

Bence SÁGVÁRI -
Tibor DESSEWFFY

On Creative Economy – Europe and Hungary in the Creative Age

DEMOS
MAGYARORSZÁG

Budapest, April 2006

Table of Contents

3	FOREWORD
5	INTRODUCTION
5	The Creative Challenge
8	What does "economy of the creative age" mean?
12	TALENT, TECHNOLOGY, TOLERANCE – THE 3 TS IN THE CREATIVE AGE
12	The percentage of creative occupations in the workforce
16	Talent – the first T
20	Talent-index
22	Technology – the second T
26	Technology-index
27	Tolerance – the third T
34	Tolerance-index
36	And the picture becomes clear
41	ANNEX
45	NOTES

F O R E W O R D

The petition “Reviving the Citizens’ Europe” was handed to the president of the Global Forum of Progressive Forces, Poul Nyrup Rasmussen, by representatives of DEMOS Hungary together with six other think tanks in the European Parliament in December 2005. The petition states: “Citizens feel that Europe fails in a field that seemed to be one of its strengths: in the economy. And they are right.

“Since the mid-1990’s, Europe has been one of those areas of the world where growth has been smallest. The average annual growth rate of the 15 member states of the European Union between 1995 and 2005 was 2%, compared to 3.5% in the United States and 8.5% in China. Only Russia’s achievement was poorer: its GDP decreased by an annual 1.9% between 1993 and 2001. Per capita income is unequal as well: it only amounted to about 70% of the American GDP increase in the same period.

“Following the path of the single market, the euro and the Lisbon Agenda prosperity should have been retrieved. Yet, lots of promises have not been kept. Europe failed on the battlefields of growth and employment. To a large extent this failure has been the reason why Europe lost its authenticity and legitimacy. Lack of efficiency is intolerable.”

Indeed, while the collapse of the Berlin Wall held out the promise of a new and successful period for Europe upon the end of Cold War divisions, it is more than evident today that the old continent has not found adequate answers to the challenges of the 21st century. This state of stagnation is especially disquieting for the new member states, including Hungary, who have joined the Union with great expectations. Several proposals have already been prepared using different terms and narratives to delineate the possible breakout-schemes. These often excessively technology-oriented and technocratic approaches are, however, doomed to failure from the outset due to the supposed lack of political support from the citizens. We must constantly seek ideas capable of both making Europe truly competitive and preserving its cultural diversity, the richness of traditions and lifestyles as well. The importance of this lies not only in the fact that it is exclusively such a construction that could assure the necessary political support; cultural context, tradition and its richness – in case we can exploit their inherent opportunities – may well be the competitive advantage capable of putting Europe back among the winners of the information age. The theory of creative economy elaborated and applied on several layers in this essay seems to give such a theoretical framework. This is why DEMOS considered this research, and the publication of the present essay, important for the future of Europe and Hungary.

intro- duction

INTRODUCTION

The Creative Challenge

In the background of the politically and socially significant earthshaking technological revolutions of recent centuries we always find those creative and innovative energies that have transformed and put on a new track the development of the world within a few decades. The appearance of this creative energy was, however, tied to an environment capable of, first, creating the conditions of its coming into being, and afterwards to use and permanently feed it. This simple law is even more true of our times when each sector of the economy is increasingly informed by the ethos of innovation and creativity-based competitiveness. This is of course not a wholly new and unusual phenomenon; the deep interconnections between human creativity and economic growth are however, unprecedented. Both the products of creative ideas and the knowledge that makes them possible are becoming the most important treasures of the new age in the framework of an irresistible process.

There are several countries in the European Union that in spite of the global devaluation of the whole continent have preserved their places at the top. Moreover, they were able to successfully cope with the new challenges by bringing their economies to growth. As for the Union as a whole, however, the primary objective is less ambitious: to ensure that the position of the old continent should not deteriorate in a spectacular manner compared to that of both the United States as a traditional economic and scientific superpower and China and other countries in the Far East region developing at a breathtaking pace. This is how Europe may preserve its chance to assert and improve its global position in a not too distant future.

The informational and technological revolution and the post-industrial socio-economic transformation in most countries have awakened the crucial agents of scientific, economic and political life from their long enchanted sleep and increasing attention has been paid to understanding the secret of successful companies, municipalities, regions, and even countries. The background of all this was (is) a global frustration that could be best characterized by the formula “who lags behind will be left out”. Simultaneously, the lines of force that will determine developmental tendencies in future decades and the dividing lines between winners and losers has become increasingly visible.

The rearrangement of the world economy is based on a deep structural transformation – involving primarily the economy but through it almost every sphere of life – that has had a substantially negative impact on Europe’s global position. Although the recipe for success, the goal to be attained is known in rough outlines, we must be aware of the fact that the roads leading to this goal are different in each case. What is effective in one country probably cannot be simply copied and introduced in another one. This is especially true in the case of Hungary, which still has to find its role both within the Union and the world economy. The majority of the by-no-means-consistent modernizing experiments of the last hundred years have tried to enter the development of knowledge and technology into the service of catching up by reacting to the extant challenges of the age. Notwithstanding some partial successes, however, this did not prove sufficient to bring about radical changes in the international

position of the country. Nevertheless a fatal lagging behind of Hungary has not taken place either. In general terms this situation has remained unchanged until now. In terms of economic indexes Hungary still belongs to the average: it is neither very good nor very bad. The next 5–10 years will be crucial, for they will decide whether we shall stay in this middle-of-the-road position or fall back into the rearguard.

Hungary and the other states of the region have had to face a double challenge in the past 15 years. The post-communist transition proved to be the primary task and the country coped with it more or less successfully. Less attention has been paid, however, to post-industrial transformation, although its dynamism reached its peak in this period, bringing about deep changes both in the economy and cultural life. This is why our prospects are less hopeful in this field.

It is this insight that has given birth to the present publication. Our goal was to analyze the demands and possibilities of post-industrial society from a special point of view. Our ideas are based on the theory of the celebrated but much debated American geographer-economist, Richard Florida, who explained regional economic development through creativity and the presence of a creative workforce – illustrated by the case of the United States. (2) His most important statement has been that in spite of the theories emphasizing global economy and the importance of world-wide networks, locality or the role of different loci seems to get additional value as globalization goes ahead.

Drawing on examples of various American cities and regions either decaying or developing at a rapid pace, Florida has illustrated the recipe of success in the new age he refers to as “creative”. He regards “the 3 T’s”, talent, technology and tolerance, as the tokens of success. Talent can be briefly described as the quality of available human resources, and technology as the developed economic and technological state of a given area. Tolerance – and this is perhaps unusual for the reader – means a receptive and inspiring socio-cultural environment the fundamental qualities of which are open-mindedness, social respect for creativity and success and the acceptance of personal and minority views. These 3 T’s are crucial to economic development in the slowly but irresistibly unfolding creative age where a creative workforce is the well-guarded first and foremost resource of the road leading to success.

Florida’s theory has been both highly appreciated and criticized recently. (3) His greatest merit is that he connected hard facts having a demonstrated impact on economic development (talent and technology) to cultural value-dimensions that have been quite neglected so far (tolerance) in an easily intelligible, sufficient and creative manner. In his *The Flight of the Creative Class* (2005) the author, emphasizing the significance of this neglect and assessing its dangers, began to sound the alarm-bells. He drew attention to the fact that due to the slow transformation of its exceptionally receptive social environment the United States seems to be losing its global advantage in the world-wide race for creative minds. Florida’s ideas also fit in well with the new interdisciplinary outlook in social sciences which has gradually made its way in recent years. The introduction of the dimensions of human behavior, culture, religion and social

values into the somewhat unfriendly world of rational economic indexes has opened up new analytical directions.

In a shorter account published by DEMOS, London in 2004, Florida investigated the 15 member-states of the European Union at that time in terms of the aforementioned three dimensions. (4) His statement was that the creative center of Europe – investigated first of all in terms of research and development (R+D) and innovation achievement – has been gradually shifting towards the North (Finland and Sweden), weakening the positions of the traditionally robust economies of both the United States and Europe. Reading his analyses we found it obvious that in order to find a place for Eastern Europe and Hungary in the global map of the creative age the investigation had to be extended to both the new member states of the Union and to those countries that wish to join. These considerations have given birth to this publication, which is fundamentally based on the methodology applied by Florida. We have, however, somewhat modified this approach owing to both our own ideas and the lack of comparative international data.

We have aimed at giving the reader a view of the most important socio-economic processes behind the transformations and to make a clear and intelligible sequence among European countries by analyzing the data. This is why we found it impossible to prepare a piece of work applying complicated statistical methods and using the most extensive set of data available. We are of course aware of the fact that the data that were used as well as the indexes based on these data show only one possible approach and interpretation of this subject-matter. In

applying statistical methods we also tried to simplify although we hope this does not lead to excessive compromises in the framework of the numerical elaboration of reality. Due to the complexity of the subject matter, however, we didn't have the possibility of analyzing the results in a deeper and more complex way. It is the goal of DEMOS Hungary to carry on investigations – concentrating first of all on Hungary – on the characteristics of creative economy and its indispensable social environment as well as the tendencies of change in the coming period.

What does “economy of the creative age” mean?

The attribute “creative” and the notion of creativity have undoubtedly a positive, “trendy” meaning nowadays. In colloquial speech creative man is “a hero of our times”; the creative – permanently renewing – company is compulsory instruction material in all business schools. Lots of similar examples are available. It is the essence of the creative age that we live in a world where knowledge, the ability of information-processing and human creativity are becoming the impulses, the first-rate determinants of development in an unprecedented manner.

To put it somewhat differently, it is very big business. Cultural industries as the real flagships of creative economy have become mainstream economic activities by now. They no longer play a sort of secondary role beside the “real” economy producing real, useful and tangible products. In 1997 414 billion dollars worth of books, films, music, TV-programs and other copyrighted products were produced in the

United States. (5) In itself this is of course not much, but if we add that such products have become the most important export goods of the US, ahead of clothes, chemical goods, cars, computers and airplanes, then we could perhaps have some impression of the overall meaning of this transformation.

According to Richard Florida the percentage of people employed in creative occupations has multiplied in the past hundred years. While about 10% of the workforce was employed in creative industries in 1900, this percentage rose to 20% by 1980, and now this figure amounts to 30%, which means that nearly 40 million Americans are employed in such jobs.

Creativity is one of our most important economic resources. The transformation from the pre-industrial to the industrial age was made possible by “new combinations” and innovations which laid the foundations of global socio-economic changes that began in the last decades of the 20th century. The ideas and innovations that brought about such changes were of course not born by themselves. Human beings produced them by lengthy, strenuous work. The real exchange value of the creative age is nothing other than intellectual property.

It is not by accident that the dividing line between the two – earlier extremely different – areas of creativity has become increasingly blurred. The tradition of the Enlightenment based on both the differentiation of intellect and emotion and the arts and science has been gradually losing force.

Creativity is of course not only a privilege of those who are involved with the arts and sciences. It is one of our most important human qualities, which needs constant care and nurture. The system of education, mediating and forming

autonomy and motivationality i.e. those soft skills that had been unanimously neglected in the industrial age, plays an outstanding role in creativity.

John Howkins, whose approach to the subject-matter, however well-grounded, rather resembles the style of popular business books, defines creativity as the capacity of bringing about something new, i.e. the process by which one or several persons give birth to original ideas or inventions.

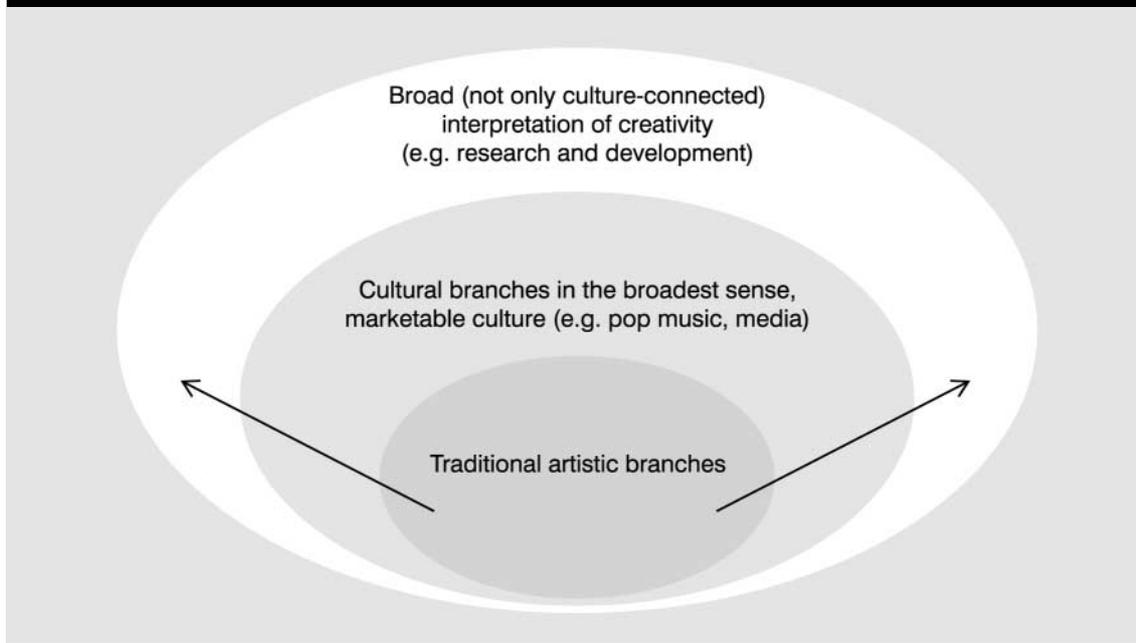
“Someone says, acts, brings about something new be it in the sense of ‘something from nothing’ or in the sense of making something new. Creativity either leads somewhere or it doesn’t, it can turn up both in thinking and

action... The attribute ‘creative’ refers to someone who makes or invents something new.”
(6)

While the operational logic of human creativity is unchanged, the same could not be said of the fundamental operational logic of the economy. Here competition no longer concerns the physical work or the quantity and utilization of natural resources, but the creativity of the human mind, intellectual value-production and everything they imply: innovations and creative products. This is what lies behind the economic growth of the last couple of decades.

It should be noted that a relative conceptual confusion prevails in the field of creative economy and in connection with its agents. Creative economy is generally supposed to include all kinds of creativity; it is by no means immaterial, however, whether we only speak of artistic and cultural products or include scientific results and inventions, as well. To put it differently, while the narrower definition of creative economic sectors is culture-centered, in the broader understanding actually all creative processes, i.e. those the products of or services of which are based on a new idea, will be considered as parts of creativity. This theoretical division is illustrated by Figure 1.

FIGURE 1
Possible levels of the interpretation of creative economy



The approach we ourselves accept has its starting point in the broadest possible definition since the aggregate achievement and development of all these activities brought about the creative age which is increasingly the framework of our existence. In other words, we regard as a creative agent anybody whose work is primarily characterized by some creative activity, i.e. by new ideas, inventions, technologies and contents, and by different solutions. (7)

According to Florida's original conception, scientists, engineers, architects, designers, people employed in education, the arts and show-business all belong to the creative class, but we can also include – although not in the “inner circle” – professionals employed in business life, finance, law and health as well. The changes in occupational structure will be even more highlighted if we draw attention to the fact that the size of the social group employed in this manner already surpasses that of the group of traditional, blue-collar workers. And their share of aggregate income is almost fifty percent. (8)

All these changes have also overwritten the rules of global competition, the core of which is no more the trading of goods and services or fighting for capital investments but the increasingly acute international competition for the talented workforce. The successful nations and regions of the next period will be capable of mobilizing the creative energies of their people and – which is at least equally important – attracting creative talents from all over the world. Unlike scarce natural resources, educated and creative human beings who are capable of producing economic value follow quite different laws. It is a “mobile resource” whose movements serve the unfolding of its talents and always finds the place where the necessary technological and social prerequisites are available.

**talent,
techno-
logy and
tolerance
– 3 T's
in the
creative
age**

TALENT, TECHNOLOGY AND TOLERANCE – 3 T'S IN THE CREATIVE AGE

After this short theoretical introduction, let us see what the characteristics of the investigated countries are, in the fields of talent, technology and tolerance. In the next three parts we consider all three factors in some detail, then go on to analyze the sequence of countries. In other words we elaborate an index showing the complex positions of each country in the new, creative age.

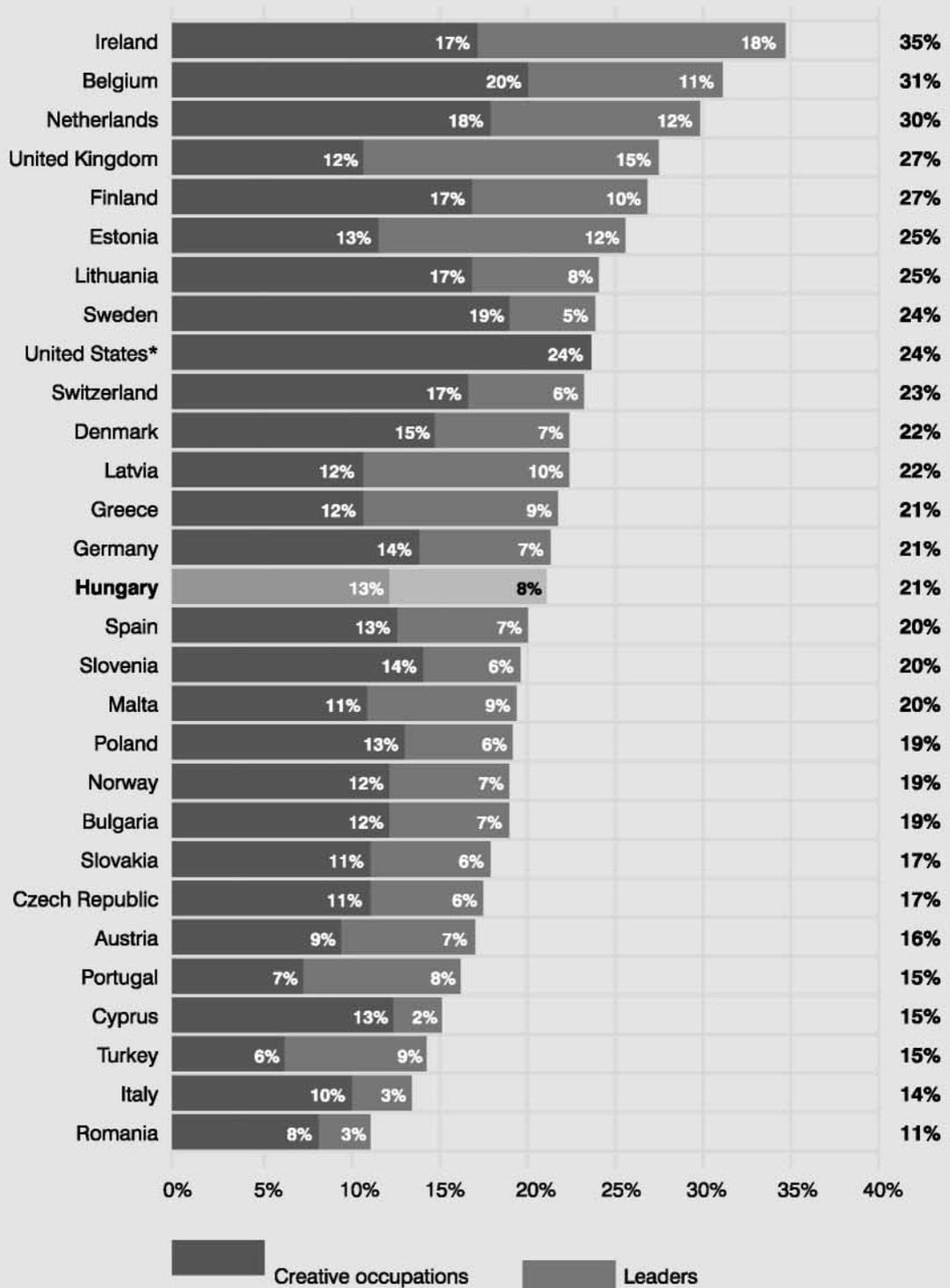
The percentage of creative occupations in the workforce

The index that seemed appropriate for the comparative measurement of those employed in creative occupations has been constructed – following the methods used by Richard Florida – from the data of the International Labor Organization (ILO). (9) This could also be called

creative class index, which shows the percentage of all employees in a given country who work in the so-called creative occupations. (10) In Figure 2 this occupational group is divided into two parts. Creative occupations include the engineering, scientific and biological (medical) professions, lecturers at different levels of the educational system, representatives of the social sciences, writers, different kinds of artists and representatives of spiritual life and the churches. Special treatment was given to people in leading positions including senior leaders of the state and communal sphere, legislative and administrative areas as well as the business sector – whose work can generally also be regarded as creative.

FIGURE 2

Percentage of creative occupations and leaders in each country



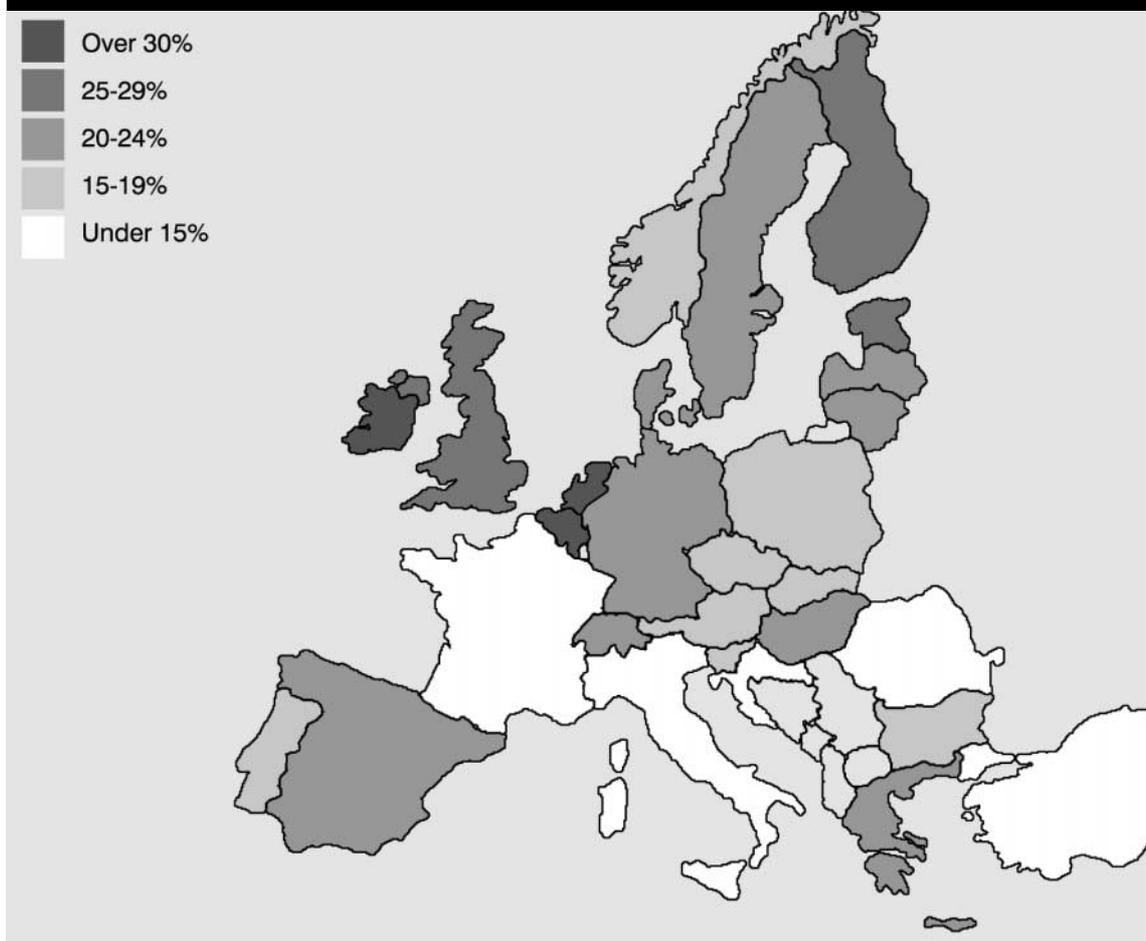
*In the case of the USA, differentiation between the two categories is not the different statistical system. Data for the United States is from Florida, R. (2005) The Flight of the Creative Class.

Data refers to year 2004, except Belgium (2003), Italy (2003), Netherlands (2002) and Portugal (2003)

The range covered by these occupational groups is, as we have seen, quite large. Their common feature is that they all require a non-mechanical, non-routine application of knowledge and different abilities. At the same time they require different quantities or qualities of creative thinking and problem-solving in everyday life. (It is very difficult to compare the activities of a doctor and a writer or a computer mathematician but certainly all presuppose autonomous problem-recognition and -solving.) Summing up the number of people employed

in both occupational categories (creative occupations and leaders) there are three countries where the percentage of creative occupations equals or surpasses 30%. These are: Ireland (35%), Belgium (31%) and the Netherlands (30%). Very high percentages characterize the United Kingdom (27%), Finland (27%) and Estonia (26%). Leaving the group of leaders out of consideration, the top of the list is as follows: Belgium (20%), Sweden (19%), the Netherlands (18%), Ireland, Switzerland, Finland and Lithuania (17%). There are only four countries where the percentage of creative occupations (leaving leaders out of consideration) does not amount to 10% of the whole workforce: Turkey (6%), Portugal (7%), Romania (8%) and Austria (9%).

FIGURE 3
The percentage of creative occupations in Europe



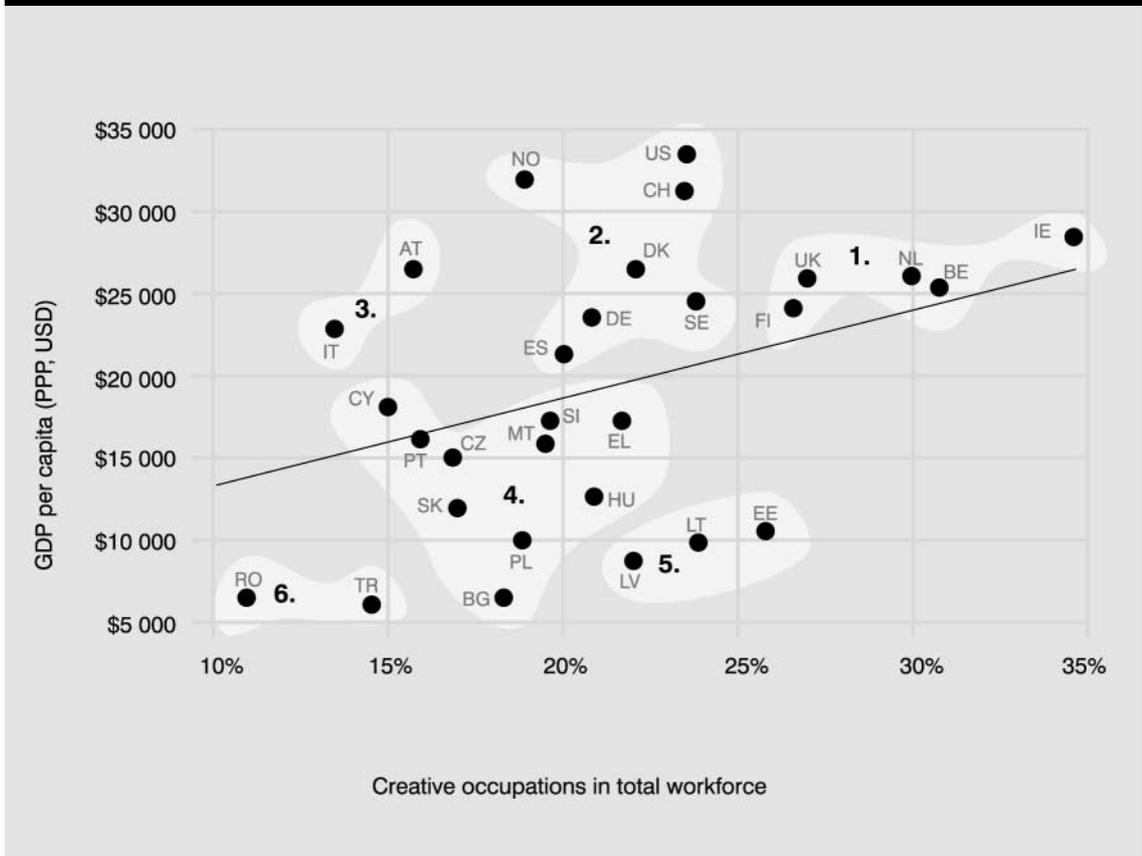
Hungary, with 21% of the total workforce in these occupations, is located in the middle of the investigated countries, with values quite similar to those of Spain and Germany. The percentage of creative occupations amounts to 13%, and that of the executives to 8%: these by and large correspond to average values between the highest and lowest percentage countries (leaving the very low percentages of Cyprus, Italy and Romania somewhat out of consideration in the group of leaders). Among the countries that joined the Union in 2004 only the three

Baltic States (Estonia, Lithuania and Latvia) are “ahead” of Hungary, whereas such countries as Slovakia and the Czech Republic (17%) and Austria (16%) have even worse records (see Figure 3.). Analyzing these data together with the simplest, but most reliable index of economic development, GDP per capita, no unequivocal, linear correspondence can be shown between the

percentage of creative occupations and economic achievement in the individual countries. This means that the high percentage of creative occupations is no guarantee of economic prosperity. But the reverse is also true: significant achievements can be made with less creative occupations as well, but this almost exclusively applies to countries with significant natural resources. In Figure 4 (with the help of cluster-analysis) we have divided different countries into six groups in terms of the relationship between the economic achievement of a given country and the percentage of creative occupations in the total workforce.

We are of course aware of the fact that this figure represents only a narrow segment of reality, nevertheless it is certainly suitable to determine the “balance of forces” among the investigated countries in raw outline.

FIGURE 4
Relationship of the creative occupations and GDP per capita



SOURCE: ILO Laborsta, Europe in figures (Eurostat)

The countries belonging to the first group, Finland, the United Kingdom, the Netherlands, Belgium and Ireland (which nearly “falls out” of the figure) make up the “real avant-garde”: strong economies with high percentages of creative occupations. In the second group we find countries with average percentages of creative occupations coupled with equally strong economies: Denmark, Germany, and Sweden, then somewhat lagging behind, Spain, Norway, Switzerland and the United States with outstanding economic achievements. Austria and Italy with relatively low percentages of creative occupations but with significant economic achievements belong to a third group. It is the fourth group where we find Hungary in the company of most Eastern and Central European countries as well as Greece, Portugal, Cyprus and Malta. Their common feature is a medium-percentage of creative occupations and a relatively lower or (in the case of Bulgaria) even the lowest level of GDP per capita. The fifth group can actually be regarded as a subgroup of the former: the only difference in the case of the Baltic States is the high percentage of creative occupations – this is why we found it worth setting up a separate group for them. And finally Romania and Turkey belong to the sixth group; the GDP per capita here is the lowest among the investigated countries, coupled with a very low figure, less than 15% in creative occupations.

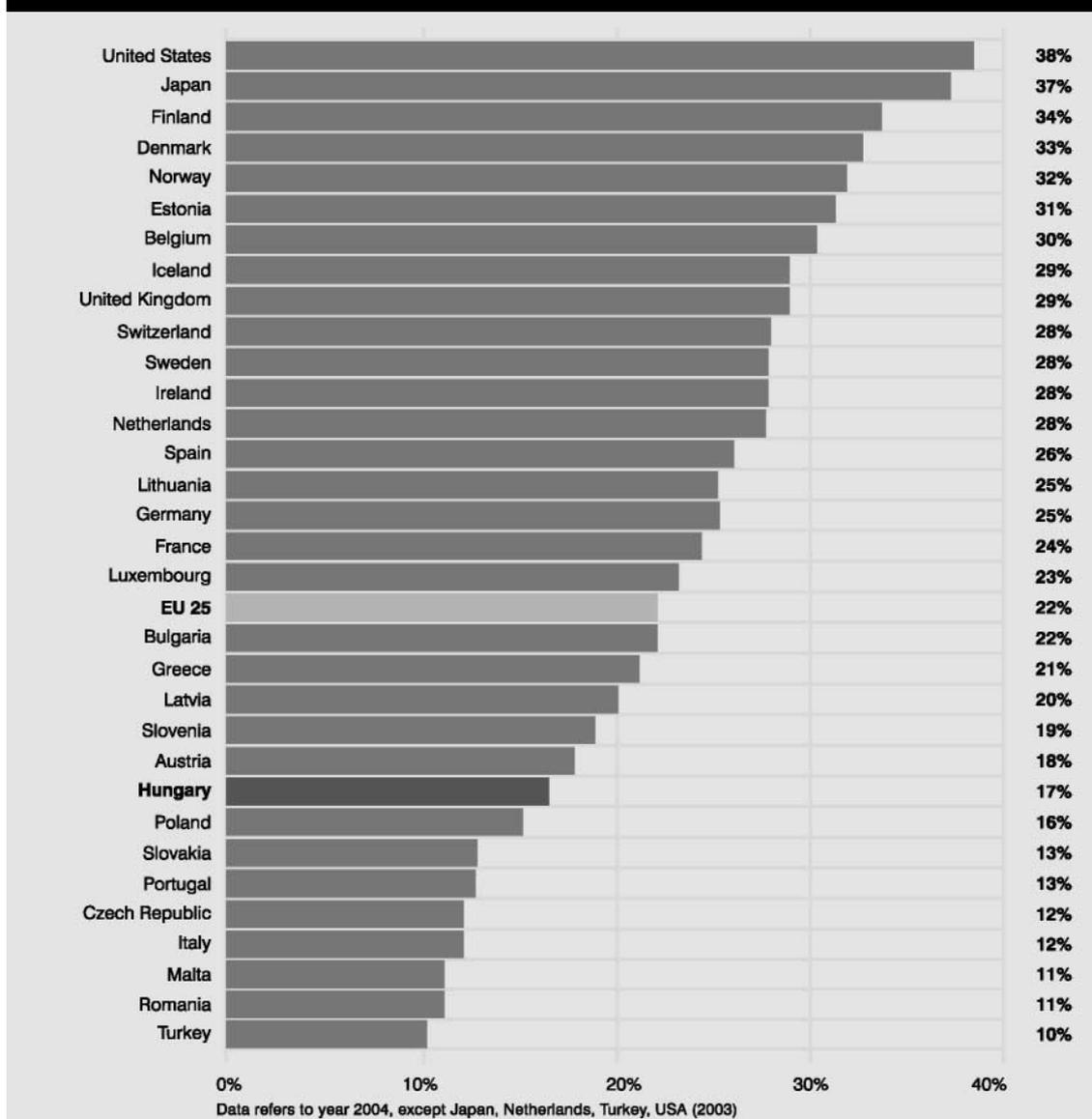
Talent – the first T

The first pillar of Florida’s three T’s, Talent has long been known to be a component of economic development. In economic theory it is usually referred to as the theory of human capital, the primary sources of which are of course well trained people. They are capable of creating new knowledge or assimilating and applying available

knowledge in a creative way using it for value-creation. Although a university degree cannot be regarded as the prerequisite of creativity and creative work, it is evident that the majority of such people do have a degree. The interconnectedness of human capital and economic development has been demonstrated by convincing empirical evidence. (11) It is especially true of smaller regions and towns that higher and more intensive growth can only be expected in regions where a highly trained workforce is available in appropriate quantity and quality.

The first component of Talent is therefore measured by the percentage of people having a degree within the 25–64 age-group of the population (see Figure 5.). In spite of its several “deficiencies” this index is suitable to describe the overall preparedness of the workforce in a given society, although we do know that the degrees acquired in different countries or periods indicate quite different levels of knowledge. Let us only refer to the fact that the Western and Eastern part of the continent experienced in different periods the expansion of higher education. The same process that unfolded in Western Europe several decades ago took place in Hungary only in the 90’s, not to mention now the relative value of BAs and other qualitative issues. The percentage of people with higher education keeps increasing all over Europe. The harmonization of qualification requirements as the official policy of the Union is going on as well. According to the data presented in Figure 5 the United States (38%) and Japan (37%), the two major actors of world economy, belong to the avant-garde, although as to the second it should be mentioned that there is a high percentage of people with, a college degree in the population who have completed higher education.

FIGURE 5
Percentage of people with higher education in the population between 25–64



SOURCE: European Innovation Scoreboard 2005

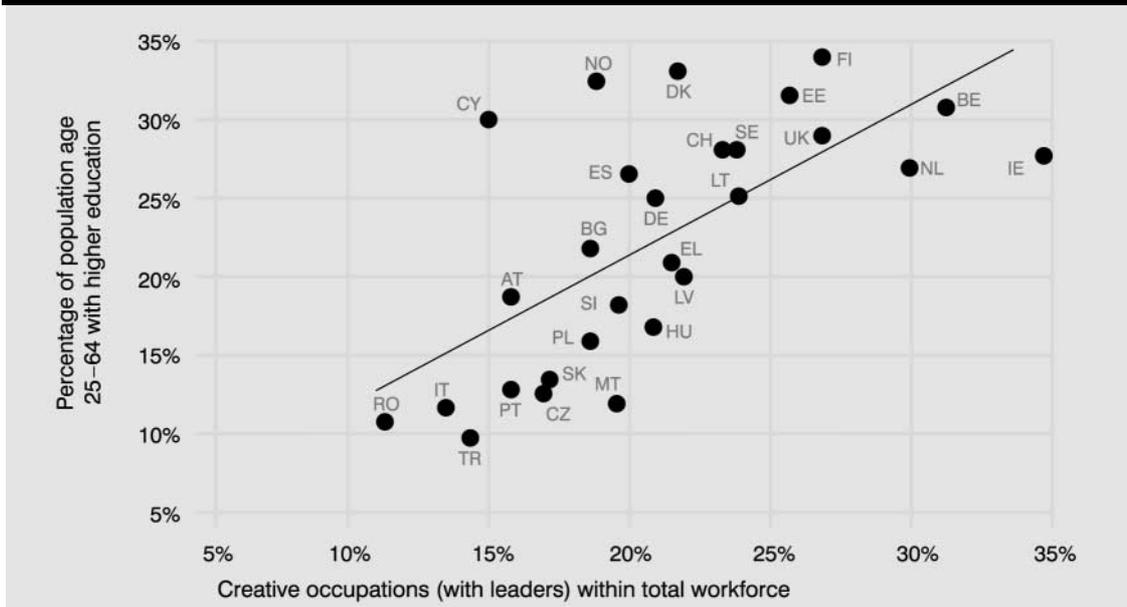
Among European countries Finland (34%), Denmark (33%) and Norway (32%) and from the new member states Estonia (31%) all belong to the avant-garde. At the end of the list we find Turkey, Romania, Malta, Italy, the Czech Republic, Portugal and Slovakia with percentages between 10–13%. The place of the latter four countries (especially Italy) may seem surprising, but it should be clear that the percentage of people having completed higher education is only somewhat higher (17%) in Hungary in the 26–64 age-group and it is 5% lower than the average of the 25 member states. Although this percentage increased by nearly 4% in the past 6 years and has

also shown a dynamic increase since then the country still belongs to the last third of the Union member states.

There is a unambiguous and indisputable relationship between the number of people with higher education and the percentage of creative occupations, although some countries fall out of the trend: their distance from the trend line both up- and downwards is quite considerable. The data of Figure 6 show the mobilization of creative potential, i.e. to what extent a given country is capable of utilizing its educated and skilled citizens.

FIGURE 6

Relationship of the percentage of people with higher education and that of creative occupations



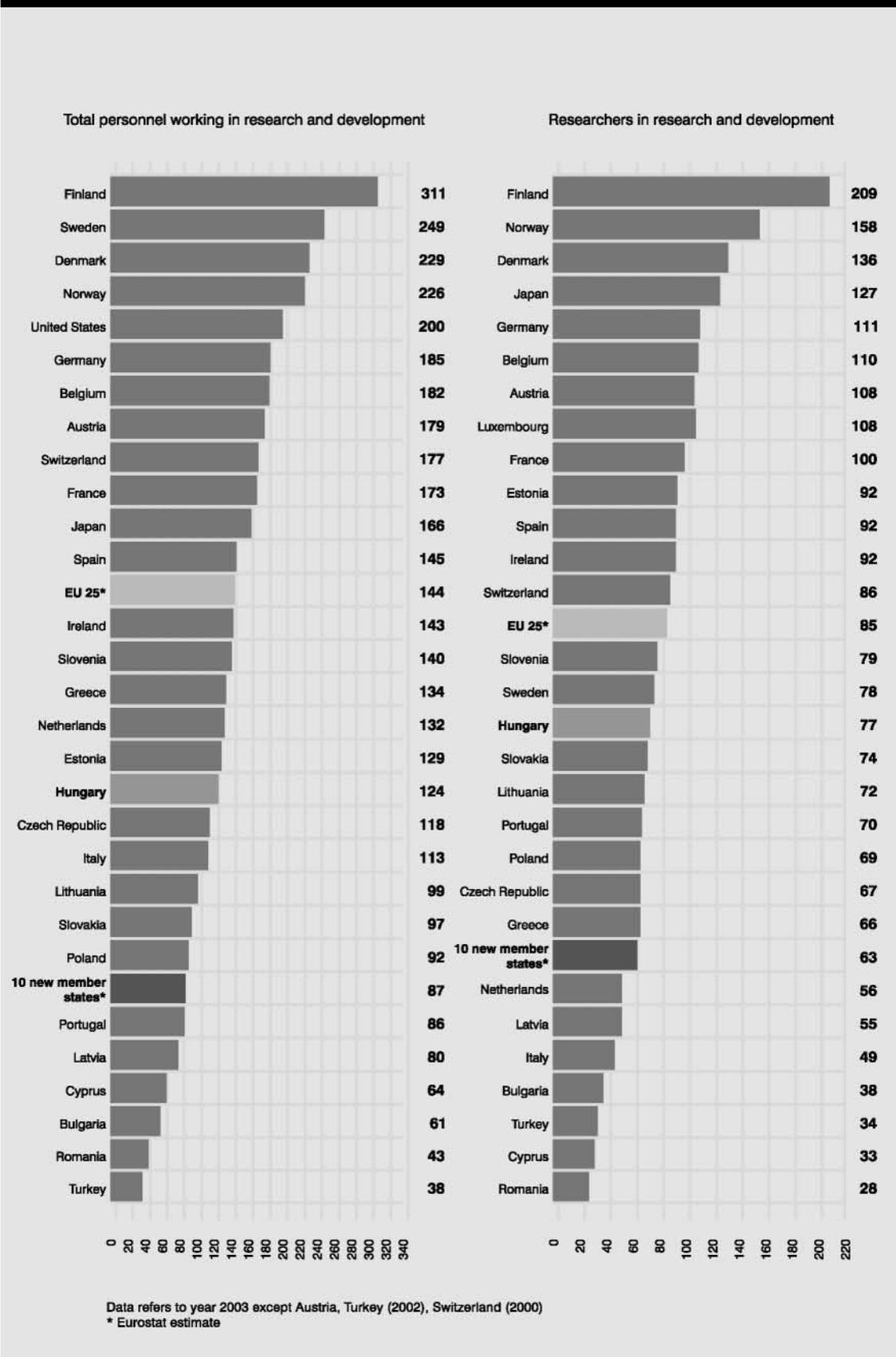
SOURCE: European Innovation Scoreboard, ILO LaborSta

While the percentage of people with higher education in the workforce plays an important role in the measurement of the human resources of the knowledge-based, creative economy, the “official” agents of research and development also have their contributions to shaping the innovative potential of a given country. This makes up the second pillar of Talent in our analysis (see Figure 7.). The percentage of research workers among all employees is generally the highest in the Scandinavian countries. (The proportions in Figure 7. do not refer solely to researchers in the narrower sense but to the whole personnel employed in the R+D sector). Among the countries of the avant-garde Finland is the very top with 311 per 10,000 persons employed in research and development followed by Sweden (249), Denmark (229) and Norway (226) and finally the United States with

the world’s largest research community in absolute numbers (200). The rearguard is composed of Cyprus (64), Bulgaria (61), Romania (43) and Turkey (38), significantly lagging behind even the average of the newly joined members.

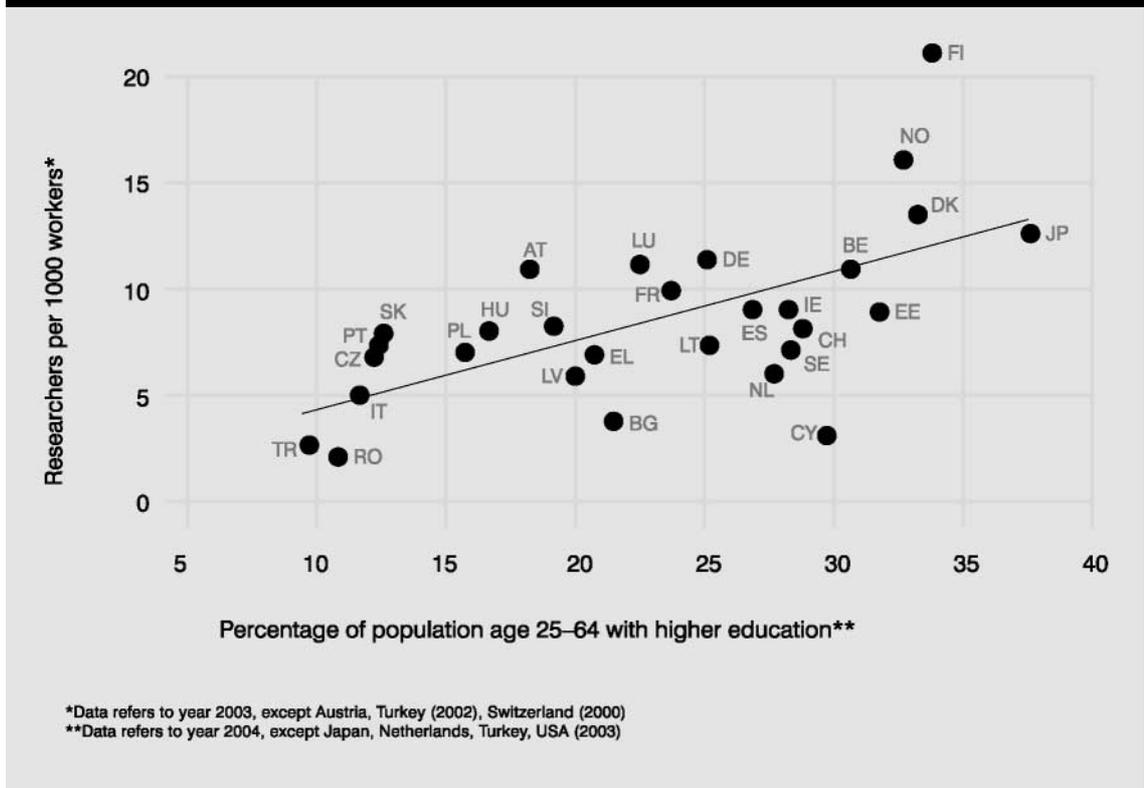
Hungary with a rate of 124 is at the end of the middle range, with nearly the same achievement as Estonia and the Czech Republic. As to the 15 older member states our results are better than those of Italy (113) and Portugal (86). Among the new members Hungary has better results than Slovakia (97) or Poland (92). In the Eastern- and Central-European area the Austrian case is worth mentioning: the percentage of both the creative occupations and people with higher education is relatively low; the number of employees in the R+D sector is, however, hardly less than in the avant-garde countries. Taking only the percentage of researchers into consideration the sequence is somewhat modified: in this respect Hungary lies somewhat nearer to the average of the Union. It is worth mentioning that domestic data are significantly higher in both dimensions than the average value of those 10 countries that joined the Union in 2004.

FIGURE 7
R & D employees and research workers per 10 thousand



SOURCE: Eurostat

FIGURE 8
Relationship of R & D employees and people with higher education



SOURCE: European Innovation Scoreboard, ILO LaborSta

If we examine the relationship between both elements of Talent (the percentage of people with higher education or of those employed in research) no unequivocal connection can be found. This much is certain, however: there is a correspondence between both indexes in the majority of the countries investigated. Namely, the general level of qualifications does not significantly break away from the percentage of researchers who can also be regarded as the knowledge-elite of educated persons. No doubt, the countries “striving” for the upper right corner will be best suited to give the most successful answers to the challenges of the times; at the same time a larger disconnecting from the trend can also have demonstrative effect.

Talent-index

Let us look at the ranking of the investigated countries in terms of the first T, i.e. Talent. According to Table 1, Finland, Belgium, Ireland, i.e. essentially the Benelux-states and the Scandinavian or North-European countries are to be found at the top. Hungary is 16th on the list, just after Austria and Slovenia and taking precedence over both the rest of the Central-European countries and – somewhat surprisingly – Portugal and Italy.

TABLE 1.
The ranking of the investigated countries in terms of Talent-index values

No.	Country	Creative class	Human capital		Scientific capital
			r a n k		
1	Finland	4	1	1	
2	Belgium	2	5	6	
3	Ireland	1	8	11	
4	Denmark	9	2	3	
5	Sweden	7	7	2	
6	Norway	17	3	4	
7	Netherlands	3	9	14	
8	Estonia	5	4	15	
9	Switzerland	8	6	8	
10	Germany	12	12	5	
11	Spain	14	10	10	
12	Lithuania	6	11	19	
13	Greece	11	15	13	
14	Slovenia	15	17	12	
15	Austria	21	18	7	
16	Hungary	13	19	16	
17	Latvia	10	16	23	
18	France	25	13	9	
19	Bulgaria	18	14	24	
20	Poland	16	20	21	
21	Czech Republic	20	23	17	
22	Slovakia	19	21	20	
23	Portugal	22	22	22	
24	Italy	23	24	18	
25	Romania	24	25	25	

* In the case of France the value of the index has been significantly distorted by the fact that owing to the conversion to the ISCO 88 system the percentages of creative occupations or of leaders may be very low compared to other, similar countries.

On the method of the computing of the index

To compute the Talent-index we used the percentages of creative occupations (creative class), of higher education (human capital) and of the employees in R+D within the workforce (scientific capital). The essence of the method is that in order to eliminate the distortions coming from the different measurement units of each of the indexes, we took the standardized values of each country and got the final value of the index by calculating their averages. (Their specific values can be found in the Appendix.) In the case of countries where some of the data were missing, we could not of course calculate the concrete value; this is why the reader will find fewer countries in the Table than in the Figures presented previously. The boxes in the Table represent the positions according to the individual components.

Technology – the second T

Talent in itself is of course only a necessary but not sufficient condition of economic growth.

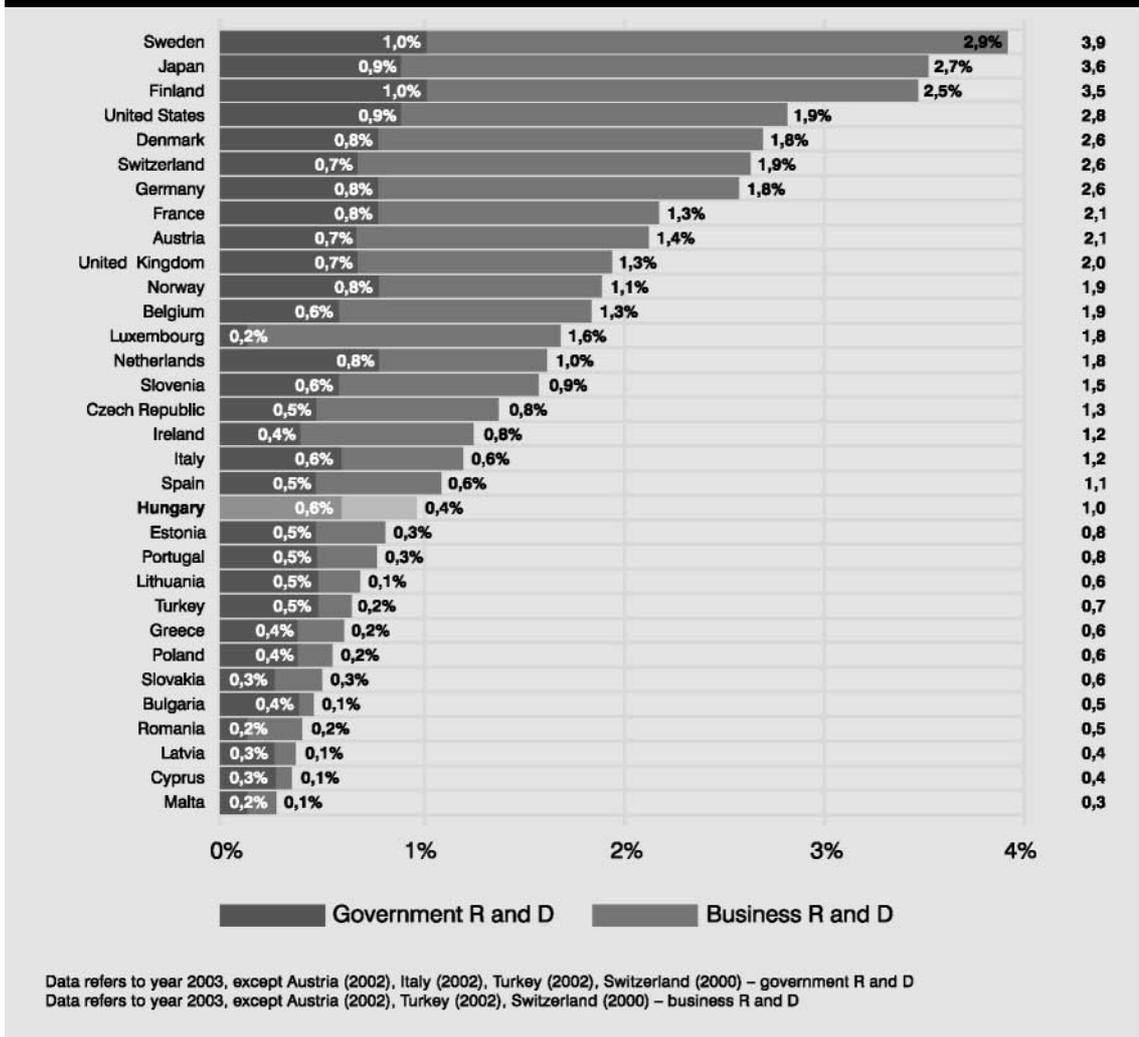
The presence of technology in economic processes is certainly the fundamental determinant of growth and economic prosperity. This is why – and following Florida’s argument as well – it should have an eminent role in our analysis. To put it briefly, research and development have become crucial factors in the struggle for global competitiveness all over the world. The prospects of a bright future as a consequence of the structural changes in world economy are open to those countries (continents, regions, and even cities) that are capable of “climbing” the summits of the global value-chain increasingly organized on network principles or preserving their positions there.

Let us turn our attention now to technology and within this domain to the innovative processes brought to life by human creativity and creation. One of the best indexes of this achievement is the percentage of GDP spent on research and development. According to international usage this should be divided into two parts: there is a fundamental difference between government spending on R+D (e.g. tenders or budgetary financing of research institutes) and the research and development spending of private companies.

While under optimal conditions the first has a crucial role in basic research, the latter’s activities are concentrated in the field of applied research, the results of which can be more easily incorporated into new products and services thus serving the interests of the given company.

R+D spending as a percentage of GDP we find Sweden on top with a sum that is nearly 4% of GDP (see Figure 9.). It is followed by Japan and Finland (3.5%), then somewhat further behind by the United States with 2.8%. Hungary with a value of 1% is located in its “usual place”, towards the end of the middle range, at the top of the last third. We could also draw an imaginary border in Figure 9 roughly just before Hungary; above this line a larger part of R+D spending comes from private companies, whereas under the line, i.e. in Hungary and the other countries following it, research and development is essentially financed by central resources, i.e. by the state.

FIGURE 9
Proportion of state and corporate R & D spending to GDP



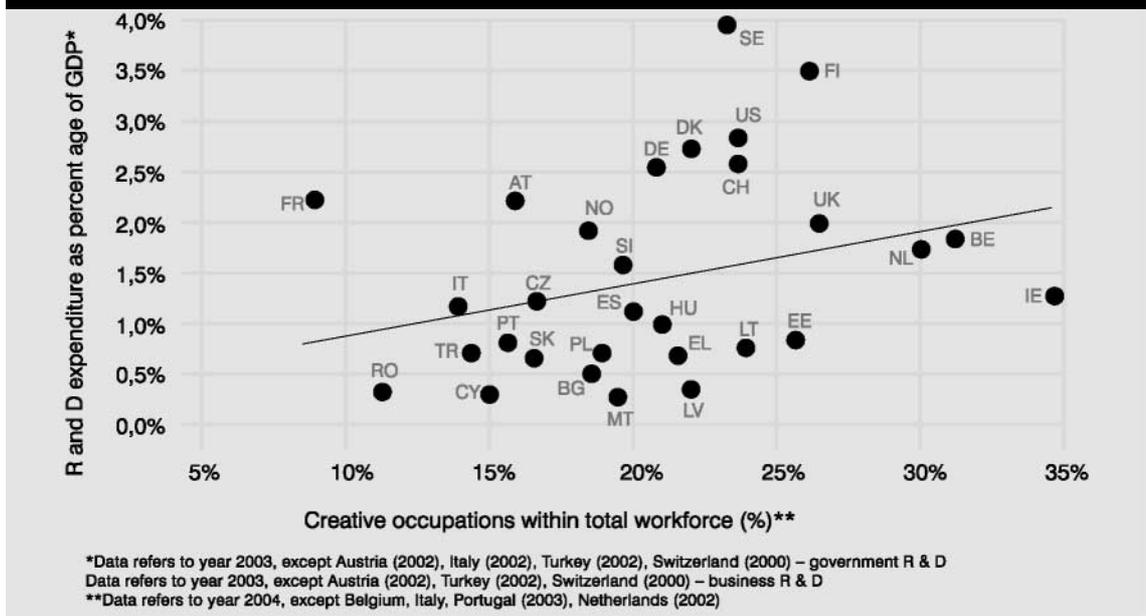
SOURCE: European Innovation Scoreboard 2005

Figures 10 and 11 show the connection between research and development spending with the percentage of research workers in the workforce as well as with the percentages of creative occupations. As Figure 10 very well shows, the high percentage of creative occupations in the workforce is no guarantee of strong R+D activity. We should, however, take it as a warning that – with the sole exception of Slovenia – we find almost exclusively former socialist countries and Portugal, Cyprus, Malta and Ireland under the line. Figure 11 also supports this connection for it is striking how much the values of both indexes differ in the case of some countries (e.g. the Netherlands), i.e. the percentage of research workers lags much behind the value made probable by the extent of

the creative class. The reverse can also be true: in several countries (e.g. in Finland) the percentage of research workers is extremely high as compared to the size of the creative class.

FIGURE 10

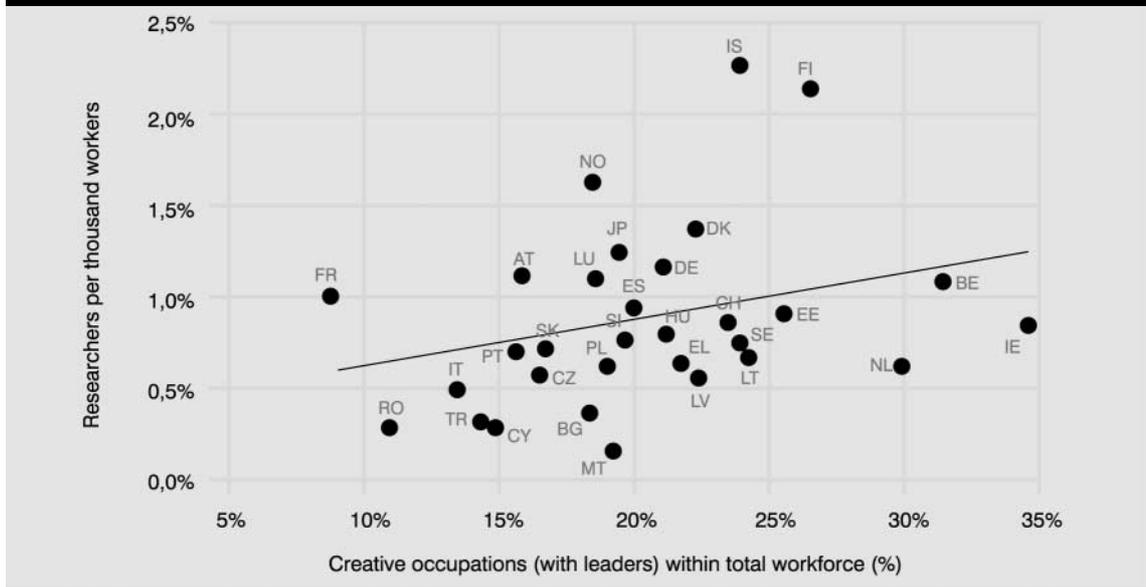
Relationship of creative occupations and R & D spending



SOURCE: European Innovation Scoreboard, ILO LaborSta

FIGURE 11

Relationship of percentage of research workers in total workforce and creative occupations



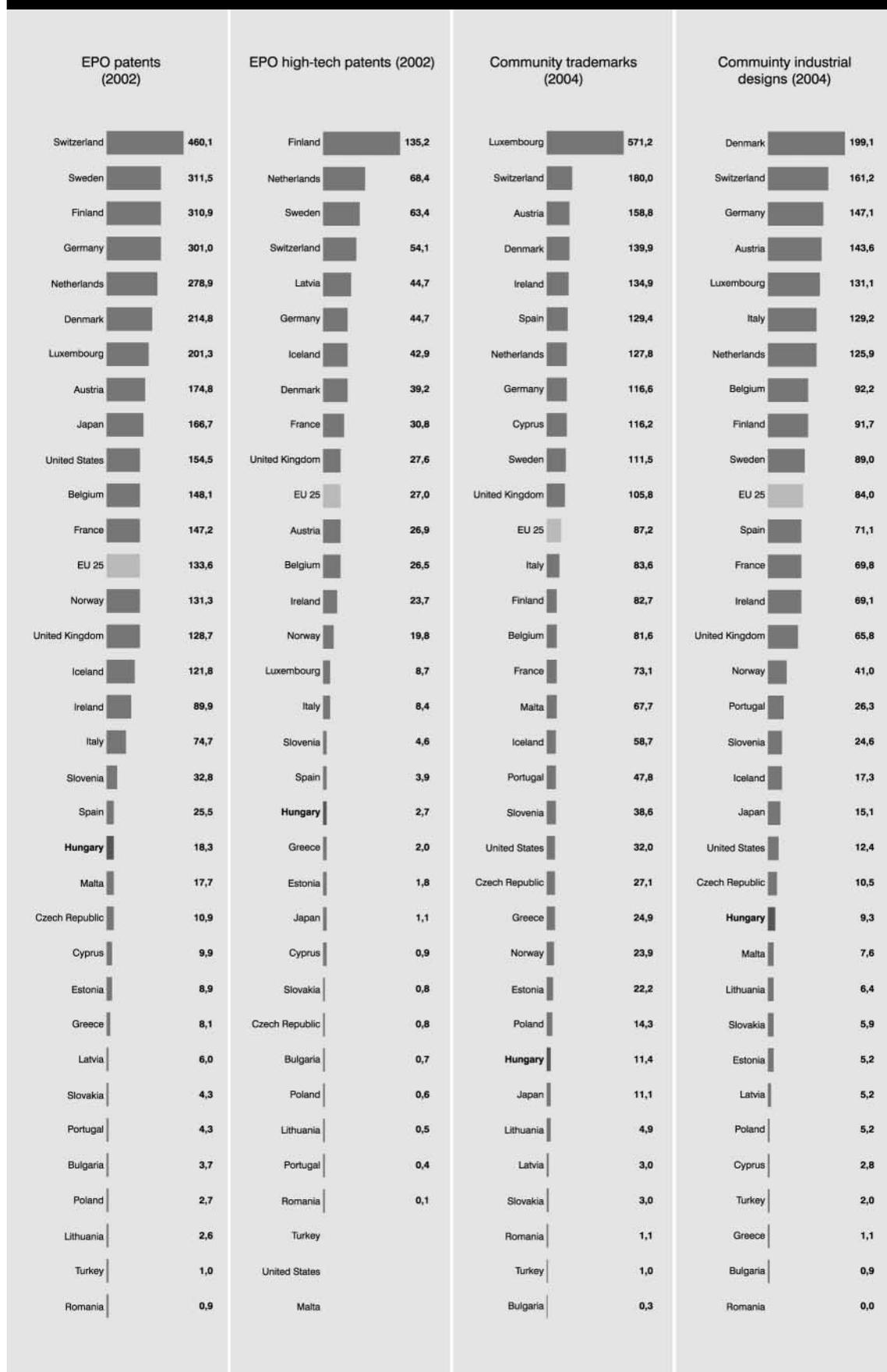
SOURCE: European Innovation Scoreboard, ILO LaborSta

In the case of R+D funds, their exploitation is a very important issue. Research for its own sake can make a rather limited contribution to the economic growth of any country. Exploitation is generally measured by the number of both scientific publications and different intellectual copyright and patents in official statistics. Although these numbers in themselves do not inform us as to quality, they serve as convincing

expressions of the innovative achievement of a given country. To sum up the data of Figure 12, which are quite difficult to assess and in order to be able to measure innovative achievement we have formed a composite index including the different indicators connected to intellectual property.

FIGURE 12

Innovation achievement - intellectual patents per 1 million in the examined countries



SOURCE: Eurostat, European Innovation Scoreboard, 2005

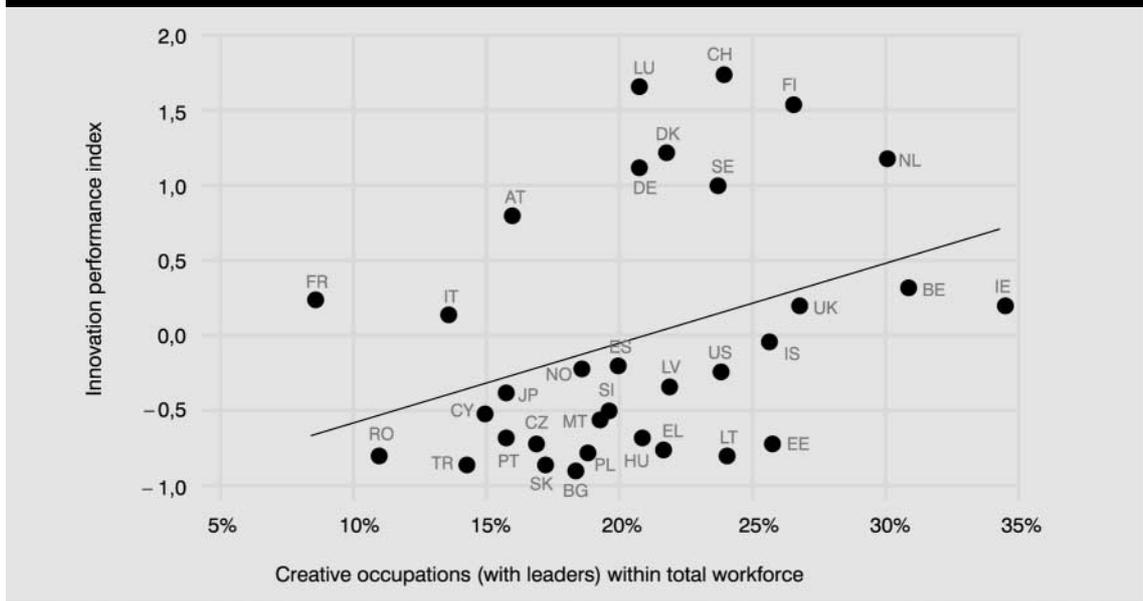
On the method of the computing of the innovation-index

The determination of the innovation index has been based on the indicators used by the European Innovation Scoreboard as well. We used the number of the patents administered by the European Patent Office, the number of high-tech patents (innovations in biotechnology, information technology, the pharmaceutical industry, and the aerospace industry) by the same office (each per 1 million inhabitants), community patents and design patents (also per 1 million inhabitants). To form a condensed innovation index we have calculated the standardized averages of each index although we are well aware of the fact that as to their valences they cannot be regarded as equivalent.

In terms of all these data Switzerland, Finland, Luxemburg and Sweden are the European “frontrunners” in the field of innovations. The connection of this index to the size of the creative class is illustrated by Figure 13, which shows that in most of the cases those countries

are capable of outstanding achievements where the percentage of creative employees surpasses 20%.

FIGURE 13
Relationship of innovation achievement and the percentage of creative occupations



SOURCE: European Innovation Scoreboard, ILO LaborSta

Technology index

As with Talent let us now look at the technology index of each country on the basis of the indexes presented so far. We also would like to know the ranking of the countries in this respect. At the top we find Sweden and Finland, followed by Switzerland, Denmark, Germany and Austria (see Table 2.). Hungary is in 16th place, preceded by Slovenia and the Czech Republic in

the region. Among the older member states only Portugal and Greece have been outperformed by Hungary.

TABLE 2.

The ranking of investigated countries in terms of technology-index values

No.	Country	R&D funds	Innovation index
		r a n k	
1	Sweden	1	6
2	Finland	2	2
3	Switzerland	4	1
4	Denmark	3	3
5	Germany	5	5
6	Austria	7	7
7	Netherlands	10	4
8	France	6	10
9	Belgium	9	9
10	Norway	8	13
11	Ireland	13	8
12	Italy	14	11
13	Spain	15	12
14	Slovenia	11	15
15	Czech Republic	12	17
16	Hungary	16	20
17	Portugal	18	16
18	Estonia	17	18
19	Latvia	25	14
20	Greece	20	19
21	Lithuania	19	22
22	Poland	21	21
23	Slovakia	22	23
24	Bulgaria	23	24
25	Romania	24	25

On the method of the computing of this index

The formation of the technology index has been based both on the R+D fund compared to GDP and the index-value of the calculated innovation achievement. The technology index is the average of the standardized values of both indicators. For specific numbers see the table in the Annex.

Tolerance – the third T

In the theory of Richard Florida the third T is a symbol of tolerance. As for talent and technology, it would be fair to ask: what is the novelty in all this? What have we not known so far as characterizing the economic developmental potential of a given country or

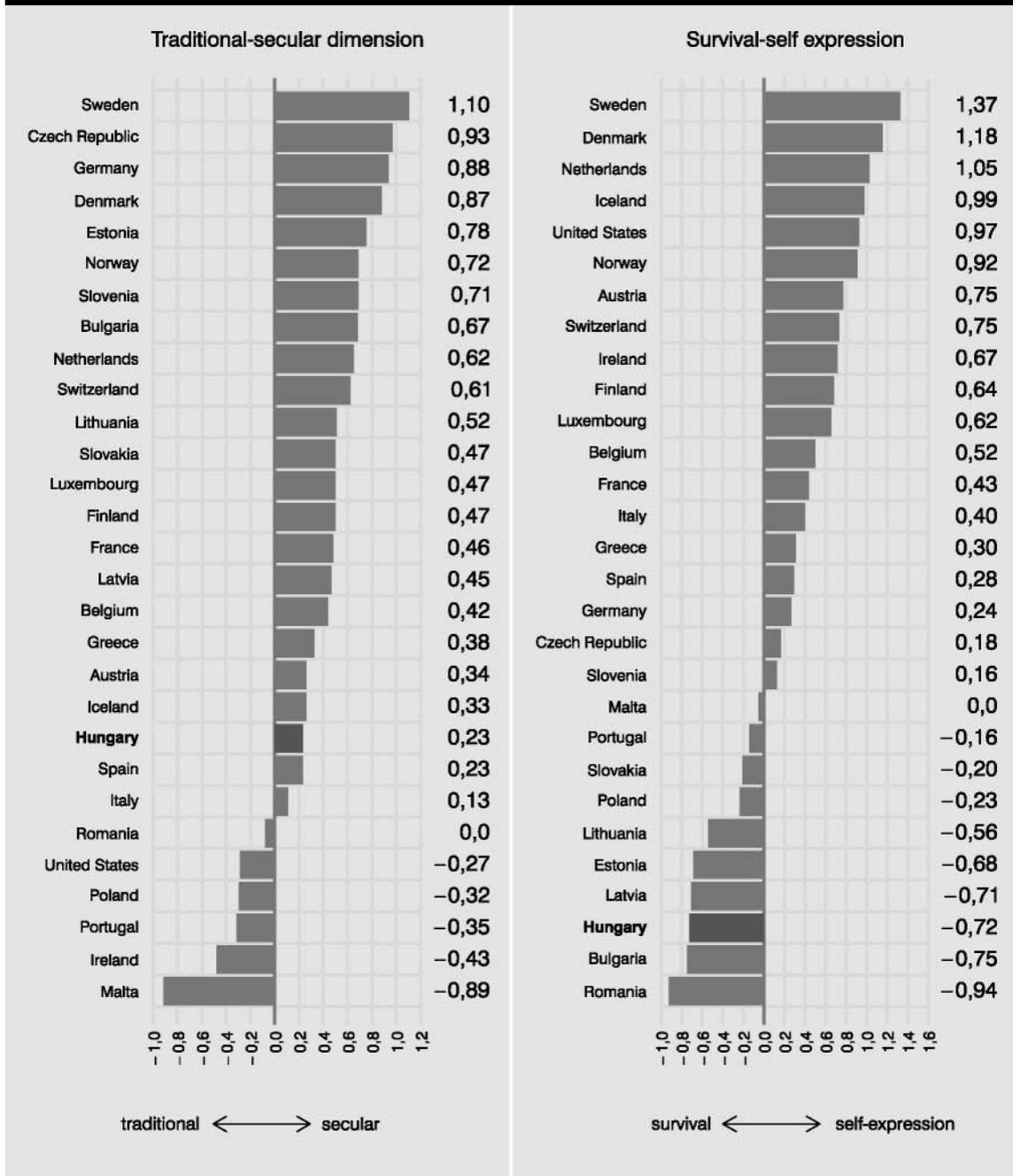
region? Well, the crucial factor lies in the last T, tolerance that describes the socio-cultural environment. It is perhaps the most important statement of Florida's The Rise of the Creative Class that open, receptive cultural environments are demonstrably connected to the economic growth of cities and broader regions. The international value-research led by Ronald

Inglehardt came to similar results; although rejecting the linear, deterministic model of modernization (economic transformation), they could demonstrate a close connection of post-industrial, knowledge and creativity-based societies (economies) to those value-systems that emphasize rationality, tolerance and trust. (12) To define the tolerance-index we have drawn together the values of three indicators expressing cultural attitudes and one expressing general

satisfaction. We have used the database of the World Value Survey (13) for the first three variables and the data for Eurostat to the last one.

The first two indicators have been based on such aggregate scales that express cultural and ideological attitudes, the meaning of which can be briefly summarized in terms of traditional/ secular and survival/self-expression values (see Figure 14.).

FIGURE 14
Average values of both value-dimensions in each country



SOURCE: World Value Survey, 1999-2000.

Traditional/secular (rational) values.

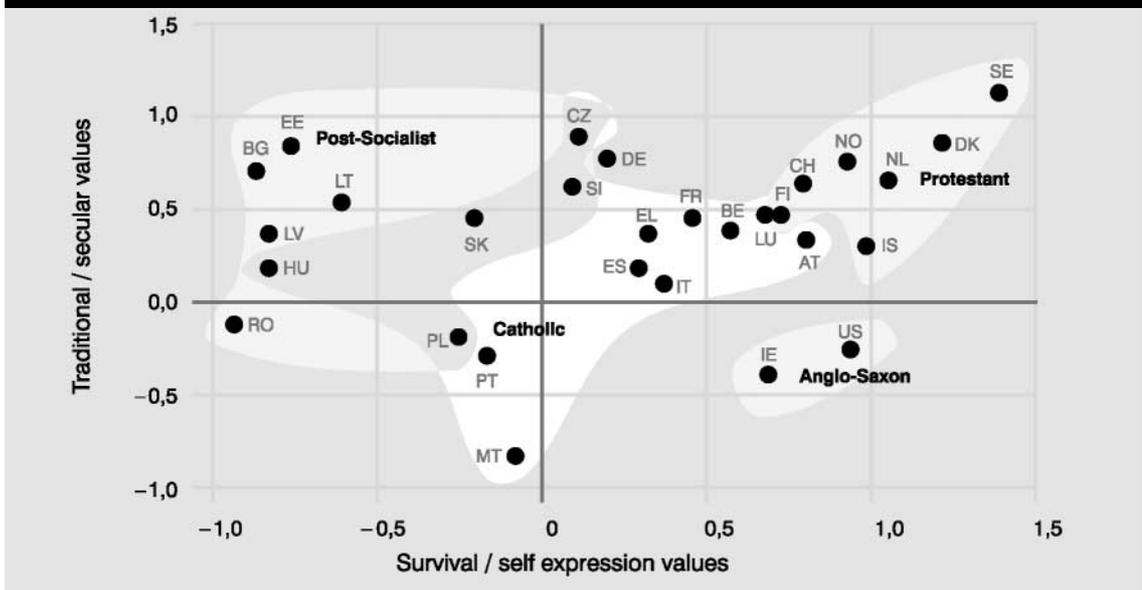
Traditional values involve first of all the importance of religion and family life, obedience and the respect for power. In the original, Ronald Inglehart-model the mostly pre-industrial, African, Latin-American and Asian countries could be adequately characterized by this variable. At the other end of the scale we find those secular, rational values that express the opposite attitudes unequivocally characterized the most developed countries which play pioneering roles in post-industrial socio-economic transformation.

Survival/self-expression values. The value-dimension of self-expression is about trust, tolerance, political activity and the effort of self-accomplishment. These values mediated by the feeling of security prevail mostly in post-industrial societies. On the other hand insecurity and the lack of comfort make the pursuit of survival the prevailing attitude. In such societies the desire for security and constancy seems to be most important. This is, however, also a source of introverted attitudes, intolerance, even of the rise of authoritarian political views. The dimensions of self-expression and survival are according to Inglehart closely connected to the polarization of materialist and

post-materialist values. If the possibility of survival can be regarded as given and secured for the society overall, the goals transcending physical and material well-being, e.g. the importance of human freedom or the active participation in social processes will obviously show up.

It is evident that global post-industrial transformation amounts to a move towards secular (rational) and post-materialistic, self-expression values. In the global value-map formed by both these dimensions the Protestant, Catholic, Anglo-Saxon and post-socialist countries of Europe (the latter overlap the former but by all standards forms a special group) can be relatively well separated (see Figure 15.). Although the prevailing value-system has been significantly determined by these characteristic cultural traditions, economic development and the division of the labor-force among the individual sectors are (i.e. how important the service-sector is), however, also closely connected to it.

FIGURE 15
The relation of the traditional/secular, and the survival/self-expression values



SOURCE: World Value Survey, European Value Survey.

The indicators of the extent of tolerance should be regarded as the most important ones of the creative ecosystems surrounding us.

In places where the level of this indicator is high, the overall characteristic of the social surrounding is openness, which assures cooperation between people and interactions that can yield creative energy, and brilliant ideas do not come up against walls, they do not get oppressed, but they can be converted into projects and successful enterprises. The regions and nations that possess such ecosystems, the ones that utilize the creative abilities of the most people, get a huge competitive edge.

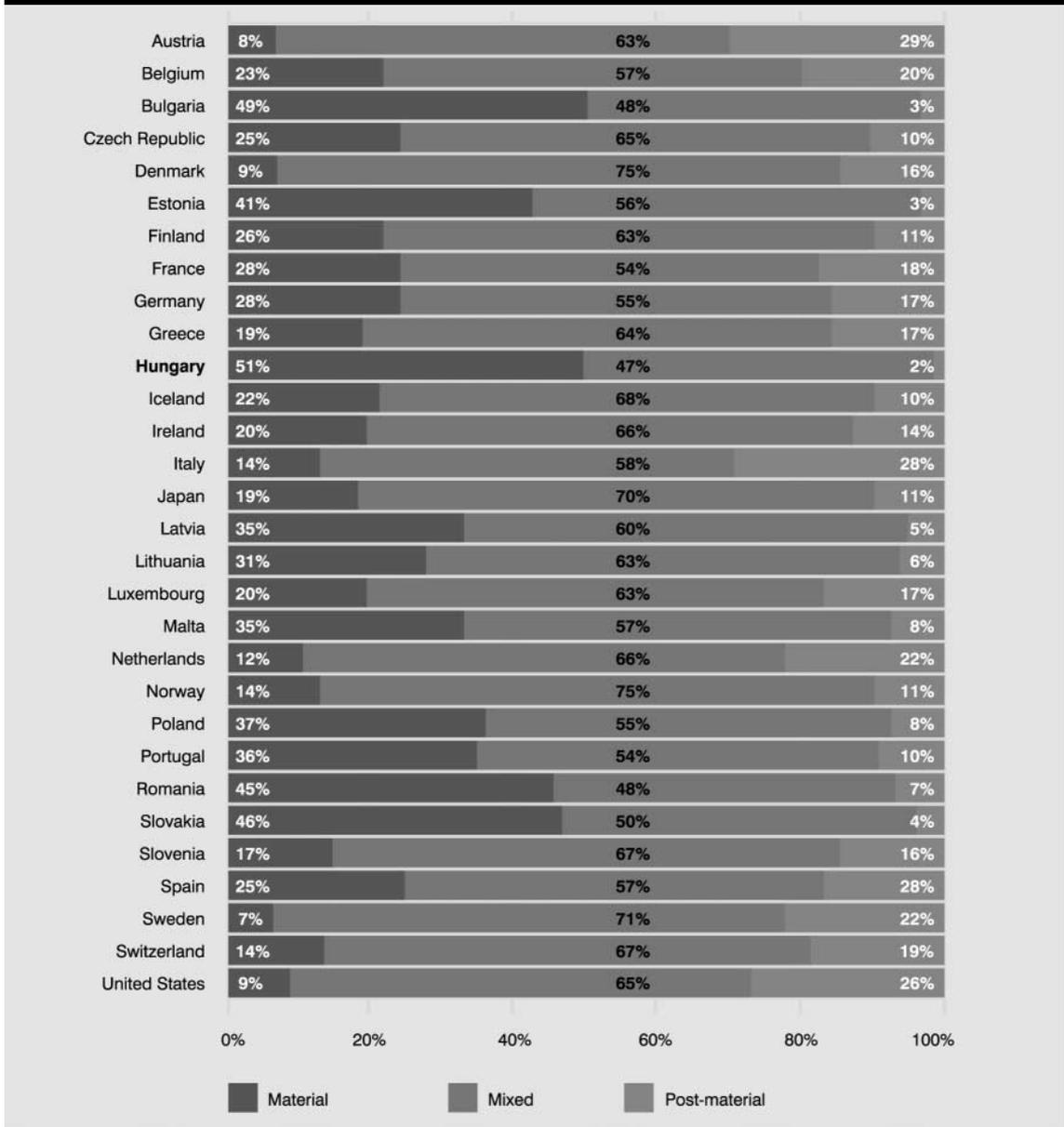
Figure 14 shows that while among the countries under examination it is not easy to distinguish well defined groups in terms of the first dimension, it is quite clear in the case of the second one that the post-socialist, economically less developed countries of Central and Eastern Europe and the Baltic States, which underwent serious social convulsions during recent decades, acquire lower values (that is, in these countries, materialist goals such as simple survival are more articulated). Hungarian society within this group has particularly unfavorable indicators in the dimension of survival/self-expression.

Though we have not used the data shown in Figure 16 for the index of tolerance (since these have a close relationship to the two value dimensions previously described, they hardly

give any new information), one should take a look at them because they include, in a pure form, the percentage of those having rather material, to those having rather post-material values, and of those whose value system is balanced between both. The percentage of those having rather material values is over 50% only in the Hungarian case, while one can hardly find any Hungarians whose value system would be determined by post-material values. The results are more or less the same in the case of some post-socialist countries like Bulgaria, Estonia, Poland, Slovakia and Romania. The Czech and the Slovenian societies, however, show the same results as the most developed western European societies. (In this paper it is not possible to characterize the differences within countries, though basic social background variables obviously determine people's value preferences). It is perhaps not an exaggeration to say that these value systems can be changed only over generations. Obviously, the well-being of people determines the way they think about their lives. To remind the reader of one of the main statements of our paper, one should bear in mind that the interrelation between economic prosperity and values can be bidirectional. The current value system of a society, particularly if it contradicts the values of the post-industrial transformation, can create barriers the economic development in the long term.

FIGURE 16

The percentage of those having material and post-material values in each country



SOURCE: World Value Survey

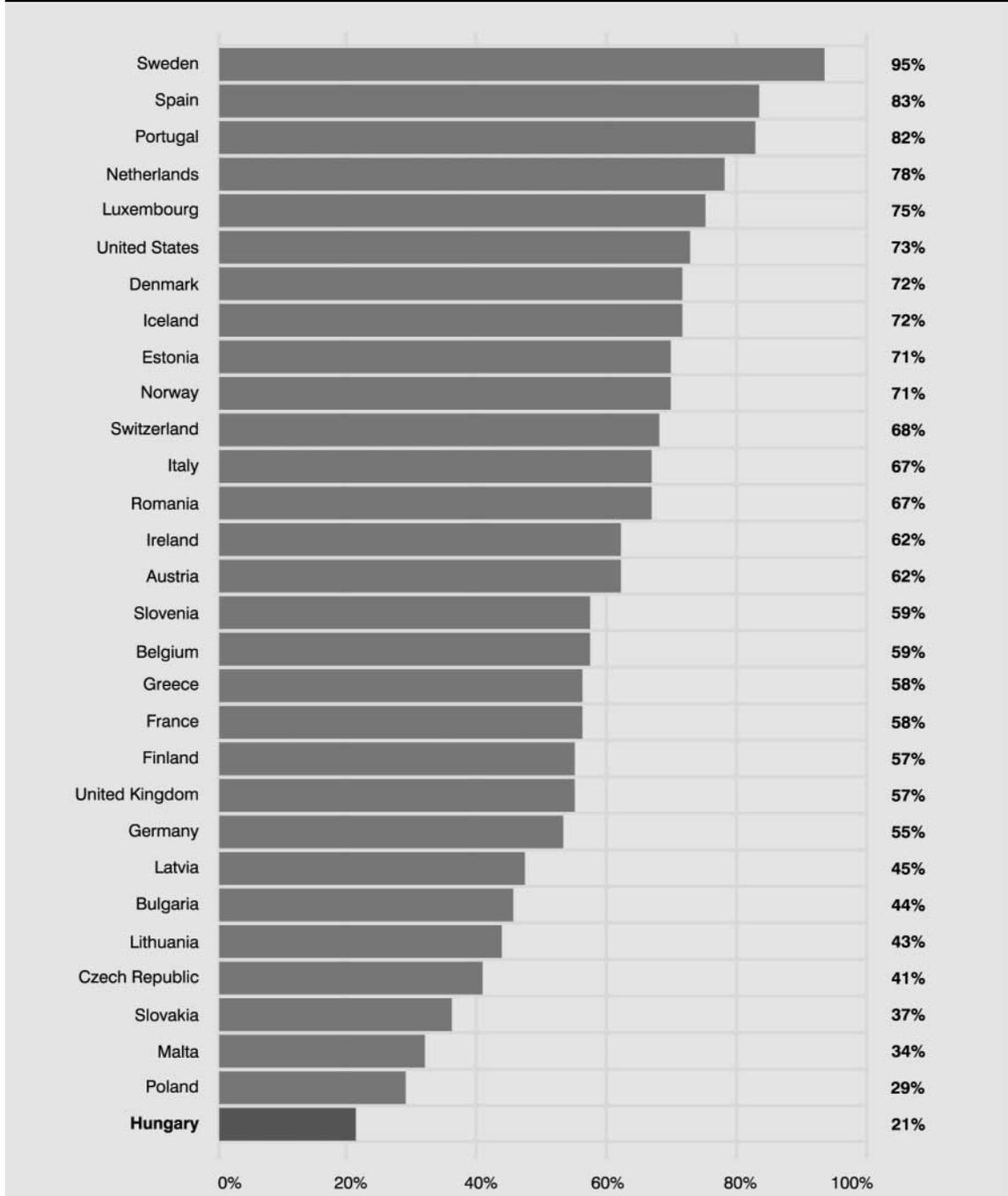
The basic condition for the unfolding of creativity is variety; i.e. that ideas capable of fertilising each other can in fact meet in time and space. An obvious form of the manifestation of this fact is the employment of immigrants in a given country. This has particular significance in the case of the European Union, and we can assert that its role will be growing in the future. Even if we know that this is rather characteristic of service sectors that require fewer qualifications, and not so much of the creative professions. Based on all these considerations, when determining the T for

tolerance we wanted to use an indicator of the attitudes towards the employment of immigrants in the countries under observation. The values of this indicator are determined mainly by both the economic development of the given country and the real or stereotype-based experiences and beliefs regarding immigrants.

Hungary is the last among the countries in this respect, as illustrated Figure 17. In other words, the percentage of those who are basically in favor of the employment of immigrants is extremely low at 21%. When considering these results, one must emphasize that the data do not concern general attitudes toward immigrants, only those toward their employment. Experts on the Hungarian demographic situation usually

agree that during the coming decades the country will need several hundred thousand immigrants to improve the worsening demographic situation. This not being a part of common discourse, it is of crucial importance whether a friendly social surrounding can come into being, which will be able to assist the bidirectional mobility of those working in the creative occupations.

FIGURE 17
Attitudes concerning the employment of immigrants



SOURCE: World Value Survey, European Value Survey, 1999–2000.

The methods of computing the values

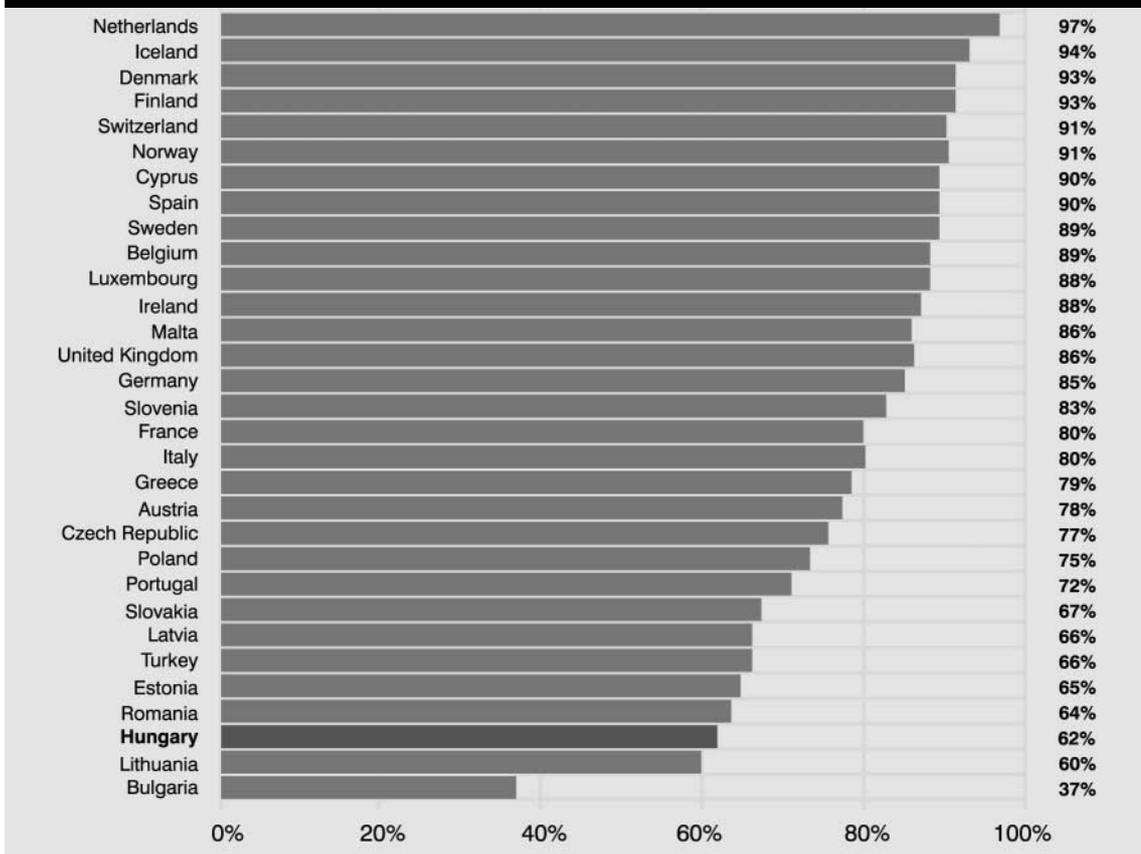
We used the questions concerning the immigration of foreigners and their employment of the World Value Survey and the European Value Survey for the determination of the values of the figure. The figure shows the proportion of those who do not think that if there are few workplaces, employers should give preference to citizens of their own country, and reject the idea that the given country should restrict or strictly forbid immigration for employment.

It is worth paying attention to the countries just above Hungary on the list, since these are mainly post-socialist countries. A minority of the population is tolerant toward immigrants in Poland (43%), Slovakia (37%), The Czech Republic (41%), Lithuania (43%), Bulgaria (44%) and Latvia (45%). The values are much higher in the case of Slovenia (59%) and, surprisingly, in the case of Romania (67%). The tolerant societies are the Swedish, the Spanish and The Dutch, though one should remember that intolerance toward foreigners has risen in these very same countries recently. Much less tolerant are Finland (57%), which seemed to be much more

according to the the preceding indicators, and the two European countries of destination for mass immigration, France (58%) and Germany (55%).

As we could already experience in the case of the three preceding indicators, all of these – with some exceptions – show more or less a connection to the country’s economic situation and not independently from this, to its post-socialist past. In determining the third T, let us have a look at one more data set, which indicates in a very simple form the degree of satisfaction with one’s own life in the countries under examination. (See Figure 18.)

FIGURE 18
Satisfaction with life in the investigated countries (The percentage of those who gave 6 on a scale from 1 to 10 to characterize their own satisfaction).



SOURCE: Social values, Science and Technology, Special Eurobarometer, Eurostat, 2005 június.

Bad mood, discontent, and the absence of success do not favor the feeling of calling, i.e. a common societal belief that is vital for creativity, the creation of the “new quality”, and a basic condition for the coming into being of a receptive social atmosphere.

According to Figure 18, the situation has not changed much from the tendencies already known. Holland, Iceland, Denmark, Finland, Switzerland, Norway, Cyprus, Spain, Sweden, Luxemburg and Ireland all belong to the avant-garde. In these countries, only 10% of the population is unsatisfied with their lives. At the end of the list are the countries – including Hungary – where already less than two thirds of the population belongs to this category. Besides Hungary, one finds here countries like the Baltic States, Turkey, Romania, Slovakia, and the especially discontent like Bulgaria, where only one third of the population is satisfied with their lives.

Tolerance-index

Integrating the four indicators presented above, let us see what Florida’s third T, the index for Tolerance shows concerning the countries under examination. According to Table 3, Sweden has the leading role. Sweden is the first among the countries in the secular and the self-expression dimensions of the social value-preference, as well as in the extent of tolerance toward immigrants. It is only in the general satisfaction indicator that it has only 7th place. After the Swedes, come Denmark, Holland, Norway and Switzerland, and Spain as the only one from the Mediterranean countries, due to its openness toward immigrants and its general social “cheerfulness”.

The fact that Hungary is ranked last is somewhat disquieting. Hungary, as we could see, without doubt belongs to the rearguard in terms of the reception of foreigners and of the satisfaction with life, and it is rather characterized by traditional values and the efforts for survival in terms of Inglehart’s dimensions too.

TABLE 3.
The ranking of the countries based on the values of the Tolerance-index

No.	Country	Traditional/ secular values	Survival/ self-expression values	Attitudes towards immigrants	Satisfaction
r a n k					
1	Sweden	1	1	1	7
2	Denmark	4	2	5	2
3	Netherlands	9	3	4	1
4	Norway	6	4	7	4
5	Switzerland	10	6	8	5
6	Spain	20	13	2	6
7	Finland	13	8	17	3
8	Germany	3	14	18	10
9	Belgium	16	9	14	8
10	Slovenia	7	16	13	11
11	Austria	18	5	12	15
12	France	14	10	16	12
13	Italy	21	11	9	13
14	Czech Republic	2	15	22	16
15	Greece	17	12	15	14
16	Ireland	25	7	11	9
17	Estonia	5	21	6	21
18	Portugal	24	17	3	18
19	Slovakia	12	18	23	19
20	Latvia	15	22	19	20
21	Lithuania	11	20	21	24
22	Romania	22	25	10	22
23	Poland	23	19	24	17
24	Bulgaria	8	24	20	25
25	Hungary	19	23	25	23

The methodology of computing the index

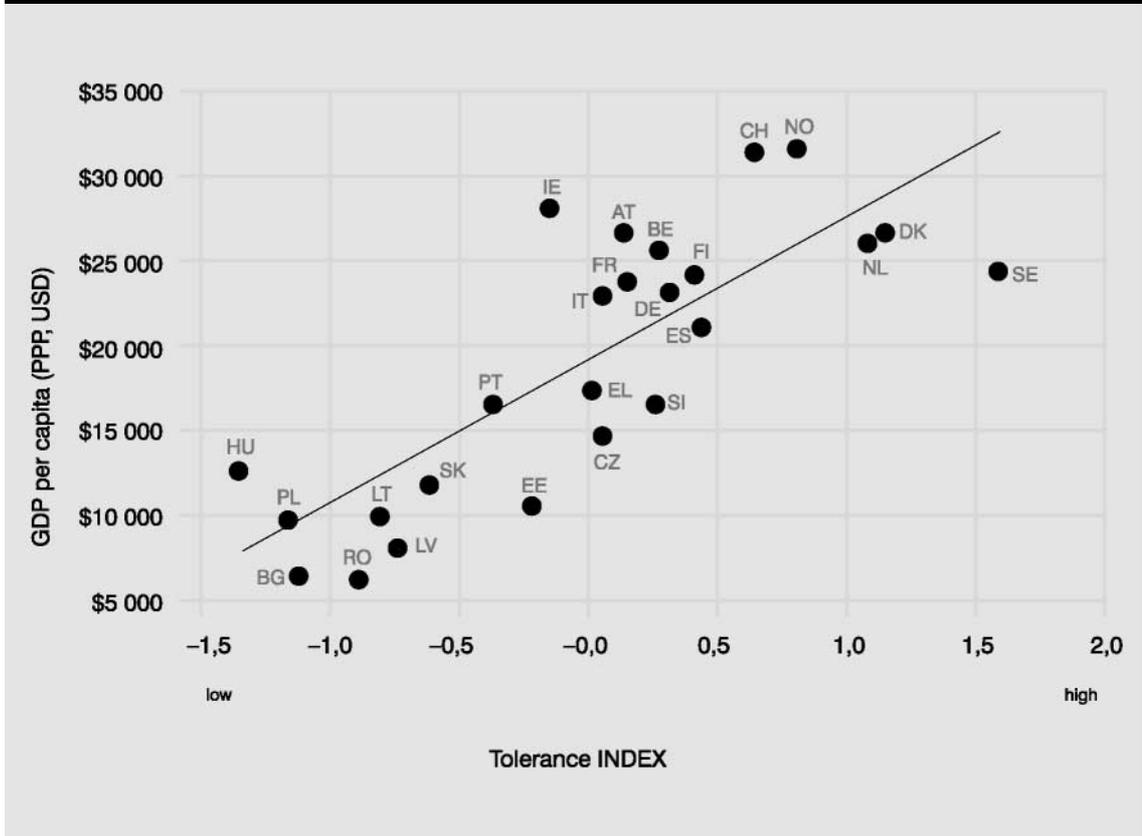
For the creation of the Tolerance-index we used the values of the traditional/secular, survival/self-expression dimensions, and the values of the indicators for the reception of immigrants, and the satisfaction with life. The index is composed of the means of the standardized values of these indicators. The specific numbers are in the Appendix.

As already mentioned, there is a strong interrelation between a tolerant society having postmodern values and its state of economic development. But it is hard to decide which one was first – that is, whether economic development changes the value system of societies or, on the contrary, the many times evoked favorable socio-cultural surrounding makes the way less rough going for economic development. Figure 19 – without giving an answer to this question – shows clearly this close relationship. With an imaginary line one can clearly separate the Eastern from the Western part of Europe in the figure. The former

countries are in the ottom left-hand corner, while the latter can be found proceeding towards the upper right corner. And we can also see that it is only the Czech Republic and Slovenia that could break away from the eastern group – even if not significantly concerning economic development, but certainly concerning cultural values.

FIGURE 19

The connection between economic development and the Tolerance-index



SOURCE: World Bank, World Value Survey.

And the picture becomes clear...

The T's of talent, technology and tolerance get their real meaning when summing them up in order to get their ranking. Table 4 contains the

aggregated placing of the countries along the three dimensions, and Figure 20 locates them in space according to the same parameters. (15)

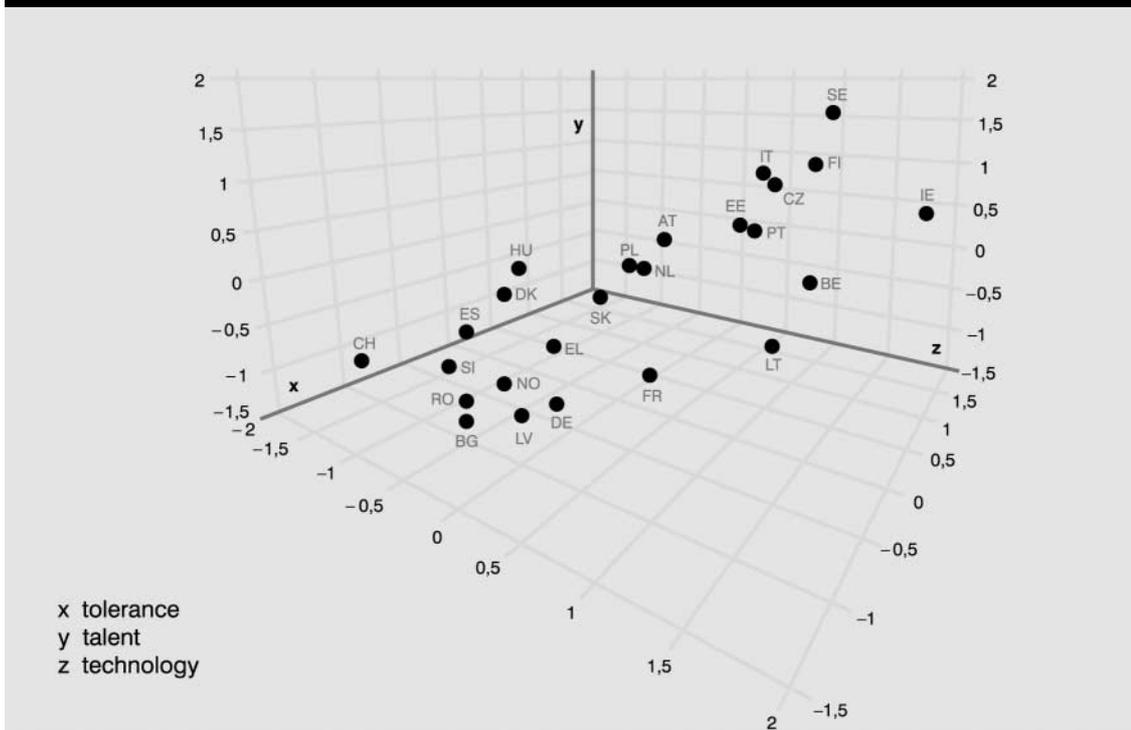
TABLE 4 .

The ranking of countries in terms of the values of talent-, technology- and tolerance-index

Nr.	Country	Talent	Technology	Tolerance
		r a n k		
1	Sweden	5	1	1
2	Finland	1	2	7
3	Denmark	4	4	2
4	Switzerland	9	3	5
5	Netherlands	7	7	3
6	Belgium	2	9	9
7	Germany	10	5	8
8	Norway	6	10	4
9	Ireland	3	11	16
10	Austria	15	6	11
11	Spain	11	13	6
12	France	18	8	12
13	Slovenia	14	14	10
14	Estonia	8	18	17
15	Greece	13	20	15
16	Italy	24	12	13
17	Czech Republic	21	15	14
18	Lithuania	12	21	21
19	Latvia	17	19	20
20	Portugal	23	17	18
21	Hungary	16	16	25
22	Slovakia	22	23	19
23	Poland	20	22	23
24	Bulgaria	19	24	24
25	Romania	25	25	22

FIGURE 20

The spatial position of each country along the dimensions of the indexes of talent, technology and tolerance



The values of the above indexes and indicators lead us first of all to the conclusion that – in accordance with Richard Florida’s analysis on the EU-15 – the creative economic center of the continent, which is crucially important in terms of competitiveness, is shifting from the traditional economic powers like France and Germany to the Scandinavian and Northern European countries. The question where the countries of Central and Eastern Europe, including Hungary will find their places among this regional and global competition is still to be answered. Hungary is 21st in the aggregated ranking of the 25 observed countries, partly due to its very low position in the dimension of tolerance. The countries that are

behind Hungary – Slovakia, Poland, Bulgaria and Romania – are without exception post-socialist countries, but apart from Italy, Greece and Portugal, the ones that are just before Hungary are post-socialist as well.

As we have seen, post-socialist countries do well regarding both creative occupations and the size of the creative class.

Apart from incidental differences that are due to the minor or major differences in national statistical systems, we should mention another, very important factor. Our results showed that being theoretically creative in itself is not enough. The success of a country is to a great extent up to the capacity of this available creative workforce to produce real innovative economic output. A qualified workforce in itself, unfortunately, does not guarantee a booming economy.

Perhaps it is not an exaggeration to say that there are no differences in the tendency of the employment structure and in the percentage of those having a BA or higher qualification. That is, there is no difference between the countries of the post-Soviet Bloc (including Hungary) and the Western European countries according to the important indicators of talent. But the disadvantage of these countries in research and development is far bigger (of course, this is true for some older European member states, as well). Hungary is behind Europe and the most developed countries in the world in the number of researchers, in expenditure, and in

results as well. One should add, however, that our positions are far from being that disadvantageous compared to the countries that are in a similar economic position.

And what can we say about the social environment? The level of tolerance of a given country or nation can of course be measured in many ways. Here again, just as in the preceding parts, our opportunities are limited by the available database that makes comparative analysis possible. The indicators that we have chosen show, unfortunately, that Hungary has done quite badly. On the whole, Hungarians seem to be rather traditionalist and survival-centered, while a secular/rational and self-expression value-orientation would indicate a more receptive social milieu.

What does it mean overall? It is hardly in doubt that Hungary's starting position is not the best among the global economic competition of the creative age. At the same time the basis is ready both for improving our positions with a well thought out strategy and its execution without compromises.

Every era (which is in many cases just a couple of years) has its fashionable expressions: Information economy, knowledge economy, creative economy – just to mention some of the relevant emblematic notions of recent decades. In the global economy, every enterprise, settlement, region, country or supranational organization (like the EU) tries to survive in the competition for success and competitiveness.

We know the success stories of the different domains. If we think about enterprises, it is Bill Gates and Microsoft, or the creators of Google, who come to mind; if we think about a municipality, then it is San José and the surrounding Silicon Valley, Highway 128 in Boston, or Hollywood; and if about a country, it is Ireland, Finland or the regions of the software industry in India. The world press, the large consulting companies and the popular paperback scientific literature make some stories very trendy, and these become patterns to follow all over the world. It is in this environment that many people have come to realize the significance of the creative industry and the creativity-based economy. Without a doubt, the developed part of the world is taking enormous steps in this domain while Hungary has not been able to create a kind of vigorous concept at the system level so far. The significance of this question cannot be neglected, since the limited aid given to the creative economy, which has only a limited internal market in Hungary, is not likely to compete with services and products of the big and rich countries that are helped to the markets by multiple endowments and incentives taxation.

One of the most important breakout point is related to the knowledge- and creative economy. This is the only value that can make us competitive. But declarations are not sufficient. These diversified domains have to be analyzed carefully and we have to choose those

sub-domains where “critical mass” is available that really has a prospect of success with the help of further financial and non-financial assistance. It is no use thinking in general notions. In Hungary, in order to define creative economy, it is important to determine the economic performance of the given industries and their significance in the labor market, and then position all this globally in the “creative field”. Inertia and constraints on change co-exist in Hungary. While the last one and a half decades were clearly about the huge changes in many parts of society and the economy, many institutions and basic structures have remained unchanged. The real tension that cries out for solution is between the old institutions and the very new processes and expectations. But if we are not going to be capable of resolving the distress from changes both at the individual and at the social level, if we do not learn how to play it straight, then the historic moments offered by the following years, or maybe decades, will vanish very soon.

It is not necessary to underline for scientific thinkers or policy makers that this new age means a lot of challenges for national economies. The situation is special for those countries where the collapse of planned economies took place in a transitional economic environment, where traditional industrial capitalism had not existed, but the “new” one has not started working yet. And the adaptation does not seem to be without problems in our era, when the rules of this new era are already visible.

The question is whether we can make this new leap, this is to say, after having successfully changed the system, can we successfully cope with the task of changing the era?

annex

TABLE 5.
Standardized values of talent-index

Rank No.	Country	Creative class	Human capital	Scientific capital	Talent index
1	Finland	0.962	1.570	2.652	1.728
2	Belgium	1.684	1.057	0.580	1.107
3	Ireland	2.338	0.706	-0.046	0.999
4	Denmark	0.189	1.391	1.335	0.972
5	Sweden	0.492	0.752	1.656	0.967
6	Norway	-0.331	1.318	1.287	0.758
7	Netherlands	1.532	0.664	-0.223	0.658
8	Estonia	0.794	1.191	-0.271	0.571
9	Switzerland	0.441	0.757	0.500	0.566
10	Germany	0.005	0.316	0.628	0.316
11	Spain	-0.146	0.511	-0.014	0.117
12	Lithuania	0.542	0.353	-0.753	0.047
13	Greece	0.122	-0.282	-0.191	-0.117
14	Slovenia	-0.197	-0.481	-0.094	-0.257
15	Austria	-0.851	-0.578	0.532	-0.299
16	Hungary	0.005	-0.791	-0.351	-0.379
17	Latvia	0.189	-0.354	-1.058	-0.407
18	France*	-2.010	0.174	0.436	-0.467
19	Bulgaria	-0.381	-0.126	-1.363	-0.624
20	Poland	-0.314	-0.948	-0.865	-0.709
21	Czech Republic	-0.684	-1.391	-0.448	-0.841
22	Slovakia	-0.650	-1.326	-0.785	-0.920
23	Portugal	-0.885	-1.363	-0.962	-1.070
24	Italy	-1.221	-1.489	-0.528	-1.079
25	Romania	-1.624	-1.630	-1.652	-1.635

TABLE 6.
Standardized values of the technology-index

Rank No.	Country	R+D index	Innovation index	Technology index
1	Sweden	2.505	1.001	1.753
2	Finland	2.025	1.450	1.737
3	Switzerland	1.095	1.802	1.449
4	Denmark	1.166	1.202	1.184
5	Germany	1.044	1.093	1.069
6	Austria	0.635	0.885	0.760
7	Netherlands	0.267	1.200	0.734
8	France	0.665	0.188	0.427
9	Belgium	0.400	0.285	0.342
10	Norway	0.430	-0.261	0.085
11	Ireland	-0.336	0.290	-0.023
12	Italy	-0.356	0.164	-0.096
13	Spain	-0.459	-0.003	-0.231
14	Slovenia	0.032	-0.569	-0.269
15	Czech Republic	-0.234	-0.749	-0.491
16	Hungary	-0.530	-0.793	-0.662
17	Portugal	-0.735	-0.610	-0.672
18	Estonia	-0.704	-0.787	-0.746
19	Latvia	-1.133	-0.539	-0.836
20	Greece	-0.908	-0.793	-0.850
21	Lithuania	-0.837	-0.880	-0.858
22	Poland	-0.929	-0.843	-0.886
23	Slovakia	-0.949	-0.885	-0.917
24	Bulgaria	-1.031	-0.919	-0.975
25	Romania	-1.123	-0.929	-1.026

TABLE 7.
Standardized values of tolerance-index

Rank	Country	Traditional/ secular values	Survival/ self- expression	Reception of immigrants	Satisfaction	Tolerance- index
1	Sweden	1.658	1.770	2.033	0.854	1.579
2	Denmark	1.102	1.487	0.745	1.069	1.101
3	Netherlands	0.461	1.286	1.096	1.355	1.049
4	Norway	0.706	1.103	0.642	0.925	0.844
5	Switzerland	0.433	0.843	0.509	0.925	0.678
6	Spain	-0.511	0.123	1.337	0.854	0.451
7	Finland	0.090	0.672	-0.135	1.069	0.424
8	Germany	1.122	0.061	-0.273	0.496	0.351
9	Belgium	-0.025	0.489	-0.020	0.782	0.307
10	Slovenia	0.689	-0.051	-0.014	0.352	0.244
11	Austria	-0.240	0.844	0.147	-0.006	0.186
12	France	0.058	0.350	-0.100	0.138	0.111
13	Italy	-0.764	0.306	0.458	0.138	0.034
14	Czech Republic	1.242	-0.021	-1.049	-0.077	0.024
15	Greece	-0.123	0.159	-0.083	0.066	0.005
16	Ireland	-2.163	0.722	0.176	0.711	-0.139
17	Estonia	0.869	-1.325	0.665	-0.937	-0.182
18	Portugal	-1.948	-0.541	1.297	-0.436	-0.407
19	Slovakia	0.098	-0.597	-1.296	-0.794	-0.647
20	Latvia	0.035	-1.370	-0.813	-0.865	-0.753
21	Lithuania	0.228	-1.134	-0.945	-1.295	-0.787
22	Romania	-1.229	-1.721	0.440	-1.009	-0.880
23	Poland	-1.875	-0.641	-1.727	-0.221	-1.116
24	Bulgaria	0.596	-1.431	-0.888	-2.942	-1.166
25	Hungary	-0.508	-1.378	-2.204	-1.152	-1.311

TABLE 8.
Standardized values of 3T-index

Rank No.	Country	Talent index	Technology index	Tolerance index	Total (3T index)
1	Sweden	0.967	1.753	1.579	1.433
2	Finland	1.728	1.737	0.424	1.296
3	Denmark	0.972	1.184	1.101	1.085
4	Switzerland	0.566	1.449	0.678	0.897
5	Netherlands	0.658	0.734	1.049	0.814
6	Belgium	1.107	0.342	0.307	0.585
7	Germany	0.316	1.069	0.351	0.579
8	Norway	0.758	0.085	0.844	0.562
9	Ireland	0.999	-0.023	-0.139	0.279
10	Austria	-0.299	0.760	0.186	0.216
11	Spain	0.117	-0.231	0.451	0.112
12	France	-0.467	0.427	0.111	0.024
13	Slovenia	-0.257	-0.269	0.244	-0.094
14	Estonia	0.571	-0.746	-0.182	-0.119
15	Greece	-0.117	-0.850	0.005	-0.321
16	Italy	-1.079	-0.096	0.034	-0.381
17	Czech Republic	-0.841	-0.491	0.024	-0.436
18	Lithuania	0.047	-0.858	-0.787	-0.533
19	Latvia	-0.407	-0.836	-0.753	-0.666
20	Portugal	-1.070	-0.672	-0.407	-0.716
21	Hungary	-0.379	-0.662	-1.311	-0.784
22	Slovakia	-0.920	-0.917	-0.647	-0.828
23	Poland	-0.709	-0.886	-1.116	-0.904
24	Bulgaria	-0.624	-0.975	-1.166	-0.922
25	Romania	-1.635	-1.026	-0.880	-1.180

Double-letter abbreviations in the figures correspond to the following countries:

AT	Austria	IT	Italy
BE	Belgium	JP	Japan
BG	Bulgaria	LT	Lithuania
CH	Switzerland	LU	Luxemburg
CY	Cyprus	LV	Latvia
CZ	Czech Republic	MT	Malta
DE	Germany	NL	Netherlands
DK	Denmark	NO	Norway
EE	Estonia	PL	Poland
EL	Greece	PT	Portugal
ES	Spain	RO	Romania
FI	Finland	SE	Sweden
FR	France	SI	Slovenia
HU	Hungary	SK	Slovakia
IE	Ireland	TR	Turkey
IS	Iceland	UK	United Kingdom
		US	United States

Notes

- 1 Gauche Réformiste Européenne; À Gauche En Europe; DEMOS Magyarország; Fundacion Alternatives; ISTA ME; Italiani Europeer; Policy Network.
- 2 Richard Florida: *The Rise of the Creative Class*. Basic Books, New York, 2002.
- 3 See among others: Edward L. Glaser: Review of Richard Florida's *The Rise of the Creative Class: The Capital of What? The New York Sun*, February 19, 2004. Terry Nichols Clark: *Urban Amenities: Lakes, Opera, and Juice Bars. Do They Drive Development?* <http://culturalpolicy.uchicago.edu/workshop/juicebars.html>, 2002. Ann Daly: *Richard Florida's High-class Glasses. Grantmakers in the Arts Reader*. <http://www.anndaly.com/articles/florida.html>, 2004. Steven Malanga: *The Big City: The Curse of the Creative Class*. http://www.city-journal.org/html/14_1_the_curse.html, 2004.
- 4 Richard Florida–Irene Tinagli: *Europe in the Creative Age*. http://www.demos.co.uk/catalogue/creativeeurope_page370.aspx, 2004.
- 5 John Howkins: *Az alkotás gazdagít. HVG Kiadói Rt., Budapest*, July 2004.
- 6 See the Hungarian translation: John Howkins: i.m. p. 9.
- 7 The most important industries connected to creative activities are advertising, architecture, the arts, the applied arts, design, fashion, film, music, the performing arts, book and journal publication, broadcasting and television, software, video-games and research and development.
- 8 Richard Florida: *The Flight of the Creative Class*. Harper Business/Harper Collins, New York, 2005. pp. 28–29.
- 9 The database is available online at <http://laborsta.ilo.org/>.
- 10 ISCO-88 (International Standard Classification of Occupation) defines four professional levels and the educational requirements connected to them. In this form it takes primarily professional qualification into consideration which of course does not necessarily refer to any creative work. At the same time it is characteristic of international comparative research that we almost always need to make compromises between comparativity and the depth of our data. In the present case it would have certainly been more adequate to select subgroups within each occupational group but on the basis of available data it proved to be impossible.
- 11 E.g. Edward L. Glaeser–Albert Saiz: *The Rise of the Skilled City*. National Bureau of Economic Research (NBER) Working Paper series No. 10191, 2003.
- 12 Ronald Inglehart–Wayne E. Baker: *Modernization, cultural change and the persistence of traditional values*. In *American Sociological Review*, Vol. 65, 2000. pp. 19–51. For a more detailed report on this research see www.worldvaluessurvey.org.
- 13 World Value Survey is an international research project coordinated the University of Michigan that covers sixty countries or 85% of the world population. In this paper we used the data of the fourth series of investigations carried out between 1999 and 2002. No doubt these data are a bit outdated, but more recent ones made with the same standards are, however, not available. We think that due to the slowly changing nature of social values these results can be considered as accurate even nowadays. The database has been placed at our disposal by the TÁRKI Database.
- 14 In Hungary the data were collected in November-December 1999.
- 15 The scores of the individual countries correspond to the averages of the talent-, technology and tolerance-indexes. Their specific values can be found in the Annex.



© 2006 Bence Ságvári, Tibor Dessewffy

DEMOS HUNGARY FOUNDATION

1054 Budapest,
Alkotmány u. 16. III/14.

E demos@demos.hu
W www.demos.hu