

Chapter 2

Societies in Transition to the Network Society

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Several analysts have put forward the idea that societies are currently experiencing significant change characterized by two parallel trends that frame social behaviour: individualism and communalism (Castells, 2003b).

Individualism, in this context, denotes the construction of meaning around the realization of individual projects. Communalism, in turn, can be defined as the construction of meaning around a set of values defined by a restricted collective group and internalized by the group's members.

Various observers have looked at these two trends as potential sources of disintegration of current societies, as the institutions on which they are based lose their integrating capacity, i.e. they become increasingly incapable to giving meaning to the citizens: the patriarchal family model, the civic associations, companies and, above all, representative democracy and the nation state. These institutions have been, to some extent, fundamental pillars of the relationship between society and the citizens throughout the 20th century (Castells 2003; 2004, Giddens 2000).

However, another hypothesis is possible. Perhaps what we are witnessing is not the disintegration and fractioning of society, but the reconstruction of the social institutions and, indeed, of the structure of society itself, proceeding from autonomous projects carried out by society members. This independence (i.e. independence from society's institutions and organizations) can be regarded as individual or collective, in the latter case in relation to a specific social group defined by its autonomous culture.

In this perspective, the autonomization of individuals and groups is followed by the attempt to reconstruct meaning in a new social struc-

ture on the basis their self-defined projects. By supplying the technological resources for the socialization of the projects of each individual in a network of similar subjects, the Internet, together with the mass media, becomes a powerful social reconstruction tool and not a cause of disintegration. This social (re)construction, giving rise to the new structure, will not have to follow the same values logic of the late industrial society.

However, as the Internet is a technology, its appropriation and domestication (Silverstone 1994) may also take place in a conservative way and thus act merely to perpetuate social life as it had already existed.

The examples are manifold. If we wish to expand our field of vision we can look at the Internet as, for example, an instrument for the maintenance of a patriarchal society rooted in a fundamentalist interpretation of Islam, when we see it being used for the recruitment of volunteers for al-Qaeda, or as an instrument for the perpetuation of old public administration models, when the websites of the ministries offer nothing more than the telephone numbers of the various services, in what amounts to the mere substitution of the yellow pages, in hardcopy form, by hypertext in a closed institutional circuit. Or when we limit ourselves to constructing a personal page in which we center content around our own personality and identity without any connection to any entities to which we belong or are affiliated, thus rejecting the logic of sharing in a network of interests.

In other words, the hypothesis for the analysis of social development and the role of the Internet in that development is that the Internet is a tool for the construction of projects. However, if it is merely used as one more means of doing something we already do, then its use is limited and is not necessarily different from that of the other media (for example, television, as far as entertainment and news information are concerned).

As one can verify by means of the study of the reality of two societies in transitions—Catalonia and Portugal (Castells et al. 2003, Cardoso et al. 2005)—the Internet is appropriated in different ways by different people and not all of them effect uses that distinguish the Internet from what the other media could offer. This is a reality that is, perhaps, more perceptible in societies where the Internet utiliza-

tion levels are still quite low. However, different studies conducted in different societies (Cole 2005) demonstrate that that is a reality that is not directly linked with the character of transition or affirmation as an information society, but with variables such as the education and generation dimensions.

Nevertheless, there is something in societies in transition that accentuates the differences more. In other words, in societies in transition, the divisions between those who use and those who do not use technologies such as the Internet are greater and tend to make utilization of them more a question of the generation to which one belongs: the younger the generation the greater the use and the higher the education level the greater the use.

If it is a recognized fact that societies such as the United States, Finland and Singapore can be classified as “informational societies” (Castells and Himanen 2002), how can we define those societies in transition towards the information society? In other words, societies in which the mark of networked social organization already asserts itself in broad segments of society?

In order to answer that question, we require a more in-depth analysis of a society whose characteristics, though profoundly European, also reveal similarities in terms of relations and values to countries of the American continent: Portugal.

The argument for the choice of Portugal as a typical example of a society in transition towards the network society is that Portugal is a country that shares, to varying degrees, development characteristics and historico-political values and conditioning factors with a group of other societies, for which the common denominator is the fact that they all experienced, in the last three decades, the democratization of their societies and, at the same time, have similar informational development rankings.

All of these societies are classified by different digitalization indexes (ITU 2003) in one and the same group: the high digital access countries. In the concrete case of the DAI (ITU 2003), the group is led by Spain, with Brazil bringing up the rear. It includes, amongst others, the countries we have chosen to study herein, i.e. those that were protagonists of waves of democratization in the last 30 years (Huntington

1991, Altman 2002) in Europe and South America¹: Spain, the Czech Republic, Greece, Portugal, Hungary, Poland, Slovakia, Chile, Uruguay, Argentina and Brazil.

However, because it is necessary to compare this group of countries with a group of more informationally developed countries, we have also chosen to conduct a comparative analysis herein of Finland, the USA and Singapore. Finally, we will also analyse the case of Italy in this transition context, for, although it is a member of the G7, Italy has a proto-information model (Castells 2002) that is closer, on various levels, to a society in transition than a full informational society.

We will look at Portugal as a paradigmatic example of transition in progress, but at the same time we will seek to identify the characteristics that make societies that differ so much as Spain, Greece, the Czech Republic, Slovakia, Hungary and Poland, and also Argentina, Chile, Uruguay and Brazil, societies in transition towards the network society.

Societies in Transition in the Global Network

An analysis of the different information society models can have as its starting point the individualization of four dimensions (technology, economy, social well-being and values), through which one can better understand what each society's position is in relation to the global information society panorama (Castells and Himanen, 2001). On this basis one can consider that a society is an informational society if it possesses a solid information technology: infrastructure, production and knowledge (Castells and Himanen, 2001).

¹ Huntington suggests that, during the 1970s and 1980s there were transitions from non-democratic political systems to democratic systems and that those changes can be seen in the context of a greater trend towards transition to democracy. Without going into the various premises put forward by Huntington in more detail, I think that his contribution is of interest for the analysis of the societies in transition to the network society due to the fact that he establishes a link between different geographic zones and societies at the values level. In other words, all the societies studied herein have shared one common value in the last three decades—the search for democracy—and seek today integration in the global economy as informational societies, with most of the indicators placing them in a transition zone. Almost all of the countries analysed here as being in transition to the network society are referred to by Huntington as common examples of transition to democracy. Huntington defines three types of transition, which include all the countries analysed here: 1) transformation (for example, Spain, Hungary and Brazil), where elites in power took on the leadership of the transition processes; 2) substitution (as in Portugal and Argentina), where opposition groups led the democratization process; 3) transplacements (as in Poland and Czechoslovakia), where democratization occurred from joint action by government and opposition groups.

Finland, the United States and Singapore are advanced informational societies. They are also dynamic economies because they are internationally competitive, have productive companies and are innovative. But because “(...) technology and the economy are merely a part of the story” (Castells and Himanen, 2001: 31), one can say that a society is open if it is so politically, i.e., at the civil society level, and if it is receptive to global processes. Likewise, its social well-being can be assessed in terms of its income structure and the coverage offered to the citizens in terms of health and education.

When looked at in terms of the evolution of development models, Portugal is a country that is going through a transition process from the industrial society to the informational society. However, we are speaking of an industrial society, which, similar to the Italian and Spanish societies, is to a large extent made up of small and medium-sized enterprises but that has never asserted itself as a large-scale industrial producer (Castells, 2002). In the second half of the 20th century, Portugal assumed what can be termed proto-industrialism and is now seeking to achieve a proto-informatism (Castells, 2002). As an example of a society in transition, the analysis of Portugal reveals that it is a country which, through its multiple affiliation networks (which range from membership of the European Union to the maintenance of good relations in terms of defence with the USA and to the establishment of partnership networks with Brazil, the former African and Asian colonies and the autonomous regions of neighbouring Spain), seeks to adapt to the conditions of global economic change. And that is a pattern common to all societies in transition.

Nowadays, one can frequently read, in documents produced within the European Union institutions or within the framework of the OECD or even UN, that the equation for the economic and social development of countries, cities and zones in the Information Age is the appropriation of the use of the technological tools and their introduction into the production and personal relational circuits, requiring for this that the whole of the country, city or zone in question realize their effective insertion both into the entrepreneurial fabric and at the State level (in the management of the republic, in education, in management and defence of the territory, etc.).

In the latter half of the 1990s, investment in information technologies as a source of GDP creation in countries such as the USA, United King-

dom and Canada equalled in percentage terms the isolated contribution made by labor or the investment in capital not coming from the information technologies (Jorgensen 2005). The trend towards the convergence of the investment contribution in information technologies with the contribution from other investments in capital or the labour contribution would seem to be a general one for all the more developed countries, albeit in varying degrees. Likewise, there is a trend in all countries towards an increase in the value added provided by the information technologies in the creation of value added in the services sector (OECD 2004).

To clarify this a little, one should add that, contrary to general perceptions, the productive fabric in the information age does not consist merely of the technology companies (the so-called “dotcom” companies) but also that of companies that are able to incorporate the information technologies in their productive, organizational, distribution and promotion processes.

Hence, the new economy is not only the likes of amazon.com, e-bay or the telecommunications companies, although these are indeed part of that economy, but also companies like INDITEX (a Spanish group that owns ZARA and other clothing brands) that have been able to use the Internet to achieve their economic objectives (Castells, 2004b).

Indeed, the new economy includes many more companies from traditional sectors than purely technological companies or those with a direct vocation for online business. It is normal for the productive fabric today, as has always been the case down through the centuries, to be led by one driving force sector, as well as others that will make use of that dynamism to innovate.

In order to triumph in this game, any country or geographic zone also requires a workforce with the capacity to use the new technology to innovate, be it in the private sector or in the state. Workforces that carry out repetitive—or not creative—work but with the use of the technologies, a telecommunications structure, an innovative entrepreneurial fabric, a state that is able to create the appropriate vocational training conditions, conversion of organizational and management models and establishes legislation on regulation, frameworks and incentives.

The data contained in the following tables compare Portugal and the other countries in transition to three information society models.

These models that can be given the names of Silicon Valley, an open society model guided by the market; Singapore, the authoritarian information regime model; and, finally, the Finnish model of an information-welfare society.

If classification of a society as an information society is based on a solid information technology at the infrastructure, production and knowledge levels, what position do these countries have in terms of these dimensions?

Table 2.1 Technological Achievement Index (2001)

| Country | TAI Position | Group |
|----------------|--------------|-------------------|
| Spain | 19 | Potential Leaders |
| Italy | 20 | Potential Leaders |
| Czech Republic | 21 | Potential Leaders |
| Hungary | 22 | Potential Leaders |
| Slovakia | 25 | Potential Leaders |
| Greece | 26 | Potential Leaders |
| Portugal | 27 | Potential Leaders |
| Poland | 29 | Potential Leaders |
| Argentina | 34 | Potential Leaders |
| Chile | 37 | Potential Leaders |
| Uruguay | 38 | Dynamic Adopters |
| Brazil | 43 | Dynamic Adopters |

Source: UNDP, 2001.

Most of the countries classified here in terms of the technological development index in 2001 (UNDP, 2001) were in what we can call the second division of countries—the so-called potential leaders—whereby this second division is led by Spain (19th place) and Italy (20th). Brazil closed the list of countries in transition to the network society in analysis here.

However, Brazil is worthy of special attention, for, according to the IMD (2004), if we consider the competitiveness dimension for the whole of Brazil, the country occupies 53rd place. If we consider only the state of São Paulo, where a number of high-potential technological centers are centered around the University of Campinas, the contribution to the GDP in 1998 amounted to roughly to one third of the Brazilian total, then the position of São Paulo at the global level places it in 47th place. However, this is by no means a peculiarity of Brazil, as, as far as societies in transition are concerned, there would seem to be geographic differences in terms of integration in the global economy.

Table 2.2a International comparisons in the field of technology

| | Finland | USA | Singapore | Portugal | Spain | Italy | Czech Rep. | Advanced economies |
|--|------------|------------|-----------|----------|----------|----------|------------|--------------------|
| Infrastructure | | | | | | | | |
| Machines connected to the Internet (per 10,000 inh.) ¹ | 1707.25(3) | 3714.01(1) | 478.18 | 239.28 | 133.24 | 117.28 | 209.78 | 819.15 |
| Mobile phone contracts (per 1,000 inh.) ² | 867 | 488 | 796 | 825 | 824 | 939 | 849 | 740 |
| Production | | | | | | | | |
| High technology exports as a percentage of the total exports ² | 24 | 32 | 60 | 7 | 7 | 9 | 14 | 21 |
| Electronic commerce (secure servers per 100,000 inhabitants) ³ | 14.9 | 33.28 (1) | 17.31 | 2.34 | 3.2 | 2.2 | 3.8 | 16.3 |
| Growth rate for secure servers, 1998-2001 (%) | 656 | 397 | 527 | 600 | 358 | 460 | 796 | 555 |
| Ratio between hosts and secure servers (2001) | 1144 | 1139 | 357 | 1054 | 423 | 527 | 541 | 692 |
| Knowledge | | | | | | | | |
| Internet users (%) (2001) ⁴ | 75.95 | 71.1 | 40.8 | 37.79 | 35.45 | 53.21 | 46.51 | 53 |
| Ratio of participation of the higher education student population in sciences (%) [*] | 37 | 13.9 | 24.2 | 31 | 31 | 28 | 34 | 25.0 |
| Scientist and engineers in R&D (per thousand persons) ² | 7110 | 4099 | 4052 | 1754 | 1948 | 1128 | 1466 | 2778 |
| PISA Test—mathematical literacy | 544 (2) | 483 (25) | — | 466 (29) | 485 (25) | 466 (29) | 516 (12) | 504 |
| PISA Test—scientific literacy | 548 (1) | 491 (20) | — | 468 (31) | 487 (22) | 486 (22) | 523 (5) | 510 |

*UNESCO definition for the indicator in question: “gross enrollment in tertiary education—total enrolment in tertiary education regardless of age, expressed as a percentage of the population in the five-year age group following the secondary-school leaving age.”

Source: 1 Values for all countries taken from World Indicators, ITU, <http://www.itu.int/ituews/issue/2002/04/table4.html>; 2 Values for all countries take from the UNDP Human Development Report 2004; 3 Values obtained by Netcraft in December 2001: http://www.atkearney.com/shared_res/pdf/Secure_servers_2002_S.pdf; 3 Host values taken from World Indicators, ITU <http://www.itu.int/ituews/issue/2002/04/table4.html>; 4 ESS Data 2003, WIP 2004 and <http://www.internetworldstats.com/stats2.htm>; 5 Adapted from Castells and Himanen, 2002, except for data for Portugal, taken from the UNDP Human Development Report

Table 2.2b International comparisons in the information technology domain

| | Slovakia | Hungary | Greece | Poland | Chile | Argentina | Uruguay | Brazil | Advanced economies |
|--|----------|----------|----------|----------|-------|-----------|----------|----------|--------------------|
| Infrastructure | | | | | | | | | |
| Machines connected to the Internet (per 10,000 inh.) ¹ | 134.29 | 168.04 | 135.18 | 126.82 | 79.20 | 124.14 | 210.93 | 95.31 | 819.15 |
| Mobile phone contracts (per 1,000 inh.) ² | 544 | 676 | 845 | 363 | 428 | 178 | 193 | 201 | 740 |
| Production | | | | | | | | | |
| High technology exports as a percentage of the total exports ² | 3 | 25 | 10 | 3 | 3 | 7 | 3 | 19 | 21 |
| Electronic commerce (secure servers per 100,000 inhabitants) ³ | 1,9 | 1,8 | 1,7 | 1,7 | 1,2 | 0,8 | – | 0,9 | 16,3 |
| Growth rate for secure servers, 1998-2001 (%) | 1040 | 936 | 765 | 1830 | 678 | 1000 | – | 429 | 555 |
| Ratio between hosts and secure servers (2001) | 697 | 941 | 813 | 743 | 645 | 1604 | – | 1303 | 692 |
| Knowledge | | | | | | | | | |
| Internet users (%) (2001) ⁴ | – | 46,21 | 25,87 | 38,68 | 34,8 | 14,9 | 34,5 | 9,9 | 53 |
| Ratio of participation of the higher education student population in sciences (%) [*] | 43 | 32 | – | – | 43 | 30 | 24 | 23 | 25,0 |
| Scientist and engineers in R&D (per thousand persons) ² | 1774 | 1440 | | 1473 | 419 | 684 | 276 | 323 | 2778 |
| PISA Test—mathematical literacy | 498 (19) | 490 (22) | 445 (32) | 490 (22) | – | – | 422 (34) | 356 (38) | 504 |
| PISA Test—scientific literacy | 495 (18) | 503 (14) | 481 (25) | 498 (17) | – | – | 438 (33) | 390 (38) | 510 |

* UNESCO definition for the indicator in question: “gross enrollment in tertiary education—total enrolment in tertiary education regardless of age, expressed as a percentage of the population in the five-year age group following the secondary-school leaving age.”

Source: 1 Values for all countries taken from World Indicators, ITU, <http://www.itu.int/itunews/issue/2002/04/table4.html>; 2 Values for all countries take from the UNDP Human Development Report 2004; 3 Values obtained by Netcraft in December 2001: http://www.atkearney.com/shared_res/pdf/Secure_servers_2002_S.pdf; 3 Host values taken from World Indicators, ITU <http://www.itu.int/itunews/issue/2002/04/table4.html>; 4 ESS Data 2003, WIP 2004 and <http://www.internetworldstats.com/stats2.htm>; 5 Adapted from Castells and Himanen, 2002, except for data for Portugal, taken from the UNDP Human Development Report

The selective inclusion to which Castells (2003) refers when analyzing the space of flows is a perceptible reality in the case of the relation established between Catalonia and Spain or Lombardy and Italy (IMD 2004) or between the Greater Buenos Aires area and Argentina (Amadeo 2005).

The more populous countries apparently seem to be incapable of effecting, or prefer not to effect, this transition to information and network societies for the whole of their territory and population, at least in this phase of history.

The similarity between the countries listed above is confirmed by other international indices such as that of the ITU (International Telecommunications Union), the DAI (2003). Namely, because the DAI (Digital Access Index) establishes identification categories, such as: infrastructure (relating to telephone lines, mobile phone and Internet subscriptions), cost (Internet access and use prices in comparison to the national income); knowledge (literacy and inclusion in the education system); quality (international bandwidth and broadband subscribers) and utilization of the Internet.

If we compare these categories in the leading countries (such as Finland, USA and Singapore) and the societies defined as transition societies, we see that it is not only the low levels of technology utilization in the latter that makes the difference. Indeed, in recent years we have come to understand that studies carried out by those involved in the technological processes themselves, such as the telecommunications operators, are beginning to accept that the communication infrastructure is not the only element that can explain the differences between countries and that income and education also play a very important role (ITU 2003). Only if we look at society in an integrated manner—taking into account the infrastructure, production and knowledge (Castells and Himanen, 2001)—can we identify the transition processes in progress in contemporary societies.

The analysis of international comparisons in the technological domain reveals an apparently converging reality amongst the different societies analyzed here. They all present figures for machines connected to the Internet that are approximately one quarter of the average for the advanced economies and also one third of the high technology exports achieved by the advanced economies (with the exception of Poland, Uruguay and Argentina), presenting, finally,

Internet utilization values of more than two-thirds of the average for the advanced economies (with the exception of Argentina and Brazil).

In general terms, the countries analyzed here always present better results and more balanced values in the technological “knowledge” dimension than in the “infrastructure” and “technology production” dimensions. However, the irregularity of the performance in these two latter categories would seem, in itself, to be a distinguishing mark of these societies and the fruit of the fact that, in the transition process, they have not yet been able to stabilize good results in all categories.

Examples of this irregularity in terms of results are the percentage values for Brazil (19) and Hungary (25) in relation to the average high technology export figures for the G7 (21) or the number of mobile phone contracts in Portugal, Spain, Italy, Greece and the Czech Republic, which are all above the G7 average, and also the growth rates for secure servers in Portugal, the Czech Republic, Slovakia, Hungary, Poland, Greece, Chile and Argentina, whose figures are close to, or above, those of the three information economies analyzed here (Finland, USA and Singapore).

However, we also have to take into account some peculiarities of the societies in transition, without which it would be difficult to explain some of their performances. By way of example, let us look at the question of secure server penetration. The fact that Portugal and Spain have higher ATMs per million inhabitants rates (AETIC 2004), with 1,047 and 1,230 machines compared to an EU average of 700, has allowed for the development of alternative systems to the use of credit cards and secure servers for online purchases. The fact that Portugal has a debit card system common to the whole banking system, the so-called “Multibanco” system, has made it possible to make online orders with payment through the ATM network, thus creating an alternative and more secure electronic channel for transactions. This is one example of many that help us to understand that, in addition to the common and individual traits, there are sometimes situations common to two or more countries that allow for the identification of some characteristic sub-groups in the context of the transition analyzed here.

If there is something that brings the different societies from two continents analyzed here closer together then it is, as mentioned above, the technological knowledge dimensions. Hence, the figures for the num-

ber of tertiary education students in the sciences is clearly higher than the average for the G7 in almost all of the countries included in the study (Uruguay and Brazil are the exceptions), and the figures for scientists and investigators in R&D are higher than the half of the values for the G7 countries (with only the four South American countries below that average). As far as the PISA literacy test results for mathematics and the sciences are concerned, only Uruguay and Brazil present values lower than 90% of those presented by the advanced economies.

It is also in the knowledge dimension, in this case not merely technological knowledge, that the generational mark that seems to be common to all these societies manifests itself most. The question of education is fundamental for analyzing the transition to the network society with an informational economic organization because, as we shall see, there is a strong correlation in all the societies between the educational competences given and the number of users of the basic network society technology: the Internet.

The Internet use figures constitute one reference value for characterizing the transition of a society to the network society because they reflect both the dimension of use in the socialization context and the market potential. Indeed, without a high number of users, there would also be no incentive for increasing electronic commerce (be it at the inter-company level or with private persons).

An analysis of the preceding table shows that the relation between access and use is dependant on a fundamental conditioning factor, the education level. Age is also a mobilizing factor, as it facilitates use via the group affiliation and practices amongst populations attending school (Table 2.3). However, different studies show that the stronger direct relationship is established between the education level and effective use of the Internet.

As far as the comparative analysis of the countries is concerned, the figures show that in the information societies use of the Internet by persons who have completed secondary education is between 60% and 90% of the users with higher education, while in the societies in transition, these values are less than 50%. The exception here is Portugal, with values of around 90%, as the number of Portuguese citizens who have completed secondary education is relatively low and, consequently, is closer in percentage terms to the numbers who have concluded higher education.

Table 2.3 Use of the Internet per country according to user's highest education level (%)

| Country | Not completed primary education* | Primary or first stage of basic* | Lower secondary or second stage of basic* | Upper secondary* | Post secondary, non-tertiary* | First stage of tertiary* | Second stage of tertiary* |
|-------------|----------------------------------|----------------------------------|---|------------------|-------------------------------|--------------------------|---------------------------|
| Portugal | 21.10 | 18.86 | 37.24 | 48.87 | — | 48.61 | 50.00 |
| Austria | 16.66 | — | 33.88 | 51.45 | 77.09 | — | 76.62 |
| Belgium | 7.69 | 10.61 | 29.94 | 45.22 | 61.53 | — | 77.39 |
| Switzerland | 35.29 | — | 39.78 | 52.88 | 73.91 | 82.89 | 90.47 |
| Czech Rep. | 30.00 | — | 14.28 | 23.74 | 47.61 | 62.50 | 60.00 |
| Germany | — | — | — | — | — | — | — |
| Denmark | — | 20 | 46.07 | 61.08 | 73.46 | 84.50 | 100 |
| Spain | 0.91 | 1.69 | 16.63 | 31.68 | 44.64 | 61.79 | 68.42 |
| Finland | 25 | 15.18 | 55.55 | 63.94 | — | 79.20 | 100 |
| France | 6.08 | 8.93 | 25.10 | 24.16 | 49.57 | 67.06 | 77.04 |
| U.K. | — | — | 26.34 | 66.60 | 57.21 | 74.71 | 91.83 |
| Greece | 0.90 | 0.431 | 6.04 | 14.12 | 31.81 | 47.00 | 60 |
| Hungary | 1.51 | 16.58 | 6.63 | 23.49 | — | 40 | 58.69 |
| Ireland | — | 9.09 | 28.94 | 46.47 | 65.38 | 77.77 | 75.00 |
| Israel | — | 5.40 | 24.59 | 30.61 | 37.25 | 64.07 | 67.44 |
| Italy | — | 0.88 | 21.83 | 50.35 | 55.40 | 59.27 | 85.96 |
| Luxembourg | — | 20.00 | 50.00 | 61.53 | — | 100 | 100.00 |
| Netherlands | — | 21.875 | 38.57 | 66.02 | 71.79 | 79.40 | 80.00 |
| Norway | — | — | 25.49 | 60.75 | 77.77 | 80.51 | 90.00 |
| Poland | — | 3.70 | 5.63 | 12.40 | 18.79 | 42.95 | 43.64 |
| Sweden | 88.88 | 37.43 | 57.44 | 83.33 | — | 83.01 | 89.74 |
| Slovenia | — | — | 19.51 | 15 | 53.84 | 55.55 | 85.71 |

Source: European Social Survey 2002/2003. *Note: given the different names for education levels in the European context we opted to use the original ESS terms.

Although the analysis has thus far practically made reference to European countries only, a more geographically comprehensive study, such as that proposed by the World Internet Project (2005), establishes the same relationship between Internet use and education.

Table 2.4 Internet use rates in the population with secondary and higher education (%)

| | Secondary | University |
|----------------|-----------|------------|
| United Kingdom | 64.4 | 88.1 |
| Portugal | 64.8 | 75.1 |
| Germany | 66.0 | 62.6 |
| Hungary | 14.6 | 45.5 |
| Italy | 53.5 | 77.3 |
| Japan | 45.7 | 70.1 |
| Korea | 44.9 | 77.7 |
| Macao | 49.5 | 76.7 |
| Singapore | 66.3 | 92.2 |
| Spain | 47.6 | 80.5 |
| Sweden | 76.4 | 83.8 |
| Taiwan | 18.2 | 54.9 |
| USA | 61.0 | 87.1 |

Source: CIES, Network Society in Portugal Survey, 2003 for Portugal; for all other countries the WIP (World Internet Project).

In characterizing societies in transition, the similarities are crossed with the exceptions and the question of Internet access offers a new example for the affirmation of singularities.

Although it is possible to establish similarities between the access rates in some of the countries studied here (Portugal, Poland, Spain), we also immediately find differences as to the effective use of that access. Indeed, if we establish a ratio between access and use, we see that Portugal is one of the countries that makes most use of the existing availability, putting it on a par with leading countries such as Norway, the Netherlands and Finland and ahead of other societies in transition such as the Czech Republic, which has high access figures but very low effective use by its populations.

What this use of the existing access availability ratio measures is the effective use of the technology, demonstrating that there must be other factors endogenous to each society that could explain why there

are differences in the use of a technology even when the access is equally high to begin with.

Analysis of the values for Portugal and the other European countries shows that, in certain conditions, even when the access rate increases, that increase is not necessarily directly reflected in an increase in use, for there are dynamics peculiar to each country at play that can explain the different socialization rates for the technology.

Table 2.5—Internet access/use of access ratio

| Country | Has Internet access at home or at work* % | Uses the Internet** % | Access availability usage ratio |
|----------------|---|-----------------------------|------------------------------------|
| Portugal | 37.79 | 29.72 | 0.79(4) |
| Austria | 67.22 | 54.37 | 0.81(3) |
| Belgium | 67.14 | 43.70 | 0.65 |
| Switzerland | 72.89 | 57.85 (3) | 0.79(4) |
| Czech Republic | 46.51 | 27.56 | 0.59 |
| Germany | — | — | — |
| Denmark | 76.61 (3) | 62.39(2) | 0.81(3) |
| Spain | 35.45 | 22.20 | 0.63 |
| Finland | 75.95 (4) | 56.19 | 0.74 |
| France | 50.00 | 37.28 | 0.75 |
| United Kingdom | 57.55 | 45.21 | 0.79 (4) |
| Greece | 25.87 | 13.40 | 0.52 |
| Hungary | 46.21 | 19.63 | 0.42 |
| Ireland | 66.12 | 40.39 | 0.61 |
| Israel | 54.25 | 39.22 | 0.72 |
| Italy | 53.21 | 30.51 | 0.57 |
| Luxembourg | 68.57 | 51.43 | 0.75 |
| Netherlands | 73.05 | 55.88 | 0.76 |
| Norway | 75.29 (5) | 62.07(4) | 0.82(2) |
| Poland | 38.68 | 23.88 | 0.62 |
| Sweden | 77.96 (2) | 66.94(1) | 0.86 (1) |
| Slovenia | 78.92 (1) | 36.14 | 0.46 |

Source: European Social Survey 2002/2003. *Note: the figures refer to the aggregated sum of all those who responded that they at least have access regardless of the degree of utilization. **Note: the figures refer to the aggregated sum of those who make effective personal use of the Internet (whereby personal use is defined as: private or recreational use that has nothing to do with the professional occupation of the user).

Table 2.6 Percentage of citizens per age group that have completed secondary and tertiary education in selected countries

| | Finland | USA | Portugal | Spain | Italy | Czech Rep. | Slovakia | Advanced Economies |
|---------------|---------|---------|----------|---------|-----------|------------|----------|--------------------|
| Secondary | 52 | 84 | 8 | 18 | 24 | 80 | 68 | 60 |
| >55 years | | | | | | | | |
| Secondary | 88 | 87 | 35 | 58 | 60 | 88 | 93 | 80 |
| 25–34 | | | | | | | | |
| Growth rate | 69.23% | 3.57% | 337.50% | 222.22% | 150.00% | 10.00% | 36.76% | |
| Tertiary > 55 | 23.4 | 33.2 | 4.6 | 10.5 | 6.7 | 10.6 | 8.6 | 18 |
| Tertiary | 39 | 39 | 15 | 37 | 12 | 12 | 12 | 27 |
| Growth rate | 66.67% | 17.47% | 226.09% | 252.38% | 79.10% | 13.21% | 39.53% | |
| | Hungary | Greece | Poland | Chile | Argentina | Uruguay | Brazil | Advanced Economies |
| Secondary | 48 | 28 | 37 | 28 | 28 | 23 | 15 | 60 |
| >55 years | | | | | | | | |
| Secondary | 82 | 72 | 53 | 61 | 52 | 38 | 32 | 80 |
| Growth rate | 70.83% | 157.14% | 43.24% | 117.86% | 85.71% | 65.22% | 113.33% | |
| Tertiary > 55 | 12.6 | 10.2 | 10.5 | 6 | 9 | 7 | 6 | 18 |
| Tertiary | 15 | 24 | 16 | 12 | 15 | 9 | 14 | 27 |
| Growth rate | 19.05% | 135.29% | 52.38% | 100.00% | 66.67% | 28.57% | 133.33% | |

Sources: Secondary education figures: Education Outlook OECD 2004; tertiary education figures: Education Outlook OECD 2003

If the relationship between use of the Internet and education seems to be transversal to all countries, there is also a characteristic in the education dimension that seems to be common to almost all countries analyzed here: all of them, with the exception of the Czech Republic, reveal strong generational differences in terms of the completion of secondary education and tertiary education. The countries under analysis can be grouped into three distinct groups. The first group includes most of the countries: all those which present growth rates for completion of the education level ranging from 300% to 50% between the generations. This first group is also heterogeneous, for though countries such as Greece and Hungary present values in the younger generations that place them above 70% completion of secondary education, Portugal, Brazil and Uruguay are below 40%. Also in this group, in an intermediate position, are Spain, Poland, Argentina and Chile, which all have values close to 60% of the population with secondary education completed in the younger generations. This first group (with the exception of Greece) is also characterized by figures for the completion of higher education that are clearly below the average for the G7 countries.

A second group of countries, made up of the Czech Republic and Slovakia, seems to be in a better position, presenting diminutive generational differences in terms of education, given that even in the older generations completion of secondary education was close to or above 70%.

Finally, we have a third group made up by Italy alone, a country characterized by high growth rates for the completion of secondary education in the younger generations and values very close to those of Finland as far as investment in tertiary education by the younger generations is concerned. Italy presents itself, once more, as a dual society: simultaneously an information society and one in transition.

The generation analysis focusing on the question of education can also be observed when we look at the relationship between age and use of the Internet.

Table 2.7 Use of the Internet by age interval per country (%)

| Country | 15-24 | 25-34 | 35-54 | over 55 |
|----------------|-------|--------|-------|---------|
| Austria | 81.81 | 75.28 | 65.73 | 21.02 |
| Belgium | 75.60 | 63.35 | 48.18 | 12.69 |
| Switzerland | 88.00 | 76.82 | 71.48 | 29.14 |
| Czech Republic | 73.07 | 39.82 | 38.46 | 10.31 |
| Denmark | 91.66 | 81.33 | 72.95 | 33.33 |
| Spain | 50.15 | 35.98 | 28.81 | 3.78 |
| Finland | 91.93 | 82.53 | 63.94 | 22.29 |
| France | 62.67 | 53.90 | 45.00 | 13.28 |
| UK | 73.34 | 62.05 | 59.49 | 20.01 |
| Greece | 32.60 | 25.71 | 15.73 | 1.95 |
| Hungary | 63.55 | 27.55 | 15.24 | 4.15 |
| Ireland | 62.79 | 56.60 | 46.78 | 16.34 |
| Israel | 55.68 | 52.631 | 37.93 | 18.69 |
| Italy | 48.87 | 52.83 | 33.28 | 8.67 |
| Luxembourg | 85.71 | 80.00 | 54.54 | 18.18 |
| Netherlands | 87.09 | 76.26 | 67.30 | 29.97 |
| Norway | 85.71 | 80.00 | 74.28 | 30.70 |
| Poland | 53.32 | 34.25 | 18.81 | 3.43 |
| Sweden | 66.30 | 65.45 | 50.97 | 21.21 |
| Slovenia | 67.85 | 53.57 | 38.33 | 7.54 |
| Average | 68.91 | 57.56 | 46.56 | 16.61 |

Source: European Social Survey 2002/2003.

Another characteristic common to the societies in transition, in this case with bearing on our analysis of European societies, is the fact that there is a considerable difference between the use rates for the older and younger generations.

For all societies in transition for which there are comparative data (Portugal, Spain, Czech Republic, Greece, Hungary and Poland), one can verify that the older citizens using the Internet correspond to only 10% of the younger users. In the case of other European countries, the figures are almost always somewhat above 20%.

Table 2.8 International comparison of Internet use per age group (%)

| | United Kingdom | Portugal | Germany | Hungary | Italy | Japan | Korea | Spain | USA |
|--------------|----------------|----------|---------|---------|-------|-------|-------|-------|------|
| 16 to 24 yrs | 80.1 | 58.8 | 59.6 | 45.1 | 66.4 | 80.6 | 95.1 | 70.2 | 90.8 |
| 35 to 44 yrs | 72.8 | 30.4 | 55.6 | 13.7 | 37.4 | 63.0 | 49.5 | 31.7 | 74.5 |
| 55 to 64 yrs | 38.7 | 5.4 | 31.6 | 4.3 | 9.0 | 22.2 | 11.5 | 11.7 | 67.3 |

Source: CIES, Network Society in Portugal Survey, 2003 for Portugal; for all other countries: WIP (World Internet Project)

The age dimension also can be used for comparison not only at the European level, for European, American and Asian societies all offer the possibility of comparative inter-generational analyses. Italy figures as a country in an intermediate position between information societies such as Germany, the United Kingdom, Japan and the USA and other societies in transition such as Portugal, Spain and Hungary.

The explanation for these differences between the generations in using the Internet seems, for the societies in transition, to lie mostly in the difference in the possession of basic forms of literacy, whereas in the more developed information societies the differences probably have more to do with the availability of contents that adapt to the interests of all generations and, furthermore, the dimension of the sociability networks that the technology can offer to more senior citizens.

All the factors analyzed so far in the infrastructure, production and knowledge dimensions and also those relating to acquired skills, employment structure and predominance of low and medium technology areas in the economy, are also reflected in the economies' compared productivity levels and their GDP *per capita*.

On a competitiveness index of 0-100, where the average for the advanced economies is 74 points, the societies in transition under analysis here occupy varied positions. Chile (26th), Spain (31st), Portugal (39th) and Slovakia (40th) are amongst the top forty countries or regions, while the remaining countries occupy positions between 42nd (Hungary) and 59th (Argentina).

Whereas the Portuguese GDP *per capita* represents 67% of the average for the advanced economies, placing it amongst the top thirty countries in an international comparison (together with Spain, Italy and Greece), the other countries (with the exception of the Czech Republic, Slovakia and Hungary) present values below 30% of the GDP *per capita* of the G7 economies.

Table 2.9 International comparison of informational development indicators

| | Finland | USA | Singapore | Chile | Spain | Portugal | Slovakia | Hungary |
|---|-----------|-----------|-----------|---------|---------|----------|----------|---------|
| Competitiveness (scale 0-100) ¹ | 83 (8) | 100 (1) | 89 (2) | 69 (26) | 67 (31) | 58 (39) | 57 (40) | 57 (42) |
| GDP per capita (US \$) ² | 26,190 | 35,750 | 24,040 | 9,820 | 21,460 | 18,280 | 12,840 | 13,400 |
| Stock market capitalization growth, 1996-2000 (%) ³ | 894 | 429 | n.d. | 70.7 | 70.4 | 35.1 | 7.9 | 20.2 |
| Investment in R&D as a % of GDP (2001) ⁴ | 3.4(2) | 2.8 | 2.1 | 0.5 | 1.0 | 0.8 | 0.6 | 0.9 |
| Investment in knowledge as a % of GDP (2000) ⁵ | 6.2 | 6.8 | - | - | 2.5 | 2.2 | 2.4 | 3.1 |
| Revenue derived from intellectual property and licences (US \$ per 1,000 inh.) ⁴ | 107.5 (5) | 151.7 (4) | - | 0.4 | 9.0 | 3.1 | - | 35.3 |

Table 2.9 International comparison of informational development indicators (continued)

| | Czech Rep. | Greece | Italy | Brazil | Portugal | Argentina | Uruguay | Advanced Economies |
|---|------------|---------|---------|---------|----------|-----------|---------|--------------------|
| Competitiveness (scale 0-100) ¹ | 56 (43) | 56 (44) | 50 (51) | 48 (53) | 41 (57) | 36 (59) | – | 74 |
| GDP per capita (US \$) ² | 15,780 | 18,720 | 20,528 | 7,770 | 10,560 | 10,880 | 7,830 | 27009 |
| Stock market capitalization growth, 1996-2000 (%) ³ | 21.6 | 51.7 | 40.2 | 26.9 | 15.0 | 100.9 | 0.8 | 71.44 |
| Investment in R&D as a % of GDP (2001) ⁴ | 1.3 | 0.7 | 1.1 | 1.1 | 0.7 | 0.4 | 0.2 | 2.0 |
| Investment in knowledge as a % of GDP (2000) ⁵ | 3.7 | 1.6 | 2.3 | – | 1.9 | – | – | 4.7 |
| Revenue derived from intellectual property and licences (US \$ per 1,000 inh.) ⁴ | 4.4 | 1.1 | 9.4 | 0.6 | 0.7 | 0.5 | 0.2 | 26 |

Source: 1 Figures obtained directly from the source cited in Castells and Himanen (2002), i.e. the IMD (2004); 2 Values for all countries taken from the UNDP Human Development Report 2004; 3 Adapted from Castells and Himanen 2002, except the data for Portugal, which were supplied by the Portuguese Securities Exchange Commission (CMVM) – http://www.cmvm.pt/consulta_de_dados_e_registos/indicadores/indicadores.asp—whereby the figures for Portugal refer to 1997-2000 (Shares – BVL 30); 4 Adapted from Castells and Himanen (2002) for Finland, USA and Singapore; remaining data taken from the World Development Indicators Report of the World Bank 2002 (capitalization 1990-2000); 5 Investment in knowledge is defined as the sum of expenditure on R&D,

A comparison of the societies in transition in terms of the informational development indicators reveals more differences than common traits. Nevertheless, as far as investment in R&D and knowledge are concerned, it is possible to present two different transition stages.

Thus, Italy, Brazil,² Spain, Portugal, the Czech Republic, Hungary and Slovakia are representative of a stage in which the countries invest approximately 50% of the values of the advanced economies in R&D and knowledge. A second group of countries—led by Greece, Poland, Chile, Argentina and Uruguay—presents values below 0.7% of the GDP.

Still in the context of the international comparison of development we can also analyze the economies in transition according to two other classification levels: the readiness of economies for an informational development model and their growth and competitiveness rates.

In terms of the incorporation of technology into the society and economy, The Economist's e-readiness report for 2004 proposes an index that measures the readiness and receptiveness of economies for an informational development model, basing its ranking on six dimensions: connectivity and information technologies, business environment, business and consumer adoption, legal and policy environment, social and cultural environment and supporting e-services.

For example, Portugal achieves good results in the "business environment," "business and consumer adoption" and "legal and policy environment" dimensions, on the basis of which one can conclude that, in terms of business infrastructure and state actions, the conditions are given for the national economy developing in that informational context.

However, the informational model does not consist of these conditions alone. It needs technological infrastructure conditions, specialized support services, sufficient user numbers and also a technically qualified workforce.

The countries and regions that lead the first half of the e-readiness ranking, namely Scandinavia, the UK, the USA and the Netherlands, achieve good results in all of the fields analyzed. The societies in transition essentially show bad performances in terms of the use of the basic telephone network, the mobile network, the Internet and the use of com-

² For Brazil, the analysis refers only to the R&D value.

Table 2.10 Position of the information economies under analysis

| | Connectivity | Business environment | Consumer and business adoption | Legal and policy | Social and cultural environment | Supporting e-services | Overall score |
|-----------------|--------------|----------------------|--------------------------------|------------------|---------------------------------|-----------------------|---------------|
| Category weight | 0.25 | 0.20 | 0.15 | 0.15 | 0.05 | — | |
| Finland | 6.06 | 8.51 | 8.45 | 9.05 | 9.00 | 9.25 | 8.08 (5) |
| USA | 6.25 | 8.50 | 8.22 | 8.45 | 9.30 | 9.40 | 8.04 (6) |
| Singapore | 6.70 | 8.44 | 8.14 | 8.31 | 9.00 | 8.75 | 8.02 (7) |
| Spain | 5.18 | 7.96 | 7.49 | 8.58 | 7.50 | 8.00 | 7.20 (21) |
| Italy | 5.40 | 7.29 | 6.80 | 8.49 | 8.00 | 8.25 | 7.05 (23) |
| Portugal | 4.98 | 7.49 | 7.65 | 8.52 | 7.25 | 7.50 | 7.01 (24) |
| Greece | 4.49 | 6.77 | 6.91 | 8.19 | 6.75 | 7.50 | 6.47 (27) |
| Czech Rep. | 4.74 | 7.37 | 6.81 | 6.73 | 7.25 | 7.00 | 6.47 (27) |
| Chile | 3.82 | 8.00 | 6.26 | 7.69 | 6.88 | 7.13 | 6.35 (29) |
| Hungary | 4.08 | 7.18 | 6.49 | 6.87 | 7.25 | 7.00 | 6.22 (30) |
| Brazil | 3.21 | 6.36 | 6.95 | 6.05 | 5.88 | 6.13 | 5.56 (35) |
| Poland | 3.01 | 7.10 | 5.32 | 5.88 | 6.50 | 6.25 | 5.41 (36) |
| Argentina | 3.32 | 5.91 | 5.95 | 5.54 | 6.88 | 6.38 | 5.38 (37) |

Source: The Economist e-readiness report, 2004. Note: The countries leading the ranking are Denmark, United Kingdom, Norway and Sweden.*

**Connectivity and information technologies*: measures the use of the basic telephone network, the mobile network, the Internet and the use of computers, as well as the cost, quality and reliability of services. *Business environment*: evaluate the general business climate in a country, including the strength of the economy, political stability, the regulatory environment, taxation, competition policy, the labour market, the quality of infrastructure and openness to trade and investment. *Consumer and business adoption*: assesses how prevalent e-business practices are in each country, i.e. how the Internet is used to automate traditional business processes and how companies are helped by the development of logistics and online payment systems and the availability of finance and state investment in information technologies. *Legal and policy environment*: assesses a country's legal framework and the specific laws governing Internet use—how easy is it to register new businesses, how strong is protection of private property, and whether the governments support the creation of an Internet-conducive legal environment or are more concerned with censoring content and controlling access. *Social and cultural environment*: evaluates the literacy and basic education, which are preconditions for being able to use the new technologies, experience using the Internet and receptivity to it and the technical skills of the workforce. Finally, the existence of *supporting e-services*: the existence of consulting and IT services, the existence of back-office solutions and consistent industry-wide standards for platforms and programming languages.

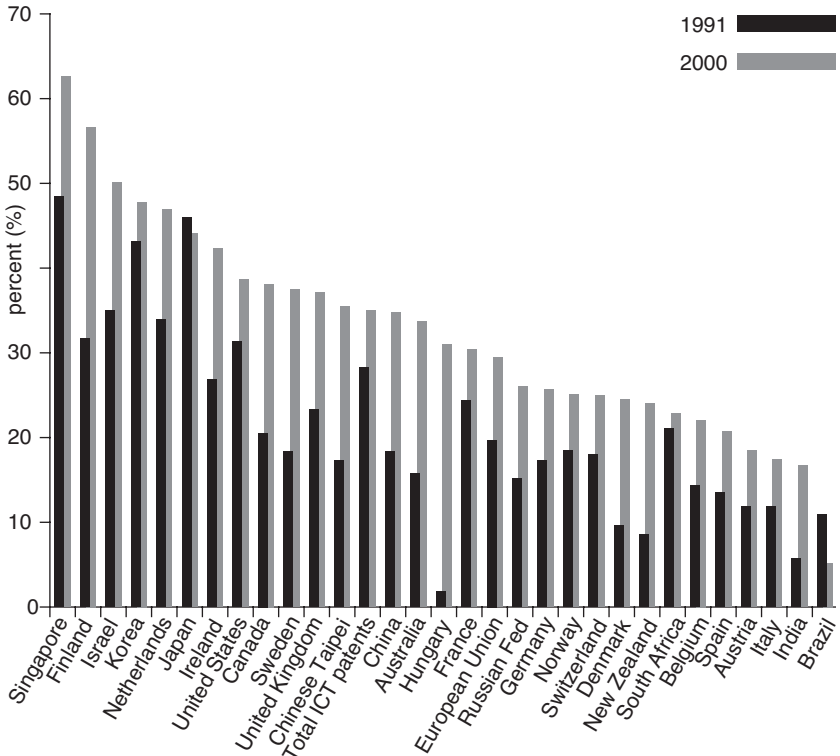
puters, as well as the cost, quality and reliability of service.³ These data are corroborated by other sources such as the OECD figures (Figure 1) or the World Economic Forum, whose ranking is analyzed below.

Continuing with the comparisons in terms of competitiveness, the Global Competitiveness Report (2004) produced by the World Economic Forum employs a ranking system based on three indexes: technology, quality of public institutions and macro-economic environment.⁴ The GCI index reflects the balance between technological development and adoption and the reliability of the public institutions and macroeconomic environment.

³ *Connectivity and information technologies*: measures the use of the basic telephone network, the mobile network, the Internet and the use of computers, as well as the cost, quality and reliability of services. *Business environment*: evaluate the general business climate in a country, including the strength of the economy, political stability, the regulatory environment, taxation, competition policy, the labour market, the quality of infrastructure and openness to trade and investment. *Consumer and business adoption*: assesses how prevalent e-business practices are in each country, i.e. how the Internet is used to automate traditional business processes and how companies are helped by the development of logistics and online payment systems and the availability of finance and state investment in information technologies. *Legal and policy environment*: assesses a country's legal framework and the specific laws governing Internet use—how easy is it to register new businesses, how strong is protection of private property, and whether the governments support the creation of an Internet-conducive legal environment or are more concerned with censoring content and controlling access. *Social and cultural environment*: evaluates the literacy and basic education, which are preconditions for being able to use the new technologies, experience using the Internet and receptivity to it and the technical skills of the workforce. Finally, the existence of *supporting e-services*: the existence of consulting and IT services, the existence of back-office solutions and consistent industry-wide standards for platforms and programming languages.

⁴ The *technology index* is obtained using a set of data with differentiated weighting. The measured variables are Internet access in schools, whether the state of competition between ISPs is sufficient for guaranteeing high quality, low failure rates and low prices, whether the government programmes are successful or not in promoting the use of the information technologies and whether the legislation on e-commerce, digital signatures, consumer protection are developed and enforced. Furthermore, mobile phone penetration and the number Internet users, Internet hosts, telephone lines and personal computers are also measure; the *public institutions index* is measured on the independence of the judicial system in relation to political power, citizens and companies, whether the property rights, including movable goods, are well defined and protected by law, whether the state is impartial in awarding public contracts and whether or not organized crime constitutes a high cost to economic activity. Also measured are corruption dimensions, in particular to what extent bribery is common for achieving import and export authorizations, access to public assets and avoiding taxation; the *macro-economic environment index* is based the probability of the economy experiencing recession in the coming year and to what extent access to credit for companies is more or less difficult than the previous year. Also assessed are the state debts or surpluses in the preceding year, as well as the savings, inflation and exchange rates and the spread for loans and financial applications. Two further factors assessed are the country's rating in terms of international credit and to what extent the state supplies necessary goods and services not supplied by the market and distortive government subsidies.

Figure 2.1 Businesses using the Internet and businesses receiving orders over the Internet, percentage of businesses with ten or more employees, 2002 and 2003 or latest available year¹



1. The provisional definition of ICT patents is presented in Annex B of the compendium.

2. Cut-off point: countries with more than 100 EPO applications in 2000.

Source: OECD, Patent Database, September 2004.

In a table led by Finland and the USA, Portugal occupied 24th place in 2004, having climbed one place in relation to 2003. Indeed, Portugal is accompanied in its leadership of the societies in transition by two other countries that have also climbed the table: Spain and Chile.

Despite presenting high figures at the technological level, the second group of countries analyzed here, consisting of Greece, Hungary, the Czech Republic, Slovakia and Italy, has lower scores in terms of their public institutions. The third group, which includes Uruguay, Brazil, Poland and Argentina, is penalized essentially by the negative scores for the macro-economic index.

Table 2.11 Growth Competitiveness Index (GCI)

| | Finland | USA | Singapore | Chile | Spain | Portugal | Slovakia | Hungary |
|--------------------------------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| GCI Ranking (2004) | 2 | 1 | 7 | 22 | 23 | 24 | 37 | 39 |
| GCI Ranking (2003) | 2 | 1 | 6 | 28 | 23 | 25 | 35 | 33 |
| GCI Rating 2004 | 5.82 | 5.95 | 5.56 | 5.01 | 5.00 | 4.96 | 4.56 | 4.56 |
| Technology index | 6.24 (1) | 5.92 (3) | 5.11 (11) | 4.55 (32) | 4.86 (20) | 4.78 (23) | 4.42 (38) | 4.66(29) |
| Quality of public institutions index | 6.48 (3) | 5.74 (21) | 6.21 (11) | 5.77 (20) | 5.16 (34) | 5.69 (23) | 4.74 (44) | 5.07 (37) |
| Macro-environment index | 5.04 (15) | 5.47 (3) | 5.79 (1) | 4.71 (27) | 4.99 (16) | 4.42 (34) | 4.52 (31) | 3.95 (55) |
| | Czech Rep. | Slovakia | Italy | Uruguay | Brazil | Poland | Argentina | |
| GCI Ranking (2004) | 40 | 43 | 47 | 54 | 57 | 60 | 74 | |
| GCI Ranking (2003) | 39 | 43 | 41 | 50 | 54 | 45 | 78 | |
| GCI Rating 2004 | 4.55 | 4.43 | 4.27 | 4.08 | 4.05 | 3.98 | 3.54 | |
| Technology index | 4.88 (19) | 4.67 (28) | 4.08 (50) | 3.92 (56) | 4.24 (42) | 4.19 (45) | 3.87 (57) | |
| Quality of public institutions index | 4.56 (51) | 4.64 (49) | 4.64 (48) | 5.23 (32) | 4.62 (50) | 3.70 (80) | 3.77 (79) | |
| Macro-environment index | 4.22 (41) | 3.98 (54) | 4.27 (38) | 3.10 (90) | 3.28 (80) | 4.05 (51) | 2.96 (94) | |

Source: The Global Competitiveness Report 2004, World Economic Forum.

Societies in Transitions, Values and Social Well-being

The information societies are characterized not only by the appropriation of technology but also their internal openness and social well-being.

None of the countries in transition analyzed have an authoritarian regime and the dominating values in those societies today are those of an open society. The openness of a society can be measured by various dimensions, such as the ratio between the population in prison and the total population.

As one can see in the following table (Table 3.14), whereas the Finnish model is characterized by a ratio twice as low as that for the USA, Portugal registers figures that are twice those for Finland, with values that are very close to the average for the G7 societies. However, if we look at the total number of countries in transition in terms of their prison inmate figures, we find that, with the exception of Italy and Greece, all of the remaining countries have an inmate population above the average for the advanced economies.

In terms of gender equality, the majority of societies in transition are below the average for the advanced economies (661), representing societies that are still very unequal in terms of gender. Only Spain and Argentina achieve better gender equality scores, bringing them closer to the egalitarian model in terms of gender relations: Finland (820).

To add a further dimension, we can also compare the well-being of the populations of the societies in transition to the well-being models associated with the three information society models under analysis (Finland, Singapore and Silicon Valley), by looking at the income structures.

Hence, measured by the ratio of the 20% richest to the 20% poorest is concerned, the Finnish model of an information welfare society presents the greatest equality of income (3.8). At the other end, the market-governed information society model (Silicon Valley) and the authoritarian model (Singapore) show much greater unbalance in terms of income distribution, occupying third and second place in the ranking of the advanced economies with the worst ratios between the income of the richest and that of the poorest (8.3 and 9.7 respectively).

Table 2.12 International comparison of citizenship indicators

| | Finland | USA | Singapore | Portugal | Spain | Italy | Czech Rep. | Slovakia | Advanced Economies |
|---|-----------|-----------|---------------|-----------|-----------|---------------------|------------|-----------|--------------------|
| Freedom of the press (index 0-100; 0 = free) ¹ | 9 (free) | 13 (free) | 64 (not free) | 14 (free) | 19 (free) | 33 (partially free) | 23 (free) | 21 (free) | 17 (free) |
| Gender equality (0-1,000, 0 = unequal) ² | 820 (4) | 769 (14) | 648 (20) | 644 (23) | 716 (15) | 583 (32) | 586 (30) | 607 (26) | 661 |
| Membership of at least one association (%) ³ | 80 | 90 | – | 29 | 29 | 40 | 60.5 | 65 | 53 |
| Social trust (%) ⁷ | 56 | 35.5 | – | 12 | 35 | 31.5 | 24 | 15.5 | 31 |
| Inmate population (per 100,000 inh.) ⁴ | 71 (–157) | 714 (–1) | 392 | 128 | 140 | 98 | 184 | 165 | 126 |
| Foreigners or persons born abroad (% of population) ⁵ | 2.6 | 12.4 | 33.6 | 2.3 | 3.2 | 2.8 | 2.3 | 0.6 | 8.8 |
| Environment: CO ₂ emission (metric tons per capita) ² | 10.3 | 19.8 (–2) | 14.7 | 5.9 | 5.3 | 6.6 | 11.6 | 6.6 | 10.4 |

Source: 1 Adapted from Castells and Himanen (2002), all data from the Press Freedom Survey 2004; <http://www.freedomhouse.org/>; 2 Adapted from Castells and Himanen (2002), except data for Portugal, which are taken from the UNDP Human Development Report 2001; 3 Adapted from Castells and Himanen (2002) and Norris, Pippa "Gender and Social Capital" 1999-2001 World Values Survey; 4 For all countries: International Centre for Prison Studies, King's College http://www.kcl.ac.uk/depsta/rel/cps/worldbrief/highest_to_lowest_rates.php; 5 Adapted from Castells and Himanen 2002, http://www.un.org/esa/population/publications/ftmig2002/WEB_migration_wallchart.xls 3. Note: (*) relative position. Based on Norris, Pippa "Gender and Social Capital" 1999-2001 World Values Survey (% of the population that responded that it generally trust others).

Table 2.12 International comparison of citizenship indicators

| | Hungary | Greece | Poland | Chile | Argentina | Uruguay | Brazil | Advanced Economies |
|---|-----------|-----------|-----------|-----------|---------------------|-----------|---------------------|--------------------|
| Freedom of the press (index 0-100; 0 = free) ¹ | 20 (free) | 28 (free) | 19 (free) | 23 (free) | 35 (partially free) | 26 (free) | 36 (partially free) | 94 |
| Gender equality (0-1,000, 0 = unequal) ² | 529 (39) | 523 (43) | 606 (27) | 460 (58) | 645 (21) | 511 (46) | — | 83 |
| Membership of at least one association (%) ³ | 29 | 57 | 25 | 50 | 42.5 | — | — | 53 |
| Social trust (%) ⁷ | 22 | 21 | 18 | 22.5 | 15.5 | — | — | 32 |
| Inmate population (per 100,000 inh.) ⁴ | 165 | 82 | 209 | 204 | 148 | 209 | 183 | 126 |
| Foreigners or persons born abroad (% of population) ⁵ | 3 | 5 | 5.4 | 1 | 3.8 | 2.7 | 0.3 | 8.8 |
| Environment: CO ₂ emission (metric tons per capita) ² | 5.4 | 8.5 | 7.8 | 3.9 | 3.9 | 1.6 | 1.8 | 10.6 |

Source: 1 Adapted from Castells and Himanen (2002), all data from the Press Freedom Survey 2003 : <http://www.freedomhouse.org/>; 2 Adapted from Castells and Himanen (2002), except data for Portugal, which are taken from the UNDP Human Development Report 2001; 3 Adapted from Castells and Himanen (2002), except data on Portugal, which are taken from Cardoso et al., 2004, *A Sociedade em Rede em Portugal (The Network Society in Portugal)*, CIES; 4 For all countries: International Centre for Prison Studies, King's College: http://www.kci.ac.uk/depsta/rel/ips/worldbrief/highest_to_lowest_rates.php; 5 Adapted from Castells and Himanen 2002, except data for Portugal which were taken from the National Statistics Office's (INE) population report. Note: (*) relative position.

Table 2.13 International comparison of social well-being indicators

| | Finland | USA | Singapore | Portugal | Spain | Italy | Czech Rep. | Slovakia | Advanced Economies |
|--|----------|------|-----------|----------|-------|-------|------------|----------|--------------------|
| Combined rate of students of the first, second and third cycles ¹ | 106 (1) | 92 | 87 | 93 | 92 | 82 | 78 | 74 | 94 |
| Functional literacy (%) ² | 89.6 (2) | 79.3 | 92.5 | 52 | – | – | 84.3 | – | 83 |
| Life expectancy at birth (years) ¹ | 77.9 | 77.0 | 78.0 | 76.1 | 79.2 | 78.7 | 75.3 | 73.6 | 78 |
| Health care coverage (%) ³ | 100 | 82 | – | 100 | 100 | 100 | – | – | n.d. |
| Number of working hours per annum per person ⁷ | 1713 | 1792 | – | 1676 | 1800 | 1591 | 1972 | 1814 | 1636 |
| Ratio of the 20% richest to the 20% poorest ⁴ | 3.8 (3) | 8.4 | 9.7 | 8.0 | 5.4 | 6.5 | 3.5 | 4.0 | 5.8 |
| Percentage of population below the poverty line ⁵ | 3.8 (4) | 14.1 | – | 21 | – | – | – | – | 10.6 |
| Gini coefficient ⁶ | 26.9 | 40.8 | 42.5 | 38.5 | 32.5 | 36 | 25.4 | 25.8 | 28.57 |

Source: 1 Adapted from Castells and Himanen (2002), except data for Portugal, which were taken from the UNDP Human Development Report 2001; 2 Adapted from Castells and Himanen (2002), except data for Portugal, which were taken from the UNDP Human Development Report 2003, calculated on the basis of the “Lacking functional literacy skills” indicator, http://hdr.undp.org/reports/global/2003/pdf/hdr03_HDI.pdf; 3 Adapted from Castells and Himanen (2002), except data for Portugal. Given the existence of a universal National Health Service, one can presume total coverage of the Portuguese population; 4 Adapted from Castells and Himanen 2002, except data for Portugal, taken from <http://www.worldbank.org/poverty/wdrpoverty/>; 5 Adapted from Castells and Himanen 2002. The value for Portugal was taken from Capucha (2004), *Desafios da Pobreza (The Challenges of Poverty)*, Lisbon, ISCTE, p.131 (Doctoral Thesis). Relative poverty measurement referenced to a threshold of 60% of the average of the income available to households; 6 Data for all countries based on UNDP 2004.

Table 2.13 International comparison of social well-being indicators

| | Hungary | Greece | Poland | Chile | Argentina | Uruguay | Brazil | Advanced Economies |
|--|---------|--------|--------|-------|-----------|---------|--------|--------------------|
| Combined rate of students of the first, second and third cycles ¹ | 86 | 86 | 90 | 79 | 94 | 85 | 92 | 94 |
| Functional literacy (%) ² | 66.8 | – | 57.4 | 95.9 | 96.9 | 97.6 | 87.3 | 83 |
| Life expectancy at birth (years) ¹ | 71.7 | 78.2 | 73.8 | 76.0 | 74.1 | 75.2 | 68.0 | 78 |
| Health care coverage (%) ³ | – | – | – | – | – | – | – | – |
| Number of working hours per annum per person ⁷ | – | 1938 | 1956 | – | – | – | – | 1636 |
| Ratio of the 20% richest to the 20% poorest ⁴ | 4.9 | 6.2 | 5.8 | 18.7 | 18.1 | 10.4 | 31.5 | 5.8 |
| Percentage of population below the poverty line ⁵ | 14.5 | – | 23.8 | 19.9 | 28.4 | – | 23.9 | 10.6 |
| Gini coefficient ⁶ | 24.4 | 35.4 | 31.6 | 57.1 | 52.2 | 44.6 | 59.1 | 28.57 |

Source: 1 Adapted from Castells and Himanen (2002), except data for Portugal, which were taken from the UNDP Human Development Report 2001; 2 Adapted from Castells and Himanen (2002), except data for Portugal, which were taken from the UNDP Human Development Report 2003, calculated on the basis of the “Lacking functional literacy skills” indicator, http://hdr.undp.org/reports/global/2003/pdf/hdr03_HDI.pdf; 3 Adapted from Castells and Himanen (2002), except data for Portugal. Given the existence of a universal National Health Service, one can presume total coverage of the Portuguese population; 4 Adapted from Castells and Himanen 2002, except data for Portugal, taken from <http://www.worldbank.org/poverty/wdrpoverty/>; 5 Adapted from Castells and Himanen 2002. The value for Portugal was taken from Capucha (2004), *Desafios da Pobreza (The Challenges of Poverty)*, Lisbon, ISCTE, p.131 (Doctoral Thesis). Relative poverty measurement referenced to a threshold of 60% of the average of the income available to households; 6 Data for all countries based on UNDP 2004.

All of the South American societies in transition (Brazil, Chile, Argentina and Uruguay) reveal extremely high inequality figures, sometimes three times as much as the USA (Brazil) or twice as much (Chile and Argentina).

As for the European societies, there is a division into two large groups. The first is made up of Portugal, Italy, Greece and Poland, with inequality values close to the USA informational society model. The second group includes the Czech Republic, Slovakia, Hungary and Spain, which are closer to the Finnish information society model.

Highlighting once more some of the specificities of each society under analysis, when we refer to the education level, it is also worthwhile stating that the openness of an information society does not depend only on the combined rate of students in the three education cycles, for if we neglect the school drop-out dimension (which the figures do not take into account) we would have a situation that would place Portugal and other societies in transition on a level with the USA and Finland, which are countries with much lower drop-out rates.⁵

In the field of education, a comparison between the countries as far as functional literacy, i.e. the capacity to apply knowledge acquired in school in the society one lives in, shows that there are also great divides between the countries, even in the European context. Thus, Portugal, together with Poland, presents the worst results of the European countries studied—with a functional literacy rate of only 52% as compared to an average of 83% for the advanced economies and more than 80% for the USA and Finland.

The openness of a society can also be measured on the social involvement of the citizens in everyday life. Together with Spain, Hungary and Poland, Portugal has the lowest rates of participation in associations, whereas Argentina and Italy present intermediate figures of around 40% for participation in associations. The Czech Republic, Slovakia, Chile and Greece are countries with over 50% of the population participating in associations.

⁵ The data show that the drop-out rates in the EU are relatively high, with an average of 22.5%. However, there are considerable differences between the Member States. The Northern European states achieve better results than the other members. Portugal (40.7%), Italy (30.2%), Spain (30.0%) and the United Kingdom (31.4%) present high rates, while Germany (13.2%), Austria (11.5%) and the Scandinavian countries (Sweden 9.6% and Finland 8.5%) present below-average values (European Union 2000).

The reasons for the low participation levels are varied, but it is possible to identify some guiding hypotheses if we focus on a specific reality such as the Portuguese one.

Of the reasons for this lack of civic engagement, we can list, first and foremost, the degree of public confidence in the politicians for Portugal. Although it can be considered a global phenomenon (Castells 2004), the development of the degree of trust of the citizens in politicians is not identical in all societies. Whereas Portugal is in 28th place in terms of public trust in the honesty of its politicians, sharing this level with a group of European countries—Belgium, France, Italy and Ireland—Finland, in 3rd place, is one of the countries with the highest degree of trust in the honesty of its politicians in the world.

The analysis of civic engagement levels in the different countries must also take into account historic conditioning factors of both a global and local nature. What is known as unconventional political participation has increasingly become the most common form of civic engagement in our developed societies. Petitions, boycotts and other forms of direct action have become more common. For this reason, we should pay more attention to these forms of engagement than to membership in parties or trade unions and participation in demonstrations.

However, in terms of civic engagement measures in these terms, Portugal has even lower scores. The engagement index measured on the basis of different forms of civic involvement and participation in organizations shows that Portugal occupies the last place in an international comparison of 22 European countries and Israel. Despite the cultural and geographic proximity to Portugal, countries such as Spain and Italy have much higher levels of civic engagement.

The historic context of each society can also help us to understand the participation levels a little more. For example, in his analysis of data gathered in more than 70 countries, referring to more than 80% of the world population, on participation in established democracies and new democracies, Inglehart (2001) has linked the scarce civic participation in some societies to the *post-honeymoon* effect. Periods of high civic participation levels are followed by decreases or stagnation in participation, but in the long term the trend is for growth in participation.

Table 2.14 Civic engagement in European countries (%)

| Country | Contacted or politician or government member in the last 12 months | Worked in a political party or activist group in the last 12 months | Worked in another organization in the last 12 months | Signed a petition in the last 12 months | Boycotted certain products in the last 12 months | Bought a product for political/ethical environmental reasons in the last 12 months | Engagement ranking |
|-------------|--|---|--|---|--|--|--------------------|
| Portugal | 11.16 | 3.89 | 5.24 | 6.80 | 3.16 | 7.53 | 23rd (-1) |
| Austria | 17.35 | 9.39 | 17.52 | 27.72 | 21.92 | 29.18 | 9th |
| Belgium | 17.73 | 5.42 | 23.25 | 33.92 | 12.79 | 26.98 | 10th |
| Switzerland | 16.91 | 7.61 | 16.74 | 40.40 | 33.66 | 46.93 | 2nd |
| Czech Rep. | 21.42 | 3.87 | 13.98 | 15.07 | 11.05 | 22.10 | 15th |
| Germany | 12.98 | 3.83 | 18.18 | 31.32 | 24.60 | 39.69 | 6th |
| Denmark | 17.93 | 4.13 | 17.28 | 28.27 | 22.98 | 43.67 | 5th |
| Spain | 11.66 | 5.79 | 14.60 | 22.25 | 7.72 | 11.48 | 16th |
| Finland | 24.28 | 3.56 | 30.71 | 24.04 | 26.73 | 41.90 | 4th |
| France | 16.83 | 4.52 | 17.03 | 33.75 | 25.84 | 27.46 | 8th |
| U.K. | 18.33 | 3.16 | 9.30 | 39.45 | 26.19 | 32.78 | 7th |
| Greece | 14.46 | 4.97 | 5.67 | 4.63 | 8.52 | 6.62 | 19th |
| Hungary | 14.65 | 2.85 | 2.85 | 4.21 | 4.83 | 10.43 | 22nd |
| Ireland | 22.36 | 4.63 | 13.71 | 27.24 | 13.33 | 24.41 | 13th |
| Israel | 11.59 | 5.89 | 6.98 | 16.92 | 12.96 | 16.41 | 17th |
| Italy | 12.13 | 3.25 | 8.16 | 18.49 | 7.90 | 6.34 | 18th |
| Luxembourg | 17.14 | 2.85 | 16.66 | 27.77 | 14.28 | 28.57 | 12th |
| Netherlands | 14.66 | 3.28 | 22.84 | 22.74 | 10.98 | 27.11 | 14th |
| Norway | 23.85 | 9.48 | 28.16 | 37.17 | 20.11 | 36.59 | 3rd |
| Poland | 9.55 | 2.89 | 6.03 | 7.15 | 3.84 | 10.50 | 21st |
| Sweden | 16.43 | 4.96 | 24.55 | 40.75 | 32.45 | 55.12 | 1st |
| Slovenia | 12.19 | 3.63 | 2.42 | 11.58 | 4.87 | 9.75 | 20th |
| Average | 14.59 | 4.12 | 13.61 | 25.74 | 17.17 | 24.53 | - |

Source: European Social Survey 2002/2003.

Table 2.15 Participation over time in established and new democracies

| | During and before change of regime | After change of regime | Change |
|----------------|---------------------------------------|---------------------------|--------|
| Argentina | 34 | 29 | -5 |
| Brazil | 25 | 25 | 0 |
| Chile | 38 | 25 | -13 |
| Mexico | 32 | 22 | -7 |
| Bulgaria | 28 | 18 | -10 |
| Czech Republic | 24 | 23 | -1 |
| East Germany | 75 | 63 | -12 |
| Hungary | 20 | 24 | 4 |
| Poland | 20 | 26 | 6 |
| Slovenia | 27 | 30 | 3 |
| Slovakia | 28 | 15 | -13 |

| | 1981/1991 | 1995/2001 | Difference |
|----------------|-----------|-----------|------------|
| Portugal | 25 | 27 | 2 |
| Spain | 31 | 34 | 3 |
| Italy | 52 | 62 | 10 |
| USA | 68 | 79 | 11 |
| Belgium | 39 | 75 | 36 |
| France | 54 | 72 | 18 |
| Denmark | 55 | 68 | 13 |
| Japan | 49 | 55 | 6 |
| West Germany | 54 | 60 | 6 |
| Switzerland | 62 | 68 | 6 |
| United Kingdom | 71 | 80 | 9 |

Source: Adapted from Inglehart (2001) on the basis of 1981-2001 World Values Survey.

According to Inglehart (2001), the data show that in 21 countries studied between 1981 and 1990, although the people vote less regularly, they are not becoming more apathetic. On the contrary, they would seem to have become more interested in politics. This opinion is confirmed by the studies carried out by Castells (2003a) in Catalonia and Cardoso (2005) in Portugal.

As Table 3.18 shows, interest in politics increased in 16 countries and decreased in only 4. Portugal is in the group of countries where political participation is lowest and has stagnated, as is Spain. In both countries, a period of rapid increase in participation in the 1970s was followed by a process of democratic normalization.

Although Inglehart does not present data that allow one to compare the 1970s, the decade of revolution and transition to democracy in Spain and Portugal, one can observe this type of behavior in the new democracies in Eastern Europe, which are characterized by periods of a rapid surge in participation followed by periods of less civic involvement. What the data do allow us to infer is the relative proximity of the participation levels between all the countries that have gone through transition to democracy in the last thirty years, regardless of whether they are in Europe or South America.

The *post-honeymoon decline* is no doubt significant but the fact that these societies experienced authoritarian regimes, be they of the left or the right, for many years is also justification for the low levels of political participation.

A third factor one must take into account in analyzing participation is the relationship between participation and trust in others. The World Values Survey data (2001) furthermore shows that countries with geographical and cultural affinities with Portugal—such as Spain, France and Italy—present relatively homogeneous intermediate values for membership of associations.

In Spain, the figures, for men and women respectively, are 32% and 26%, for Italy 46% and 38% and for France 36% and 43%. Where the differences are clearly greater is in the *trust in others*, for Spain (35%), Italy (32%) and France (20%) are clearly above the Portuguese values. This mistrust in relation to others is also obviously a factor to be taken into account in analyzing the low levels of civic participation.

Continuing the analysis of the possible factors that condition political participation in the context of the informational development models, one must including one more explanatory factor—education.

An analysis of the participation dimensions must also make reference to the Putnam analyses (1993) on the relationship between reading newspapers and participation in civic associations. Putnam argues that there is a direct correlation between reading newspapers and membership of associations (other than religious associations) and that the regions with the highest readership levels are also those that, as a rule, have the strongest civic communities. If we test this hypothesis, we see that, at least in Europe, more than just influencing engage-

Table 2.16 Signed petition in the last 12 months, according to highest education level (%)

| Country | Not completed primary education* | Primary or first stage of basic* | Lower secondary or second stage of basic* | | | Upper secondary* | Post secondary, non-tertiary* | First stage non-tertiary* | Second stage of tertiary* |
|-------------|----------------------------------|----------------------------------|---|------------------|-------------------------------|------------------|-------------------------------|---------------------------|---------------------------|
| | | | Lower secondary or second stage of basic* | Upper secondary* | Post secondary, non-tertiary* | | | | |
| Portugal | 0.91 | 4.63 | 2.11 | 15.26 | — | 19.44 | 50 | | |
| Austria | 9.09 | — | 20 | 25.85 | 32.57 | — | 43.58 | | |
| Belgium | 15.38 | 13.39 | 26.06 | 36.65 | 43.10 | — | 50.89 | | |
| Switzerland | 35.29 | — | 29.03 | 38.03 | 50.74 | 52 | 60 | | |
| Czech Rep. | — | — | 5.55 | 14.72 | 22.72 | 25.64 | 46.66 | | |
| Germany | — | 1.70 | 21.00 | 30.34 | 37.34 | 40.46 | 60.75 | | |
| Denmark | — | 16.66 | 24.50 | 23.26 | 36.73 | 42.25 | 33.33 | | |
| Spain | 3.40 | 15.90 | 24.09 | 28.99 | 34.54 | 40.00 | 38.88 | | |
| Finland | — | 8.86 | 22.22 | 27.89 | 33.33 | 31.68 | 33.33 | | |
| France | 15.72 | 20.24 | 31.71 | 39.34 | 44.44 | 44.731 | 53.58 | | |
| U.K. | — | 15.15 | 32.13 | 46.54 | 44.44 | 51.64 | 61.22 | | |
| Greece | 1.75 | 2.56 | 2.68 | 4.51 | 7.46 | 12.93 | 20 | | |
| Hungary | — | 3.01 | 3.52 | 4.37 | — | 9.83 | 11.11 | | |
| Ireland | 7.69 | 11.11 | 24 | 31.42 | 38 | 38.88 | 38.09 | | |
| Israel | — | 5.26 | 14.75 | 12.92 | 13.46 | 27.45 | 29.26 | | |
| Italy | — | 6.84 | 16.06 | 25.47 | 21.91 | 30.53 | 64.91 | | |
| Luxembourg | — | 18.18 | 25 | 33.33 | — | — | 40 | | |
| Netherlands | 10 | 10.07 | 17.26 | 22.80 | 30.76 | 34.44 | 20 | | |
| Norway | — | — | 26 | 36.02 | 33.33 | 43.42 | 52.63 | | |
| Poland | — | 2.48 | 4.94 | 9.90 | 7.46 | 20.80 | 12.37 | | |
| Sweden | — | 31.28 | 40.57 | 44.51 | — | 47.61 | 46.49 | | |
| Slovenia | — | 12.5 | 7.31 | 7.69 | 17.64 | 11.11 | 21.42 | | |

Source: European Social Survey 2002/2003. *Note: given the different names for education levels in the European context we opted to use the original ESS terms.

Table 2.17 — Contacted politicians/government members in the last year, by education level (%)

| Country | Not completed primary education* | Primary or first stage of basic* | Lower secondary or second stage of basic* | | Upper secondary* | Post secondary, non-tertiary* | First stage non-tertiary* | Second stage of tertiary* |
|-------------|----------------------------------|----------------------------------|---|---|------------------|-------------------------------|---------------------------|---------------------------|
| | | | Primary or first stage of basic* | Lower secondary or second stage of basic* | | | | |
| Portugal | 3.66 | 10.62 | 8.45 | 17.42 | — | 20.83 | — | |
| Austria | 9.09 | — | 10.61 | 18.04 | 18.18 | — | 30.76 | |
| Belgium | 14.28 | 11.50 | 10.24 | 17.94 | 25.86 | — | 26.54 | |
| Switzerland | 17.64 | — | 4.34 | 14.89 | 25.37 | 30.26 | 23.80 | |
| Czech Rep. | 10.00 | — | 9.60 | 23.27 | 18.18 | 30 | 20 | |
| Germany | — | 1.70 | 5.71 | 11.14 | 22.28 | 20.44 | 39.24 | |
| Denmark | — | 20 | 12.74 | 15.84 | 22.44 | 26.76 | 33.33 | |
| Spain | 2.782 | 9.66 | 10.37 | 13.40 | 15.90 | 22.62 | 61.11 | |
| Finland | 12.5 | 13.92 | 18.51 | 23.97 | — | 37.62 | 66.66 | |
| France | 7.49 | 16.66 | 14.21 | 14.34 | 16.66 | 18.07 | 26.28 | |
| UK | — | 42.42 | 12.96 | 15.22 | 23.11 | 29.40 | 46.93 | |
| Greece | 10.52 | 12.82 | 13.42 | 12.99 | 19.40 | 20.68 | 40.0 | |
| Hungary | 5.97 | 7.53 | 16 | 15.30 | — | 25 | 31.11 | |
| Ireland | 23.07 | 20 | 22.36 | 21.42 | 25.49 | 22.22 | 28.57 | |
| Israel | — | 7.89 | 11.29 | 7.43 | 13.46 | 14.70 | 21.95 | |
| Italy | — | 7.74 | 7.89 | 17.12 | 16.43 | 21.23 | 42.10 | |
| Luxembourg | — | 9.09 | 25 | 16.66 | 0 | 0 | 25.00 | |
| Netherlands | — | 5.38 | 10.28 | 13.18 | 11.53 | 27.66 | 20.00 | |
| Norway | — | — | 14.00 | 22.04 | 25.00 | 31.16 | 42.10 | |
| Poland | 0.89 | 3.41 | 7.08 | 11.20 | 13.33 | 18 | 23.10 | |
| Sweden | 11.11 | 10.76 | 14.18 | 14.74 | — | 23.58 | 25 | |
| Slovenia | — | 12.5 | 7.31 | 7.89 | 15.38 | 11.11 | 26.66 | |

Source: European Social Survey 2002/2003. *Note: given the different names for education levels in the European context we opted to use the original ESS terms.

ment, newspaper readership (and membership of associations) is directly correlated to the education level of the citizens. As seen below (Table 3.22), education, much more than newspaper readership or watching TV news, is a central element in the civic engagement options made by the different citizens.

Another indicator of an informational society is the relationship it has with its media, i.e. both the freedom of the media to report freely and give opinions and the relationship between the beneficiaries and producers of the information.

Of all the societies in transition under analysis here, only Italy, Argentina and Brazil are classified as partially free in terms of the freedom of the press.

In classifying the freedom of the press, factors such as the legal framework for journalism, political influence and economic pressures on the freedom of expression are taken into account. Between 2001 and 2003, Portugal improved its general score (going from 17 to 15), accompanying a trend similar to that of Finland, while the United States revealed an opposite trend (from 17 to 19) and Singapore continued to be classified as a country without freedom of the press.⁶

Positive development, such as in the case of Portugal, may conceal that the final value is due to a positive assessment of the evolution of the legislation and regulation that may influence the contents of the media. However, this is offset by an increase in the economic pressures on news content. To quote the Press Freedom Survey, 2003, "Most media outlets are independent of the government; however, print and broadcast ownership is concentrated in the hands of four main media companies." (Press Freedom Survey 2003).

The comparison of models of social openness and citizenship carried out here, as well as the analysis of the social well-being, reveals much more clearly the differences than the data common to all the societies dealt with herein.

⁶ Identical positions emerge when one looks at the online presence analysis. Finland, Portugal and the USA are amongst the least restrictive of the media's freedoms and Singapore is included in the moderately free (*Press Freedom Survey 2001*).

Table 2.18 Relationship between watching TV news and reading newspapers, by education level/country (%)

| Country | Not completed primary education* | Primary or first stage of basic* | Lower secondary or second stage of basic* | Upper secondary* | Post secondary, non-tertiary* | First stage non-tertiary* | Second stage of tertiary* |
|----------------|----------------------------------|----------------------------------|---|------------------|-------------------------------|---------------------------|---------------------------|
| Portugal | Watches TV news 92.15 | 95.87 | 97.18 | 98.48 | 0 | 97.22 | 100 |
| | Reads newspapers 9.25 | 48.38 | 63.88 | 70.67 | - | 82.19 | 50 |
| Austria | Watches TV news 88.88 | 0 | 93.60 | 96.93 | 97.52 | 0 | 98.63 |
| | Reads newspapers 58.33 | - | 83.51 | 86.53 | 87.21 | - | 88.60 |
| Belgium | Watches TV news 71.42 | 93.75 | 90.18 | 93.06 | 96.49 | 0 | 96.22 |
| | Reads newspapers 35.71 | 54.86 | 56.62 | 62.93 | 60.68 | - | 68.42 |
| Switzerland | Watches TV news 93.33 | - | 92.13 | 95.40 | 96.82 | 95.38 | 100 |
| | Reads newspapers 94.11 | - | 83.87 | 90.88 | 91.30 | 89.47 | 90.47 |
| Czech Republic | Watches TV news 70 | - | 93.44 | 97.30 | 95.23 | 100 | 100 |
| | Reads newspapers 44.44 | - | 69.84 | 82.75 | 86.36 | 92.5 | 93.75 |
| Germany | Watches TV news 89.28 | 91.08 | 97.06 | 99.37 | 99.85 | 100 | 89.28 |
| | Reads newspapers 57.26 | 71.41 | 84.72 | 84.93 | 90.76 | 93.67 | 57.26 |
| Denmark | Watches TV news 100 | 100 | 93.87 | 98.5 | 100 | 98.59 | 100 |
| | Reads newspapers 100 | 80 | 68.31 | 77.22 | 79.59 | 83.09 | 100 |
| Spain | Watches TV news 82.35 | 92.46 | 88.88 | 92.07 | 91.78 | 96.07 | 100 |
| | Reads newspapers 24.88 | 43.26 | 45.58 | 67.40 | 69.19 | 80.49 | 89.47 |
| Finland | Watches TV news 100 | 96.10 | 98.70 | 98.60 | - | 98.98 | 100 |
| | Reads newspapers 87.5 | 92.40 | 92.59 | 91.83 | - | 95.04 | 100 |
| France | Watches TV news 90.66 | 91.15 | 92.77 | 97.43 | 96.24 | 96.65 | 96.14 |
| | Reads newspapers 57.14 | 66.66 | 58.27 | 67.21 | 62.43 | 55.53 | 69.48 |
| UK | Watches TV news 100 | 84.84 | 90.78 | 94.99 | 96.13 | 95.06 | 95.65 |
| | Reads newspapers - | 21.21 | 74.53 | 78.53 | 78.53 | 77.80 | 71.42 |
| Greece | Watches TV news 100 | 84.84 | 90.78 | 94.99 | 96.13 | 95.06 | 95.65 |
| | Reads newspapers 6.14 | 22.97 | 38.00 | 42.69 | 52.23 | 62.93 | 80 |

Table 2.18 Relationship between watching TV news and reading newspapers, by education level/country (%)

| (continued) Country | Not completed primary education* | Primary or first stage of basic* | Lower secondary or second stage of basic* | Upper secondary* | Post secondary, non-tertiary* | First stage non-tertiary* | Second stage of tertiary* |
|-------------------------------|----------------------------------|----------------------------------|---|------------------|-------------------------------|---------------------------|---------------------------|
| Hungary | 100 | 84.84 | 90.78 | 94.99 | 96.13 | 95.06 | 95.65 |
| | Watches TV news | 74.37 | 80.61 | 89.07 | | 88.33 | 93.33 |
| | Reads newspapers | 84.61 | 89.33 | 92.95 | 94.11 | 94.44 | 95.23 |
| Ireland | 84.61 | 87.5 | 84.21 | 88.88 | 82.69 | 94.44 | 90.00 |
| | Watches TV news | 71.42 | 86.20 | 89.05 | 91.30 | 91.30 | 94.87 |
| | Reads newspapers | 22.22 | 64.51 | 72.29 | 75.00 | 72.81 | 80.95 |
| Italy | 80.93 | 97.30 | 93.75 | 96.34 | 89.04 | 97.56 | 100 |
| | Watches TV news | 16.20 | 68.28 | 82.64 | 94.52 | 92.79 | 100 |
| | Reads newspapers | 90.90 | 91.66 | 100 | 100 | 100 | 90.90 |
| Luxembourg | | 72.72 | 75.00 | 83.33 | 100 | 100 | 80.00 |
| | Watches TV news | 90.90 | 96.82 | 97.75 | 98.70 | 99.65 | 100 |
| | Reads newspapers | 72.72 | 82.14 | 81.64 | 87.17 | 86.71 | 100 |
| Norway | - | - | 98.03 | 97.82 | 100 | 100 | 95.00 |
| | Watches TV news | - | 96.07 | 96.25 | 88.88 | 97.40 | 100 |
| | Reads newspapers | 89.47 | 95.49 | 97.40 | 97.69 | 100 | 99.64 |
| Poland | 24.10 | 44.53 | 60.28 | 74.60 | 79.10 | 76 | 87.37 |
| | Watches TV news | 88.88 | 97.12 | 95.42 | - | 98.03 | 97.39 |
| | Reads newspapers | 88.88 | 93.57 | 89.10 | - | 88.67 | 93.96 |
| Slovenia | - | 85.71 | 87.80 | 89.74 | 94 | 100 | 92.85 |
| | Watches TV news | 44.44 | 79.48 | 88.23 | 88.88 | 92.85 | 44.44 |
| | Reads newspapers | | | | | | |

Source: European Social Survey 2002/2003. *Note: given the different names for education levels in the European context we opted to use the original ESS terms.

However, this is to be expected, for although they share values such as democracy and the wish to adopt informational society models, each society has its individual history and own identity, as well as different well-being models.

Social Change in Network Societies

The characterization of the societies in transition that we have endeavoured to achieve in this chapter, with a more in-depth treatment of the Portuguese situation, reflects the transition of populations with lower education levels to a society in which the younger generations have already more consolidated educational competences. However, this analysis also reflects societies, which, though they have made great efforts in the area of knowledge, are still trying to assert themselves in the infrastructure and technology production dimensions.

This analysis also reflects a socio-political transition—first from dictatorships to a democratic institutional politization and then to a routinization of democracy. In a process that combines growing scepticism in relation to the political parties and the government institutions and an increase in civic engagement, using autonomous and, at times, individualized forms of expression on the part of civil society.

It is in this context that one produces a fundamental transition in these societies: technological transition. A transition expressed through the diffusion of the Internet and the appearance of the *network society* in the social structure and practice.

After reading the above data and analyses, there is one question still to be answered: is there a generation divide or not in all the societies analyzed here? Though it is true that the data for the Portuguese society confirm the existence of that divide, it is not present in all the societies analyzed. Some of the exceptions are Eastern European countries such as the Czech Republic, Slovakia and Hungary.

The generation divide is not the result of an option; it is, rather, the fruit of a society in which the necessary cognitive resources are distributed unequally amongst the generations, so that societies in which formal learning and literacy are historically better established present transition processes that accentuate the generational differences to a lesser degree.

Only thus can one explain, for Portugal for example, that amongst those who were born before 1967 we find a section of social agents that are similar, in certain practice dimensions and, at times, representations, of the younger Portuguese citizens. This similarity is visible in the fact that they have educational competences that are close to one another, for example in the use of the Internet or in their approach to professional improvement.

The society we live in is not a society in social division. It is a society based on an informational development model, in which some cognitive skills are more valued than others, namely: the highest education level, formal literacy and technological literacies. All these are acquired and not innate skills. As such, social division is not inevitable; there is, rather, a process of transition in which the protagonists are those who most easily master these skills.

At the same time as experiencing multiple transition processes, societies such as the Portuguese and Catalan societies preserve strong social cohesion via a dense network of social and territorial relations. They are societies that change and maintain their cohesion at the same time. They evolve at the global level, while maintaining local and personal control over that which gives meaning to life (Castells 2004c). In the societies in transition that balance between change and social cohesion could be one more common trait.

However, although they share global networks, each societal reality is unique and only a more in-depth analysis of each nation would show us the signs of future evolution in each of our societies. That is the challenge in understanding the transitions in progress in our societies as they become network societies.

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