

Chapter 3

Standards Setting in Comparative Perspective: The European Experience

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Standards Setting in Comparative Perspective: The European Experience

Introduction

Dissatisfaction with the U.S. standards setting process has led to several reports and recommendations, but little action. Failure to respond is partially due to the way the standards debate is posed. The issues are polarized, and the solutions cast in all or nothing terms. One side argues that the U.S. standards system works fine and should remain in private sector hands. The other contends that it's failing and should be taken over by government. No hybrid solutions, which call for sharing responsibility between government and the private sector, are proposed.¹

Looking comparatively at the systems in other countries, however, it is clear that there are a variety of ways to organize standards processes, with government playing a greater role in some and a lesser role in others. The case of Europe is particularly illustrative. Although European countries share much in common, each approaches standards development somewhat differently, reflecting their differences in history and culture. Their collective experiences provides diverse options that have not been considered by U. S. policymakers. The European experience is also revealing, because standards organizations in all these countries are, themselves, reevaluating their own strengths and weaknesses in the light of European economic integration.

Nation by Nation Comparisons; Germany, France, and The United Kingdom

As in the United States, the move towards simplification and standardization accelerated after the First World War. While there was only one standards organization in Europe before the war—the British Engineering Standards Association—by 1928 there were 16.² Advancing technology and the demand for interoperable parts drove the need for standardization, paralleling experience in the United States. Europeans also adopted the consensus approach, with standards evolving through negotiations among interested parties in an open process of give and take.³

However, in contrast to the United States, where the market was large enough to sustain mass production, Europeans were dependent on inter-country trade for large-scale production. From the beginning, therefore, European standards organizations were viewed as part of the industrial infrastructure, and European standards organizations geared their operations towards trade promotion. Moreover, European governments generally pursued active industrial policies, and thus they played a greater role in standards development than was typical in the United States. But the relationship between government and the private sector, and the extent of government involvement in standards, differed from

¹ This phenomenon is not limited to the area of standards. As Peter Katzenstein notes:

But America's national debate on industrial policy betrays the strength of a liberal ideology. We conceive of the political alternatives that confront us as polar opposites: market or plan. The biases of our ideology are reinforced by a veritable national obsession with Japan, a country that American businessmen in particular view as a statist antidote to America's ideological celebration of market competition.

Our political debate typically pits the proponents of government against the advocates of market competition. Fundamentally, the debate concerns the character of state involvement in the economy.

Peter Katzenstein, *Small States in World Markets: Industrial Policy in Europe* (Ithaca, NY: Cornell University Press, 1985.), p. 19.

² Victor S. Karabasz, "Simplification and Standardization in Europe," *Notes from the Annals: Standards in Industry* (New York, NY: The American Academy of Political and Social Science, 1928), p. 25.

³ Florence Nicolas, with the cooperation of Jacques Repussard, *Common Standards for Enterprises*. (Luxembourg: office of Official Publications for the European Community, 1988).

country to country. European national standards organizations can be differentiated according to the following characteristics (see table 3-1).

- types of financial support-e. g., voluntary contributions from industry, sale of standards and standards related services, and public subsidies;
- degree of centralization;
- dependency on the public sector; and
- size of standards organization and scope of activities.

Germany

German standardization is based on a corporatist approach to government-industry relations.⁵ In contrast to the United States, where there is no agreed on national standards policy, in Germany, standards are intended to serve the public good.⁶ Moreover, German national standards policy is neither formulated through competition among standards development organizations, nor imposed by government.⁷ Rather, German standards policies evolve through negotiations among economic interests and other key interest groups in society. However, in contrast

to the United States where such groups participate in an ad hoc fashion, in Germany they are organized nationally through peak associations.⁸ German standardization efforts are similarly centralized, operating through a nationally recognized standards organization, the Deutsche Institute für Normung e.V. (DIN).

This pattern of German standardization was set in May 1917 with the establishment of the Normenausschuss für den Maschinenbau. Although originally focused on machine parts, this standards body rapidly expanded its activities to other industries. Six months after its inception, its name was changed to the Normenausschuss der Deutschen Industries to reflect its broader mission. Like other national standards organizations that emerged at the same time, the Normenausschuss operated on a committee basis, with all parties represented and each free to comment on draft standards. It received some funding from the Reichs Kuratorium für Wirtschaftlichkeit, an industry association that was itself supported by government grants. Additional financing came from technical societies, trade associations, government departments, and contributing indus-

⁴Ibid., p. 26.

⁵According to Katzenstein:

Democratic corporatism is distinguished by three traits: an ideology of social partnership expressed at the national level; a relatively centralized and concentrated system of interest groups; and voluntary and informal coordination of conflicting objectives through continuous political bargaining between interest groups, state bureaucracies and political parties. These traits make for low-voltage politics.

Peter Katzenstein, op. cit, footnote 1, p. 32.

For general discussions of German politics and industrial policy, see, W. Streeck, *Industrial Relations in West Germany* (London: Heinemann, 1984); See also K. Dyson, "West Germany: The Search for a Rationalist Consensus," J. Richardson (ed.), *Policy Styles in Western Europe* (London: Allen & Unwin, 1982).

⁶This is typical of German government-industry relations in general. As described by Paterson and Whitston:

... there appears to be in the German case a sense of organic unity, a commitment to action in the national interest which extends the interests of individuals or particular groups. The importance of this orientation is that it allows the state to facilitate action by other actors which promotes the achievement of long term national goals.

William Paterson and Colin Whitston, "Government-Industry Relations in the chemical Industry: An Anglo-German Comparison," Stephen Wilks and Maurice Wright (eds.), *Comparative Government-Industry Relations* (Oxford: Clarendon Press, 1987), p. 38.

⁷As described by Paterson and Whitston:

... the State in the Federal Republic acts in a variety of ways as a supporting, facilitating, encouraging force in the formation and preservation of broad, encompassing, internally heterogeneous interest organizations. Ironically, but hardly unintended, the interventionist policy of the German state on the organizational forms of social interests enables it in many cases to abstain from direct economic intervention since it provides interest groups with a capacity to find viable solutions between and for themselves.

Ibid.

⁸As noted by Anheir:

The organization of trade and industry is one of the major aspects of Germany's centralized society. All firms are represented by three types of associations; industrial business associations, employers' associations, and chambers of commerce and industry. A key characteristic of the West German landscape of economic organizations is the grouping of decentralized constituencies into more central units to form "peak associations."

... Together economic associations (Wirtschaftsverbände) provide the prototypical example of liberal corporatism.

Helmut K. Anheir, "West Germany: The Ambiguities of Peak Associations," Robert Wuthnow (ed.), *Between States and Markets: The Voluntary Sector in Comparative Perspective* (Princeton NJ: Princeton University Press, 1991), pp. 68-71; See also, Peter J. Katzenstein, *Policy and Politics in West Germany: The Growth of the Semisovereign State* (Philadelphia, PA: Temple University Press, 1987); and Peter J. Katzenstein (ed.), *Industry and Politics in West Germany: Toward the Third Republic* (Ithaca, NY: Cornell University Press, 1989).

Table 3-I—Comparative Table of Some European Standards Institutions
(the figures are taken from ISO and Cen documents and refer mainly to 1986)

Country	Standards institution	Status ^a	Staff	Number of pages of standards	Annual output of standards	CEN secretariat (out of 82 technical committees) (1987 figures)
Germany (FR)....	DIN	2	596	120,000 (25,700)	1,400	34
Denmark.....	DS	1	65	15,000 (2,355)	250	6
Spain.....	Aenor	1	70	78,200 (6,589)	850	0
France.....	Afnor	1	446	138,344 (13,366)	1,100	17
Italy.....	UNI	1	48	30,000 (6,41 1)	270	3
Netherlands.....	NNI	2	100	55,000 (5,500)	110	2
United Kingdom..	BSI	1	1,200 ^b	125,000 (9,360)	660	10

^aStatus: 1. Organization under private law but given a public service function by the State.

2. Private organizations.

^bAbout half the staff is engaged on testing laboratory and certification work.

^cThe approximate number of standards is given in brackets.

^dOrder of magnitude.

SOURCE: Florence Nicolas, with the cooperation of Jacques Repussard, *Common Standards for Enterprises* (Luxembourg: Official Publications for the European Communities, 1988), p. 26.

trial firms.⁹ German standards were well respected in Europe, and the Deutscher Normenasschuss was very productive. With both large and medium firms actively participating, it produced more than 2,100 standards in its first 10 years.¹⁰

DIN plays a similar role in Germany today. DIN is a consensus organization with a central administration that manages the administrative and financial activities of DIN as well as the various committees that actually develop standards. These committees are comprised of representatives from producer groups, the academic community, user groups and organizations (including consumer advocate groups), government, and trade unions.¹¹ The general membership, made up of all these groups, elects a president who appoints the director of DIN. As in most consensus processes, the standards go through a period of review and comment before they are formally adopted. In Germany, an additional step is followed: once agreed on, but before they are

officially released, standards are reviewed by the Standards Examination Office to assure that there are no overlaps. There are 8 basic principles that govern DIN's operations:¹²

1. voluntarism: standards are recommended, not imposed;
2. publicness: standards processes are open;
3. participation of all interested parties;
4. unity and consistency: standards form a unified whole;
5. keeping to the point: standards transcribe the state of the art;
6. geared to economic factors: market factors are taken into account;
7. geared to benefit the community as a whole; and
8. internationalism: focus on trade.

In contrast to the United States where standards organizations are often taken for granted, DIN is an important presence in Germany. DIN employs over

⁹Associations of trade and businesses have a long history in Germany, going back to the guildlike craft societies of the Middle Ages. Such associations continue to provide the basis for interest group representation in the public sector. Anheir, op. cit., footnote 7.

¹⁰Karabasz, op. cit., footnote 2, p. 28.

¹¹Carl Cargill, *Information Technology Standardization: Theory, Process, and Organizations* (Boston, MA: Digital Press, 1989), pp. 190-191.

¹²Dr. Helmut Reihlen, Director of DIN, speech to the General Meeting of the 1991 German Foundry Convention Berlin, June 21, 1991: See also DIN, *One World, Free Trade, Free Standards* (Berlin: Deutsche Institute für Normung, rid.).

900 people, and has offices in 40 locations nationwide. Many Germans are aware of the importance of standards, and knowledgeable about DIN's role in their development. Moreover, the Germans have an excellent reputation for standards development, so many other European countries look to Germany for standards.¹³

One reason for DIN's prominence is its formal status. In 1975, the government of Germany signed a contract with DIN, designating it as the national standards organization of Germany and the official representative of Germany in international standards organizations. Because DIN has a monopoly on standards development and standard sales, the national resources available for standardization can be utilized to the fullest. In exchange for the government's political and financial support, DIN "undertakes to consider the public interest in all of its work in the preparation of standards," and "to give preferential treatment to requests from the Federal Government to carry out work on standards projects which the Federal Government considers of public interest." Although DIN standards are voluntary, they too have a special status, serving as the basis for regulatory law.

DIN also has strong support from the business community. Because German business is well organized, participation in standards development also tends to be high.¹⁴ Moreover, businesses have a strong incentive to adopt DIN standards, since the use of DIN standards shifts liability to the user, and insurance companies often refuse to grant policies to those whose products fail to carry the DIN testing and inspection marks.¹⁵ German businesses also benefit from DIN's export oriented policies.

Because trade is essential to the German economy, DIN is very active in international standards development. DIN members hold the secretariat of 15 percent of all International Organization for Standardization (ISO) and IEC technical committees and subcommittees, and 40 percent of those in Comité Européen de Normalisation and Comité Européen de Normalisation Electrotechnique (CEN-LEC). Moreover, the resources devoted to international and regional standardization have been steadily on the rise (see figure 3-1). DIN is able to make this commitment to international standards in part because of the support it receives from the German government. In addition to the income that DIN receives from members dues, standards sales, and related activities, DIN also receives a subsidy from the public sector, which constitutes approximately 15 percent of its total budget (see figure 3-2). These funds are generally targeted to activities that promote industry, increase competitiveness, or that protect against the risks of technology.¹⁶

France

Standardization in France also reflects French political culture and the way in which authority has traditionally been divided between the state and the private sector. Whereas in the United States, standardization bodies took advantage of the penchant for voluntary associations, in France the opposite was the case. From the time of the French Revolution, voluntary associations in France were looked on, not as the basis for a democratic order, but rather as narrow interests impeding public welfare and the good of the nation, which it was believed could only be embodied in the state.¹⁷ This perspective can be clearly seen, for example, in a speech made to the

¹³ As described to OTA staff in Sweden, "We are a small country dependent upon trade, so why not let the Germans—who do an outstanding job-set the standards for us." Or, as one member of the French standards community noted, "The French are individualists; they can't make good standards. We are happy to use German standards. Setting standards comes naturally to them."

¹⁴ As noted by Anheim:

For most firms, joining business and interest groups is both necessary and useful. The size distribution of West German Industries shows that the great majority have between 2 and 20 employees. Only 891 of 360,463 manufacturing firms have more than 1,000 employees, and about 1,200 employ between 500 and 999 people. They are in a weak bargaining position vis à vis political authorities unless they join together.

Anheim, *op. cit.*, footnote 7.

¹⁵ Cargill, *op. cit.*, footnote 10, p. 191.

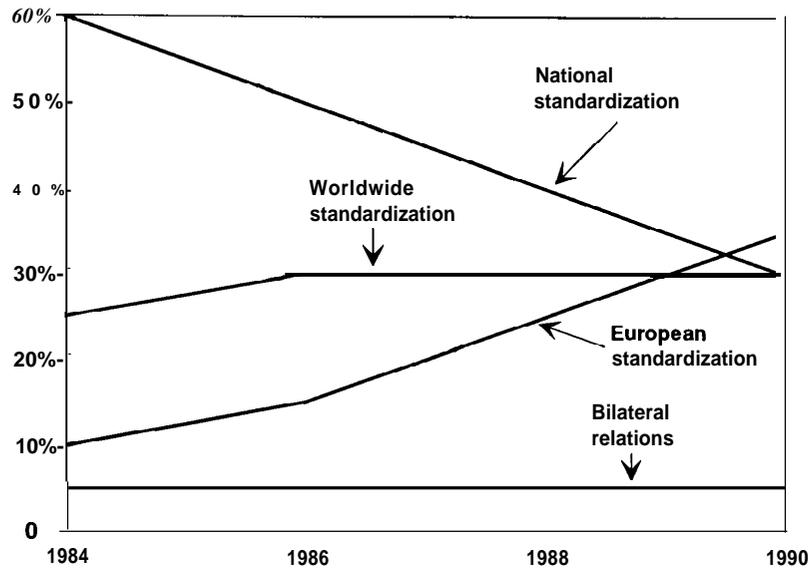
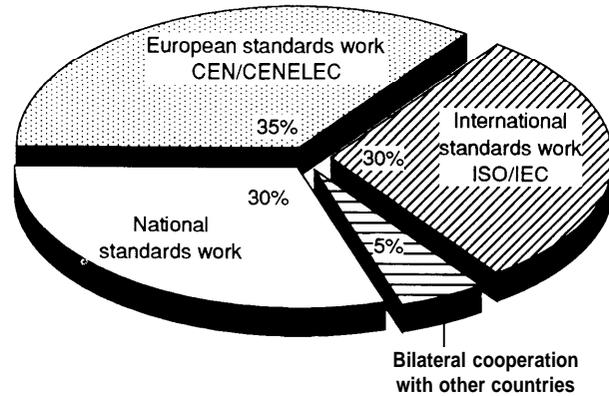
¹⁶ Reihlen, *op. cit.*, footnote 11.

¹⁷ As described by Veugelers and Lament:

During the Revolution the state pursued a persistent struggle against bodies such as guilds, the nobility, and political clubs, which stood between the citizen and the republic. Since then both the Left and the Right have at various times viewed with suspicion the church, voluntary associations, decentralization, and ethnic pluralism.

Jack Veugelers and Michele Lament, "France: Alternative Locations for Public Debate." Robert Wuthnow (ed.), *Between States and Markets: The Voluntary Sector in Comparative Perspective* (Princeton, NJ: Princeton University Press, 1991), p. 140.

Figure 3-I—Resources Devoted by Deutsche Institute fur Normung (DIN)



Resources devoted by DIN to the various levels of standardization in percent of total budget.

KEY: DIN=European Committee for Standardization; CENELEC=European Committee for Electrotechnical Standardization; IEC=International Electrotechnical Commission; ISO=International Organization for Standardization

SOURCE: Deutsche Institute fur Normung, 1991.

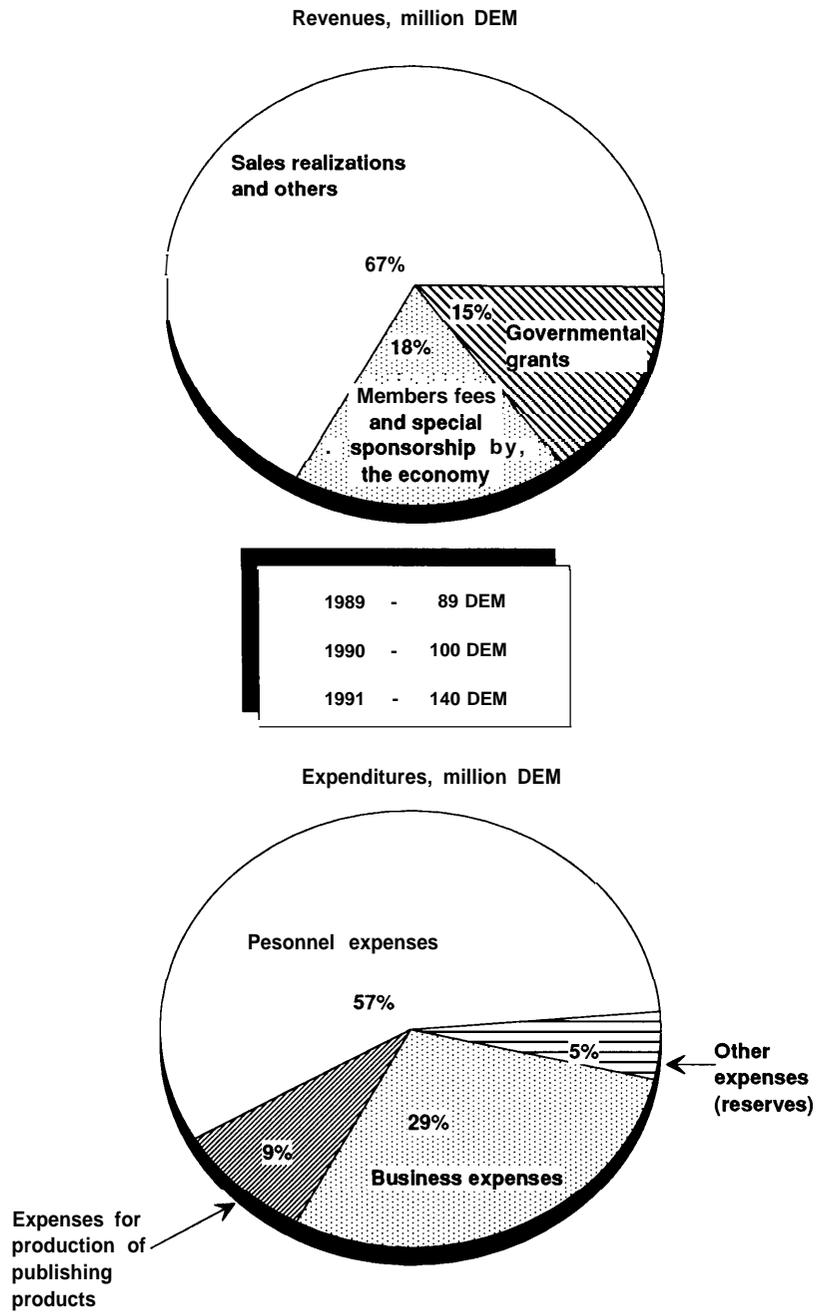
French Constituent Assembly in 1791 that called for an end to all voluntary associations:

It should not be permissible for citizens of certain occupations to meet together in defense of their pretended common interests. There must be no more

guilds in the state but only the individual interest of each citizen and the general interest. No one shall be allowed to arouse in any citizen any kind of intermediate interests and to separate him from the public weal through the medium of corporate interests.¹⁸

¹⁸ Reinhard Bendix, *Kings or People: Power and the Mandate to Rule* (Berkeley and Los Angeles: University of California Press, 1978), p. 372.

Figure 3-2-Budget of Deutsche Institute fur Normung (DIN)



SOURCE: Deutsche Institute fur Normung, 1991.

Mirroring the dominant role ascribed to the state in French politics,¹⁹ standardization in France emerged at the national level, with one stroke, from a

Presidential decree. The first standards organization, the Association Francaise de Normalisation (AFNOR), was founded on June 10, 1918. Unlike the national

¹⁹ For discussions, see J. Hayward, "Mobilization of private interests in the service of public ambitions: the salient element in the dual French policy style," J. Richardson (ed.), *Policy Styles in Western Europe* (London: Allen & Unwin, 1982); See also J. Hayward, *Governing France: The One and Indivisible Republic* (London: Weidenfeld & Nicolson, 1983); and D. Green, "Strategic management and the state: France," K. Dyson and S. Wilks (eds.), *Industrial Crisis: A Comparative Study of the State and Industry* (Oxford: Martin Robertson, 1983).

standards bodies in Germany and the United Kingdom, which were private sector organizations, the Association Française de Normalisation was attached directly to the Ministries of Commerce, War, Naval Affairs, Public Works, and Labor. Included among its members were the Academy of Science, the Society for the Encouragement of National Industry, the Society of Civil Engineers, the Society of Electrical Engineers, and the Society of Mining Engineers as well as other technical societies.²⁰

AFNOR continues to be linked with government today. Although reconstituted as a private organization in 1926, AFNOR's status was again changed in 1984, when the French Government declared standardization a public service and entrusted AFNOR with responsibility for sourcing, coordinating, approving, and promoting standards; training in the use of standardization; and controlling the use of the NF label—a trademark that shows compliance with a French national standard. AFNOR was also named to represent France at international meetings.

A High Council for Standardization was created in 1984 to oversee the French standardization process. It is convened under the authority of the Minister for Industry and Research and presided over by the chair of AFNOR. Included among the Council's 51 members are representatives from government, local communities, the various sectors of the economy (industrial, agricultural, services, and commercial), and unions, as well as standards participants, academicians and scientists. The Council advises the Minister of Industry and Research on the future direction of standards and comments on AFNOR's general program.²¹

AFNOR's board of directors also includes senior civil servants appointed from the government ministries that have a strong interest in standards. Other board members are elected by the board from the AFNOR membership for 3-year terms, other generally elected members who serve as representatives with 3-year terms, and experts appointed by the various ministries. The Board manages AFNOR's day-to-day operations and approves AFNOR stand-

ards. It is supported by committees that deal with finances, consumer interests, international affairs, and certification.²³

Responsible for managing and coordinating the entire French standards process, AFNOR pursues 6 basic missions:²⁴

1. evaluating standardization needs;
2. setting up standardization strategies;
3. allocating standards resources;
4. leading and coordinating the standards system;
5. participating in European and international standardization; and
6. motivating AFNOR's partners.

AFNOR's work is carried out by two different kinds of groups. Organization/follow-up working groups are concerned with administrative matters—defining standardization tasks, assigning them to appropriate groups, and setting up and guiding the standardization efforts. Technical development/standards creation working groups, made up of experts, are charged with creating the standards.²⁵

The United Kingdom

Standards setting in the United Kingdom most closely resembles the U.S. standards setting process. This similarity stems from sharing a pluralist political culture. However, the British standards system differs from the U.S. system in two major ways—the emphasis placed on trade and international standards, and the formal relationship existing between the British Standards Institution (BSI) and the national government. These differences suggest that some changes in the U.S. system could be made without undermining the traditional approach to standards development.

The British Engineering Standards Association, established in 1901, was the first national standards organization to be established in Europe. Engineering groups were the major source of standards development, as they were in the United States. The procedures for developing standards were almost identical to those used in the United States, although

²⁰ Karabasz, *op. cit.*, p. 28.

²¹ Cargill, *op. cit.*, footnote 10, p. 192.

²² *Ibid.*

²³ *Ibid.*

²⁴ *AFNOR: Standards and Strategies* (Paris: AFNOR, *rid.*).

²⁵ *Ibid.*

there was no government organization corresponding to the Division of Simplified Practice of the U.S. Department of Commerce to facilitate the work of simplification.²⁶

The British Engineering Standards Association was granted official status in April 1929, when His Majesty King George IV conferred on it a royal charter.²⁷ Supplementary charters were granted in 1931 (when its name was changed to the British Standards Institution (BSI)), 1968, 1974, 1981, and again in 1989. The Charter identifies four major purposes for BSI

- to coordinate the efforts of producers and users for the improvement, standardization, and simplification of engineering and industrial materials;
- to set up standards of quality and dimensions, and prepare and promote the general adoption of British Standard Specifications and schedules;
- to register, in the name of the Institute, marks of all descriptions, and to prove and affix or license the affixing of such marks; and
- to take such action as appears desirable or necessary to protect the objects or interests of the Institution.²⁸

In accordance with its bylaws, BSI is a voluntary organization, with membership open to all interested parties ranging from nationalized industries all the way to professionals and consulting engineers.

Standards Policy Committees established by the Board of the Institute appoint technical committees, as needed, to develop standards. In developing standards, these technical committees follow the consensus procedures practiced by other national standards organizations.²⁹ BSI is supported by membership dues, the government, and revenues from the sale of standards and standards activities.

British standardization has been global in perspective from the start. This emphasis was required for trading with the Empire. To meet the needs of its colonies, for example, the British developed four telegraph pole standards, one for every climate. Moreover, funds were appropriated from the outset to have British standards translated into foreign languages, with the hope that such standards would increase British trade.³⁰

Today, the British continue to link standards policy and trade policy. Noting the relationship between standards and competitiveness, for example, a 1982 White Paper, developed by the Department of Trade, called on the British Government to lend greater support to British standards efforts by establishing a formal memorandum of understanding with BSI.³¹

With funding from the government, BSI now provides export support to its members through the Technical Help to Exporter Section (THE). This group identifies the appropriate standards and regulations for almost any product in almost any country

²⁶ Karabasz, *op. cit.*, footnote 2, pp. 28-29.

²⁷ It is not unusual in British politics for government to look to the private sector to carry out public sector tasks. This tradition was already in evidence, for example, in the sixteenth century when local parishes were empowered to levy "poor rates," for the maintenance of workhouses, houses of correction and almshouses. As described by James:

The subsidies [from government] facilitate private and private-sector growth, but they also enable the government to extract concessions in return, in the form of regulations over inputs, outputs, and other characteristics that satisfy diverse constituencies. The subsidies, and the regulations and market forces that accompany them, have the effect of raising costs. . . . Thus, the very factors that originally created the demand for a private sector also set in motion forces making the private sector more like the public; as the private sector grows, with government funding and regulating, it becomes quasi-governmental.

E. James, "The Nonprofit Sector in Comparative Perspective," W.W. Powell, *The Nonprofit Sector: A Research Handbook* (New Haven, CT: Yale University Press, 1987), p. 413.

²⁸ British Standards Institution (BSI), *Royal Charter and Bye-laws 1981, Amended 1989*.

²⁹ *Ibid.*

³⁰ Karabasz, *op. cit.*, footnote 2.

³¹ As described in the White Paper:

If standards-making and related activities are to contribute more effectively to industrial and trade policy objectives, there must be close co-ordination between the Government and the British Standards Institution (BSI) as the national Standards authority, Government representation on BSI's Board already includes the Department of Trade, the Minister of Defense, the Department of the Environment and the Department of Industry. However, both the Government and BSI consider that, if the status of standards in this country is to be enhanced significantly, there is a further need for a more formal and detailed understanding between them on their roles and obligations under the standards system. Consequently, the Government and BSI have agreed to draw up a memorandum of understanding.

Department of Trade, *Standards, Quality and International Competitiveness*, presented to Parliament by the Secretary of State for Trade, by Command of Her Majesty, July 1982 (London: Her Majesty's Stationary Office, 1982).

in the world to assist its members. Drawing on a pool of 100 external translators, THE produces approximately 1,000 new standards translations each year.³² BSI also conducts seminars and conferences to help its members understand and prepare for the single European market³³ (see figure 3-3).

BSI is also involved in a number of programs in developing areas. Working with AFNOR through the program RESOURCE, BSI serves as consultant to the European Economic Community (EEC and Association of South East Asian Nations (ASEAN) program on Industry Standards and Quality Assurance. In addition, it has provided advisory and consultancy services in Saudi Arabia, Bahrain, Yemen, Tunisia, Turkey, Hong Kong, Taiwan, Singapore, Malaysia, Thailand, Brunei, Brazil, Mexico, and Mauritius.³⁴

With an eye to future trading opportunities, BSI is focusing more on regional and international standards setting. The amount of effort devoted to European standardization has greatly increased over the past few years. Between 1989 and 1990, for example, the number of man days spent on European work rose from 15,000 to 21,000, while the input to European Committees increased from 2,179 man days to 9,034. BSI is also active in ISO and the IEC. In 1990, it held 114 secretariats in ISO, and 24 in the IEC.³⁵

Towards European Standardization

The United States is not alone in rethinking its standards setting processes in the light of a changing global environment. Discouraged, somewhat, by the slow pace of European integration, the EC Commission proposed major reforms in 1985, which were intended to speed up the process.³⁶ These proposals comprised 287 specific actions that together would create a "Europe without boundaries." When carried out, all barriers to the free flow of people, goods,

Figure 3-3—British Standards Institution (BSI) Conferences and Seminars



NOTE: British Standards Institution conferences and seminars in 1992 covered the country.

SOURCE: *British Standards Institution Annual Report and Accounts, 1989-90, p. 4.*

services, and capital among EC countries will be eliminated.³⁷ A key mechanism for speeding the pace of integration is the harmonization of European standardization and certification processes.

European Standards Bodies: The Role of CEN, CENELEC and ETSI

European standardization began in 1965 with the establishment of the Comité Européen de Normalisation (CEN) and the Comité Européen de Normalisation Electrotechnique (CENELEC), which together are referred to as the Joint European Standards Institute. As nonprofit international associations, these two organizations resemble national standards bodies, with a few major exceptions. The members of CEN and CENELEC are the 16 nation

³² "Work with Foreign Words," *BSI News*, June 1990, p. 18.

³³ Between 1989-1990, for example, BSI held four conferences on the design and inspection to ASME pressure vessel codes, one on motor vehicles, and one on electrical equipment exports to Europe. In addition, the Technical Help To Exporters Section took part in the Manufacturers Agents National Association of the U.S.A road show, which looked at the United States as a potential market. *BSI Annual Report and Accounts 1989-1990* (London: BSI, 1990), p. 9.

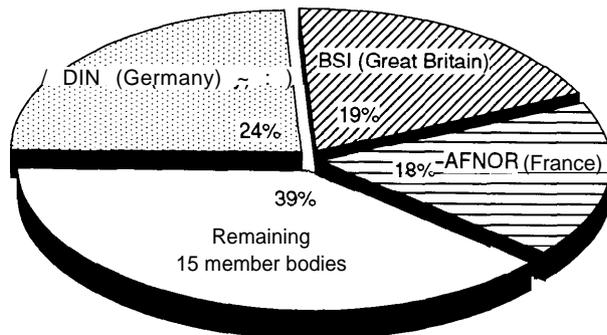
³⁴ *Ibid.*

³⁵ "BSI meets European challenge," *BSI News*, June 1990, p. 5.

³⁶ CEC, *Completing the Internal Market & White Paper from the Commission to the European Council COM (85) 310 final.*

³⁷ Most of the internal market measures outlined by the Commission in 1985 have been drafted and tabled, and two-thirds of these have been adopted by the EC Council. Less successful, however, has been the record of implementation. As of June, 1991, only 1/4 call directives had been implemented. See Professor Helmut Reihlen, "Standardization & Certification in Europe-1992 and Beyond," *AST, Standardization News*, June 1991, p. 38.

**Figure 3-4-Deutsche Institute fur Normung (DIN)
Working Towards Europe**



KEY: AFNOR=Association française de normalisation; BSI=British Standards Institution; DIN= Deutsches Institut für Normung eV.

SOURCE: Deutsche Institute für Normung, 1991.

states of Europe, who have committed themselves to adopt European standards in place of national standards (see figure 3-4). Moreover, standard decisions are made, not on the basis of consensus, but rather on the basis of a qualified majority.³⁸

The organization of CEN is similar to CENELEC. It is governed by a general assembly that is comprised of all 16 member nations (see figure 3-5). This group meets annually to establish policy. Day-to-day operations are in the charge of the Secretary General, who is aided by a technical coordinating committee and a management committee. Planning committees assure that CEN's schedule mirrors the Community's priorities. Standards are developed in technical committees, where efforts are made to reach unanimous decisions. A subordinate body, known as CENSER, deals with certificates of conformance to CEN standards.³⁹

CEN and CENELEC produce three kinds of documents: European standards (EN), harmonization documents (HD), and European prestandards (ENV). When an EN is issued, governments must make it a national standard, withdrawing any competing national standards. However, national governments can continue to maintain or issue national standards on a subject pertaining to an HD, so long as it is technically equivalent. ENVs are applied provisionally, for a period of no longer than 5 years, so member governments can maintain conflicting standards until the ENV is converted to an EN or HD.⁴⁰

Since 1986, approximately 30 standardization mandates related to EEC legislation (calling for about 800 European standards) have been assigned to CEN and CENELEC.⁴¹ To meet these needs, they have greatly intensified their operations. Thus, the number of Technical Committees and working groups has doubled between December 1987 and December 1989, and the number of draft European Standards rose from 220 in 1986 to 950 in 1989.⁴² Despite these efforts, the European standards process is viewed as proceeding too slow.

Speed in standards development is especially important in telecommunications and information technologies, since these technologies will play a major role in linking the nations of Europe.⁴³ To meet this need, the EC established a special standards body, the European Telecommunications Standards Institute (ETSI) in March 1988. ETSI's organizational structure is designed to accelerate standards development. For example, standards are adopted not on the basis of a consensus procedure, but

³⁸ Voting is weighted. For EEC members the weighting coefficients provided in Article 148 of the Treaty of Rome for EEC Members are used. Coefficients for the EFTA countries were decided by common agreement taking into account political and economic considerations. As described by Florence Nicolas:

In the context of European standardization the qualified majority rule does not mean a simple two-thirds majority; there are other additional conditions for the adoption of a European document in order to ensure that the standard is the outcome of an agreement involving the largest possible number of countries. Consequently, the number of countries voting against, the number of abstentions and the number of votes against are taken into account. Finally, there is an appeal procedure designed to ensure that the decisions taken are fair.

Florence Nicolas, *op. cit.*, footnote 3, p. 30.

³⁹ *Ibid.*

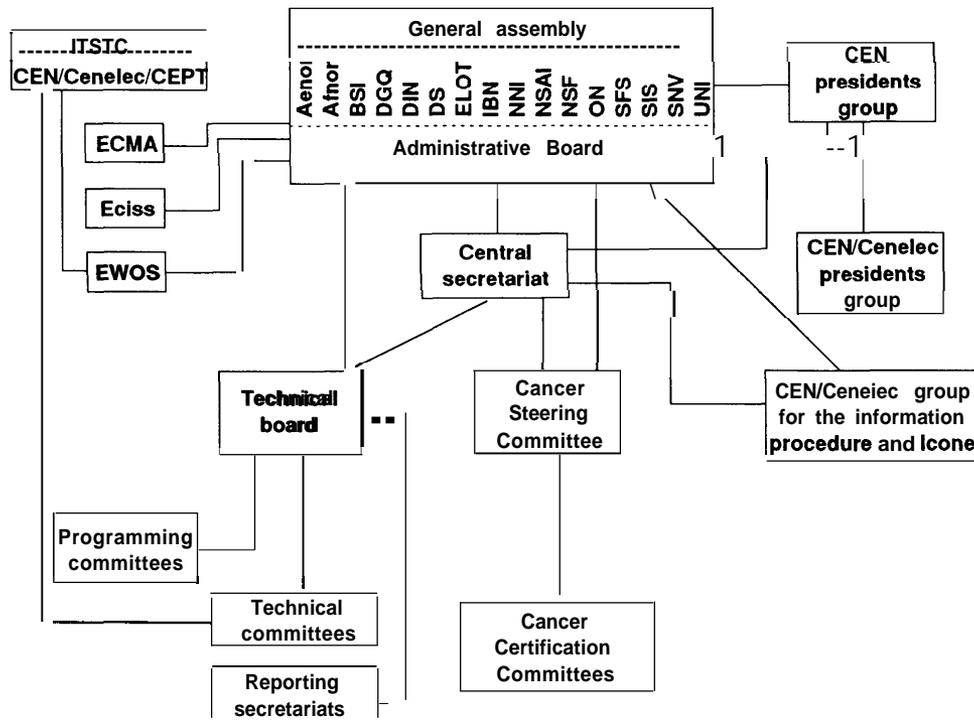
⁴⁰ *Ibid.*, pp. 30-31.

⁴¹ Lucy Kalloway, "Technical Standards Machinery Grinds Exceedingly Slow," *Financial Times*, May 14, 1990, p. 4.

⁴² Commission Green Paper on the Development of European Standardization: Action for Faster Technological Integration in Europe, Brussels, Oct. 8, 1990, COM (90) 456 final, hereafter referred to as *Green Paper*.

⁴³ For the rationale behind the creation of ETSI, see Commission on the European Communities, *Green Paper on the Development Of the Common Market for Telecommunications Services and Equipment*, COM (87) final, Brussels, June 30, 1987, pp. 2&22.

Figure 3-5—The Organizational Structure of Comité Européen de Normalisation



KEY: Afnor=Association française de normalisation; BSI=British Standards Institute; CEN=European Committee for Standardization; CENELEC= European Committee for Electrotechnical Standardization; DIN= Deutsches Institut für Normung eV; DS=Dansk Standardiseringsrad; ECMA=European Computer Manufacturers Association; ELOT=Hellenic Organization for Standardization; IBN=Institut beige de normalisation; NNI=Nederlands Normalisatie Instituut; UNI=Ente nazionale italiano di unificazione.

SOURCE: Florence Nicolas, with the cooperation of Jacques Repussard, *Common Standards for Enterprises* (Luxembourg, office for Official Publications for the European Community, 1988), p. 29.

through a system of individual weighted voting.⁴⁴ Moreover, in contrast to the technical committees in other standards organizations—which are comprised of interested parties—ETSI's technical committees are staffed by experts chosen on the basis of their technical competence. When a high priority is given to a standard, these technical committees set up expert Project Teams, whose members work on standards development full time.

ETSI's membership is heterogeneous, including representatives from manufacturers, administrations, public network operators, users, and research bodies (see figure 3-6 and 3-7). Moreover, a new membership category has recently been created. In addition to full members, there are now associate members

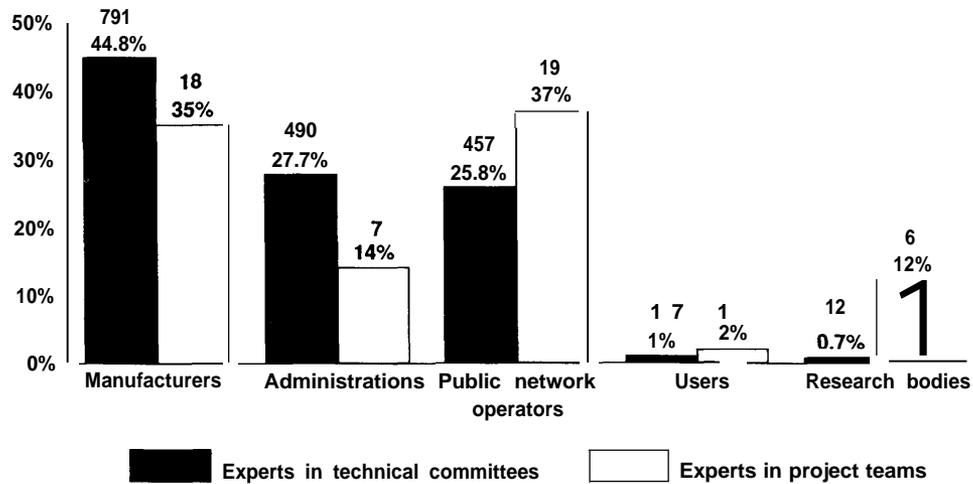
who can participate in meetings but cannot vote. Together these members, which are grouped into national delegations, constitute ETSI's general assembly. Day-to-day operations are carried out by the secretariat, led by a director chosen by the general assembly. The technical assembly, however, is the "highest authority within the Institute for the production and approval of technical standards."⁴⁵ It is in the technical assembly that ETSI's priorities are set, through the Costed Work Program. Whereas standard decisions are made by weighted voting, the Costed Work Program requires a unanimous vote.

ETSI's resources have been steadily increasing (see figure 3-8). Before 1991, its budget was divided between Common Operating Costs and the Costed

⁴⁴ Votes used to be weighted on a national basis. This voting system was revised in 1991. Now individual members' votes are weighted according to their sales or, in the case of administrations, on the basis of their gross domestic products. Exceptions are made when, in voting on a standard, ETSI must be consistent with the rules of Article 148 of the Treaty of Rome and those of CEN and CENELEC. *ETSI*, No. 5, spring 1991, p. 3.

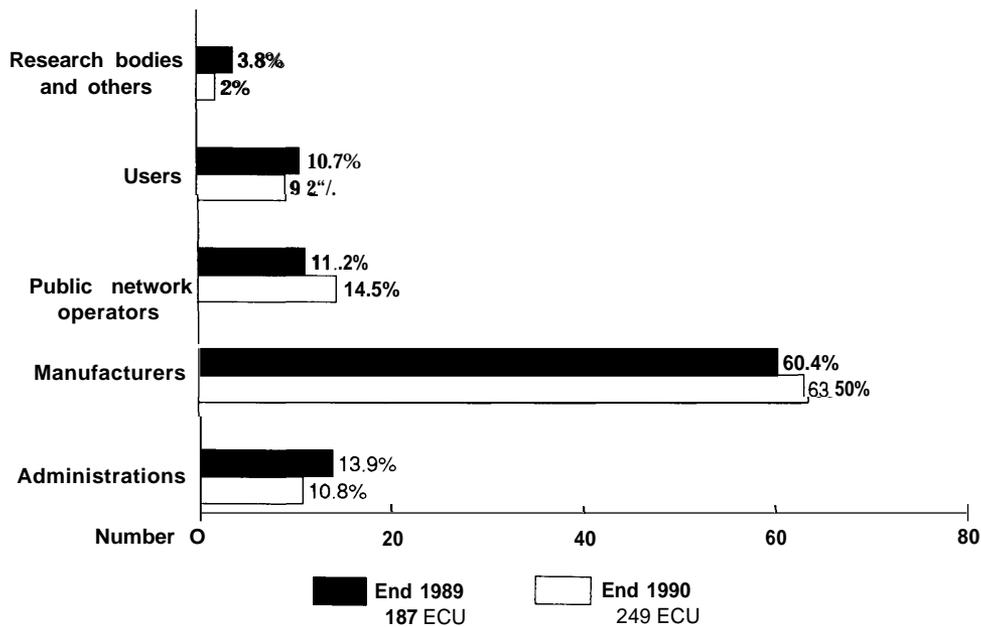
⁴⁵ Rules of Procedure of the European Telecommunications Standards Institute, Copenhagen 1988, Article 6.3.

Figure 3-6-Participation in European Telecommunications Standards Institute (ETSI)



SOURCE: European Telecommunications Standards Institute, May 1991.

Figure 3-7—European Telecommunications Standards Institute (ETSI) Membership



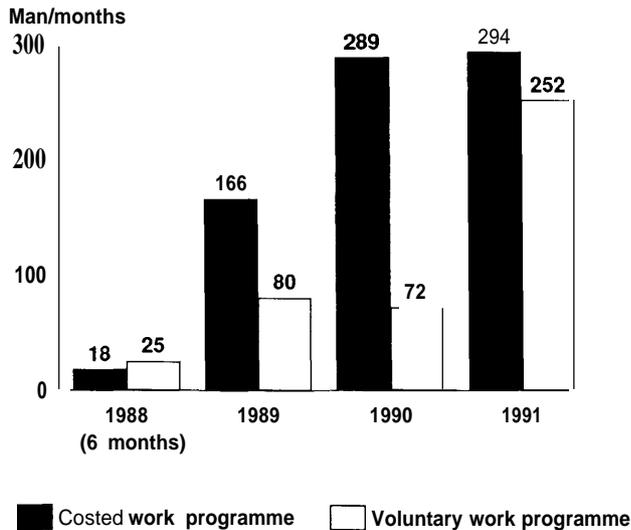
SOURCE: European Telecommunications Standards Institute, May 1991.

Work Program. Administrations (mainly the PTTs) paid the operating costs, while all members shared the costs of the work program. In 1991, a single budget was adopted. Now manufacturers, network

operators, service providers, and research institutes pay according to their turnover, and administrations pay according to their Gross Domestic Product (GDP).⁴⁶

⁴⁶ ETSI, op. cit., footnote 43, p. 3.

Figure 3-8--Resource for European Telecommunications Standards Institute (ETSI) Project Teams



SOURCE: European Telecommunications Standards Institute, May 1991.

The New Approach

Viewing standardization as a priority task, the European Commission (EC) adopted a new approach for developing European standards in May 1985.⁴⁷ This program is based on the mutual recognition of test data and product certification within the EC. It calls for two separate procedures—one for regulated and one for nonregulated products.

Products that have potential health, safety, or environmental implications are regulated by the commission. The commission writes directives for these products, which have the force of EC law. These directives outline broad essential requirements that products must meet.⁴⁸ CEN, CENELEC, and ETSI write detailed standards that meet these requirements, which manufactures may choose to

follow. Or, manufacturers may meet the directive using another approach. Manufactures must prove conformance to the commission's directive in one of two ways. They can submit their products to testing by an independent laboratory, which is itself licensed as a *notified body* by a member government. Or they can test and certify their products themselves (a procedure known as self-certification.) If challenged, the burden of proving conformance rests with the manufacturer.

Manufacturers can continue to use national standards for nonregulated standards. However, to allow for harmonization, nations are required to treat all EEC products alike. Any product that can be legally sold, manufactured, and marketed in one member nation must be able to be sold on an equal basis in any other country.⁴⁹

The Green Paper on Standards

Even though the number of European standards has greatly increased, the demand for European standards continues to outpace supply.⁵⁰ The EC estimates, for example, that by 1993, the EEC will need at least 1,000 European standards.⁵¹ With the exception of telecommunication and information technologies (which are to be set through ETSI) the task of developing these standards falls to CEN and CENELEC. To support this development, the EC contributed more than 60 percent of CEN/CENELEC's secretariats budgets in 1990. Moreover, in an effort to speed up the process, the EC proposed a number of reforms in its 1990 *Green Paper on the Development of European Standardization*.⁵²

These proposals, however, have been highly controversial. National standard development bodies have been opposed, as have CEN and CENELEC, since the Green Paper calls for the eventual

⁴⁷ Progress in European standardization has been greatly facilitated by the passage of the Single European Act, adopted in February 1986. As one of its major objectives, it calls for the completion of the European internal market by the end of 1992 to create a continental trading area. To facilitate this end, the Act substitutes qualified majority voting for the previous system requiring unanimity. See, Patrick W. Cooke, *A Summary of the New European Community Approach to Standards Development* (Washington DC: U.S. Department of Commerce, National Bureau of Standards, August 1988), p. 2-3.

⁴⁸ Diane Good, "The Implications of 1992 for U.S. Manufacturers: Products (Product Standards and Product Liability) and Environmental Law," *International Quarterly*, vol. 2, July 1990.

⁴⁹ This principle comes from the historic *Cassis de Dijon case* decided by the European Court of Justice in 1979; the decision stated that French *cassis* could not be barred from sale in West Germany merely because it was manufactured to non-German specifications. CEC, *Europe Without Frontiers-Completing the Internal Market*, Periodical 3/1988 (Luxembourg: Office for Official Publications of the European Communities, 1988).

⁵⁰ *Green Paper*, op. cit., footnote 43. See also Lucy Kalloway, Op. Cit., footnote 41.

⁵¹ *Green Paper*, Op. Cit., footnote 43.

⁵² *Ibid.*

restructuring of European standards organizations along industry, rather than national, lines.⁵³ Moreover, it would replicate the ETSI model, rather than build on the traditional voluntary approach to standards setting. Some contend that the EC's

proposal would create a system that is too bureaucratic; others argue that it would unnecessarily limit due process. Having been barraged with negative responses, the EEC is currently revising its proposal to take these kinds of comments into account.

⁵³ See, for example, "Comments of DIN on the Commission Green Paper on the Development of European Standardization as published in the Official Journal of the European Communities on January 20, 1991," *Journal of European Standardization* 20(1); and "The Future of European Standardization: The BSI Response to the European Commission Green Paper," (British Standards Institute, London: 1991).