During the past 20 years, the EU has seen good economic growth. Average incomes rose by 2% in real terms per year. Household consumption has followed this trend, increasing by 2% per year in real terms.

Two effects may be expected to occur as wealth increases. The first is that more will be consumed, but the second is that not every item will be consumed more. Once a certain level of wealth is attained, overall consumption of food will rise less than wealth: consumption of luxury foods such as chocolate and ice cream continues to rise while staple foods such as potatoes stagnate or even decline.

Changing lifestyles lead to a rise in individual consumption and more demand for small sizes. There is less consumption of the traditional type in the household and more snacks and fast food are being sold.

- ➔ Wealth and more individual lifestyles have led to change. Demand may switch to larger sizes (wealth effect) and to smaller sizes (individual lifestyle effect).

1.3 Retailing and supermarkets: more choice of sizes

In retailing, supermarkets were invented in the US and they have expanded briskly, in both number and size, since their introduction in the EU 50 years ago. Supermarkets have become easily accessible for most of the population. Most offer consumers a wide choice at competitive prices. Regular advertising has become a feature of supermarket culture. There may be scope for large productivity increases in retailing, as have recently been recorded in the US⁽¹⁸⁾.

The structure of retailing differs considerably among Member States with supermarkets dominating in the north and small retailers still prominent around the Mediterranean⁽¹⁹⁾. If a manufacturer wants to get feedback from consumers without spending money on consumer research he will need to rely on indirect feedback via supermarkets and wholesalers.

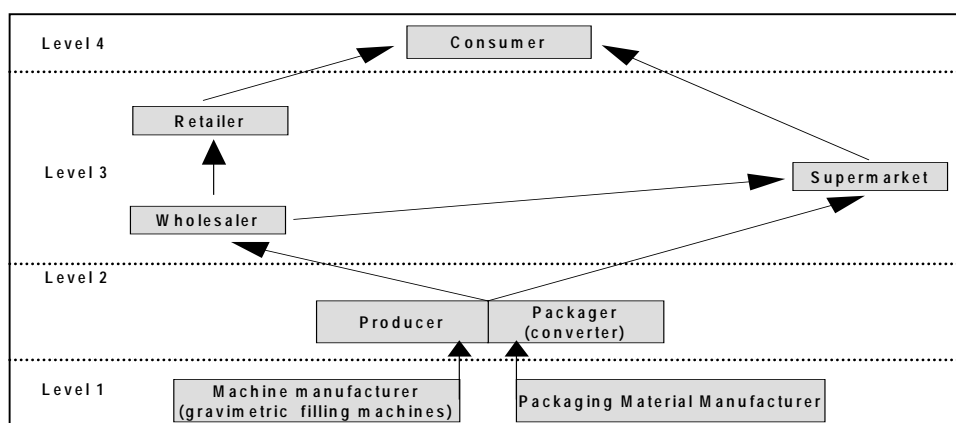


Table 3. Players in the packaging chain (arrows indicate goods flow)

¹⁸ [European Commission](#), European Competitiveness Report 2002, May 2002, p 86

¹⁹ [Dobson Consulting](#) for DG IV of the European Commission : Buyer power and its impact on Competition in the Food Retail Distribution sector for the European Union, May 1999, p 53

- ➔ The role of supermarkets has become all the more pivotal as the interface between producers of pre-packed goods and consumers. Supermarkets offer consumers ample possibilities to compare prices, sizes and brands. By moving upstream they are shortening the pre-packaging chain and competing with producers to deliver sizes that consumers prefer.

1.4 Packaging equipment and materials: more flexibility

Packaging equipment has evolved from relatively simple mechanical machines to fully automated digital gravimetric fillers. These modern filling machines allow the packed quantities to be varied on the same machine⁽²⁰⁾, although there is some cost involved because of the time taken to recalibrate the machine for the new size. Greater flexibility to adapt pack size is more usual than in the past.

The previous generation of packaging machines was designed for long runs in a particular pack size. A different size often required the design and manufacture of new machine parts at considerable expense, and older machinery still in service will have this problem. Inflexible packaging machines are now becoming obsolete.

A second development has been in new packaging materials such as foil, carton packs and plastic bottles. These are more flexible and lighter than standard materials such as glass, and developments are available to all sectors.

- ➔ The trend is to incorporate adjustments within the machine to cope with package changes. With electronics, such changes are increasingly computer-set and only a few changes of parts are required. The initial capital cost of the flexible packaging machine is greater, but the cost of changing parts and the time to deliver have been greatly reduced.

2. Evidence of change in pack sizes

Change in packaging sizes can be observed in the EU. For example the average size of a plastic bottle used in pre-packaging has been reduced in the last 10 years from 1.55L to 0.95L⁽²¹⁾. This is an average reduction of 5% per year and it points to significant downsizing due to smaller households and more individual consumption.

²⁰ for example : <http://www.pailfilling.com/DN.html>

²¹ Source: Container consulting, which also provided Table 4

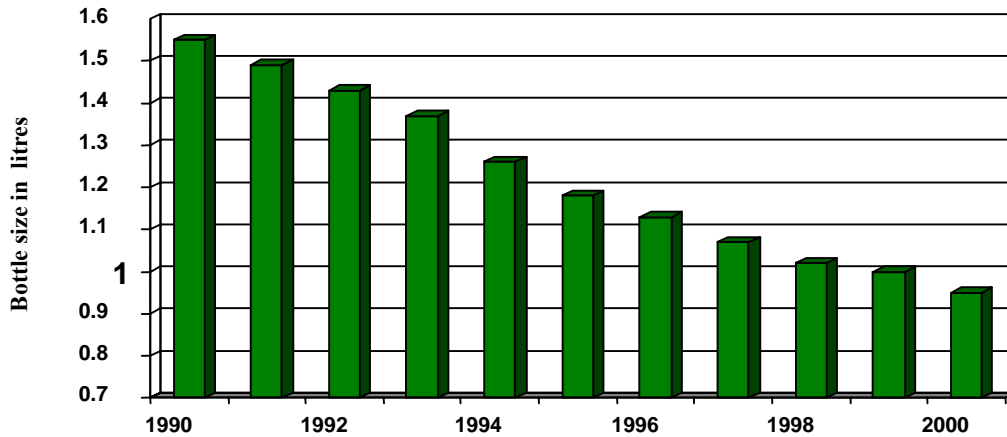


Table 4. Evolution in average size of plastic (PET) bottles in the EU from 1990 to 2000

Another observation is the occasional strong decline of prices for smaller pack sizes. Normally one would expect the unit price per litre or kilogram to be higher for smaller quantities. However, unit prices can be observed that are inverted, e.g. 3 bottles of 25cl are cheaper than one of 75cl of the same brand.

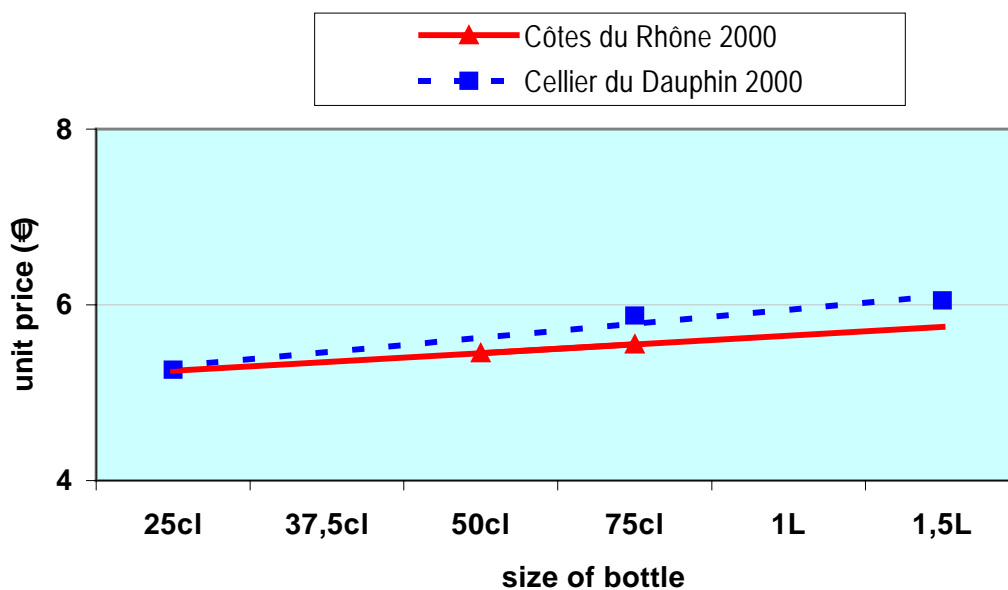


Table 5. Smaller bottles are cheaper per litre than larger ones in Belgium (GB, March 2002)

One reason for inverted unit prices could be that as the market for smaller packs opens up, producers compete for market share by selling the smaller quantities at lower unit prices than for the larger sizes. Annex 2 documents observations of the inverted unit prices in six sectors in Belgium.

Pack sizes, consumer satisfaction and product innovation

A recent study analyses innovation in packaging in five different sectors. It shows that sectors where sizes are free focus more on consumers and concentrate more on product innovation. Yoghurt, for example, has boomed in a myriad of diverse tastes and small packages to satisfy normal and diet customers. In the soft drinks sector, it is feared that standardising sizes would favour non-innovative companies.

The study also indicates that in sectors where sizes are fixed demand is slack, young people demand less and supermarkets reduce allotted space.

SECTOR		SIZE	INNOVATION	
			Process	Product size
FROZEN MEALS		All sizes allowed	Yes	Yes
SOFT DRINKS		EU-sizes & National sizes	Yes	Yes
YOGHURT		All sizes allowed	Yes	Yes
COFFEE	Soluble	Mandatory EU sizes until 2000	Yes	Limited ^{a)}
	Ground and bean	EU-sizes & national sizes		
WINE		Mandatory EU-sizes	Yes	Limited ^{a)}

^{a)} Source: [A. Peterse](#), L. Nijhuis, A. Palmigiano "Regulation and Innovation in the area of pre-packaging sizes", F. Leone (ed.), EC DG JRC-IPTS Technical Report Series, Seville, 2002, pp 55-67

Drawing general conclusions from case studies and making comparisons across sectors remains risky. Nonetheless, it may be that where sizes are flexible, product innovation develops new markets and goes hand in hand with process innovation. Where sizes are fixed there may be less downsizing and less synergy between product and process innovation. The differences between the two approaches to innovation are further developed in Annex 3.

➔ Where flexible sizes play a role in product innovation, they may lead to more growth and employment. Consumers may want to spend more on new products.

3. Concluding remarks

Considerable change in pack sizes has occurred during the past two decades, witness the increase in the variety of sizes on offer to the consumer. Individuals and small households demand smaller packs, while wealthier households demand larger packs. The net shift to smaller sizes would seem to be structural and is approximately 5% per year.

Change has been aided by the growth of supermarkets and by flexibility in the techniques of packaging. Sectors where sizes have been fixed have not changed pack sizes much, while in sectors, where sizes are flexible, size is considered to be an element in product innovation.

As regards the future, it may be expected that all of these trends will continue. Consumers will demand more variation, flexibility and client responsiveness.

Producers will remain under pressure from supermarkets to be flexible. What is more, competition will increase as supermarkets expand upstream and promote their own brands.

IV. INFORMATION ASSYMMETRY AND MARKET FAILURE

Market failure is generally recognised as a valid reason for legislating. Even then, it is necessary to demonstrate how effective the legislation will be in countering the alleged market failure.

Information asymmetry may cause market failure because of the inequality of the players. Information asymmetry occurs when either the buyer or the seller has considerably more information about the product than does the person or firm on the other side of the transaction⁽²²⁾.

Market failures that may occur in the area of sizes of pre-packaging are

- Misleading packaging
- Selling power due to tracking of consumers
- Buying power over producers
- Reluctance to vary product size
- Environmental issues
- Oligopoly and tacit collusion

1. Misleading packaging

Consumers may not know exactly what is on offer in the store. The role of retailing can be described as “offering services to the consumer who, being a small purchaser and immobile, would otherwise remain uninformed”⁽²³⁾. The risk of being misled may increase where there is a greater variety of brands selling in different quantities.

On the other hand, the consumer’s learning curve may reduce the possibilities of playing around with sizes. A consumer may tend to stick to a brand that is known and trusted, not only for size, but also for taste and quality. The impression is that many consumers are wary of changes and will stick to buying a fairly stable set of branded products in the size he or she knows.

Misleading packaging received much attention of policy makers in the 1970s but in those days there was no mention of consumer experience or learning curves⁽²⁴⁾. Until 1980 the EU directives concerning ranges of sizes mentioned consumer protection as the justification for legislating pack sizes⁽²⁵⁾.

Current research discusses consumer experience and also finds that consumers consider knowing packaging sizes of less importance than price, quality and ease of use and even that 35% of those

²² [G. Akerlof](#), “The Market for Lemons: Quality Uncertainty and the Market Mechanism,” *Quarterly Journal of Economics*, 1970

²³ [London Economics for the Office of Fair Trading](#), *Competition in Retailing*, 1997, Res. Paper 13

²⁴ *Package Standardisation, Unit Pricing, Deceptive Packaging*, OECD, Paris, 1975

²⁵ “Whereas it is necessary to reduce as far as possible the number of volumes of contents that are too close to others of the same product and which consequently are liable to mislead the consumer” is mentioned as recital in both Directive 75/106 and in Directive 80/232.

surveyed do not care about knowing size exactly, even if they have the time⁽²⁶⁾. EU legislation has since 1990 generalised unit pricing⁽²⁷⁾, at least in supermarkets, and this offers consumers who want it a means to avoid being misled and to compare price independently of pack size.

➔ It would seem that misleading packaging has become less of an issue than it was in the 1970s because of the application of unit pricing in the EU. Consumers may be expected to read unit prices, as the European Court of Justice has remarked⁽²⁸⁾.

2. Selling power due to tracking consumers

Selling power is exercised when retailers exclude products. The consumer either accepts this or goes elsewhere to find the desired product. Retailers may also exclude certain sizes, forcing the consumer to buy more or less than he wants. It is a fine line where enticement ends and coercion starts. For example in France, the Christmas 2001 competition was for a 1L bottle of quality spirits for less than 100 FF.

Sophisticated high-tech systems allow information to be gathered on consumer buying habits. Many shops offer loyalty cards, which allow consistent tracking of an individual consumer's purchasing behaviour over time.

Initially loyalty schemes were limited to one shop, but cross-sector loyalty systems are booming, typically involving supermarkets, high street shops and fuel stations. Using the data from a loyalty scheme, retailers can better satisfy consumer demand, because they know more precisely what the consumer wants. They concede that the scheme will bind consumers who will benefit from more bonuses if they keep buying in stores that have signed up within the scheme⁽³³⁾.

Loyalty schemes in the UK and Belgium

In the UK half of the population is estimated to have joined up to a loyalty scheme. UK privacy laws forbid the sale of data to other firms⁽²⁹⁾. Tracking concerns affluent consumers; the average bonus card owner visits the shop more often and spends more than average. The data allow retailers to increase the amount consumers spend⁽³⁰⁾.

One Belgian scheme has a membership of one household in three and contends that in its main supermarket 75% of clients are members and account for 90% of sales⁽³¹⁾. Another scheme does not accept total anonymity and sells its data unless the client indicates otherwise⁽³²⁾.

²⁶ [D. Lennard, V. Mitchell, P. McGoldrick, E. Betts](#), "Why consumers under-use food quantity indicators?", The International Review of Retail, Distribution and Consumer Research, Volume 11, Number 2/April 1, 2001, pp177 – 199, Routledge

²⁷ [Directive 98/6/EC](#) on consumer protection in the indication of prices of products offered to consumers, OJ L 80, 18/03/1998 pp 27-31

²⁸ ECJ, [Case C-3/99](#), §53: ECJ uses as its point of reference that the "average consumer is reasonably well informed and reasonably observant and circumspect"

²⁹ [Supermarket loyalty cards to track GM food threat](#), Friends of the Earth, January 1999

³⁰ [Managing Retail Customers](#): Developing loyalty schemes to deliver sustained competitive advantage, Policy Publication Ltd, UK

³¹ [Getrouwheidskaarten](#) : punten tellen, Media Marketing Oktober / November 2000

³² [Conditions](#), Art. 8; points 6 & 7

³³ [Getrouwheidskaarten](#) : punten tellen, Media Marketing Oktober / November 2000

- ➔ Loyalty schemes may considerably increase retailers' knowledge of consumer behaviour, but more information would be needed in order to validate whether selling power is an issue for pack sizes.

3. Buying power over producers

When retailers are large buyers they can exercise buying power by forcing producers into less attractive contracts. The penalty a retailer can impose on a producer is, for example, less shelf space. It could also be that a producer would need to overly compensate a large retailer for his help with the introduction of a new product.

Buying power of supermarkets

Supermarkets have buying power⁽³⁴⁾. Concentration in retailing is well above average compared to EU manufacturing, but this is also the case in some sectors of foodstuffs manufacturing. It would seem that a sector with below-average concentration, i.e. with many small and medium-sized enterprises, would be the most prone to suffer from supermarkets' buying power.

Large suppliers can be assumed to be able to stand up to the buying power of retailers. Buying power can best be exercised against small producers where products are homogenous and where market concentration of manufacturers is low.

Regularly changing sizes may reduce a small producer's economies of scale. Where the package itself is an inflexible entity e.g. a bottle for wine or spirits, a small change to bottle size means keeping more stocks and reduces filling runs. It would be the small producer who is most likely to suffer if buyers required him, for example, to produce a 73cl, a 71cl and a 70cl bottle alongside the currently mandatory size of 75cl.

On the other hand, it would seem that many sectors are not particularly hampered by the kind of flexibility demanded by retailers. Many products are available in many sizes, also in glass containers, and many of these would seem to be

produced by small and medium sized enterprises. The Single Market review of 1996 showed that competition on the Internal Market was beneficial for growth and employment and that prices rise less due to lower transaction costs⁽³⁵⁾.

- ➔ Buying power in relation to sizes does not seem to constitute a market failure. It is an element of competition, which benefits consumers. There may, however, be a market failure in certain very limited cases regarding small producers. Such cases would require more evidence to be convincing.

4. Reluctance to vary product size

Where pack sizes are fixed, producers will be less interested in supplying smaller sizes because it means extra costs for packaging, storing and administration. For example, loading a truck with half-bottles of wine would reduce the quantity of wine carried by 14%.⁽³⁶⁾ The cost of the packaging material of a half-bottle may be higher than that of full size bottle⁽³⁷⁾.

³⁴ [Dobson Consulting](#) for DG Competition "Buyer Power and its impact on competition in the food retail distribution sector of the European Union", 13.10.99

³⁵ M. Monti : "The Single Market and Tomorrow's Europe", Kogan Page, 1997, p144

³⁶ A half-bottle weighs 350g and holds 375g, while a 75cl bottle weighs 500g and holds 750g. The liquid/ weight relationship of the half-bottle is 86% of that of a full size bottle.

³⁷ [A. Peterse](#), L. Nijhuis, A. Palmigiano "Regulation and Innovation in the area of pre-packaging sizes", F. Leone (ed.), EC DG JRC-IPTS Technical Report Series, Seville, 2002, p 60

By not offering smaller packages, producers can realise a gain if consumers buy a larger quantity than they need and end up throwing the leftover away. This would seem relevant in the case of products that deteriorate quickly after opening the package. Producers would then have a vested interest to contend that demand for smaller sizes is insufficient or too diverse.

- ➔ Producers want to sell as much volume as quickly as possible and may in the process overlook the relevance of downsizing their products. A limited range of sizes may curtail buying power by retailers against producers, but it does not protect consumers from the reluctance of producers to offer varied sizes, notably small sizes. Choice for consumers is not assured by fixing sizes.

5. Environmental issues

A number of issues may be distinguished that relate pack sizes to environment protection.

5.1 Is one size better for the environment?

Producers may use lightweight bottles in order to load more bottles on a truck and thereby reduce pollution. The choice is an economic one, conditional on economies of scale being achieved. Bottles made of lightweight glass are more expensive than normal glass, but the difference can be recouped if the order the producer places with the glass manufacturer is sufficiently large. Small producers would be better able to achieve economies of scale if sizes were fixed.

It is, however, unclear to what extent lightweight glass bottles are used. If the use were widespread where sizes are fixed, it could reinforce the argument already made for buying power. The argument ties in with the one for economies of scale mentioned under 'buying power' above.

5.2 One size needed for reusable bottle schemes?

In reusable bottle schemes, the choice of the bottle shape and size depends on the scheme and is left to the national, regional or even manufacturer level. For example, both Netherlands and Belgium currently have a national scheme for reusing beer bottles - one scheme has 30cl and 45cl bottles, while the other has 25cl and 33cl bottles. Even if there was a mandatory size for beer bottles in the EU, the shape of the bottles might differ according to the scheme, which would lead to incompatibility.

Fixing bottle size is not enough for an EU-wide re-usable bottle scheme. The issue would seem to be outside the scope of pack sizes.

5.3 Minimising waste

Minimising waste is a generic problem which concerns all pre-packaging. It is therefore stipulated in the essential requirements in Annex II of the Packaging and Packaging Waste Directive (94/62/EC) to limit packaging volume and weight to the minimum adequate amount. It seems that pack sizes could have either a positive or negative impact on the minimisation of packaging waste. However, at the time of writing, it seems that any possible impact on packaging minimisation would be negligible.

- ➔ Environmental issues do not seem to require a policy on pack sizes. One exception might be the use of lightweight bottles, which depends on small producers achieving economies of scale.

6. Oligopoly and tacit collusion

Oligopoly and tacit collusion can occur in sectors with a high market concentration where, for example, three firms have 50% or more of sales³⁸. ‘Tacit collusion’ or ‘conscious parallelism’ occurs when decision-takers in firms co-ordinate their actions, and there are short term gains from reneging which in the longer term turn out to be unprofitable due to punitive reactions from other firms. No strict process for co-ordinating behaviour is necessary – it may be tacit practice in a market to exactly match the price changes of the largest firm³⁹.

Tacit collusion requires market transparency, because it allows companies to quickly detect competitors breaking ranks. The European Commission therefore negatively views market transparency from the angle of competition policy. Other elements required for tacit collusion could also seem to be applicable to where fixed sizes are currently applied. The Commission distinguishes low rate of product and/or process innovation, mature market, inelastic price elasticity of demand, symmetry of costs among oligopolists, symmetry of market shares, structural links between oligopolists and multimarket contacts⁴⁰. Product homogeneity is also relevant⁴¹.

It would seem that fixing sizes offers the circumstances required for tacit collusion by enhancing market transparency of homogenous products. It is therefore particularly relevant to know the market concentration of producers in a sector when considering fixed sizes.

On the other hand, there could be a countervailing influence from supermarkets’ and retailers’ ‘own brands’ or ‘store brands’. Store brands redistribute profits away from a leading national brand. The store brand will mimic the leading brand and rarely innovate in a product category. Retailers can strategically place store brands and strengthen their bargaining position with manufacturers of national brands⁴². Another factor favouring store brands is that there are historical price differentials for branded consumer goods between EU Member States⁴³.

➔ The element of store brands may countervail tacit collusion, but it cannot be considered a complete correction. Market concentration therefore remains a prime element for consideration when deciding on measures to fix sizes.

³⁸ [Office of Fair Trading](#), Guidelines for competition assessment, a guide for policy makers completing Regulatory Impact Assessment, February 2002, OFT355

³⁹ [R. Rees](#), Tacit Collusion, in “Readings in Micro-economics”, 2nd edition, Ed: T. Jenkinson, pp 23-32

⁴⁰ OECD, Oligopoly, May 1999, DAF/CLP(99)25, p213 ff.

[European Commission](#), Enterprise DG : “Assessment criteria for distinguishing between competitive and dominant oligopolies in merger control” Enterprise Papers No 6 – 2001

⁴¹ [M. Motta](#), Economic analysis and EC Merger Policy, Preliminary Paper 1999

⁴² [F. Morton, F. Zettelmeyer](#), The strategic positioning of store brands in retailer – manufacturer bargaining, NBER Working Paper, 7712, May 2000

⁴³ [P. Gurdijan, G. Kerschbaumer, M. Klinger, J. Waterous](#), Bagging Europe’s groceries, McKinsey 2000

7. Concluding remarks

Market failures can occur singly or together. If regulation is the means to address market failure, none of the above-mentioned market failures have, as yet, been sufficiently shown to exist. The onus will be on the stakeholders who want to standardise sizes to give information about their experiences.

On top of this, fixing sizes for homogenous products in sectors with high market concentration may facilitate tacit collusion. Any counterbalancing effect by store brands will need to be demonstrated.

V. OTHER FACTORS

1. Regulation outside the EU

Regulation of sizes outside the EU seems to be limited.

- Canada prescribes mandatory sizes for wine, peanut butter, glucose and refined sugar syrup. Canadian sizes for wine are mostly similar to those in the EU.
- In the US, the federal authorities have fixed sizes for alcohol and it is possible that individual states have fixed sizes for other products. For wine, US sizes are mostly the same as in the EU, but for spirits the 75cl bottle differs from the 70cl bottle permitted in the EU.

Type of product ⁽⁴⁴⁾	N° of sizes up to 10L/kg*	Mandatory sizes
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Canada

Wine	12	5cl, 10cl, 20cl, 25cl, 37.5cl, 50cl, 75cl, 1L, 1.5L, 2L, 3L, 4L
Peanut Butter	7	250g, 375g, 500g, 750g, 1kg, 1.5kg, 2 kg
Glucose and refined sugar syrup	16+	12.5cl, 25cl, 37.5cl, 50cl, 75cl, 1L, 1.5L, 2L, 3L, 4L, 5L, 6L, 7L, 8L, 9L, 10L + multiples of a liter

United States

Distilled spirits in containers other than cans	7	5cl, 10cl, 20cl, 37.5cl, 75cl, 1L, 1.75L
Distilled spirits in metal containers	4	5cl, 10cl, 20cl, 35.5cl
Wine	16+	5cl, 10cl, 18.7cl, 37.5cl, 50cl, 75cl, 1L, 1.5L, 3L, 4L, 5L, 6L, 7L, 8L, 9L, 10L + multiples of a liter

Table 6. Legislation on mandatory sizes of pre-packaging in US and Canada

(* + indicates that sizes larger than 10L/kg are also allowed)

The difference in the spirits sector may cause a mutual barrier to trade. EU exports to the US are in 75cl, while those from the US to the EU are in 70cl. Modern packaging installations are sufficiently flexible to accommodate such a small change. Large firms can easily achieve economies of scale, but for SMEs that do not use modern packaging installations the difference in sizes could be a barrier.

There are trade barriers between the US and Canada as well. US wine in an 18.7cl bottle may not be sold in Canada, while Canadian bottles of 20cl and 2 L may not be sold in the US.

- ➔ Regulation outside the EU seems to be limited. It remains to be seen whether a legal proposal for fixing sizes is compatible with the WTO/TBT agreement. It would constitute a technical regulation, which needs to be notified and justified.

⁴⁴ A. Peterse, L. Nijhuis, A. Palmigiano "Regulation and Innovation in the area of pre-packaging sizes", F. Leone (ed.), EC DG JRC-IPTS Technical Report Series, Seville, 2002, p 26, 84-85

2. Self regulation

Self-regulation is not very common as regards sizes. An exception is the detergent sector, where product innovation (concentrated detergents) has been accompanied by a voluntary industry agreement to indicate how many washes a pack contains. This allows a concentrated product to be compared with a less concentrated one. The system is voluntary but in general use.

3. Vulnerable consumers

There could be a justification based upon the need to protect vulnerable consumers such as the blind and visually impaired. The behaviour of a vulnerable consumer cannot be expected to resemble in every respect that of the "average consumer" the ECJ was referring to in case C-3/99. Nonetheless it is doubtful to what extent fixed sizes, certainly as they have been developed at national level, can meet the specific needs of vulnerable consumers.

- In this perspective it is probably valid to look at alternatives. Could vulnerable consumers benefit from bar-code reading devices, which are already available in some supermarkets, if such machines gave voice information about (unit) price, product and weight?

4. Definition issues

Definitions may give difficulties. The definition of a product for which a size is fixed may not be evident in practice. Mixes, especially, can present difficulties, such as:

- Wine with fruit juice and fruit parts – is it wine?
- White wine mixed with Cassis de Dijon – is it wine?
- Soluble coffee including chocolate, sugar and milk – is it soluble coffee?

Problems of definition do not arise where sizes are free. With yoghurt, for example, the potential of definition issues would have been huge: every added fruit or nut reduces the yoghurt content.

- If sizes are fixed, the definitions of the products concerned should be clear. The preference would be for undiluted products, so that in future there is no need for discussion about mixes.

Bacardi Breezer

A recent example is the one of Bacardi Breezer, a spirit mixed with a soft drink. Some wanted to block trade in such drinks because the 25cl size was not included in the mandatory range for spirits. The issue was solved using the EU definition of spirits as containing at least 15% alcohol. Mixed drinks with less than 15% alcohol are consequently not spirits⁴⁵.

5. Ex-post evaluation

Whatever solution is chosen, it is useful to think carefully about the criteria by which to evaluate policy, and to indicate in which direction such criteria are expected to develop.

In the case of sizes, potential evaluation criteria could be the following:

⁴⁵ Spirits are defined as having an alcohol percentage of 15% and higher (Regulation 1576/89). Drinks with less than 15% vol. alc. therefore are not covered by Annex III.4 of Dir. 75/106.

- Product innovation and process innovation
 - Development of downsizing in general and in the sectors for which sizes are fixed
 - Use of various sizes per sector
 - Unit price developments relating to sizes per sector
 - Development of market concentration per sector
 - Consumer views on the availability of sizes
 - Value-added and employment.
- ➔ The ways these indicators link together have been indicated in previous sections. A complete set of evaluation criteria should be further developed in the case of sectors where sizes are fixed. Those criteria will be used in the ex-ante evaluation.

6. Concluding remarks

Regulation outside the EU seems to be limited, and EU regulation will need to be justified in the light of the WTO/TBT agreement.

The problems faced by vulnerable consumers could be looked into in a broader context.

The definitions of products covered by mandatory sizes should be clear.

Evaluation indicators should be developed for both ex-ante and ex-post evaluation.

VI. JUSTIFICATIONS REVISITED

The previous discussion allows a review of the extent to which the aims of the EC policy of fixing sizes have been achieved.

- If ranges reflect an “overriding need” of a public nature, should it not be clear why producers in the one sector need a range, while those in another do not?
- If “protection of SMEs” is a motive, why should some sectors with predominantly small firms need a range, while others do not?
- If “innovation” or “market failure” can provide a basis for justifying legislation, it should be demonstrated why this concerns certain sectors and not all.

Where it is considered that reasons specific to one or more sectors present a sufficient justification for harmonisation, a policy on that basis should be based upon coherence and objective criteria. Too many exceptions and inconsistencies would affect the credibility of harmonisation. Commercial reasons alone, and the simple fact that there happens to be a consensus for given products and for specific ranges, are not sufficient reasons for harmonisation.

1. Technical barriers to trade

Technical barriers to trade justified by the EC Treaty are now less likely to occur due to the interpretation of Article 28 (ex 30) of the EEC treaty in case law, of which ECJ ruling 3/99 is the most recent example as regards pre-packaging. National mandatory sizes, other than mandatory EU sizes, cannot be easily invoked to hinder trade in sizes legally marketed elsewhere in the EU. In the absence of harmonisation, mutual recognition under Article 28 of EC Treaty applies.

Since the adoption of the 1975 and 1980 Directives, mutual recognition has become the cornerstone of Internal Market legislation, as highlighted in the relevant case law of the European Court of Justice, commonly referred to as the Cassis-de-Dijon case law. Basically, this case law states that, whilst in the absence of Union measures, Member States are free to legislate on their territory. Barriers to trade which result from differences between national legislation have only to be accepted if national measures:

- serve a legitimate purpose justifying the breach of the principle of free movement of goods. Such purposes can relate to health, safety, consumer protection, environmental protection, etc.
- apply without distinction to national and imported products alike.
- can be justified with regard to this purpose, i.e. effectively allow it to be attained, are proportionate with the aims; furthermore, no other measures should exist that are capable of achieving the same result, but with less hindrance to trade.

In other words, harmonisation of law is only necessary if it serves a specific purpose of public interest; consensus alone for harmonisation of ranges does not seem a reason that is sufficiently strong to justify harmonisation. Furthermore, once a justification has been established, such harmonisation should not go beyond what is necessary and essential to meet that justification.

Consequently, it would seem that the SLIM-IV team in pre-packaging went beyond what has become established in EU case law when it advised:

“Union ranges of quantities offer viable guarantees of ensuring access to all national markets and enhanced the completion of the Single Market.”

Should a Member State base law on Article 30 (ex 36) of the EEC Treaty, such law should be viewed in the light of Article 28 (ex 30) of the Treaty, in the light of case law such as ECJ ruling 3/99. If such practices would, however, become widespread then there could be a case for harmonisation to eliminate technical barriers to trade.

The justification of binding rules throughout the Union is one of the major questions to examine. As stated above, it is not sure whether differences in national legislation can be considered as “justified” trade barriers which need harmonisation. It would seem that there are probably not sufficient grounds for a justification to eliminate barriers to trade arising from fixed sizes.

2. Consumer protection

The review of the justifications in the existing directives shows that the interpretation of consumer protection may have been rather malleable over time. It was used to justify limiting choice of certain sizes, but also used to justify widening consumer choice by adding a few sizes. After consumer protection had been linked to market transparency, it was no longer mentioned and market transparency became the motive.

When the key shift in policy occurred in 1985 and the range of sizes for wine was made mandatory, it would seem that this would have merited a mention of the effects on consumers. However, consumer protection was never again mentioned as a justification.

In January 2000, the report of the SLIM-IV exercise in pre-packaging concluded that there could still be a need for ranges in the light of consumer protection:

“In addition, ranges still serve as consumer protection in particular situations notwithstanding the adoption of labelling requirements (price per kg/litre) introduced under Directive 98/6/EC⁴⁶.”

The advice by the SLIM team could be approached from two angles:

- Is consumer protection sufficiently covered by unit-price labelling requirements?
- Have consumers benefited from additional measures such as fixed sizes?

2.1 Are labelling requirements sufficient?

The first issue should be considered in the light of a number of elements suggested by the European Court, particularly in its ruling in Case C-3/99:

⁴⁶ [Directive 98/6/EC](#) of 16 February 1998 on consumer protection in the indication of the prices of products offered to consumers, OJ L 080, 18/03/1998 pp 27 – 31

- Is there an obligation for the type of product to indicate on the labelling the net quantity of liquid contained in the pack expressed in units of volume (litre, centilitre or millilitre, as appropriate)^(47?)
- Is there an obligation to indicate, at the stage when foodstuffs are sold to the consumer, the unit price irrespective of the nominal volume of the pre-packaged product^(48?)
- Does the information provided through labelling and presentation prevent any confusion, in the mind of the reference consumer, between the two volumes^(49?)
- Does the information available enable the consumer to take account of the ascertained difference in volume, when comparing the prices of the same liquid, presented in two different types of packaging^(50?)
- Can one reasonably maintain the objective of consumer protection if one looks to the vast number of ranges existing at national level alongside the Union ranges, either as national law or as national practice, and the tiny differences that sometimes exist between the values of such ranges^(51?)

It would seem that consumer protection, labelling and information are to be considered as the main instruments to ensure such protection. The reference for the Court is the “average consumer, reasonably well informed and reasonably observant and circumspect”⁽⁵²⁾. Only if this were not sufficient and serious market failure could be identified, could complementary measures, such as fixing sizes, be considered.

The existence of a consumer ‘learning curve’, the indication of unit prices and the high levels of competition in manufacturing and in retailing, would all give reason to presume that the consumer may be misled occasionally but not that this is continuously the case.

2.2 Have consumers benefited from fixed sizes?

As regards the second question, the evidence in general would seem to be that the consumer draws significant benefits from innovation of products and sizes which stimulate demand and offer products which are easier to handle. In sectors where sizes are not limited, the consumer’s wishes are the focal point of attention of supermarkets and manufacturers. As a consequence, the consumer is increasingly well catered for and this also concerns more varied sizes.

⁴⁷ Articles 3(1)(4) and 8(1) of Directive 2000/13/EC of the European Parliament and of the Council of 20 March 2000 on the approximation of the laws of the Member States relating to the labelling, presentation and advertising of foodstuffs (OJ 2000 L 109, p. 29), which consolidated and repealed Directive 79/112. The obligation is also laid down in Article 4(1) of Directive 75/106 as amended by Dir. 79/1005 and in Art. 4.1 of Dir. 76/211.

⁴⁸ Article 3(2) of Directive 79/581, introduced by Directive 88/315, laid down an obligation to indicate, at the stage when foodstuffs are sold to the consumer, the unit price (in the case of liquids, in principle in litres). This obligation was extended, subject to exceptions, to all products by Directive 98/6 which repealed Directive 79/581 with effect from 18 March 2000.

⁴⁹ § 38 of European Court of Justice, [Case C-3/99](#). Judgement of the Court (Sixth Chamber) of 12 October 2000. *Cidrerie Ruwet SA v Cidre Stassen SA and HP Bulmer Ltd.*

⁵⁰ § 54 of Case C-3/99, *op. cit.*

⁵¹ § 55 of Case C-3/99, *op. cit.*

⁵² Case [C-220/98](#) *Estée Lauder Cosmetics v Lancaster Group* [2000] ECR I-117, § 30

More standard sizes! More choice!

A Eurobarometer survey in October 2001* asked consumers in the EU about their general experience with packaged and bottled products sold in shops and supermarkets. Most of those interviewed did not object to competing products being sold in different quantities. Nor did they have problems reading the quantity or volume indicated, although about half of those over 55 admitted that they do experience difficulties deciphering such information.

Two-thirds of respondents, especially between the age of 25 and 55, are interested in knowing the price per litre or per kilo of the items they buy. Nearly half (46%) often look at the unit price indication. A substantial majority (80%) of interviewees would like products to be sold in more standard-sized packs and bottles. For 15% this is an 'excellent idea', while 65% consider it a 'good idea'. On the other hand, about half of those polled disliked the fact - and this feeling was particularly strong among the young - that standard sizes force them to buy too little or too much.

The survey shows that consumers welcome standard sizes, but not at the expense of limiting choice. Where sizes are standardised, they would like to see a sufficient range of options available in stores to enable them to select the one they require.

* [Gallup Europe](#): *FLASH Eurobarometer N°113 "Les emballages et les ménages" (22-29/10/01)*

The development of ranges at national level casts doubts on the use of ranges as a means to protect objectives of a public nature. Consumers have in practice often got accustomed to a myriad of packages, as the ECJ pointed out in case C-3/99. The present availability of different packages on the market rather suggests that there is a – probably legitimate – interest to denote differentiation.

Overprotection of the consumer would currently seem to be a greater risk than lack of sufficient protection. Where ranges are fixed, it is unclear if the consumer gets what he/she wants, because the evidence would seem to point to the fact that only one size is sold. Fixed sizes can transfer to the producers the power to manipulate the consumer.

The indications are that in sectors which request fixed sizes only a few sizes are available in the supermarket or corner shop, and that mostly only the normal size is stocked. There has been virtually no change in sizes during the past decade in sectors where sizes are fixed or there is an application currently under consideration for them to become fixed. The table below gives an impression of sales per size per product. In the sectors requesting fixed sizes, 80-95% of products is already sold in one size. Choice for consumers is already limited.

Sector		Most sold		Development
Wine ⁽⁵³⁾	< 75 cl: 5 %	75 cl: 90%	> 75 cl: 5%	No change over time
Spirits ⁽⁵⁴⁾				No change over time
-cornershop	< 70 cl: 20 %	70 cl: 80%		
-supermarket		70 cl: 99%	> 70 cl: 1%	
-tax-free shop	< 70 cl: 20 %	70 cl: 5%	> 70 cl: 75%	
Champagne ⁽⁵⁵⁾		75 cl: 90-95%		No change over time
Ground coffee ⁽⁵⁶⁾		250gr 39% (1989) 60% (1999)	500gr 61% (1989) 40% (1999)	Downsizing to 250gr since 1989
Soluble coffee ⁽⁵⁷⁾	50gr 100gr 15% 5%	200gr 80%		No change over 20 years
Sugar		1 kg		
Flour		1 kg		

Table 7. Percentages of sales per size per sector for which industry suggest range of sizes

3. Market transparency

Market transparency includes the whole supply chain. There is room for doubt as to how far the lawmaker should endeavour to aim at market transparency, as it may facilitate unlawful behaviour such as tacit collusion. If anything, the law should be limited to addressing market failures where they are shown to exist. Market transparency in a broad sense would therefore not be a valid justification for total harmonisation of ranges of sizes, also because it may conflict with competition policy goals.

As market transparency is too broad as an aim, it should be very much limited if it is to give a justification for fixing sizes, e.g.:

- Firstly, a sector would need to have a low market concentration with many small producers confronted with the buyers who are much more concentrated.
- Secondly, the packaging material must be of a discontinuous nature and inflexible, such as a bottle. Changing the size of a bottle means a new order at the glassmaker and reduces the scale effects to be achieved by small producers.
- Thirdly, having a range of sizes will reduce consumer choice, where producers have a common interest in producing only one size. The range of sizes should therefore be as limited as possible, e.g. 75cl the only size allowed between 0.5L and 1L, while all sizes are allowed outside of the 0.5L to 1L range.
- Fourthly, regulators should not be burdened by interpreting unclear definitions, so the range should only be for an undiluted product.

⁵³ Workshop 14/3-02 oral comment by Dr A. Peterse of TNO

⁵⁴ Observations to be confirmed

⁵⁵ [A. Peterse](#), L. Nijhuis, A. Palmigiano "Regulation and Innovation in the area of pre-packaging sizes", F. Leone (ed.), EC DG JRC-IPTS Technical Report Series, Seville, 2002. p. 59

⁵⁶ P. 63 of Peterse et al, op. cit.

⁵⁷ P. 63 of Peterse et al, op. cit.

These motives taken together could serve to justify a limited range of sizes for a homogenous, undiluted, bottled product in a sector with low market concentration. They are, however, at odds with the aim of expanding consumer choice to more than one size, as mentioned in the previous section.

4. Environment

There does not seem to be much justification for fixing sizes for reasons of environment protection.

- Reuse schemes do not require an EU size, because the shape of bottles of the same size will differ depending on the scheme.
- Light glass is economic where there are economies of scales and this is already mentioned as a possible justification under the second bullet of market transparency above.
- It is unclear how far minimisation of packaging by volume or weight as mentioned in Annex II of the Packaging and Packaging Waste Directive, can be influenced by sizes.

5. Innovation

Fixing sizes to allow producers to invest in process innovation and pass on the benefits to consumers via lower prices would require more factual underpinning before it could be considered as a justification. The idea is even less convincing if lower prices were to erode growth of value-added and diminish future investment.

It would seem that product innovation in combination with process innovation is a more synergetic form of innovation than process innovation alone. Product innovation would require freedom for producers to produce in sizes that consumers are prepared to buy and this is evidenced by sectors where sizes are free. It appears that innovation is more a justification for not fixing sizes than for making them mandatory.

If the absence of fixed sizes is better for innovation, then there is a conflict with justifications that go the other way. Mandatory sizes should be as limited as possible in order to allow as much freedom of sizes as possible. This reinforces the limitation under the third bullet of the market transparency justifications mentioned above.

6. Policy options

6.1 No general need to fix sizes

There would seem to be very little justification for the need to fix sizes. Fixed sizes may hamper product innovation and reduce consumer choice without contributing to meet any concern of public policy.

6.2 Very limited fixing of sizes, if any

If fixed sizes were needed, the combination of the above-mentioned criteria would suggest that they be very limited and applicable only in those sectors where market concentration of producers is low and in those cases where pre-packaging is done in bottles.

An example could be for bottles containing undiluted wine or champagne. For bottles between 0.5L and 1L the size could be fixed as 75cl. Outside of this range all sizes are free and this also applies for pre-packaging other than bottles in 0.5L to 1L range. The 75cl fixed bottle size reflects the size already used in most sales and allows SMEs to maximise scale effects. The greater freedom of sizes than is currently the case would allow product innovation to develop. Concentration in the wine sector was below 20% (in 1993, figure to be updated).

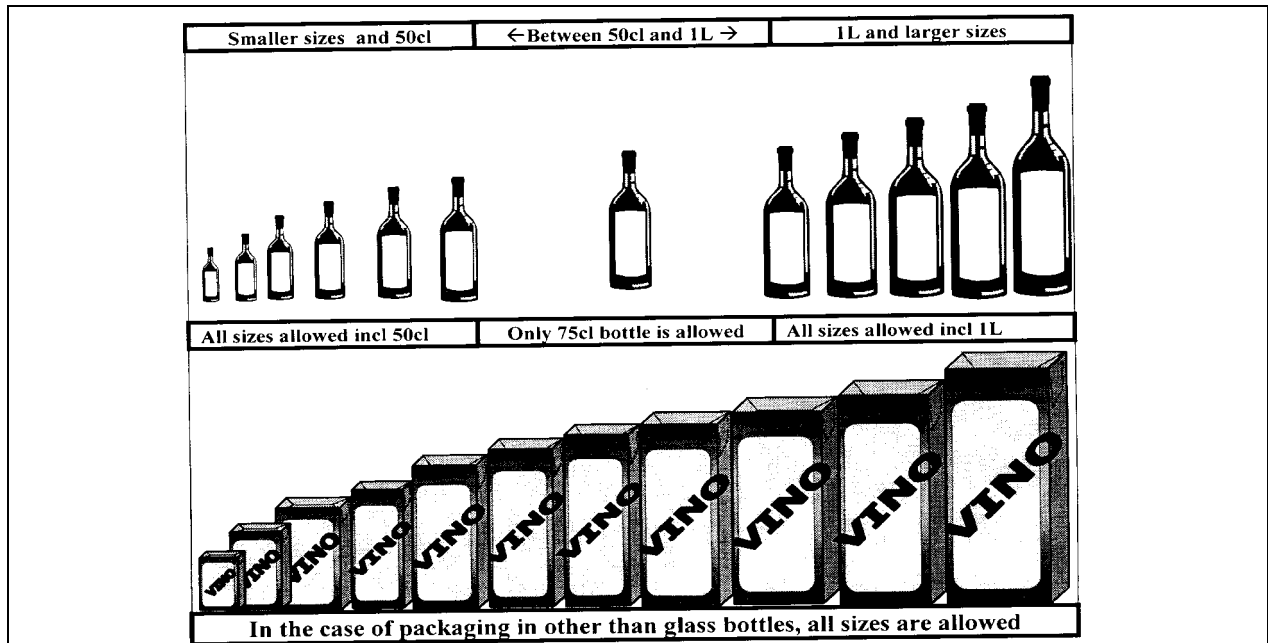


Table 8. For glass bottles of wine only the size of 75cl would be allowed in the range between 50cl to 1L

In this case, the following justifications could apply:

- In sectors where concentration of producers is low and where, as a result of competition among producers, retailers may exercise buying power, sufficient scope for achieving economies of scale should be offered, notably to small and medium sized producers.
- In a case where packaging material is inflexible, e.g. a glass bottle, economies of scale can be of importance for using lightweight materials.
- In a case where there is considerable demand across borders, transport costs are relevant and should be reduced by the use of lightweight packaging materials.
- Flexible sizes are an element in product innovation, notably the production of smaller sizes, which are in demand by increasing numbers of small households. Priority should thus be given to allowing sizes to be flexible and determined by the market, where packaging materials other than glass bottles are used.
- Mandatory sizes may have presented a limitation to product innovation in the past. The mandatory size should accordingly be limited to the most used size surrounded by an exclusion range in which no other sizes are allowed.
- In order to reduce definition issues, mandatory sizes should be limited to the undiluted product and should not concern mixes.

By minimising the size of the mandatory range, this solution would seem effectively to be in line with the recommendation of SLIM-IV. It recommends that: “a future legislative framework for a reformed ranges system could be on the basis of ‘total harmonisation’ provided that the necessary degree of flexibility is introduced into the system”.

6.3 Standardisation and voluntary agreements preferable

The aim of fixing sizes can be achieved by means of voluntary standardisation, which in turn could be used to implement voluntary agreements. The advantages are that such an approach is more flexible and allows players to adapt to changing situations.

Voluntary agreement between main stakeholders, i.e. producers, retailers and consumers could solve the main problems associated with sizes. Evaluation criteria could be agreed, which would be monitored by a third party. The agreement could make use of voluntary standardisation.

It would allow for market failures, such as buyer power of retailers against SMEs and reluctance of producers to vary pack sizes, to be taken into account simultaneously. This would be difficult to achieve through legislation.

1. If voluntary mechanisms fail to produce results or in fact distort the functioning of markets, regulatory action may be necessary.

6.4 Member States

The same reasoning would seem to apply at the level of Member States. If the approach set out above is agreed upon, the Commission would expect Member States to deregulate in the same way.

7. Concluding remarks

On the basis of the considerations outlined in this report it may be concluded that:

- There is no public need for regulation of mandatory sizes, in general.
- Member States should follow suit and similarly deregulate across the board.
- Any exceptions requiring legislation need to be minimal and duly justified.

Annex 1. Demography

1 000 hh	AT	BE	DE	ES	FR	GR	IE	IT	LU	NL	PT	UK	EU-8
1 person		572			5,007	417	178	3,607	26	1,298		4,846	15,951
2 persons		1,000			5,852	782	207	4,538	38	1,536		6,769	20,727
3 persons		733			3,678	622	144	4,400	28	804		3,571	13,980
4 persons		623			3,267	770	150	4,325	24	1,072		3,792	14,023
5+ persons		396			2,277	482	288	2,433	14	560		2,118	8,568
Total		3,300	24,378		20,082	3,072	968	19,303	130	5,270		21,097	73,249
1 & 2 person households													
% of hh		47%			54%	39%	40%	42%	49%	54%		55%	50%
% of pop		28%			32%	21%	19%	23%	29%	32%		34%	29%

Table 1. Numbers of private households in eight Member States of the EU in 1983 (source Eurostat)

1 000 hh	AT	BE	D E	ES	FR	GR	IE	IT	LU	NL	PT	UK	EU-10	EU10 + DE (estimated)
1 person	987	1,279		1,926	7,513	839		5,266	43	2,171	488	7,568	28,080	
2 persons	984	1,383		3,401	7,898	1,173		5,406	43	2,383	887	8,739	32,297	
3 persons	540	746		2,870	3,812	789		4,888	33	872	897	3,912	19,359	
4 persons	498	589		3,126	3,333	780		4,508	29	979	744	3,601	18,187	
5+ person.	254	318		1,660	1,854	306		1,591	17	417	372	1,778	8,567	
Total hh	3,264	4,314		12,982	24,411	3,886		21,660	164	6,822	3,389	25,597	106,490	
Total pop	7,837	10,229		38,142	57,347	10,202		56,729	429	15,554	9,789	60,076	266,334	346,334
1 & 2 person households														
% of hh	60%	62%		41%	63%	52%		49%	52%	67%	41%	64%	57%	59%
% of pop	38%	40%		23%	41%	31%		28%	30%	45%	23%	42%	35%	37%

Table 2. Numbers of private households in ten Member States of the EU in 2000 (source Eurostat)

Region	1981	2000	% growth	% yearly growth
Europe	697,000,000	727,000,000	4.30%	0.2%
Africa	486,000,000	794,000,000	63.4%	3.2%
Asia	2,703,000,000	3,672,000,000	35.8%	1.8%
South America	247,000,000	346,000,000	40.1%	2.0%
North America	378,000,000	487,000,000	28.8%	1.4%
Oceania	23,000,000	31,000,000	34.8%	1.7%
World total	4,534,000,000	6,057,000,000	33.6%	1.7%

Table 3 Population in the world in 1981 and 2000 (Source FAO)

Country	1983	2000	% growth	Yearly growth in %
USA	232,170,000	271,600,000	17.0%	1.00%
Japan	118,000,000	127,000,000	7.6%	0.45%
EU - 15	363,300,000	376,400,000	3.6%	0.21%

Table 4 Population in USA, Japan and EU in 1983 and 2000 (source Eurostat)

Annex 2. Unit pricing observed in Belgium Oct 2001-March 2002

PORTIONS ►	1	2	3	4	5	6	more
Water (Delhaize Feb 2002)	0.20l	0.25l	0.33l	0.5l	1L	1.5L	
Spa Reine			1.13	0.87	0.61	0.45	
Chaudfontaine				0.84		0.45	
Ice cream (GB Nov 2001)					1l		2l
OLA Fermette					2.7		1.85
Soluble Coffee (GB Nov 2001)	25x2g			50g		100g	200g
Nescafé Gold	47.1			42.64			
Nescafé Select Decaf.				47.65			31.36

Table 1. Unit price in € per product and quantity of water, ice cream and soluble coffee

PORTIONS ►	1	2	3	4	5	6	more
Wine (GB Mar 2002)	25cl	37.5cl	50cl	75cl	1L	1.5L	
Côtes du Rhône 2000			5.45	5.55			
Cellier du Dauphin 2000	5.26			6.08		6.05	
Marques de Caceres 1998		9.85		9.75			
Señoria de Llamos 1997		5.69		5.32			
Chianti 2000			7.88		6.99		
Gato Negro (Cabernet) 2000		7.78		6.21			
Paul Masson		7.21		6.91			
Milk Chocolate (GB Nov 2001)		3x50g				200g	400g
Côte d'Or		6.45					6.63
Milka		9.42				9.67	
Ground Coffee (GB Nov 2001)						250g	500g
Jacquemotte Moka						7.73	7.95
Douwe Egberts Decaf.						7.73	7.39

Table 2. Unit price in € per product and quantity of wine, milk chocolate and ground coffee (Inversed unit prices indicated in bold)

PORTIONS ►	1	2	3	4	5	6	more
Orange Juice (Cora Jan 2002)	0.20l	0.25l	0.33l	0.5l	1L	1.5L	
Minute Maid	1.19	1.54	1.42	1.73	0.96	1.12	
Appelsientje	1.98	2.18			1.36		
Deep Frozen Vegetables (GB Nov 2001)		150g		400g		750g	1kg
Iglo spinach leaves				3.03			2.45
Iglo cut spinach		4.96		1.60		1.75	
Deep Frozen fish (GB Nov 2001)		2x		4x			10x
GB Alaska coalfish		8.30		8.33			7.73

Table 3. Unit price in € per product and quantity of orange juice, frozen vegetables and frozen fish (Inversed prices indicated in bold)

Annex 3. Typification of innovation

A typical model of innovation is sequential: new products come first and, once the market is developed, process innovation follows. This would seem to be the model when sizes are fixed. Rigidity would enhance investment.

Where sizes are free, however, consumers can demand specifically sized products and there would seem to be a competition advantage in simultaneously innovating products and processes. Flexibility means synergy and profitability.

	Firm 1	Firm 2	%
Value added by labour in 1980	80	80	
Value added by capital in 1980	20	20	
Total value added (TVA) in 1980	100	100	
Employment in 1980	100	100	
Productivity: TVA per employee	1	1	
Growth in volume of demand	0	2%	
Growth of value added per year	0%	2%	
Growth of employment per year	-2%	0%	
Increase of real wages per employee	2%	2%	
Value added by labour in 2000	80	119	80%
Value added by capital in 2000	20	30	20%
Total value added in 2000	100	149	100%
Employment in 2000	67	100	
Productivity: TVA per employee	1.50	1.49	

Table 1. Stylised development of two firms between 1980 and 2000

Firm 1 has invested in process innovation. As its market is saturated passing on benefits to consumers in lower prices does not lead to more demand, so its value added did not increase. Due to process innovation it shed employment and, as a result, productivity increased by 50%, which is reflected in higher wages.

Firm 2 has invested in both product innovation and process flexibility. Its new products have stimulated demand in addition to the stagnant demand for its traditional products and it increased value added on a year by year basis. It has maintained employment overall and has seen productivity increase by 50%.

Based on the value added of capital, both firms would have invested an equal amount in 1980. Two decades later, however, Firm 2 can invest 50% more than Firm 1.

This example may illustrate that, in the dynamic context, product innovation leads to more growth and employment than passing on the gains of process innovation.

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