



# The broad basis of societal progress

October 2, 2008

Freedom, trust, tolerance, education and much more

Gross domestic product is less and less often used as the sole yardstick of a country's progress. At the same time, the search continues for the deep roots of economic growth. Interesting insights emerge at the interface of these two trends and different disciplines.

**Theories of societal progress use many similar variables.** In the view of Nelson and Winter, Hayek, Sen, and Inglehart and Welzel a large number of variables tend to develop hand in hand over time: life satisfaction, freedom, trust, the level of education, income, employment, government effectiveness, the quality of democracy, corruption reduction, tolerance, commitment and innovation all are aspects of one phenomenon: societal progress.

**The data for 20 OECD countries show high correlation between these variables in 2005.** Scandinavian countries, and also some Anglo-Saxon countries and the Netherlands, show the highest level of societal achievements in many areas.

**Germany ranks in the middle on many measures.** By international standards there is room for improvement particularly in education, employment, government effectiveness, anti-corruption and the quality of democracy.

**Historical path dependencies make change difficult, but not impossible.** Progress can be achieved and is sustainable if many areas are addressed simultaneously and consistently on more than one level: federal, state and local government, businesses and individual citizens all need to be involved. In the past 10 years Spain, the Netherlands and Australia have made significant progress in many aspects of societal progress.

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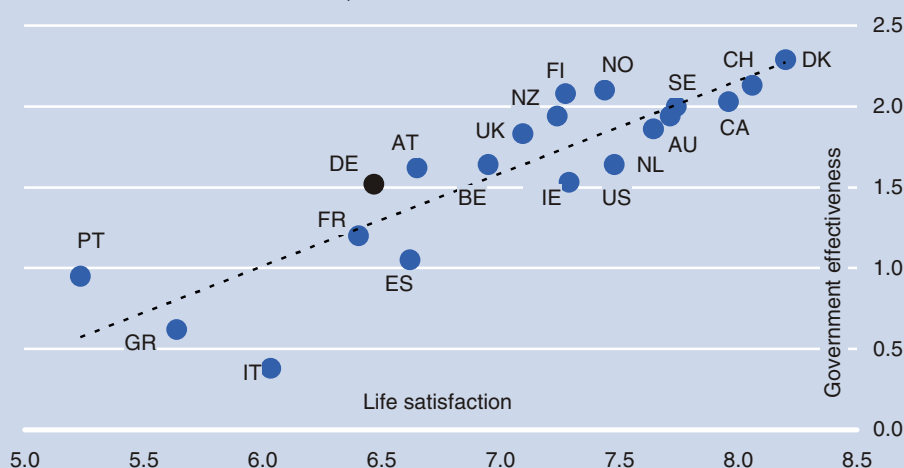
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### Government effectiveness is important

Horizontal: Life satisfaction in 2005; Vertical: Government effectiveness in 2006



Sources: World Bank, Eurobarometer & World Database of Happiness

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### The two-digit ISO country codes

| Code | Country     | Code | Country     |
|------|-------------|------|-------------|
| AT   | Austria     | GR   | Greece      |
| AU   | Australia   | IE   | Ireland     |
| BE   | Belgium     | IT   | Italy       |
| CA   | Canada      | NL   | Netherlands |
| CH   | Switzerland | NO   | Norway      |
| DE   | Germany     | NZ   | New Zealand |
| DK   | Denmark     | PT   | Portugal    |
| ES   | Spain       | SE   | Sweden      |
| FI   | Finland     | UK   | UK          |
| FR   | France      | US   | USA         |

Source: International Organization for Standardization

## I. Introduction

### Focus on economic and societal progress

For years, Deutsche Bank Research has engaged with the complex issues surrounding economic and societal progress. Yet many questions still remain unanswered, some of which are addressed in this study.

### Long-run growth forecasting

1. Empirical growth analysis has shown that income, physical capital, human capital and the quality of a country's institutions all develop hand in hand over time. However, the reasons why some countries make more rapid advances than others remain an open issue.

### Happy variety of capitalism

2. "The happy variety of capitalism" demonstrated that countries whose people are highly satisfied with the life they lead have many commonalities. However, the open issue remains how a country can move from the "less happy" to the "happy variety" of capitalism over time.

### Germany 2020

3. In the project "Germany 2020" a process of structural change was outlined and specific policies recommended. However, intensive comparisons between Germany and other countries were not the purpose of the study.

### Reform gridlock in Germany

4. Reform gridlock in Germany is ascribed partly to the low degree of interpersonal trust. However, little research is devoted to whether and how reforms can help foster trust.

### *Focus on recommendations for action and on theory*

### Steps on the way to the happy variety of capitalism

This study concentrates first on recommended courses of action that could lead Germany in the direction of the "happy variety of capitalism" while also setting it on a steeper path of GDP growth. The second focus is on theories of societal and economic progress that examine the deep roots of development. These will be used to identify the entire spectrum of relevant variables.

### 16 variables for 20 countries

The two short chapters on recommended action and the theory of economic and societal development are followed by a detailed empirical analysis. For 20 OECD countries 16 variables are presented, all of which are related both theoretically and empirically to people's well-being. Interaction between the different variables forms one centre of attention, Germany's ranking in international comparisons another.

### Combination of "hard" and "soft" data

The study uses a mixture of "soft" survey data and "hard" economic statistics. It combines insights from growth empirics, happiness research and research on social capital as well as from historians, sociologists, psychologists, political scientists and philosophers. By cross-linking different themes and disciplines we aim to highlight commonalities and differences. And we can be more confident of the results found.

### Progress by trial and error

Not all statements can be scientifically corroborated in the classical sense. In many respects we are dealing here with "mode 2" research as described by Michael Gibbons and colleagues: problem-focused, interdisciplinary and context-driven. Even Hayek considered it impossible always to find provable results: trial and error advance spontaneous order.

At the end of the study you will find a commented bibliography enabling us to dispense with footnotes in the text for the sake of better readability.

## II. Four times 10 recommendations

### Four filters for recommendations

The core of this study consists of recommendations for action in Germany. For their selection four filters were used. (1) What are the really important and relevant aspects of progress and life satisfaction? (2) Where does Germany perform comparatively poorly by international comparison? (3) Which aspects can be changed by specific action? (4) Given the close connections between the different variables, where might changes have particularly pronounced long-term effects because they can lead to improvements in other areas?

### Theory, data, literature and experiences from other countries

The recommendations take account of the data situation as described on pages 12 to 31, the theories of societal development and progress (pp. 8 to 11), other countries' experiences and academic literature (see the commented bibliographical overview on pages 32 to 35). Sustainable development is possible only if many areas are addressed simultaneously and consistently at several levels: Federal, state and local government, businesses and individuals all need to be involved. The recommendations cannot possibly be comprehensive, but they should highlight the large number of actors and fields of action involved.

### 1. Federal and state government

**1.1 More responsibility for municipal and local government.** The federal and Länder governments could let go even more, allow more leeway and practise the principle of subsidiarity. They themselves should concentrate more on setting overall objectives and on observation and comparison (evaluation).

**1.2 Give the individual more responsibility.** In case of doubt it is better to assign less responsibility to government and strengthen the role of the individual instead.

**1.3 Aim to lift the ratio of university graduates to 40%.** Education repeatedly emerges as key to development. At present only about 25% of a cohort in Germany graduate from university or a university of applied science (including master craftsman's diplomas); elsewhere the number is up to twice as high.

**1.4 Lower unemployment to 4%.** Other countries show how full employment can be achieved.

**1.5 Allow more direct democracy.** Citizens' initiatives and petitions (and referendums) on local and regional issues should be made easier and used more frequently. Having a say in affairs has the immediate effect of promoting happiness, and citizens often have a good sense of what is right and proper or will unearth problems elsewhere. This presupposes better quality media coverage – which has to develop over time as well.

**1.6 Broadband access for all.** In the 21<sup>st</sup> century networking is important in many respects, just as motorway links in the 20<sup>th</sup> century. In 2006 only 15% of households in Germany had a broadband connection.

**1.7 Strengthen the third sector.** Civil society also helps aggregate what people want. A broad spectrum of organisations and themes can be helpful with this.

**1.8 Strengthen asymmetric sanctions to combat corruption.** Research shows that the protection of whistleblowers and informants is crucial. If recipients of bribes need not fear punishment they will be more likely to give evidence.

## Policy-making in municipalities and local authorities

**1.9 Encourage acceptance of state systems.** Trust in the German social insurance systems suffers from excessively complicated rules that do not apply equally to everyone. According to Rothstein and Stolle, universal systems in which everyone is treated according to simple rules – always with the option of extra private provision – foster trust. Germany's education, healthcare and pension systems appear to have potential for changes towards non-discriminatory regimes.

**1.10 Broader policy impact assessment.** Often enough policy measures are, at best, assessed for their effect on national budgets or economic growth. Modern societies should additionally discuss the implications for life satisfaction, individual freedom and inter-personal trust. Cross-departmental policies are vital for this.

## 2. Municipal and local government

While the federal and Länder governments stake out the legal framework and possibly set national targets, the organisation of many important policy areas is best left up to municipal and local authorities.

**2.1 Conduct surveys.** Many municipal and local governments do not systematically register their citizens' concerns. Surveys – ideally on a comparative basis – can remedy this. Only something that has been measured can also be managed. The UK has fared well at the municipal level with asking questions such as: Would you like to move away? How well do you feel?

**2.2 Improve early childhood education.** Education begets more education and fosters life satisfaction, commitment and much more besides. Not all families are able to impart this to their children themselves. Developing state and private childcare is therefore essential.

**2.3 Reduce school dropout rate.** About 8% of a cohort still leave school without a degree. Close cooperation between state and private institutions can help significantly reduce this percentage.

**2.4 Develop schools into centres of engagement.** Intensive inclusion of parents, clubs and private providers can turn more schools into places in which education and social cohesion are practised.

**2.5 Support for newborns.** The first formative years of life shape the trust that children place in other people later on. Family counselling services such as those provided in Scandinavia can help parents negotiate the minefield of bureaucracy, institutions and other challenges.

**2.6 Welcome newcomers more actively.** Mobility can lead to anonymity in modern cities. Municipal and local authorities should expand their facilities for newcomers: informative websites, networking with residents, events, joint packages from local councils, clubs and schools. [www.upmystreet.com](http://www.upmystreet.com) is an interesting example.

**2.7 Enhance mentoring and exchange programmes.** Passing on experience to others can open up new horizons for old as well as young, business as well as science.

**2.8 Increase identification with the local community.** Festivals, joint projects, sports events etc. can make it easier for people to get to know one another and strengthen community cohesion.

**2.9 More autonomy for city districts.** Separate budgets increase responsibility and cohesion.

**Corporate societal responsibility**

**2.10 Encourage voluntary work.** Platforms, information, awards and much more besides can attract more people into voluntary work beneficial to themselves and society.

**3. Businesses**

Entrepreneurs and companies also bear responsibility for a country's societal progress. They can adjust internally to new challenges and network externally with other actors to strengthen mutual trust.

**3.1 Firmly entrench and enforce anti-corruption.** It is important that companies set the highest internal standards, possibly augmented by external commitments. The common goal could be to bring Germany into the top 5 of the Transparency International ranking, level with Sweden and Switzerland (see page 25).

**3.2 Update staff skills and foster personal initiative.** For all the change that has taken place recently in Germany, lifelong learning remains underdeveloped. More information and acceptance can help further education be put into practice – and not just into legislation and promotional brochures –, always in combination with people's individual responsibility for their human capital.

**3.3 Employ more older workers.** There are many reasons why the employment rate for older people is still so low in Germany. The onus is on companies to develop flexible compensation and employment structures enabling, say, a 60 year-old former roofer to work at a supermarket checkout.

**3.4 Breathe life into the project economy in practice.** Trustful and trust-building collaboration across different teams, disciplines and companies can create new values for the individual business.

**3.5 Partnerships between local companies and citizens' initiatives** to cultivate the exchange of knowledge with civil society to the benefit of all involved.

**3.6 Cultivate an open, non-hierarchical communication culture.** People appreciate their freedom and independence more and more. Hierarchically structured organisations cannot properly exploit these people's potential. Economic freedom and political expression start at the family and company level.

**3.7 Trust-enhancing HR policy.** Modern organisations strengthen employees' trust in each other and in their company. Esteem, new job prospects and networking are important to staff loyalty and productivity.

**3.8 Promote education,** for example by offering grants to gifted children from poorer families.

**3.9 Cultivate a creativity culture.** Allow scope for discovering and developing the new and unusual.

**3.10 Support employees' voluntary commitment,** for example by giving them time off.

**4. Individuals****People drive change**

Real change is not possible without people. Progress must be deep-seated and have people's support, and it must carry them along with it. Taking a look across national borders may be helpful: not everyone is aware of how people in other countries live. Furthermore, psychology and happiness demonstrate that individuals do not always do what is really conducive to their happiness.

**4.1 Assume greater responsibility for your own life.** Germans will presumably never be prepared to accept as much personal responsibility as Americans or Canadians. But even in Germany it should be possible to assume responsibility more often for, say, one's professional or material situation rather than assigning it to others or to a greater collective (see page 17).

**4.2 (Further) education.** Each individual bears an important part of the responsibility for their own human capital, their employability and their children's situation. It is essential to strive for the best possible education for themselves and their children.

**4.3 Commitment.** Democracy works well when people commit at all levels. Everyone is capable of writing an email to the local Member of Parliament or a letter to the local council or of becoming actively involved in a (local) citizens' initiative, and in so doing they ensure that control is exercised over the political process and the elites running it.

**4.4 Cultivate social environment.** Satisfaction and trust are rooted in the immediate environment. Friends and family are important sources of happiness in all societies – and good time and serious effort needs to be devoted to them.

**4.5 Work until later in life.** But not necessarily in the job for which you trained 40 years earlier.

**4.6 Build bridges.** Being together with likeminded people is fairly easy and certainly conducive to happiness. It is more difficult, but presumably socially at least as relevant, to build bridges with people who are a little different –in the colour of their skin, their level of education, their age or whatever aspect.

**4.7 Watch less TV.** Research shows that people who watch less television are happier, healthier and have more time for friends and other activities.

**4.8 Teaching children to trust.** Parents are decisive to their children's attitude to life. A trustful, open upbringing teaching them (self-)respect and tolerance bears fruit for decades.

**4.9 Be nice to other people.** Whether it's at the supermarket checkout, when driving, or anywhere else – friendly behaviour can create positive feedback, strengthen trust between people, achieve greater balance with little effort and radiate into many other areas of relevance.

**4.10 Trust and control.** Censuses and digital health insurance cards are important to run a country efficiently. But this calls for trust that the data will be used properly and, where necessary, for practicable controls.



### III. Theories of economic and societal progress and development

**Theoretical foundation for the recommendations**

The recommendations listed above are based on a theoretical foundation which will be sketched in this section. Attention centres on individual happiness or life satisfaction, which is closely linked to many other variables. It turns out that the different theories of societal development tend to use the same variables, as illustrated in the diagram below.

**Variables develop hand in hand**

Another common thread across all theories is that they emphasise the complementarities between the different aspects of development. All the relevant variables tend to develop hand in hand. For example, usually there cannot be a high level of income without a high level of education and good institutions.

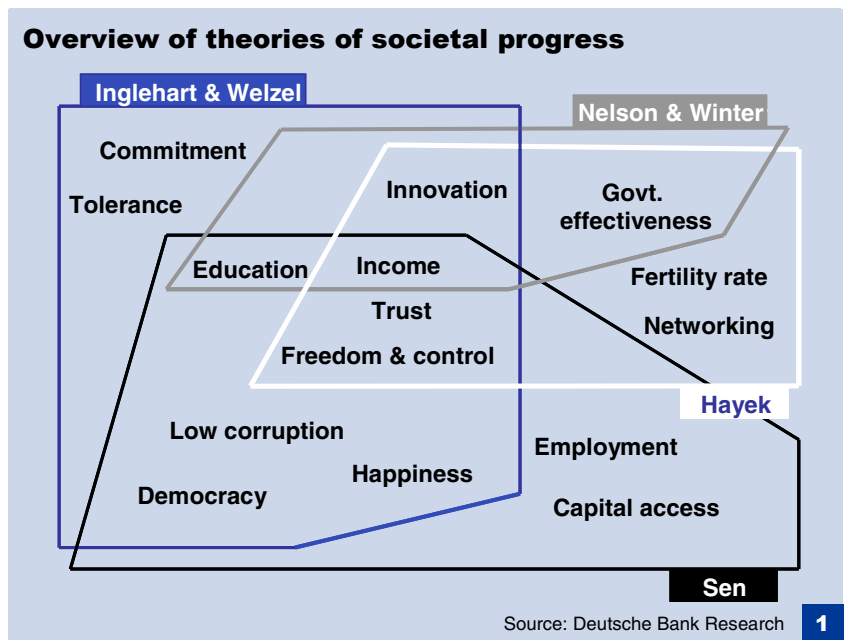
**The “Evolutionary theory of economic change” of Nelson and Winter**

**Evolution is the self-transformation of a system towards more complexity**

Economists have looked at theories of economic progress for decades. Richard Nelson and Sidney Winter made a systematic and realistic contribution in their 1982 book “An evolutionary theory of economic change”. However, because it is difficult to test with empirical models their approach did not receive the attention it may have deserved. They define evolution as the self-transformation of a system over time, usually from a low to a higher level of complexity.

**Abandon old routines: innovation**

Building on the work of Josef Schumpeter they model an economy where companies tend to follow existing routines and rules of thumb developed in the past – and do not maximise profit at every instance. When low profits force them to change or when their environment offers easy opportunities, firms imitate the techniques of a more successful competitor or even completely abandon old routines by themselves innovating. As more companies apply better technology (routines) than before, their productivity and profits rise – as does the pressure on those companies that now use the relatively more outdated routines. The overall economy has reached a higher state of development.





**Competition, education, innovation and well-being**

Change, economic development and progress are the key concerns of evolutionary theories. So how can societies foster progress? Through more and smarter competition/selection, better education and innovation, leading to higher income and wealth. What Nelson and Winter do not address are the deeper societal conditions for this progress.

**More than just economic aspects****The “Cultural evolution” of Friedrich Hayek**

Friedrich August von Hayek (1899 – 1992) also looked closely at how societies develop. His theory of cultural evolution as outlined in his 1988 book “The fatal conceit” goes well beyond the purely economic aspects emphasised by Nelson and Winter – whom he does not quote. His theory was developed in the 1970s and 80s against the backdrop of competition between the capitalist and socialist systems.

**Slowly develop existing systems over time**

Hayek’s main thesis is that economic and social systems cannot be rationally created or designed using reason. The best we can do is to try and develop an existing system gradually over time. Change and development are possible, but not easy.

**Building on Hume, Smith and Darwin**

Hayek builds on the ideas of David Hume, Adam Smith and Charles Darwin: societies prosper that are able to change their rules and institutions to enable them better to adjust to an ever-changing environment. The processes and abilities that prove successful in everyday competition will prevail.

**Learn from one’s fellows**

In contrast to biological evolution, cultural evolution does not rely purely on the inheritance of successful genes (or on mutation). Rather, the transmission of habits and information comes not merely from the individual’s natural parents, but from an indefinite number of “ancestors”. In the 21<sup>st</sup> century, modern information and communication technologies even allow us to learn from societies farther away.

**Focus on trust, freedom, networks and innovation**

So what are the characteristics of a successful and prosperous society according to Hayek? He mentions private property, legal security (trust), honesty, truthfulness, individual freedom, cooperation (networking), innovation, high income, population growth and, finally, happiness.

**Broad array of capabilities****“Development as freedom” according to Amartya Sen**

While Nelson and Winter focus on companies and Hayek on society as a whole, Nobel Laureate Amartya Sen – who quotes Hayek intensively – is mostly concerned with the individual. For him, a high level of development is synonymous with a high level of freedom and individual capabilities. Social, economic and political opportunities as well as social and environmental protection produce conditions under which individuals can make full use of their potential. Freedom in all its dimensions is both “the primary end and the principal means of development” (Sen (1999), page 36).

**Freedom as the end and means of development**

With his five freedoms, Sen covers a wide spectrum of variables:

1. *Economic facilities*: Material resources and income as well as companies’ access to finance.
2. *Political freedom*: Political expression and freedom to choose between different parties.
3. *Social opportunities*: Education, healthcare and other institutions are important in themselves but also facilitate participation in economic and political activities.

4. *Transparency*: Openness that allows trust and prevents corruption.
5. *Protective security*: A social safety net that prevents people from falling into abject misery if material changes adversely affect their lives on a massive scale.

**Parallel development of different institutions**

Sen admits that there is no ideal approach to evaluate economic and social policies. Because of the mutually reinforcing connections between freedoms of different kinds, Sen sees a “need to develop and support a plurality of institutions, including democratic systems, legal mechanisms, market structures, educational and health provisions, media and other communication facilities and so on” (p. 53).

**Inglehart and Welzel’s theory of human development**

**Towards empirical analysis**

In their theory of human development, Ronald Inglehart and Christian Welzel use ideas similar to those of Hayek, although their 2003 and 2005 publications do not quote his work or that of Nelson and Winter. By contrast, the link to Sen’s theoretical approach is explicit. Inglehart and Welzel’s analysis is also based on empirical analysis; they make considerable use of data from the World Values Survey.

**Socioeconomic development, emancipative cultural change and democratisation**

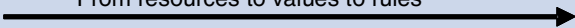
According to Inglehart and Welzel, three closely intertwined components characterise human development or societal progress: socioeconomic development, emancipative cultural value change and democratisation (see chart 2).

**More human choices**

These three elements broaden human choices through more individual resources (income), expanded priorities and more freedom of action. This definition of progress also encompasses Sen’s key concern, human capabilities.

**Causality runs from economy to culture and then to institutions**

Inglehart and Welzel also see the possibility of societal progress. Their analysis shows a causality running from increased income to emancipative value change and eventually to more civil and political liberties. This direction of causality is indicated by the arrow in the chart below, running from the sphere of means via motives/values to rules. Elites with a high degree of integrity enable and support this progress. Inglehart und Welzel see corruption as an indication that elites are depriving citizens of their rights, thereby hampering progress.

| <b>The process of human development</b> |  |                              |                       |
|---|--|------------------------------|-----------------------|
|   | <b>Economic</b>  | <b>Cultural</b>              | <b>Institutional</b>  |
| <b>Components</b>                       | Individual resources   | Emancipative values          | Freedom rights        |
| <b>Process</b>                          | Economic development   | Emancipative cultural change | Democratisation       |
| <b>Effect</b>                           | Enhances capabilities  | Increases priorities         | Broadens entitlements |
| <b>Causality</b>                        | From resources to values to rules  |                              |                       |

Sources: Welzel, Inglehart & Klingemann (2003) p. 346 and Inglehart & Welzel (2005) p. 3, Compilation by Deutsche Bank Research

**Many variables: income, education, tolerance, trust, democracy, corruption...**

This theory is quite comprehensive and uses a large number of variables in three areas:

- (i) *Socioeconomic development*: income, education, innovation, health and so on.
- (ii) *Emancipative cultural change*: traditional conformity values tend to give way to more emancipative values that emphasise freedom and individual human choice. Tolerance and trust grow.
- (iii) *Democratisation*: more civic participation, direct democracy and less corruption lead to ever more effective democracy.

**The social reality and Europe's development****Priorities for Europe's economic and social progress**

The OECD and European Commission are currently seeking ways of measuring progress and well-being more broadly than by taking GDP as the sole measure. As a contribution to this effort, the Bureau of European Policy Advisors (BEPA) together with the Centre for Research on Lifelong Learning (CRELL, JRC) has tried to come up with priorities for Europe's economic and social development. Although they do not cite any of the theories mentioned above, their conclusions are nonetheless consistent with them.

**Size and distribution of the cake**

The authors argue against the traditional logic that economic activities are responsible for determining the size of the cake, while social policies deal with its division. Today's most important policy areas relate both to the size and division of the cake – and have much wider consequences for society. Priority should be given to:

- the highest possible education for all,
- the highest possible labour participation,
- integration of migrants,
- healthy citizens and
- citizens fully participating in civil society.

Of course, these areas need to take into account constraints on time budgets and the interplay between the different policies.

All policy areas require the involvement of both citizens and the state. For example, citizens are responsible for updating their human capital and government is responsible for designing an education and training system that allows them to do so. Some of the recommendations listed on pages 4 to 7 reflect these insights.

## IV. Quantifying progress

### Data support theoretical insights...

### ... variables develop hand in hand

The theories of economic and societal development have shown how multi-layered progress is (pages 8 to 11). The various components go hand in hand – they are complementary: There is no poor country with a well-educated population and a high level of economic freedom. This leaves us with the challenge to support the theories with data, with which we can then go on to analyse countries' strengths and weaknesses.

The analysis of economic data over time supports the view that the most important variables develop hand in hand. And analysis of different societies at a certain point in time shows that highly developed countries with satisfied people have much in common. This makes it difficult to identify causalities and suggests analysing the correlations.

This chapter provides an initial overview of the data sources and the correlations. On pages 16 to 30 each variable is then presented individually, the specific theoretical background explained and a connection established with the action recommended. The recommendations on pages 4 to 7 were made on the basis of this data.

### 16 variables for 20 countries

Sixteen variables are used for 20 countries. East Asian countries are not considered, as some of them have rather different economic and social structures. In Japan and Korea, for example, a large proportion of underemployment is kept within companies, resulting in low official unemployment rates but also low productivity. Including the Central and East European countries in the dataset does not alter the general statements: All the variables tend to be lower there than in the 20 countries analysed.

The data comes from a wide range of different sources and was gathered in different ways. Relatively hard data such as gross domestic product is set in relation to "softer" survey results. Added to this are composite indicators consisting of more than one sub-indicator.

It is assumed that theories tend to be more helpful and quantitative results more robust if based on such a range of data instead of explaining only gross domestic product, for example. Moreover, individual statistics or observations that may otherwise be problematic (such as Canada's ratio of university graduates, which stands out as unusually high in charts) are less important under such a broad approach.

Data is selected in two steps: (1) Can it model one of the theoretical aspects described above, and (2) does it correlate closely to the other data, most particularly to life satisfaction? Variables that satisfy neither or only one of the criteria are sketched briefly in Chapter VII on page 31.

Sources are the World Values Survey, the OECD, the Fraser Institute, Eurostat, the Groningen Growth and Development Centre, the World Bank, the Economist Intelligence Unit, Transparency International, the European Commission, Johns Hopkins University and the Milken Institute.

Wherever possible we have used data for the year 2005. Exceptions are the three surveys from the World Values Survey, for which data for 2005 will not be available to the general public until 2009. However, since most of the variables change only slowly, the values

### The variables

#### From surveys

Happiness  
Locus of control  
Trust  
Tolerance

#### "Hard" data

Tertiary education  
GDP per capita  
Employment 55-64  
Fertility rate  
Nonprofits/voluntary sector  
Broadband access

#### Composite indicators

Economic freedom  
Government effectiveness  
Democracy index  
Corruption perception  
Innovation scoreboard  
Capital access

Source: Deutsche Bank Research

3



### High correlations between the variables

#### One dimension: the level of societal development

In addition to the simple correlation matrix shown, more complex methods can be applied to the data. A factor analysis (principal components analysis) examines the 16 variables for commonalities and reduces them where appropriate to a lower number of dimensions/factors.

Factor analysis with the data discussed produces one dimension that can be described as the level of societal development. It explains 57% of the total variance between the 16 variables (eigenvalue 9.1). All variables load extremely positively on this factor. The second factor calculated explains only 12% of the total variance and can thus be disregarded.

The result that all variables can be depicted with one dimension confirms the theoretical insight that the variables go hand in hand and can be considered in total as the level of societal development.

for 1999/2000 currently available can still be considered authoritative and useful.

#### Many high correlations

The 16 by 16 matrix with simple correlations at the bottom of this page shows many high values – although only a small group of relatively highly developed and hence similar countries is analysed here. Particularly high is the relationship between, for instance, life satisfaction and the ratio of university graduates, government effectiveness and corruption, with correlation coefficients of 0.8 and higher. Interpersonal trust is especially closely related to the quality of democracy and tolerance in societies.

To make the plethora of data more readily accessible, in the following chapters the large matrix below is divided into its columns, which are also ordered by the level of correlation.

In addition, the matrix can be used to identify different branches of research:

- Happiness research sees life satisfaction as the dependent variable and therefore analyses the first data row in the matrix.
- Social capital research places the chief emphasis on interpersonal trust and hence on the fourth data row.
- Growth empirics deal with per capita GDP, the sixth row.

Common to all branches of research is that they devote little attention to correlation between the “independent” variables on the right-hand side of regression equations. They tend to miss the fact that all these variables develop hand in hand within economies over time.

#### Matrix of economic and societal development

| Simple correlation for 20 countries around 2005 | Happiness | Economic freedom | Locus of control | Trust | Tertiary education | GDP per capita | Employment 55-64 | Fertility rate | Govt. effectiveness | Democracy index | Corruption perc. | Tolerance | Nonprofit/vol. sec. | Broadband access | Innovation | Capital access |
|---|-----------|------------------|------------------|-------|--------------------|----------------|------------------|----------------|---------------------|-----------------|------------------|-----------|---------------------|------------------|------------|----------------|
| Happiness                                       | 1.0       | 0.7              | 0.5              | 0.7   | 0.8                | 0.6            | 0.6              | 0.5            | 0.9                 | 0.7             | 0.8              | 0.6       | 0.6                 | 0.7              | 0.6        | 0.7            |
| Economic freedom                                | 0.7       | 1.0              | 0.8              | 0.3   | 0.5                | 0.3            | 0.6              | 0.4            | 0.7                 | 0.4             | 0.7              | 0.4       | 0.4                 | 0.5              | 0.6        | 0.7            |
| Locus of control                                | 0.5       | 0.8              | 1.0              | 0.3   | 0.5                | 0.3            | 0.6              | 0.4            | 0.6                 | 0.4             | 0.6              | 0.4       | 0.2                 | 0.2              | 0.5        | 0.6            |
| Trust   | 0.7       | 0.3              | 0.3              | 1.0   | 0.5                | 0.5            | 0.6              | 0.4            | 0.7                 | 0.9             | 0.7              | 0.8       | 0.4                 | 0.7              | 0.5        | 0.4            |
| Tertiary education                              | 0.8       | 0.5              | 0.5              | 0.5   | 1.0                | 0.6            | 0.5              | 0.5            | 0.7                 | 0.5             | 0.5              | 0.5       | 0.6                 | 0.5              | 0.4        | 0.6            |
| GDP per capita                                  | 0.6       | 0.3              | 0.3              | 0.5   | 0.6                | 1.0            | 0.3              | 0.4            | 0.5                 | 0.4             | 0.3              | 0.2       | 0.5                 | 0.4              | 0.3        | 0.5            |
| Employment 55-64                                | 0.6       | 0.6              | 0.6              | 0.6   | 0.5                | 0.3            | 1.0              | 0.5            | 0.7                 | 0.6             | 0.6              | 0.5       | 0.3                 | 0.5              | 0.5        | 0.6            |
| Fertility rate                                  | 0.5       | 0.4              | 0.4              | 0.4   | 0.5                | 0.4            | 0.5              | 1.0            | 0.5                 | 0.3             | 0.5              | 0.2       | 0.5                 | 0.4              | 0.4        | 0.5            |
| Govt. effectiveness                             | 0.9       | 0.7              | 0.6              | 0.7   | 0.7                | 0.5            | 0.7              | 0.5            | 1.0                 | 0.8             | 0.9              | 0.7       | 0.5                 | 0.8              | 0.7        | 0.8            |
| Democracy index                                 | 0.7       | 0.4              | 0.4              | 0.9   | 0.5                | 0.4            | 0.6              | 0.3            | 0.8                 | 1.0             | 0.8              | 0.9       | 0.4                 | 0.6              | 0.5        | 0.5            |
| Corruption perception                           | 0.8       | 0.7              | 0.6              | 0.7   | 0.5                | 0.3            | 0.6              | 0.5            | 0.9                 | 0.8             | 1.0              | 0.7       | 0.3                 | 0.8              | 0.7        | 0.7            |
| Tolerance                                       | 0.6       | 0.4              | 0.4              | 0.8   | 0.5                | 0.2            | 0.5              | 0.2            | 0.7                 | 0.9             | 0.7              | 1.0       | 0.4                 | 0.7              | 0.5        | 0.4            |
| Nonprofit/vol. sector                           | 0.6       | 0.4              | 0.2              | 0.4   | 0.6                | 0.5            | 0.3              | 0.5            | 0.5                 | 0.4             | 0.3              | 0.4       | 1.0                 | 0.5              | 0.3        | 0.5            |
| Broadband access                                | 0.7       | 0.5              | 0.2              | 0.7   | 0.5                | 0.4            | 0.5              | 0.4            | 0.8                 | 0.6             | 0.8              | 0.7       | 0.5                 | 1.0              | 0.6        | 0.5            |
| Innovation                                      | 0.6       | 0.6              | 0.5              | 0.5   | 0.4                | 0.3            | 0.5              | 0.4            | 0.7                 | 0.5             | 0.7              | 0.5       | 0.3                 | 0.6              | 1.0        | 0.6            |
| Capital access                                  | 0.7       | 0.7              | 0.6              | 0.4   | 0.6                | 0.5            | 0.6              | 0.5            | 0.8                 | 0.5             | 0.7              | 0.4       | 0.5                 | 0.5              | 0.6        | 1.0            |

Source: Deutsche Bank Research

4

## V. Changes are possible

### Progress particularly pronounced in Spain, the Netherlands and Australia

The starting point for this analysis is a comparison of different countries at a given point in time: What did advanced countries have in common in 2005? However, the ultimate aim is to suggest changes towards progress. For this, examples from countries that have actually achieved measurable progress are helpful. As far as the data pool permits, this chapter therefore compares the values from 2005 with values from 1995. Spain exhibits the most marked improvements (beginning from a low level), Denmark and the Netherlands succeeded in further advancing their high levels, while the US regressed in relative terms. Greece and Portugal were unable to improve on their low levels.

### Powerful path dependencies...

#### *Roots go deep...*

Although changes are possible, the origins of some present-day structures reach back centuries. Max Weber stressed how strongly a society is shaped by its cultural heritage. Path dependencies are important and powerful.

Robert Putnam's famous illustration examines administrative reform in Italy in the 1970s. This was more successful in those regions that had already built up a civil society in the Renaissance period featuring guilds, cooperatives, good neighbourliness etc.

### ... and traditions

Hayek likewise pointed to the importance of traditions, which crucially determine social development. Present-day institutions are the heritage passed down by our ancestors, and changes are possible only on a limited scale.

### Germans still shaped by the past

#### *... also in Germany*

German history abounds in events which even today shape its institutions and structures. Sabine Bode points to the experiences of the baby boom cohort of the 1930s, who were forming the Federal Republic in the 1970s and 1980s. Their childhood was one of war, hunger and poverty; many of their fathers had been killed or were in captivity. Understandably, they were later at pains to promote institutions that would offer the guarantee of "never again". The big German welfare state was one consequence – also against a backdrop of rivalry with the socialist German Democratic Republic ("Which is the more social state?"). That way the experiences of their childhood were institutionalised and passed on to the following generations. Recognising this path dependence does not imply that change is impossible, however.

### Changes can be set in motion

### Learning from success stories

Deep historical roots do not rule out the possibility of change. Some countries (or regions) are capable of developing faster than others. This can happen partly by learning from success stories elsewhere, although a basic willingness to embark on this learning process must always be present.

Comparing the values from 2005 with those from 1995 (approximately and where data is available), all countries show a marked increase in gross domestic product, the level of education and employment of older people. Other variables do not enable identification of any general improvement, owing to their construction (surveys usually use a fixed scale or the rating of a country is relative to the average). But some countries have advanced considerably more than the average. The table on the next page therefore presents the changes in each country since the mid-1990s



in comparison to the average change of all 20 countries, sorted by the average of the country's changes.

### Considerable progress in Spain

#### *The most significant improvements in Spain*

In many – but not all – areas Spain registered marked improvement between 1995 and 2005. Life satisfaction, for one, increased 1.2 times as fast as the standard deviation across all 20 countries. The ratio of university graduates, the birth rate and corruption also posted exceptionally strong improvements. However, people say they have relatively less control over their lives, and according to the World Bank the quality of government has deteriorated. In the Netherlands, Australia, Denmark and Finland some variables also improved exceptionally strongly.

### Germany a middle-ranker

Germany ranks in the middle of the table. Significant relative improvements in the surveys on people's control of their own lives and on tolerance towards others contrast with relative deterioration in the level of education and effective government. On average, Germany has progressed in line with the average of the 20 countries considered here.

### Change can mean regression

#### *Relative regression in the US*

As the example of the USA shows, change can also mean relative regression. Across the 11 variables from different sources recorded here, the US is losing ground on the other countries. Its decline is particularly severe in terms of education, life satisfaction and interpersonal trust. So it is hardly surprising that social capital research has been developing exceptionally dynamically in the USA.

### Changes between 1995 and 2005: Spain is in the lead

Changes relative to the average of 20 countries, standard deviations from mean

|             | Average | Happiness | Economic freedom | Locus of control | Trust | Tertiary education | GDP per capita | Employment 55-64 | Fertility rate | Govt. effectiveness | Corruption | Tolerance |
|-------------|---------|-----------|------------------|------------------|-------|--------------------|----------------|------------------|----------------|---------------------|------------|-----------|
| Spain       | 0.6     | 1.2       | -0.3             | -1.1             | 0.8   | 2.2                | 0.2            | 0.4              | 1.5            | -1.1                | 2.9        | 0.3       |
| Netherlands | 0.3     | -0.4      | -0.6             | 1.8              | 1.3   | -0.4               | -0.3           | 1.3              | 1.5            | -0.5                | -0.3       | 0.3       |
| Australia   | 0.3     | 0.2       | -0.2             | 1.5              | -0.5  | 0.3                | 0.1            | 0.7              | -1.0           | 2.7                 | -0.2       |           |
| Denmark     | 0.2     | -0.5      | 0.7              | 0.8              | 1.6   | 0.0                | -0.5           | 0.8              | -0.5           | 1.6                 | -0.1       | -0.9      |
| Finland     | 0.2     | 0.6       | 0.6              | -1.6             | 0.0   | 0.3                | 0.8            | 1.8              | -0.6           | 0.8                 | 0.4        | -0.4      |
| Belgium     | 0.1     | 0.1       | -0.4             | -0.5             | 0.2   | 0.6                | -0.4           | 0.4              | 1.1            | -0.2                | 0.3        | -0.3      |
| Ireland     | 0.1     | 0.1       | -1.6             | 0.4              | -1.2  | 1.6                | 3.6            | 0.7              | -0.3           | -0.3                | -1.7       | -0.8      |
| France      | 0.0     | 0.9       | 0.1              | 0.3              | 0.4   | 0.6                | -0.5           | -0.2             | 2.0            | -1.2                | 0.3        | -2.2      |
| Norway      | 0.0     | 2.3       | -0.7             | -0.6             | 0.4   | 0.6                | 0.0            | -1.1             | -0.8           | 0.4                 | -0.4       | -0.1      |
| Greece      | 0.0     | -0.4      | 1.7              | -0.7             | 0.4   | 0.6                | 1.1            | -1.5             | -0.3           | 0.3                 | -1.1       |           |
| Germany     | 0.0     | 0.1       | 0.3              | 1.4              | 1.0   | -1.7               | -0.9           | -0.1             | 0.5            | -1.1                | -0.7       | 1.2       |
| Sweden      | 0.0     | 0.3       | 0.5              | -0.9             | 0.4   | -0.7               | 0.2            | -0.4             | 0.0            | 0.4                 | -0.2       | 0.2       |
| Austria     | -0.1    | -1.8      | 1.9              | -0.9             | 0.8   | -1.0               | -0.3           | -1.2             | -0.6           | -0.7                | 1.0        | 0.9       |
| Canada      | -0.2    | -0.4      | 0.5              | -0.4             | -1.3  | 0.9                | -0.1           | 0.7              | -1.9           | 0.7                 | -0.9       | -0.1      |
| Italy       | -0.2    | -0.7      | 1.2              | -0.9             | 0.3   | -1.0               | -0.9           | -1.1             | 0.9            | -1.3                | 1.6        | -0.2      |
| UK          | -0.2    | 0.4       | -0.3             | 0.4              | -1.5  | -0.4               | 0.0            | 0.2              | 0.3            | -0.1                | -0.1       | -1.3      |
| New Zealand | -0.2    | -0.4      | -1.6             | -0.7             | 0.4   | -0.4               | -0.5           | 1.6              | -0.6           | -0.1                | -0.1       |           |
| Portugal    | -0.2    | -0.6      | -0.4             | 0.3              | -1.2  | -0.4               | -0.4           | -0.8             | -0.6           | 0.5                 | -0.2       | 1.3       |
| Switzerland | -0.2    | -0.6      | 0.2              | -0.9             | 0.1   | 0.0                | -1.0           | -1.3             | -1.1           | -0.1                | 0.1        | 2.0       |
| USA         | -0.7    | -1.6      | -1.8             | 1.0              | -1.8  | -1.7               | -0.2           | -0.7             | 0.3            | -0.9                | -0.8       | 0.0       |

Source: Deutsche Bank Research

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## VI. The variables in detail

### 1. Life satisfaction

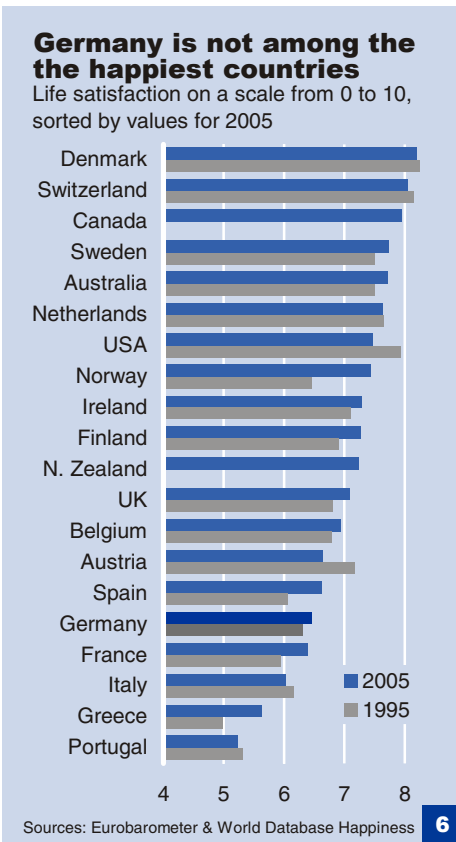
People's satisfaction with life is increasingly being seen as the ultimate aim of a country's social and economic development. Our study also focuses on life satisfaction (or happiness), while allowing for the fact that many variables develop in tandem. In recent years happiness research has shown ways of achieving greater life satisfaction. The variables presented in the following are all closely related, at the level of the individual and/or society, with life satisfaction.

Few people would now dispute that much meaningful and helpful information on people's actual situation can be deduced from surveys. But one major problem for happiness research is that the scale on which people can score their satisfaction has remained fixed. This approach leads to an inherent apparent upper limit on life satisfaction: one cannot score an 11 on happiness if the scale runs from 0 to 10. Nevertheless, the result is the debate on the Easterlin paradox (incomes increase but life satisfaction is unchanged). Therefore, the analysis here concentrates on comparisons between different countries at one point in time.

#### Happy Scandinavians and Anglo-Saxon countries

In 2005 Denmark was the country with the highest life satisfaction, closely followed by Switzerland (Chart 6). Sweden and the Netherlands are also among the top-rankers. The comparability of the data from the Anglo-Saxon countries is somewhat restricted inasmuch as national surveys and not the Eurobarometer were used there. But analysis of the various hard and soft data on the following pages suggests that the comparatively high levels of life satisfaction in the Anglosphere countries – foremost among them Canada and Australia – is fundamentally justified. Germany ranks sixteenth among the 20 countries analysed here.

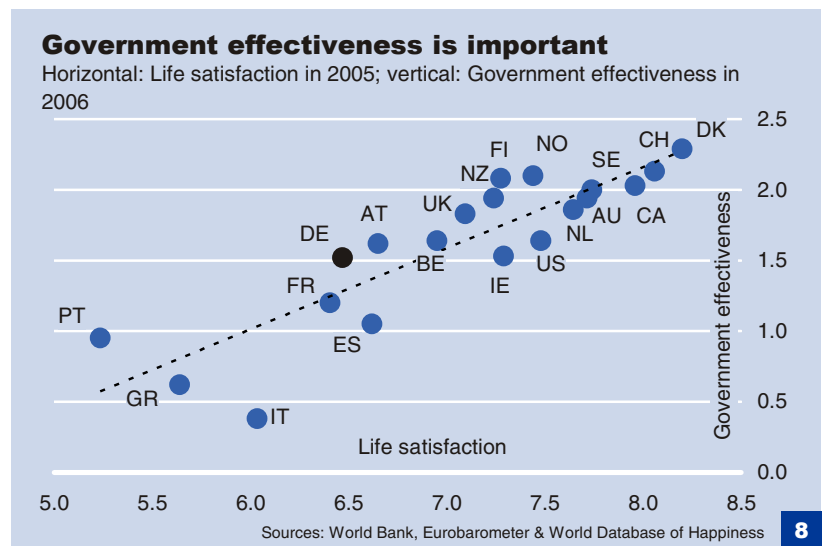
The correlation between life satisfaction and the other variables is extremely high in some cases, as demonstrated in Table 7, which repeats the first column of the big matrix on page 13. There is a particularly close link to good governance – happy countries enjoy effective government as shown in chart 8 below. Causality cannot be clearly determined, but the assumption is that the right structures can contribute to citizens' life satisfaction.



**Life satisfaction**  
Correlation coefficients for 20 countries (1st column in the matrix on page 13)

|                             | Happiness  |
|-----------------------------|------------|
| Happiness                   | 1.0        |
| Govt. effectiveness         | <b>0.9</b> |
| Tertiary education          | 0.8        |
| Corruption (low)            | 0.8        |
| Broadband access            | 0.7        |
| Trust                       | 0.7        |
| Democracy index             | 0.7        |
| Economic freedom            | 0.7        |
| Capital access              | 0.7        |
| Tolerance                   | 0.6        |
| Nonprofits/voluntary sector | 0.6        |
| Innovation scoreboard       | 0.6        |
| GDP per capita              | 0.6        |
| Employment 55-64            | 0.6        |
| Locus of control            | 0.5        |
| Fertility rate              | 0.5        |

Source: Deutsche Bank Research **7**



### Anglo-Saxon countries with a lot of freedom

Index of Economic Freedom, scale from 0 to 10



Source: Fraser Institute **9**

### Freedom and control

Correlation coefficients for 20 countries

|                        | Freedom    | Control    |
|------------------------|------------|------------|
| Economic freedom       | 1          | <b>0.8</b> |
| Locus of control       | <b>0.8</b> | 1          |
| Govt. effectiveness    | 0.7        | 0.6        |
| Corruption (low)       | 0.7        | 0.6        |
| Capital access         | 0.7        | 0.6        |
| Happiness              | 0.7        | 0.5        |
| Employment 55-64       | 0.6        | 0.6        |
| Innovation scoreb.     | 0.6        | 0.5        |
| Tertiary education     | 0.5        | 0.5        |
| Broadband access       | 0.5        | 0.2        |
| Democracy index        | 0.4        | 0.4        |
| Nonprofits/vol. sector | 0.4        | 0.2        |
| Fertility rate         | 0.4        | 0.4        |
| Tolerance              | 0.4        | 0.4        |
| Trust                  | 0.3        | 0.3        |
| GDP per capita         | 0.3        | 0.3        |

Source: Deutsche Bank Research **10**

## 2. Freedom and control

Different theorists such as Friedrich August von Hayek and Amartya Sen both stress the importance of freedom for development in the economy and society. The central tenet for the former is that only the individual's free decisions produce the optimum economic result. For the latter, freedom is also a value per se. There is no contradiction in this. Hayek also emphasises that absolute liberty is impossible, being constrained by everyone else's liberty.

### Freedom of entire societies and the individual

The importance of freedom has been recognised for years, and many attempts have been made to measure it. The best-known metrics are the freedom indices for entire societies such as those calculated by the Canadian Fraser Institute (see Chart 9). But it is less well-known that these indices broadly send out the same message as surveys of individuals, which are used intensively in happiness research. The World Values Survey asks – on a scale of 1 to 10 – how much control people believe they have over their own life.

### Plenty of freedom in the Anglo-Saxon countries

Chart 11 illustrates that the Anglo-Saxon countries enjoy the greatest freedom on both measures. The Scandinavian countries, Germany and Austria are mid-fielders, while France and Italy make up the rear of this group of countries.

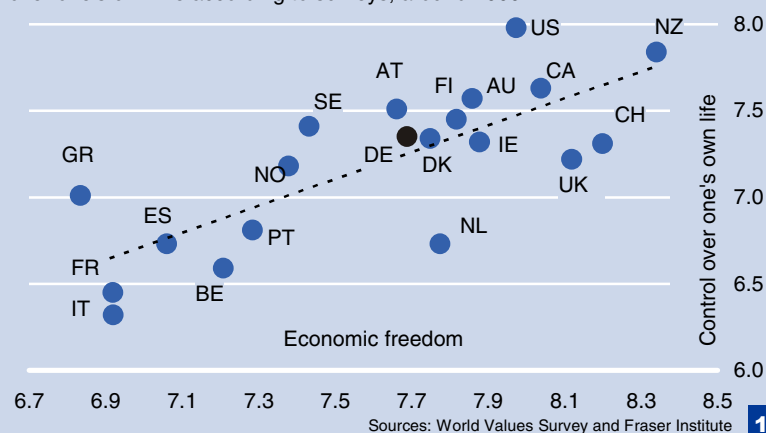
Table 10 depicts the correlations of the two measures of freedom to the other variables. Countries with a lot of freedom also tend to have relatively effective government (details on page 23) and low corruption, and people are very satisfied with life. However, the correlation to interpersonal trust is fairly low, a phenomenon discussed on the next page.

### Strengthen freedom – in all dimensions

For most countries, allowing their citizens more control over their own life seems advisable and possible – and people should demand and practise this. A good level of education is helpful to this end. But the impetus must come from individuals themselves – by challenging obsolete rules and regulations, calling less often on the state for help and taking action themselves.

### Freedom - individual and economic

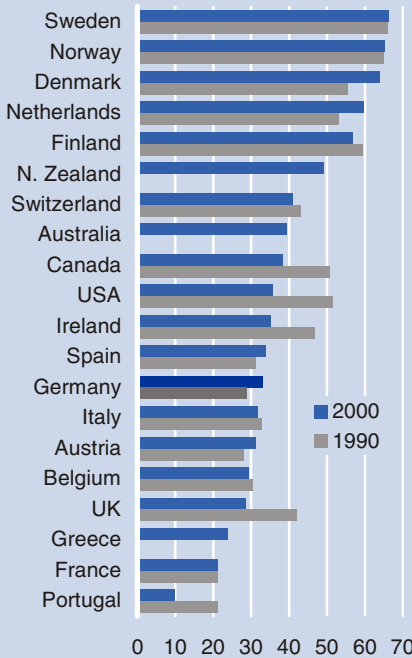
Horizontal: Economic freedom in 2005 (scale from 0 to 10); Vertical: Control over one's own life according to surveys, around 2000



Sources: World Values Survey and Fraser Institute **11**

### Trust in compatriots is especially high in Scandinavia

Trust in compatriots in %, according to surveys



Source: World Values Survey **12**

### Trust & its correlates

Correlation coefficients for 20 countries

|                             | Trust |
|-----------------------------|-------|
| Trust                       | 1.0   |
| Democracy index             | 0.9   |
| Tolerance                   | 0.8   |
| Happiness                   | 0.7   |
| Broadband access            | 0.7   |
| Government effectiveness    | 0.7   |
| Corruption (low)            | 0.7   |
| Employment 55-64            | 0.6   |
| Innovation scoreboard       | 0.5   |
| Tertiary education          | 0.5   |
| GDP per capita              | 0.5   |
| Fertility rate              | 0.4   |
| Capital access              | 0.4   |
| Nonprofits/voluntary sector | 0.4   |
| Locus of control            | 0.3   |
| Economic freedom            | 0.3   |

Source: Deutsche Bank Research **13**

### 3. Interpersonal trust

The social capital of a society is increasingly coming to be seen as crucial to people's well-being and satisfaction. However, this is even more difficult to measure than, say, human capital. Over the past years, interpersonal trust has emerged as the best available measure of social capital. Trust reduces uncertainty and allows people to take greater risks. This makes welfare-boosting co-operation possible. The project economy (see the study "Germany 2020") rests on new, flexible forms of cooperation going beyond the realm of individual companies and disciplines. Trust in the integrity of one's project partners is a necessary condition for success.

#### People in Scandinavia trust their fellow citizens

The strength of trust can be identified using surveys. The question most often asked, which is also used in the World Values Survey, is: "Generally speaking, would you say that most people can be trusted, or that you need to be very careful in dealing with people?" The proportion of respondents who opt for "trust" is then taken as the measure of the level of trust in a society. In 2000 the Scandinavian countries and the Netherlands were out front (Chart 12). Democracy also appears to work well there (with people feeling that their interests are represented) and corruption is low.

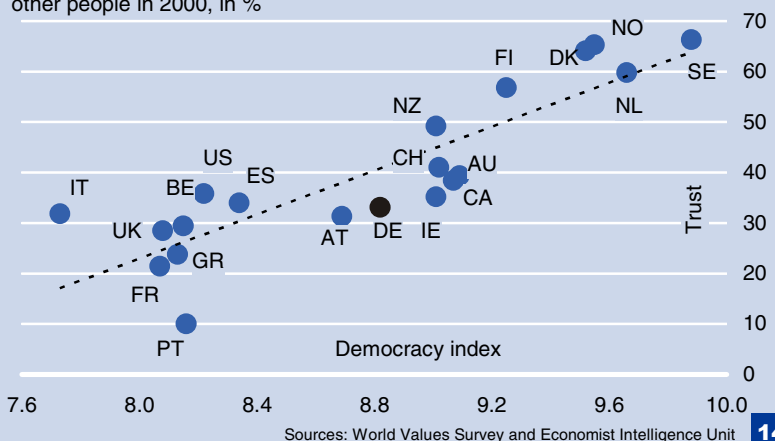
Particularly interesting is the apparent dichotomy between freedom and trust. None of the 20 OECD countries performs well on both counts, and the correlation coefficients with the measures of freedom amount to just 0.3. Niklas Luhmann drew attention to this societal balancing act as far back as 1968 (p. 38): "that trust is about reducing complexity... that comes into the world through other people's freedom". The challenge facing modern societies lies in promoting the trust required to cope with increasing complexity.

#### Strengthen the roots of trust

Trust does not fall like manna from heaven, nor can it be advanced by decree. The literature on social capital contains a host of recommendations, many of which were used on pages 4 to 7. There seems to be an emerging consensus that education plays a key part, that the foundation for trust is laid in the family and that the institutional framework is important. Any trust-promoting policy action would have to address these areas.

### A lot of trust in efficient democracies

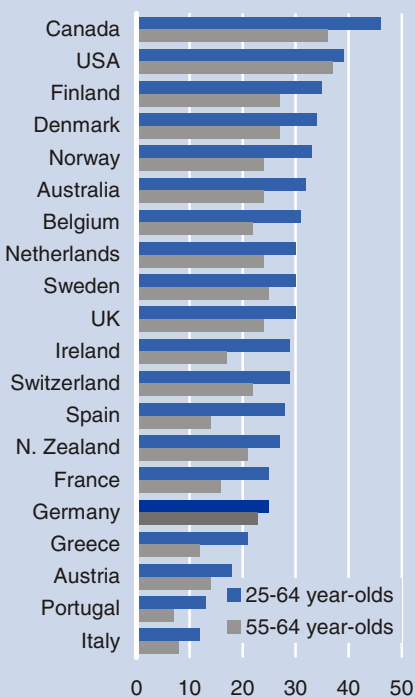
Horizontal: Democracy index, scale from 0 to 10 in 2006; Vertical: Trust in other people in 2000, in %



Sources: World Values Survey and Economist Intelligence Unit **14**

### Booming education

Tertiary attainment in 2005, in %



Source: OECD **15**

### Education and much more

Correlation coefficients for 20 countries

| Tertiary education          |            |
|-----------------------------|------------|
| Tertiary education          | 1.0        |
| Happiness                   | <b>0.8</b> |
| Government effectiveness    | 0.7        |
| Capital access              | 0.6        |
| Nonprofits/voluntary sector | 0.6        |
| GDP per capita              | 0.6        |
| Corruption (low)            | 0.5        |
| Locus of control            | 0.5        |
| Broadband access            | 0.5        |
| Tolerance                   | 0.5        |
| Economic freedom            | 0.5        |
| Fertility rate              | 0.5        |
| Employment 55-64            | 0.5        |
| Trust                       | 0.5        |
| Democracy index             | 0.5        |
| Innovation scoreboard       | 0.4        |

Source: Deutsche Bank Research **16**

## 4. Tertiary education

Education is central to economic and societal advancement. Better-educated people can make better products and are more receptive to new ideas. University-level education seems to play a particularly important role. Inglehart and Welzel point out that in practically all societies people with higher education have a higher emphasis on self-expression values than the population as a whole (2005, p. 37). The correlation analysis in Table 16 shows how many side-effects tertiary education can have.

The special importance of university-level education and the fact that the OECD no longer publishes data on the average number of years of education focuses the analysis on another indicator: the proportion of people in a country with tertiary-level education. The OECD data reveals an education boom in most countries in recent decades. Almost everywhere the population average is better educated than the older generation of 55 to 64 year-olds. The exceptions are Germany and the US, where there has been hardly any increase in the ratios over time.

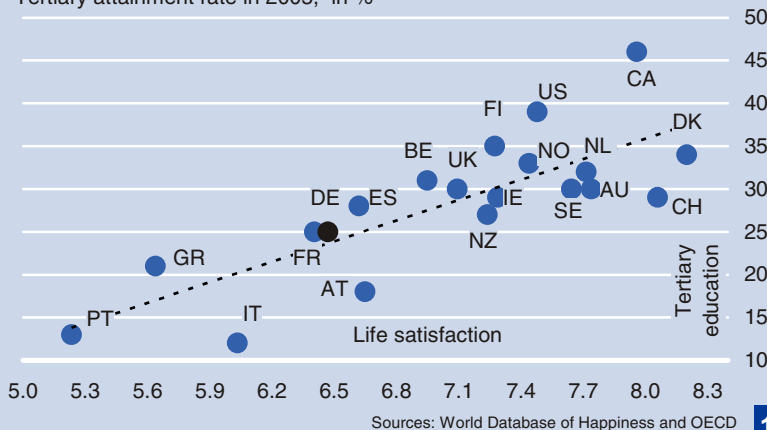
In 2005 Canada, the US and three Scandinavian countries posted the highest percentage of university graduates – a category that also includes universities of applied science, master craftsmen and many technical training courses. Germany’s strengths lie in dual education (Lehre), which counts towards secondary education. However, structural change and globalisation lead to a larger role for tertiary education in rich countries. The OECD has rightly pointed to the lack of appropriate change in Germany’s education sector over the past decades.

### High time for a new education boom in Germany

Even if Germany has made considerable progress in the past years, the international comparison shows that much remains to be done – by both the state, the individual and the corporate sector. Germany should aim to have 40% of an age cohort completing tertiary education (not just beginning studies). The foundation for this is laid in early childhood education. There is need for change across the entire education spectrum ranging from before kindergarten all the way to life-long learning.

### Tertiary education has many side effects

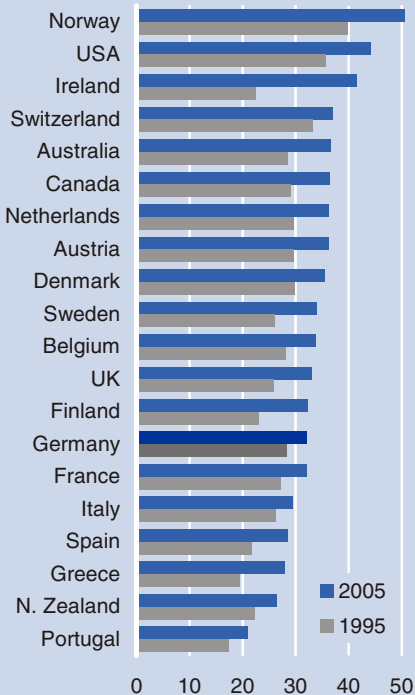
Horizontal: Life satisfaction according to surveys, around 2005; Vertical: Tertiary attainment rate in 2005, in %



Sources: World Database of Happiness and OECD **17**

### Income keeps rising

GDP per capita, in PPP USD '000



Source: GGDC **18**

### Income and more

Correlation coefficients for 20 countries

|                             | GDP per capita |
|-----------------------------|----------------|
| GDP per capita              | 1.0            |
| Happiness                   | 0.6            |
| Tertiary education          | <b>0.6</b>     |
| Government effectiveness    | 0.5            |
| Capital access              | 0.5            |
| Nonprofits/voluntary sector | 0.5            |
| Trust                       | 0.5            |
| Fertility rate              | 0.4            |
| Democracy index             | 0.4            |
| Broadband access            | 0.4            |
| Locus of control            | 0.3            |
| Corruption (low)            | 0.3            |
| Employment 55-64            | 0.3            |
| Economic freedom            | 0.3            |
| Innovation scoreboard       | 0.3            |
| Tolerance                   | 0.2            |

Source: Deutsche Bank Research **19**

## 5. Higher income opens up possibilities

In each of the theories outlined on pages 8 to 11 a high level of income is one indication of economic and social progress. Sen sees income as conferring the freedom to decide not to eat (to fast), for example. And for Inglehart and Welzel material prosperity is the prerequisite for turning attention to other issues. As in other areas too, the causality is not always clear here: do people with high incomes bring pressure to bear for more effective government, for example, or does good governance make higher income possible? In any case, many indicators of societal progress go hand in hand with income not only theoretically, but also in the 20 OECD countries, as Table 19 illustrates.

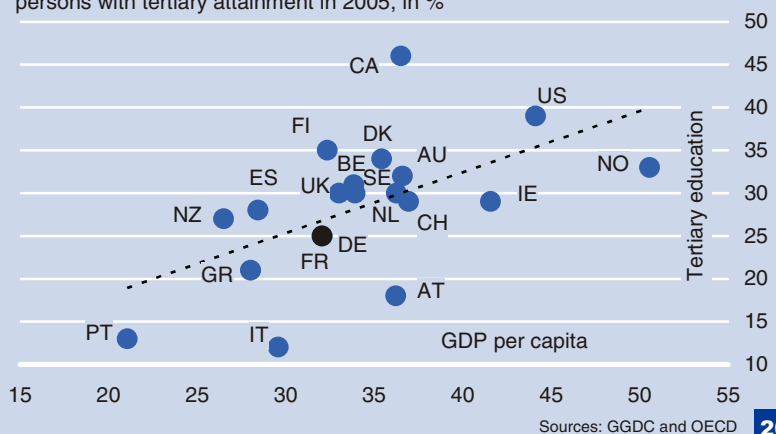
The simplest measure of income is gross domestic product per head valued at comparable prices (purchasing power parities). Better would be net national income, stripping out depreciation and income flows abroad (see “Measures of well-being. There is more to it than GDP” Deutsche Bank Research, Current Issues September 2006), but no data on purchasing power parities is available for this. The chart on the left illustrates the large income differentials that exist even within the 20 OECD countries in our analysis – and the substantial increase in material prosperity over the past 10 years. It is not therefore surprising that the OECD is currently engaged in creating measures of welfare that look beyond GDP under its global project “Measuring the Progress of Societies” launched in 2007 ([www.oecd.org/progress](http://www.oecd.org/progress)).

### Improvements are possible only indirectly

Gross domestic product can be ratcheted up directly by government policies at most temporarily. Change must always start out from the direct and indirect determinants of economic growth: labour input, human capital and openness, as well as public institutions and interpersonal trust. Attempts to apply the lever directly to real capital do not promise success in the long run unless at the same time the conditions are put in place for earning profit on this capital. Experience in many developing countries and in eastern Germany shows the need for a very broad approach beyond investment programs. All the indicators listed here are associated with higher income as well as with higher life satisfaction.

### Human capital is the key driver of growth

Horizontal: GDP per capita in 2005, in PPP '000 USD; Vertical: Share of persons with tertiary attainment in 2005, in %

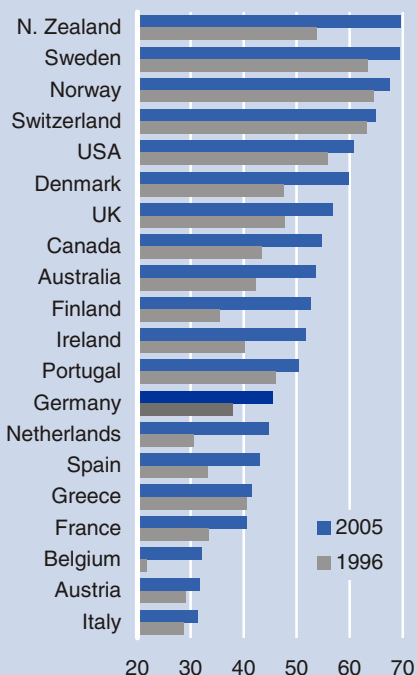


Sources: GGDC and OECD **20**



### More senior employees

Employment rate of those aged 55 to 64, in %



Source: OECD **21**

### Working longer and...

Correlation coefficients for 20 countries

#### Employment 55-64

|                             |     |
|-----------------------------|-----|
| Employment 55-64            | 1.0 |
| Government effectiveness    | 0.7 |
| Locus of control            | 0.6 |
| Capital access              | 0.6 |
| Corruption (low)            | 0.6 |
| Economic freedom            | 0.6 |
| Democracy index             | 0.6 |
| Happiness                   | 0.6 |
| Trust                       | 0.6 |
| Fertility rate              | 0.5 |
| Tertiary education          | 0.5 |
| Tolerance                   | 0.5 |
| Innovation scoreboard       | 0.5 |
| Broadband access            | 0.5 |
| GDP per capita              | 0.3 |
| Nonprofits/voluntary sector | 0.3 |

Quelle: Deutsche Bank Research **22**

## 6. Employment does good

Surveys do not place working as such high on the scale of happiness-promoting activities. But the fulfilment that can accompany it, the sense of doing something meaningful and the interpersonal contacts forged through (and after) work are extremely important for people's contentment in life.

### Working longer and low unemployment

The best measures of labour market functioning are the unemployment rate and the employment rate for older people as published by the OECD. On both measures the Anglo-Saxon countries have a strong lead, along with Switzerland and the 'flexicurity' countries Denmark and the Netherlands (chart below). They all show – contrary to claims frequently made in Germany – that there is no link between early retirement ages and good employment opportunities for younger workers.

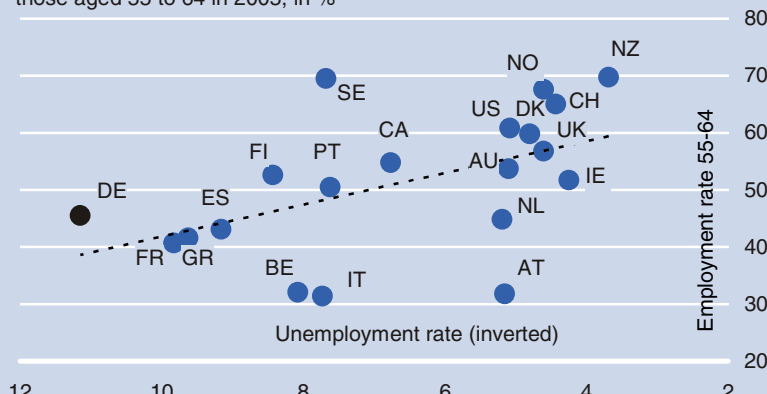
The correlation analysis in Table 22 suggests that governments are effective in countries with flexible labour markets, that democratic control works well, that there is little corruption and individuals have a relatively high degree of control over their lives. Consequently, a marked improvement in the German labour market must presumably go hand in hand with many changes in other spheres – something that is not possible to achieve overnight. Full-employment with an unemployment rate around 4% is possible – and beneficial for many reasons outside the pure economic sphere.

### New communication of labour market reforms

The recommendations for more flexible labour markets and lower unemployment have been on the table for years, and meanwhile there are plenty of success stories from other countries. In Germany, however, some measures are unpopular for various reasons. Many people still perceive early retirement as conducive to happiness – which may have something to do with the fact that corporate organisation is not always in keeping with the times. Low employment protection is seldom seen in Germany as a way to more freedom and flexibility; and tougher eligibility criteria for unemployment benefits are interpreted as dismantling the welfare state rather than as an opportunity for a speedy fresh start in a different job. Happiness research findings and the international comparisons listed here could possibly facilitate communication of beneficial changes.

### Favourable labour markets in happy countries

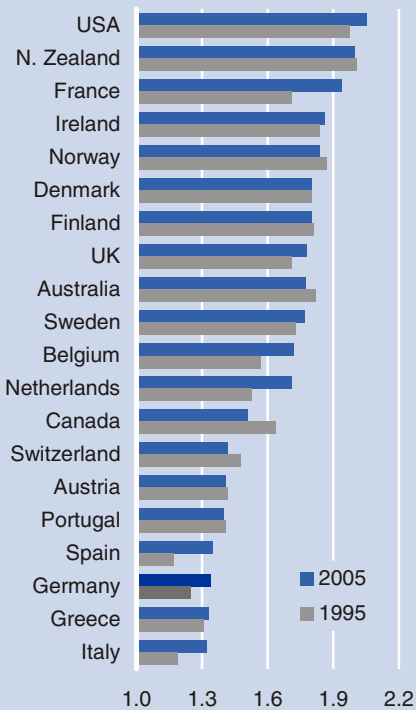
Horizontal: Unemployment rate in 2005, in %; Vertical: Employment rate of those aged 55 to 64 in 2005, in %



Sources: World Database of Happiness and OECD **23**

### Fertility rates

Children per woman



Sources: Eurostat and World Bank **24**

### Fertility rate and more...

Correlation coefficients for 20 countries

|                             | Fertility rate |
|-----------------------------|----------------|
| Fertility rate              | 1              |
| Capital access              | 0.5            |
| Nonprofits/voluntary sector | 0.5            |
| Government effectiveness    | 0.5            |
| Tertiary education          | <b>0.5</b>     |
| Happiness                   | 0.5            |
| Employment 55-64            | 0.5            |
| Corruption (low)            | 0.5            |
| GDP per capita              | 0.4            |
| Trust                       | 0.4            |
| Broadband access            | 0.4            |
| Economic freedom            | 0.4            |
| Innovation scoreboard       | 0.4            |
| Locus of control            | 0.4            |
| Democracy index             | 0.3            |
| Tolerance                   | 0.2            |

Source: Deutsche Bank Research **25**

## 7. Birth rate – trust across generations

In evolutionary theory the success of a gene (or routine) hinges on whether it helps preserve or, indeed, increase the species. In 'The Fatal Conceit' Hayek even devotes an entire chapter to population growth. Immigration and birth rates can therefore provide pointers to the success of a societal model. In social capital research the family, as the nucleus of society, is also where trust is passed on to the next generation, the first years of life being the most formative.

However, various other factors, partly historical or geographic, also influence inward migration and birth rates. Low infant mortality in the wealthy countries is one reason why far fewer children are born there than before. Whereas infant mortality rates vary hardly at all between the prosperous countries, there are marked differences in their birth rates. Here, too, the Anglo-Saxon and Scandinavian countries take the lead with rates of two or just below, as the left-hand chart demonstrates. The only exception is France, where years-long active family policy has lifted the rate to 1.9 despite low scores on many of the other aspects of societal progress. The special situation of France depresses all correlations with the birth rate in table 15. In the last decade the birth rate has edged up slightly on average across the countries.

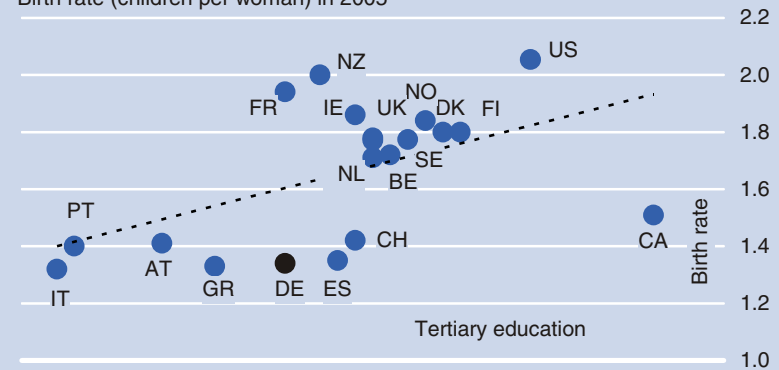
### Common features of countries with high birth rates

Even if the birth rate does not correlate extremely strongly with the other variables, some relevant commonalities can still be detected among the high birth-rate countries, as Table 25 illustrates. They enjoy rather effective governments that evidently set the right political priorities; a high level of education does not curb birth rates in the 20 OECD economies; older people work longer; corruption is on the low side and interpersonal trust tends to be high. Taken together, all this seems to produce an environment in which people are happy to have children – and well equipped to raise the next generation of cooperative and trusting citizens.

Admittedly, the example of France shows that a high birth rate is also possible in less ideal overall circumstances. But a comprehensive political approach combined with the specific promotion for families such as the family counselling services in Scandinavia is likely to fare better.

### Education does not necessarily curb fertility

Horizontal: Share of persons with tertiary education in 2005, in %; Vertical: Birth rate (children per woman) in 2005

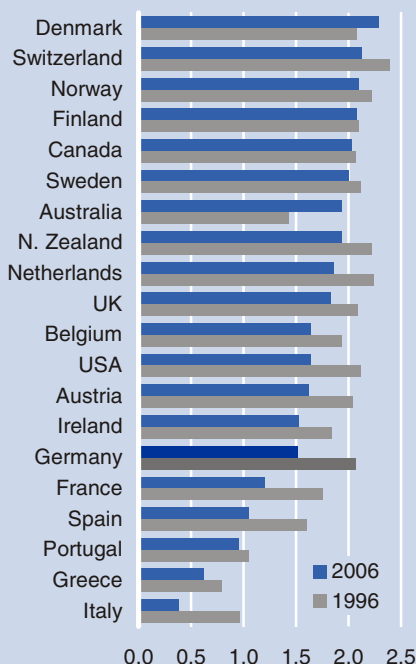


Sources: Eurostat, World Bank and OECD **26**



### Government is particularly effective in Scandinavia

Government effectiveness, scale from -2.5 to +2.5 across 212 countries



Source: World Bank **27**

### Government effectiveness

Correlation coefficients for 20 countries

|                             | Govt. effectiveness |
|-----------------------------|---------------------|
| Government effectiveness    | 1.0                 |
| Corruption (low)            | 0.9                 |
| Happiness                   | 0.9                 |
| Broadband access            | 0.8                 |
| Democracy index             | 0.8                 |
| Capital access              | 0.8                 |
| Economic freedom            | 0.7                 |
| Tertiary education          | 0.7                 |
| Tolerance                   | 0.7                 |
| Trust                       | 0.7                 |
| Innovation Scoreboard       | 0.7                 |
| Employment 55-64            | 0.7                 |
| Locus of control            | 0.6                 |
| Fertility rate              | 0.5                 |
| GDP per capita              | 0.5                 |
| Nonprofits/voluntary sector | 0.5                 |

Source: Deutsche Bank Research **28**

## 8. Effective government sets priorities

Societal and economic progress is shaped by individuals, groups and companies, who ultimately also decide on government's duties. What is then important is whether the outcome fosters progress and the proper, forward-looking priorities are set.

Metrics on the quality of government activity are difficult to find, especially since they are regularly coloured by different value judgements on governance priorities. In the theoretical framework depicted in the chart on page 9 a good government would be one that permitted or promoted education, employment, freedom, trust etc.

### World Bank measures government effectiveness

The World Bank has for years stressed the importance of good governance for development. The Worldwide Governance Indicators rate six dimensions of governance for 212 countries for the years 1996 to 2006 with reference to a large number of sources from surveys, government institutions, commercial suppliers and non-government organisations.

For the wealthy nations the indicator of government effectiveness is an aggregation of ten sources that aims to measure the quality of political decision-making and public services. It is standardised for each year for all countries on a scale of -2.5 to +2.5, stating the variance from the average score in the respective year.

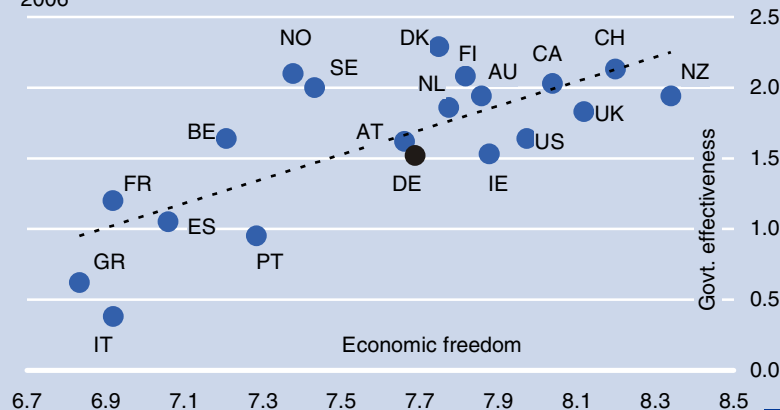
In 2006 the Scandinavian countries clearly held the lead here, followed by Switzerland, the Anglo-Saxon countries and the Netherlands. Of the 20 countries considered, Germany managed only 15<sup>th</sup> place. Relative to the global average, practically all OECD countries have lost ground slightly since 1996 owing to rapid advances in many poorer countries. The exceptions are Australia and Denmark, which have even succeeded in improving their index position. Relatively speaking, Italy, Germany and France have lost most ground.

### Strong correlations with most other aspects of progress

Government effectiveness correlates closely with practically all aspects of social progress considered here, as Table 28 shows. Change must presumably start out from many factors, as reflected in the broad spectrum of recommendations on pages 4 to 7.

### Government effectiveness secures freedom

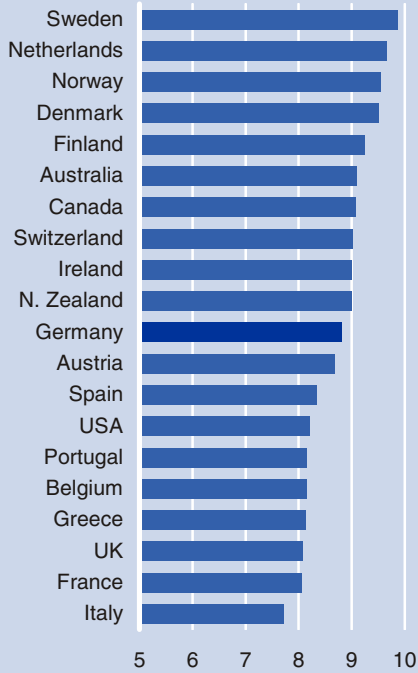
Horizontal: Economic freedom in 2005; Vertical: Government effectiveness in 2006



Sources: World Bank and Fraser Institute **29**

### Scandinavia performs well in democracy index

Democracy index 2006, scale from 0 to 10



Source: Economist Intelligence Unit **30**

### Trust in democracy

Correlation coefficients for 20 countries

|                             | Democracy index |
|-----------------------------|-----------------|
| Democracy index             | 1.0             |
| Trust                       | 0.9             |
| Tolerance                   | 0.9             |
| Government effectiveness    | 0.8             |
| Corruption (low)            | <b>0.8</b>      |
| Happiness                   | 0.7             |
| Broadband access            | 0.6             |
| Employment 55-64            | 0.6             |
| Capital access              | 0.5             |
| Innovation scoreboard       | 0.5             |
| Tertiary education          | 0.5             |
| Economic freedom            | 0.4             |
| Locus of control            | 0.4             |
| Nonprofits/voluntary sector | 0.4             |
| GDP per capita              | 0.4             |
| Fertility rate              | 0.3             |

Source: Deutsche Bank Research **31**

## 9. Well-working democracies have the edge

A working democracy is, on the one hand, the product of societal progress over the long term (Inglehart and Welzel), while on the other it appears to be the prerequisite for effective government that sets the right priorities. But its benefits extend over many areas. Effective, direct participation gives people immediate satisfaction, as Frey and Stutzer have demonstrated. What is more, effective engagement helps create more trust among people as they need worry less about benefits being distributed underhand to people who may not deserve them.

### Big gap between Scandinavia and America

Measuring the quality of a democracy is not an easy task. The World Bank calculates a Voice and Accountability index to gauge freedom of expression and the extent to which a country's citizens are able to participate in selecting their government. This index correlates closely with the Economist Intelligence Unit democracy index 2006 that we use here. The EIU aggregates 60 hard and soft indicators from different sources, some of which come from the World Values Survey.

On this measure democracy appears to work especially well in Scandinavia and the Netherlands. The Anglo-Saxon countries do not present a consistent picture: whereas the quality of democracy is high in Australia and Canada, the US – and even more so the UK – lag well behind. These findings tally with the World Bank data.

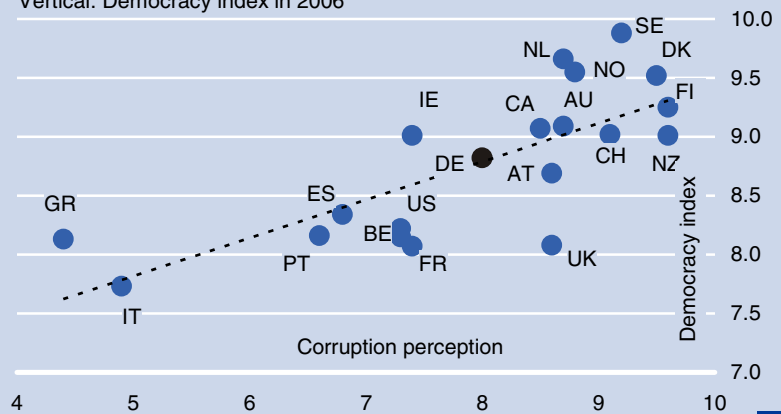
In countries with working democracies government is more effective and corruption lower – which is hardly surprising. People also trust their fellow citizens more, are more tolerant of others and generally more satisfied with their lives.

### Pressure for better democracies

A good democracy cannot be created on the drawing board, it takes decades of change. Nonetheless, we can outline some basic tendencies here (which are reflected in the recommendations on pages 4 to 7): Working democracies are determined less hierarchically by a small elite, but instead give each citizen an effective say in affairs, e.g. through elements of direct democracy at local level. The pressure for this tends to come from well educated citizens and a free press.

### Little corruption in effective democracies

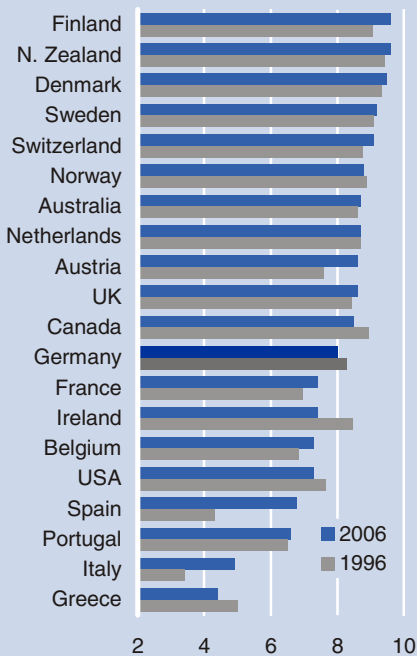
Horizontal: Corruption perception in 2006 (high value = low corruption); Vertical: Democracy index in 2006



Sources: Transparency International and Economist Intelligence Unit **32**

### Corruption is declining slightly - especially in Spain

Corruption perception in 2006 (high value = low corruption)



Source: Transparency International **33**

### Little corruption and...

Correlation coefficients for 20 countries

|                             | Corruption |
|-----------------------------|------------|
| Corruption (low)            | 1.0        |
| Government effectiveness    | 0.9        |
| Broadband access            | 0.8        |
| Happiness                   | 0.8        |
| Democracy index             | 0.8        |
| Economic freedom            | 0.7        |
| Innovation scoreboard       | 0.7        |
| Tolerance                   | 0.7        |
| Capital access              | 0.7        |
| Trust                       | 0.7        |
| Employment 55-64            | 0.6        |
| Locus of control            | 0.6        |
| Tertiary education          | 0.5        |
| Fertility rate              | 0.5        |
| Nonprofits/voluntary sector | 0.3        |
| GDP per capita              | 0.3        |

Source: Deutsche Bank Research **34**

## 10. Corruption slows progress

Amartya Sen sees corruption as one of the biggest obstacles on the road to successful economic development. He cites low levels of discretionary government intervention, a value system inimical to corruption, and intelligent penalties as steps towards overcoming this obstacle. Corruption comes about when a position of power is exploited for personal advantage. Inglehart and Welzel concentrate in their analysis on people who wield exceptional power – elites. They interpret the scale of corruption as an indicator of the integrity of elites and hence the effectiveness of democracy.

### Corruption – the unlawful pursuit of personal interest

Corruption measures attempt to capture the extent to which power is abused for personal material gain. This can be identified in surveys of citizens (“Do you think accepting bribes can be justified?” as practised in the World Values Survey) or of businesspeople. Transparency International takes another route with the Corruption Perceptions Index, which aims to depict how people view corruption. High values in the index imply low corruption.

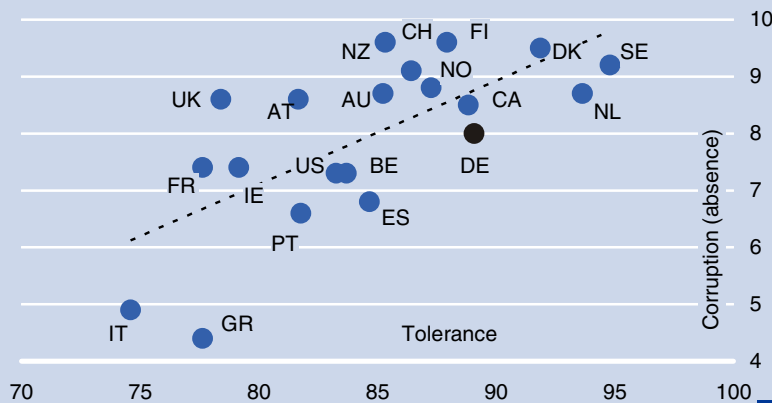
In 2006 the Scandinavian countries, New Zealand and Switzerland boasted a particularly low-corruption environment. Interesting is the close correlation between the corruption index, government effectiveness and the quality of democracy. Inglehart and Welzel see the causality running primarily from corruption (as their measure of integrity of the elites) to the quality of governance and democracy. Moreover, when corruption is lower, trust and tolerance are higher. Between 1996 and 2006 corruption perceptions improved slightly in most countries, most markedly so in Spain, Italy and Austria.

### Combat corruption in all forms and at all levels

Low corruption and little abuse of power for personal gain are characteristic of advanced societal development. Well conceived statutory regulations, such as asymmetric sanctions punishing only the briber, can be helpful in combating corruption. But another important aspect is whether elites are concerned chiefly with their own well-being or are committed to the development of society as a whole, e.g. by permitting and encouraging high education for broad sections of the population.

### Tolerance and corruption

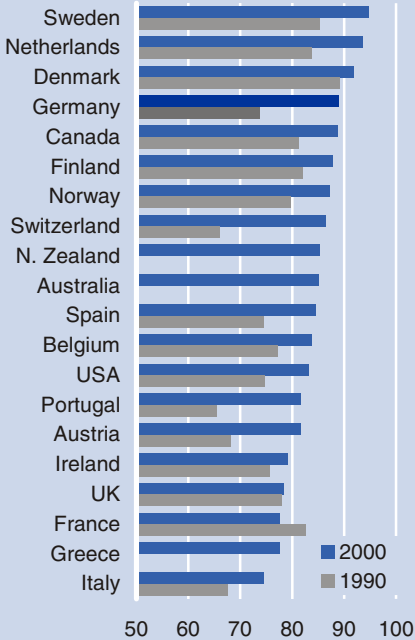
Horizontal: Tolerance according to surveys in 2000; Vertical: Corruption perception (scale from 0 to 10, 10 = lowest corruption) in 2006



Sources: World Values Survey and Transparency International **35**

### Tolerant Scandinavians

Average % of persons, who do not mind living next door to immigrants/foreigners, homosexuals or AIDS-infected persons



Source: World Values Survey **36**

### Tolerance helps

Correlation coefficients for 20 countries

|                             | Tolerance  |
|-----------------------------|------------|
| Tolerance                   | 1.0        |
| Democracy index             | 0.9        |
| Trust                       | <b>0.8</b> |
| Broadband access            | 0.7        |
| Government effectiveness    | 0.7        |
| Corruption (low)            | 0.7        |
| Happiness                   | 0.7        |
| Tertiary education          | 0.5        |
| Innovation scoreboard       | 0.5        |
| Employment 55-64            | 0.5        |
| Nonprofits/voluntary sector | 0.4        |
| Economic freedom            | 0.4        |
| Capital access              | 0.4        |
| Locus of control            | 0.4        |
| GDP per capita              | 0.2        |
| Fertility rate              | 0.2        |

Source: Deutsche Bank Research **37**

## 11. Tolerance – Talent – Technology

Modern societies tend to become increasingly diverse, heterogeneous and complex. Openness to new ideas and experiences as well as tolerance towards others is important for economic success but can also be a significant value in its own right. Richard Florida has popularised the three T's Technology – Talent – Tolerance: In metropolitan regions that are very tolerant of homosexuals the quality of life seems to be higher. This attracts well-educated talent, which in turn supports the progress of high technologies. The principle can be extended to entire countries – and the variables augmented by the addition of trust, life satisfaction, democracy and many more aspects.

### Germans are relatively tolerant

A society's tolerance and inclusiveness cannot be measured directly, it must be captured using surveys. In the World Values Survey people are asked what groups, from a list of 14, they would not like to have as neighbours. In the classification used here, the people who do not select "Immigrants/foreign workers", "Homosexuals" or "People who have AIDS" are considered particularly tolerant.

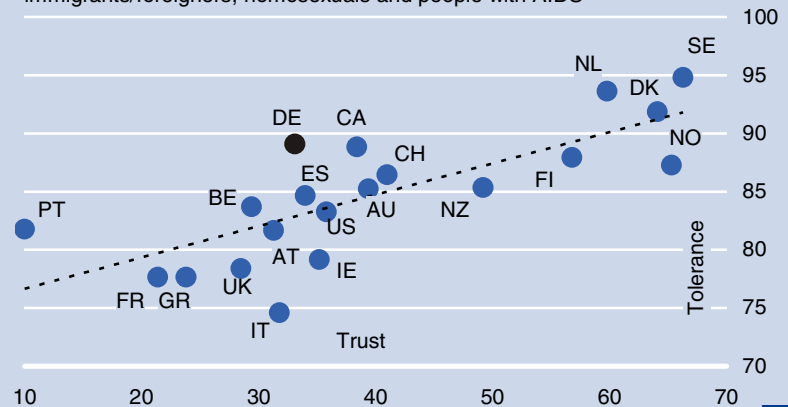
On this measure – which, as all World Values Survey data, is currently available only for the years around 2000 – substantial and predictable differences are found to exist between the 20 countries examined. People in Scandinavia, the Netherlands and Canada are particularly tolerant (Chart 36). With a reading of 89%, Germany shows a relatively high value – also in comparison to the other variables considered here. The improvement over the Germany-wide reading for the year 1990 stems chiefly from greater tolerance towards homosexuals.

### Close correlation with trust, corruption and innovation

High tolerance goes hand in hand with a high degree of trust in other people (Chart 38), good democracy and low corruption, and also with high innovative capacity (Table 37). This shows yet again how broadly societal development needs to be defined. The literature on social capital highlights many ways in which tolerance and interpersonal trust can be bolstered. Some of these were mentioned on pages 4 to 7. Germany is well ranged in this respect and should try to build on this base.

### Tolerance and trust go hand in hand

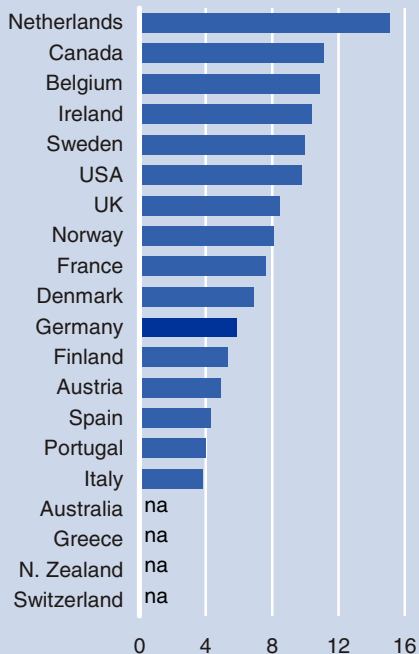
Horizontal: Trust in other people in %; Vertical: Tolerance towards immigrants/foreigners, homosexuals and people with AIDS



Sources: World Values Survey and DBR calculations **38**

### Third sector as an indicator for progress

Employees in nonprofits and voluntary sector, in % of workforce, 2003



Source: Johns Hopkins University and Boje (2006)

39

## 12. Commitment and participation

Civil society, civic commitment, third sector are terms that are becoming increasingly prominent in recent years. A host of activities by individuals supplement and control what companies and governments do. From the coach in a sports club through consumer advocacy organisations to globally networked think tanks, people are committing to societal development. Examples such as Ashoka, which promotes social entrepreneurship, or Common Purpose, which gives leaders the inspiration, knowledge and connections they need to produce real change, illustrate how progress may be fostered.

### Lots of commitment and a high level of education

It is difficult to capture this broad and diverse sector in figures. In the almost complete absence of official statistics, different sources have to be combined. The Comparative Nonprofit Sector Project at Johns Hopkins University adds up the number of voluntary or paid workers in private, self-governing and non-profit organisations. A large proportion is active in education, health and societal work. However, the data is not particularly authoritative owing to the considerable differences in structures across countries.

According to these statistics, the third sector is largest in the Netherlands, Canada and – rather surprisingly – Belgium (Chart 39). Germany is much lower on the list with not quite 6% of the workforce active in the third sector. The correlation table shows that high life satisfaction goes hand in hand with deep social commitment. Moreover, countries with a high proportion of university graduates appear to have a large third sector (chart 41) – as well as effective governments and a working democracy.

### A lot of commitment

Correlation coefficients for 20 countries

|                             | Engagement |
|-----------------------------|------------|
| Nonprofits/voluntary sector | 1.0        |
| Happiness                   | 0.6        |
| Tertiary education          | 0.6        |
| Fertility rate              | 0.5        |
| Capital access              | 0.5        |
| Government effectiveness    | 0.5        |
| GDP per capita              | 0.5        |
| Broadband access            | 0.5        |
| Democracy index             | 0.4        |
| Economic freedom            | 0.4        |
| Tolerance                   | 0.4        |
| Trust                       | 0.4        |
| Corruption (low)            | 0.3        |
| Innovation scoreboard       | 0.3        |
| Employment 55-64            | 0.3        |
| Locus of control            | 0.2        |

Source: Deutsche Bank Research

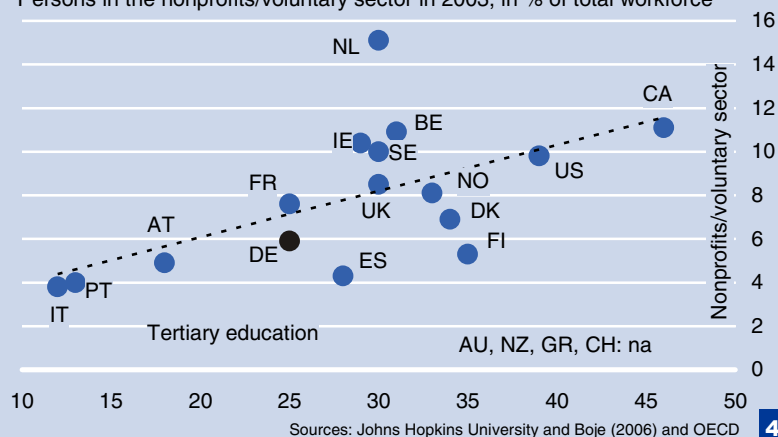
40

### Third sector a growth industry

Societal development theory suggests that the third sector is a growth area, an assessment that is supported by developments over the past years. Germany is seeing the emergence of more and more organisations in this sector. Also, the government is increasingly supporting civic commitment and assigning ever more areas of activity to the third sector. This trend will arguably be conducive to people's life satisfaction and trust – and in the long run therefore also to economic growth.

### Commitment has a lot to do with education

Horizontal: Share of persons with tertiary education in 2005, in %; Vertical: Persons in the nonprofits/voluntary sector in 2003, in % of total workforce



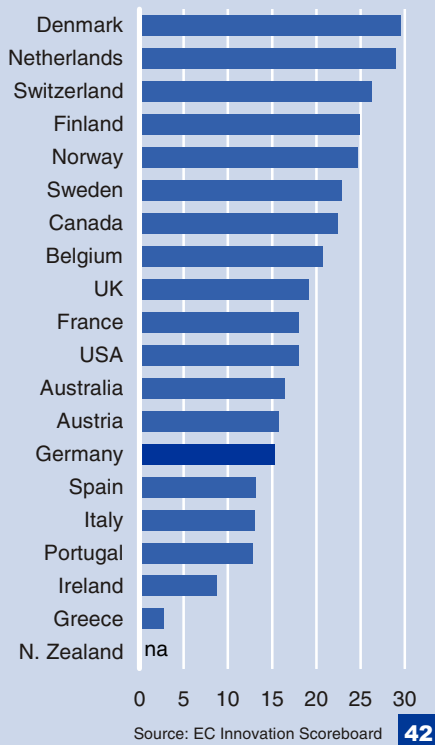
Sources: Johns Hopkins University and Boje (2006) and OECD

41



### Well-connected Scandinavia

Broadband penetration in 2006, in %



### Broadband, trust...

Correlation coefficients for 20 countries

|                             | Broadband  |
|-----------------------------|------------|
| Broadband access            | 1.0        |
| Corruption (low)            | 0.8        |
| Government effectiveness    | <b>0.8</b> |
| Happiness                   | 0.7        |
| Tolerance                   | 0.7        |
| Trust                       | 0.7        |
| Democracy index             | 0.6        |
| Innovation scoreboard       | 0.6        |
| Tertiary education          | 0.5        |
| Capital access              | 0.5        |
| Economic freedom            | 0.5        |
| Employment 55-64            | 0.5        |
| Nonprofits/voluntary sector | 0.5        |
| Fertility rate              | 0.4        |
| GDP per capita              | 0.4        |
| Locus of control            | 0.2        |

Source: Deutsche Bank Research **43**

## 13. Networking: technology helps

In the 21<sup>st</sup> century globalisation and digitisation are making networking with other people around the globe increasingly important and ever easier. Networks are the modern path to new jobs, new employees, new business orders and new ideas and can also open up new perspectives in people's spare time.

The importance of networks can already be documented for 15<sup>th</sup>-century Florence, where the rise of the Medici was built on a close-knit network. Hayek considers human cooperation as nothing less than the basis of civilisation and capitalism. In the literature on societal capital, connections to other people (networking) is the second metric, alongside interpersonal trust, used to measure the amount of social capital. Ideally, all personal interaction with other people should be covered, but in the absence of such data the focus here will be placed on the technological possibilities.

### Networking increasingly digital and in broadband

Technological progress enables ever faster networking over the internet, be it by email, in globally organised virtual social networks such as Xing, LinkedIn and Facebook or via the electronic bulletin board at the town hall. Increasingly, these networks are accessed through broadband connections.

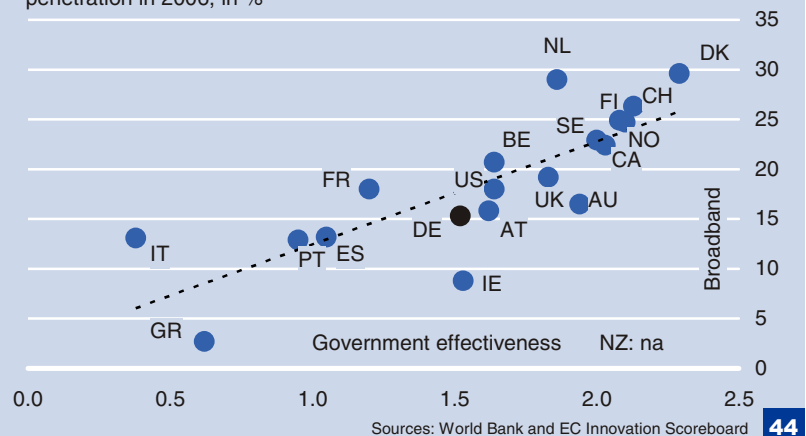
Broadband access differs considerably in the countries examined here. Whereas in 2006 nearly 30% of the people in Denmark and the Netherlands already had a broadband link, the figure was only half that in Germany, and in Greece a mere 3%. There is no way of telling whether demand for such networking technologies is high in the top countries or whether intelligent regulation has created the relevant supply. Regardless of the direction of causality, a strong correlation with the other aspects of societal progress is obvious as table 43 shows.

### Policies for greater networking

Policy-makers in Germany should take swift action to lift broadband networking to a similarly high level as in Scandinavia. For this, too, a broad political approach will presumably be necessary. The quality of democracy, the level of education and openness towards other people all seem to be related to networking.

### Broadband is linked to effective governments

Horizontal: Government effectiveness in 2006; Vertical: Broadband penetration in 2006, in %



### Great differences in innovation performance

Innovation scoreboard for 2007



### Innovation requires...

Correlation coefficients for 20 countries

|                             | Innovation scoreboard |
|-----------------------------|-----------------------|
| Innovation scoreboard       | 1.0                   |
| Corruption (low)            | 0.7                   |
| Government effectiveness    | 0.7                   |
| Happiness                   | 0.6                   |
| Capital access              | 0.6                   |
| Broadband access            | 0.6                   |
| Economic freedom            | 0.6                   |
| Tolerance                   | 0.5                   |
| Trust                       | <b>0.5</b>            |
| Democracy index             | 0.5                   |
| Employment 55-64            | 0.5                   |
| Locus of control            | 0.5                   |
| Tertiary education          | 0.4                   |
| Fertility rate              | 0.4                   |
| Nonprofits/voluntary sector | 0.3                   |
| GDP per capita              | 0.3                   |

Source: Deutsche Bank Research **46**

## 14. Innovation needs the right environment

Progress and innovation are often used as synonymous. Both imply change that produces a better, preferred outcome. Social and economic progress is impossible without technical and organisational innovation. In Nelson and Winter's evolutionary theory effective government and a high level of education form the foundation on which innovations can be created and lead to higher real incomes.

Inglehart and Welzel see innovation as crucial to the increase in material possibilities. In the modern project economy – as described in DBR's project "Germany 2020" – trust in new cooperating partners is critical for business success and the satisfaction of the employees involved.

It should not therefore come as a surprise that the capacity for innovation is particularly great in countries where corruption is low, government is relatively effective, considerable economic freedom exists and people trust one another more.

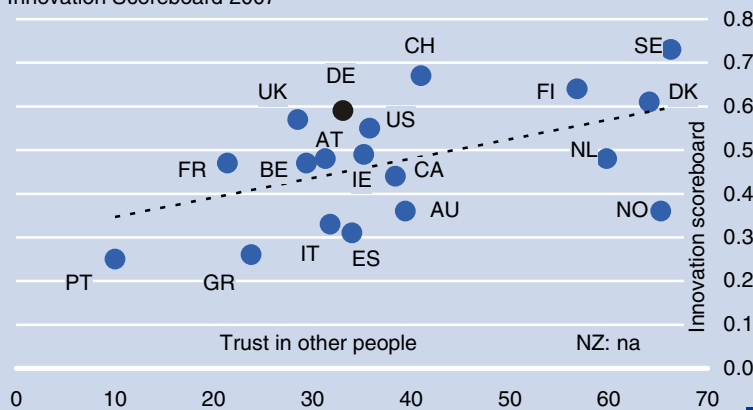
### Innovation scoreboard puts Germany in the top group

The European Commission's Innovation Scoreboard rates Sweden, Switzerland and Finland as the most innovative countries. The Scoreboard aggregates a large number of different variables on the innovation system (inputs, results etc.). Other innovation indices arrive at slightly different results, but the underlying tendencies are rather similar.

In 2007 Germany ranked fifth, ahead of the UK and US. Germany's innovative capacity is higher than the other variables examined here might suggest. The chart below reveals, for example, high innovative strength despite the rather mediocre reading on interpersonal trust. Targeted innovation policy has evidently produced measurable results in Germany. In the medium term, however, it would seem appropriate to address the whole environment for innovation (similar to what was suggested for family policy). Less corruption, more trust, more effective government, better access to capital and a higher proportion of university graduates would presumably help sustain Germany's innovative capabilities at a high level – and at the same time contribute to higher life satisfaction.

### Trust and innovation

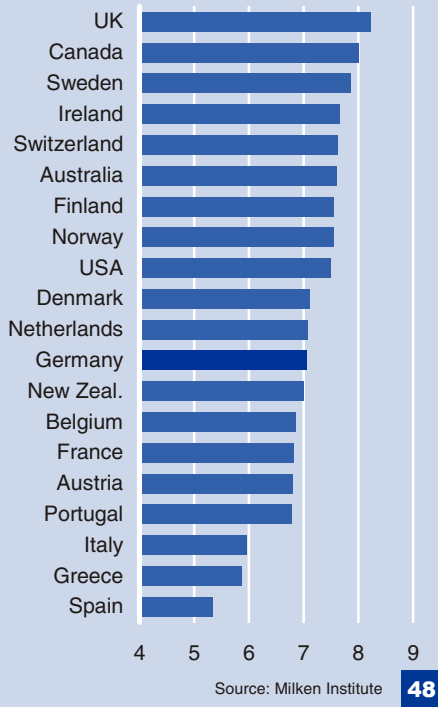
Horizontal: Trust in compatriots according to surveys, around 2000; Vertical: Innovation Scoreboard 2007





### Access to capital is rather difficult in Southern Europe

Capital Access Index 2007, scale from 0 to 10



### Access to capital

Correlation coefficients for 20 countries

|                          | Capital access |
|--------------------------|----------------|
| Capital access           | 1.0            |
| Government effectiveness | 0.8            |
| Economic freedom         | <b>0.7</b>     |
| Corruption (low)         | 0.7            |
| Happiness                | 0.7            |
| Employment 55-64         | 0.6            |
| Innovation scoreboard    | 0.6            |
| Tertiary education       | 0.6            |
| Locus of control         | 0.6            |
| Fertility rate           | 0.5            |
| Non-profits & voluntary  | 0.5            |
| GDP per capita           | 0.5            |
| Broadband access         | 0.5            |
| Democracy index          | 0.5            |
| Tolerance                | 0.4            |
| Trust                    | 0.4            |

Source: Deutsche Bank Research **49**

## 15. Access to capital

Easy access to capital is also important for economic progress – and it also has much to do with the other variables considered here: Innovation always requires capital to bring new products and services to market. Amartya Sen also emphasises that access to capital can be crucial to the economic opportunities people are able to realise.

On the capital market, a payment today is exchanged for more or less uncertain payments in the future, requiring a considerable measure of trust in the counterparty. Low trust can cause a transaction not to be made. Beyond general trust, efficient statutory regulations help the parties involved by offering legal security.

### Index of access to capital

Each year the Milken Institute calculates an index designed to depict how easily companies can gain access to financial capital, or how sophisticated the capital market in a particular country is. The Capital Access Index scores equity and bond markets, alternative capital sources such as venture capital and access to international capital markets as well as the quality of financial institutions and regulation.

The index for 2007 placed the UK, Canada and Sweden among the top countries (Chart 48). Germany ranks seventeenth overall. Since the composition of the index has changed considerably over time, it is unfortunately not possible to track a trend over several years.

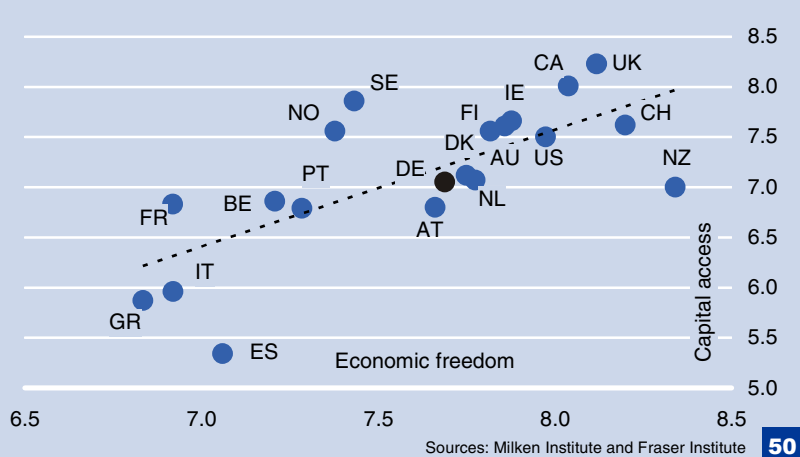
Table 49 shows how closely access to capital is related to effective government and high economic freedom. Evidently, low corruption facilitates financial transactions and innovations. More generally, countries with good access to capital also show high life satisfaction, successful labour markets and high education levels.

### Broad basis for better supply of capital

Better access to financial capital is also best achieved through broadly-based change. A higher level of education, more economic freedom, more interpersonal trust and more effective combating of corruption presumably also radiate positively onto a country's capital market. Efficient capital market regulation is, of course, essential as well in this area.

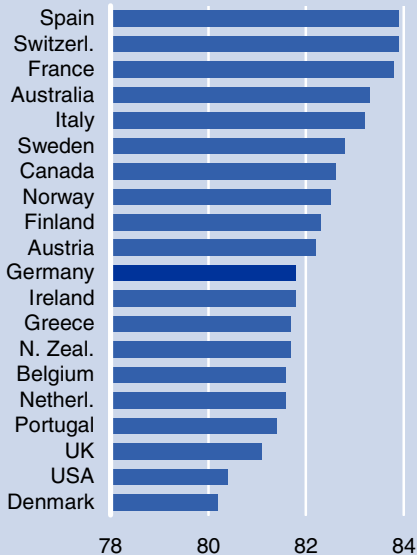
### Freedom to access capital

Horizontal: Economic freedom in 2005; Vertical: Capital access index in 2007



### Life expectancy of girls at birth

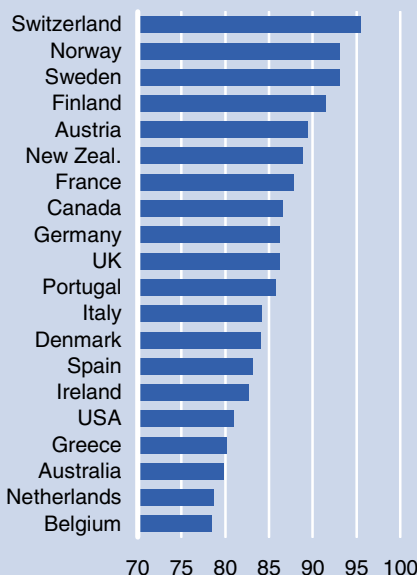
2005, in years



Source: OECD **51**

### Environmental Performance Index

2008



Source: Yale University **52**

## VII. Many more variables

In addition to the variables analysed above, there is a large number of other factors that may be important to people's well-being and a country's development. The following examines briefly (i) variables that fit into the scheme described but were not considered in greater detail for lack of space or owing to the uncertainty of the data basis, (ii) variables that are presumably very important but do not fit into the scheme and (iii) variables that are often discussed but exhibit no empirical and/or theoretical connection.

### (i) Also fitting the scheme

Job protection, which is regularly calculated by the OECD, also fits into the system. In advanced countries it tends to be low, enabling flexible adjustment and a low unemployment rate.

The World Economic Forum's Global Gender Gap Index suggests that women play a greater part in advanced countries than in others. However, there is considerable uncertainty here about the quality of the data.

In advanced countries the transaction costs for purchasing real estate are low, which increases flexibility and could be a sign of openness and competition on the real estate market.

### (ii) Other important variables

Life expectancy (see chart) is without doubt enormously important to people, but the data for 20 countries shows no correlation with other variables presented in this study. Life expectancy presumably depends on eating habits and the climate of the country and less on the quality of state regulation. Measures such as Ruut Veenhoven's Happy Life Years or the Human Development Index are therefore good ways of combining life expectancy with other relevant variables.

The quality of environmental protection is also important to people. However, Yale University's Environmental Performance Index (see chart) reveals no significant correlation to the other variables. It is up to sustainability strategies to ensure environmental protection and thereby support an even broader definition of well-being over the long term.

### (iii) No clear connection

A large number of variables exhibit no systematic correlation with people's life satisfaction in happiness and development research. They are not significant either in micro or macro studies, nor in the set of data presented here:

- the government spending ratio (leading to the conclusion that it is not how much government spends, but what it spends it on that matters),
- the population size,
- national pride (from surveys asking "How proud are you to be a citizen of your country?"),
- the proportion of immigrants in the population (homogeneous societies are no easier to govern than heterogeneous),
- present-day religiosity (in contrast to historical roots, which are partly determined by religion).

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*This study builds on the following previous work:*

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#### **Life satisfaction**

*The Eurobarometer was used as the main source here because it provides comparatively recent data. The correlation with the data from the World Values Survey is 0.8: [ec.europa.eu/public\\_opinion](http://ec.europa.eu/public_opinion)*

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*The data on economic freedom is from the Fraser Institut: [www.fraserinstitute.org](http://www.fraserinstitute.org). Among others, it rates the tax system, the legal system, international interdependencies and market regulation. The data on control over one's own life is taken from the World Values Survey.*

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