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TECHNICAL BARRIERS TO TRADE FOR HUNGARIAN EXPORTS
TO THE EUROPEAN UNION



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SUMMARY

The EU was already Hungary's most important trading partner by the end of the 1990s. Hungary managed a rapid increase in its exports to the EU, especially in the second half of the decade. This was accompanied by a considerable change in the product structure, with the share of high-technology products increasing strongly to a level high by international standards* and a rapid fall in the share of low-tech, resource-intensive and unskilled labour-intensive goods. Statistical calculations reveal that Hungary, uniquely among the CEE countries, shows clear specialization patterns or revealed comparative advantages in high-tech products on the EU market.**

These trends could not have occurred without rapid adaptation of technical standards and upgrading of product quality. The main finding of the survey conducted by the authors, therefore, is that TBTs (technical barriers to trade) with the EU were no longer significant for Hungarian firms by 2000. Seventy-three per cent of firms reported no difficulties in exporting to the EU. The expectations of companies were optimistic, with the majority forecasting a positive impact from technical harmonization and the elimination of borders.

The sample was then divided into groups with defined characteristics. One was the sector affiliation of the firm. TBTs proved to be highest in the machinery and textile and clothing sectors. When ownership was examined, it was found that technical requirements presented fewer difficulties to FIEs, which had to invest less in redesigning their products than the domestic group. In several cases, FIEs belonged to large multinational networks, which facilitated their export activity. The third characteristic examined was the export-intensity of firms. Export-intensive firms in the sample were larger, had a higher average proportion of foreign ownership, and faced fewer difficulties in exporting than the non-export-intensive group. However, what difficulties they do face are mainly TBTs.

* In 1998, the share of high-tech products in Hungarian exports to the EU was 34.5 per cent, compared with 13.5 per cent in Polish, 16.2 per cent in Portuguese, 17.1 per cent in Czech and 37.9 per cent in Irish exports to the EU (Éltető 2000).

** Kaminski (1999) and Éltető (2000).

1) THE TECHNICAL BARRIERS TO TRADE WITH THE EU*

Many countries in the world place broad reliance on standards, technical regulations, and certification systems in their trade. These systems have been developed to enhance the availability of information and reduce uncertainties about the quality characteristics of goods and services. The EU is no exception. In the areas regulated by Community law, manufacturers must apply conformity assessment and inspection procedures in accordance with modules graded by the risks arising from use of their products (as set forth in Council Decision 93/465/EEC). The standards and technical regulations may be considered technical barriers to trade (TBTs) for potential exporters in the outside world.

In the EU (as in any other country), standards are generally defined voluntarily by commercial associations or other non-governmental organizations. However, technical regulations are legally binding. Certification systems are intended to assure compliance with existing standards or regulations. The EU had adopted about 11,500 such standards by 2000.

Despite the single market, standards, technical regulations, and certification practices still differ among member-states in many respects. In effect, the single market does not fully apply yet. The variety of technical regulations may act as barriers to trade, which the EU is set on overcoming by various means, under what are known as the Old Approach and the New Approach.

The harmonization of member-state legislation began in 1969, according to the

Council's general programme of May 28 that year. The aim was to eliminate technical barriers to trade in industrial products. It continued in the framework of a White Paper on completing the internal market by 1992, according to guidelines approved by the Council in a resolution of May 7, 1985 concerning a New Approach to technical harmonization and standardization. Progress has been made in the following sectors:

- (a) Lifting appliances and lifts.
- (b) Gas appliances.
- (c) Pressure vessels.
- (d) Cosmetics.
- (e) Motorcycles and mopeds.
- (f) Fertilizers.
- (g) Measuring instruments.
- (h) Pre-packaged goods.
- (i) Electrical material.
- (j) Construction plant and equipment.
- (k) Dangerous substances.
- (l) Agricultural tractors.
- (m) Motor vehicles.
- (n) Construction.
- (o) Prevention of accidents.
- (p) Textiles.
- (q) Road vehicles.
- (r) Other sectors.

The differences between the standards, technical regulations, and certification procedures of the EU and those of the Central European countries were significant at the beginning of 1990s and more pronounced than those found between EU member-countries. The aim of acceding to the EU meant that the Central European associated countries have had to adopt new standards, technical regulations, and certification practices or harmonize theirs with EU requirements. These are areas of major importance for access to EU markets. Details of the process of adoption and harmonization of standards are important issues at the negotiations on entry conditions (in the chapter on free movement of goods).

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2) HUNGARY'S POLICY FOR REDUCING THE EFFECTS OF EU TBTs

The importance of the technical barriers to Hungary's exports to the EU can be indirectly evaluated, by estimating the actual differences in standards, technical regulations, and certification systems. The greater the similarity of the two sets of requirements, the fewer difficulties Hungary's exports will encounter in the EU. Analysing the harmonization and evaluating its completion may reveal the existence or absence of technical barriers to Hungary's exports to the EU.

Moreover, meeting the harmonized requirements of EU technical regulations and standards can be regarded as a basic condition for free movement of goods and services. The White Paper requires the implementation of all European Standards as voluntary national standards. To comply with the internal market and achieve full membership of the European standards organizations (CEN and CENELEC), the pace of adaptation to European Standards has to be continuous and dynamic. A special means of transposition is the endorsement notice, which is employed in special fields where national standards committees have not been formed (signalling lack of interest). It is also employed where the circle of users is limited, standards are subject to frequent change, and use of the English language causes no difficulties (e.g. in telecommunications).

Hungary has made steady progress since the beginning of its accession negotiations with adoption of and harmonization to EU standards, technical regulations, and certification. Screening of the chapter on the free movement of goods was effected in September 1998. The Position Paper, and as requested by the Commission, two additional documents containing supplementary information were submitted after the negotiations. Guaranteeing the conditions of the free movement of goods by the date of accession means taking over in full the so-

called horizontal rules on operation of the single market, as well as legislation regulating the marketing of individual product groups and the safety of products. In areas not regulated by the Community, Hungary must enforce the principle of the free movement of goods, in other words, harmonize its national legislation with Articles 28, 29 and 31 of the Amsterdam Treaty and with Council Directive 70/50/EEC. The screening of the Hungarian legislation identified a range of measures whose amendment was found necessary before accession.

2.1. Adopting and harmonizing horizontal and procedural measures

With horizontal and procedural measures, Hungary has gradually speeded up its adoption of European standards as Hungarian national standards, in line with the Accession Partnership priorities. The government has striven to create conditions that allow the Hungarian Standards Institution to adopt the requisite quantity of European standards by the accession date. The plan was also to join CEN and CENELEC before accession. National standards that have remained mandatory will be replaced by suitable legislation and all standards will become voluntary.

In 1997, the Hungarian government started negotiations with the European Commission towards concluding a Protocol on European Conformity Assessment. At that time, the negotiations covered the following areas:

- * Machinery.
- * Low-voltage equipment.
- * Electromagnetic compatibility.
- * Telecommunications terminal equipment.
- * Electrical equipment for use in potentially explosive atmospheres (ATEX).
- * Medical devices, pharmaceutical products (Good Laboratory Practice, Good Manufacturing Practice).

These negotiations, which preceded the beginning of the accession negotiations by about a year, were in themselves evidence that Hungary had reached a high enough level of harmonization in the cited fields of the Single Market to be considered as a potential partner. The progress was acknowledged positively in 1997 by the European Commission, in its Opinion on Hungary's application for membership.

Measures implemented in 1998

In 1998, the Hungarian government set itself the aim of continuing and accelerating the adoption process and implementing more than 1000 European standards. In the event, 1398 European standards were adopted, of which 953 involved an endorsement notice. By the end of that year, 3266 of the total of about 8500 European standards had been introduced in Hungary. (See *Table 1* on page 16) Accession negotiations began in March 1998.

Measures implemented in 1999

The process of approximation of laws required for EU membership involved several measures being implemented in 1999, which was the first year after the start of the accession negotiations. The Hungarian Standards Institution (HSI) adopted 3306 European standards as Hungarian national standards, by contrast with a planned 2925. Of those adopted, 639 were done so in Hungarian and 2667 with an endorsement notice. Thus the HSI had adopted 6581 of the then 10168 European standards as Hungarian national standards by December 31, 1999, which meant the implemented proportion had risen from 37 per cent to 65 per cent in one year.

Within this, the implemented proportion of CEN standards was 61 per cent and of CELENEC standards 65 per cent. Of the European standards harmonized to the New Approach Directives the implemented proportion reached 81 per cent, from 38 per cent in December 1998. Of the standards implemented by December 31, 1999, 4065 (62 per cent) were adopted with an endorsement notice. It could be seen that the

implementation process had speeded up successfully.

Several legal regulations listed in the Appendix were harmonized in 1999. In addition to these, several legal regulations were amended in line with the preparation for the Protocol on European Conformity Assessment (PECA), whose drafting, as a supplementary protocol to the Europe Agreement, is at an advanced stage.

Measures implemented in 2000

By May 1, 2000, 6884 of the 11,456 European Standards had been adopted as Hungarian national standards, which was an implemented proportion of 60 per cent. With 64 per cent of the implemented standards, endorsement notices had been applied, so that the standards have been implemented in English. The proportion of European standards harmonized to the New Approach Directives was 82 per cent.

The harmonization process meant that by September 2000, the HSI had implemented 7428 CEN standards as national standards and including 1137 European standards harmonized to the New Approach Directives. This represented 76.6 per cent of all European standards and 79.7 per cent of European standards harmonized to the New Approach Directives (*Table 3* on page 17).

It could be said again that the implementation process had been successfully managed by the HSI. By the end of 2000, about 3200 European standards were implemented, of which 500 were in Hungarian and 2700 implemented with an endorsement notice. Thus, the 80 per cent implementation rate (9685 standards and technical regulations implemented in Hungary out of a total of about 11500 European standards and technical regulations) necessary for CEN and CENELEC membership had been achieved and an application for such membership could be made at the beginning of 2001.

Measures to be implemented in 2001

According to Hungarian Government Resolution No. 2147/1999. (VI. 23), further steps need to be taken to sustain or accelerate the Hungarian standardization process in

the coming period. In 2001, 2719 European standards have to be implemented, 2200 of them in English. It is expected that almost full implementation can be attained by the end of the year.

Measures to be implemented in 2002

The subsequent task is to ensure continual adaptation to new European Standards issued. About 1500 new standards are expected to be implemented in 2002, of which 1000 will be in English. It is government policy to support further development to implement standards and promote active Hungarian involvement as CEN and CENELEC members, with the ability to execute all related functions.

According to the various EU assessments, Hungary has made continual progress with horizontal and procedural measures in recent years. Meeting the harmonized requirements of the European technical regulations and standards is regarded as basic to the free movement of goods and services. The Hungarian system of standards and technical regulations already complies with the EU internal market, and Hungary has fulfilled the prior conditions for full CEN and CENELEC membership. Full implementation of European standards and technical regulations will be attained by the end of 2001. The Hungarian government is particularly concerned to ensure continual adaptation to the new European Standards issued.

2.2. Sector-specific legislation

Since the beginning of the accession negotiations, Hungary has aligned sector-specific legislation in the following fields:

- (a) Good manufacturing practice for human medicines.
 - (b) Good laboratory practice of human medicines and pesticides.
 - (c) Wholesale distribution of human medicines.
 - (d) Medical devices for human use.
 - (e) Colorants for medicines.
 - (f) Residue limits of veterinary medicinal products in foodstuffs.
 - (g) Novel foods and ingredients.
 - (h) Natural mineral waters.
 - (i) Packaging and labelling of foodstuffs.
 - (j) Migration of plastics coming into contact with foodstuffs.
- Further alignment that can be considered as significant progress occurred in other product areas in the course of 1999 and 2000:
- (a) Motor vehicles.
 - (b) Quality of petrol and diesel fuels.
 - (c) Tyre pressure gauges.
 - (d) Electromagnetic compatibility.
 - (e) Electrical equipment used in potentially explosive atmospheres in mines.
 - (f) Calibration of the tanks of vessels.
 - (g) Good laboratory practice for chemicals.
 - (h) Crystal glass.
 - (i) Recreational crafts.
 - (j) Some pieces of legislation were adopted in the field of legal metrology.
- The alignment activity means that a large part of the sector-specific *acquis* is also in place.
- The outstanding legislative issues relate mainly to:
- (a) Pharmaceutical products (including pricing rules and marketing authorizations).
 - (b) Cosmetics.
 - (c) Chemical substances.
 - (d) Metrology.
 - (e) Construction-sector products.
- The National Programme for Adoption of the *Acquis* (NPAA) includes measures of legislative approximation envisaged before accession, with schedules of implementation. The main product groups are the following:

1. Motor vehicles

Two items of legislation on legal harmonization concerning the technical aspects of motor vehicles were published in May

2000: Decree No. 11/2000. (V. 24.) KHVM of the Minister of Transport, Communication and Water Management (amending Decree No. 5/1990 (IV.12) KöHÉM of the Minister of Transport, Communications and Construction on the technical testing of motor vehicles) and Decree No. 12/2000. (V. 24.) KHVM of the Minister of Transport, Communication and Water Management (amending Decree No. 6/1990 (IV.12) KöHÉM of the Minister of Transport, Communication and Construction on the technical conditions of maintaining motor vehicles in traffic). Most of the harmonized requirements provided for in these decrees entered into force on July 1, 2000. Additional rules—in accordance with the rules governing entry into force within the Community—will become effective gradually, at the latest by the date of accession. The related tasks of institution development and the cost implications of these are presented under Section 4.5 Transport of the NPAA.

2. Chemical substances

Harmonization and institutional-development tasks related to the rules applicable to dangerous chemical substances are presented in Section 5.2 Employment and social affairs of the NPAA. Information on fertilizers is provided under Section 4.2 Agriculture of the NPAA. Harmonization of rules applicable to the marketing and supervision of explosives for civil use will be implemented according to the provisions of the programme on legal harmonization by the end of 2001, with the Ministry of Economic Affairs responsible. Council Directive 92/109/EEC and Regulation 1485/96/EC regulate the control of drug precursors. Government Decree No. 100/1996. (VII. 12.) Korm., on procedural rules for certain chemicals used for illicit manufacture of drugs, implements almost full harmonization. The missing provisions will be introduced in an amendment to the decree, but the current licensing and reporting obligations will be retained until accession for controlled substances where Community directives specify less stringent obligations than the Hungarian regulations.

3. Pharmaceuticals

About 25 pieces of legislation concerning medicines for human use set forth procedures and requirements based on Directive 65/65/EEC, as the fundamental directive for testing procedures, licensing of registration, supervision of manufacturing, and testing, distribution, labelling and advertising. Partial harmonization of 13 legal regulations has been implemented and full harmonization – excluding fields affected by transitional measures that Hungary requested – will be implemented by the Ministry of Health in line with the entry into force of PECA, but at the latest, by the date of accession. The Ministry of Health will also perform the preparatory tasks related to the entry into force of the relevant Community regulations. Tasks of harmonization with Community rules applicable to medicines for veterinary use were performed by the Ministry of Agriculture and Regional Development by the end of 2000.

4. Cosmetics

Directive 76/768/EEC on cosmetics, with its 30 amendments and 11 supplements published, sets forth the fundamental requirements, the allowable and prohibited substances, the testing procedures and the international nomenclature. Current Hungarian legislation provides for partial harmonization. Full harmonization will be implemented in 2001.

5. Metrology

Directives on legal metrology are being taken over in two phases. The regulations unaffected by new Community rules under preparation such as the MID Directive were harmonized during 2000. So long as it is promulgated by then, the new MID Directive will be harmonized in 2002. In the absence of the new legislation, harmonization will be based on the old directives.

6. Electrical equipment

With the harmonization of the new ATEX Directive (94/9/EC), legal harmonization in this field will be fully effected in 2001.

7. Machinery

Here legal harmonization was fully completed in 1999.

8. Crystal Glass

The Ministry of Economic Affairs, in charge of the legal harmonization in this area, effected it in full in 1999.

9. Lifts

Incorporation of the related Community rules into domestic legislation has begun. Full harmonization with Council Directive 95/16/EEC will be implemented by the Ministry of Agriculture and Regional Development and the Ministry of Economic Affairs, by the end of 2001. The European standards in this area were adopted by the end of 2000.

10. Personal Protective Equipment

Here the legislation is partially harmonized in Hungary. To gain full harmonization, an additional decree was issued in 2000 and will be implemented by the end of 2001. By February 1, 2000, 190 harmonized standards had been issued, 135 of them as national standards. Adoption of 35 standards is in progress.

11. Medical devices

The two main directives (93/42/EEC and 90/385/EEC) related to medical devices for human use and the introduction of approximately 120 related standards have been implemented, in line with the preparations of the PECA agreement, by Decree No. 47/1999. (X. 6.) EüM of the Minister of Health on medical devices and Decree No. 48/1999. (X. 6.) EüM of the Minister of Health on the rules of the designation of the organizations testing, inspection and certification the conformity of medical devices functioning under the technical supervision of the Ministry of Health. Under the direction of the Ministry of Health, harmonization with Community legislation on medical devices used for *in vitro* diagnostics will be implemented by the end of 2001. The Ministry of Agriculture and Regional Development harmonized the rules on electro-medical equipment used in veterinary medicine in 2000.

12. Burning-gas appliances

The legislation providing for harmonization with relevant Community legislation was promulgated and entered into force in 1999.

13. Pressure vessels

Harmonization with relevant Community directives was carried out by the Ministry of Economic Affairs in 2000.

14. Construction products

The Ministry of Economic Affairs and Ministry of Agriculture and Regional Development will implement full harmonization with Council Directive 89/106/EEC and related legislation by the date of accession.

15. Recreational crafts

The Ministry of Transport, Telecommunication and Water Management will issue a ministerial decree implementing harmonization with Directive 94/25/EC of the European Parliament and the Council after the Act on Water Traffic enters into force. Parliament passed the act in April 2000 and its provisions entered into force on the first day of 2001, along with designation of the institutes for testing, inspection and certification.

Where alignment is complete, one important task is to eliminate the previous pre-market controls, in line with the Accession Partnership priorities. Furthermore, sufficient administrative capacity needs to be built up in the field of marketing authorizations for medicines. With foodstuffs, Hungary needs to continue to introduce the relevant structures for inspection and analysis.

2.3. Non-harmonized areas

Council Directive 98/34/EC provides for exchange of information among member-states on technical regulations and standards. Commission Resolution 3052/95/EEC provides for this in non-harmonized areas. The responsible Ministry of Economic Affairs and Ministry of Foreign Affairs plan to implement legal harmoniza-

tion in the year leading up to accession, in line with the entry into force of the Protocol on European Conformity Assessment (PECA).

Hungary started internal screening of its domestic legislation in non-harmonized areas, to identify legislation that could prevent *de jure* or *de facto* free movements of goods. Internal screening by the Ministry of Economic Affairs of measures hindering the movement of goods is to continue and should lead to the elimination of incompatible provisions. The aim is for the principle of mutual recognition to be well established by accession.

In December 1999, the modules for the various phases of the conformity assessment procedures and the rules on the use of the CE marking of conformity were transposed. The CE marking will be used in Hungary except in cases requiring third-party certification, where the 'H' mark will replace the CE marking until accession, other than in the sectors covered by the protocol to the Europe Agreement on Conformity Assessment and Acceptance of Products, initialled in July 2000. This agreement covers:

- (a) Machinery.
- (b) Electrical safety.
- (c) Electromagnetic compatibility.
- (d) Hot water boilers.
- (e) Gas appliances.
- (f) Medical devices.
- (g) Good laboratory practice for human medicines.
- (h) Good manufacturing practice for human medicines as regards inspection and batch certification.

The PECA agreement between the EU and Hungary was signed in February 2001. This accepts the mutual-recognition principle for conformity assessment. Mutual acceptance of quality-control certificates in the eight product groups just mentioned will ease trade between the EU and Hungary and secure conformity with European technical systems. The range of product groups covered by this agreement can be extended once further preconditions are met. Negotiations continue on four more product groups and

have to be completed by accession. Except for 'explosive instruments', the product groups will cause no significant problems to adopt.

2.4. Accreditation and certification

Legislative conditions were provided by Act XXVIII/1995 on national standardization, which incorporated EU requirements. The organizational system is well structured and the requisite professional level assured. However, the information system of the HSI still has to be developed.

Approximation of law in itself does not establish conditions of the free movement of goods. In areas regulated by Community law, manufacturers must apply conformity assessment and inspection procedures, in line with the modules for conformity assessment, depending on the risk arising from use of the product (as set forth in Council Decision 93/465/EEC). For this reason, it is necessary to put in place a set of appropriate institutions.

These institutions will cover the activities of the testing and certification bodies, the inspection authorities, the accrediting bodies and the organizations in charge of designation. The comprehensive system to be established will have to guarantee the conditions for free movement of goods while providing a flexible framework for economic agents. Ministries have issued several orders under the authorization conferred by Government Decree No. 182/1997. (X.17.) Korm., on the designation of the bodies testing, inspecting and certifying the conformity of technical products.

In 1999, the Hungarian Accreditation Board became a full member of the European Cooperation for Accreditation (EA). Furthermore, a Notification Information Centre was set up at the Ministry of Economic Affairs in September 2000, to prepare for Hungary's acquis obligations in notification and information of technical standards and regulations.

Further institutional progress was made in 2000, when alignment was completed in nine sectors and market-surveillance bodies were designated. Hungary adopted legislation in 1997 authorizing each ministry in its area of competence to designate bodies for testing, inspecting and certifying the conformity of products to the New Approach Directives.

This authorization has already been made for industrial products within the competence of the Ministry of Economic Affairs:

- (a) Machinery.
- (b) Toys.
- (c) Electrical equipment.
- (d) Gas-burning appliances.
- (e) Certain construction products.

It has also been done for some other sectors:

- (a) Telecommunications and information-technology products.
- (b) Medical devices.
- (c) Personal protective equipment.

The technical capacity of several of these bodies is being upgraded, as requested in the short-term Accession Partnership priority.

As the principles of the New and Global Approach are introduced, the necessary infrastructure for regulation, standardization, accreditation and certification is being established. The HSI is a full member of the European Telecommunications Standards Institute and the International Standards Organization.

Efforts to accelerate the adoption of European standards mean that the requirements for full membership of the CEN and CENELEC have also been met in the main. The organization and procedures of the HSI, the Hungarian Accreditation Board and the Hungarian National Office of Measurements broadly appear to meet the needs of the acquis.

With safety checks on products, Hungary still needs to establish an appropriate customs and market surveillance infrastructure and effective administrative coop-

eration among competent authorities. At present, there are only limited or no safety controls at the border. The capacities of the testing and certification bodies need to be enhanced and their independence from the regulator ensured.

The main market-surveillance body, the General Inspectorate for Consumer Protection, also houses the secretariat of the Transitional Rapid Information System on Dangerous Products (TRAPEX), an information-exchange mechanism covering ten candidate countries.

2.5 Conclusion

As the area in which the harmonization requirements of European standards and technical regulations are met by the Hungarian system of standards and technical regulations has been spreading gradually, there should be progressively fewer cases of conflict, where EU standards and technical regulations hinder Hungarian industrial exports. Transfer of EU standards and technical regulations to the Hungarian economy fulfils another basic condition for the free movement of goods and services.

According to the EU assessment, Hungary's progress in transposing European standards and technical regulations has been successful and met the requirements for joining the European standards organizations (CEN and CENELEC). Since the harmonization process has surpassed a level of 80 per cent, the Hungarian economy can be broadly seen as part of the EU single market. The process will be completed in the current year, after which the authorities will still have to ensure continual adoption of new European standards and technical regulations. In Hungary's case, the European standards and technical regulations can no longer be considered as technical barriers to trade.

3) MEASURING THE EFFECTS OF TBTs

Many experts rate among the hardest to quantify the non-tariff barriers where regulatory and/non regulatory certification mechanisms are designed in such a way as to put imports at a disadvantage to domestic goods. This could be an important issue, since the differences in national technical regulations can be significant trade barriers. However, it is not the differences that matter, but whether the standards apply differently to imports than to domestic goods.

The question is how costly the difference is for an imported good. These extra costs can be a barrier high enough to hinder the trade. Although it is very difficult to gauge the disadvantage for imports if regulatory and/non regulatory certification mechanisms are designed in a way that favours domestic goods, some types of calculation can be made.

3.1 Methods of measuring TBTs

The literature on the subject includes relatively few attempts to devise methods of measuring the effects of TBTs. Those there are belong to four basic types:

1. Price comparisons of domestic and imported goods

Price comparisons of domestic goods and imports of the same type seem to be the simplest way to assess inter-country differences in standards. However, simply to use price comparisons may be of limited use, since the differences may reflect factors other than TBTs. To extract from affected industries credible assessments of the costs of these trade barriers is very uncertain.

2. Foreign-trade statistics

Another type of simple analysis may be to compare the shares of export products to the EU that are exposed to European standards and technical regulations with the shares of the same products exported to

other destinations. Its use can be also limited by several factors. The differences may not necessarily reflect technical barriers alone.

3. Evaluations by technical experts

Another way to evaluate differences in standards and regulations is to gather information from technical experts. Those familiar with the details of these rules can apply them to particular products and processes. Although this may turn out to be a difficult task, estimates of the added costs involved may be possible under the following conditions:

- (a) If higher standards are applied to imported goods than to domestic goods.
- (b) If regulations are enforced more rigorously on imported goods than on domestic goods.
- (c) If imports are subjected to more cumbersome and costly certification procedures than domestic goods.

4. Questionnaire-based analysis

Here producers and traders are asked various questions about their experiences with EU standards and technical regulations. The questions focus on the tradability of the products, conformity with the standards, and additional tasks (*e.g.* investment, production *etc.*) deriving from the EU regulations.

3.2. Analysis of TBT

The applicability of the four methods just listed to Hungarian exports to the EU is rather limited. The practical use of price comparisons of domestic and imported goods is difficult or impossible. There is no information, or gathering the information is difficult and unreliable. Moreover, the method has endogenous shortcomings, as was mentioned above.

Analysis of the commodity structure of Hungary's exports to the EU shows that Old Approach products have a greater share than New Approach products. However, the share of New Approach products in EU im-

ports from Hungary has been greater than their average share of imports from existing member-states. Mutual-recognition products have had far less importance in Hungary's exports. Products not exposed to significant technical barriers hold a smaller share, which declined from 34 to 17 per cent between 1989 and 1999. Meanwhile, the share of New Approach products increased from 9 to 16 per cent and the share of mutual-recognition products also grew, from 18 to 27 per cent. There has been no significant change in the share of Old Approach products. These trends show that implementation of EU standards and technical regulations have not caused significant problems for Hungarian producers. Adaptation to the new requirements has been carried out quite smoothly.

Methods based on the evaluations of technical experts have several practical problems that hinder their application. The general suggestion (see Deardorff and Stern, 1998) is to use formulae (I.C.2) for TE^{EXP} or (I.E.3) for TE^{OWN} , based on comparisons with other export markets or with the domestic market of the exporter.

1. If imports and domestic goods are subject to different standards and the costs of satisfying these are known, the tariff equivalent can be calculated by formula (IX.A) for TE^{STAND1} .
2. If imports and domestic goods are subject to a single standard that is enforced differently for imports than for domestic goods, formula (IX.B) for TE^{STAND2} can be used in terms of fractions of units of the good that satisfy the standard.
3. If certification requirements are different for domestic and imported goods, the costs of certification can be used as the costs of the standards themselves, according to the formula (IX.A) for TE^{STAND1} .
4. A questionnaire seems to be the most reliable method for the time being. It provides sufficiently good results for the effects of technical barriers to trade. The findings of such a survey are discussed in the next section.

4. FINDINGS OF A HUNGARIAN SURVEY ON TBTs WITH THE EU

Trade with the EU is vital to Hungary, for which the EU is the most important trading partner. The Europe Agreement (signed in December 1991) means that industrial exports are already free of customs duties. However, as with other free-trade areas and within the EU, some non-tariff barriers remain.¹ The main ones are technical barriers to trade (TBTs), which occur when a producer may have to alter his product to comply with health, safety, environmental etc. issues imposed by governments or organizations. During the 1990s, the main steps to eliminate non-tariff barriers between the EU and Hungary were these:

- * From the entry into force of the trade provisions of the Europe Agreement (in March 1992), the EU eliminated all quantitative restrictions on industrial imports from Hungary, except for imports of textile and clothing products. For this group, quantitative restrictions were eliminated on January 1, 1998.
- * Voluntary export restraints in industrial trade were also eliminated with the entry into force of the trade provisions of the Europe Agreement. There were two agreements of this type covering industrial products (steel and textile products). Restrictions on steel exports ceased on the first day of the implementation of the Europe Agreement trade provisions. The voluntary export restraints covering textile and clothing products changed in form between 1992 and 1997. They were replaced by a special protocol under the

¹ Apart from the Europe Agreements, there have been several regional trade agreements reached in Europe in the last decade, so that the trading architecture is a hub-and-spoke system of bilateral regional trade agreements. CEE countries are involved in 71 bilateral and eight multilateral free-trade agreements (Sapir, 2000). The large number of trade agreements creates administrative costs and the role of the rules of origin and non-tariff or technical barriers is increasing.

Europe Agreement, which existed until the first day of 1998.²

- * The EU has taken other price-control measures, but they affect agricultural products. The Europe Agreement does not provide for Hungary adopting the legislation and regulations of the single market. Although Hungary has made strides towards harmonization of regulation in this field – partly under the programme initiated in 1995 by the Cannes meeting of the European Council and partly autonomously – some non-tariff barriers remain. One group consists of technical barriers such as technical requirements, quality certificates, *etc.* The research focuses on assessing the impacts of such barriers.

4.1. Foreign trade patterns between Hungary and the EU

In terms of the geographical structure of Hungarian trade, 76.2 per cent of exports and 64.4 per cent of imports were realized with the EU in 1999. During the 1990s, the product structure of all Hungarian exports underwent major changes (*Table 1*). The industry classification used here is based on the OECD (1993) method set out in the ISIC.³ The three groups are high-technology,

medium-technology and low-technology products.⁴ All calculations for foreign trade are made at SITC (Standard International Trade Classification) 5-digit product level (3464 items) given by the Eurostat Comext database.⁵ Data were later converted to the ISIC Rev3 classification, to apply the technology-intensity groupings just mentioned.

The table shows that the share of the high-technology industries in manufacturing exports rose very rapidly, more than tripling to 34 per cent in the seven years to 1998. The increase was due to three sub-sectors: electrical machinery, telecommunications equipment, and office machinery. Meanwhile, the traditionally important pharmaceutical sector lost share. Medium-tech sectors increased share to a much lesser extent, the rise coming almost entirely from motor vehicles. The share of the low-tech sectors fell rapidly, mainly due to the food and beverage, textile and clothing, and basic metal branches.⁶ On the import side (not shown in the table), the share of high-tech groups in Hungary's imports from the EU was 23.46 per cent in 1999, while the medium-tech and low-tech groups had shares of 51.26 and 25.28 per cent respectively.

² The Europe Agreement allows anti-dumping and countervailing measures to be applied by either side if conditions warrant. During implementation of the Europe Agreement, the EU took three anti-dumping decisions against Hungarian industrial imports (Meisel, 2000). Such measures became less frequent in the 1990s. The first, formulated in 1993, covering certain Hungarian exports of steel tubes, led to a quantitative restrictions on the Hungarian exporter (Csepel Tube). The second came in 1998, against Hungarian exports of polypropylene cords. Two firms were involved: TVK and a small firm, Partium. As a result, TVK ceased production of the product, while the second firm made a price undertaking. The last anti-dumping measure was taken in 1999 against steel wires exported by Diósgyőr Wire-Goods. The outcome was again a price undertaking by the Hungarian firm. A fourth anti-dumping complain was formulated in 1996 against a Hungarian firm exporting certain steel products (U and I shapes), but Eurofer withdrew the complaint.

³ The indicator of technological intensity (weighted

according to sectors and countries) is the share of R and D expenditures in production or value-added.

⁴ Based on experience, the OECD at the end of the 1990s revised the grouping (Hatzichronoglou, 1997), dividing the medium-tech group into two, to create medium-high and medium-low groups with precision instruments and electrical machinery being placed in the former. However, the old grouping is applied here.

⁵ The EU is reporting here: 'Hungarian exports to the EU' means EU imports from Hungary.

⁶ The fall in share masks a rise in the absolute value of low-tech exports.

Table 1
Shares of industries in Hungarian manufacturing exports
(%)

ISIC	Sectors	1990	1993	1996	1997	1998	1999
<i>High-technology:</i>		<i>9.73</i>	<i>16.26</i>	<i>25.84</i>	<i>32.57</i>	<i>34.54</i>	<i>34.14</i>
2423	Pharmaceuticals	0.37	0.29	0.12	0.11	0.08	0.08
30	Office machinery	0.18	0.90	3.22	6.99	9.22	9.35
32	Radio, TV sets	1.47	2.02	6.56	9.81	10.97	10.04
31	Electrical machinery and appliances	7.05	11.74	14.74	14.48	13.01	13.22
353	Aircraft, spacecraft	0.04	0.18	0.03	0.02	0.03	0.02
33	Medical, precision, opt. instruments	0.62	1.14	1.17	1.16	1.23	1.43
<i>Medium-technology:</i>		<i>23.52</i>	<i>24.62</i>	<i>32.92</i>	<i>34.66</i>	<i>37.12</i>	<i>42.30</i>
241	Organic, inorganic basic chemicals	7.55	5.36	4.01	3.50	2.65	2.34
251	Manufacture of rubber products	1.42	1.31	1.25	1.17	1.20	1.20
252	Manufacture of plastic products	0.45	0.84	0.90	0.95	0.81	0.92
272-73	Non-ferrous metals. aluminium	3.74	2.37	2.77	2.68	2.00	1.92
29	Machinery and equipment	7.94	7.01	5.92	5.41	5.26	4.97
352	Railway and tramway locomotives	0.02	0.14	0.22	0.24	0.37	0.46
34	Motor vehicles, trailers	1.25	5.21	16.30	19.51	23.71	29.32
354	Manufacture of bicycles, motorcycles	0.01	0.04	0.08	0.05	0.05	0.06
355	Manufacture of transport equ. n.e.c.	0.00	0.00	0.01	0.01	0.01	0.01
36,37	Other manufacturing industries	0.69	0.89	0.66	0.60	0.52	0.58
242-2423	Chemical pr. except pharmaceuticals	0.44	1.44	0.80	0.56	0.54	0.53
<i>Low-technology:</i>		<i>66.75</i>	<i>59.12</i>	<i>41.24</i>	<i>32.76</i>	<i>28.34</i>	<i>23.56</i>
15,16	Food, beverages, tobacco	19.94	13.96	8.53	6.21	4.77	4.81
17-19	Textile, clothing, leather	24.79	27.22	16.42	13.54	11.68	7.29
20	Wood and wood products	4.83	4.68	3.89	3.26	3.22	3.07
21-22	Paper and printing	1.26	1.18	1.01	1.05	0.96	0.93
231	Manufacture of refined petroleum pr.	2.53	1.59	2.50	1.53	1.16	1.36
232	Coal and petroleum products	0.51	0.25	0.11	0.07	0.03	0.03
26	Other non-metallic minerals	2.37	2.90	1.81	1.51	1.40	1.47
271	Manufacture of basic metals	6.88	2.27	2.85	2.02	2.04	1.44
28	Fabricated metals	3.48	4.65	4.11	3.54	3.07	3.15
351	Building, rep. of pl. and sporting boats	0.16	0.43	0.02	0.03	0.01	0.02
D	Manufacturing	100.00	100.00	100.00	100.00	100.00	100.00

Source: Éltető (2000)

Looking at total Hungarian-EU trade at SITC 5-digit product level, it emerges that the top ten product groups were responsible for 42.8 per cent of total exports to the EU in 1999, which was a considerable increase over the 13 per cent share in 1990 (*Table 2*). The structure of the top ten changed completely in the 1990s. The leading export product in 1990 – footwear – vanished from the list, as did agricultural and other non-machinery products. Instead came high-tech and medium-tech products produced by a small number of multinational affiliates, mainly in customs-free zones.⁷ The structure

of Hungary's exports to the EU modernized considerably in the 1990s, which meant a technological upgrading as well.⁸ It is therefore interesting to see to what extent the technical barriers helped to shape Hungarian-EU trade.

⁷ A salient feature of Hungarian foreign trade today is the activity of about 100 industrial customs-free zones, mainly in the machinery industry, with investment coming mainly from greenfield, wholly foreign-owned ventures. Their 1999 trade surplus was

USD 2091 million, from 43 per cent of all exports and 30 per cent of imports. Their exports rose 30 per cent in 1999, against a 3.2 per cent fall in traditional exports.

⁸ This is confirmed by specialization indices and intra-industry trade calculations (Éltető, 2000).

Table 2
The shares of the top ten SITC 5-digit product groups
in total Hungarian-EU trade in 1999
(%)

Product group	Share
Reciprocating piston engines	13.62
Motor vehicle for the transport of persons	7.40
Storage units for data processing	5.22
Input/output units in data processing	3.15
Ignition and other wiring sets	2.87
Video recording or reproducing apparatus	2.86
Television receivers and video recorders	2.68
Parts and accessories for motor vehicles	2.50
Compression-ignition engines	1.59
Filament lamps	0.94

4.2. Experiences with the survey

The questionnaire survey designed to assess the significance and costs of the technical barriers was prepared in early 2000 and sent to 1000 Hungarian firms active in manufacturing. The 176 questionnaires received back (a return rate of 17.6 per cent) is not low by international standards. Of course in some cases, not all questions were answered, so that the shares are given in the following analysis as percentages of the valid answer to each question.

1. Characteristics of the sample

The respondents were mainly small and medium-sized firms. Over two-thirds of them (68 per cent) employ fewer than 250 persons, 14.3 per cent between 250–500 persons, and 17.7 per cent over 500 employees. This distribution is very different from the general economic structure (*Table 3*). The sample strongly over-represents bigger companies and underrepresents small

Table 3
Size structure of firms in the sample, the economy
and manufacturing
(%)

Number of employees	Sample	Hungarian economy, 1999	Manufacturing, 1999
Less than 50	18.9	98.3	96.7
50–250	49.1	1.4	2.4
250–500	14.3	0.2	0.5
More than 500	17.7	0.1	0.4

Data source: Central Statistical Office, Budapest.

ones, since small and micro-firms account for an overwhelming proportion of the Hungarian economy. (The share of firms with less than 10 employees was 90 per cent in 1999. There are various reasons for this rather unhealthy structure. Some micro-enterprises function only on paper, conducting no real activity, while others are unincorporated one-person businesses with very restricted functioning. There is a strong difference in the size structures of Hungary and the EU.)

In their ownership structure, 48.8 per cent of the respondents are firms in which there is foreign investment (FIEs), of which 56.1 per cent are majority foreign-owned.⁹ There is no foreign participation in 51.2 per cent of the respondent firms. The share of FIEs in the whole Hungarian economy was 11.2 per cent of manufacturing firms in 1999, so that these are over-represented in our sample. However, FIEs account for 80 per cent of the manufacturing nominal capital and net sales in the country and have dominated the performance of the Hungarian economy since the end of the 1990s.¹⁰

The sectoral distribution of the sample shows that 88 per cent of respondent firms belong to the manufacturing sector. (Others belong to the trade, mining, construction, energy or not defined sectors.) The manufacturing industries most strongly represented are engineering, textile and clothing, motor vehicles and chemicals, but other branches such as furniture and metal processing appear. *Figure 1* shows the distribution by manufacturing industries. This distribution is based numbers of firms. Machinery, textiles and metal processing are represented most strongly. The share in the production structure differs from the profile of Hungarian manufacturing, as *Table 4* shows. Three sectors have outstandingly high shares of national production – electrical-precision machinery, motor vehicles, and food-beverages – with fabricated metal and chemicals also important.

⁹ Majority ownership means more than 50 per cent foreign ownership.

¹⁰ For more on this, see Éltető (2000) and Hunya (2000).

Figure 1
The sectoral distribution of the sample

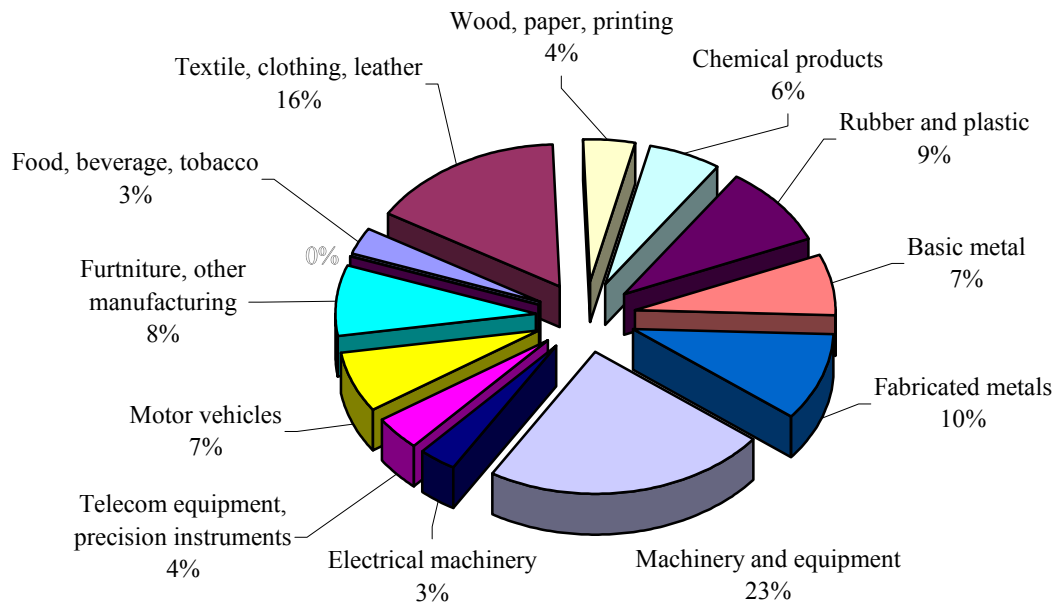


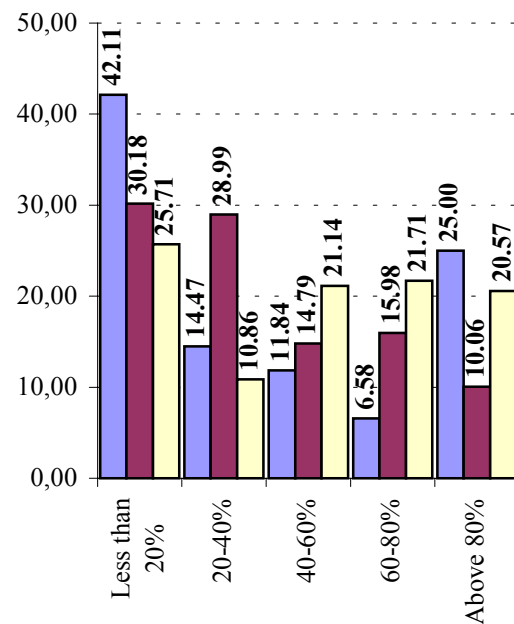
Table 4
The shares of the sectors in Hungarian manufacturing production, 1999

Manufacturing sector	Percentage of total
Food, beverage, tobacco	16.9
Textile, clothing, leather	4.5
Wood, paper, printing	5.4
Coke and petroleum	4.9
Chemical products	7.2
Rubber and plastic	3.5
Non-metallic minerals	2.9
Fabricated metals	8.0
Machinery and equipment	4.9
Electrical machinery, telecom equipment, precision instruments	23.6
Motor vehicles	16.3
Furniture, other manufacturing	1.2

Source: Ministry of the Economy, Budapest.

Features of the foreign-trade activity of the firms in the sample appear in *Figure 2*. A high 42 per cent are strongly export-intensive, which means that exports account for over 60 per cent of their sales. The responses show that the main export market is the EU, but the CEE region is also significant.

Figure 2
The foreign-trade patterns of the companies in the sample



The share of intra-firm trade in total trade was also requested. In this case, the sample is 'two-tailed', with relatively high numbers of firms reporting either hardly any intra-firm trade or more than 80 per cent intra-firm trade. The share of imported inputs is less than 20 per cent in 30 per cent of the firms.

2. Evaluation of the responses

The first main experience with the survey was that some questions are simply not relevant to the respondent firms. In these cases, the number of missing responses (blanks) is very high. (The numbered questions are reproduced in the Appendix.) The first such question was No. 3: *Would one of those difficulties be that EU technical regulations differ from national requirements?* This question refers back to No. 2: *Do you face any particular difficulties in exporting to the EU market compared with the domestic market?* Because the majority (73 per cent) answered no to No. 2, the subsequent questions were not applicable.

The situation was somewhat similar with No. 4a: *Have you needed to redesign your products for sale in the EU to meet these requirements?* The majority (85.6 per cent) had answered no, so that the follow-up questions were inapplicable and not answered in many cases.

The number of missing answers was also high for No. 6: *If you had to redesign your products to satisfy EU norms; has this helped your sales in the domestic market or in the CEFTA countries?* Again, this is because most firms did not have to redesign their products.

These questions formed an essential part of the survey, referring to the existence of technical barriers and their effects on the firms. The fact that they remained unanswered in large numbers shows the low importance of such barriers for Hungarian firms.

With No. 1, it is reassuring that almost all (95.3 per cent) of the firms were aware that EU accession means they have to take over EU product-related legislation and its system of standardization by the date of accession.

No. 2, already mentioned, showed that for the majority of the sample, exporting to the EU was no more difficult than local sales. The majority (73 per cent) of the Hungarian firms did not face particular difficulties with EU exports. However, for the 60 per cent who answered yes, one of the difficulties

was that EU technical regulations differ from national requirements (No. 3), although they reported it as a moderate or minor barrier to their EU exports.

Forty-five firms in the sample faced difficulties in exporting to the EU market compared with the domestic market. (These answered yes to No. 2.) Of these, 28 (62 per cent) employed less than 250 persons and 20 were FIEs. The export and import patterns of this sub-sample resembled those of the whole sample. However, the share of intra-firm trade in them was lower: less than 20 per cent of total trade in 66.6 per cent of cases. Of those reporting difficulties with EU exports, 63.6 per cent mentioned technical regulations, but only 13.3 per cent thought these a major barrier. Redesigning to meet EU requirements was reported by 33.3 per cent of the firms, but 82.3 per cent of these had received no external support for doing so. Meanwhile 67.5 per cent were envisaging further investments to meet EU norms. (This was a considerably higher share than in the whole sample). Furthermore, 26 per cent thought the direct costs of obtaining a certificate would be 'substantial' (again higher than in the whole sample). Twenty-five per cent of the firms had to satisfy different technical requirements to export to CEFTA countries than to the EU or the national market. Interestingly, 75 per cent of the firms reporting present difficulties in exporting to the EU expected an increase in exports from EU membership. This is considerably higher share than in the whole sample (59 per cent). Sixty-six per cent of these firms also expected accession to bring increasing competition.

As mentioned already, 85.6 per cent of the responses to No. 4a were negative: firms had not had to redesign their products. For those who did, it meant mainly a minor investment (No. 4b), for which 86.9 per cent received no support (No. 4c). Those who received support did so mainly from the foreign investor. Regarding the future (No. 4d), 56.5 per cent of the firms did not envisage additional investments to meet EU norms. Apart from that, 83 per cent found the direct

costs of obtaining an EU certificate moderate or small (No. 4e).

Turning to the characteristics of the 24 firms that had to redesign their products (which answered yes to No. 4a), they were somewhat smaller than average for the sample (71 per cent employing fewer than 250 persons). Ten firms had foreign investment and five were majority foreign-owned, so that the group was mainly under domestic control. Most (60.8 per cent) faced difficulties in exporting to the EU compared with the domestic market, with different technical regulations featuring among the difficulties in 85.7 per cent of cases. Contrary to the general pattern, firms that had to redesign their products were more ready to make further investment, 74 per cent answering that they planned further expenditure to meet EU norms. Redesigning of products had helped sales on the domestic market for 44 per cent of the firms and on the CEFTA market for 50 per cent. This is also a significant deviation from the pattern of the whole sample, where the proportions were much less. The export and import patterns of these firms were more or less the same as for the whole sample, except that they showed much lower shares of intra-firm trade.

No. 5 referred to the geographical differences in exports. Here the majority (87.9 per cent) of respondents exporting to CEFTA countries did not have to satisfy different requirements (from EU or from national requirements). For the low number of firms answering No. 6, redesigning the products had not helped (64 per cent) or had helped to a lesser extent (36 per cent) sales in local or CEFTA markets.

With No. 7, about the benefits of harmonization with EU technical rules, firms were not too optimistic: 92.4 per cent of the sample expected harmonization to bring moderate or small benefits. Regarding expectations in general, the questionnaire included No. 8: *What do you expect from your country's EU membership?* Two expectations proved high: increasing competition on the domestic

market for 59 per cent and increase in exports also for 59 per cent.

The questionnaire contained also a table with the question: *Please state whether the following measures related to the accession to the EU will have an impact on your firm's activities?* Almost all of the firms in the sample filled out this table according to the following distribution (percentage):

Table 5
The distribution of measures

	Positive	No impact	Negative
Harmonization of technical regulations and/or standards with those of EU	61.1	35.8	3.2
Mutual recognition of your country's technical regulations and/or standards in EU	52.4	47.0	0.6
Conformity assessment procedures	45.8	38.7	15.5
Elimination of customs documentation in trade with EU	91.8	6.4	1.8
Elimination of delays at frontiers with EU	90.5	8.4	1.1

3. Sector-specific differences

As mentioned earlier, certain manufacturing industries are strongly represented in the sample. The four most important (which have considerable weight in the Hungarian economy as well) were selected for analysis, to see if there are sector-specific differences in the responses to the survey. The four industries appear in *Table 6*. It can also be seen that the motor vehicle industry is by far the largest exporter.

Table 6
The four most important industries represented in the sample

Sector	No. of firms included in the sample	Export sales of sector in 1999, HUF billion
1. Textile, clothing, leather	25	223.3
2. Chemicals and rubber	24	396.4
3. Machinery	36	209.1
4. Motor vehicles	11	1190.1

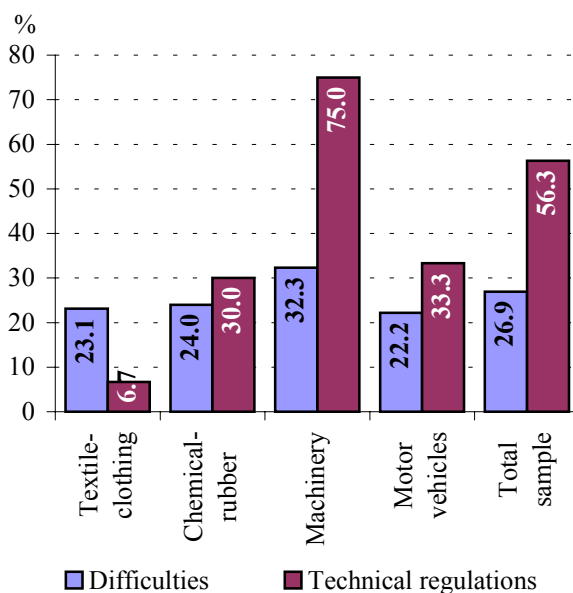
Data source: Central Statistical Office, Budapest.

The results show indeed that the sector groups have different characteristics from the whole sample, in relation to the technical barriers to trade. The first issue where

this appears is the question of whether companies face any particular difficulties in exporting to the EU market. *Figure 3* shows that the majority of the firms in the groups answered no, as was the case with the sample, but the machinery sector felt more affected by the difficulties, so that 32.3 per cent answered yes. The picture is even more uneven with the question of whether differing EU technical regulations are one of those difficulties. Here two sector groups showed very high shares of positive answers: machinery and textile and clothing. For those firms, the main obstacles to EU exports are technical barriers. A possible explanation may be the type of trade or cooperation prevalent among those firms. Those two sectors were the most heavily involved in the 1990s in outward processing trade (OPT). In the early years, this concerned mainly the textile-clothing branch, but later the OPT structure shifted towards machinery. The technical requirements of foreign partners in OPT can be extremely strict and binding on the Hungarian firms. Companies in the motor vehicle and chemical-rubber sectors felt fewer difficulties and fewer technical barriers to EU exports than the average for manufacturing.

Figure 3

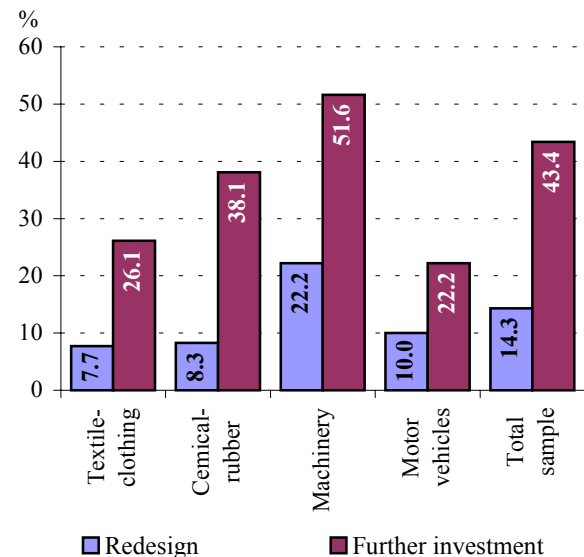
Yes answers in sector groups and the whole sample, to the questions on export difficulties (No. 2) and different EU technical regulations (No. 3a)



There were also considerable differences among sectors in the efforts they had made to prepare products to fit EU standards (*Figure 4*). On average, 14.3 per cent of firms had had to redesign their products (No. 4a). However, the share was higher (22.2 per cent) in machinery and much lower (7–10 per cent) in the other sectors. It seems that the adaptation of products to EU standards calls for more investment effort in the machinery industry than in other cases. (In the latter, 16.7 per cent of firms indicated that this was a major investment, as opposed to 5.5 per cent of the whole sample.)

Figure 4

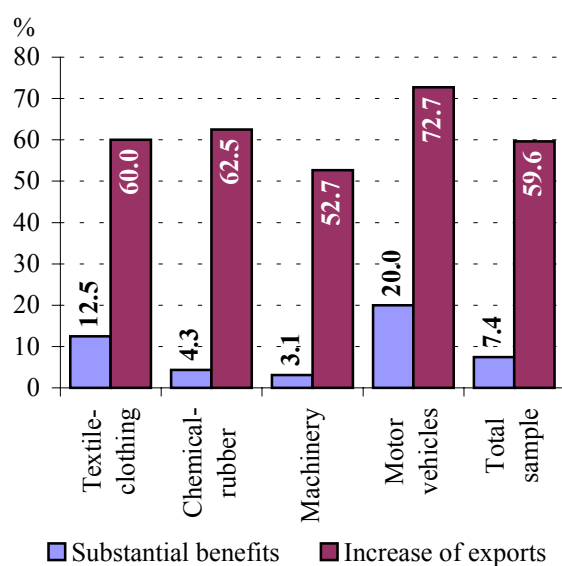
Yes answers in sector groups and the whole sample to the questions on product redesigning (No. 4a) and planned additional investments (No. 4d)



Regarding future investment to meet EU norms (No. 4d), the machinery sector again shows the highest share with such plans. Here half the firms plan additional investments. The share is also quite high in the chemical-rubber sector. It has been seen that this sector was one of the least affected by EU technical regulations: firms faced few difficulties in exports and had not redesigned products. The reason may be that the chemical sector exports relatively less to the EU, because the CEE and developing regions are also significant markets. However, as EU accession approaches, firms plan to make investments they have delayed hitherto, so as gain better access to EU markets. Indeed, *Figure 5* shows that expectations among

companies in the chemical sector are higher than average for increased exports after EU entry.

Figure 5
Expectations of firms (No. 8)



Firms in the motor vehicle industries showed less activity in the past and in future product redesign. Only 7.4 per cent of the whole sample expected substantial benefits from harmonizing with EU technical rules (No. 7). The picture is similar for each sector except motor vehicles, where the share of such firms is 20 per cent. Motor vehicle companies are also the most 'optimistic', with 72.7 per cent expecting an increase in exports from EU membership. Such expectations are also high in chemicals and textile and clothing.

4. Differences according to ownership

In the sample, 85 firms declared foreign owners, of which 59 firms had more than 51 per cent foreign ownership, 9 35–50 per cent and 13 10–34 per cent. Four firms did not indicate the extent of foreign ownership, but it has been assumed that it

was substantial, otherwise they would not have kept it secret. The degree of foreign ownership influences the extent of foreign control. An FIE may be domestic controlled if the foreign share is quite small. The sample was therefore divided into two groups: firms with over 34 per cent foreign ownership (the foreign group) and firms owned by domestic and minority foreign investment companies (the domestic group). The former contained 72 firms and the latter 102. (Two firms did not give this information.)

Table 7 shows the results of the sample division. Before analysing the details, it should be stated that firms in the foreign group are bigger: the share of big companies is almost three times as high as in the domestic group. It is thought, therefore, that the foreign group includes some multinational affiliates. This supposition is reinforced by the foreign-trade structure of the

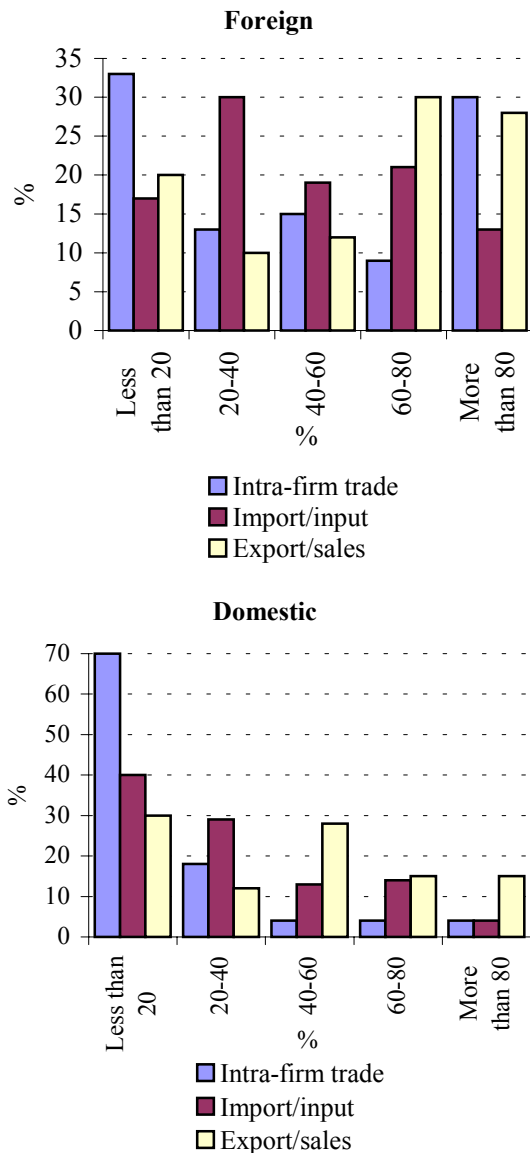
Table 7
Characteristics of ownership groups: share of yes answers

Percentage share of groups	Foreign group	Domestic group
Number of firms	72	102
Share of firms with more than 500 employees	27.8	10.7
Difficulties in EU exports	21.4	30.9
Difficulties mean technical requirements	47.3	61.1
This is major barrier*	0.0	19.0
This is moderate barrier*	80.0	66.7
This is minor barrier*	20.0	14.3
Had to redesign products	11.6	16.3
Envisage further investments	37.9	47.1
Costs of certificate are substantial	10.2	19.7
Harmonization would bring small benefits	60.7	57.6
Expect increase in exports from EU membership	47.2	68.2
Expect increasing competition from EU membership	52.7	63.4

* The response rate was low: 21 domestic and 10 foreign firms.

groups (Figure 6). It can be seen that the share of intra-firm trade is much higher among the foreign-group companies than among the domestic ones: 27.3 per cent of the former have a very high share of intra-firm trade (more than 80 per cent). The figure also shows that foreign firms are more export-intensive, and at the same time, more import-intensive than domestic firms. This is in line with international experience (Dunning, 1993) and the results of other Hungarian surveys (Éltető and Sass, 1998) and statistical analyses (Éltető, 2000).

Figure 6
Trade characteristics of the ownership groups



Let us now look at the differences in the responses. Table 5 shows that the share facing difficulties in exporting to the EU (No. 2) was higher in the domestic group than in the foreign group. Similarly, the difficulties are technical barriers (No. 3) for the majority of the domestic firms, but the proportion is less with foreign firms: 47.3 per cent. The main possible reason is that foreign owners will have brought their own standards.

The difference between the two groups is somewhat less in relation to redesigning products in the past (No. 4a). However, in the future (No. 4d), domestic firms plan more additional investments to meet EU norms than foreign-controlled firms do. Obtaining a certificate in the EU proved (No.

4e) more costly for domestic firms than for those in the foreign group, which are generally better capitalized.¹¹

With expectations (No. 8), the survey found that domestic firms are more 'optimistic'. They do not expect substantial benefits from technical harmonization, but they expect somewhat more than firms in the foreign group do. A much higher share of domestic firms expect an increase in their exports from EU membership than of those in the foreign group. This is understandable, because domestic firms are currently exporting less than foreign firms, which are extremely export-intensive.¹² Figures are similar for expected increased competition, which is more of an issue for domestic firms.

5. Differences according to export intensity

To gain a more precise picture of the relation between export intensity and perception of technical barriers, the sample was divided into two groups, according to whether their exports accounted for more (74 firms) or less (101 firms) than 60 per cent of their sales. (One response was missing.)

Some differences can be found in the general profiles of firms in the two groups. The big exporters tend to be larger (Table 8). About half the 74 firms employ 50–250 persons, 19 per cent 250–500 and 24 per cent over 500 persons. In the other group, the share of firms employing 50–250 persons is as high (49 per cent), but 28 per cent of them employ less than 50 workers. It is not surprising that most of the export-oriented group has foreign capital involvement (64 per cent) and the foreign capital share generally exceeds 51 per cent (No. C). In the other group, 62 per cent of the 101 firms function without foreign capital, while in the remainder, there is either a high share of foreign participation (more than 51 per

¹¹ In 1999, the average capital endowment (own capital/company) in Hungarian manufacturing was on average 13 times higher in FIEs than in domestic companies.

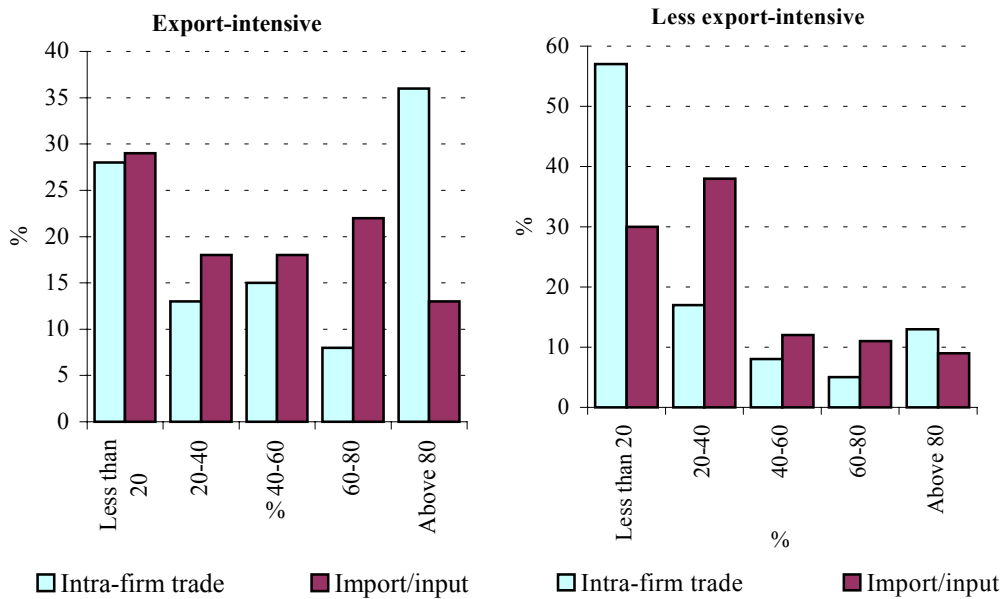
¹² FIEs already accounted for 85.5 per cent of Hungary's manufacturing exports in 1998 (Éltető, 2000).

Table 8
 Characteristics of firms in relation to export intensity
 (% in each group)

Characteristic	Export-intensive group	Less export-intensive group
Number of firms	74	101
Share of firms with over 500 employees	24.3	12.8
Foreign capital involvement	63.5	38.0
Difficulties in EU exports	19.7	32.3
Difficulties mean technical requirements	61.9	52.9
This is major barrier*	8.3	15.8
This is moderate barrier*	50.0	84.2
This is minor barrier*	41.7	0.0
Had to redesign products	13.9	14.7
Envisage further investments	40.0	45.8
Costs of certificate are substantial	3.8	24.3
Harmonization would bring small benefits	58.6	58.9
Expect increase in exports from EU membership	56.7	62.3
Expect increasing competition from EU membership	54.0	63.3

* The response rate was low: 21 domestic and 10 foreign firms.

Figure 7
 Trade characteristics according to export-intensity groups



cent) or a very low one (less than 20 per cent). Concerning the question related to the share of trade with the foreign mother company or its subsidiaries (No. G), these links dominate in 35 per cent of the export-oriented group, but they are not very intensive for 28 per cent. Not surprisingly, the 101 less export-intensive firms reported weak links of this type (Figure 7). There are two similar features between the groups. The first is that the proportions of firms established in customs-free zone (No. D) are neg-

ligible (3 per cent for export-oriented firms and 0 per cent for the other group). Secondly, there is a similarity in the geographical orientation of exports (No. F), with EU and CEE markets by far the most important.

Perhaps surprisingly, the share of those who face difficulties in EU exports is much higher in the less export-intensive group than in the export-intensive group. This means that the mass exporters with established contacts on EU markets can export relatively more easily than firms that are

mainly oriented to the domestic market. It was emphasized in the general evaluation of the responses that firms are well aware of the need to implement EU legislation. For 80 per cent of the export-intensive firms, the EU technical regulations (No. 3) do not create any problem before the accession, while the proportion is 69 per cent for the less export-oriented firms. Nevertheless, where difficulties were faced, finding a solution required major or moderate efforts and investment in both groups. No external support for meeting EU requirements (No. 4c) was received by 68 per cent of the export-oriented and 96 per cent of the less export-intensive firms. In the first group, what support there was came, unsurprisingly, from the foreign investor.

To sum up, there are no significant differences in the expectations of the effects of harmonization held by the firms in these two groups. As was mentioned in the general evaluation of the responses, both export-intensive and less export-oriented firms stressed increased exports and stronger internal competition as the most important consequences of membership of the EU and the single market. Responses on the expected impact of the EU on the firm's activities were in line with *Table 6*, so that no important differences emerged according to level of export intensity.

6. Size-specific characteristics

Further analysis was made in search of characteristics specific to company size. The classification criterion here is number of employees: 'small and medium-sized' firms (SMEs) employ fewer than 250 persons and

'large' firms more. The SME group in the sample was twice the size of the large-firm group.

The SMEs were less export intensive and had somewhat less foreign ownership than the large firms. A slightly higher share of large firms indicated that they had difficulties with EU exports than was the case with the SMEs (see *Table 9*), but the difficulties cited were technical barriers in a lower proportion of cases (Nos. 2 and 3). TBTs were generally a moderate barrier for both groups. Here the number of responses was low, which hinders evaluation.

Table 9
Characteristics of the groups compiled according to size

Characteristic	SMEs	Large firms	Export-intensive SMEs	Export-intensive large firms
Number of firms	119	57	42	33
Exports in sales above 60 per cent	35.3	57.1	100	100
Foreign capital involvement	45.7	55.3	61.9	65.6
Difficulties in EU exports	24.8	31.5	22.0	16.7
Difficulties mean technical requirements	62.8	45.0	69.2	50.0
This is major barrier*	4.5	33.3	0.0	25.0
This is moderate barrier*	77.3	55.6	50.0	50.0
This is minor barrier*	18.2	11.1	50.0	25.0
Had to redesign products	18.6	5.5	19.5	6.5
Envisage further investments	46.5	36.3	50.0	25.0
Product redesign helped sales in domestic market**	36.1	35.0	57.1	18.2
Product redesign helped sales in CEFTA market**	33.3	42.8	54.5	33.3
Costs of certificate are substantial	18.7	10.2	6.1	0.0
Harmonization would bring small benefits	61.5	52.3	61.1	54.5
Expect increase in exports from EU membership	60.5	57.8	54.7	57.5
Expect increasing competition from EU membership	62.1	56.1	54.7	54.5

* The response rate was low: 22 SMEs and 9 large firms.

** The response rate was low.

The SMEs had to redesign products (No. 4a) in more cases than the large firms and a higher share of them envisaged further investment (No. 4b). Obtaining a certificate (No. 4e) had been somewhat more costly for SMEs than for large firms, but the expectations (No. 7) of the two groups were similar.

Within the groups, the export-intensive firms were separated, on the grounds that they would be the ones most concerned in our questions. The table also includes data for these. Among these, the degree of foreign ownership was higher (No. C), which reflects the greater export pro-

pensity of foreign investors in Hungary and the higher exporting activity of FIEs.

Table 8 shows that the export-intensive firms faced fewer difficulties with EU exports (No. 2, found before as well), but the effect of size in this case was the opposite to what it was in the small-large case. Large firms as such were hit by difficulties more than SMEs, but large export-intensive firms were hit less than SMEs. For both groups, one difficulty lay in technical requirements (No. 3), but these were only a minor barrier.

With product redesign (No. 4a), the difference was of similar extent and direction between the two sub-groups as in the two size groups. Interestingly, large export-intensive companies envisage the least and small export-intensive firms the most further investment (No. 4d). It seems that past or future redesign of products mainly concerns export-intensive SMEs.

7. Groups according to the approach to TBTs

TBTs may force a producer to alter a product, to fulfil health, safety, environmental or similar regulations. EU policy towards standards, testing and certification requirements is currently based on two approaches (Vancauteran, 1999): enforcement of the Mutual Recognition Principle (MRP), and where this fails, harmonization of technical standards, by the Old Approach (OA) or New Approach (NA). The OA mainly applies to products (chemical, motor vehicles, pharmaceuticals, foodstuffs) where the risk requires product-by-product legislation carried out by detailed directives. The long, highly technical and complicated decision-making procedure in the Council made it necessary to adopt the NA, which only indicates essential requirements and leaves

greater freedom to manufacturers on how to satisfy the requirements.

Where possible, the firms in the sample were grouped according to the different approaches.¹³

Table 10
Characteristics of the groups according to size
(% shares)

Characteristic	OA	NA	MRP	None
Number of firms	19	58	49	37
Proportion of firms with over 500 employees	31.6	19.3	0.0	21.6
Exports in sales above 60 per cent	52.6	42.1	53.1	54.0
Foreign capital involvement	63.1	48.2	42.8	51.3
Difficulties in EU exports	17.6	25.9	25.5	35.1
Difficulties mean technical requirements	25.0	56.2	60.0	60.0
This is major barrier*	0	10.0	25.0	14.3
This is moderate barrier*	100	80.0	75.0	42.8
This is minor barrier*	0	10.0	0.0	42.8
Had to redesign products	16.5	16.1	10.8	13.5
Envisage further investments	23.5	45.8	37.5	55.1
Costs of certificate are substantial	0.0	15.5	21.8	13.8
Harmonization would bring small benefits	50.0	58.0	50.0	64.7
Expect increase in exports from EU membership	73.6	55.1	59.1	59.4
Expect increasing competition from EU membership	68.4	58.6	59.1	54.0

OA = Old Approach, NA= New Approach, MRP = Mutual Recognition Principle.

* The response rate is low: 2 OA, 10 NA, 8 MRP and 7 None firms.

The majority of firms belong to the NA or MRP group. Large firms are mainly affected by the OA or by none of them. Similarly, firms in these two groups have more foreign capital involvement than others (No. C). The share of those who face difficulties in EU exports (No. 3) is highest in the None group (if they face difficulties, these are not with harmonization) and lowest in the OA group. TBTs have the least role in the OA group, but more of these firms had to redesign their products (No. 4a). Regarding the future (No. 4d), however, only 23.5 per cent of them envisage further investments, while in the „None” group this share is higher, 55 per cent. Old approach firms expect the most export and competition increase from EU membership (No. 8).

* * * * *

¹³ This grouping is based on the list in Vancauteran (1999), which enumerates the NACE sectors according to the approach they belong to.

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APPENDIX

Harmonization of the following legislation took place in areas affecting the free movement of goods.

Legal regulations harmonized by Hungary in 1998

Community legislation	Hungarian legislation ensuring harmonization
Directive 70/156/EEC	Decree No. 12/1998 (V. 22.) KHVM amending Decree No. 5/1990 (IV. 12.) KÖHÉM on checking of motor vehicles
Directive 92/61/EEC	Decree No. 12/1998 (V. 22.) KHVM amending Decree No. 5/1990 (IV. 12.) KÖHÉM on checking of motor vehicles
Directive 74/150/EEC	Decree No. 12/1998 (V. 22.) KHVM amending Decree No. 5/1990 (IV. 12.) KÖHÉM on checking of motor vehicles
Directive 90/384/EEC	Decree No. 19/1998 (IV. 17.) IKIM on measuring-technical requirements of non-automatic weighing instruments and attestation of conformity
Directive 93/11/EEC	Decree No. 24/1998 (IV. 29.) IKIM-NM on the safety of toys
Directive 94/35/EC	Decree No. 27/1998 (IV. 22.) FM amending Decree No. 40/1995 (XI.16.) FM on mandatory requirements of the Hungarian Food Code
Directive 94/36/EC	Decree No. 27/1998 (IV. 22.) FM amending Decree No. 40/1995 (XI. 16.) FM on mandatory requirements of the Hungarian Food Code
Directive 95/2/EC	Decree No. 27/1998 (IV. 22.) FM amending Decree No. 40/1995 (XI. 16.) FM on mandatory requirements of the Hungarian Food Code
Directive 96/77/EC	Decree No. 27/1998 (IV. 22.) FM amending Decree No. 40/1995 (XI. 16.) FM on mandatory requirements of the Hungarian Food Code
Directive 97/258EC	Act XXVII/1998 on genetic technological activity
Directive 65/65/EEC	Act XXV/1998 on pharmaceuticals
Directive 75/319/EEC	Act XXV/1998 on pharmaceuticals
Directive 78/25/EEC	Act XXV/1998 on pharmaceuticals
Directive 88/320/EEC	Act XXV/1998 on pharmaceuticals
Directive 91/356/EEC	Act XXV/1998 on pharmaceuticals
Directive 92/25/EEC	Act XXV/1998 on pharmaceuticals
Directive 92/26/EEC	Act XXV/1998 on pharmaceuticals
Directive 92/27/EEC	Act XXV/1998 on pharmaceuticals
Directive 92/73/EEC	Act XXV/1998 on pharmaceuticals
Directive 73/44/EEC	Decree No. 5/1998 (I. 16.) IKIM on raw-material components of textiles
Directive 87/18/EEC	Act XXV/1998 on pharmaceuticals
Directive 96/73/EEC	Decree No. 5/1998 (I. 16.) IKIM on raw-material components of textiles
Directive 96/74/EC	Decree No. 5/1998 (I. 16.) IKIM on raw-material components of textiles
Directive 90/35/EEC	Decree No. 8/1998 (II. 4.) IKIM on providing child-resistant fastening and tactile warning symbol to packaging of certain dangerous products
Directive 73/361/EEC	Decree No. 21/1998 (IV. 17.) IKIM on safety requirements for machinery and conformity assessment of these
Directive 76/211/EEC	Decree No. 9/1998 (II. 13.) IKIM amending Decree No. 16/1997 (IV. 4.) IKIM on the making-up by weight or by volume of certain pre-packaged products
Directive 80/232/EEC	Decree No. 9/1998 (II. 13.) IKIM on the making-up by weight or by volume of certain pre-packaged products
Directive 84/528/EEC	Decree No. 113/1998 (VI. 10.) Korm. on requirements for authorization, operation and control of lifts and escalators
Directive 84/529/EEC	Decree No. 113/1998 (VI. 10.) Korm. on requirements for authorization, operation and control of lifts and escalators
Directive 88/378/EEC	Joint Decree No. 24/1998 (IV. 29.) IKIM-NM on safety of toys and conformity
Directive 89/392/EEC	Decree No. 21/1998 (IV. 17.) IKIM on safety requirements for machinery and conformity assessment of these
Directive 90/396/EEC	Decree No. 22/1998 (IV. 17.) IKIM on appliances burning gaseous fuels and their conformity assessment
Directive 91/442/EEC	Decree 8/1998 (I. 16.) IKIM on providing child-resistant fastening and tactile warning symbol to packaging of certain dangerous products
Directive 94/11/EC	Decree 4/1998 (I. 16.) IKIM on labelling of shoes
Directive 95/16/EC	Decree 113/1998 (VI. 10.) Korm. on authorization, operation and control of lifts and escalators

Legal regulations harmonized by Hungary in 1999

{PRIVATE} Responsible	Community legislation	Hungarian legislation
Ministry of Economic Affairs	Directives 89/336/EEC and 92/31/EEC	Joint Decree No. 31/1999. (VI. 11.) GM-KHVM of the Minister of Economic Affairs and the Minister of Transport Communications and Water Management on electromagnetic compatibility, amended by Joint Decree No. 58/1999. (X. 27.) GM-KHVM, whereby law harmonization was completed
	Directive 86/217/EEC	Decree No. 51/1999. (IX. 10.) GM of the Minister of Economic Affairs on the technical requirements, marketing and placing in service of tyre-pressure gauges for motor vehicles
	Directive 69/493/EEC	Decree No. 75/1999. (XII. 21.) GM of the Minister of Economic Affairs on labelling of crystal glass
	Directive 92/109/EEC	Government Decree No. 65/1999. (V. 5.) Korm. amending Government Decree No. 100/1996. (VII. 12.) Korm. on regulation of activities performed with certain chemical substances used for the prohibited manufacturing of narcotics
	Decision 93/465/EEC	Government Decree No. 208/1999. (XII. 26.) Korm. on use of CE Conformity Marking
	Directive 74/148/EEC	Decree No. 65/1999. (XII. 13.) GM of the Minister of Economic Affairs on technical and measurement requirements, testing and verification of above-medium accuracy weights
Ministry of Agriculture and Regional Development	Regulation 258/97/EC	Joint Decree No. 45/1999. (IV. 30.) FVM-EüM-GM of the Minister of Agriculture and Regional Development, the Minister of Health and the Minister of Economic Affairs amending Joint Decree No. 1/1996. (I. 9.) FM-NM-IKM
	Regulation 1813/97/EC	Joint Decree No. 45/1999. (IV. 30.) FVM-EüM-GM of the Minister of Agriculture and Regional Development, the Minister of Health and the Minister of Economic Affairs amending Joint Decree No. 1/1996. (I. 9.) FM-NM-IKM
	Directive 96/8/EC	Decree No. 26/1999. (III. 5.) FVM of the Minister of Agriculture and Regional Development on obligatory requirements of the Hungarian Food Codex
	Directive 93/43/EEC	Joint Decree No. 17/1999. (II. 10.) FVM-EüM of the Minister of Agriculture and Regional Development and the Minister of Health on hygiene of foodstuffs
	Directive 80/777/EEC	Joint Decree No. 97/1999. (XI. 18.) FVM-EüM-GM of the Minister of Agriculture and Regional Development, Minister of Health and Minister of Economic Affairs on explanation and marketing of natural mineral water and drinking water enriched with minerals
	Directive 96/5/EC	Decree No. 26/1999. (III. 5.) FVM of the Minister of Agriculture and Regional Development on obligatory requirements of the Hungarian Food Codex
	Directives 78/25/EEC and 81/464/EEC	Decree No. 72/1999. (VIII. 31.) FVM of the Minister of Agriculture and Regional Development on colouring matters that may be added to medicinal products for veterinary use
Ministry of Health	Regulation 2377/90/EEC and the regulations amending it	Decree No. 2/1999. (II. 5.) EüM of the Minister of Health on residue limits of veterinary medicinal products in foodstuffs of animal origin; Decree No. 57/1999. (XI. 26.) EüM of the Minister of Health amending Decree No. 2/1999. (II. 5.) EüM
	Directives 93/42/EEC and 90/385/EEC	Decree No. 47/1999. (X. 6.) EüM of the Minister of Health on medical devices
	Directive 92/25/EEC	Decree No 60/1999. (XI. 1.) EüM of the Minister of Health on wholesale distribution of medicinal products for human use
	Directives 87/18/EEC, 88/320/EEC and 89/569/EEC	Joint Decree No 31/1999. (VIII. 6.) EüM-FVM of the Minister of Health and the Minister of Agriculture and Regional Development on application and control of Good Laboratory Practice concerning medicines for human use and pesticides

Measures whose implementation was envisaged in 2000

{PRIVATE} In charge	Measure
Ministry of Economic Affairs	Legal harmonization: Directive 71/347/EEC relating to measuring of the standard mass per storage volume of grain, Directives 87/404/EEC, 97/23/EC on pressure equipment, Directive 94/9/EC devices for use on potentially explosive substances, metrological rules (Directives 71/316/EEC, 71/317/EEC, 71/349/EEC, 76/765/EEC), Directive 75/324/EEC on aerosol dispensers
	Institution development: Development of the Licensing and Administration Office and the Central Notification Unit
Ministry of Health	Legal harmonization: Legislation applicable to medicinal products intended for human consumption (Directives 75/318/EEC, 75/319/EEC, 92/26/EEC, 92/73/EEC, 78/25/EEC, 87/18/EEC, 88/320/EEC and Decision 89/569/EEC), rules concerning dangerous substances and preparations (Directives 76/769/EEC, 88/379/EEC, 93/72/EEC, 67/548/EEC), rules concerning maximum residue limits of veterinary medicinal products in foodstuffs of animal origin (Regulations 2560/98/EC, 2686/98/EC 2692/98/EC, 2718/98/EC)
	Institution development: Development of National Pharmaceutical Institute and Medical Technology Office of the Ministry of Health
Ministry of Agriculture and Rural Development	Legal harmonization: Harmonization of Community legislation concerning fertilizers (Directives 76/116/EEC, 87/94/EEC, 80/876/EEC, 77/535/EEC), Directive 84/539/EEC on medical equipment used in veterinary medicine
	Institution development: Development of lift and elevator supervision
Ministry of Transport, Communications and Water Management	Law harmonization: Harmonization of Community legislation applicable to technical regulation of vehicles, harmonization with Community legislation applicable to recreational crafts
Ministry of Environment Protection	Law harmonization: Rules applicable to detergents (Directives 73/404/EEC, 82/242/EEC, 73/405/EEC)
Ministry of the National Cultural Heritage	Institution development: Development of the Cultural Directorate
Ministry of Social and Family Affairs	Institution development: Development of testing laboratories

QUESTIONNAIRE

Please answer the following questions in relation to the principal product that you export.

1. Are you aware that accession of your country to the EU means that it has to take over EU product-related legislation and its system of standardization by the date of accession?
YES/NO
2. Do you face any particular difficulties in exporting to the EU market compared with the domestic market?
YES/NO
If yes, please continue with question 3. If no, please omit question 3.
3. Would one of those difficulties be that EU technical regulations differ from national requirements?
YES/NO
If so, is this a major/moderate/minor barrier to your exports to the EU?
4. How does the need to obtain a different certificate to export to the EU affect your business?
 - 4a. Have you needed to redesign your products for sale in the EU to meet these requirements?
YES/NO
 - 4b. Did this involve major/moderate/minor investment?
 - 4c. Did you receive external support for this investment?
YES/NO
 - If yes, from national authorities/from foreign investor/from other (please name). 4d. Do you envisage further additional investments to meet EU norms?
YES/NO
 - 4e. Are the direct costs of obtaining a certificate in the EU substantial (more than 3 per cent of the costs of exports)/moderate (between 1 and 3 per cent of the costs of exports)/small (less than 1 per cent of the costs of exports)?
5. Do you have to satisfy different (from EU or from national) technical requirements to export to CEFTA countries?
YES/NO
6. If you had to redesign your products to satisfy EU norms, has this helped your sales in
 - a. the domestic market? YES/NO
 - b. the CEFTA countries? YES/NO
7. Do you expect that harmonization with EU technical rules will bring your company substantial/moderate/small benefits?

8. What do you expect from your country's EU membership?
 Increase in exports/additional costs in domestic sales/increasing competition on the domestic market/no effect/other (please name).
 Additional information on your company
 Name of company (optional, even if supplied, it will not be used or published): Date of establishment of the company:

A. Product(s):

Please classify your product according to a sector:

B. How many employees are currently employed at your company?

Below 50/between 50 and 250/between 250 and 500/above 500.

C. Is there any foreign involvement?

YES/NO

If yes, does it exceed 51 per cent/34 per cent/ 10 per cent?

D. Does the company function in a customs-free area?

YES/NO

E. Share of export in total sales: less than 20 per cent/between 20 and 40 per cent/between 40 and 60 per cent/between 60 and 80 per cent/above 80 per cent.

F. Export markets (please indicate shares): EU/CEE countries/developing countries/other, please name.

G. Share of trade with the foreign mother company or its subsidiaries: less than 20 per cent/between 20 and 40 per cent/between 40-60 per cent/between 60 and 80 per cent/above 80 per cent.

H. Share of imports in total inputs: less than 20 per cent/between 20 and 40 per cent/between 40-60 per cent/between 60 and 80 per cent/above 80 per cent.

I. Please state whether the following measures related to the accession to the EU will have an impact on your firm's activities?

	Positive	No impact	Negative
Harmonization of technical regulations and/or standards with those of EU			
Mutual recognition of your country's technical regulations and/or standards in EU			
Conformity assessment procedures			
Elimination of customs documentation in trade with EU			
Elimination of delays at frontiers with EU			

Thank you for your responses. If you have any comments, please indicate them here: