

Countries compared on public performance



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A study of public sector performance in 28 countries

Jedid-Jah Jonker (ed.)

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The Netherlands Institute for Social Research | scp

Parnassusplein 5

2511 v x Den Haag

The Netherlands

Tel. +31 70 340 70 00

Fax +31 70 340 70 44

Website: [www.scp.nl](http://www.scp.nl)

E-mail: [info@scp.nl](mailto:info@scp.nl)

The authors of scp publications can be contacted by e-mail via the scp website.

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## Foreword

The performance of the public services is a subject of regular debate. Concerns about public services are not confined to the Netherlands, but exist in other countries, too. The public sector is likely to face major challenges in the next few years; for example, population ageing will lead to increased demand for care services, while dejuvenation will exacerbate staff shortages. Public service budgets in many countries will also be squeezed in the coming years by austerity measures driven by the economic circumstances. It is therefore useful to have an insight into the functioning of the public sector. During the Dutch Presidency of the EU in 2004, the Netherlands Institute for Social Research | SCP conducted a major international comparative study of the performance of the public sector in different countries. This was followed in 2007 by an abridged study. The present report is therefore the first integral follow-up to the 2004 study. The approach has been broadened in the present study by looking at more sectors, albeit to a more limited extent. The scope of the study has also been broadened by looking not just at one point in time, but tracking developments over a series of years.

This report has been compiled in collaboration with the Dutch Ministry of the Interior and Kingdom Relations. Thanks are due in particular to Dr Paul Pestman. The chapter on housing was provided by Dr Marietta Haffner, Christian Lennartz and Kees Dol from the OTB Research Institute for the Built Environment at Delft University of Technology.

The supervisory committee, comprising Professor Hans de Groot, Dr Wouter Van Dooren and Professor Flip de Kam and chaired by Jaap Uijlenbroek, played a key role in the realisation of this project. We would also like to express our thanks for the constructive comments made by the National Strategic Council (*Strategieeraad Rijksbreed*) chaired by Dr Arnold Jonk. The comments from various ministries on the texts of the individual sector chapters were also very helpful.

This study would not have been possible without international comparative data. Wide use has been made of databases compiled by international organisations, especially the OECD, but also Eurostat, the European Values Study, the Dutch Ministry of Justice Research and Documentation Centre (WODC) / Council of Europe, the United Nations, the US Census Bureau and the Inter-University Consortium for Political and Social Research (ICPSR). The ability to compare data from different countries is improving steadily, but this report confirms that international statistics often still leave much to be desired.

Professor Paul Schnabel



## Summary

How well is the public sector performing, and are citizens being well served? Simple though these questions may be, answering them is not easy. It is difficult to measure public sector performance in absolute terms, and this report therefore explores the *relative* performance in different countries. The report compares the performance of nine public services in 28 developed countries over the period 1995-2009. The central research question focuses on how the performance of the public sector has developed over time and what relationships can be discerned between that performance and the resources deployed, the output and the trust placed by citizens in the public sector.

### Approach

Performance is treated in this report as a combination of effects (what is achieved?) and efficiency (at what price?). Effects are measured by looking at outcomes, as far as possible from the perspective of the citizen, in other words what does the citizen notice of the public sector? The report also looks at how closely the effects achieved match the desired outcomes as defined by policymakers. In education, for example, the report looks at the performance of pupils and at the educational attainment of young adults. With health care the focus is on the health status of the population; in the area of social safety the report looks at the level of crime experienced by citizens; and in the housing sector the focus is on the affordability and quality of housing. The report also looks explicitly at how much trust and confidence citizens have in the different public sectors, and examines whether better performance in a sector is also associated with more public confidence in that sector.

The process from input of resources to ultimate effects is an extremely complex one, because many factors play a role. For example, a country's economic status has a major impact on the standard that can be attained by the public sector: in more prosperous countries, provisions are generally of a higher standard. Specific circumstances can also play a role. In a densely populated country such as the Netherlands, for example, it is more difficult to achieve objectives in the area of the environment than for a more thinly populated country such as Sweden. In addition, countries differ in the way they organise sectors, for example in the choices they make that influence accessibility, affordability and quality.

The relationship between expenditure and effects is indirect. Expenditure is used to generate output: numbers of pupils, number of patients treated. In turn output should in good circumstances lead to desired effects: greater knowledge and better skills, increased life expectancy. It is therefore important to map out this process in between expenditure and effects as well in order to expose differences between countries.

In order to examine all these variables in relation to each other, an heuristic model was developed. This model offers a theoretical framework for viewing all the variables in their mutual relationship. Limitations in the data meant it was not possible to investigate the interaction between all the relationships that emerged in the heuristic model. This report looks mainly at simple correlations between two variables, such as the correlation between expenditure and output. As a result, it is also not possible to make statements about the direction (causality) of the relationships found. In addition, indicators are used which often give a simplified and partial representation of reality. Public sector performance is not always directly related to government expenditure, but is partly the result of historical factors, such as the outdated infrastructure in post-Communist countries.

A total of nine sectors are studied in this report. Four of those sectors – education, health care, social safety and housing – are studied in some detail, with attention also being given to output. To do this, the report draws on extensive databases from the OECD and Eurostat and, for social safety, from the European Sourcebook and the international victim survey (EU ICS). In order to provide a more complete picture, five other sectors (social security, the environment, economic affairs and infrastructure, culture and participation, and public administration) are also included. For these sectors, the relationship between expenditure and outcome and between outcome and trust is explored only for 2009. It was also regularly necessary to fall back on other data sources for these sectors, given the limited amount of information on them in the OECD and Eurostat databases. It proved very difficult to find suitable indicators for the culture and public administration sectors. Together, these nine sectors cover the lion's share of public expenditure.<sup>1</sup> This study marks the starting point for a structural comparison of the performance of a broad array of public sectors.

It was decided to base the study on OECD countries, because these are countries with public sectors that operate at a more or less comparable level, and because there is a relatively good stock of comparable data for these countries. Some OECD countries were left out because they are too small in terms of population size (Luxembourg), because they have a substantially lower level of prosperity (Mexico, Chile) or because not enough data are available (Israel). The remaining 28 countries were divided into seven groups based on welfare state models. This classification is taken from Castles et al. (2010) and builds on the pioneering research carried out in this field by Esping-Andersen (1990). The Nordic countries represent the social-democratic welfare state model, or regime, with a major role for the state and universal access to provisions. In the liberal model represented by the Anglo-Saxon countries, the state plays a much more limited role and welfare state provisions are targeted mainly at the most needy. The Continental countries operate a corporatist system, in which a major role is assigned to civil-society organisations (trade unions, the Church) and in which, in contrast to the social-democratic and liberal models, it is not the individual but the family (nuclear or extended) that plays the central role. The former Communist countries form a Central European bloc in which the welfare state is more difficult to classify. The system in these countries appears

not yet to have fully crystallised and retains remnants of the old totalitarian system combined with liberal and corporatist characteristics. The Latin periphery model of the Mediterranean countries assigns a minor role to the government and places a great deal of responsibility with family. In the welfare state orientalism of the Eastern Asiatic countries, we find that many provisions are organised via the employer as a means of securing employee loyalty. There are also 'hybrid' countries which are difficult to classify in one of the above welfare state models because they display elements of several regimes. Among the countries studied here, the Netherlands is the only country which is within this study labelled a hybrid. The outcomes for the different sectors are discussed by country group, looking at the relationship between resources deployed and outcomes achieved and at how much confidence citizens have in the different public sectors.

### The Netherlands

The Netherlands generally manages to achieve a good performance. The outcome is above average in the education, public administration, social security and culture sectors, although the level of expenditure is moderate. Expenditure in the housing and economic sectors is higher than in most other countries, and so is the performance. It should however be borne in mind here that it is only possible in this report to present a picture for the rented housing sector, whereas government expenditure is not limited to this sector.<sup>2</sup> The Dutch performance on health care, social safety and especially the environment is lower than the deployed resources might suggest. In health care, healthy life expectancy is slightly lower than in other countries. The crime rate in the Netherlands is on the high side, partly due to an increase in the number of violent offences. Property crimes have declined, partly thanks to increased preventative measures by both the authorities and citizens (home security measures). However, the Netherlands is not alone here: this trend is also seen in other countries. It is difficult for a country like the Netherlands to perform well on the environment, among other things because of its geographical circumstances (high population density).

Although the Netherlands performs well on public administration and education, public confidence in those sectors is relatively low compared with other countries. Confidence and trust in the police and judicial system, by contrast, is high, even though the crime rate is higher than average. Confidence in social security is slightly higher than in other countries, but here again there appears to be some undervaluation given the performance in this sector. People are for example critical about air quality, though the outcomes on the environment provide no cause for this. Overall, the Dutch are reasonably satisfied and happy with their lives compared with people in other countries. This corresponds with the above-average effects observed for public sector performance.

Yet there are also areas where there is room for improvement. Health care, social safety and the environment have already been mentioned as sectors where the Netherlands performs below the average. In addition, relatively large sums are spent in the Dutch health care sector on institutional nursing and care, whereas population ageing is

much less pronounced in the Netherlands than in other countries. The performance on education is good, but there are concerns about the quality of teachers.

### Nordic countries

Denmark, Finland, Norway and Sweden make up this cluster. The Nordic countries are fairly efficient on average and achieve good performances in public administration, housing, health care, environment and economics and infrastructure with an average level of expenditure. The expenditure on education, social security and culture is somewhat higher than in other countries, but this generally also applies for the outcomes. When it comes to social safety, an average outcome is achieved with moderate expenditure.

Although the Nordic countries can certainly be grouped together as a distinct cluster, clear differences can also be observed between the individual countries. Finland, for example, performs substantially better than the other Scandinavian countries on social safety and education. Denmark performs well on culture and participation, while Sweden achieves strong outcomes in health care.

Confidence in the various sectors is high in the Nordic countries. This is in line with the good performance of those sectors. It is striking that trust and confidence in the police and judiciary is also high, whereas a relatively large number of people in these countries report that they have been victims of crime. The situation is slightly different in Sweden, where confidence in the police and judiciary is lower than in most other countries. Swedes are also less satisfied about social security, whereas the performance here is above average. Confidence in the public administration in Finland is relatively low whereas the performance is by no means poor. Compared with inhabitants of other countries, residents of the Nordic countries are generally the most satisfied with their lives. As with the Netherlands, this corresponds with the good performance of the public sector, which is also better in the Nordic countries than in all other countries studied here.

### Eastern Asiatic countries

Japan and Korea achieved very good outcomes in most areas in return for a moderate level of expenditure. In fact they are among the best-performing countries in education, health care and social safety. The performance on public administration and social security is around the average, but the level of expenditure is low. Both spending and performance are around the average on economics and infrastructure. The only area where the outcomes lie behind the expenditure is the environment.

If we compare Japan and Korea with each other, we see that Japan does better than Korea on health care and on economics and infrastructure. By contrast, Japan spends a good

deal more on social security, while the outcomes in this sector are slightly worse than those in Korea.

Little is known about how much confidence Japanese and Korean people have in the various public sectors. People in Japan are very critical about the police but very satisfied with the judiciary. The former finding is striking, given that few Japanese citizens report having been victims of crime. The opinions on air quality are around the average, whereas the performance on the environment is below average. Inhabitants of Japan and Korea are less satisfied with their lives than residents of other countries. In this case, therefore, the (good) performance of the public sector does not match the level of satisfaction experienced by citizens.

### Anglo-Saxon countries

The performance of the United Kingdom, Ireland, New Zealand, Canada and the United States is broadly similar. The performance in the housing sector (only the United Kingdom and Ireland) is better than in most other countries, but the level of expenditure is also fairly high. The Anglo-Saxon countries perform worse than elsewhere on social safety, whereas the expenditure in this sector is also relatively high.

The United States, in particular, does substantially worse in a number of areas than the other Anglo-Saxon countries. For example, the us spends considerably more on education and health care but performs less well. In the social security and environment sectors, both expenditure and performance are low. However, there are also other countries which deviate from the overall Anglo-Saxon picture in a number of areas. Ireland stands out because of its high expenditure but low outcomes on economics and infrastructure. The likely reason for this is that the investments are made in relatively old infrastructure. Canada performs strongly on education, while New Zealand stands above the other countries in the group with its performance on the environment; as with the Netherlands, geographical circumstances (in this case favourable) play a role here.

Confidence in the police and judiciary is around the average in the Anglo-Saxon countries, with confidence in the police slightly higher than average and confidence in the judiciary slightly lower. This is striking, given the very high crime rate in these countries compared with the other countries in the study. People in the Anglo-Saxon countries are also satisfied about air quality, whereas the outcomes in this area are worse than in other countries. For the other sectors, data are only available for Ireland and the United Kingdom. The differences here are sometimes considerable. The Irish have high confidence in the public administration, whereas the performance is nothing spectacular; for the United Kingdom the situation is precisely the reverse. While the performance on health care is slightly above the average in both countries, confidence in the sector is very low in Ireland but high in the United Kingdom. It is not easy to determine what causes this discrepancy. Generally speaking, residents of the Anglo-Saxon countries are among the happiest with their lives, after the Nordic countries and the Netherlands.

Broadly speaking, there is once again a correspondence here between the performance of the public sector and life satisfaction. The exceptional position of the United States is striking here, because this country delivers very low outcomes in the public sector.

### Continental Western European countries

The outcomes for Belgium, Germany, France, Austria and Switzerland, like those for the Anglo-Saxon countries, are around the average, though compared with the Anglo-Saxon countries both expenditure and outcomes are slightly higher. The Continental countries perform well on economics and infrastructure, achieving good results with limited expenditure. The same applies for housing. The Continental countries perform less well than most other countries on education, in particular, even though expenditure levels are comparable. Unfavourable education system characteristics mean there are wide differences in performance between pupils from different social classes.

Switzerland performs better than the other Continental countries on health care, education, the environment and (together with Germany) economics and infrastructure. Overall, it is notable that Switzerland spends relatively little yet performs better than the other Continental countries. In this respect, Switzerland is more like the Eastern Asiatic countries. One sector where there does appear to be room for improvement in Switzerland is public administration, where it scores lower than the other Continental countries by some margin.

Some differences can also be observed across the Continental group in individual sectors. Belgium lags behind on social safety and the environment, while Austria performs well on social security. Overall, Belgium performs slightly below average across all sectors, while the outcomes for the other four countries in this cluster are better than average.

Inhabitants of the Continental countries have a good deal of confidence in the various sectors. It is higher than in the other countries, even in sectors with a lower performance, such as education. The main exception is Germany, where citizens have less confidence in health care, education and social security. Germany's outcomes in these sectors are also (slightly) lower than the average. People in Belgium are less positive in their views about social safety and air quality, and here again this is matched by the lower performance in these areas. Inhabitants of the Continental countries are generally fairly satisfied with their lives, especially those who live in Austria and Switzerland. This sentiment largely matches the performance of the public sector, which is generally better than average. The exception is Belgium, where people are more satisfied than average with their lives but where the performance of the public sector is markedly lower.



## Central European countries

The public sector performance of Estonia, Hungary, Poland, Slovenia, Slovakia and the Czech Republic lags behind that of the other countries, and the level of expenditure is also slightly below average. The outcomes are on the low side in particular in public administration, health care, housing and economics and infrastructure. In the latter two sectors, this is probably due to the outdated housing stock and infrastructure; these will require substantial investment in order to bring them up to a level that is comparable with the other countries. Outdated infrastructure will also influence the performance that is attainable by the health care sector.

The weak performance of the public administration sector in Hungary is notable mainly because expenditure in this sector is very high compared to the other Central European countries. Hungary stands out in a positive sense with its performance on social safety. In contrast to the other Central European countries, Estonia scores relatively well on public administration, and is actually a top performer in the education sector. The Czech Republic returns good results on social security, while Slovenia performs very well on the environment.

In parallel with the performance, confidence in the public sector in the Central European countries is below average. Confidence is particularly low in the social safety and health care sectors. A striking finding is that few people in the Central European countries report that they have been victims of crime. Residents of Central European countries report that they are relatively dissatisfied with their lives, and (with the exception of the Mediterranean countries) differ fairly widely on this point from the other countries. This result is in line with the weak performance of the public sector.

## Mediterranean countries

Greece, Italy, Portugal and Spain join the Central European countries in a below-average public sector performance; however, expenditure in these Mediterranean countries is above the average and is comparable with that of the Continental countries. The results on public administration, education, social security, culture and economics and infrastructure are modest, whereas expenditure levels do not vary widely. In fact, the expenditure on public administration (with the exception of Spain) is fairly high. The ineffective public sector in the Mediterranean countries is influenced partly by the persistent culture of clientelism. Social safety is the only sector where the outcomes of the Mediterranean countries are slightly above the average, whereas the expenditure is in line with other countries.

Greece stands out among the Mediterranean countries in a negative sense, with a worse performance than the other three countries on public administration, social safety, culture and economics and infrastructure. Spain performs less well than the other

countries on social security, but does well on economics and infrastructure, public administration and culture.

Like the Central European countries, confidence in the public sector in the Mediterranean group is lower than average – yet another finding which is in line with the performance of the public sectors, with the exception of social safety. The reported level of crime in the Mediterranean countries is also relatively low. Confidence in the health care sector is relatively high in Spain, but the performance is also slightly better than average. The same applies for the environment in Portugal. As stated above, inhabitants of Mediterranean countries are not very satisfied with their lives. Once again, this finding is in line with the weak performance of the public sector.

### Overall conclusions

The results of this study show that, although there is wide variety in the public sector performance of the different countries, the country clusters are by and large clearly distinguishable. The Nordic countries generally perform well, as do Japan, Switzerland and the Netherlands. The Mediterranean and Central European countries perform less well, as does the United States. Taking all countries together, there is generally no correlation between expenditure and performance. This echoes the findings of earlier studies. Efficient and effective structuring of the public sector is more important than the amount of money invested in it. For example, the public sector in Greece is fairly large, but its performance is weak. The converse applies for Switzerland. When looking for ways of improving the performance of the public sector, therefore, it is better to try to establish which specific success factors play a role in each individual sector, rather than trying to copy whole welfare systems.

At the level of individual sectors, the correlation between performance and public confidence in those sectors is found to be very variable. A correlation is found for half the sectors, but not for the other half. On the other hand, there are clear differences between the country clusters. Confidence in the public sector is high in the Nordic countries, but lower in the Mediterranean and Central European countries. The level of confidence in these country groups largely corresponds with the performance of the public sector, though confidence in the Continental countries is often higher than would be expected on the basis of the performance. The picture for the Netherlands is variable and there appears to be no clear relationship between confidence and performance. Finally, people in general are more satisfied with their lives in countries where the public sector performs better. However, it is not possible to say anything about the causality of this relationship based on the results of this study.

The broad approach taken in this report shows that there is value to be gained by placing the different public sectors alongside each other. It then emerges, for example, that there is a correlation between the performance in the different sectors, but also that there are sectors in all countries where there is room for improvement. The approach

taken in this report builds on the work of Kuhry (2004) and broadens it by increasing the number of sectors considered. The flipside of this approach is that it is difficult to explain the results precisely. It was also not possible to apply the integral approach to all sectors. This report offers lots of pointers for further research and also shows that the international data on a number of sectors are greatly in need of improvement. This report provides a broad and relative complete picture of public sector performance which can be extended in future studies.

### Notes

- 1 The missing data relate mainly to the defence sector, which is not included in this study because of the difficulty of defining outcomes at country level and also because no suitable data are available.
- 2 Data for the own-occupier sector are only available on interest payments. This means that repayments are left out of the picture, and it is therefore not possible to give a complete picture of affordability.



## 1 Framework

Jedid-Jah Jonker

Public provisions vary greatly between countries and over time. The early beginnings of the modern (Western) welfare state can be traced back to the second half of the nineteenth century, with the introduction of the first social legislation. Until then, social support was an individual responsibility and those in need were dependent on their families or on charity, such as that provided by the Church. The real growth of the Western welfare state began after the Second World War, when most countries introduced extensive public provisions in areas such as health care and social security. Public sector provisions were at first targeted primarily at disadvantaged groups, e.g. the impoverished or disabled. Gradually, public provisions became more universal (general state pensions and education). This resulted in an increasingly large public sector. During the 1960s and 1990s the role of the public sector was redefined, partly due to the economic downturn and a more critical attitude towards state intervention. Certain public provisions were privatised and the remaining public provisions became less universal (Lindert 2004; Flora and Heidenheimer 1998; Esping-Andersen 1990).

This general picture does not apply to all developed Western countries. Greece, Portugal and Spain faced internal turmoil, civil war and military dictatorship during a significant part of the twentieth century and only became full democracies in the late 1970s. Public sector arrangements were constructed in a non-democratic context: public provisions were not configured as a right-based claim, but rather as state benevolence (Andreotti et al. 2001, Ferreira 2005). The former Communist countries in Europe also had a troubled past to deal with. Public provisions in these countries were inherited from the Communist era, but have been re-arranged since the fall of the Iron Curtain (Fajth 1999). Many provisions in these countries, such as housing, schools and hospitals, are in poor condition as investments have been postponed over a prolonged period.

Although each country has seen its own particular development of the public sector, there are also surprisingly widespread similarities. In most Western countries, education, health care and social protection are by far the largest public sectors. Another common development is the high rate at which health care expenditure is increasing. There are also other underlying developments which are shared in practically all developed countries, such as an ageing population and a declining birth rate. These common grounds (and differences) make it interesting to compare developments in the performance of the public sector between countries and over time.

This study examines the performance of the public sector in developed countries between 1995 and 2009. We attempt to determine what caused the differences in performance and what can be learned from the best-performing countries. Special attention is given to the performance of the Netherlands. The perspective in measuring

performance is that of citizens: how are they affected by the performance of the public sector? This is operationalised by choosing (outcome) indicators that are close to the citizen's perspective and by incorporating subjective concepts such as confidence and well-being.

### Other studies on public sector performance and their limitations

The performance of the public sector has been examined extensively in recent years. The OECD produces a number of research report series that evaluate sectors such as education (*Education at a Glance*, started in 1995), health (*Health at a Glance*, since 2003) and public administration (*Government at a Glance*, since 2009). The sectoral findings are combined into an overall analysis of public sector performance in the *Society at a Glance* series (since 2005). The number of sectors analysed by the OECD is however limited. Their datasets contain only partial information on important sectors such as law and order and housing. More information is available on social security, but the OECD does not examine this sector extensively. The OECD reports also put more emphasis on inputs (expenditure and personnel) and outputs (e.g. number of students and number of patients) and less on outcomes (e.g. levels of attainment and life expectancy). On the other hand, the yearly reports on education and health are very extensive and the OECD data on these two sectors have become the standard in international comparative research. Where the subsequent chapters look at these sectors, we will mainly rely on the OECD data.

Tanzi and Schuknecht (2000) and Wilkinson and Pickett (2009) have examined public sector outcomes. Both have studied performance from a specific perspective: the former examine the relationship between the size of government (public outlays as percentage of GDP) and its performance, while the latter look at the relationship between income inequality and performance. Tanzi and Schuknecht (2000) compared indicators concerning the economy, public finance, labour market, health, education, environment, income distribution, social stability and good governance. Their overall conclusion is that small governments do not underperform compared to big governments on socio-economic indicators and produce better results on economic, labour market and good governance indicators. Although their results are based on data for eighteen countries, they have chosen to compare only averages for three groups (big, medium-sized and small governments). Hence, variation between countries within groups is lost and outcomes can be strongly influenced by the results for individual countries, such as the extremely high rate of prisoners in the United States. The group composition does indeed suggest that variation within groups might be greater than between groups, as for instance Italy and Sweden are classified in the same (big government) group, although Sweden has a very well-functioning welfare state and the system in Italy is almost collapsing under its own weight (Lindert 2004; Morlicchio et al. 2002). If a classification is applied, it should be based on structural characteristics to prevent the grouping together of countries with an entirely different public sector composition. However, the most fundamental objection to such an approach remains that individual variation is lost and therefore remains inferior to comparing the performance of individual countries.

Wilkinson and Pickett (2009) do not cluster countries, but examine the relationship between inequality and a wide range of social indicators, such as educational performance, obesity and imprisonment. Their main findings are that unequal societies almost invariably perform worse than more equal societies and that everyone (both lower and higher income-earners) is worse off in an unequal society. Although this study has reopened the debate in the United Kingdom on the effects of income inequality, it has also received some fundamental (methodological) criticism. The most fundamental point of concern is the lack of rigorous analysis of the results and the strong conclusions that are drawn without attention for causality (Saunders and Evans 2010; Reeves 2009). These studies show that one should be careful in drawing conclusions from bivariate analyses of country-level data. In fact, the underlying proposition of a relationship between a certain system characteristic (in these two cases the size of the public sector and income inequality) and performance seems to be confirmed too easily in these cases.

A more refined approach is adopted by Afonso et al. (2005). They examine performance on public administration, health, education and infrastructure for 23 countries. Economic performance is also included as an aspect of total public sector performance. Their approach is not very different from that used in this study.<sup>1</sup> However, an important drawback of the study is that the authors have excluded private expenditure. Countries with a large private share of expenditure on education and health care appear to perform relatively cost effectively. From a societal perspective this picture is incomplete, as the cost incurred for citizens consists of both public and private expenditures.

### Important issues in international comparative research

There are more caveats in comparing performance between countries. Based on an analysis of a number of different international ranking studies, Luts et al. (2008) point out that the data used are often of questionable quality<sup>2</sup>, the lack of a conceptual framework makes it unclear what is being measured and normative decisions are implicitly made about what is 'good' or 'bad' governance.<sup>3</sup> Although their observations are based on ranking studies such as the Global Competitiveness Index of the World Economic Forum and the Corruption Perceptions Index of Transparency International, they also seem applicable to more broadly defined studies of public sector performance. Luts et al. (2008) formulate five recommendations:

- 1 data should be reviewed by an independent party;
- 2 choices that have been made should be motivated;
- 3 inadequacies in the data should be pointed out;
- 4 ranking should be transparent;
- 5 always keep in mind that rankings should be used as a learning tool.

Several choices in this study have been made based on these recommendations: we mostly rely on data from independent sources, such as the OECD and Eurostat. The choice of indicators will be substantiated in each chapter. Data are only used if they are considered to be of sufficient quality. The construction of the rankings is explained in

the text and described in the appendices. Finally, one of the main purposes of this study is to look at factors that can or could lead to improved performance.

### Approach used in this study

This study is a follow up to Kuhry (2004), which examined the performance of public sectors in 2000. Three of the four sectors that were included in that study are also covered in this report (education, health and social safety). The outline of the current approach is broadly comparable to that used by Kuhry (2004). The main differences are that more attention is given to developments over time and more sectors are included.

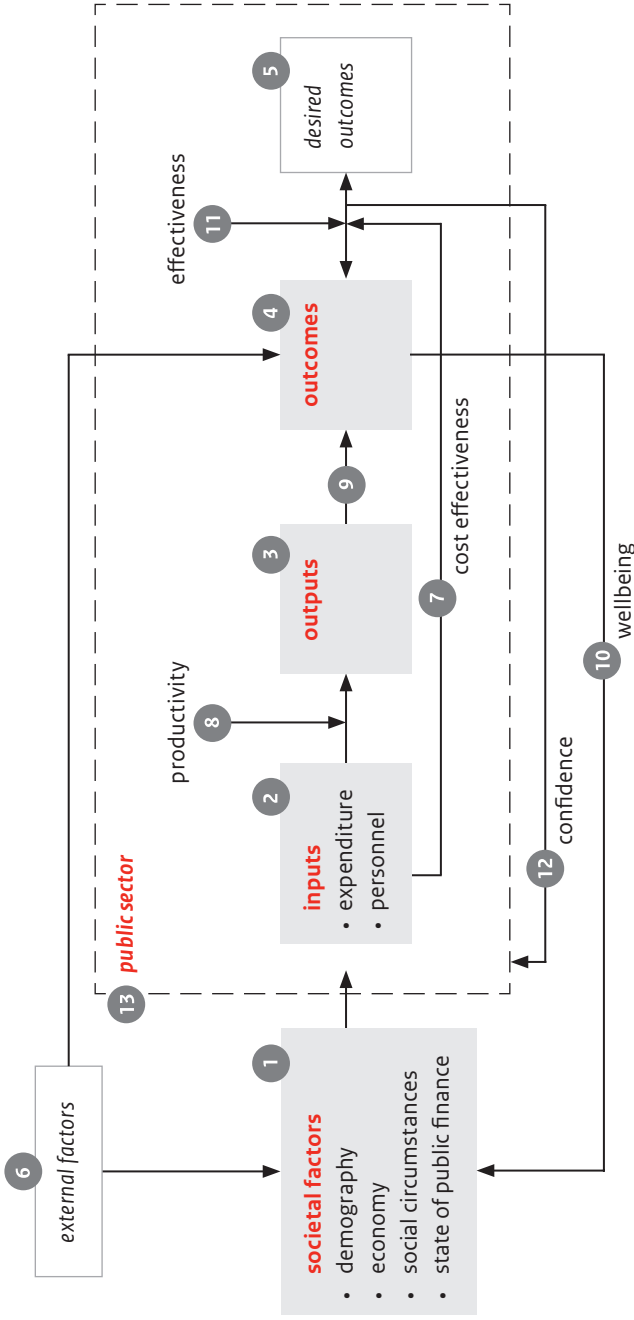
Figure 1.1 presents a general (simplified) heuristic framework of public sector performance. The framework describes the different elements used in this study and it is not meant as a model to be analysed or tested.<sup>4</sup>

The current size and composition of the public sector is influenced by various societal factors, such as demography, economic and social circumstances and the historic trend in public finances (1 in figure 1.1). Demography influences the kind of public arrangements that are needed: for example, an ageing population will demand more health care whereas a younger population has a greater need for education. Economic circumstances strongly influence the room for expanding (or the need for decreasing) public spending. After the banking and economic crisis of 2008/2009, most countries have seen their budget deficit and public debt increase, creating strong pressure to reduce public spending. Societal circumstances reflect the level of labour participation in society and the scope for people to arrange their own solutions for meeting their social needs. But they also point to (possible) tensions in society. The current situation in Greece shows that an increasing gap between rich and poor combined with weak public finances can lead to serious social unrest. Finally, the state of the public finances also plays an important role. If a country has a large public debt, a substantial part of the public finances has to be spent on interest payments, leaving less for public provisions. This is clearly illustrated by the current state of affairs in countries such as Greece, Ireland, Italy and Spain.

The public sector (13) provides inputs (2) that are used to produce public goods and services (3). The relationship between input and output is called productivity (8): how many units of input are needed to produce one unit of output? Output is a direct measure of what is delivered: for instance, the number of patient days in health care or the number of students in education. Goals are derived from objectives, formulated by policymakers. These goals are usually not formulated in terms of outputs, but rather in terms of (desired) outcomes (5). In health care, the aim will be a healthy population and in education a competently skilled labour force. Outcomes (4) are influenced by the way a sector is organized (13). In this study, attention is also given to the relationship between output and outcome (9): does more production also lead to better results?



Figure 1.1  
Heuristic model to measure public sector performance



Source: Van Dooren et al. (2010) SCP revision

Different countries have organised their public sectors in different ways. This study examines which system characteristics are positively related to outcomes. The problem is that outcomes are often only partially influenced by the public sector. For instance, air quality is also strongly influenced by geographical circumstances and health by life style. In the framework of figure 1.1, these elements are called external factors (6). (These external factors are included in figure 1.1 but are not part of this study). A sector is qualified as effective (11) if the desired outcomes (in absolute terms) (5) are achieved. It is also important to examine the relationship between the level of expenditure and the (desired) outcomes (7). One might expect that objectives will be met more easily if spending is (very) high. Cost-effectiveness provides an insight into the effectiveness of spending. Outcomes and effectiveness may influence the confidence (12) that citizens have in the public sector in general and in certain public provisions (13) in particular. Confidence and trust are sometimes seen as a prerequisite for a healthy and flexible economy (Fukuyama 1995; Putnam 1993).<sup>5</sup> The outcome could also influence well-being (10), measured by looking at mental states such as happiness and life satisfaction. Well-being can have a feedback influence on the societal factors (1).

Which of these thirteen elements are considered to be measurements of performance? In this study, performance is defined as a combination of effectiveness (the relationship between outcomes and desired outcomes) and cost-effectiveness (the association between expenditure and outcome).

Performance can only be evaluated in a context. The most straightforward approach is to look at performance over time. This shows whether the performance within a country is improving or not. But how should the level of performance be interpreted? This can be answered by comparing performance between countries over time. Combined with the elements in figure 1.1, this leads to the following five research questions:

- 1 What are the outcomes of public sector performance for the various sectors? How do outcomes vary between countries and over time? (Element (4) in figure 1.1).
- 2 How are these differences in outcome between countries and over time related to variances in output? ((3) and (9)).
- 3 How are these differences in outcome between countries and over time related to variances in input? ((2) and (7)).
- 4 How are these differences in outcome between countries related to confidence and well-being? ((10) and (12)).
- 5 Can differences in performance be related to societal circumstances and system characteristics or the governance structure of the sector? ((1) and (13)).

These research questions are examined per sector. As indicated above, special attention is given to the citizen's perspective in the choice of outcome indicators and by explicitly looking at (subjective) concepts such as confidence and wellbeing.

Again, it has to be noted that figure 1.1 provides a highly stylised representation of public sector performance. It is mainly presented to provide an insight into the different

elements that will be presented in this study. A rigorous empirical analysis of the relationships in figure 1.1 goes beyond the scope of this study.

Figure 1.1 presents several concepts that will be used in this study. Some of these require a more elaborate introduction and are discussed below.

### Definition of public sectors

Public sector (13) is an elusive concept. The size of the public sector varies greatly between countries and over time. In some countries the public sector still plays a major role in the banking sector, postal delivery services and the utilities sector, whereas in other countries these sectors have been (almost) completely privatised. In the United States, especially, many services are (partly) privatised which are completely public in most other countries, such as fire departments and correctional facilities.

The Classification of the Functions of Government (COFOG) provides a point of departure in order to arrive at a uniform classification of public sectors. The COFOG was developed by the OECD to classify government expenditure data from the National Accounts by the purpose for which the funds are used (OECD 2011, Annex B, page 1). A slightly adjusted operationalisation of the COFOG classification is used in this study, see table 1.1.

Table 1.1

Classification of functions of government<sup>a</sup>

	sector
1	education
2	health
3	social safety
4	housing
5	social protection
6	economic affairs and infrastructure
7	environmental protection
8	recreation, culture and participation
9	defence
10	public administration

a The classification is largely based on COFOG but the names of some sectors have been adjusted to match the operationalisation in this study.

Source: OECD (2011: Annex B, p. 1)

Although the classification is very useful, its logic will not be completely followed in this study. The COFOG classification consists of three levels: the first level is shown in table 1.1; the second level divides each sector into a number of subsectors, some of which are further split up into a third level. For most countries expenditure data are available for the first level, but not for the second or third levels. This makes it difficult to interpret

certain results, as the sectors tend to be rather broad in scope. Also, we sometimes choose a somewhat different composition of the sectors. For instance, financial support for housing services is classified under social protection in COFOG whereas we choose to rank it with the housing sector.

### Inputs, outputs and outcome

Inputs describe the means that are used to produce output. In this study, inputs are mostly measured in monetary terms but attention is also given to the number of personnel employed in the sector. Outputs are defined as close to the production process as possible. This will be more straightforward in some sectors (education, health) than others (social safety, housing). It is important to emphasise that this study aims to present outcomes that are relevant from the point of view of individual citizens. Outcomes are chosen based on the relevance of the sector for the daily life of citizens. The consequence is that some of the chosen outcome indicators can only be partially influenced by policymakers, such as air quality in environmental protection and life expectancy in health. In order to obtain a comprehensive picture of the outcome of a sector, in most cases multiple outcome indicators are used which are combined into one overall outcome index for each sector.

Another issue is that for certain (aspects of) the public sector, it is difficult to formulate (desired) outcomes. The most obvious example of this is the defence sector.<sup>6</sup> Outcomes for this sector can only be formulated in broad and general terms ('peace and stability, at home and abroad'), which are difficult to operationalise in concrete indicators. This sector also usually operates outside the scope of ordinary citizens, which is in contrast to our approach of seeking to evaluate performance from the citizen's point of view. We have therefore chosen not to include the defence sector in this study.

### Confidence and well-being

The outcome indices give an indication of public sector performance according to objective indicators. It is however interesting to investigate how the performance is *perceived* by citizens. Unfortunately, only a limited number of (internationally comparable) measures of satisfaction with specific public sectors are available. Therefore, the level of confidence or trust citizens have in an institution is used. The assumption is that confidence provides an indication of satisfaction with that institution, and of its acceptance. Another assumption is that outcomes are related to the confidence citizens have in public provisions. No claims are made concerning causality as this relationship can work both ways: a good performance can increase levels of confidence and conversely the more people trust each other and the institutions, the more effective those institutions (and society at large) are able to operate (Putnam 1993; Fukuyama 1995). This relationship is however not self-evident. For instance, someone who has trust (or confidence) in one organisation is likely to have trust in another institution as well (trust is interrelated). Besides, it is hard to establish a direct and causal (macro-)relationship between outcome and trust; performance *perception* plays a role, as do direct and personal experiences with

an institution (Van Ryzin 2006). As we rely on macro-data in this study, such nuances go beyond the scope of this study.<sup>7</sup>

At a more general level, policymakers explicitly or implicitly expect that positive outcomes will have a positive effect on the overall wellbeing of the population. People's happiness is known to be dependent in part on the quality of government, the absence of corruption and individual freedom (Ott 2010).

### External and societal factors

Public sectors do not operate in a vacuum. The use of provisions, the way in which a sector is organised, the importance of the various public sectors and of course their performance are all influenced by the social, economic, cultural, geographical and demographic context in which each country operates. The societal context is described in chapter 2, but other factors (e.g. cultural elements such as the prevailing ideological attitudes towards the public sector and geographical circumstances, such as population density) are not examined systematically in this study. Such an approach would make this study even more encompassing than it already is.

### Selection of countries

As indicated above, attention in this study is confined to developed countries. The OECD countries are obvious candidates, as that group contains practically all developed countries. Not all OECD countries are however included in our analysis. In order to make a meaningful comparison, countries should operate on a more or less comparable level. Two indicators for this scale of operation are population size and GDP. Countries with a very small population size tend to have a very distinct and particular structure which is difficult to compare with larger countries. For instance, Luxembourg has an exceptionally high GDP per capita, mainly due to its large banking sector and its status as a tax haven. Three of the OECD countries have a very low GDP per capita and are still classified as emerging or developing countries rather than developed (or advanced) economies (IMF 2010: 149). Public provisions in these countries tend to be much less well developed, making a comparison less interesting for the Dutch point of view. Based on these considerations, the following selection criteria have been formulated:

- A population of at least 1,000,000 inhabitants (that excludes Luxembourg and Iceland).
- A GDP per capita of at least € 15,000 in 2009 (that excludes Chile, Mexico and Turkey).

Israel has also been excluded due to a lack of data. This results in a sample of 28 countries.

Although results will be presented for individual countries, in the discussion it is impractical to consider each country separately. As some countries are quite comparable in the way they have organised their state and institutions, it is common to classify them into groups. Various classifications have been considered, of which that devised by Esping-Andersen (1990) is the most well-known and influential. That model has however come under criticism and various alternatives have been proposed (see Castles

et al. 2010: 575-576 for an overview). The classification appears to be relatively robust: almost all studies show a Nordic, Continental, Anglo-Saxon, Mediterranean and Central European group – although the names may vary. Some countries appear difficult to classify. The Netherlands is one of these notable exceptions, having been classified as Nordic (Powell and Barrientos 2004; Bamba 2006; Scruggs and Allan 2006), Continental (Kangas 1994; Obinger and Wagschal 1998; Saint-Arnaud and Bernard 2003; Schröder 2009) and Hybrid or undefined (Ragin 1994; Shalev 1996; Vrooman 2009). This illustrates that the Netherlands has characteristics belonging to different classifications, making it a country that has a ‘hybrid’ public structure. This, combined with the fact that the Netherlands is the focus of this study, prompted us to decide to classify the Netherlands as a Hybrid country.<sup>8</sup> This is the only digression from the classification used by Castles et al. (2010), where the Netherlands were classified as belonging to the Continental group. An overview of the countries and the welfare model to which each country belongs is presented in table 1.2. The groups will be referred to by their geographical names in this study.

What are the differences between the welfare regimes mentioned in table 1.2?

The Social-democratic welfare regime can be classified as universalistic, where every individual has access to benefits and services. The role of the state is relatively large. In the Liberal regime the market plays a much more centralised role. Public provisions are only available to the least well off. In Corporatist countries, a large role is assigned to non-governmental organisations such as trade unions and churches. These are considered to be as important as the market or the state. The Post-communist welfare regime is more difficult to classify. It appears to be still in transition, and is currently a mix of a remnants of a totalitarian regime and elements of the Liberal and Corporatist regimes. In welfare orientalism, there is a strong occupational social security element. Those without coverage have to rely on informal networks, such as the family. Public provisions are limited and the role of informal networks is also very important in the Latin Periphery regime. In this regime, the role of the market and the state is fairly limited. As already mentioned, the Hybrid combines elements of different regimes.<sup>9</sup>

The function of this classification is to help enable a concise discussion to be presented of the results in the subsequent chapters. Although the classification has been made on the basis of structural characteristics, it will not be used primarily on substantive grounds.

Table 1.2

Countries included in the study

geographical group	institutional group	countries
Netherlands <sup>a</sup>	hybrid	NL (Netherlands)
Nordic	social-democratic	DK (Denmark)
		FI (Finland)
		NO (Norway)
		SW (Sweden)
Eastern Asiatic	welfare orientalism	JP (Japan)
		KR (Korea)
Anglo-Saxon	liberal	AU (Australia)
		CA (Canada)
		IE (Ireland)
		NZ (New Zealand)
		UK (United Kingdom)
		US (United States)
Continental Western Europe	corporatist	AT (Austria)
		BE (Belgium)
		FR (France)
		DE (Germany)
		CH (Switzerland)
Central Europe	post-communist	CZ (Czech Republic)
		EE (Estonia)
		HU (Hungary)
		PL (Poland)
		SK (Slovakia)
		SI (Slovenia)
Mediterranean	latin periphery	GR (Greece)
		IT (Italy)
		PT (Portugal)
		ES (Spain)

a Since there is only one Hybrid country in this study, the geographical name coincides with the country name.

Source: Castles et al. (2010)

The results will be discussed for groups when possible and for individual countries when necessary. In most figures the countries are presented in the same order as in table 1.2. Performance is examined for four years: 1995, 2000, 2005 and 2009.<sup>10</sup>

Due to time and data limitations, it is not possible to examine all public sectors in depth. Four sectors (education, health, social safety and housing) will be examined extensively in chapters 3-6. Outcomes and inputs for five of the six remaining sectors will be discussed briefly in chapter 7. Chapter 8 looks at overall public performance.

Chapter 2 presents the broader societal context, including the overall state of the public finances – (1) in figure 1.1. The process of inputs, outputs and outcomes (2, 3, 4, 5) for the sectors education, health, social safety and housing is examined in separate chapters, where attention is also given to productivity, cost-effectiveness, confidence and effectiveness (7, 8, 11, 12). Differences in performance are analysed and attention is given to the effect of the system characteristics of the associated public sector (13) and societal factors (1). It goes beyond the scope of this study to examine all sectors in detail, but a global overview of outcomes, cost-effectiveness and confidence for five of the six remaining sectors is presented in chapter 7. Overall performance (outcome and cost-effectiveness, (4), (7)) and well-being (10) are examined in chapter 8.

## Notes

- 1 The analysis by Afonso et al. (2005), however, includes a frontier analysis to determine the countries within the sample that have achieved an ‘optimum’ mix of inputs and outputs. Due to time constraints, such an analysis is beyond the scope of this project.
- 2 Subjective variables (judgmental data) are presented as being objective, sample sizes are sometimes (very) small and non-random, and measurement errors are significant but neglected.
- 3 Some rankings tend to qualify larger governments as undesirable, without making clear that this is an ideological (and hence normative) preference.
- 4 The basic idea of figure 1.1 is comparable to the model proposed by Van Dooren et al. (2010). There are however some essential differences, as we wanted to incorporate trust and well-being explicitly in the framework.
- 5 In this study we presuppose that trust and confidence are synonyms. However, we realize that the two concepts do not measure the same (Luhmann 1988). Due to data limitations, we are not able to make a distinction.
- 6 Other examples are foreign affairs and development aid.
- 7 The same applies to differences in confidence and satisfaction between users and non-users of a specific service, such as education or health care. In this study we will only look at average confidence as measured over the total population.
- 8 In some studies Switzerland has also been classified as a Hybrid country. However, most studies rank it among the Continental countries.
- 9 See Castles et al. (2010) for an elaborate discussion of welfare regimes. For a detailed analysis of the welfare orientalism regime and post-communist regime, see Aspalter (2005) and Fenger (2007) respectively.
- 10 When data for 2009 is not available, 2008 or 2007 have been used.

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## 2 National resilience barometer

Jedid-Jah Jonker

### What is examined in this chapter?

The public sector does not operate in a vacuum. Its performance is dependent on the way the entire society is functioning. Demand for the various public goods and services depends (among other things) on the demographic composition: an elderly population will demand more health care, whereas the call upon education will be higher if the population is younger. In this study, this context is described using the term 'societal factors' (element (1) in figure 1.1).

These societal factors consist of four dimensions: demography, economy, social circumstances and the current state of public finances. This chapter presents a number of indicators for each dimension (see table 2.1). Indicators for the first three dimensions are chosen so as to be as independent as possible of public policy. An example is income inequality, where gross (not net) income is used. These three dimensions are seen as the context in which policymakers have to operate, and in this study differences in outcome (5) between countries are related to differences in context. This makes it important that the context is as independent of public policy as possible.<sup>1</sup> The fourth dimension (public finances) is of course by definition influenced by public policy. However, the influence of (current) policymakers on the level of public expenditure and government debt is limited. Policymakers can only influence the surplus or deficit on current expenditure, and even then external effects such as the current economic downturn have a greater impact than most public policy interventions.<sup>2</sup>

At the end of this chapter the indicators for demography, economy, social circumstances and public finances are combined into one overall index, a barometer that measures the resilience of a country.<sup>3</sup>

The indicators (and the 'national resilience barometer') do not measure performance, but describe the state a country is in. The performance of the public sector is likely to be influenced by (some of) these indicators. Countries where GDP is higher are for instance more likely to have sufficient means to achieve a certain quality level of (public) services. On the other hand, a higher GDP is no guarantee for good performance, as a sector may operate inefficiently.

Correlations between outcome and the societal indicators will be examined in the other chapters. As testing for causality of relationships goes beyond the scope of this study, only very limited conclusions can be drawn even if relationships are statistically significant.<sup>4</sup>

Table 2.1

Elements of the national resilience barometer

dimension	indicators
demography	growth of population number of under 15 year-olds / potential labour force number of over 65 years-olds / potential labour force
economy	real GDP per capita average annual growth of real GDP per capita unemployment rate
social circumstances	labour participation: all, women, 55-64 year-olds income inequality in gross income
state of public finances	percentage of non-Western foreign-born citizens public expenditure as percentage of GDP government surplus / deficit public debt

## 2.1 Demographics

Demographics play an important role in the debate on the sustainability of the public sector provisions. For instance, the costs of health care will (largely) increase due to ageing in the coming decades. As older people often participate much less in the labour market, an ageing population also stunts economic growth potential and makes a country more vulnerable when economic circumstances are declining. The relative size of the labour force provides an indication of whether the demographic composition of a population is favourable or unfavourable. The potential labour force pays most of the costs of provisions that are used mainly by those who are not active on the labour market, such as education for young people and health care and (state) pensions for those who are retired. When the potential labour force becomes too small relative to the inactive part of the population, taxes will have to go up or provisions will have to be made less generous in order to keep those provisions affordable. A small potential labour force also leads to shortages in personnel, especially in health care, where demand will increase due to ageing. Although young people are not yet active on the labour market, they represent the labour force of the future. When this group becomes too small, the future affordability of the welfare state also comes under pressure. A relatively higher number of young people in relation to the labour force is therefore seen as favourable and a higher number of older persons in relation to the labour force is seen as negative. The former is called the child dependency ratio and the latter the aged dependency ratio. Population growth is also an important factor in financial sustainability. When the replacement rate is no longer met and a population declines in size, both public and private provisions have to be adapted to these circumstances. Evidence from countries or territories with a declining population, such as Eastern Germany, shows that these circumstances can easily lead to a downward spiral of declining facilities, sparking migration of young people to places with better economic prospects and leaving the area with a relatively

low-educated population with few opportunities and hence a high unemployment rate (Henschel et al 2008, James 2006). A declining population can therefore have seriously negative consequences for society at large, especially in combination with other unfavourable developments, such as economic decline. A higher population growth is therefore considered to be a positive demographic development.

### Indicators of demographic developments

In this section attention is given to population size, population growth, child dependency ratio and aged dependency ratio. As argued above, population growth and the child dependency ratio are seen as positive indicators of demographic development, whereas the aged dependency ratio is seen as a negative indicator. This is not meant as a normative position: the aged dependency ratio has serious consequences on the affordability and sustainability of *current* public arrangements and provisions. The demographic dimension will signal whether demographic circumstances are relatively favourable or not.

### Population size varies greatly

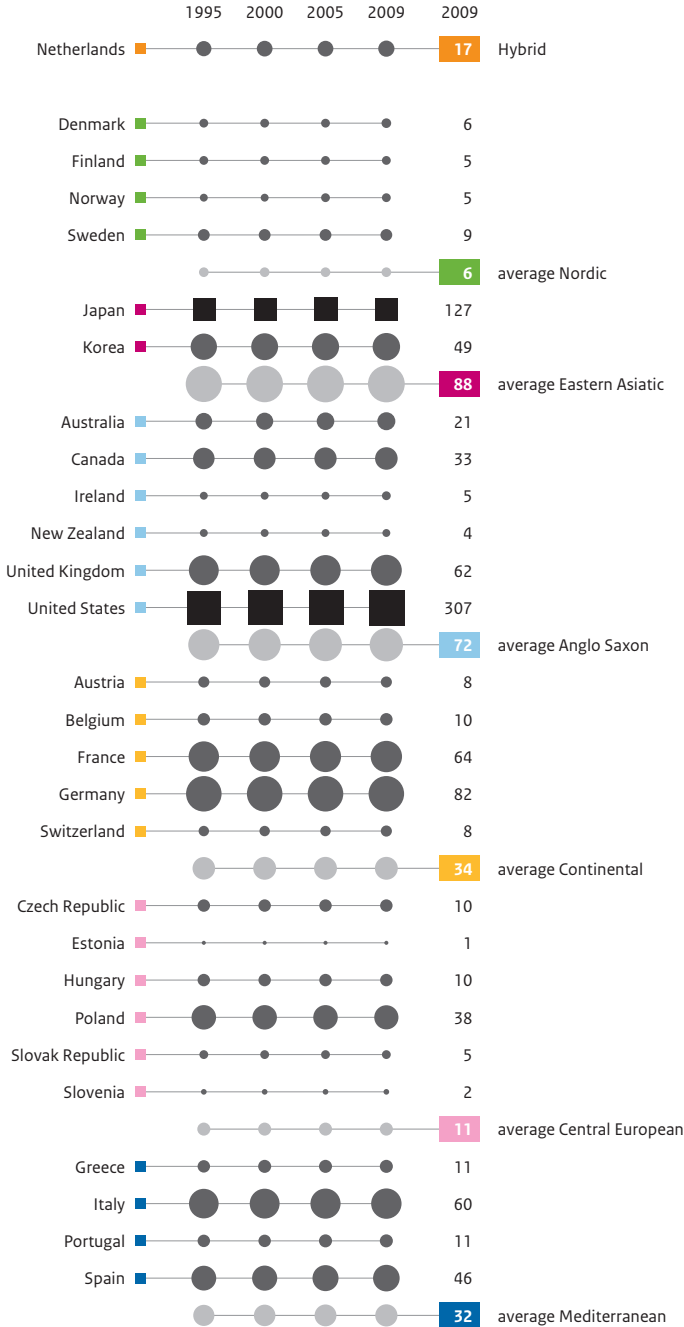
The countries covered in this report vary considerably in terms of total population size. By far the largest is the United States, with a population of a little over 300 million in 2009. Japan is the only other country with over 100 million inhabitants. Nine of the countries included in the analysis have a population of between 20 and 80 million (figure 2.1): the United Kingdom, Canada, Australia, Italy, Spain, Korea, Germany, France and Poland. There are seventeen countries with a population of 20 million or less. With its population of 17 million, the Netherlands is always keen to stress that it is the ‘biggest of the small countries’. The 28 countries have a combined population of 1 billion inhabitants, roughly one seventh of the total world population in 2009.

### Population growth in Anglo-Saxon countries, decline in Central European countries

The growth of the population also differs markedly between countries (figure 2.2). The Anglo-Saxon countries show a large increase in the period 1995-2009 (16% on average), whereas the population of Central European countries decreased in the same period by an average of 2%. Figure 2.2 also shows that growth within groups can vary greatly between countries. For instance, the population of Japan increased by 1% in the period 1995-2009, whereas the population of Korea grew by 8% over the same period.

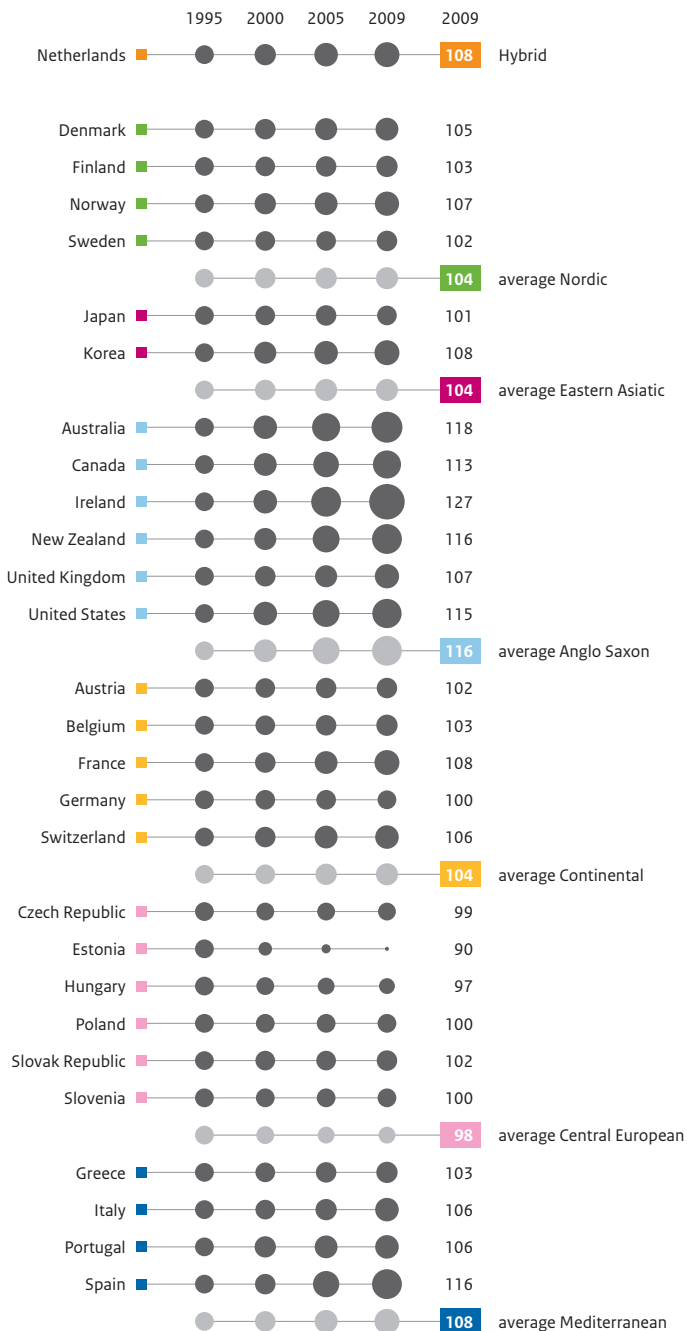
Figure 2.1

Total population, 1995-2009 (in millions)



Source:  
us Bureau Census  
(International Data  
Base 2011)

Figure 2.2  
Growth of the population between 1995 and 2009 (1995 = 100) (in index numbers)



Source:  
us Bureau Census  
(International Data  
Base 2011)

### Child dependency ratio decreases in all countries

Not only is the size and growth of the population relevant: its composition is probably even more important. If the potential labour force (population aged between 15 and 65 years) is too small compared to the number of people aged under 15 and over 65 years, the demographic pressure increases as the latter two groups usually do not participate in the labour market. Figures 2.3 and 2.4 show the child dependency ratio and the aged dependency ratio, respectively.

The relative number of young people shows a decline in all countries between 1995 and 2009 (figure 2.3) – with the exception of Denmark. This decline has been strongest in the Central European and Anglo-Saxon countries and Korea, not by chance the countries showing the highest child dependency ratio in 1995. The decrease in the child dependency ratio has been much more moderate in the Mediterranean and Nordic countries and in the Netherlands. This more or less also holds for the Continental countries.

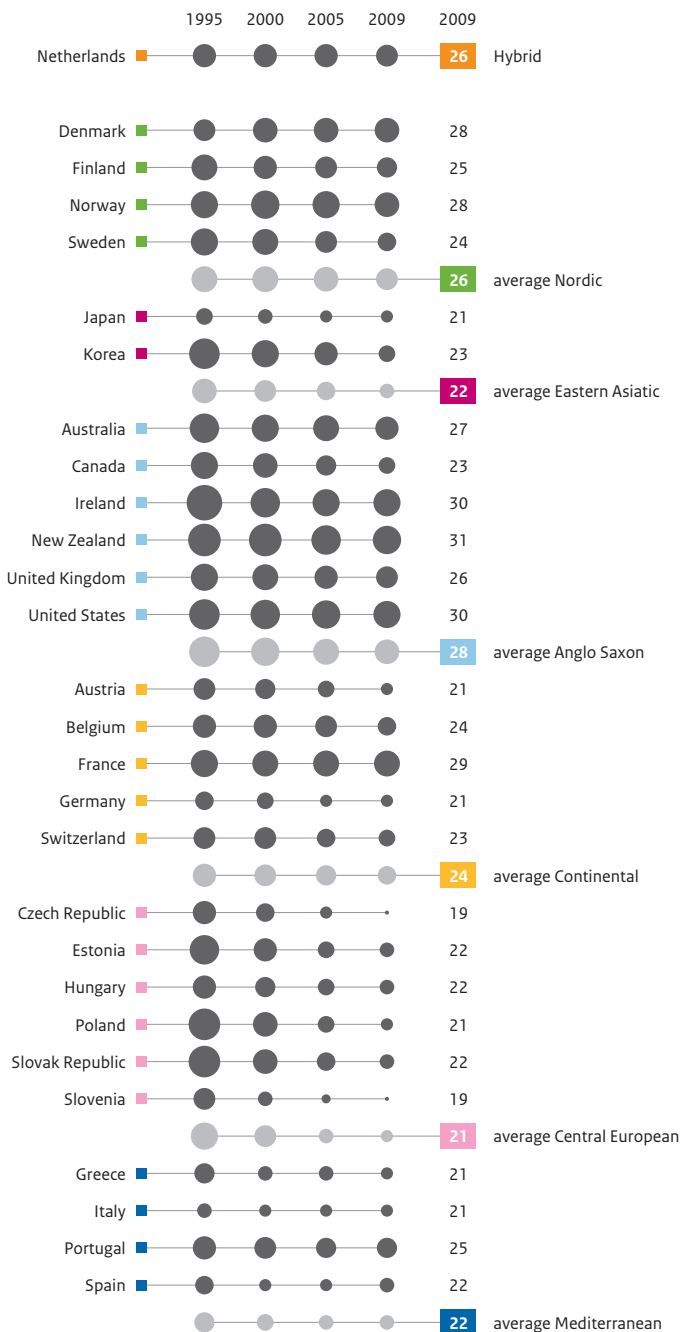
### Most countries already face an ageing population

Figure 2.4 shows that the aged dependency ratio increased in most countries between 1995 and 2009. The countries of Eastern Asia, in particular, saw the relative number of older persons increase strongly. The difference, however, is that Japan already had a large number of older persons in relation to the potential labour force, whereas Korea had by far the lowest number. In fact, even after an increase of 14 percentage points, Korea still has the lowest aged dependency ratio in 2009. The Anglo-Saxon countries also have a relatively small older population which only increased by 1 percentage point. The relatively largest older populations are found in the Mediterranean and Continental countries, which have both seen a strong increase in the aged dependency ratio. The relative size of the older population in the Netherlands is just below the average and saw an average growth rate between 1995 and 2009.



Figure 2.3

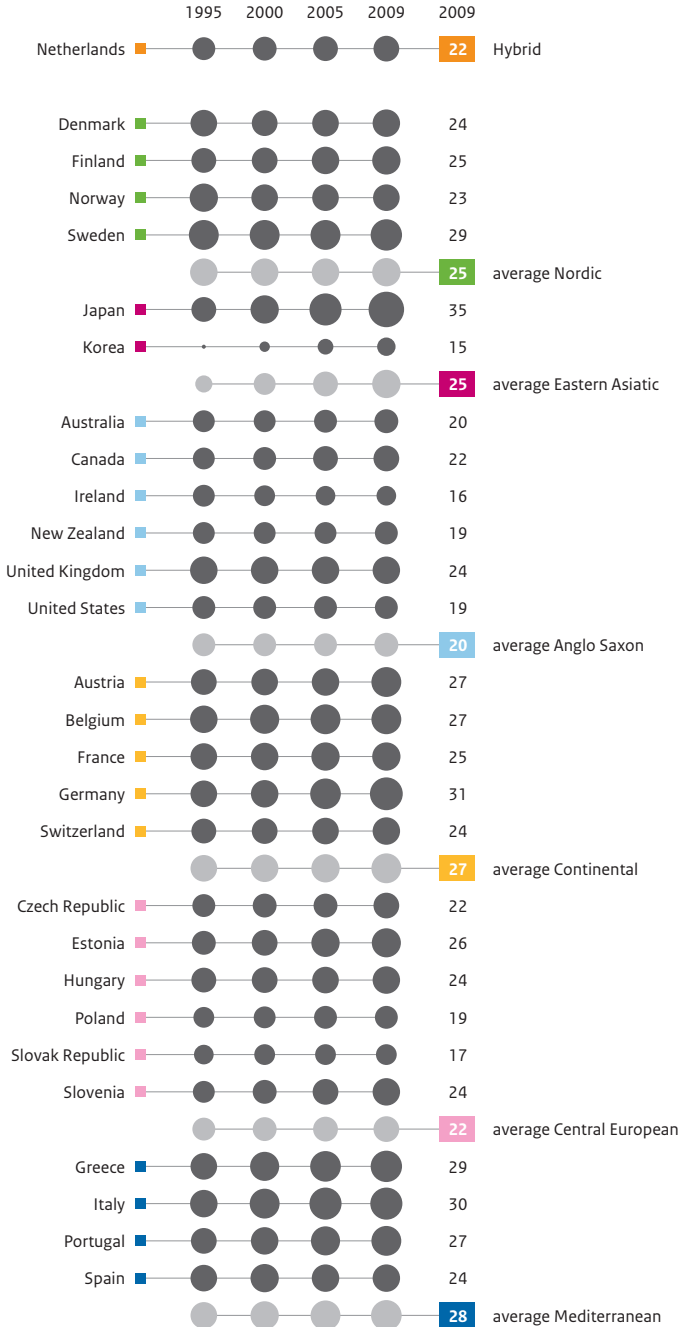
Number of people aged under 15 years related to the potential labour force, 1995-2009 (in percentages)



Source:  
US Census Bureau  
(International Data  
Base 2011)

Figure 2.4

Number of people aged over 65 years related to the potential labour force, 1995-2009 (in percentages)



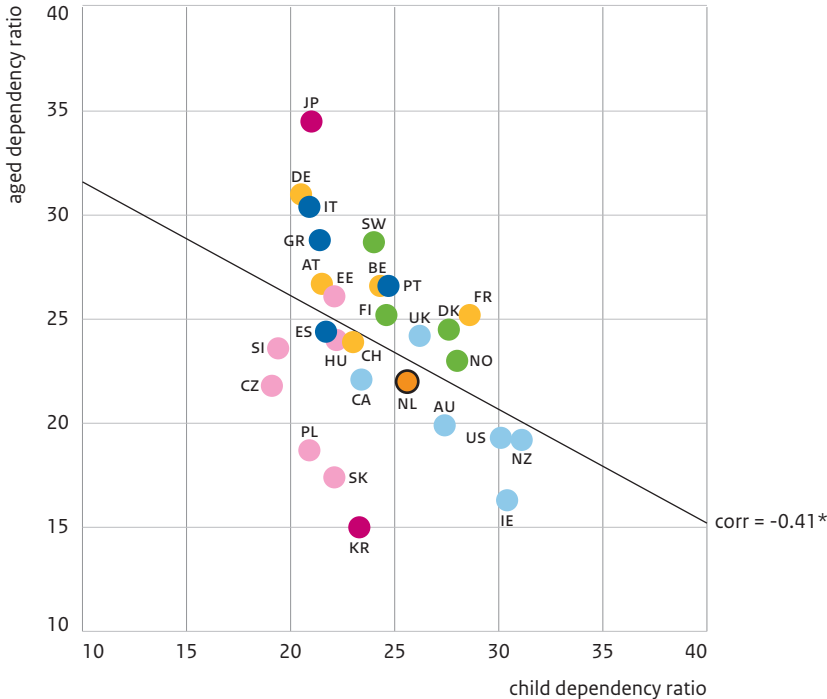
Source:  
us Census Bureau  
(International Data  
Base 2011)

Child and aged dependency ratio are negatively correlated

The two dependency ratios are summarised in figure 2.5. Countries in the top left quadrant of the spectrum (e.g. Germany, Italy and Japan) are in an unfavourable position, as they combine a low child dependency ratio with a high aged dependency ratio. Those in the bottom right quadrant (e.g. Ireland, New Zealand and the United States) are better off, as they have a relatively high child and a low aged dependency ratio. The top right and bottom left quadrants face mixed prospects.

Overall, a relative higher number of youngsters appears to be associated with a lower number of older people. (This is not automatically the case: there are countries where both are low, such as Poland). The picture also clearly shows the Eastern Asiatic countries at opposite ends of the (aged dependency) spectrum. The Netherlands can be found in the centre of the figure, combining a slightly above-average number of young people with a slightly below-average number of older persons.

Figure 2.5  
 Child dependency ratio versus aged dependency ratio, 2009 (in percentages)



\* Correlation is significant (p-value is 0.03).

Source: US Census Bureau (International Data Base 2011)

## 2.2 Economic situation

The economic performance of a nation provides an indication of its growth potential. It also shows the strength of an economy and its ability to recover from economic hardship – such as the economic crisis of 2008 and 2009. Economic performance is measured in this section by looking at the level of wealth, economic growth and unemployment. Higher unemployment tends to be related to a low growth potential and/or an inflexible labour market (Benjamin et al. 2007). Unemployment is therefore seen as a negative indicator of economic performance, whereas the level of wealth and growth are seen as positive indicators in the total economic performance indicator at the end of this section.

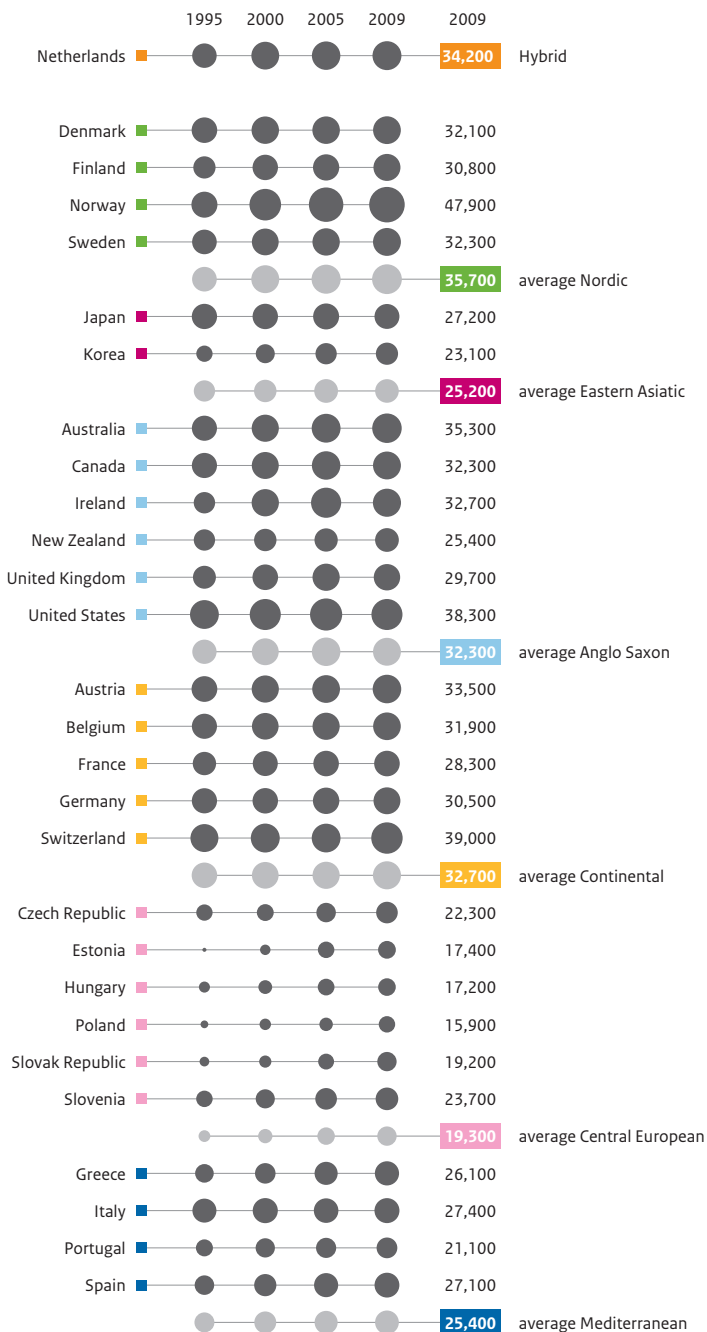
### Wealth increases opportunities

Gross Domestic Product (GDP) measures the size of a country's economy. It is a fairly rough measure since, in the absence of market prices, production in the public sector is valued at the costs of the resource inputs, and household production is not included. To allow international comparison, national currencies are converted using 'purchasing power parities' (PPP). To determine PPP, international bodies such as Eurostat, the OECD and the World Bank regularly establish what a certain representative basket of products costs in different countries. Amounts in national currencies are then converted to euros, using the ratio of the cost of the basket in euros in the Netherlands to the cost of the same basket in the local currency. PPP make it possible to calculate the purchasing power sacrificed for the goods and services included in the particular 'basket' used. For comparisons over time, the amounts taken into account must also be corrected for inflation.

In order to make GDP comparable between countries with different population sizes, it is common to calculate GDP per capita. Disregarding savings, GDP per capita is an indicator of relative wealth. The Nordic countries are on average the most wealthy. This is mainly due to Norway, by far the most prosperous of the 28 countries in this study. The Netherlands ranks among the richest nations, with a GDP per capita of € 34,000 in 2009. Among the Anglo-Saxon countries there is quite a lot of variation, with New Zealand at the bottom end with € 25,000 and the United States at the top with € 39,000. The differences are somewhat smaller among the Continental Western European countries. GDP per capita has increased for almost all countries, at least compared to 1995. The only exception is Japan, where GDP per capita has decreased slightly. Although the Central European countries rank lowest in average GDP per capita, it is among this group that the biggest increases have occurred since 1995: 74% for Poland, 88% for Slovakia and 125% for Estonia.

Figure 2.6

GPD per capita in euros, 1995-2009 (purchasing power parities)<sup>a</sup>



<sup>a</sup> In prices of 2009, Dutch euros.

Source: OECD Statistics (National Accounts 2011) SCP calculations

### Growth is a measure of strength

Wealth is a measure of economic performance, but growth provides an indication of the 'fitness' of an economy. Countries that can generate more growth are better able to deal with economic downturn, as growth is a measure of flexibility, entrepreneurship and economic potential.

Figure 2.7 shows the average annual growth rate in real GDP per capita. In the period covered in this report, annual growth was highest for most countries in 1995 and lowest in 2009. Almost all countries saw negative growth in 2009, the only exceptions being Poland, Australia and Korea. The Nordic countries saw GDP drop the most, but Ireland and Estonia were also hit severely. The Netherlands shows comparable results to the Nordic countries, with a drop of 5% in real GDP in 2009.

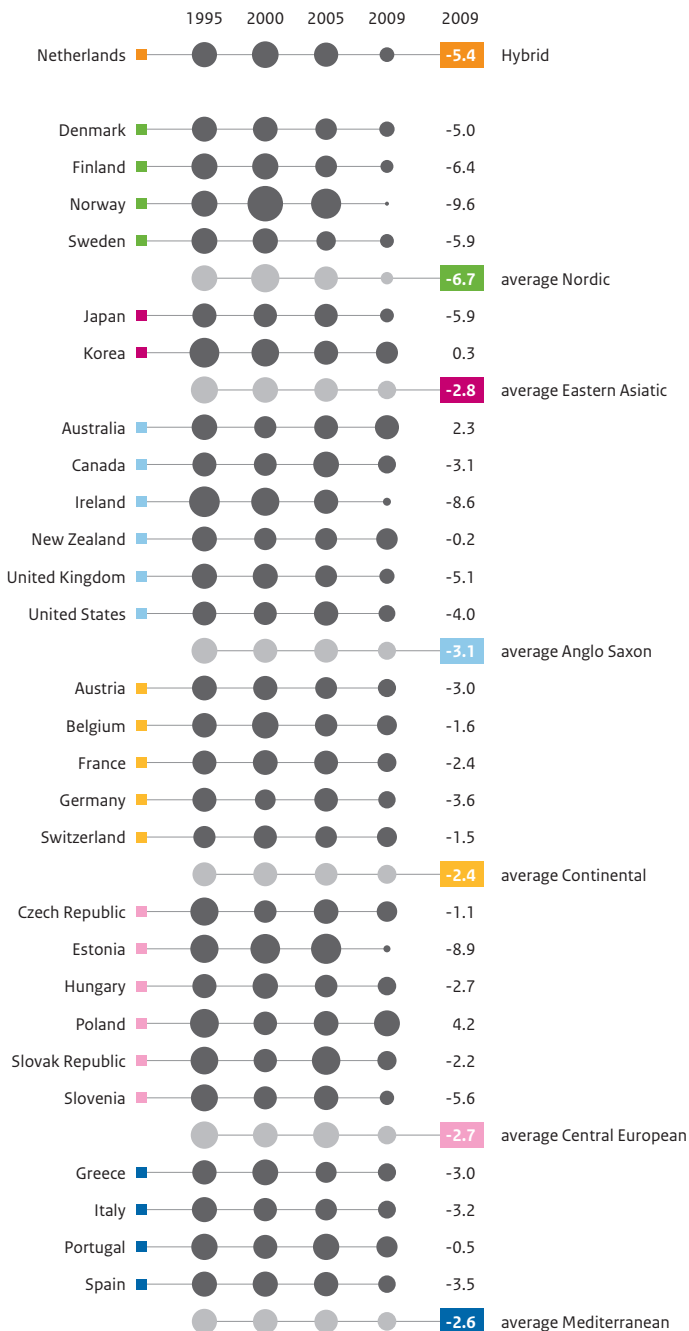
### Growth has been higher in countries where GDP per capita was lower

Short-term annual growth figures are of course very dependent on strongly fluctuating economic circumstances. To gain a clearer picture of long-term economic development, figure 2.8 relates average annual economic growth between 1995 and 2009 to the relative levels of wealth in 1995. The figure shows that the distribution of wealth has levelled to a certain extent: countries with a relatively low GDP per capita in 1995 have generally witnessed more economic growth, which will have resulted in smaller differences in wealth in 2009. The most notable exception is Norway, one of the wealthiest nations in 1995, which also saw strong growth in the period 1995-2009 – mostly due to its extensive oil reserves.

### Low unemployment in Eastern Asiatic countries and the Netherlands

The unemployment rate is considered to be an important indicator of economic performance (figure 2.9). It tends to rise during economic downturns and fall in periods of economic recovery, and is therefore linked to economic growth (albeit with some time lag). On average, unemployment was high in 1995, it declined in the next decade and went up again in 2009 at the beginning of the current economic downturn. The Mediterranean, Central European and Anglo-Saxon countries had the highest unemployment rate on average in 2009. Unemployment levels are much lower in the Eastern Asiatic countries and the Netherlands. In 2009, the Netherlands ranks first on low unemployment.

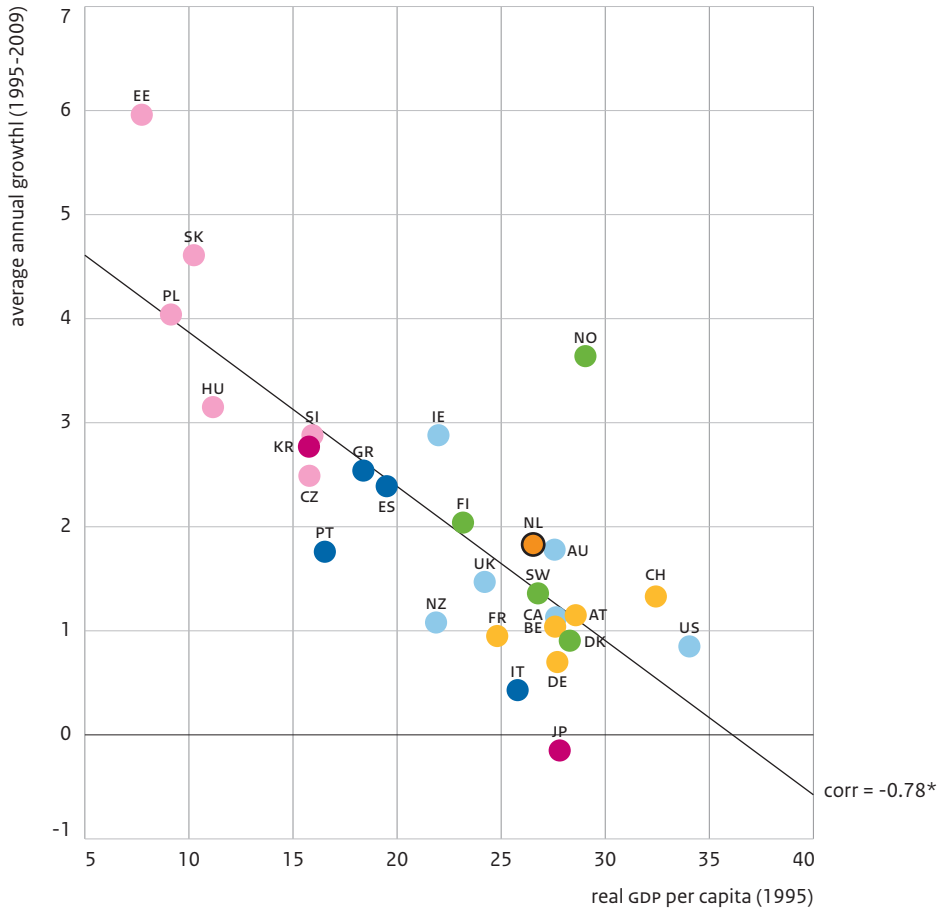
Figure 2.7  
Average annual growth in real GDP per capita in percentages, 1995-2009



Source:  
OECD Statistics  
(National Accounts 2011)

Figure 2.8

Real GDP per capita in euros x 1000 (1995) versus average annual growth in real GDP per capita in percentages, 1995-2009

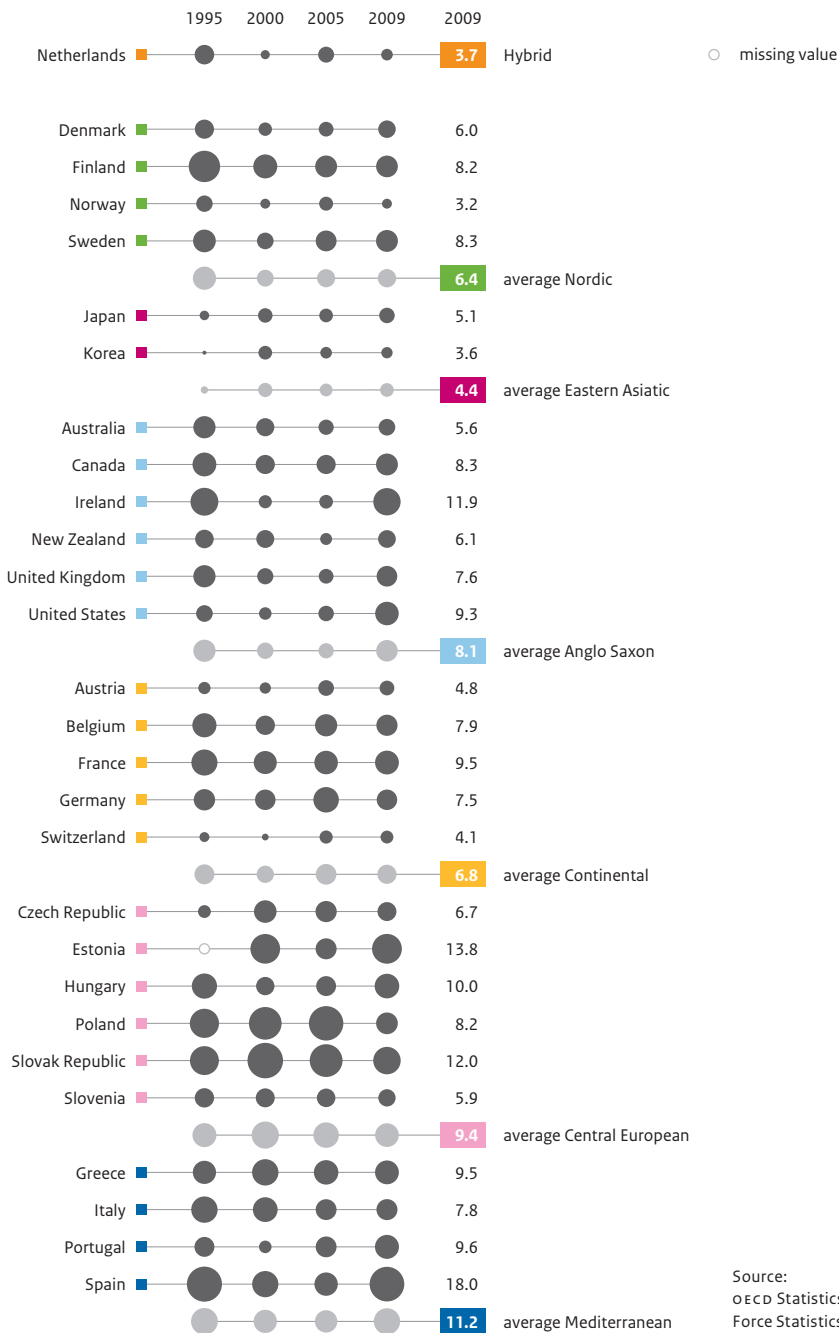


\* Correlation is significant (p-value is 0.00).

Source: OECD Statistics (National Accounts 2011) SCP calculations



Figure 2.9  
Unemployment rate, 1995-2009 (in percentages)



Source:  
OECD Statistics (Labour  
Force Statistics 2011)

### 2.3 Social situation

Demographic and economic circumstances are not the only factors that influence the sustainability of public sector provisions. Social circumstances can also have a major impact. In traditional, more conservative societies, participation of women in the labour market is for instance often limited. If fewer people are active on the labour market, economic growth will be lower and tax rates will have to be higher in order to guarantee the same level of public provisions. Countries where participation is higher are better equipped to handle challenges such as an ageing population. More participation not only results in increased tax revenues, but also in a larger labour supply. A large labour supply is very important in order to be able to alleviate future shortages of personnel in sectors such as health care and education.

Increasing income inequality can also have important negative consequences for society. Often, income inequality on its own is not an issue, but if it is combined with economic downturn, high unemployment and drastic public sector reforms, it can add fuel to an already volatile mix, as could be witnessed in Greece in 2011.

The same could apply to other inequalities, such as between the higher and lower educated and between the young and the older populations. In most countries this also holds for inequalities between ethnic groups (and in most countries especially the non-Western foreigners). Inequality between ethnic groups is in fact often one of the persistent inequalities. Alongside income inequality, inequality between ethnic groups is regarded as an indicator of the social situation. There are however no inequality measures available on this topic and the percentage of non-Western foreigners is therefore taken as a proxy. Ethnic composition can also have a direct impact on outcome in certain areas. Performance in education is influenced by the language proficiency of the pupils; pupils who do not master a country's language sufficiently are at a clear disadvantage. These are often children from families with a non-Western background.

Participation in the labour market is seen as a positive indicator and income inequality and the percentage of non-Western foreign-born citizens are seen as a negative indicator of the social situation. It needs to be stressed strongly that this is not meant to be normative, and high income inequality or a high percentage of foreign-born citizens is not considered to be negative. However, as argued above, increased inequality and/or ethnic diversity *in combination with* other factors can lead to less stable social situations. Another example is the fact that ethnic tensions also frequently increase in areas where the population is declining (such as in the eastern part of Germany and in the Central European countries).

#### Participation in the labour market

The previous section looked at the unemployment rate as a measure of economic performance. That indicator has some limitations, however. There are other reasons why people withdraw from the labour market, such as a reduced chance of finding work

(‘discouraged worker effect’), disability and early retirement. Over the past quarter of a century, the social security disability programme has been used in the Netherlands as an exit route from the labour market for less productive workers. Employers benefited, because it allowed them to shed excess staff. Employees benefited, because disability benefits are more generous than unemployment benefits. The labour market participation rate is therefore a more comprehensive economic indicator. Figures 2.10 to 2.12 show the number of working persons as a percentage of the associated potential labour force (respectively, the total labour force, women and those aged between 55 and 64 years).

Figure 2.10 shows that participation is very high in the Netherlands. The increase in participation in the Netherlands is caused both by increased participation by women (see figure 2.11) and the oldest members of the potential labour force (see figure 2.12). It should be noted that women in the Netherlands mostly work in part-time jobs; only 25% of all working women work full-time (Portegijs and Keuzenkamp 2008). Participation is also traditionally very high in the Nordic countries, but participation in these countries was already at a high level in 1995.<sup>5</sup> Among the Nordic countries, only Finland shows a strong increase (both for women and older people), but there the level of participation was relatively low in 1995, at only 62%, compared to an average of 73% for the other Nordic countries.

Participation has also increased in most Anglo-Saxon countries, due to increased participation by both women and older persons. The United States is the only country where participation has gone down, mainly because fewer women are active on the labour market. This could be due to the early effects of the credit crisis, which were felt first in the United States.

Among the Eastern Asiatic countries, participation levels remain fairly constant. In Japan, women participate slightly more and fewer older persons are active on the labour market in Korea in 2009.

Participation has increased in all Continental Western European countries – driven, as in the Netherlands, by an increase in participation by both women and older persons. Among the Central European countries, participation did not change much between 1995 and 2009. Although participation by older persons increases in all Central European countries, they are still among the countries where the fewest older persons participate, and as a result, this increased participation by older persons has little effect on total participation.

In the Mediterranean countries, most notably Spain, participation also increased quite strongly between 1995 and 2009. This increase can be attributed mainly to women: participation by older persons also increased, but at a much lower rate.

Figure 2.10

Labour participation, 1995-2009 (in percentages)

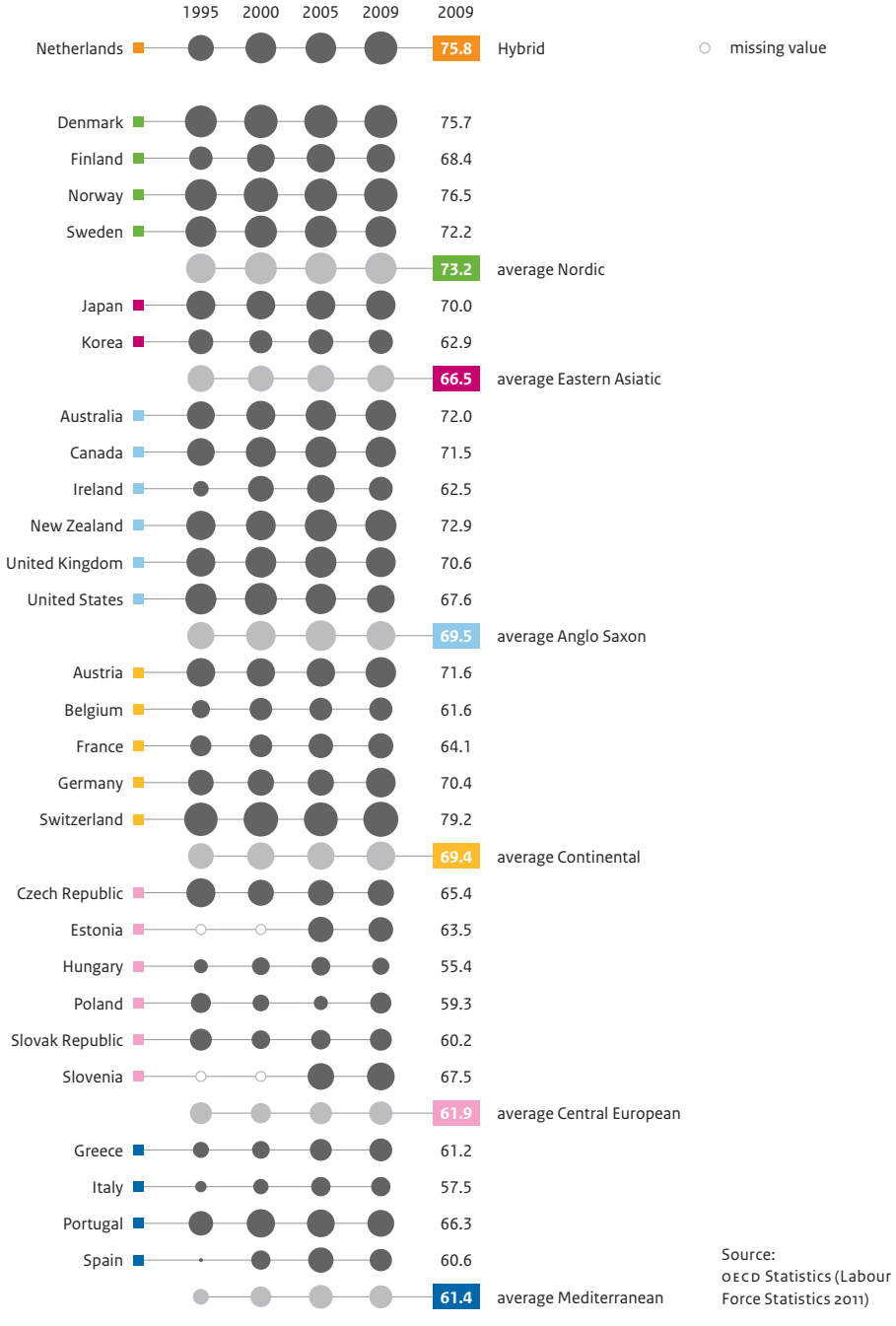
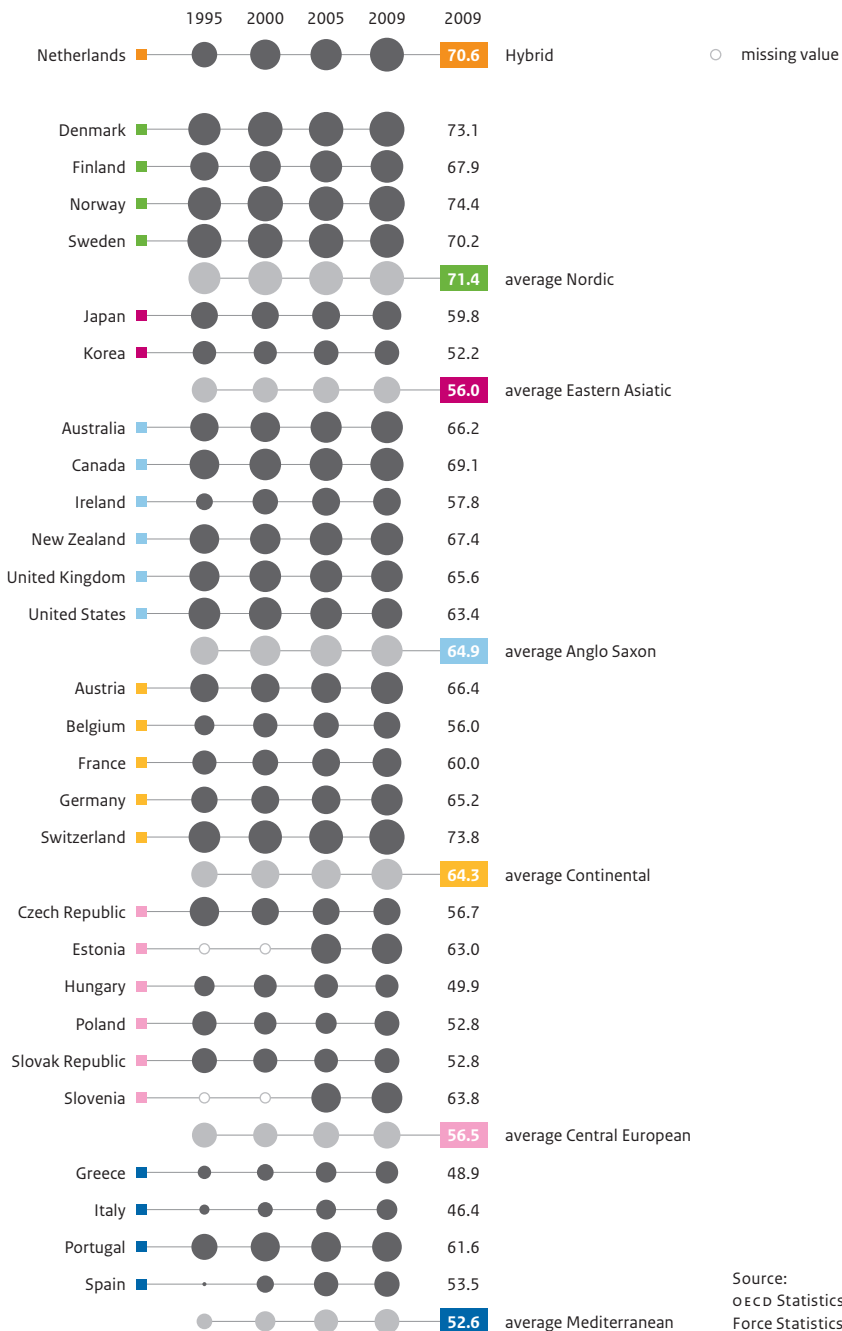


Figure 2.11

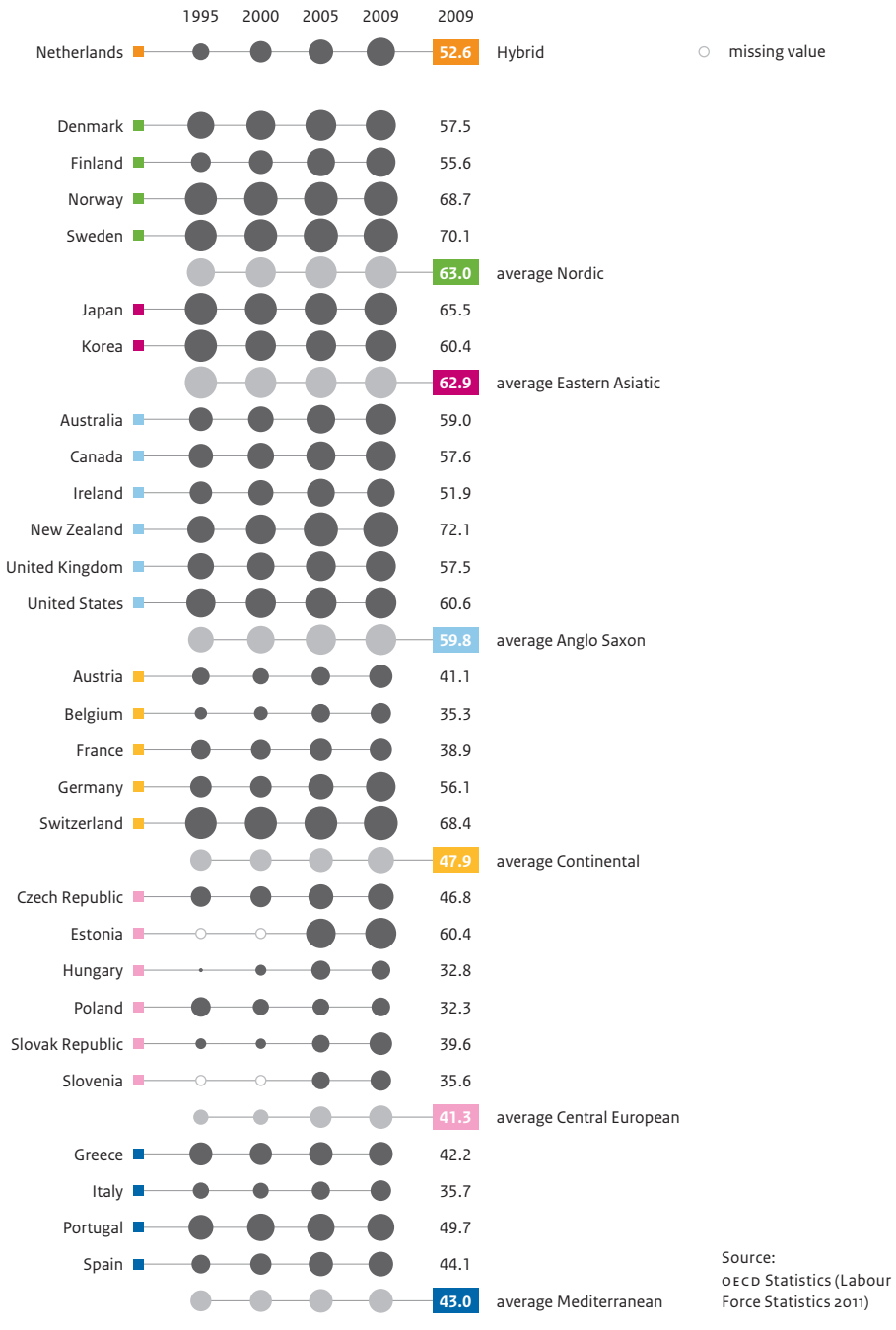
Labour participation of women, 1995-2009 (in percentages)



Source:  
OECD Statistics (Labour  
Force Statistics 2011)

Figure 2.12

Labour participation of people aged 55-64 years, 1995-2009 (in percentages)

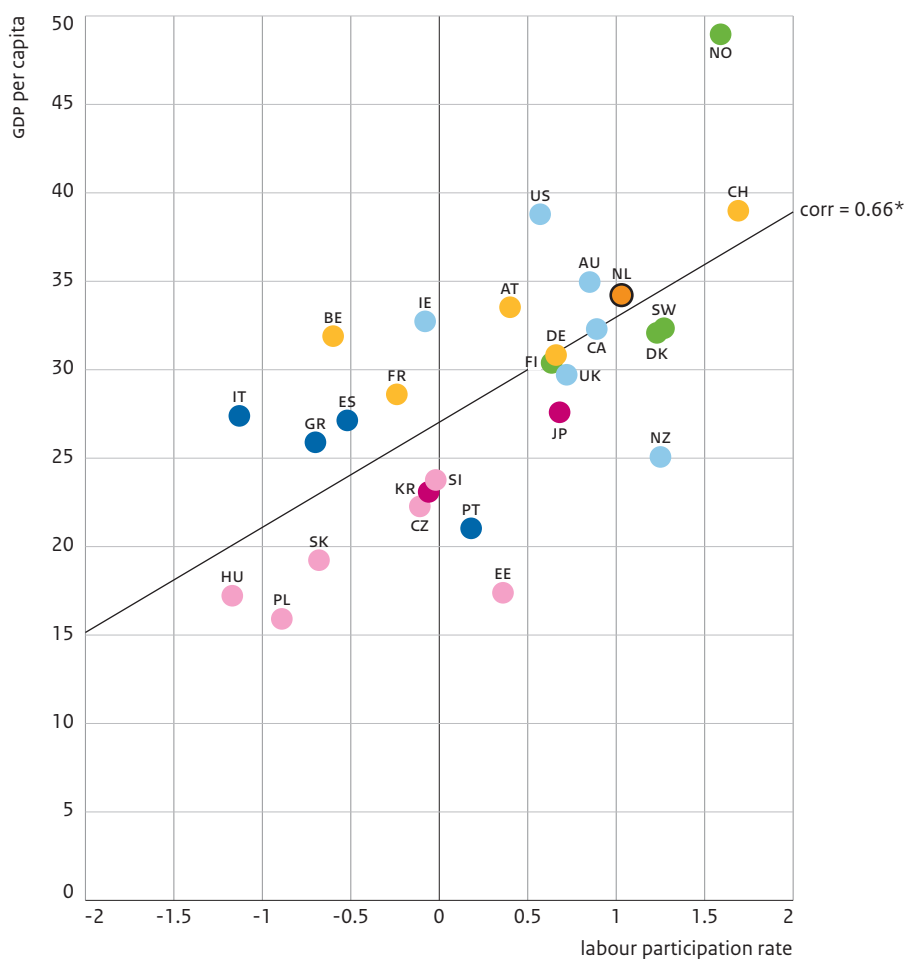


### Labour participation and wealth appear to be related

An interesting side-step is to examine the relationship between labour participation and GDP per capita. Figure 2.13 shows that societies where labour participation is higher are also more affluent. It also shows that the Mediterranean and Central European countries, especially, still have unfulfilled (labour) potential that could increase their economic performance.

Figure 2.13

Labour participation index versus real GDP per capita in euros x 1000, 2009



\* Correlation is significant (p-value is 0.00).

Source: oecd Statistics (Labour Force Statistics 2011; National Accounts 2011) scP calculations

### No great changes in income inequality

Income inequality is measured using the ‘Gini coefficient’ of gross income. The Gini coefficient measures the degree of inequality; it has a theoretical value of 0 if income is distributed completely equally (everybody earns the same) and a theoretical value of 100 in a completely unequal state (one person earns everything, all others earn nothing). Inequality in gross income is examined because net income is highly dependent on government intervention (level of taxation).

On average, inequality has remained almost constant (figure 2.14). The Eastern Asiatic and Central European countries have less income inequality than average, whereas the Mediterranean, Continental and Nordic countries have somewhat more than average. The Netherlands performs close to the average. Labour markets in Mediterranean and Continental countries are greatly divided: ‘insiders’ are well protected whereas ‘outsiders’ have great difficulty in obtaining a good position. This exacerbates income inequality and this effect is enhanced by the inefficiently functioning labour markets and social security systems in the Mediterranean countries (Häusermann and Schwander 2012, Josifidis et al. 2009). The Nordic countries also show large income inequality in gross income, but as the labour market and welfare regimes function much more efficiently, inequality in net income is much lower (*ibid*). The wide income inequality in Germany is mainly due to lingering effects of the reunification (Bruckmeier and Schwengler 2009). Detailed analysis of inequality in Portugal has indicated a very marked division in income, earnings and capital along socioeconomic lines (Budría 2010). Portugal is a particularly powerful example of an insider/outsider economy.

### No relationship between income inequality and GDP per capita

The relationship between income inequality and economic growth has been examined extensively, with mixed results. Kuznets (1955) postulated that the relationship was inversely U-shaped: at low levels of income per capita, economic growth would increase inequality, but after a saturation point inequality would decline with increases in income. Kuznets also found empirical evidence for this relationship in time series data for England, Germany and the United States. This view was undisputed for almost four decades; it was not until the late nineteen-nineties, based on analyses of much larger datasets, that this inverse U-shape theory was challenged (e.g. Deininger and Squire 1998). There is also debate about the causality between inequality and economic growth. Cornia and Court (2001), for example, found that economic growth suffers when inequality is either too high or too low. As the countries in our sample are among the wealthiest nations, one would expect, given Kuznets’ theory, a non-significant or negative relationship between income inequality and income. Our results in fact indicate that there is no significant relationship between income inequality and income (figure 2.15).



Figure 2.14

Gini coefficient of income inequality in gross income, 1995-2008

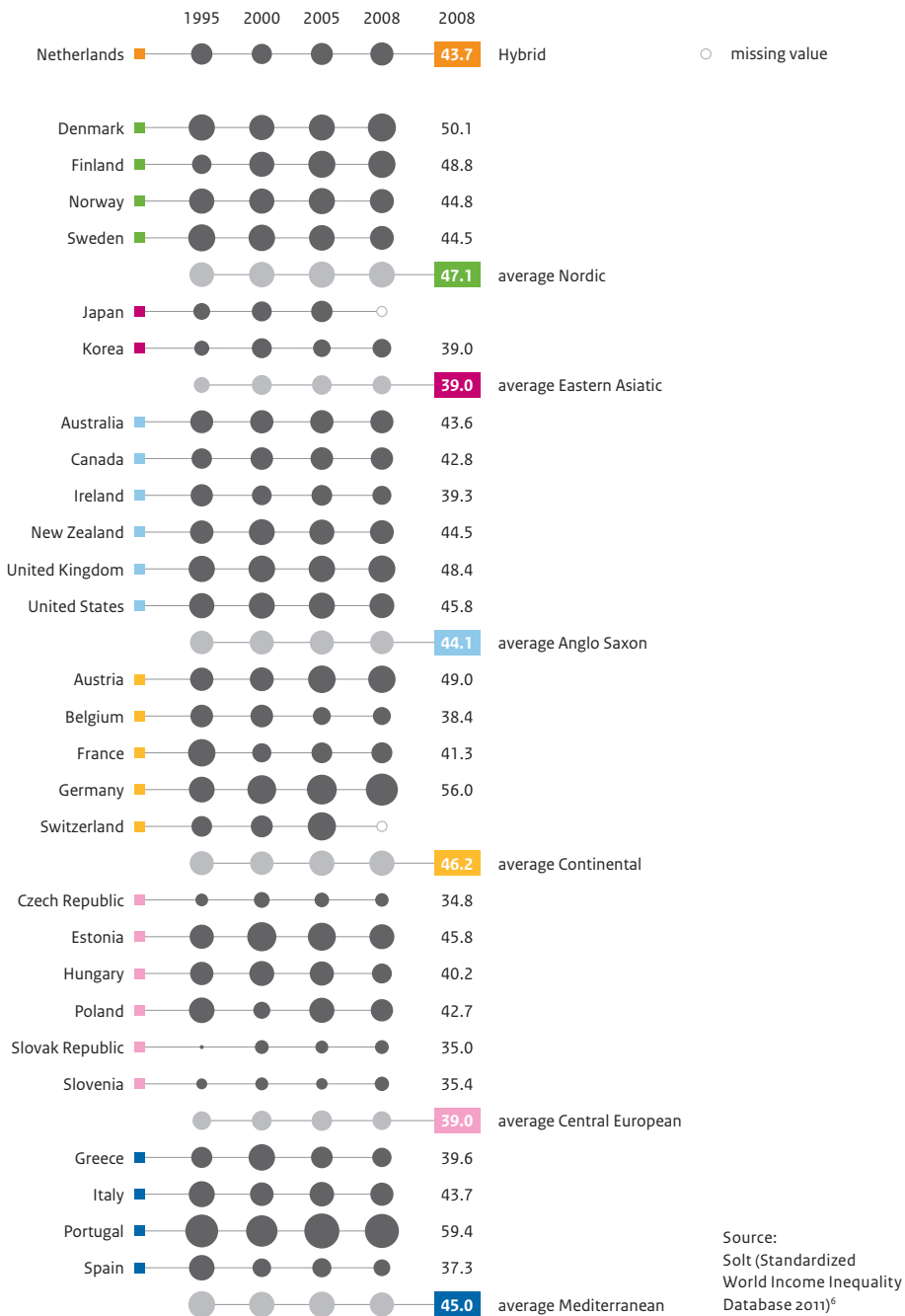


Figure 2.15

Gini coefficient of income inequality in gross income versus GDP per capita in euros x 1000, 2008/2009



Correlation is not significant (p-value is 0.31).

Source: OECD Statistics (National Accounts 2011), Solt (SWIID'11) SCP calculations

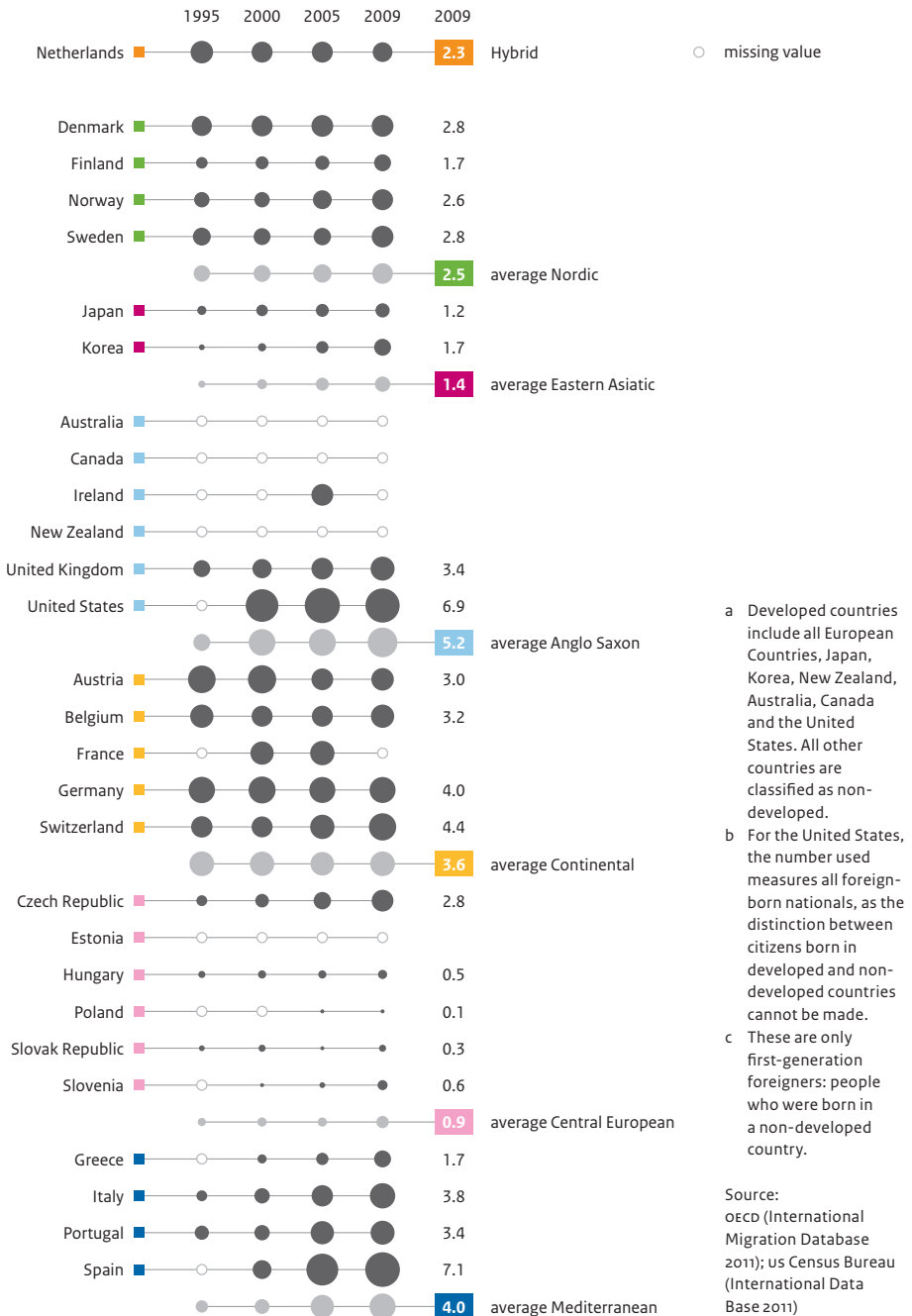
### Difficult to determine ethnic composition

As argued at the beginning of this section, the ethnic composition of the population can be an indicator of social stability. When examining ethnic composition, a distinction is often made between immigrants from Western and non-Western countries. Some countries even go further: in the Netherlands it is common practice to qualify those whose parents were born in a non-Western country as having a foreign background (second-generation migrants). The data sources used in this study limit the possibilities for classifying who is considered to be an immigrant. It is only possible to look at the percentage of citizens who were born in a non-developed country.<sup>7</sup> Here, citizenship is defined as holding a passport of the country in question. People from a non-developed country without citizenship (including illegal migrants) are hence excluded. Furthermore, there is no information on second (or third)-generation migrants. It is also not possible to explore the composition of the immigrant population, for instance on the level of education. In some countries, e.g. Australia and New Zealand, access is (mostly) limited to higher-educated migrants – also called ‘knowledge workers’. This will result in a different composition of the migrant population compared to countries where such restrictions do not apply. Hence, the data only provide a partial picture of the ethnic composition of the population.

On average, 3% of citizens were born in a non-developed country (figure 2.16). This number is higher in the Continental, Mediterranean and Anglo-Saxon countries. The numbers are fairly stable over time; only Spain has seen a strong increase since 2005. The Nordic countries and the Netherlands both have approximately the same percentage of citizens from a non-developed country in 2009, but have undergone a different trend; the percentage of citizens from a non-developed country is increasing in the Nordic countries whereas for the Netherlands it is declining. The Central European countries – with the exception of the Czech Republic – have almost no citizens born in a non-developed country.<sup>8,9</sup>

Figure 2.16

Percentage of citizens born in a non-developed country<sup>a,b,c</sup>, 1995-2009



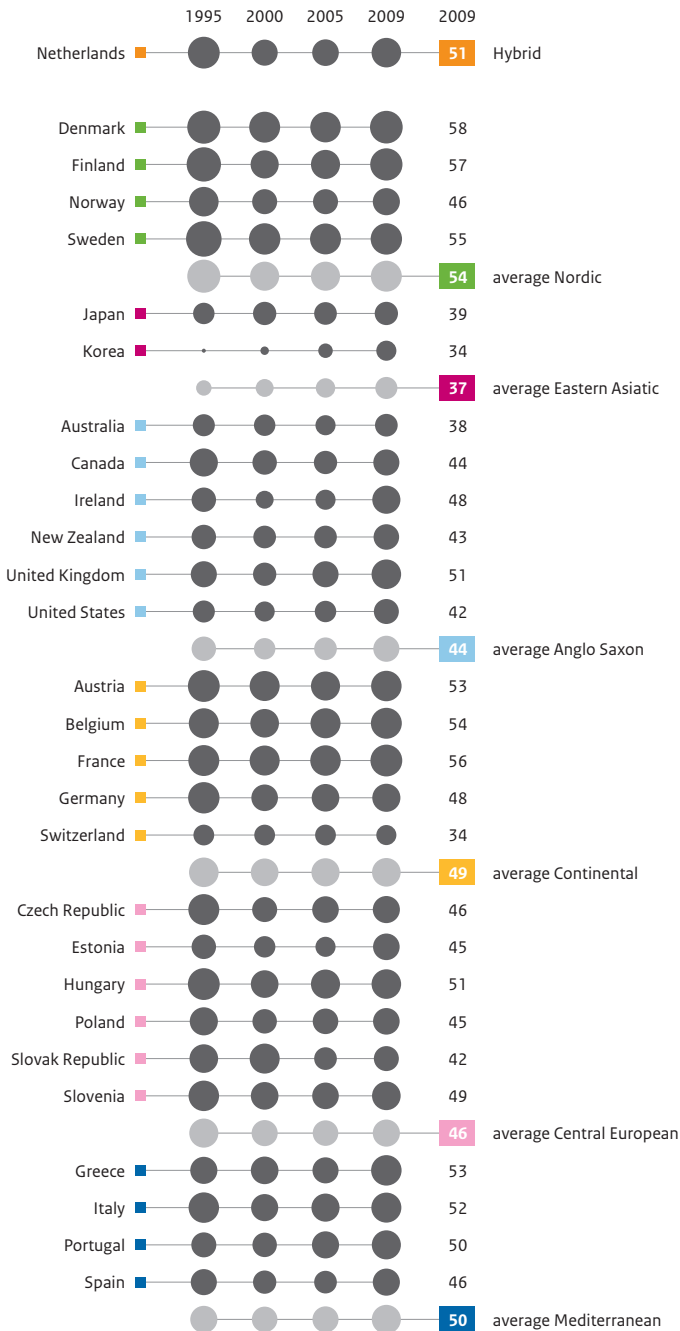
## 2.4 Public sector

The state of the public finances is also an important factor when considering the future sustainability of public provisions. Developments in 2011 in Italy and Greece show that a large public debt means interest payments make up a large portion of public expenditure, making it difficult to maintain public provisions at their current level. The affordability of public provisions is also an issue when the population is ageing. The more universal and generous provisions are, the greater the risk that they will become too expensive. The size of the total public sector is used in this study as a proxy for the scope and reach of public provisions. This is of course a crude measure, but it is commonly accepted that the public sector is larger in more universalistic welfare systems (such as in the Nordic countries) and smaller in liberal-orientated welfare systems (such as in the Anglo-Saxon countries). Finally, the budget surplus or deficit is included as an indicator. This provides a measure of economic stability. As the budget surplus or deficit is clearly – although sometimes only partially – open to influence by policy-makers, it is included as an indicator of public sector finances and not as an economic indicator. The budget surplus or deficit is used by governments as a policy instrument. For instance, the EU member states have agreed on a cap on the budget deficit in the Stability and Growth Pact, stating that it should not exceed 3%.

The public spending ratio (figure 2.17) is a measure of the burden placed upon the economy by the public sector. It relates total public expenditure to Gross Domestic Product. On average, the ratio increases from 44% in 2000 to 48% in 2009. At country level, however, the differences are much larger. Denmark spends almost twice as much of its GDP on public expenditure as Korea (58% versus 30%). In 1995 Korea only spent 20% of its GDP on public expenditure, so the spending ratio has increased by 50%. Eleven countries have a lower spending ratio in 2009 than in 1995, while for nine countries the spending ratio has increased. The decrease has mostly occurred in countries with a relatively high spending ratio in 1995, and the increase in countries with a relatively low spending ratio (the exceptions here being Belgium and France). There is thus a convergence towards a moderate ratio of public expenditure. For seven other countries no information is available for the whole period, and the spending ratio in Japan has not changed.

Figure 2.17

Public expenditure as percentage of GDP, 1995-2009 (in percentages)



Source:  
OECD (National  
Accounts 2011)  
SCP calculations

### Budget deficit in most countries exceeds EU target of 3%

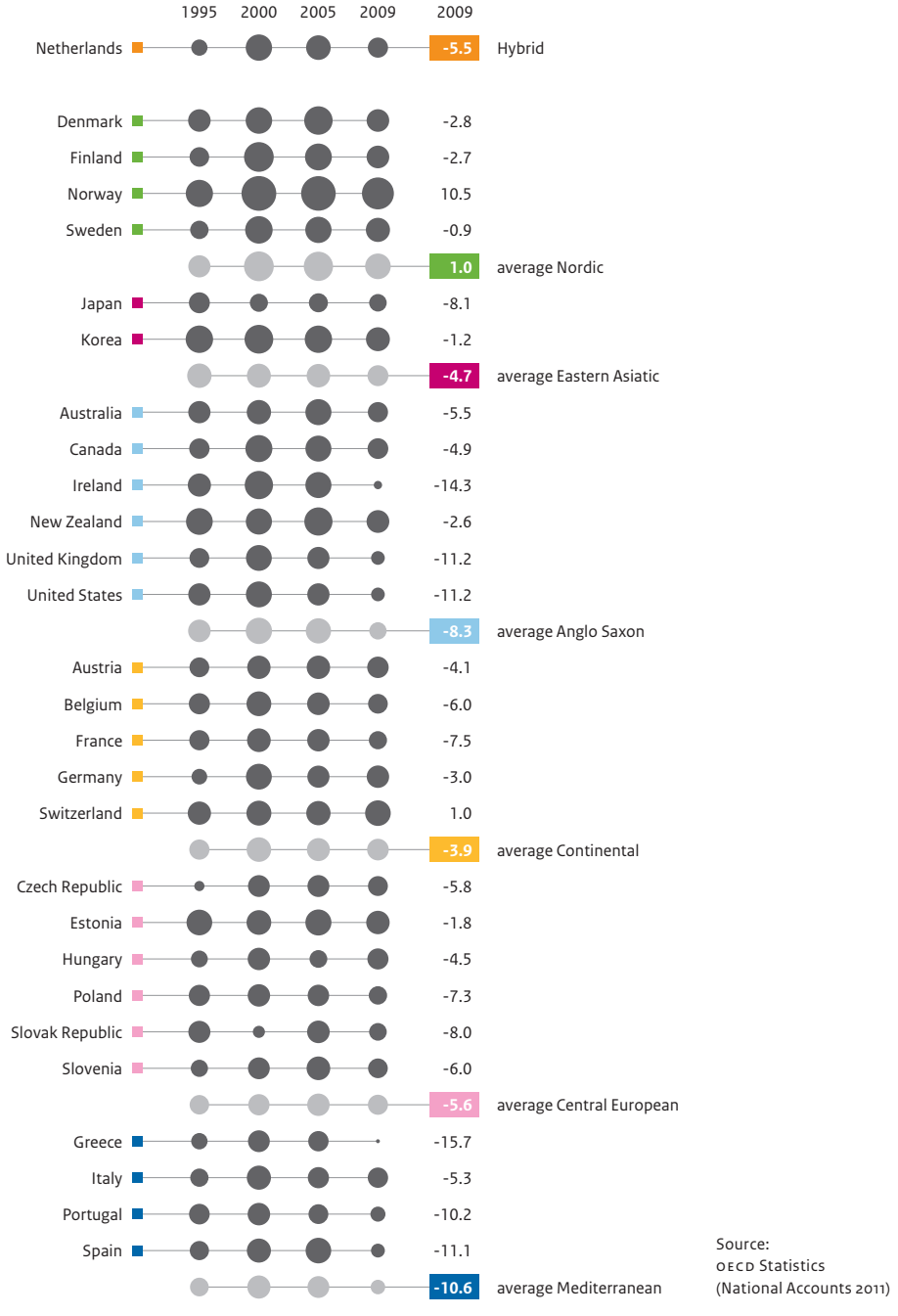
Figure 2.18 describes another criterion of economic stability, the budget deficit. This is calculated as the yearly difference between receipts and expenditure in the public sector.

The ranking of the countries is not very surprising. The Nordic countries have the best budget discipline, followed by the Eastern Asiatic, Continental Western European countries and the Netherlands. The Central European, Anglo-Saxon and Mediterranean countries follow, unmistakably the countries that have been hit hardest by the consequences of the current economic downturn. Not surprisingly, Greece and Ireland have the highest deficit (15% in 2009). It is also clear that the Mediterranean countries were already having trouble balancing their budgets before the crisis hit, whereas the deficit for Ireland can be entirely attributed to the banking crisis.

Fourteen of the seventeen eurozone countries (which have committed themselves to the Stability and Growth Pact) are included in our sample. Of these, only three have a deficit that in 2009 does not exceed 3% of GDP (Estonia, Finland, Germany). Of the fourteen OECD non-eurozone countries, six have a deficit lower than 3% of GDP. Although not all the deficits can be entirely attributed to the economic crisis, it is clear that for most countries the banking crisis and the economic crisis that followed have greatly shaken up government finances.

Figure 2.18

General government surplus/deficit, 1995-2009 (in percentages)



Source:  
OECD Statistics  
(National Accounts 2011)



### Public debt in most countries now above EU criteria of 60% of GDP

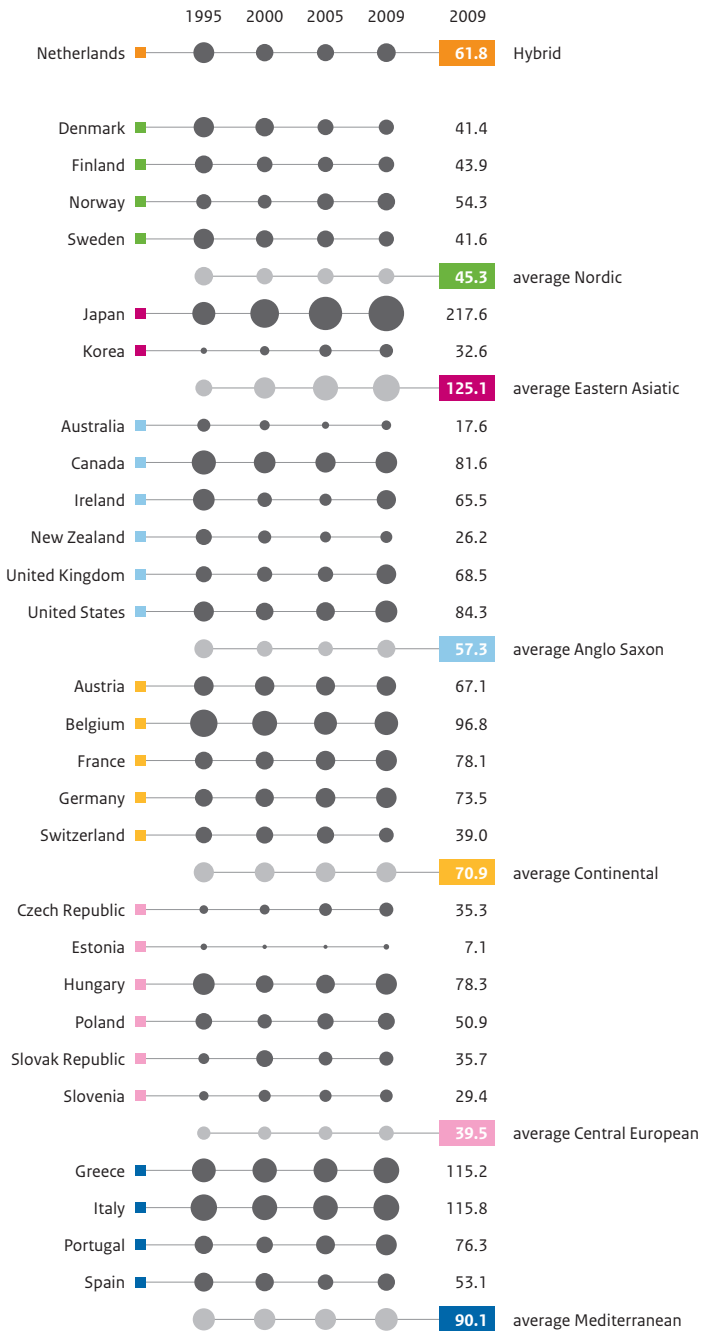
The economic crisis has also had major consequences for the government (or public) debt. A large public debt is a millstone for governments and government spending, as it is accompanied by high interest payments, leaving less room for spending on other public services. Figure 2.19 shows the development of the public debt for the 28 countries. Japan's public debt is by far the largest and amounts to 218% of GDP in 2009. The difference compared with most other countries is that Japanese investors hold most of its debt: only 6% is in hand of non-domestic investors (Tokuoka 2010). Also, the stock of private savings still seems far greater than the public debt.

The Stability and Growth Pact stipulates that public debt should not exceed 60% of GDP (or should fall to that value). In 2009, only five of the fourteen eurozone countries in this study had a public debt below 60%: Estonia, Finland, Slovenia, Spain and Sweden. It is clear from figure 2.19 that public debt first decreased between 1995 and 2005, then increased again. On average, public debt stands at 64% of GDP in 2009.

The development of the public debt differs across countries, however. Most Anglo-Saxon and Nordic countries, and the Netherlands, used the budget surpluses during the economic boom in 1995-2005 to lower their public debt. (The exception here is Norway, which did not reduce its public debt.) On the other hand, most Continental Western European and Central European countries have seen their public debt increase quite consistently during the whole period (exceptions are Hungary and Belgium, which reduced their debt quite substantially between 1995 and 2005). The Mediterranean countries have 'chosen' different directions: Spain and Italy reduced their public debt, whereas Greece and Portugal saw their debt grow. Due to the banking and financial crisis, public debt increased on average by more than eight percentage points between 2005 and 2009. Only Denmark and Switzerland managed to lower their public debt in this period. In the Netherlands, public debt increased by 10 percentage points to 62% of GDP in 2009.

Figure 2.19

Public debt, 1995-2009 (in percentages of GDP)



Source:  
IMF (World Economic  
Outlook Database 2011);  
Eurostat (Government  
Statistics 2011)

## 2.5 Combined performance

The performance on the four dimensions discussed in this chapter (demographics, economics, social circumstances and public finance) is now combined into one overall composite index, the 'national resilience barometer' that measures a country's strength.

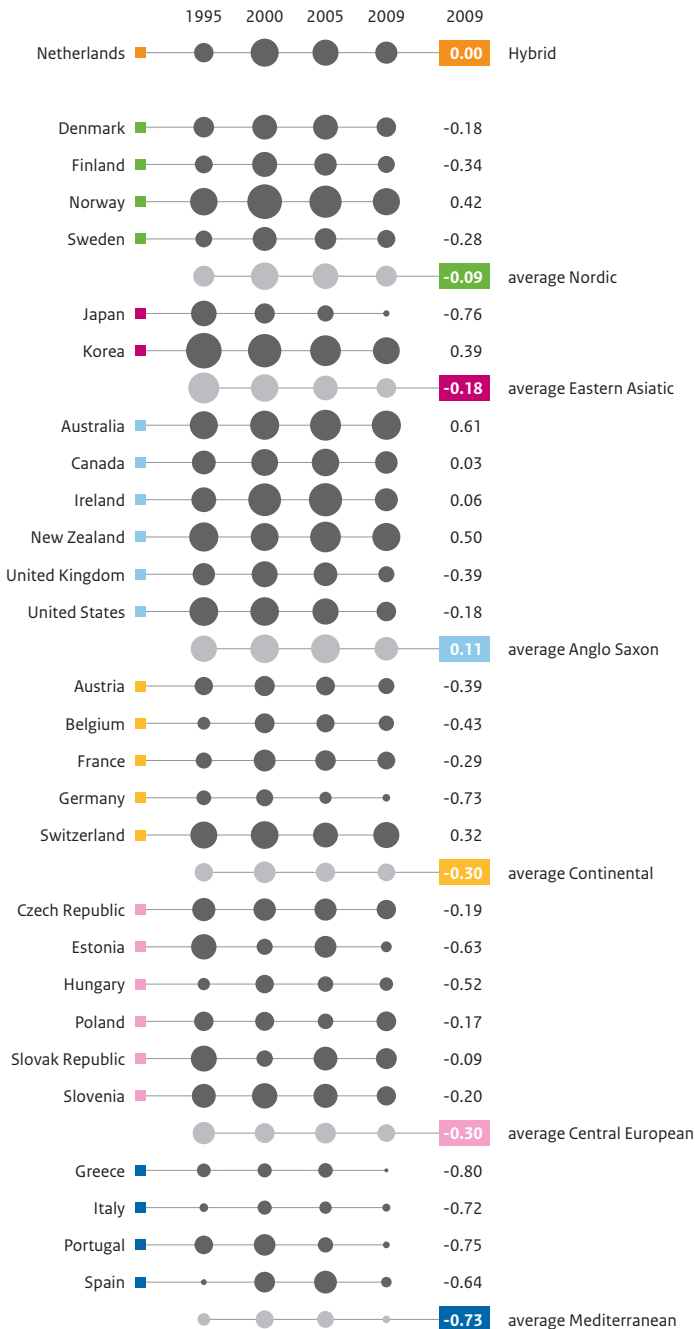
Figure 2.20 shows that the strength of most countries has declined in 2009. The underlying data show that this is mostly due to reduced scores on the economic and public sector indicators. Almost all countries have suffered from the banking and financial crisis. Many countries have fallen back to a worse position than in 1995. Japan has been hit hardest, mainly due to an extremely large public debt and a strongly ageing population. Greece, too, is at a very low level, however, due to poor public finances and weak economic performance. The other Mediterranean countries also show poor results. Germany owes its low ranking to very unfavourable demographics, low economic growth, wide income inequality and a large number of non-Western foreign-born citizens. Estonia has seen its economic circumstances deteriorate more than other countries and has relatively unfavourable demographics.

Norway has strong prospects in 2009, combining good results on the economic, social and public finance dimensions. Norway has always benefited greatly from its large oil reserves. Other countries that are doing relatively well in 2009 are Australia, New Zealand, Korea and Switzerland. Demographics are the strong point for Australia and New Zealand, whereas Korea and Switzerland score well on public finances. Australia and Switzerland also have strong economic foundations. Ireland, Canada and the Netherlands follow at some distance and can be labelled 'best of the rest'. The Netherlands shows above-average results on the economic, demographic and social fronts, but performs below average on public finances. The main reason for Ireland's relatively strong performance is its exceptionally favourable demographic profile. Canada does particularly well on social circumstances.

The changes also show that the Mediterranean countries were already performing weakly and the crisis has simply confirmed their low ranking. These countries have not seen their (already low) economic prospects decrease, but have seen a decline in public finances. The Continental countries have barely been affected by the crisis, but they were already performing well below average before the crisis began.

Figure 2.20

National resilience barometer, 1995-2009 (in index scores)



Source:  
 us Bureau Census  
 (National Data Base  
 2011); OECD Statistics  
 (National Accounts 2011,  
 Labour Force Statistics  
 2011, International  
 Migration Database  
 2011); Solt (SWIID '11);  
 IMF (World Economic  
 Outlook Database 2011);  
 Eurostat (Government  
 Statistics 2011) SCP  
 calculations

## 2.6 Summary

When the performance of the public sector is evaluated, differences in starting positions between countries have to be taken into account. Demographic, economic and social factors can all influence public sector performance. This chapter provides this context by looking at a number of indicators that describe the current state of affairs in the different countries.

The list of indicators used in this chapter is by no means exhaustive. The number of fields considered is limited (e.g. geographical and cultural circumstances are not included), and even within the areas that are covered, the picture will not be complete. However, this chapter does provide some insight into the variety of circumstances within which each country has to operate. There are common issues (population ageing), but also marked differences (participation in the labour market). In some areas, the geographical groups also show similar circumstances. Demographics are overall more favourable in the Anglo-Saxon countries, whereas the Central European and Continental countries are already faced with a declining and/or ageing population. Economic circumstances are mixed, but the Mediterranean and Central European countries appear to be worse off than most other countries. Social circumstances are more favourable in the Central European countries, as well as in the Eastern Asiatic countries. Public finances are not looking good in the Continental and Mediterranean countries. The Netherlands is doing reasonably well in all areas. Overall, we see that the Mediterranean and Continental countries (with the exception of Switzerland) have the least favourable circumstances. The results are mixed for the Nordic and Eastern Asiatic countries. The situation in the Central European countries is around the average or slightly below, whereas for the Anglo-Saxon countries it is around average of slightly above. The Netherlands is close to the average.

It can be concluded that there are only a few countries with very solid societal circumstances. This means that the public sector in most countries faces some major challenges. Poor demographic performance means that the future sustainability of the public sector is under threat, as a declining labour force has to take care of an increasing number of elderly citizens. Below par results on economic outcomes point to a lack of competitiveness, possibly leading to lower (tax) revenues and more (social security) expenditure. Declining social circumstances can lead to increased social tensions, as the gap between the poor and the wealthy widens and the population becomes more ethnically diverse. Finally, a large public debt increases the burden for future generations and leaves less room for public sector spending as the interest payments on the debt swallow up an ever increasing proportion of public funds. The next chapters will examine how various public sectors have been performing.

Table 2.2

National resilience barometer indicators, 2009<sup>a</sup>

	demography			economy			social circumstances			state of public finances			barometer
	a	b	c	d	e	f	g	h	i	j	k	l	
NL	0	0	0	++	--	++	++	0	0	-	-	0	0
DK	0	+	-	+	---	+	++	--	-	---	0	+	0
FI	-	-	-	+	---	0	+	-	+	---	0	+	-
NO	0	+	0	+++	---	++	++	0	0	0	++	0	+
SW	-	-	---	+	--	0	++	0	-	---	+	+	-
JP	---	---	---	0	--	+	+		+	+	---	---	-
KR	0	-	++	-	0	++	0	+	+	++	+	+	+
AU	++	+	+	++	+	+	+	0		+	-	++	+
CA	+	-	0	+	---	0	+	0		0	-	-	0
IE	+++	++	++	+	---	--	0	+		-	---	-	0
NZ	++	++	+	0	-	+	++	0		+	0	+	+
UK	+	0	-	+	--	0	+	-	-	-	---	-	-
US	+	+	+	++	--	-	+	-	---	+	---	-	0
AT	-	---	---	+	---	+	+	-	-	-	-	-	-
BE	-	-	---	+	-	0	-	+	-	---	-	---	-
FR	+	+	-	+	-	-	0	+		---	-	-	-
DE	---	---	---	+	---	0	+	---	---	-	0	-	-
CH	0	-	-	++	-	+	++		---	++	+	+	+
CZ	-	---	0	-	-	0	0	++	-	0	-	+	0
EE	---	---	-	---	---	---	+	-		0	0	++	-
HU	---	---	-	---	---	-	---	+	++	-	-	-	-
PL	-	---	+	---	+	0	-	0	++	0	-	0	0
SK	-	---	++	-	-	---	-	++	++	+	---	+	0
SI	-	---	-	-	---	+	0	++	+	-	-	+	0
GR	-	---	---	0	---	-	-	+	+	---	---	---	-
IT	+	---	---	0	---	0	---	0	---	-	-	---	-
PT	0	-	---	-	-	-	0	---	-	-	---	-	-
ES	++	---	-	0	---	---	-	++	---	0	---	0	-

a (a) growth of population; (b) child dependency ratio; (c) aged dependency ratio; (d) real GDP per capita; (e) average GDP growth; (f) unemployment rate; (g) labour participation; (h) income inequality; (i) non-Western foreign-born citizens; (j) public expenditure (% GDP); (k) government surplus/deficit; (l) public debt.

Source: See figures 2.1-2.20

## Notes

- 1 It will be impossible to come up with indicators that are entirely independent of policy. Indicators are therefore chosen to be as independent as possible, given availability.
- 2 This remark is not meant to disregard the influence of policymakers on public finances. It is merely meant to illustrate the fact that the state of public finances is not an instrument that they can freely adjust.
- 3 Each indicator is normalised using all (available) observations available for the four time points (1995, 2000, 2005 and 2009). Each observation  $x$  is normalised using the following formula:  $(x - \mu)/\sigma$ , where  $\mu$  is the average over the four time points and  $\sigma$  is the standard deviation. Indicators where a higher number is unfavourable (e.g. unemployment) are multiplied by  $-1$ . The national resilience barometer is calculated as the average of all normalised indicators.
- 4 Keeping the recommendations of Luts et al. (2008) in mind, we want to explicitly formulate both the advantages and limitations of the approach chosen in this study.
- 5 At least 75% of working women in the Scandinavian countries work full-time according to labour force statistics from the OECD.
- 6 See Solt (2009) for details on SWIID.
- 7 Developed countries are defined as all European countries, New Zealand, Canada, Australia, the United States, Korea and Japan.
- 8 The exception here is Estonia (not included in the figure). Around 20% of the population are foreign-born, but we cannot distinguish whether they were born in a developed or a non-developed country. A considerable proportion of this group will belong to the large Russian minority in Estonia.
- 9 Roma (a significant minority in Central European countries) are not classified as foreign as most of them are natives.

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## 3 Education

Jedid-Jah Jonker

### What is the goal of education?

The United Nations states that education should ‘enable all individuals to realize their right to learn and to fulfil their responsibility to contribute to the development of their society’ (UNESCO 2000: 15). In the UNESCO programme ‘Education for All’ six global targets are defined that aim to universalise primary education and massively reduce illiteracy by 2015. Van de Werfhorst and Mijs (2010) define four central functions of secondary and tertiary education:

- 1 the enhancement of equality of opportunity;
- 2 the efficient sorting of students to maximise learning;
- 3 the allocation of students to the labour market;
- 4 the preparation for active participation in society at large.

There is some overlap between the targets of UNESCO and the functions of Van de Werfhorst and Mijs, but the last two functions are different. They express the economic and social goals of education, which is to enable people to become productive and participating members of society. Interestingly, these societal functions of education are mentioned in the overall UNESCO aim of education quoted at the beginning of this section.

### The role of government in education

It is clear that education plays an important role in society. But why is there a need for government intervention? From an economic perspective there are two reasons: external effects and equitable access. From a social perspective, education enhances the possibilities for individuals to become participating members of society (*Bildungsideal*).

Education is an individual good, aimed at creating and developing human capital. Greater human capital improves an individual’s chances on the labour market. Furthermore, education also has important external effects: it helps to socialise and inform people, it provides a skilled labour force and it fosters social cohesion. A more skilled labour force is also believed to improve the competitiveness of a country. The total benefit to society is therefore greater than the sum of the benefits to individuals. From a societal perspective, individuals would not invest sufficiently in education as they consider only their own personal benefit.

Equitable access is undermined if all people have to pay the cost price for primary and secondary education: these costs are higher than most families with low or average incomes can afford. Social justice implies that all children should have equal opportunities, irrespective of their parents’ income and preferences.

### 3.1 Outcome

The outcome of education cannot be measured directly. Indicators are used, which are chosen with the six UNESCO targets and the four functions of Van de Werfhorst and Mijs (2010) in mind.<sup>1</sup> Equality of opportunity can be measured by comparing the academic performance of students from higher and lower social classes. Efficient sorting should lead to higher academic results on average. These are measured using achievement tests. Allocation to the labour market is examined by looking at attainment levels: a positive indicator is the percentage of students who complete tertiary education, a negative indicator is the percentage of students who do not attain a basic qualification. No indicator is included for active participation in society at large, as participation is considered to form part of another sector, namely culture, sport and religion (see chapter 7). The results of achievement tests and educational attainment levels are combined in a composite outcome index.

#### 3.1.1 Achievement tests

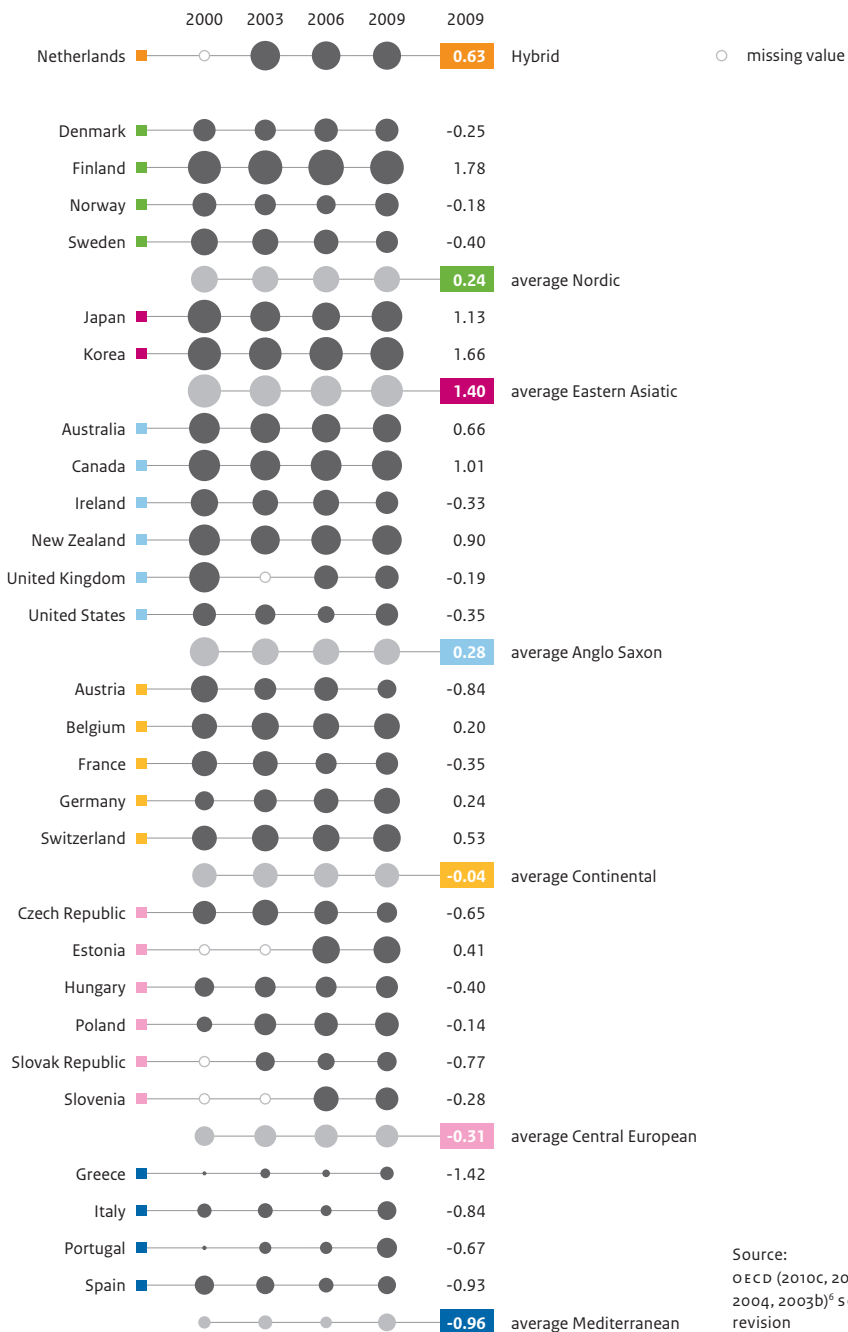
The results of international comparative tests of educational achievement can be seen as an indicator of the outcome of education. As stated above, they can also be seen as an indicator of efficient sorting of students.

There are three different international achievement tests: the OECD's Programme for International Student Assessment (PISA), the IEA's Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS). Both PISA and TIMSS/PIRLS measure student performance on reading, mathematics and science among 15 year-olds.<sup>2</sup> The PISA data have been chosen as they include more countries and contain more recent data.<sup>3</sup> The three average scores for each country have been combined into one overall average score.<sup>4</sup>

The Eastern Asiatic, three of the Anglo-Saxon countries, Finland and the Netherlands are the top performing countries. It should be noted, however, that of these countries only Finland and Korea do not show a decrease in performance compared to 2000.<sup>5</sup> The Mediterranean countries and Slovakia are the weakest performing countries, but (with the exception of Spain) do show improvement compared to 2000. Austria and the Czech Republic also show poor results, down from 2000. The other countries perform around the average, though it should be noted that Poland and Germany made improvements between 2000 and 2009 and the results of Sweden, Ireland and the United Kingdom declined.

Figure 3.1

Average performance on PISA tests on reading, mathematics and science, 2000-2009 (in index scores)



Comparing the difference in performance between students from the top and bottom socio-economic quartile provides an insight into the equality of opportunities: does the education system in a country favour students from higher social classes or not? Figure 3.3 shows the results on the reading scale.<sup>7</sup>

The Eastern Asiatic countries appear to be quite egalitarian, whereas the Continental countries, especially, show great differences in performance between social classes. Among the other countries the picture varies. Finland, Estonia, Canada and Norway match the performance of the Eastern Asiatic countries, whereas Hungary, New Zealand and the United States are in the same league as the Continental countries. All other countries show a more or less comparable performance, close to the average difference of 88 points in 2009. In the Netherlands, the difference is a little below average at 83.

In most countries the difference in performance between social classes increased between 2000 and 2009. This was especially the case in the Eastern Asiatic countries, but even after the strong increase they still rank among the most egalitarian countries. Other countries where the disparity increased markedly are France, Austria, New Zealand, Hungary and Sweden. The only countries where the gap in performance decreased are Portugal, the Czech Republic and Switzerland. This last country, in particular, has shown strong improvement, from ranking poorest in 2000 to an average difference in 2009.

Countries that perform strongly on the PISA reading test generally show a lower difference in performance between social classes (correlation is  $-0.37$ ). The Continental countries almost all show large unequal outcomes, irrespective of the average results on the PISA reading test. A possible explanation is that in Continental countries, pupils are separated in classes of different levels at a relatively early age. Research has shown that this 'early tracking' generally has a positive effect on the performance of students with more learning abilities and negative consequences for the performance of pupils with fewer abilities (Schuetz et al. 2008). Hence, the gap in performance is likely to be larger in countries that adopt early tracking. Hungary also fails into this category. Large differences appear to be more common when early selection is used, but there are exceptions. The Netherlands and Switzerland also have a system of early tracking, but differences in performance are considerable lower in these countries. Social differences are less important in the Mediterranean countries: PISA scores are relatively low, but the difference in performance of social classes is around average. For New Zealand, the PISA scores are relatively high but there are substantial differences in performance according to social class.

Figure 3.2

Difference in average score on PISA reading test between top and bottom social 25%, 2000-2009<sup>a</sup> (in points)

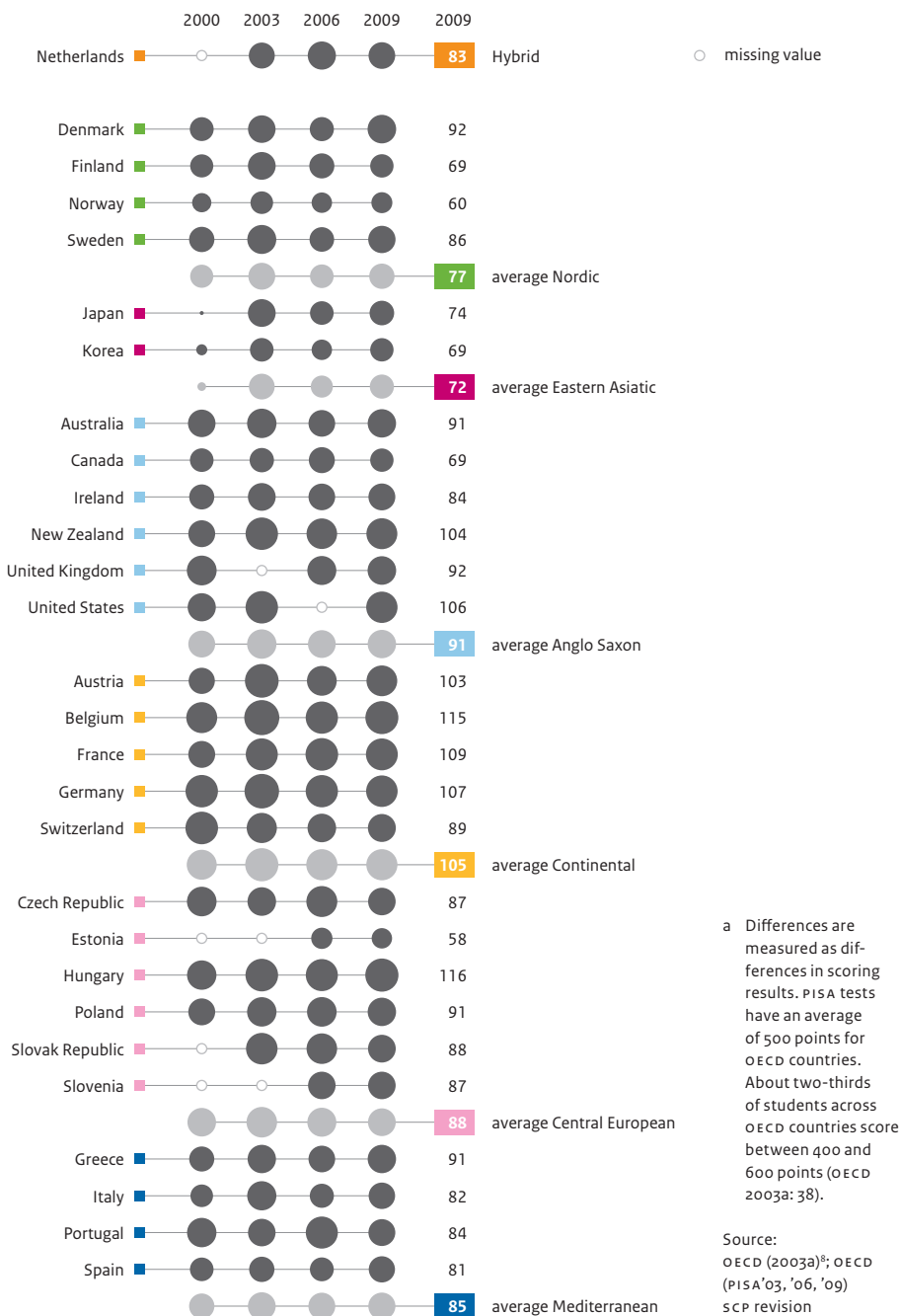
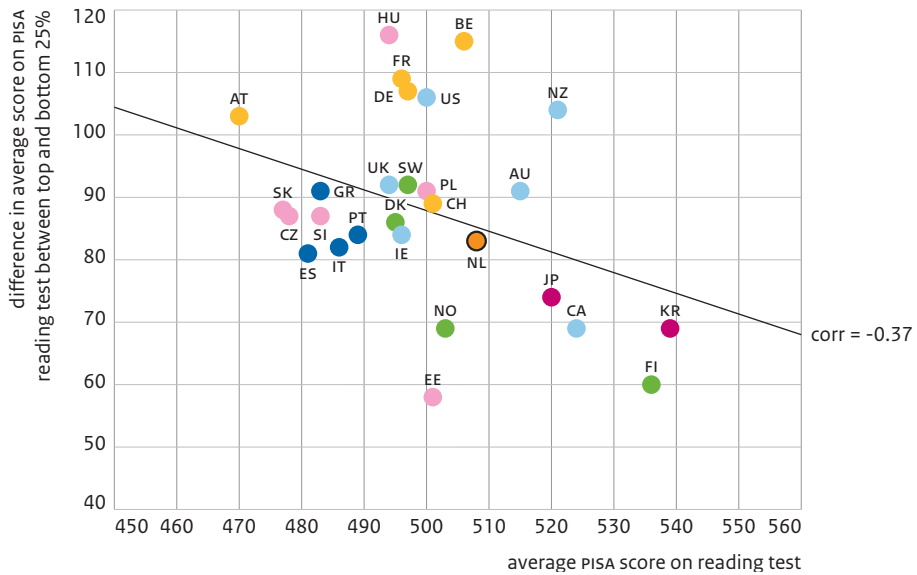


Figure 3.3

Difference in average score on PISA reading test between top and bottom social 25% versus average PISA score, 2009 (in points)



Correlation is not significant (p-value is 0.05).

Source: OECD (2010C); OECD (PISA'09)

### 3.1.2 Educational attainment

Educational attainment is an important outcome of the educational process. A higher level of attainment improves a person's chances on the labour market. Conversely, people with low educational attainment tend to have greater difficulty in finding work and tend to receive low wages for the work they do. In order to ensure good prospects on the labour market, the European Union has specified a target for reducing the number of early school-leavers to 10% in 2010.<sup>9</sup> All school-leavers should have at least a *basic qualification*, which is defined as a qualification in a general or vocational course at upper secondary level. Those who do not meet this target and no longer follow education are qualified as early school-leavers. The EU has stated that 85% of all 20 to 24 year-olds should have a basic qualification in 2010 (Herweijer 2008: 39). As a substantial proportion of people below the age of 25 are still in education, we look at attainment levels in the 25 to 34 age group.

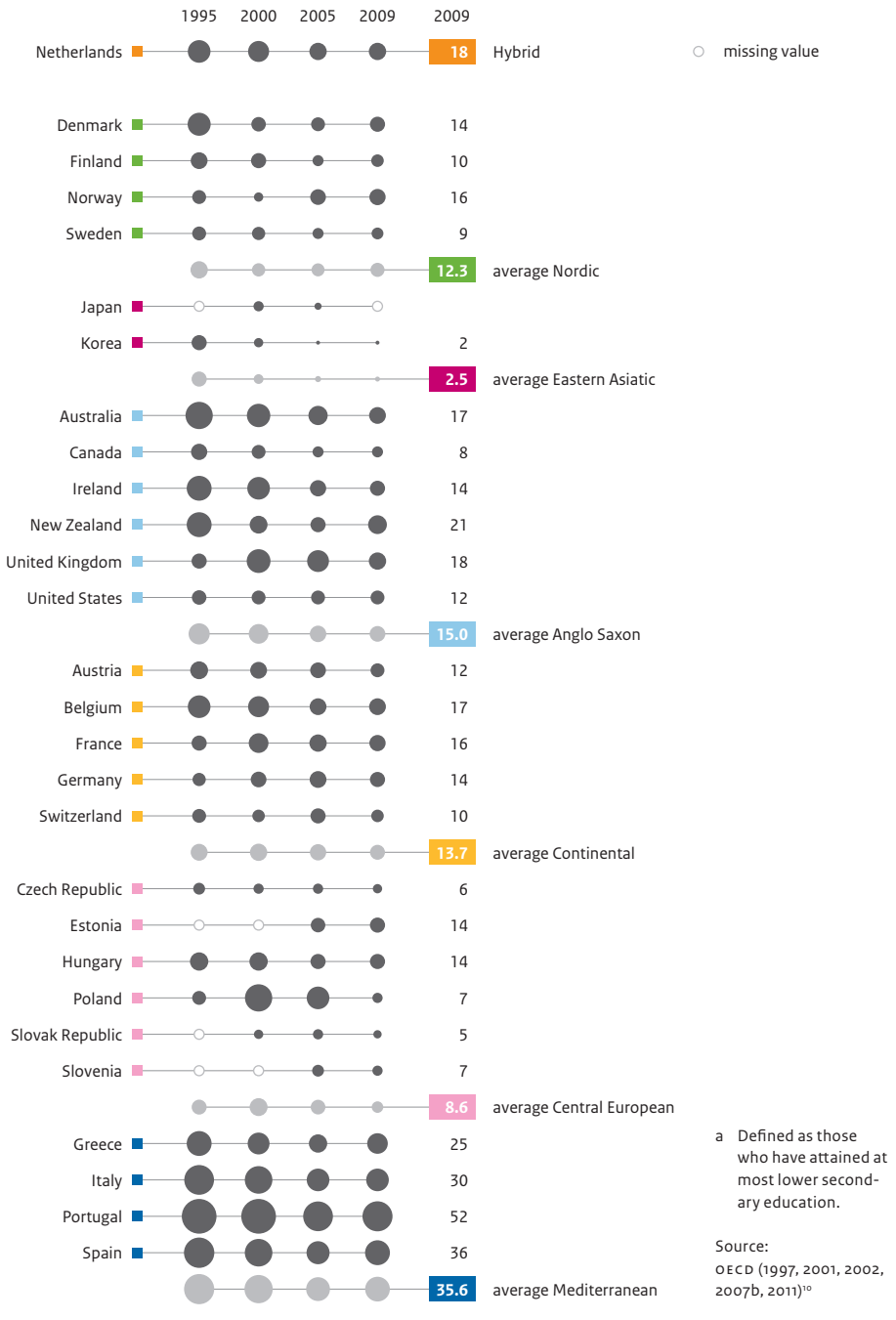
Young people without a basic qualification are especially prevalent in the Mediterranean countries. In Portugal, more than half of all those aged between 25 and 34 have no basic qualification. This is much higher than the average of 16% and a whole world apart from the 3% average for the Eastern Asiatic countries. New Zealand also ranks among the underperforming countries. Besides the Eastern Asiatic countries, there are seven others where the number of young people without a basic qualification is 10% or lower: Canada, Sweden, Slovenia, the Czech Republic, Slovakia, Finland and Switzerland. The percentage of young people without a basic qualification is above average of 16% in the Netherlands, as it is in Australia, France, the United Kingdom and Belgium.

The percentage of young people without a basic qualification has decreased sharply in the Mediterranean countries, but is still at a relatively high level. All Anglo-Saxon countries (except the United Kingdom) show an improved performance. Other countries that are doing better than in 1995 are the Netherlands, Belgium, Denmark and Korea. The number of young people without a basic qualification has increased in Germany, France, Norway and the United Kingdom.

The number of early school-leavers provide an indication of how the number of youngsters without a basic qualification will develop in the future. Eurostat data show that in most countries the number of early school-leavers is decreasing, from an average of 16% in 2000 to 12% in 2010. Only in Portugal and Spain was the number of early school-leavers still around 30% in 2010. In all other countries, less than 20% of all those aged between 18 and 24 leave school before obtaining a qualification at upper secondary level. For the Netherlands, the number of early school-leavers decreased from 15% in 2000 to 10% in 2010.

Figure 3.4

Percentage of the population (25-34-year-olds) without a basic qualification, 1995-2009<sup>a</sup>





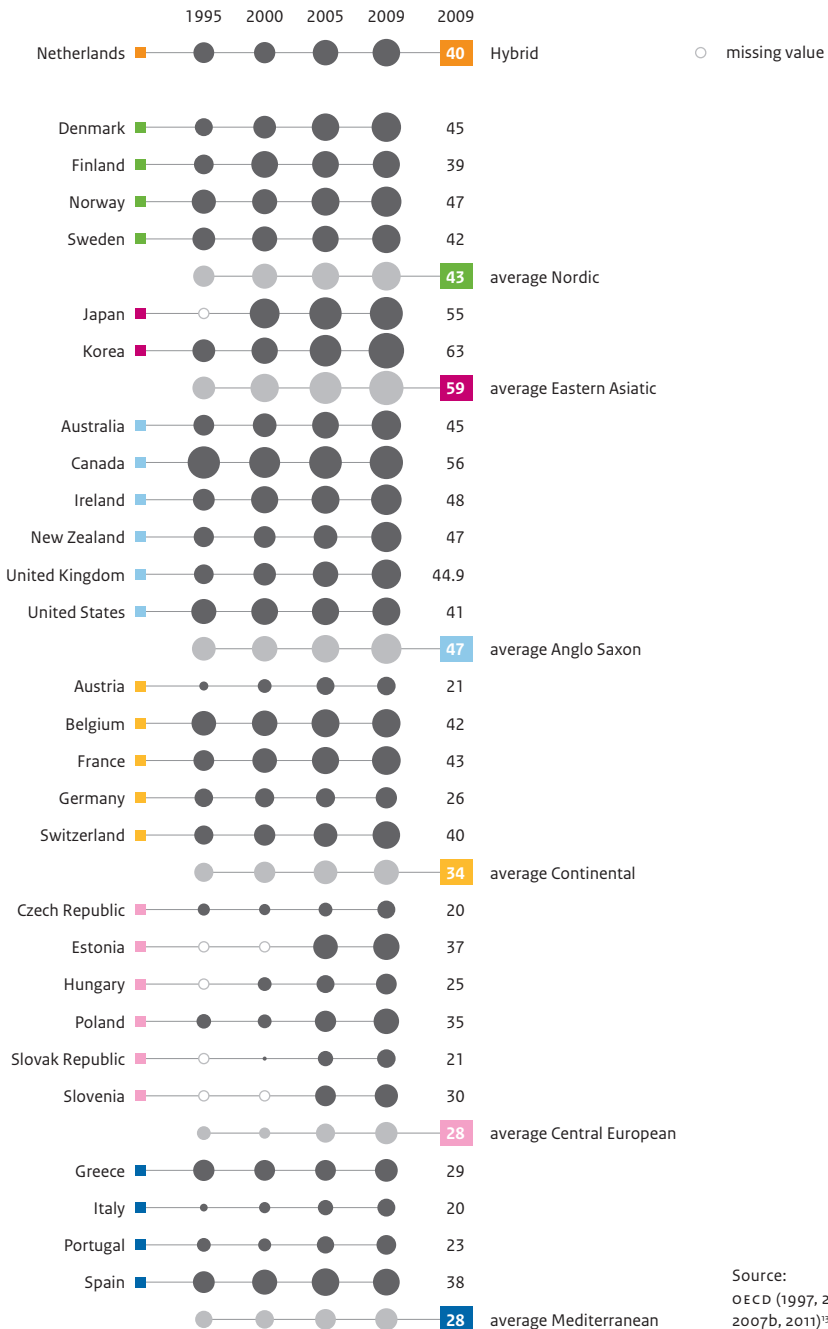
The overall percentage of young people with a basic qualification in the 28 countries considered in this study, increased from 75% in 1995 to 84% in 2009. This is very close to the EU target of 85%.<sup>11</sup> The number of 25 to 34 year-olds who attained a tertiary education level increased from 21% in 1995 to 38% in 2009. (This automatically means that the average percentage of 25 to 34 year-olds with only an upper secondary education went down from 54% to 46%). All countries saw an increase in tertiary attainment rates among 25 to 34 year-olds (figure 3.5).

Based on the basic qualification in the previous figure, the Eastern Asiatic countries show the best performance and the Mediterranean countries the poorest. However, the ranking of the groups in between is rather different: tertiary attainment levels are high in the Anglo-Saxon countries, whereas the Central European countries perform at the same level as the Mediterranean countries. The Nordic countries, Switzerland, Belgium, the Netherlands and France show more or less comparable results. The other Continental countries perform somewhat worse, most notably Austria. The low tertiary attainment levels in Austria can be partly explained by the dual system with a strong emphasis on vocational education, where students receive a considerable part of their training as employee of a company.

The results on tertiary attainment require some clarification. In tertiary education, a distinction is made between so-called type A and type B programmes. Type A programmes are generally longer, largely theory-based programmes, whereas type B programmes are shorter and focus on practical, technical or occupational skills.<sup>12</sup> Tertiary type B is usually present in countries where vocational education is less common, such as the Anglo-Saxon and Eastern Asiatic countries. Tertiary attainment levels tend to be higher in countries that offer both type A and B programmes, as illustrated in figure 3.5. If we consider only those who have obtained a type A tertiary qualification, Norway, the Netherlands and the United States are the best-performing countries. Of these, both Norway and the Netherlands have (almost) no type B programmes. The strong performance of Canada, in particular, can be explained by the fact that 50% of all people with a tertiary qualification have a type B degree.

Figure 3.5

Percentage of the population (25-34 year-olds) who have attained tertiary education, 1995-2009

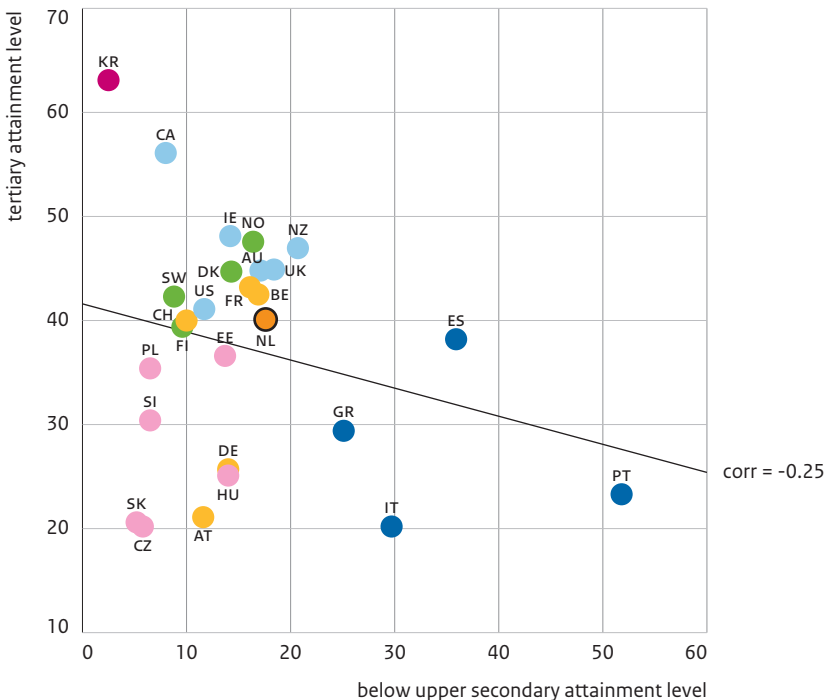


**Basic qualification and tertiary attainment levels**

The lower boundary in education is defined by the basic qualification. This is the desired minimum level of education. The upper boundary is tertiary education. How are these two related? Figure 3.6 shows in one picture the countries that do well on both (upper left corner), the underperformers (bottom right corner) and the countries that fall in between (bottom left corner). By definition, the upper right corner is empty.<sup>14</sup> As expected, lower tertiary attainment levels are associated with more people not having a basic qualification (figure 3.6). The relationship is however not significant (correlation is only  $-0.25$ ). This means that in a large number of countries, attainment levels lie in between at upper secondary education level. As noted earlier, this is especially the case in a number of Central European and Continental countries.

**Figure 3.6**

25-34 year-olds without a basic qualification versus tertiary education attainment levels, 2009 (in percentages of the population)



Correlation is not significant (p-value is 0.21).

Source: OECD (2011)<sup>15</sup>

There are a few outliers that frame the picture: Korea and Canada in the top left corner and all Mediterranean countries in the bottom right hand corner. All Mediterranean countries have great difficulty in achieving a well-educated labour force. A relatively large proportion of young people in Portugal, Greece and Italy have not obtained a basic qualification, and only few have completed tertiary education. Spain diverges a little from the picture of the other Mediterranean countries as there are more people who have completed tertiary education. Compared to other countries, Spain has a low percentage of people with at most an upper secondary education qualification. Most young people either achieve tertiary education (36%) or do not have a basic qualification (38%). Only 26% have at most an upper secondary education qualification, compared to the average of 47%.

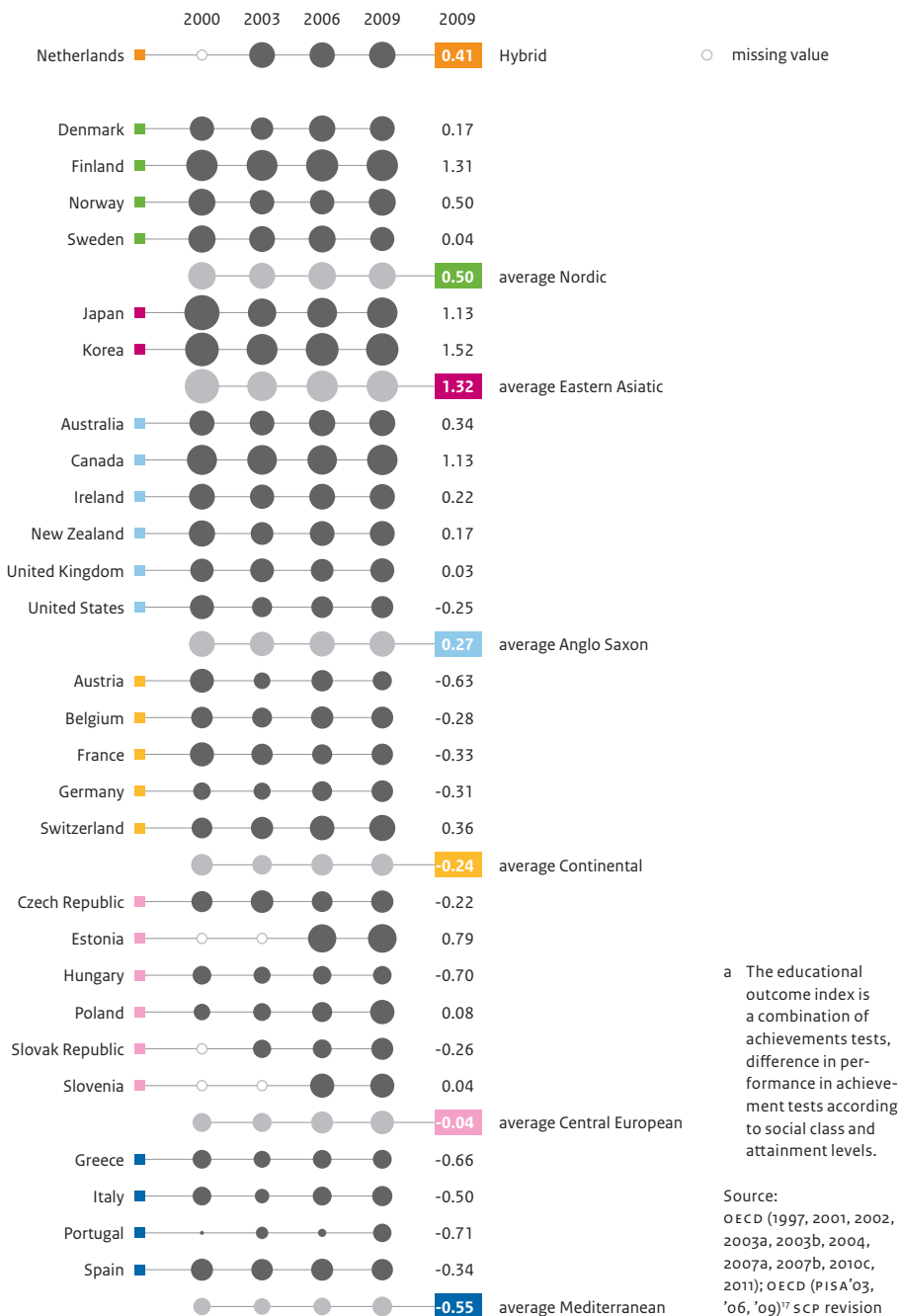
### 3.1.3 Educational outcome index

Average performance in achievement tests, attainment levels and the difference in performance in achievement tests between social classes are combined into one outcome index.<sup>16</sup> As the achievement tests are only available from 2000 onwards, the outcome index has been calculated for the period 2000-2009. The results are presented in figure 3.7.

The Eastern Asiatic countries, Finland, Canada and Estonia are (by some distance) top performers. The good performance of Estonia is mainly due to (very) egalitarian results in achievement tests (figure 3.4). The other four countries perform strongly on all three indicators. The 'best of the rest' consist of Norway, the Netherlands, Switzerland and Australia. The Mediterranean countries clearly underperform, as do Hungary and Austria. The remaining Continental countries do a little better, but still perform below average. This also holds for the United States, the United Kingdom, Slovakia and the Czech Republic. The remaining countries perform (just) above average.

Although the Eastern Asiatic countries are still among the best-performing countries, they are performing at a lower level than they did in 2000. Other countries that show a decrease are Sweden, the United States, France and Austria. Portugal shows an improved performance, but remains the lowest-ranking country. Germany, Switzerland, Poland and Slovakia are the other countries where outcomes are clearly higher than in 2000. Performance in the Netherlands has improved compared to 2003, mainly due to increased levels of attainment.

Figure 3.7  
Educational outcome index, 2000-2009<sup>a</sup> (in index scores)



### 3.2 Outcome and expenditure

Why do countries differ so much in performance? An obvious possible explanation could be the amount of money that is spent on education, both public and private.<sup>18</sup> Figure 3.8 shows the development of total expenditure on educational institutions (public and private), measured as a percentage of GDP. On average countries spend 5.8% of GDP on education, 0.4 percentage points more than in 1995. There is considerable variation in spending between countries. Denmark, Korea and the United States lead the way with 7% of GDP or more, whereas Slovakia only spends 4%. The Netherlands lies between these extremes and at 5.6% of GDP spends close to the average.

Total spending on educational institutions in the separate countries shows no clear trend over time. Only France, Belgium and Japan show a gradual downward trend. An upward movement can be seen in the United States and Greece. In all other countries an initial increase is followed by a decrease, or the other way round. The largest differences in spending between 1995 and 2009 are found in Norway and Denmark; the increase in spending in both countries is at least 0.9% of GDP.

Although primary and secondary education are almost completely funded from public means in most of the 28 countries, tertiary education has a significant private share on average of almost 30%. It is therefore interesting to examine the total share of private funding in education. In a number of countries, private spending on educational institutions accounts for a significant part of total spending (figure 3.9), up to a maximum of almost 45% in Korea.<sup>19</sup> The Anglo-Saxon countries also show a significant private stake in educational funding. Educational institutions are paid for almost entirely from public funds in the Nordic countries, although the share of private financing also seems to be increasing in these countries: on average, the share of private money increased from 11% in 1995 to 16% in 2008. The share in the Netherlands is constant at around 15% during the entire period.

Figure 3.8

Total expenditure on educational institutions, 1995-2008 (in percentages of GDP)

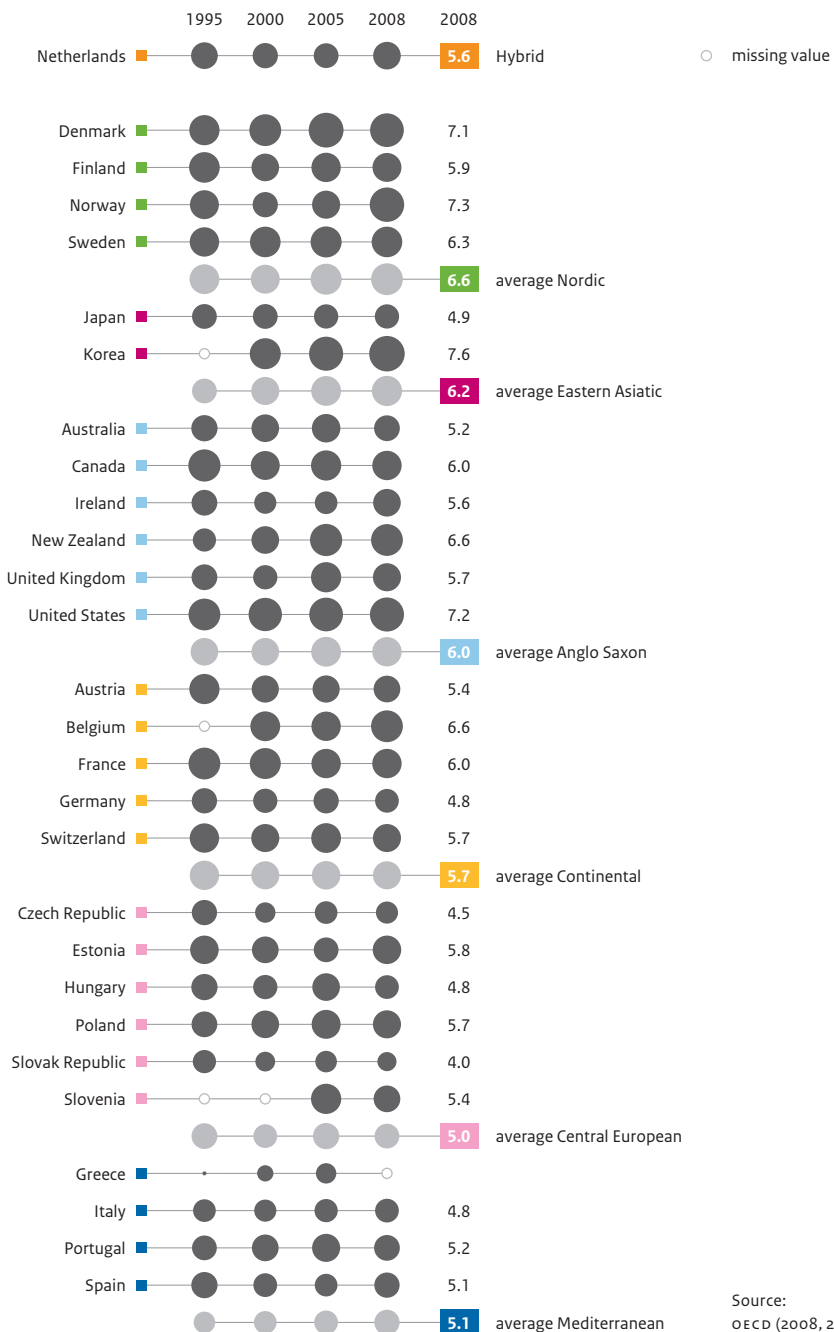
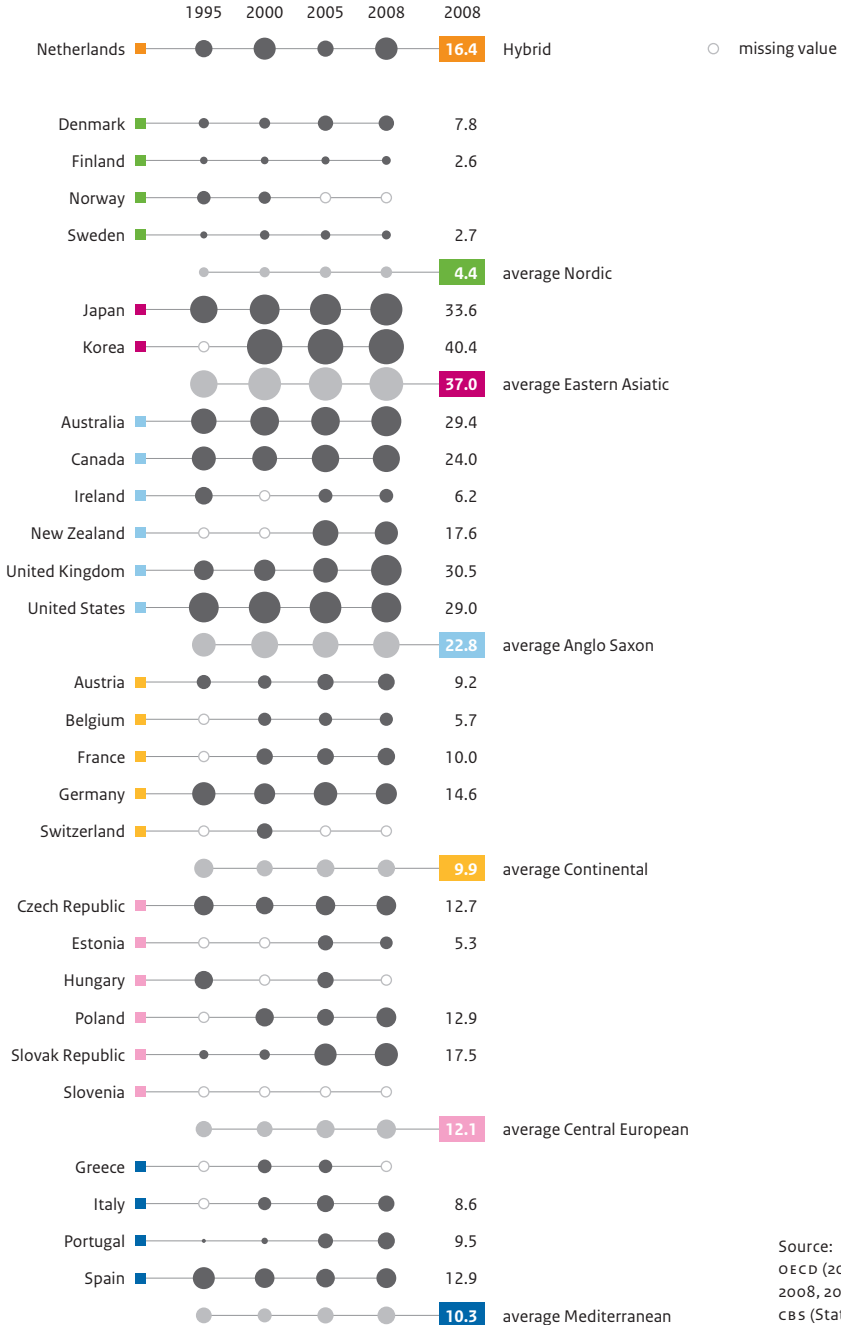


Figure 3.9

Private expenditure on educational institutions, 1995-2008 (in percentages of total spending)

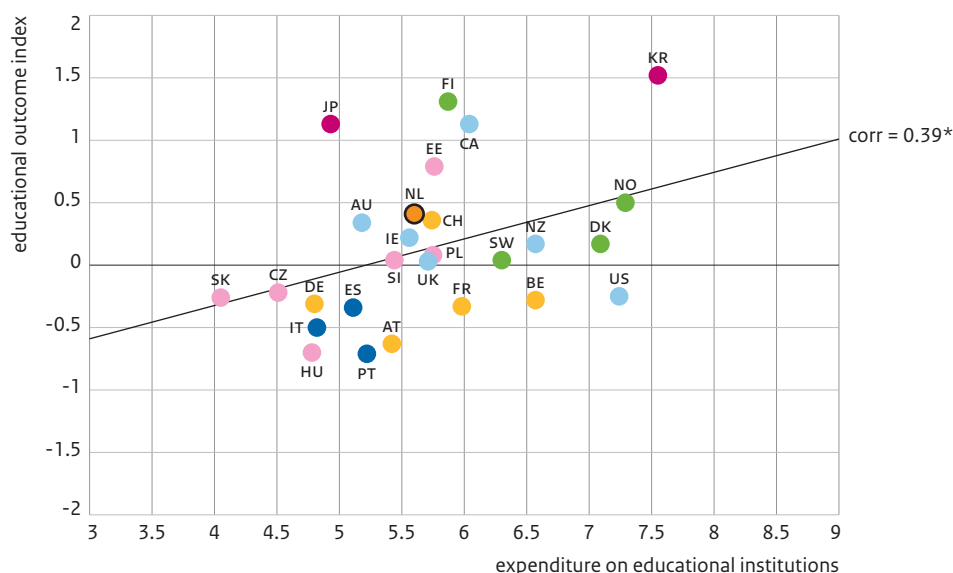




The relationship between spending on educational institutions and outcome is positive and significant (figure 3.10).<sup>22</sup> The four top-performing countries (Japan, Finland, Canada, Korea) vary greatly in the level of expenditure but all perform much better than other countries with a comparable spending level. The Mediterranean countries all score below average on outcome, but also spend well below average. The same holds for the Czech Republic, Hungary and Slovakia. The Continental countries (except Switzerland) underperform as outcome is lower than might be expected given the level of expenditure. The Netherlands performs a little better than expected given the level of expenditure. The results on outcome are however lower than those found for Estonia and Finland, two countries that only spend a little more on educational institutions.

Figure 3.10

Expenditure on educational institutions (in percentages of GDP) versus educational outcome index, 2008/2009<sup>a,b</sup>



\* Correlation is significant (p-value is 0.04).

a No expenditure data are available for Greece.

b Educational outcome index is a combination of achievement tests, difference in performance in achievement tests according to social class and attainment levels.

Source: OECD (2010c, 2011)<sup>23</sup>; OECD (PISA'09) SCP revision

A large share of private expenditure in education can endanger access, as on average three quarters of private expenditure is paid for by households.<sup>24</sup> Outcome is not significantly related to the level of private expenditure (figure 3.11).<sup>25</sup> The best-performing countries show wide variation in the share of private expenditure. In Finland only 3% of total expenditure is funded through private means, whereas in Japan and Korea the share is over 30%. There are

only six countries where the private share of spending is more than 20%. Outcomes vary greatly between these countries. Caution is therefore called for in drawing conclusions from these results.

Figure 3.11

Private expenditure on educational institutions versus educational outcome index, 2008/2009 (in percentage of total expenditure and index scores)



Correlation is not significant (p-value is 0.06).

Source: OECD (2010c, 2011, 2008); OECD (PISA'09)<sup>26</sup> SCP revision

### 3.3 Output in education

Output is measured using three indicators: the number of enrolled students, the entry rate into tertiary education and the number of graduate students. As it is not useful to compare the absolute numbers for enrollment, entry rates and graduation (the 28 countries vary greatly in population size), enrollment and graduation numbers will be divided by the size of the relevant age group (e.g. 15 to 19 year-olds for enrollment and 18 to 24 year-olds for graduation).

The output indicator 'graduation rates' and the outcome indicator 'attainment levels' are closely related. It is therefore difficult in education to completely separate output

and outcome. Although there is a certain overlap, there are also important differences. The other two output indicators (number of enrolled students, entry rate into tertiary education) cannot be linked directly to outcome, and outcome also contains aspects not included in output (achievement tests, differences in achievement tests). The inherent relationship between outcome and output does impose a limitation on the conclusions that can be drawn about the connection between outcome and output.

Figure 3.12 shows the relative enrollment rates for 15 to 19 year-olds between 1995 and 2009.<sup>27</sup> On average, enrollment increased from 77% in 1995 to 85% in 2009. Only France shows a decrease in enrollment, from 89% in 1995 to 84% in 2009. In Greece, Hungary and the Czech Republic enrollment increased by 20 percentage points or more.

The Netherlands is among the countries with the highest enrollment (90% in 2009). Enrollment has increased strongly in the Central European countries to the highest levels among the countries considered here. In the Continental and Nordic countries, enrollment remains at a stable, high level during the whole period. Although enrollment increases significantly in the four Mediterranean countries, their enrollment levels in 2009 (83%) remain below average (85%). Although the Anglo-Saxon countries have the lowest enrollment rates on average, there are marked differences within this group. Ireland has for example seen a strong increase in enrollment and ranks among the top producers in 2009; the other Anglo-Saxon countries perform below average, with the United Kingdom being the only country with an enrollment rate below 75% in 2009.

Production in tertiary education can be measured by enrollment among 20 to 29 year-olds, but this indicator is very dependent on variation in the average length of courses. Entry rates into tertiary education measure the proportion of the population entering tertiary education, irrespective of the age at which this occurs. This indicator has particular relevance, as in both the Lisbon objectives and the EU 2020 targets, policy goals have been formulated concerning the percentage of the population that should complete tertiary education. The Lisbon objective sets a target of 50%, while under EU 2020 the objective is 40%.<sup>28</sup>

The variation in entry rates is quite wide, and there seems to be more variation within than between groups. What is clear is that average entry rates have increased drastically, rising from an average of 39% in 1995 to 61% in 2009. The increase has been particularly marked in Greece, Portugal, Slovakia, Poland, the Czech Republic, Australia and Korea, but there are twelve other countries where entry rates have increased by more than ten percentage points. Most developed countries have been able to increase the number of people entering tertiary education, an important condition for improving attainment levels. New Zealand and Hungary are the only two countries where entry rates have gone down. For New Zealand, entry rates are still well above average in 2009, at 78%. Entry rates in the Netherlands have developed close to the average, showing an increase from 44% to 63%.

Figure 3.12

Enrollment rate for 15 to 19 year-olds, 1995-2009<sup>a,b</sup> (in percentages)

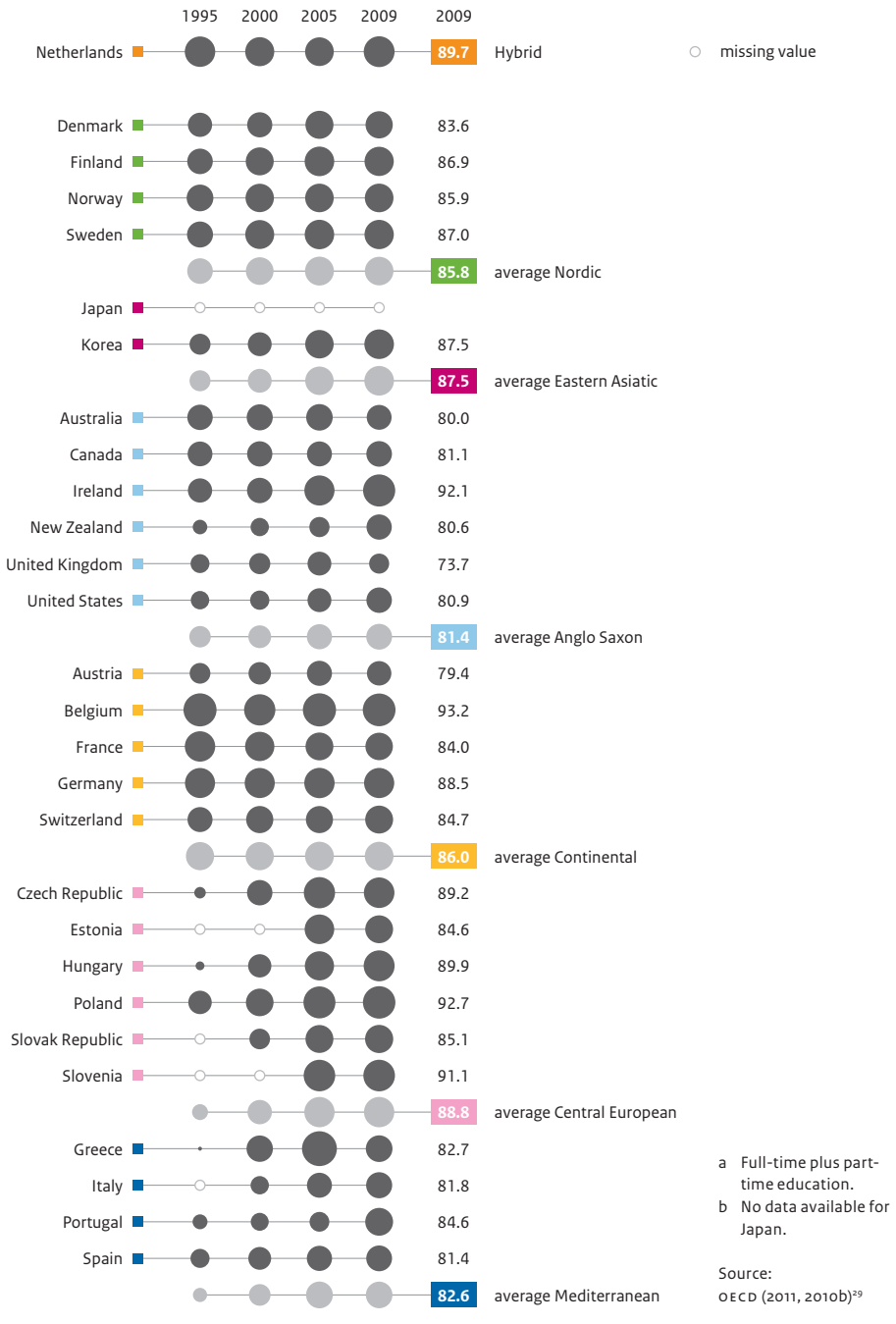
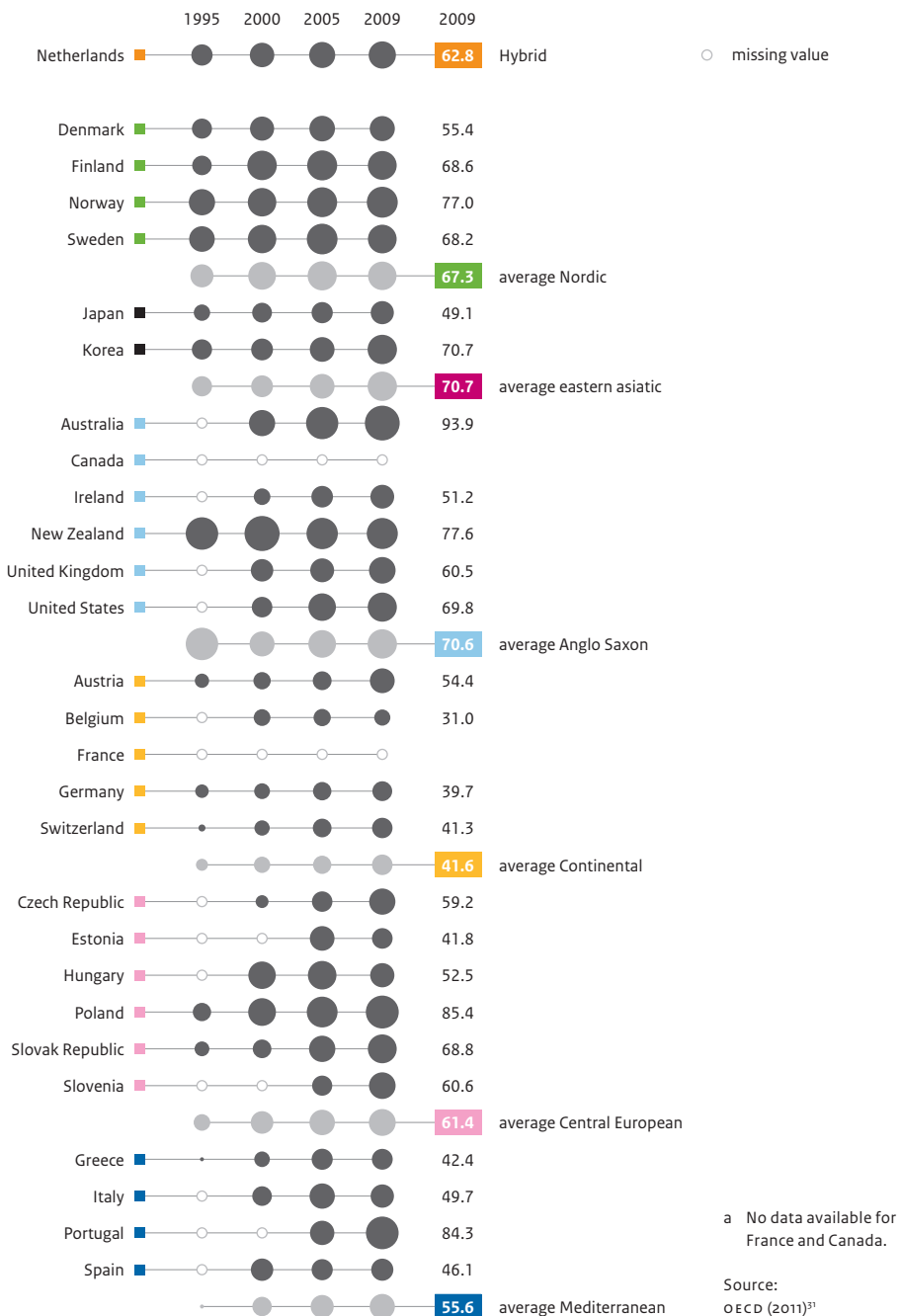


Figure 3.13

Entry rates in tertiary type A education, 1995-2009<sup>a</sup> (in percentages)<sup>30</sup>

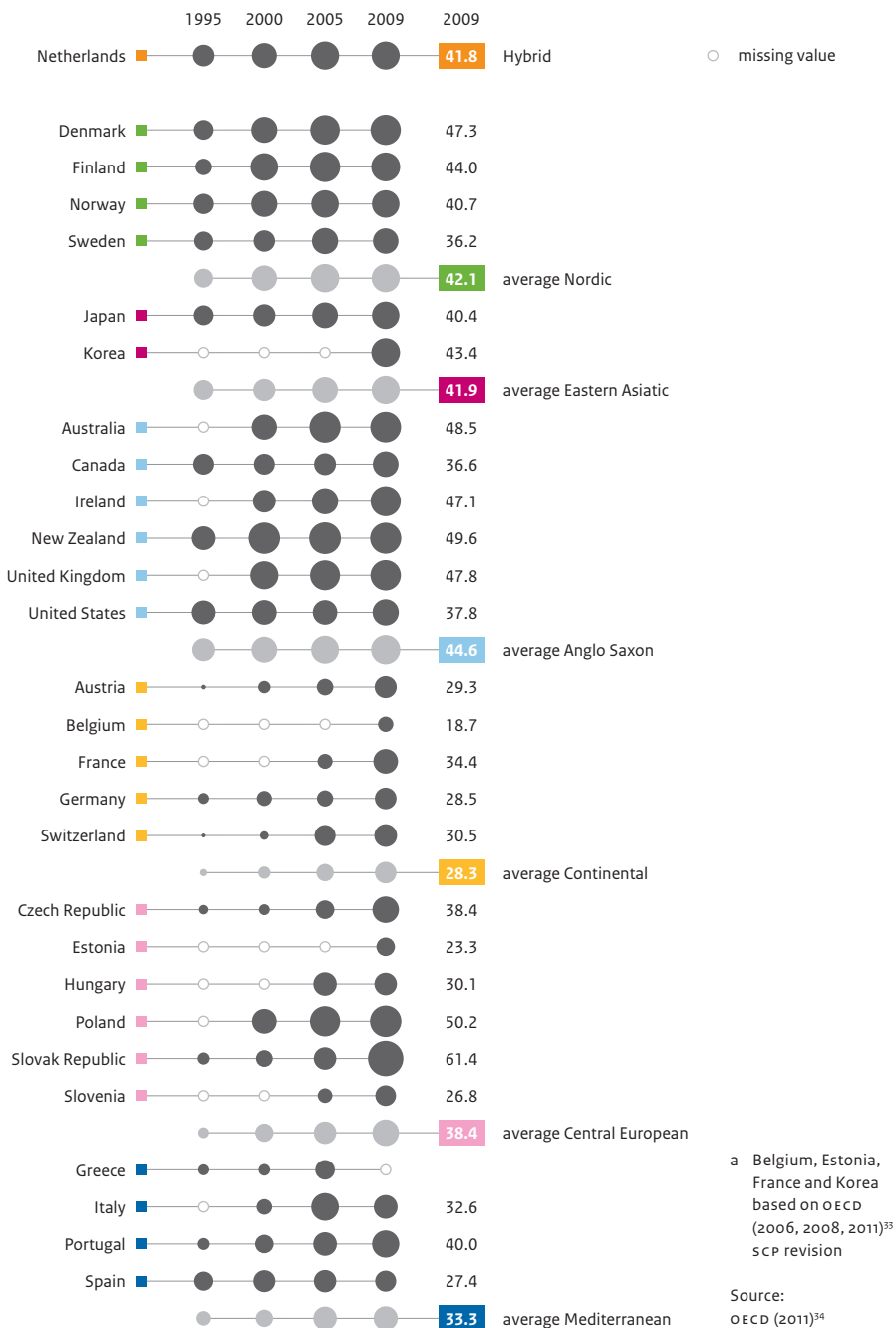


Enrollment and entry rates only give an indication of the participation rate: there is no guarantee that all who attend education will receive a final qualification. The number of graduates is therefore a more concrete output indicator. As the data on students attaining a leaving qualification in secondary education are too limited, attention here is restricted to graduates in tertiary education.<sup>32</sup> As stated earlier, a distinction is made in tertiary education between so-called type A and type B programmes. Looking at both would lead to an overestimation as in some countries a significant proportion of students enter a type A programme after finishing a type B programme. Therefore only type A is considered here, which is also the most prevalent tertiary programme in most countries.

Tertiary graduation rates increased on average by 17 percentage points between 1995 and 2009, from 21% to 38%. All countries show increased performance between 1995/2000 and 2009. This growth can be partly explained by the introduction of the Bachelor-Master system in most European countries, a consequence of agreements made in the Bologna process (OECD 2011: 62). Only Spain has not been able to increase graduation rates at the same pace as other countries; this can be explained to a certain extent by the relative late introduction of the Bachelor-Master system in Spain. The highest tertiary graduation rates are found in Slovakia. Only Belgium has graduation rates below 20% in 2009, but this is due to the fact that type B programmes are more prevalent in Belgium. Overall, graduation rates are higher in the Nordic, Eastern Asiatic and Anglo-Saxon countries and the Netherlands. The Central European countries show very mixed results, with high rates in Slovakia and Poland and low rates in Estonia and Slovenia. The Mediterranean and Continental countries show comparable (below-average) results.

Figure 3.14

Tertiary graduation rates (type A), 1995-2009<sup>a</sup> (in percentages)



### Relating output to input

Output indicators provide more insight when they are related to inputs, providing a (rough) measure of productivity. One of these productivity measures is expenditure per pupil/student. Purchasing power parities (PPP) have been used to make expenditure levels comparable between countries. Expenditure levels have been corrected for inflation in order to make them comparable over time. Figure 3.16 shows the development of total real expenditure on educational institutions per pupil in primary and secondary education.

Expenditure has increased from on average € 5,300 per pupil in 1995 to € 7,000 in 2008. Overall total expenditure on educational institutions has increased substantially, whereas the number of pupils has remained virtually unchanged (not shown in figure). The Central European countries spend significantly less than average, as do Portugal, New Zealand and Korea. Real expenditure per pupil has (in absolute terms) increased most in Ireland, Switzerland and the United Kingdom. In Ireland, especially, this was caused by a sharp increase in total expenditure on educational institutions. For the Netherlands, the increase in expenditure per pupil was close to average, but the average real expenditure per pupil is somewhat above average. Part of upper secondary vocational education in the Netherlands consists of a dual system, where students spend a significant proportion of their time working for a company. Corporations pay a large share of the costs of this dual program, which results in a relative high expenditure per pupil for primary and secondary education.

Average real spending in tertiary education has only increased marginally, from an average € 11,600 per student in 1995 to € 11,900 in 2008. These averages show that (total) expenditure per student is twice as high as in primary and secondary education.<sup>35</sup> Hungary and the United States have seen the largest drop in expenditure per student. In Hungary, total expenditure increased at a slower rate than the number of students over the period. Japan has seen expenditure per student go up the most, as expenditure increased whereas the number of students remained constant. Other countries that show a substantial increase are Portugal, Spain, Austria and Finland. In all these countries both expenditure and student numbers increased, but expenditure grew at a faster rate. In Spain, the number of students remained constant.<sup>36</sup> Real expenditure per student remained constant in the Netherlands: total expenditure increased by 34% and so did the number of students (OECD 2011: 222).



Figure 3.15

Real annual expenditure per student in primary and secondary education, 1995-2008<sup>a,b,c</sup> (in euros)

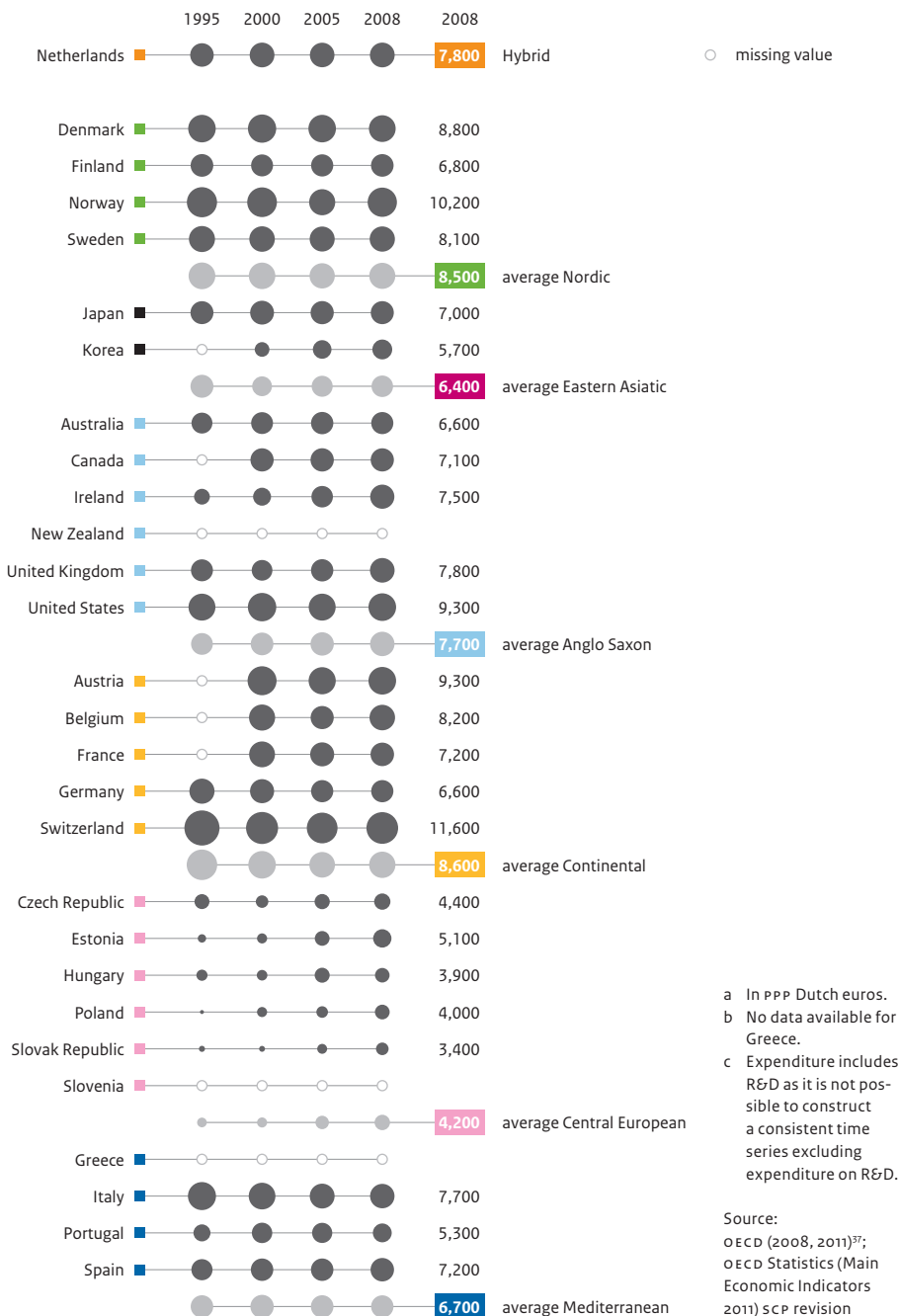
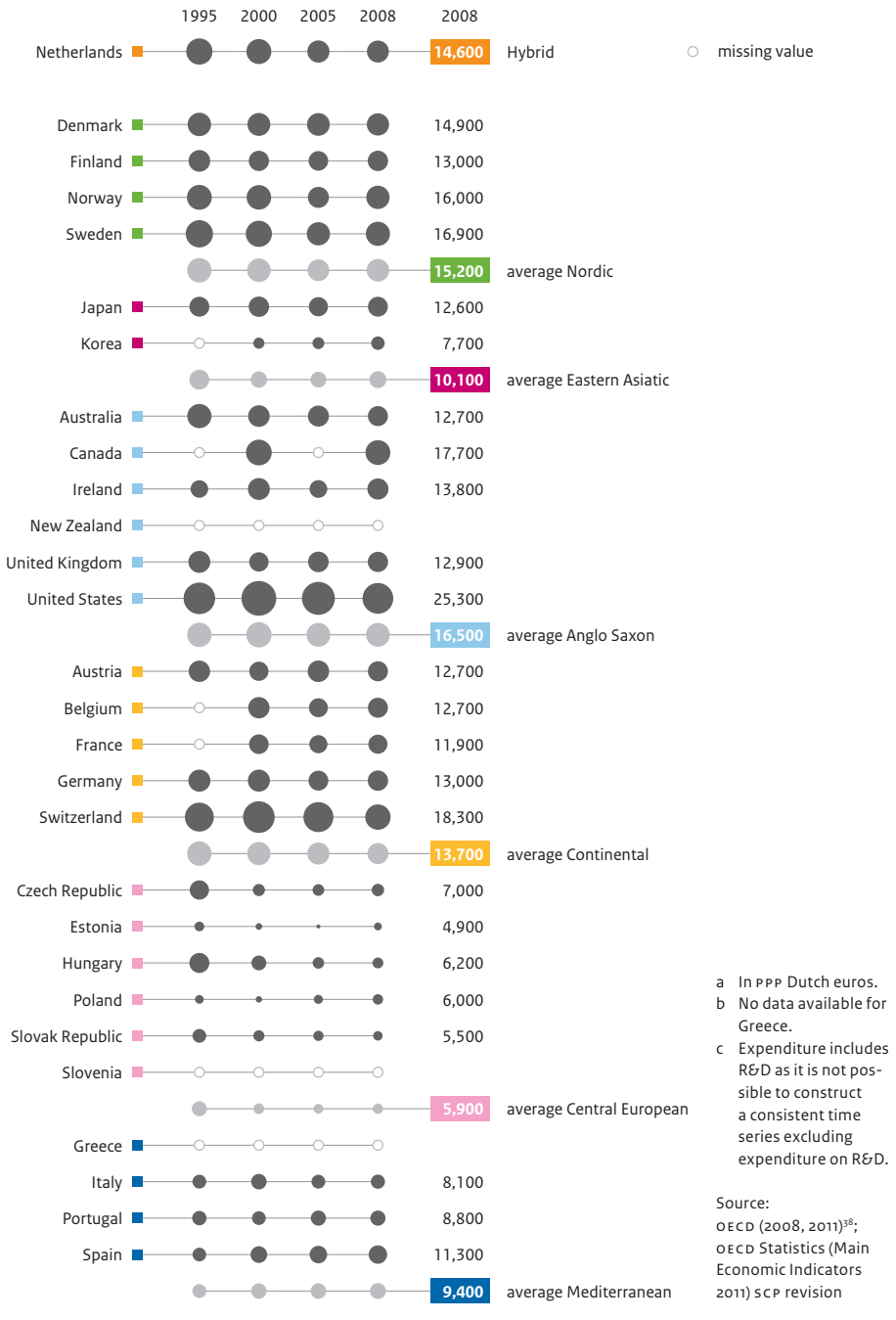


Figure 3.16

Real annual expenditure per student in tertiary education, 1995-2008<sup>a,b,c</sup> (in euros)



Expenditure is the most obvious way to consider inputs, but looking at personnel can also provide interesting information. Personnel in education is expressed as a percentage of the potential labour force. In 2008 an average of 5% of the potential labour force were employed in education, an increase of 0.5 percentage point compared to 1995.

Sweden has the most personnel; 7.5% of the labour force works in education, in Spain only 3.3%. The education system is also an important employer in Denmark, Norway, the United Kingdom and the United States. Spain and Korea, the two countries with the lowest number of personnel in 1995, have seen the number of personnel increase most. Employment in education is well below average during the whole period in the Netherlands. Countries that show comparable results are Slovakia, Poland, Italy and the Czech Republic.

Does higher spending also lead to greater output? The three output indicators have been combined into one indicator to allow output to be related to expenditure. Figure 3.18 shows that there is no significant relationship between the two (correlation equals 0.07). Output in the Netherlands is around average, given the expenditure, but countries such as Ireland, Poland, Slovenia and Finland produce significantly more output with the same level of input.

Figure 3.17

Employment in education as percentage of potential labour force, 1995-2008<sup>a</sup>

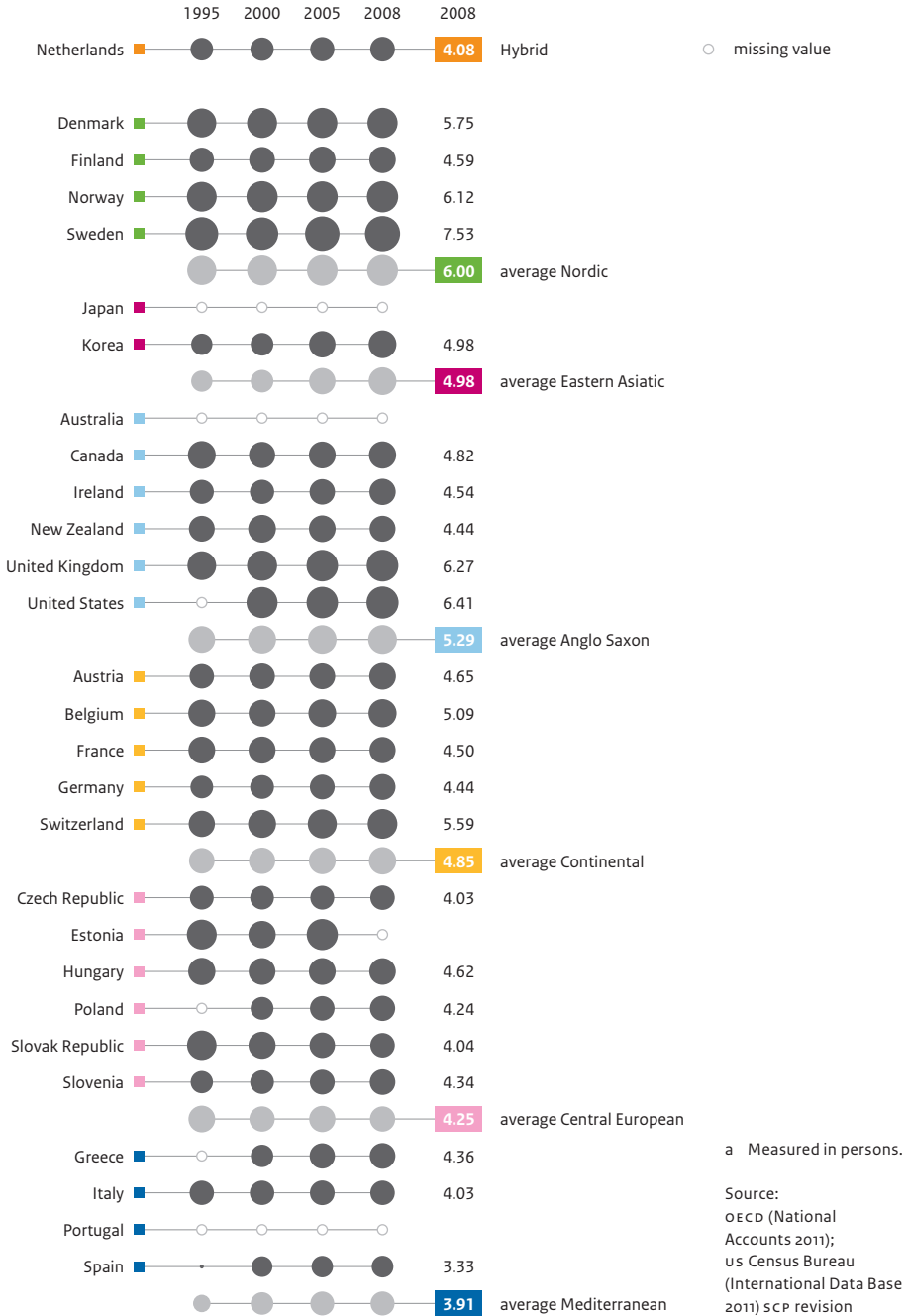
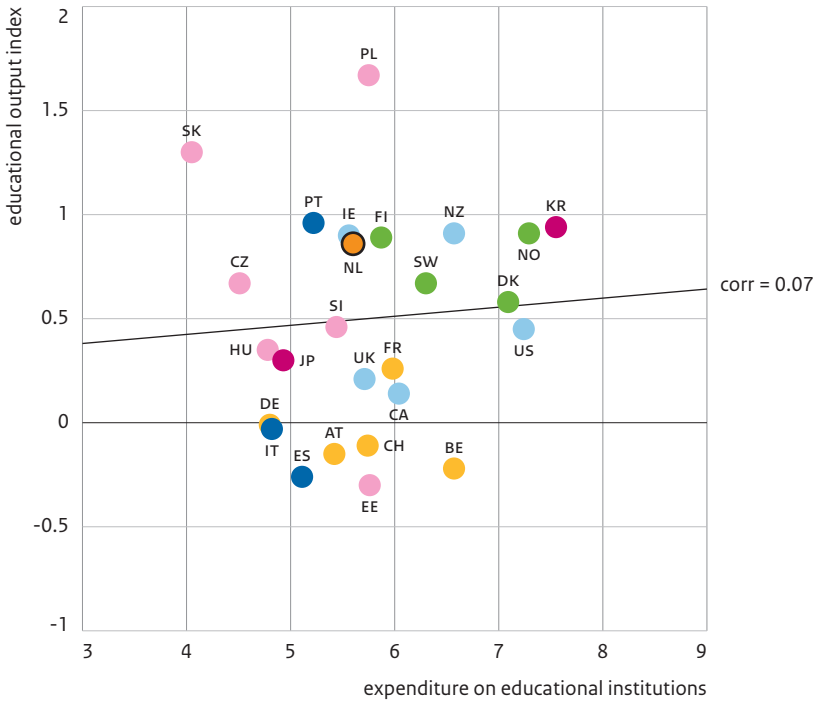


Figure 3.18

Total expenditure on educational institutions versus educational output index, 2009<sup>a,b</sup> (in percentages of GDP and index scores)



Correlation is not significant (p-value is 0.71).

a Expenditure measured as percentage of GDP.

b Expenditure data are missing for Greece.

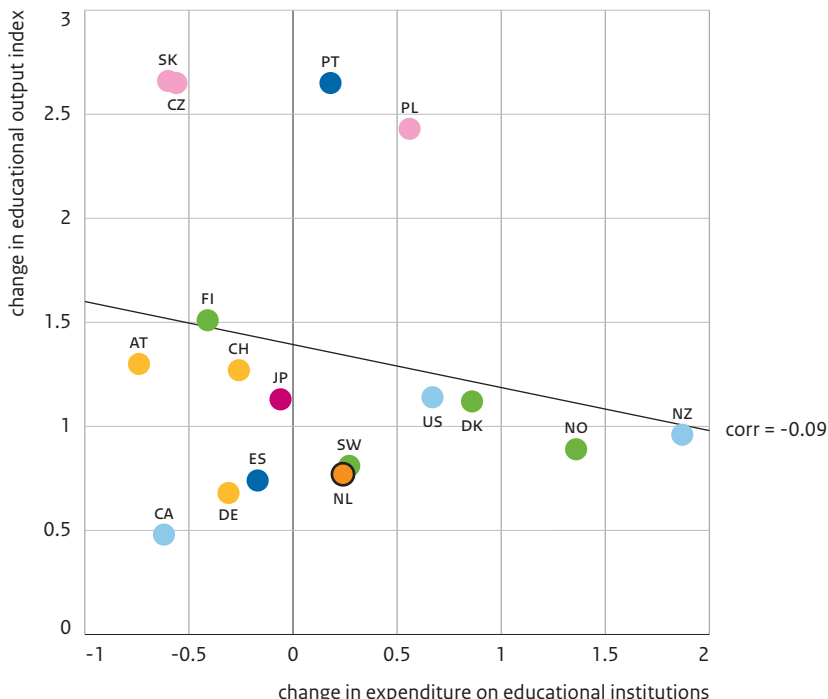
c The educational output index is a combination of enrollment rate of 15 to 19 year olds, entry rates in tertiary education and tertiary graduation rates (type A).

Source: OECD (2011)<sup>39</sup> SCP revision

Countries that increase spending on education over time do not see their output expand (figure 3.19). The correlation between a change in expenditure and change in output is negative, although not significant (−0.09). This finding serves to illustrate that improving results in education is not only an question of spending more money. Slovakia and the Czech Republic have seen output increase strongly without additional expenditure.

Figure 3.19

Change in total expenditure on educational institutions versus change in educational output index, 1995-2009<sup>a,b</sup> (in percentages of GDP and index scores)



Correlation is not significant (p-value is 0.73).

a Only those countries are included for which data are available for 1995 and 2009.

b Expenditure measured as % of GDP, output as a combined index.

Source: OECD (2006, 2008, 2010b, 2011)<sup>90</sup> SCP revision

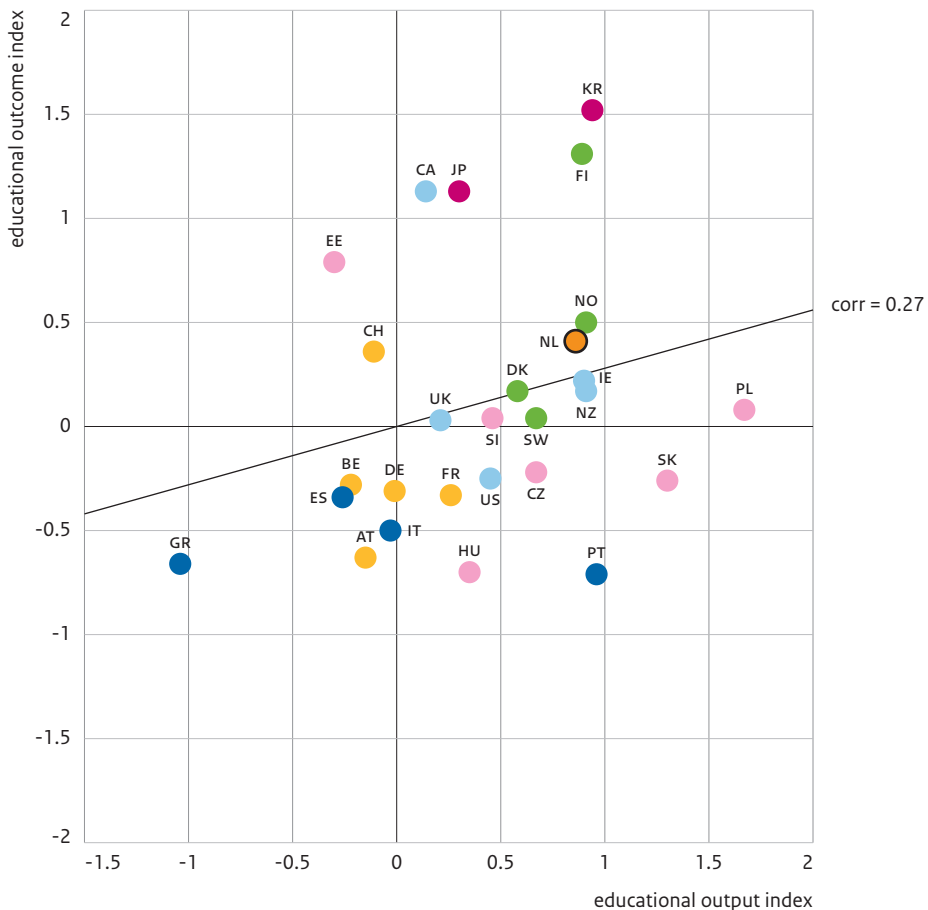
### 3.4 Relating output to outcome

Figure 3.21 shows the relationship between output and outcome. As indicated above, one should be careful in drawing strong conclusions as both yardsticks to a certain extent measure the same thing. Overall, countries where output is higher seem to perform better, but the correlation between output and outcome is not significant (0.27). Having a large share of young people in school (output) helps ensure a better educated population (outcome); Finland and Korea are clear examples. The Mediterranean countries, Austria and Belgium are found at the other end of the spectrum, combining low output and low outcome. Germany can also be classified as a low performer. This could be caused by the early tracking system that is present in most Continental countries, which has a negative effect on pupils with fewer abilities (see also §3.5). Hungary, and

specifically Portugal, combine high output and low outcome. For Hungary this is mainly due to the large unequal outcomes in achievement tests, Portugal shows very poor results on attainment levels. Estonia and Switzerland are able to achieve high outcomes although output is low. In Switzerland, performance in secondary education is very good but the entry rate into tertiary education is rather low. Estonia does very well on equal access to secondary education, but graduation rates in tertiary education are well below average. The Netherlands is in the top right half of the figure, combining above-average results on production (output) with a matching above-average result for outcome.

Figure 3.20

Educational output index versus educational outcome index, 2009 (in index scores)



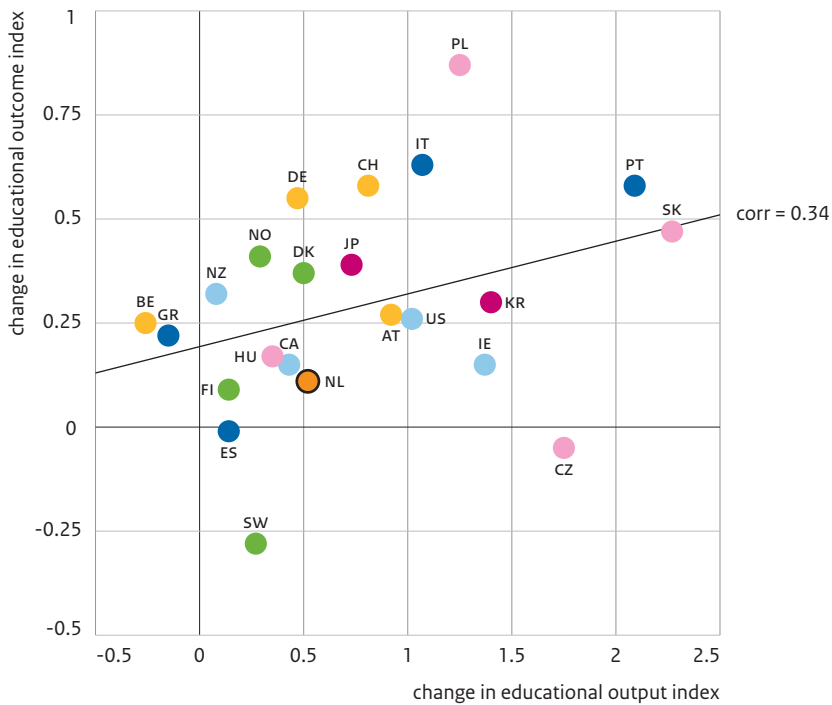
Correlation is not significant (p-value is 0.17).

Source: OECD (2010C, 2011); OECD (PISA'09)<sup>41</sup> SCP revision

The relationship between an increase in output and changes in outcome is positive but not significant (correlation is 0.34, see figure 3.21).

Figure 3.21

Change in educational output index versus change in educational outcome index, 2000-2009 (in index scores)



Correlation is not significant (p-value is 0.11).

Source: OECD (2001, 2002, 2003a, 2003b, 2010b, 2010c, 2011); OECD (PISA'09)<sup>42</sup> SCP revision

The results show that inputs are not significantly associated with output (figure 3.19) or with outcome (figure 3.21). This illustrates that outcome and output cannot be improved by simply increasing expenditure; the interplay is much more complex. Good performance is also influenced by things such as the way in which the education sector is organized, the quality of schools, the composition of the student population, etc. The next section examines which of these factors most influence performance.



### 3.5 Analysing differences in outcome

Which factors could be related to differences in outcome? First total outcome is examined, followed by its three components: achievement tests, the difference in achievement test results for different social classes and the attainment level.

Table 3.1 provides an overview of the correlations between the educational outcome index and the different societal indicators from chapter 2.

**Table 3.1**

Correlation between educational outcome index and elements of the national resilience barometer (in Pearson's correlation coefficients and significance)

	correlation	p-value
national resilience barometer	0.43*	0.02
demography		
growth of population	-0.03	0.88
number of 15 year-olds / potential labour force	0.08	0.68
number of 65 year-olds / potential labour force <sup>a</sup>	-0.25	0.20
economy		
GDP per capita in euros (PPP)	0.12	0.54
average annual growth of real GDP per capita	-0.21	0.27
unemployment rate <sup>a</sup>	-0.26	0.17
social circumstances		
labour participation (all, women, 55-64 year-olds)	0.42*	0.03
income inequality (gross income) <sup>a</sup>	-0.11	0.58
percentage of non-Western foreign-born citizens <sup>a</sup>	-0.30	0.19
public finances		
public expenditure as percentage of GDP <sup>a</sup>	-0.43*	0.02
government surplus/deficit <sup>a</sup>	-0.37	0.05
public debt <sup>a</sup>	-0.10	0.62

\* Correlation is significant ( $\alpha = 0.05$ ).

a These indicators have negative weight in the index (see chapter 2).

Source: US Bureau Census (National Data Base 2011); OECD Statistics (National Accounts 2011, Labour Force Statistics 2011, International Migration Database 2011); Solt (SWIID<sup>11</sup>); IMF (World Economic Outlook Database 2011); Eurostat (Government Statistics 2011); OECD (2010C, 2011); OECD (PISA'09)<sup>12</sup> SCP revision

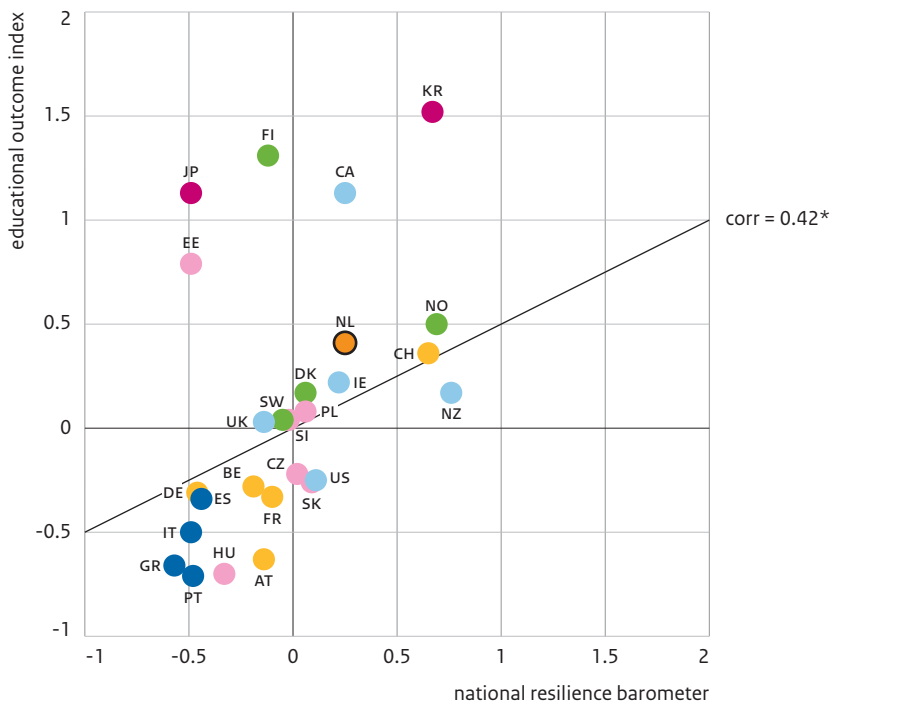
There is a significant positive relationship between the national resilience barometer and educational outcome (see table 3.1). The national resilience barometer measures a country's performance on economic, demographic, social circumstances and public finances. If these fundamentals are strong, a country also generally performs better on education. Claims about the causality of the relationship cannot be made from figure 3.22 (see also chapter 1). It seems plausible that the effect is dynamic, where a good

performance on education will have a feedback effect on the societal circumstances that make up the national resilience barometer (see figure 1.1).

The Netherlands can be found in the top right of the chart, close to Ireland and Denmark. Figure 3.22 again illustrates the exceptionally strong performance of Japan, Finland, Canada, Korea and Estonia. Although performance in these countries follows the national resilience barometer, these five countries perform on a higher level than all other countries, given the circumstances as measured by the national resilience barometer.<sup>44</sup>

Figure 3.22

National resilience barometer versus educational outcome index, 2009 (in index scores)



\* Correlation is significant (p-value is 0.03).

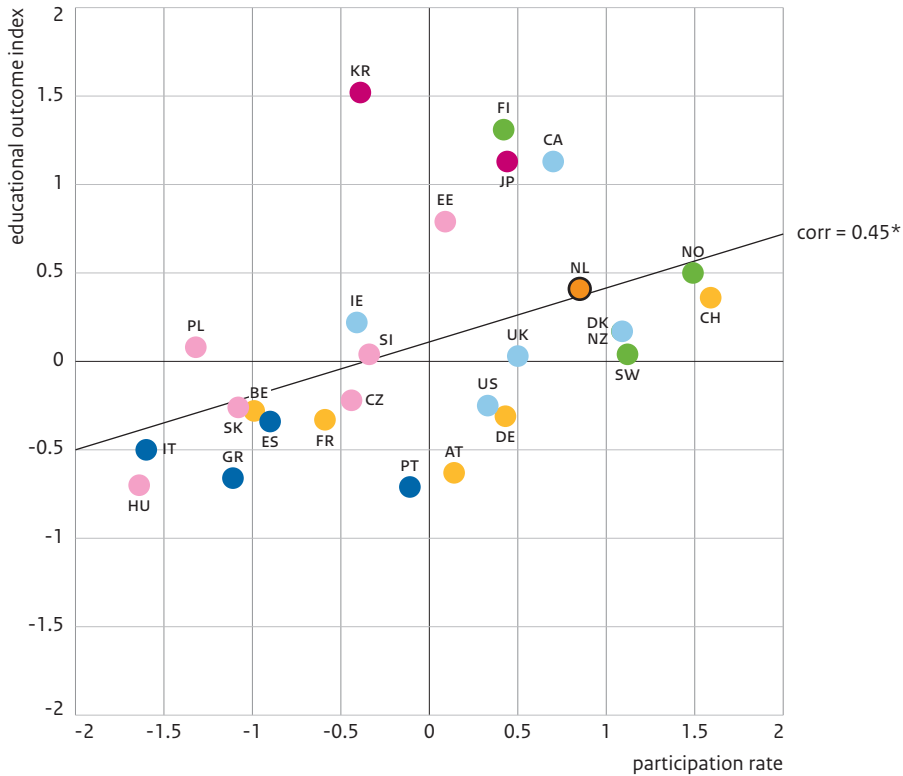
Source: US Bureau Census (National Data Base 2011); OECD Statistics (National Accounts 2011, Labour Force Statistics 2011, International Migration Database 2011); Solt (SWIID'11), IMF (World Economic Outlook Database 2011); Eurostat (Government Statistics 2011); OECD (2010c, 2011), OECD (PISA'09) SCP revision

When the separate dimensions of the national resilience barometer are examined, the correlation is significant between participation in the labour market and outcome of education, and total public expenditure and outcome of education (table 3.1). The latter

results seem to be an artefact, caused by one outlier (Korea), and the correlation is no longer significant when Korea is excluded.<sup>45</sup>

Figure 3.23

Participation rate versus educational outcome index, 2009 (in index scores)



\* Correlation is significant (p-value is 0.01).

Source: OECD (Labour Force Statistics 2011); OECD (2010C, 2011); OECD (PISA'09) SCP revision

Performance in education has a significant positive relationship with participation (correlation equals 0.45, see figure 3.23). If more people are active on the labour market, it is more common for people to work and to achieve a good education that increases their career prospects. Also, having a working mother has a positive influence on the chance that the children (especially daughters) will also become active on the labour market (Van Putten 2009). However, the relationship can in theory easily work the other way: a more effective education system can also lead to higher participation. A good education enhances the prospects on the labour market and also makes it more likely that the individual will participate on the labour market. As determining the causality of this

relation goes beyond the scope of this study, our conclusion is limited to the observation that there is a significant positive relationship between educational outcome and participation on the labour market.

Outcome has no significant association with income inequality, the third component of social circumstances (correlation equals  $-0.11$ ). Wilkinson and Pickett (2009) find a negative relationship between inequality and achievement tests, but they do not report whether this relation is significant or not.

The results of education are influenced by the composition of the student population. Large differences in social background are often associated with poorer performance as it becomes more difficult for teachers to adapt the course material to the needs of all students. Differences in social background are often measured by looking at the number of people with a foreign (non-developed country) background (see chapter 2). Although results on outcome are negatively associated with the number citizens born in a non-developed country, this relationship is not significant.<sup>46</sup> Abbott and Joireman (2001) tried to separate the effects of (household) income and ethnicity on student performance. They found that the effect of ethnicity on student performance operates mostly indirectly: ethnicity has a strong effect on having a lower income, and a low income has a negative effect on student performance. In their analysis, the additional direct effect of ethnicity on student performance was only small. As table 3.1 shows, however, we do not find a strong relationship between GDP per capita and student performance. It was argued in chapter 2 that the indicator for 'ethnic diversity' is rather crude, as not all inhabitants born in a non-developed country could be included: data are only available on inhabitants holding citizenship. This might explain why there is no (significant) relationship between ethnicity and average performance in achievement tests. Second, the impact of ethnicity should be analysed using multivariate analysis, preferable on micro-data. Such an approach is however beyond the scope of this study.

What has to be borne in mind is that three of the five top-performing countries (Japan, Finland, Korea) all have a relatively homogeneous population. According to figures from Statistics Canada, the population of Canada also appears to have relatively few non-Western citizens. As there are also countries with few foreign citizens that do not perform strongly (Hungary, Greece), a homogeneous population seems to be a necessary but not sufficient condition to achieve better results in terms of outcome. Aho et al. (2006) examined the critical success factors for Finland and concluded that quality of teachers, autonomy of schools and a culture of trust towards schools and teachers have been very important. The importance of teacher quality has been substantiated by a case study of a number of successful countries by Barber and Mourshed (2007).

### Social pressure

A factor not included in the societal index is peer pressure to perform well in education. Among students in the Eastern Asiatic countries, especially, there is considerable social pressure to do well at school (Bossy 1996). According to Yoosik and Hyojung (2011), Korean children are the unhappiest among the OECD nations.

### Separate components of outcome

The educational outcome index consists of three elements: the average score on achievement tests, the difference in score in these achievement tests between students from higher and lower social classes, and attainment levels. Analysis of the social indicators shows that these three components display very similar results: they are positively related to participation, negatively related to the number of non-Western citizens and there is no relationship with the level of income inequality in a society. Changes in participation offer no explanation for changes in the components of outcome and the same holds for changes in the number of non-Western citizens. These results have been omitted from the figures as they closely match the outcomes for the outcome index. An interesting and counterintuitive result is that average performance in achievement tests is significantly positively associated with the ratio of students to teaching staff in secondary education (correlation equals 0.72). In other words, students in countries where there are more students per teacher tend to perform better. This surprising result requires a little more attention. Korea has explicitly chosen to employ fewer teachers (and hence create larger classes), but to substantially increase the payment per teacher (Barber and Mourshed 2007). This has made teaching a preferred career choice and has led to an increase in the quality of the teachers (*ibid*). Hagemester (2006) noted that although classes tend to be larger in Finland, Korea and Japan, students in these countries receive intensive mentorship in small groups (two to four students) in addition to regular lessons. In Japan and Korea these are private arrangements, while in Finland they are part of regular education. Hence, only looking at the relation between the ratio of students over teachers and student performance would lead to the erroneous conclusion that more students per teacher would have a positive effect on student performance. In fact, the relationship between class size and student performance has been investigated extensively. A meta-analysis of 96 studies examining 785 estimates of the relationship between class size and student learning found a small advantage for small classes over large ones (Hattie 2009). Webbink et al. (2009) find that smaller classes lead to better results; but achieving smaller classes is very expensive, making it an inefficient approach (see also Van Elk and Webbink 2010: 185).

These results show that it is difficult to analyse differences in outcomes by using univariate macro-analyses. As it goes beyond the scope of this report to analyse differences using micro-data, we turn to the results found in the literature on factors related to (various elements of) educational outcome.

Student performance is influenced by individual factors (student characteristics, family background and home inputs), school factors and institutional factors (Bol and Van de Werfhorst 2010; Hanushek and Woessmann 2010). Although it is very important to control for individual and school factors, we are mainly interested in the institutional factors as these give an indication how educational systems influence student performance.

Various factors have been posited to influence the quality of education: public versus private funding (Hoxby 1999, 2001; Nechyba 2003); external versus teacher-based standards and examinations (e.g. Costrell 1994; Betts 1998; Bishop and Woessmann 2004); centralisation versus school autonomy in curricular, budgetary and personnel decisions (e.g. Bishop and Woessmann 2004); performance-based incentive contracts (e.g. Hanushek et al. 1994); tracking versus comprehensive systems (e.g. Schuetz et al. 2008); and the extent of vocational education (Bol and Van de Werfhorst 2010). Based on an analysis of PISA 2000 data, Fuchs and Woessmann (2007) find that students perform better when there are externally based standard exams and when the budget is not determined by the schools. Other factors that positively influence performance are school autonomy in textbook choice, appointing teachers and within-school budget allocation. The effects of school autonomy are enhanced when external exit exams are also present. Students perform better in privately *operated* schools, but private *funding* does not have a significant effect. A literature review by Webbink et al. (2009) confirms that students perform better when schools have more autonomy over the educational process and personnel decisions. They also conclude that central exams have a strong positive effect on student results. Webbink et al. (2009) also find evidence that relating teachers' salaries to student performance has a positive effect on student performance.

Fuchs and Woessmann (2007) have not looked at the effects of tracking on student performance, a specific institutional factor that has received much attention, both from policymakers and researchers. Tracking (or horizontal differentiation) concerns the separation of pupils by academic ability into separate classes. Table 3.2 gives (among other things) an overview of the average age at which tracking starts and the average number of school types that are available for a 15 year-old. In the Anglo-Saxon and Nordic countries, tracking starts when students are around 16 years old. Conversely, tracking starts very early in the Continental countries and the Netherlands, at around 12 years old. The Eastern Asiatic and Mediterranean countries fall in between. Among the Central European countries, a good deal of diversity can be observed in the age at which tracking starts. It may be noted that tracking not only starts early in the Netherlands, but that this country also has a large number of different school types.

Table 3.2

Characteristics of school systems (in age, numbers and percentages)

group	country	first age of selection	school types 15 year olds	starting age <sup>a</sup>	share of vocational studies <sup>b</sup>	standard exams <sup>c</sup>
Anglo-Saxon	Australia	16	1	5	47.4	81
	Canada	16	1	6	5.5	51
	Ireland	15	4	6	34.4	100
	New Zealand	16	1	6	39.5	100
	United Kingdom	16	1	4/5	30.5	100
	United States	16	1	5/8	–	7
Central European	Czech Republic	11	5	6	73.3	100
European	Estonia	15	1	7	33.0	100
	Hungary	11	3	6	24.5	100
	Poland	16	1	6	47.2	100
	Slovakia	11	5	6	71.6	100
	Slovenia	14	3	6	64.3	100
Continental	Austria	10	4	6	77.3	0
	Belgium	12	4	6	72.8	0
	France	–	–	6	44.2	–
	Germany	10	4	6	53.2	35
	Switzerland	12	4	6	65.5	0
Eastern Asiatic	Japan	15	2	6	23.8	100
	Korea	14	3	6	24.4	100
Hybrid	Netherlands	12	7	5	67.1	100
Mediterranean	Greece	15	2	6	30.9	0
	Italy	14	3	6	59.0	100
	Portugal	15	3	6	38.4	0
	Spain	16	1	6	42.9	0
Nordic	Denmark	16	1	6	47.3	100
	Finland	16	1	7	68.8	100
	Norway	16	1	6	54.1	100
	Sweden	16	1	7	56.4	0

a Age when compulsory education starts. Excludes pre-primary education.

b Upper secondary education.

c Existence of standards-based external examinations in secondary education.

Source: OECD (2010a, 2011)<sup>47</sup>

The effects of tracking have been studied extensively. In 1991, over a dozen synthesis studies could be found, analysing the outcomes of over 700 separate studies. In a meta-analysis of these 13 syntheses, Rogers (1991) concludes that tracking improves the performance of high-ability students and has no significant effect on the performance of average or low-ability students. A more recent study that analyses educational performance in 54 countries finds that early tracking favours high-ability students and has a negative effect on the performance of low-ability students (Schuetz et al. 2008).

The authors conclude that equality of opportunities among students is preserved most in a system with late tracking and a long pre-school cycle<sup>48</sup>. Van der Werfhorst and Mijs (2010) find in a literature review of around 60 studies that tracking increases inequality and that standardised testing decreases inequality. Webbink et al. (2009) confirm that early tracking seems to increase inequality, but these authors also note that early tracking does not have a clear effect on quality of education.

As tracking starts early in the Netherlands in combination with a high number of school types (see table 3.2), there has always been discussion about whether this system functions adequately. Recently, the debate has been reopened by an OECD report, which states that the Dutch early tracking system is disadvantageous for lower-ability students and has been an obstacle in increasing the number of students prepared for tertiary education (Marginson et al. 2008: 56). In response, the Dutch Education Council issued a report (Onderwijsraad 2010) where they indicate that there are insufficient arguments to increase the age at which tracking begins. They do recommend experimenting with a junior college system to bridge the gap between primary and secondary education. Van de Werfhorst (2011) disagrees with the conclusions of the Dutch Education Council and argues that they place too little emphasis on inequality and too easily dismiss the abundant literature that finds that tracking has a negative effect on equality. Bol and Van de Werfhorst (2010) find larger differences in achievement tests between higher and lower social classes in countries that use more tracking than in countries with less tracking. These differences remain when the effects of other school system factors (spending on education, extent of vocational education, degree of school autonomy, presence of external exit exams) are taken into account. The authors also show that although the Netherlands scores well on achievement tests (high average, low variance) the differences between social classes are rather high. Webbink et al. (2009) report that good pre-school programmes have positive effects on the performance of children from disadvantaged backgrounds. Controlled experiments in the United States have shown improved attainment levels and improved prospects on the labour market. The results of the programmes are highly dependent on the way they are organised.

Overall, it can be concluded that part of the differences in achievement tests can be attributed to personal, school and system characteristics. As regards system characteristics, external exit exams improve outcomes. School autonomy also improves student performance, especially in combination with external exit exams. Tracking has no direct effect on total student performance, but early tracking often leads to more inequality between students from different classes: pupils with more abilities tend to benefit from early tracking, whereas it appears to be a disadvantage for less able students. Equal opportunities can be improved by offering students from disadvantaged backgrounds preschool programs, provided these are of sufficient quality.



### Quality of teachers is vitally important

Student performance is related to the quality of teachers (Hanushek 2010). Several studies have indicated that the quality of teachers is probably the most important success factor in student performance (Barber and Mourshed 2007; Van der Steeg et al. 2011). The performance of teachers is determined to only a limited degree by education and experience. Van der Steeg et al. (2011) found that for the Netherlands the attainment levels of students who enter a teacher training programme are declining. Combined with the required qualifications to teach specific courses, these are two more important indicators of teacher quality. In-service training and mentoring of teachers has proved beneficial in increasing the quality of teachers (Webbink et al. 2009). Schools need to provide more support to enable teachers to take part in courses, as teachers often indicate that they do not participate due to a high workload (OECD 2009c). Barber and Mourshed (2007) add that paying good starting salaries and carefully managing the status of the teaching profession can help improve teacher performance.

### Countries choose different education systems

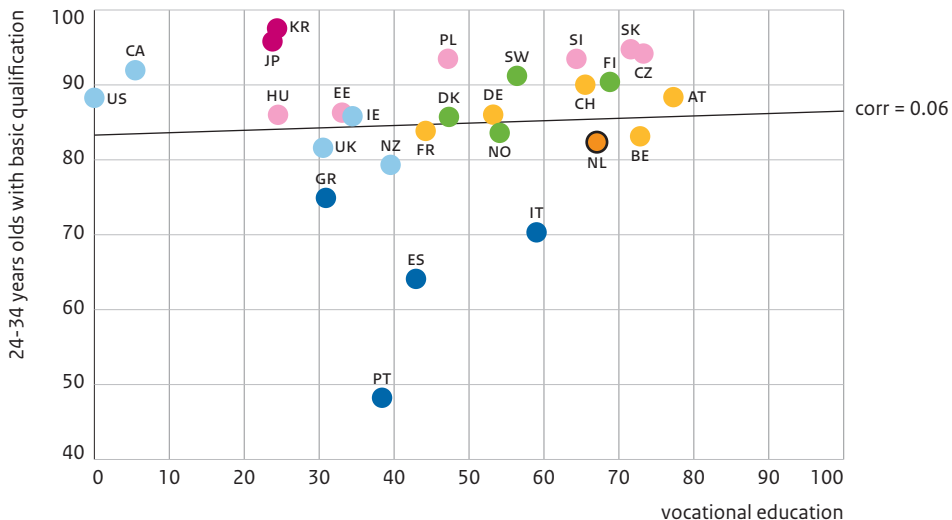
Table 3.2 also provides other interesting insights. The classification in groups seems to match differences in education systems. The variation in tracking procedures has already been noted. The compulsory school age is somewhat lower in Anglo-Saxon countries and their system is also characterised by a low proportion of vocational studies and the use of standard exams. In Continental countries, vocational courses account for a large proportion of secondary education, and standard exams are mostly absent. The Mediterranean countries combine a low proportion of vocational studies with the absence of standard exams. This is precisely opposite to the Nordic countries. The Eastern Asiatic countries have almost no vocational programmes but do use standard exams. Vocational orientation is very important in the Hybrid Netherlands, which also uses standard exams. The Central European countries are clearly a mix. The Czech Republic and Slovakia resemble the Netherlands in that they combine early tracking with a large share of vocational education and use standard exams. Estonia and Poland resemble the Anglo-Saxon countries. Hungary and Slovenia are more difficult to classify.

### More vocational education is not associated with fewer early school-leavers

The proportion of vocational education could influence attainment levels. Vocational education addresses the needs of students who prefer learning by doing over learning from books. One would therefore expect that vocational education should improve results, as it enables more students to obtain a basic qualification. Figure 3.25 shows however there is no significant relationship between the prevalence of vocational education and those who have at least a basic qualification (correlation equals 0.07).

Figure 3.24

Proportion of vocational education (in percentages) versus basic qualification (in percentages of total upper secondary education), 2009



Correlation is not significant (p-value is 0.76).

Source: OECD (2011)<sup>49</sup> SCP revision

Figure 3.26 shows that in countries where vocational education at upper secondary level is more common, tertiary attainment levels are lower.<sup>50</sup> Students who obtain a vocational qualification at upper secondary level seem less inclined to enter tertiary education. This relationship has been observed before (SCP 2000: 472). The explanation is that many students with a vocational qualification at upper secondary level, having learned an occupation, will enter the labour market. In countries where vocational education is less common or absent, the same students will usually follow a general tertiary programme, typically Type B (shorter and more vocational). This will result in higher tertiary attainment levels, although the composition will differ from countries where vocational education is more common. Anderson and Van de Werfhorst (2010) have shown that these lower attainment levels are not caused by limitations in the possibilities to enter tertiary education, but by the fact that a vocational qualification at upper secondary level provides sufficient qualifications for many positions on the labour market.

Figure 3.25

Proportion of vocational education at upper secondary level versus tertiary attainment, 2009  
(in percentages of total upper secondary education and percentages of population)



\* Correlation is significant (p-value is 0.01).

Source: OECD (2011)<sup>51</sup> SCP revision

Although vocational education meets the needs of a substantial proportion of students, it makes it harder to achieve policy goals such as ‘50% or 40% of all people should obtain a tertiary degree’ (the Lisbon objectives and EU 2020 targets respectively).

In the Netherlands, data from Statistics Netherlands show that 40% of those who obtain a qualification at senior secondary vocational level (MBO-4) enter tertiary vocational education (HVO).<sup>52</sup> This figure shows that although vocational education is common in the Netherlands, it does not prevent those receiving a qualification from entering tertiary education. Besides, a society will always have a high demand for people with vocational training (see e.g. Veerman 2010).

### Other comparative studies

Numerous studies have compared different countries' performance on education. In this section a few of these will be discussed, with an emphasis on recent studies that examine the comparative performance of the Netherlands. Boeren and Nicaise (2011) confirm our findings that the Netherlands is performing well on education in 2009. Statistics Netherlands (CBS 2011) also indicates that the quality of Dutch education is good, but is declining over time. As figure 3.2 demonstrates, most countries that perform well on achievement tests have difficulty in maintaining the high standard over time. Other results in CBS (2011) confirm our findings: attainment levels are improving, but are still only around the average (see also figure 3.5). The authors of CBS (2011) also express concern about the relatively high number of early school-leavers (see figure 3.4).

Van der Steeg et al. (2011) express concern that high-potential pupils in the Netherlands are underperforming, mostly in primary education. This is partly corrected in secondary education, due to the Dutch early tracking system, but the authors argue that more attention should be given to this under-utilisation of talent in primary education. The authors also express concern about the (declining) quality of teachers as an increasing number of lessons are provided by teachers without proper qualifications. The OECD (2009c) suggests that Dutch teachers feel prolonged poor performance of teachers is likely to be tolerated, career prospects are more limited compared to other countries and there is less often a link between teacher performance and rewards than in other countries.<sup>53</sup> As teachers are an important factor in improving pupil performance, Van der Steeg et al. (2011) propose a number of options to improve teacher quality. More attention could be devoted to in-service training and monitoring of teachers. Making teaching an attractive career proposition for high-potential graduates from tertiary education is another option that has proven to be successful (Xu et al. 2009). In secondary education, more time should be devoted to core competence fields (reading, arithmetic and science).

The state of tertiary education in the Netherlands has been investigated by the Commission on Future-proof Tertiary Education (*Commissie Toekomstbestendig Hoger Onderwijs Stelsel*) (Veerman 2010). The main concern of Veerman (2010) is that students take too long to obtain a degree and too many students fail to do so. However, the OECD (2010b, p. 72) shows that drop-out rates in tertiary education are below average in the Netherlands. Veerman (2010) observes that male students with a non-Western background perform particularly poorly in tertiary education. Also, the gap between secondary and tertiary vocational education appears to be too wide according to Veerman (2010), as a relatively large proportion of the former group drop out after starting a course at tertiary level. Veerman (2010) also indicates that tertiary attainment levels are not high enough. The Commission is worried that the Netherlands does not perform well on lifelong learning. This latter conclusion seems to contradict the findings of the European Lifelong Learning Index, where the Netherlands is one of the top performers (see appendix B3). In CBS (2011), too, the Netherlands ranks among the top performers on lifelong learning.

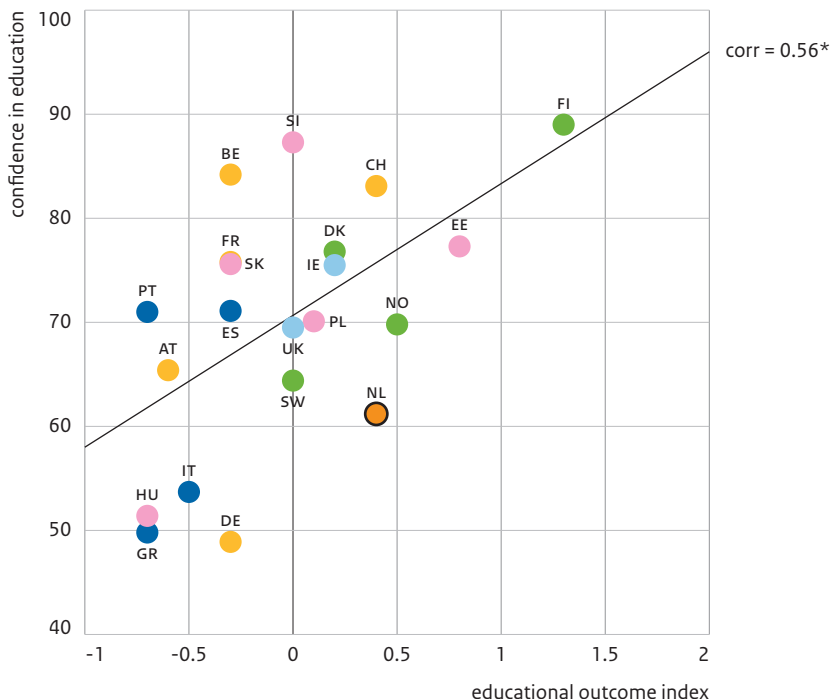
Webbink et al. (2009) make a systematic comparison of the effectiveness of different education systems. Their conclusion is that the education system in the Netherlands is in theory effective. Most success factors from the literature are being applied: free school choice, competition between schools, relatively autonomously operating schools, the use of central exams, the presence of an Education Inspectorate to safeguard quality and the way in which pupils and students with learning and language disabilities are accommodated. Whether all these elements are used to their fullest extent, however, remains an open question. Transparency concerning information about schools is vital to enable parents to choose a school for their children, to ensure competition between schools and to force schools to use their autonomy appropriately. The other system characteristics will have to be examined through more (quasi-experimental) research. In recent years, a start has been made on a number of such experiments.

### 3.6 Confidence in education

Based on objective criteria, the education system in the Netherlands performs competitively compared to other developed countries. But how do citizens evaluate its performance? And how does this compare to other countries? Figure 3.29 shows there is a positive relationship between (objective) outcomes and (subjective) confidence in education as measured in the European Values Study.<sup>54</sup> Citizens in countries where the educational outcome is higher tend to be more positive about the education system. Germans and the Dutch are more critical, whereas people in Belgium and Slovenia have more confidence than might be expected given the performance. As regards country groups, the Continental countries (with the exception of Germany) have more confidence in education than the outcome would suggest. For the Nordic and Anglo-Saxon countries the relationship is close to what would be expected. The picture is mixed for the Mediterranean and Central European countries.

Figure 3.26

Educational outcome index versus confidence in education, 2009 (in index scores and percentages of the population)



\* Correlation is significant (p-value is 0.01).

Source: OECD (2010c, 2011); OECD (PISA'09); EVS (European Values Study 2008) SCP revision

### 3.7 Conclusion

#### What are the outcomes of education?

Educational outcome increased substantially between 2000 and 2009, with the Continental countries in particular performing better. Five countries strongly outperform the others: Finland, Korea, Japan, Canada and Estonia. This strong performance seems to be partly explained by the homogeneous population in at least three of these countries: the number of citizens from non-developed countries is relatively low. Other important success factors are the quality of teachers, autonomy of schools and a culture of trust towards schools and teachers. The good results of Estonia are mainly due to the egalitarian outcomes: children from high social classes do not perform much better in school than children from lower social classes.

### How are these differences in outcome related to variances in input?

On average, each country spends a little under 6% of GDP on education. This figure is relatively stable over time. There does not appear to be a significant relationship between expenditure on education and outcome: countries that spend more on education do not invariably show higher outcome. There is wide variation in expenditure among the five best-performing countries. The outcome of education is higher in countries where the share of private expenditure is bigger, but this result is highly dependent on the results for Japan and Korea, which deviate strongly from the results for other countries. The relationship between private expenditure and outcome in education is no longer significant when these two countries are excluded.

### How are these differences in outcome related to variances in output?

Output measures the production and consists among other things of the number of students enrolled in education. Our results show that there is no significant relationship between outcome and output. Having students participate in education is no guarantee that they will obtain a qualification. Enrollment levels are high in Portugal, but so is the number of early school-leavers, resulting in a poor performance in terms of outcome. Enrollment in Canada on the other hand is just below average but pupils in Canada show good results in achievement tests and a relatively large proportion of students complete tertiary education.

### How are these differences in outcome related to confidence in education?

In countries where educational outcome is higher, citizens tend to have more confidence in education. In countries such as Germany and the Netherlands, confidence is lower than expected given the level of outcome, whereas the opposite is true for Belgium and Slovenia. A more systematic approach is needed to determine the causality of this relationship.

### Can differences in performance be related to other factors?

With the exception of the five top performers, the outcome of education closely matches the performance on the national resilience barometer (see chapter 2). In countries where circumstances are more favourable, the outcome of education tends to be higher, and vice versa. Of the components of the national resilience barometer, the strongest relationship is observed between outcome and labour participation: educational outcome is higher in countries where more people participate in the labour market. No statements can however be made about causality in this relationship based on this finding.

The quality of teachers is one of the most important criteria for success. Quality is not directly dependent on schooling and experience, but is associated more with the grades obtained by teachers during their training. Monitoring and in-service training of teachers has proved an efficient instrument for improving teachers' performance.

Outcomes are also influenced by the education system. The Continental system, where tracking starts early, vocational education is prevalent and standard exams are not used,

are disadvantageous for students with less ability and lead to more unequal outcomes. Numerous studies have shown that the absence of standard exams and early tracking both have a (separate) negative effect on outcome, irrespective of the other characteristics of the education system. Our results show that a large share of vocational education leads to poorer performance in tertiary education. This suggests that ambitious targets concerning tertiary attainment levels are difficult to achieve if vocational education is more prevalent, as in the Netherlands.

The standard of education in the Netherlands is good. Above-average outcomes are obtained at an average level of expenditure. The Dutch educational system incorporates most of the elements which have been shown in the international literature to be success factors for an effective educational system. Compared to other countries, Dutch citizens seem more critical about the education system than might be expected given the level of outcome. Good students underperform in primary education, but partly make up for this in secondary education. Attainment levels are around average, but the Netherlands has an above-average number of young adults without a basic qualification. The younger generation fortunately seem to perform better, as the number of early school-leavers is declining. The quality of teachers is an area where improvements could be made. The number of teachers without proper qualifications is increasing and the attainment level of teachers when they start their training has decreased.<sup>55</sup> Monitoring and in-service training of teachers and making the profession more attractive to talented students are two ways of improving the quality of teachers.

## Notes

- 1 In the UNESCO programme 'Education for All' six global targets are defined that aim to universalise primary education and massively reduce illiteracy by 2015. The targets are:
  - 1 to expand early childhood care and education;
  - 2 to provide free and compulsory primary education for all;
  - 3 to provide equitable access to appropriate learning and life skills programmes for all young people;
  - 4 to improve adult literacy;
  - 5 to provide equal access to education for boys and girls;
  - 6 to improve the quality of education (ibid: 15-17).
- 2 The differences between PISA and TIMSS/PIRLS are a little more nuanced. PISA examines the performance of 15 year-olds, TIMSS/PIRLS looks at students in the fourth (on average 9/10 years old) and eighth grades (on average 13/14 years old).
- 3 TIMSS only covers 14 countries for the latest observation period (2007). PISA covers all 28 countries for the latest observation period (2009).
- 4 The country averages on reading, arithmetic and science are standardised over the period 2000-2009. Next the average of the three resulting scores is taken.
- 5 The PISA 2000 data for the Netherlands are excluded as the sample suffered from large non-response and is not representative for the total population (OECD 2002b: 186-188).



- 6 OECD 2010c (tables I.2.3, I.3.3, I.3.6), OECD 2007a (tables 2.1c, 6.1c, 6.2c), OECD 2004 (tables 2.5c, 6.2, 6.6), OECD 2003b (tables A6.1, A6.2, A8.2).
- 7 In Vermeer and Van der Steeg (2011) a ranking of the Netherlands for each percentile of the PISA score is presented to illustrate the relative performance of the bottom and top performers compared to other countries. We compare the average PISA scores according to social class. Hence, in Vermeer and Van der Steeg (2011) the PISA score is the point of comparison and in this study it is social class.
- 8 OECD 2003a (table 6.1a).
- 9 The EU looks at early school-leavers among 18 to 24 year-olds. We have chosen a different age group as a sizeable percentage of those aged between 18 and 24 are still in education. The older age group gives a more precise picture of the number of early school-leavers as some of those who are still in education can still become early school-leavers.
- 10 OECD 1997 (table A2.2a), OECD 2001 (table A2.2a), OECD 2002 (table A1.2), OECD 2007b (table A1.2a), OECD 2011 (table A1.2a).
- 11 As there is a difference between the population specified in the EU target (20-24 year-olds) and the population being considered here (25-34 year-olds), the outcomes differ. The results here 'lag behind' those reported by the EU as an older age cohort is being evaluated.
- 12 For the Netherlands, type B should not be confused with vocational education at tertiary level (HVO). This is classified as type A. The less common shortened HBO is an example of a type B programme.
- 13 OECD 1997 (table A2.2b), OECD 2001 (table A2.2b), OECD 2002 (table A2.1), OECD 2007b (table A1.3a), OECD 2011 (table A1.3a).
- 14 It is not possible to achieve high tertiary attainment levels, in combination with a large number of people without a basic qualification.
- 15 OECD 2011 (tables A1.2a, A1.3a).
- 16 The two attainment indicators are both standardised over the period 2000-2009. As early school-leavers are a negative indicator, we multiply the resulting z-score by  $-1$ . The average of these two attainment indicators is then taken. The difference in performance between social classes is also standardised. As the PISA achievement tests have also been standardised, we now have three indicators that each have an average of zero and a standard deviation of one. The outcome index is constructed as the unweighted average of these three indicators.
- 17 OECD 1997 (tables A2.2a, A2.2b), OECD 2001 (tables A2.2a, A2.2b), OECD 2002 (tables A1.2, A2.1), OECD 2003a (table 6.1a), OECD (2003b (tables A6.1, A6.2, A8.2), OECD 2004 (tables 2.5c, 6.2, 6.6), OECD 2007a (tables 2.1c, 6.1c, 6.2c), OECD 2007b (tables A1.2a, A1.3a), OECD 2010c (tables I.2.3, I.3.3, I.3.6), OECD 2011 (tables A1.2a, A1.3a), OECD (PISA 2003, 2006, 2009).
- 18 Tertiary education in particular attracts a large share of private funding in a number of countries, up to as much as 68% (Japan and the United States) or even 79% (Korea). In the Netherlands the share of private expenditure in tertiary education is 28%. The average over all countries is 31%. By contrast, primary and secondary education have an average share of 8% private financing (See also OECD 2011: 231).
- 19 In Korea, not only tertiary education is funded more than average by private means. The share of private expenditure in primary and secondary education is 19%, well above the overall average of 8% (OECD 2011: 231).
- 20 OECD 2008 (table B2.1), OECD 2011 (table B2.1).
- 21 OECD 2007 (table B3.1), OECD 2008 (table B3.1), OECD 2011 (table B3.1).

- 22 Total expenditure on education is related to the combined educational outcome index, as the outcome index includes outcome indicators for secondary and tertiary education.
- 23 Expenditure on educational institutions: OECD 2011 (tables B2.1, B3.1). Educational outcome index: OECD (2010c) (tables I.2.3, I.3.3, I.3.6), OECD (2011) (tables A1.2a, A1.3a).
- 24 Only in the Netherlands, Canada and Slovakia the expenditure by households account for less than 50% of total private expenditure on educational institutions (OECD 2011, table B3.1).
- 25 Correlation is no longer significant when Korea is excluded.
- 26 Private expenditure on educational institutions as percentage of total expenditure: OECD 2011 (table B3.1), OECD 2008 (table B3.1). Educational outcome index: OECD (2010c) (tables I.2.3, I.3.3, I.3.6), OECD (2011) (tables A1.2a, A1.3a).
- 27 As children aged below 15 years old are obliged to attend school in all countries, enrollment among this group should (in theory) be 100%.
- 28 The percentage of people who complete tertiary education is measured by attainment levels (outcome). Entry rates provide a measure of production of tertiary education (output).
- 29 OECD 2011 (table C1.2), OECD 2010b (table C1.2).
- 30 The net entry rates represent the proportion of persons of a synthetic age cohort who enter a certain level of tertiary education at one point during their lives. The net entry rate is defined as the sum of net entry rates for single ages. The total net entry rate is therefore the sum of the proportions of new entrants to tertiary-type A aged  $i$  to the total population aged  $i$ , at all ages. Since data by single year are only available for ages 15 to 29, the net entry rates for older students are estimated from data for five-year age bands (OECD 2011, Annex 3, Chapter C, p. 14).
- 31 OECD 2011 (table C2.2).
- 32 The Netherlands is missing from the OECD data on first-time students qualifying in secondary education. Data on the total number of graduates overestimate the graduation rate: for a number of countries, resulting in graduation rates above 100% when the number of graduates is related to the relevant age group. This is due to double-counting as students can obtain more than one degree.
- 33 OECD 2011 (table A3.3), OECD 2008 (table A3.1), OECD 2006 (table A3.1).
- 34 OECD 2011 (table A3.2).
- 35 Including expenditure on R&D. It is not possible to construct time series data for expenditure on core educational services. On average, R&D and ancillary services account for 34% of total expenditure on tertiary education in 2008. In some countries, a considerable part of R&D activities is performed outside educational institutions, making a comparison of expenditure including R&D suboptimal (OCW 2011: 72).
- 36 Korea ranks considerably lower than what is expected from figure 3.9. This is due to the fact that Korea has a relatively young population (and hence a high number of students) and real GDP is relatively low.
- 37 OECD 2008 (table B1.5), OECD 2011 (tables B1.2, B1.5).
- 38 OECD 2008 (table B1.5), OECD 2011 (tables B1.2, B1.5).
- 39 Total expenditure on educational institutions: OECD 2011 (table B2.1). Educational output index: OECD 2011 (tables A3.2, A3.3, C1.2, C2.2).
- 40 Change in total expenditure on educational institutions: OECD 2008 (table B2.1), OECD 2011 (table B2.1). Change in educational output index: OECD 2006 (table A3.1), OECD 2010b (table C1.2), OECD 2011 (tables A3.2, A3.3, C1.2, C2.2).

- 41 Educational output index: OECD 2011 (tables A3.2, A3.3, C1.2, C2.2), Educational outcome index: OECD (2010c) (tables I.2.3, I.3.3, I.3.6), OECD (2011) (tables A1.2a, A1.3a).
- 42 Change in educational output index: OECD 2010b (table C1.2), OECD 2011 (tables A3.2, A3.3, C1.2, C2.2). Change in educational outcome index: OECD 2001 (tables A2.2a, A2.2b), OECD 2002 (tables A1.2, A2.1), OECD 2003a (table 6.1a), OECD 2003b (tables A6.1, A6.2, A8.2), OECD 2010c (tables I.2.3, I.3.3, I.3.6), OECD 2011 (tables A1.2a, A1.3a).
- 43 OECD (2010c) (tables I.2.3, I.3.3, I.3.6); OECD (2011) (table A1.2a), OECD (PISA 2009).
- 44 Good outcome results on education will also have a feedback effect on the underlying societal factors that make up the national resilience barometer. As indicated in figure 1.1, the relationship between outcomes and the national resilience barometer is a dynamic process.
- 45 The public sector is relatively small in Korea. However, private expenditure in the education and health sectors is considerable, making these sectors relatively quite large compared to other public sectors in Korea.
- 46 Correlation is  $-0.30$ , p-value is  $0.18$ .
- 47 OECD (2010a: 203, table IV.3.2a; and: 229, table IV.3.11); OECD (2011: 305, table C1.3).
- 48 Pre-school means education before children reach the age of compulsory education (usually around 6 years old). This is sometimes referred to as kindergarten.
- 49 Share of vocational studies in upper secondary education: OECD 2011 (p. 305, table C1.3). Percentage with basic qualification: OECD 2011 (p. 39, table A1.2a).
- 50 In the Netherlands, there are three levels of vocational education. VMBO is classified as lower secondary education, MBO as upper secondary education and HBO as tertiary education (CBS 2009: 160).
- 51 Share of vocational studies in upper secondary education: OECD 2011 (p. 305, table C1.3). Percentage with tertiary education: OECD 2011 (p. 40, table A1.3a).
- 52 CBS StatLine: <http://statline.cbs.nl>.
- 53 The authors do however emphasize that the Dutch sample of teachers used in this study is not representative for the entire population of Dutch teachers, see OECD (2009c: 299). We therefore view this as an indication of the circumstances Dutch teachers.
- 54 The World Values Study also contains a question on confidence in the education system, but this question was not included in the 2005 edition of the survey. It was included in the 2000 survey, but only for the European countries.
- 55 A majority of students in the Netherlands embark on teacher training programmes (Pabo) with a qualification from senior secondary vocational education (MBO); the number of students with a qualification at senior general secondary (HAVO) or pre-university (VWO) level is declining.

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## 4 Health

Debbie Oudijk, Jedid-Jah Jonker and Sjoerd Kooiker

The recent economic recession has led to increasing government deficits in many countries since 2008. In order to facilitate economic recovery, most countries will need to substantially reduce government spending and/or increase taxes. Health spending accounts for a high and, against a backdrop of population ageing, technological developments and social priorities, growing share of public spending. According to the OECD (2011) it is almost impossible to exclude health care from any overall effort to control public spending following the recession. However, to what degree health expenditure may be affected will depend on the relative priority allocated to health. It will also depend on the extent to which public health expenditure leads to benefits in terms of better health outcomes. This chapter assesses how the organisation of health care systems and present spending levels impact on the services provided and the health of the population in various countries.

### 4.1 Goals and challenges in health care

In modern welfare states, health care is an essential public service. According to the World Health Organization health care systems serve several goals. They have to respond to the expectations of the population, reflect fair financial contributions and of course in the end lead to better health for the population. The accomplishment of these goals depends on how systems carry out four vital functions: provision of health care services, resource generation, financing, and stewardship (WHO 2000). Additional goals of health care systems are universal accessibility, high levels of quality and financial sustainability (Council of the EU 2003). For instance, the goals of the Dutch ministry of Health, Welfare and Sport are in line with these international guidelines. The Dutch government is ultimately responsible for the quality, accessibility and affordability of care for those in need (TK 2010/2011).

Apart from the economic recession, several other trends threaten to undermine the financial basis of health care systems. Firstly, individuals have ever higher expectations and are becoming increasingly aware of the possibilities offered by medical technology. At the same time, rising incomes enable clients to buy more and more medical services and willing to spend more on health care. Secondly, there are signs that suppliers of medical care are actively creating demand among clients for certain goods and services (medical check-ups, surgical procedures to prevent snoring, etc.). This 'supplier-induced demand' also puts upward pressure on medical expenditure (Mocking 2011). Thirdly, the rapid progress of medical technology not only increases the efficiency of existing treatments, but also leads to the development of new and better treatments. A large proportion of the long-term increases in health care spending have stemmed from the health care system's use of new medical services that were made possible by

technological advances (CBO 2008). Although income and technology are both important drivers of health care expenditure, it is difficult to unravel the influence of these two factors (Van Elk et al. 2009). In the words of Van Elk et al. (2009: 20): ‘Without an increase in income it is difficult to spend more on new medical technology, but without new technology in the end there will be no reason to want more health care per capita, unless morbidity is increasing.’ Finally, populations are ageing. In 2000 13% of the OECD populations was aged 65 or over; in 2010 this figure was two percentage points higher (15%). The share of older persons in the Dutch population in 2010 was in line with the OECD average at 15%, though the rise since 2000 has been slightly lower than the average, at only one percentage point.

EU member states are pursuing various strategies in an attempt to keep their health systems financially above water. One important instrument wielded by many countries is the introduction of financial incentives for consumers to reduce health care utilisation. The financial incentive may be direct, in the form of out-of-pocket payments, or indirect, in the form of restrictions on insurance coverage. However, a challenge that arises with strengthening financial incentives is maintaining universal accessibility of services, especially for low-income and other vulnerable groups. Income solidarity and risk solidarity therefore remain important in guaranteeing universal access to health care services.

With the exception of the United States, universal accessibility was largely secured in all OECD countries in 2009. Although the Obama administration has taken steps since then towards reforming the national health care system, the 2011 US system still cannot be classified as being accessible to all. As part of the policy on social inclusion (Council of the EU 2003; European Commission 2010), one of the European Union’s main objectives is to maintain accessibility for vulnerable groups. OECD countries meet the principle of ‘equal treatment for equal need’ to a high degree in primary health care (general practice). However, the European Commission observes there are still striking differences in health outcomes within the EU according to where people live, their ethnicity, gender and socioeconomic status. There does indeed seem to be a tendency towards ‘pro-rich distribution’ in secondary health care (specialists) in some of the wealthier OECD countries (Van Doorslaer et al. 2006). The ‘unequal treatment’ of different income groups in secondary health care would appear to be mostly associated with greater demand from those who have attained higher levels of education. This means that steps to guarantee universality may also include enabling various vulnerable groups to articulate their demand for health and health care.

Quality issues have been part of the public debate on health care for many years. Both the public and governments want to see high-quality care. However, the term ‘quality’ is open to interpretation.

Quality entails several aspects on different levels, such as product quality, process quality and system quality. In the cure sector, product quality is related to the specific treatment received by clients, process quality is a dimension linked to producers and institutions



and system quality to the region or a country. The European Commission has formulated some key objectives concerning the quality of care with a focus on patient-centred care, effective and safe use of treatment and equipment, greater use of evidence-based medicine, health technology assessment and effective prevention programmes, as well as better integration and coordination between the different levels of care provision (European Commission 2011). The Commission has formulated similar objectives for long-term care. In addition, emphasis is placed on tailor-made home and community services to help people continue to live at home for as long as possible. Additionally, sufficient formal staff training and support for informal caregivers is prioritised.

The combined demands of financial sustainability, accessibility and quality can conflict. For instance, demands for higher quality health care can increase health care expenditure and as such put the financial sustainability of the system at risk. On the other hand, if quality demands are not sufficiently met by the public health care system, clients may relocate their search for care to the private sector. Since this type of care is only affordable to those with higher incomes, such a shift would jeopardise the universal access to health care. Balancing the conflicting goals has presented major policy challenges in the past and will continue to do so in the coming years.

## 4.2 Health care systems

### Definition of health care

A comprehensive international comparison depends heavily on the comparability of the data across countries. The OECD collects data on the health and care of its member states. These two factors are classified according to the System of Health Accounts (SHA) that is based on care functions related to recovery (cure) and nursing (care) (OECD 2000; OECD/Eurostat/WHO 2011). The OECD does not assign (personal) care and housing costs as such to health care. This means that a part of the costs of care in the Dutch intellectual disability sector, retirement homes and home care is not accounted for in the OECD-data.

### Data problems

Health care is a very dynamic sector, which is constantly adapting to new insights and developments. There are frequent changes in the definition of what is considered to be health care or in how certain aspects of health are measured. These changes are also reflected in the data collected and complicate the comparison over time. At times, data for adjoining years have to be used due to missing or estimated data. Data indicators such as healthy life years and infant mortality also suffer from breaks in the time series due to changing definitions.

Furthermore, the exact definition of health care is different in each country. The Netherlands, for instance, has an entire sector devoted to the care of persons with an intellectual disability. This care is less evident in other European countries and is not considered to be part of the health care sector. Even within countries, however,

definitions can be troublesome. The distinction between retirement and nursing homes in the Netherlands is for example fading, as is the distinction between their tasks.

### Health care systems

In describing different health care systems, a distinction can be made between how care is financed and how it is provided. National systems differ in the extent to which services are provided publicly or privately and the degree to which the costs are covered by taxes, social insurance contributions or private payments.

The Netherlands has a health care system based on the general concept that medical and long-term care should be available for all. There are two national insurance schemes. The first is an obligatory private ‘basic’ health insurance arranged in 2006 for all primary and curative care through the Dutch Health Insurance Act (Zvw). The second is obligatory public insurance for long-term care, regulated in 1967 by the Exceptional Medical Expenses Act (AWBZ). For the former, people can opt for additional (private) insurance packages. The obligatory insurances are classified as public arrangements, as opposed to the non-compulsory additional insurances which are considered private expenditure. In 2011 the average basic insurance premium was € 1,211 per year, while the median net income in the Netherlands was a little over € 20,000 a year. Furthermore, a contribution of 7.75 % (Zvw) and 12.15% (AWBZ) was withheld from the first € 33,000 of gross personal income.

All countries have a mix of private and public funding (table 4.1). The former includes non-compulsory health insurance premiums, out-of-pocket payments by individual consumers and other private resources; the latter includes funding from the government and contributions to compulsory social insurance schemes. The Netherlands spends 12% of GDP is spent on health care, making it the second biggest health care spender. The United States is by far the biggest spender (17.4% of GDP), while Korea spends the least (6.9%). The United States is the only country in which the majority of the health expenditure is funded through private means (52%). Private expenditure accounts for 15% of all expenditure in the Netherlands. Compared to other countries, the share of out-of-pocket payments is lowest in the Netherlands. These payments are required when a person uses a particular form of care. Thus, out-of-pocket payments can be considered to indicate accessibility to health care. Seen in that light, health care seems to be the least accessible to Koreans and the Swiss. However, the Swiss are more wealthy than inhabitants of most other countries and can therefore afford to pay more for health care (Daley and Gubb 2011).<sup>1</sup> Although the contributions that are required from health care users plays a relatively small part in total health spending in the United States, the health care system cannot be characterised as accessible. The majority of care in the United States is financed through non-compulsory health insurance. In 2009, nearly 17% of the Americans were uninsured (U.S. Census Bureau 2009), with neither government nor private coverage and no insurance through employment. This uninsured rate was higher amongst vulnerable groups, such as those with lower incomes, which are associated with higher care need probabilities.

Table 4.1

Composition of health expenditure, by agent, 2009 (in percentages)

group	country	public	private	private: insurance	private: out-of- pocket	private: other	total (% GDP)
Hybrid	Netherlands	85	15	5	6	4	12.0
Nordic	Denmark	85	15				11.5
	Finland	75	25	2	19	4	9.2
	Norway	84	16		15	1	9.6
	Sweden	81	19	0	17	2	10.0
Eastern Asiatic	Japan <sup>a</sup>	81	19	2	16	1	8.5
	Korea	58	42	5	32	4	6.9
Anglo-Saxon	Australia <sup>a</sup>	68	32	8	18	6	8.5
	Canada	71	29	13	15	2	11.4
	Ireland	75	25	11	12	2	9.5
	New Zealand	80	20	5	13	1	10.3
	United Kingdom	84	16	1	10	4	9.8
	United States	48	52	33	12	7	17.4
Continental	Austria	78	22				11.0
	Belgium	75	25	5	20	0	10.9
	France	78	22	13	7	2	11.8
	Germany	77	23	9	13	1	11.6
	Switzerland	60	40	9	30	1	11.4
Central European	Czech Republic	84	16	0	14	1	8.2
	Estonia	75	21	0	20	0	7.0
	Hungary	70	30	3	24	4	7.4
	Poland	72	28	1	22	5	7.4
	Slovakia	66	34	0	26	9	9.1
	Slovenia	73	27	12	13	1	9.3
Mediterranean	Greece <sup>b</sup>	60	40				9.6
	Italy	78	22	1	20	1	9.5
	Portugal <sup>a</sup>	65	35	5	27	3	10.1
	Spain	74	26	5	20	1	9.5

a 2008.

b 2007.

Source: OECD Statistics (Health Expenditure and Financing 2011)

People with high care risks (due to pre-existing conditions, health challenges and other factors) are even considered 'uninsurable' and cannot purchase insurance on the open market, and as such cannot afford all the health care they need. Due to steep increases in the costs of health care in the United States, insurance premiums have skyrocketed. For instance, the annual insurance premiums to cover people through their employers averaged \$ 5,429 for single households and \$ 15,073 for a family of four in 2011 (Kaiser Survey 2011) while the median income is a little over \$ 26,000 (The United States Social Security Administration 2010). In theory, employers pay a large part of the premiums, but in practice not all do. Therefore, insurance premiums in the United States are only affordable for average-income families if employers or the government account for part of the costs.

All other countries, with the exception of Korea, Greece and Switzerland, are characterised by high levels of publicly funded care. Overall, the biggest proportion of private expenditure is accounted for by out-of-pocket payments. The exceptions are the United States and France, where the majority of the private share is covered through private insurance schemes.

In the Netherlands, hospital care receives the largest share of expenditure (34%; table 4.2). Nearly a quarter of all expenditure goes on ambulatory (home) care; another quarter is spent on nursing care, 13% on medical goods and 8% on other care services. The large share of spending allocated to nursing care stands out particularly; no other country spends as much on this type of care. The Eastern Asiatic, Central European and Mediterranean countries spend very little on nursing care. The expenditure on medical goods seems to be particularly high in these countries, with the exception of Japan.

## HEALTH

Table 4.2

Composition of health expenditure, by provider, 2009 (in percentages)

group	country	hospitals	nursing care	ambulatory	medical goods	other
Hybrid	Netherlands	34	23	23	13	8
Nordic	Denmark	45	13	28	12	2
	Finland	35	8	33	18	5
	Norway <sup>b</sup>	39	17	27	13	
	Sweden	46		22	16	16
Eastern Asiatic	Japan <sup>a</sup>	48	4	28	16	4
	Korea	41	3	28	21	7
Anglo-Saxon	Australia <sup>a</sup>	42		36	18	5
	Canada	30	10	28	21	11
	Ireland					
	New Zealand	36	9	32	11	12
	United Kingdom					
	United States	33	6	37	14	11
Continental	Austria <sup>a</sup>	39	8	23	18	11
	Belgium	31	12	31	16	9
	France	35	7	27	22	9
	Germany	29	8	31	22	10
	Switzerland	36	17	32	9	7
Central European	Czech Republic	43	1	26	18	12
	Estonia	46	3	20	27	5
	Hungary	32	3	20	38	6
	Poland	34	1	31	26	8
	Slovakia	26	0	28	37	9
	Slovenia	41	6	24	23	6
Mediterranean	Greece					
	Italy					
	Portugal <sup>a</sup>	38	1	31	26	4
	Spain	41	6	26	22	5

a 2008.

b 2007.

Source: oecd Statistics (Health Expenditure and Financing 2011)

### 4.3 Health outcomes

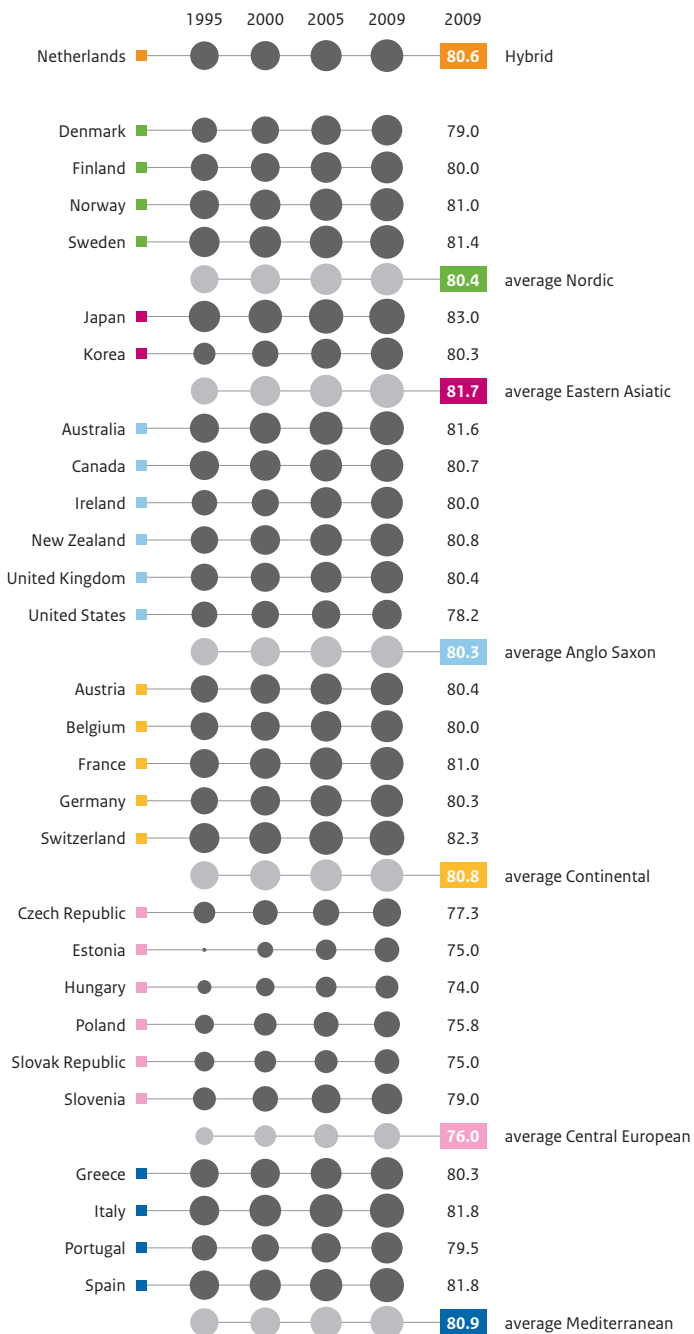
A number of indicators are available to assess health outcomes. Our choice for the measurement of health outcomes was based on two considerations. First, the measures should closely reflect the goals of health care, as described in section 4.1. Second, we took into account that this study aims to use measures that reflect the citizen's point of view (see chapter 1): how does the health care system perform from the perspective of individual citizens? As stated earlier, the primary objective of any health care system is good health. Although longer life expectancy provides an indication of the quality of health care, this indicator does not provide any information on quality of life. The same applies to another commonly used indicator, infant mortality. In effect, health care systems are only a means to an end: facilitating and ensuring good health. A better indicator for the overall health status of a country is for instance the proportion of life spent in good health. Similar but less commonly used indicators for the population's health are the perceived health status of individuals and the obesity rate. The latter should not be confused with simply being overweight. Obesity is a systematic disease that gives rise to a variety of comorbidities and complications which affect the overall health status (Dixon 2010; Pischon et al. 2007). It is one of the most common unfavourable health conditions to date. In some countries and among certain (often vulnerable) groups, the prevalence is increasing at alarming rates (Christensen et al. 2010). The health outcome index used in this chapter adheres to the international standard and includes life expectancy, healthy life years and infant mortality. In addition we explore two alternative outcome measures: the perceived health status of the population and the level of obesity.

#### 4.3.1 Life expectancy at birth

Life expectancy is one of the most commonly used indicators for health care performance (Mackenbach et al. 2011; Clark 2011; Navarro et al. 2006; Nixon and Ullman 2006; Anderson and Frogner 2008). Increased life expectancy is the effect of the reduction of mortality rates at various ages and stages in life. It provides an overall measure of health and is thus a general indication of the performance of a health care system and the (healthy) behaviour of the population.

In 2009 the Japanese had the highest life expectancy at birth, at 83 years (figure 4.1). The Dutch population had a slightly above-average score and were only expected to live a fraction longer than the Finnish, Canadian, Austrian, Belgium, and German populations, for example. The lowest life expectancies were found in Hungary, at 74 years, and other Central European countries.

Figure 4.1  
Life expectancy at birth, 1995-2009 (in years)



Source:  
OECD Statistics  
(Health Data 2011)

Life expectancy at birth has been steadily increasing in all countries since 1995. However, a few stand out. Life expectancy is increasing the fastest in Estonia (+7.3 years), Korea (+6.8 years) and Slovenia (+5 years), while in the United States (+2.5 years), Sweden (+2.6 years), Canada (+2.7 years) and Greece (+2.8 years) it is increasing more slowly. The latter three countries are characterised by overall high life expectancy, making a rapid increase unlikely. Life expectancy in the United States has increased in line with the average trend in all OECD countries.

The gap in life expectancy between men and women is narrowing. Japanese women have the highest life expectancy; although Japanese men have a long life expectancy in an international context, they lag quite a long way behind their female counterparts. This difference in life expectancy is mostly attributed to differences in smoking habits. A comparison between Sweden and Denmark showed that alcohol and tobacco consumption is almost entirely responsible for the lower life expectancy of Danish women (Juel 2008). In general, women smoke less than men. Denmark is one of the few exceptions.

#### 4.3.2 Healthy life years

Living longer is seen as a desirable goal. However, the value of these additional years is increased if they can be spent in good health. In the latter stages of life, nearly everyone will eventually have to succumb to the effects of old age and deal with increased disability. A good indication for assessing the quality of the increased life expectancy is the share of healthy life years within the total life expectancy. Various studies have used this indicator to measure health performance (Verhoeven et al. 2007; Mackenbach et al. 2008; Davis et al. 2007; Evans et al. 2000).

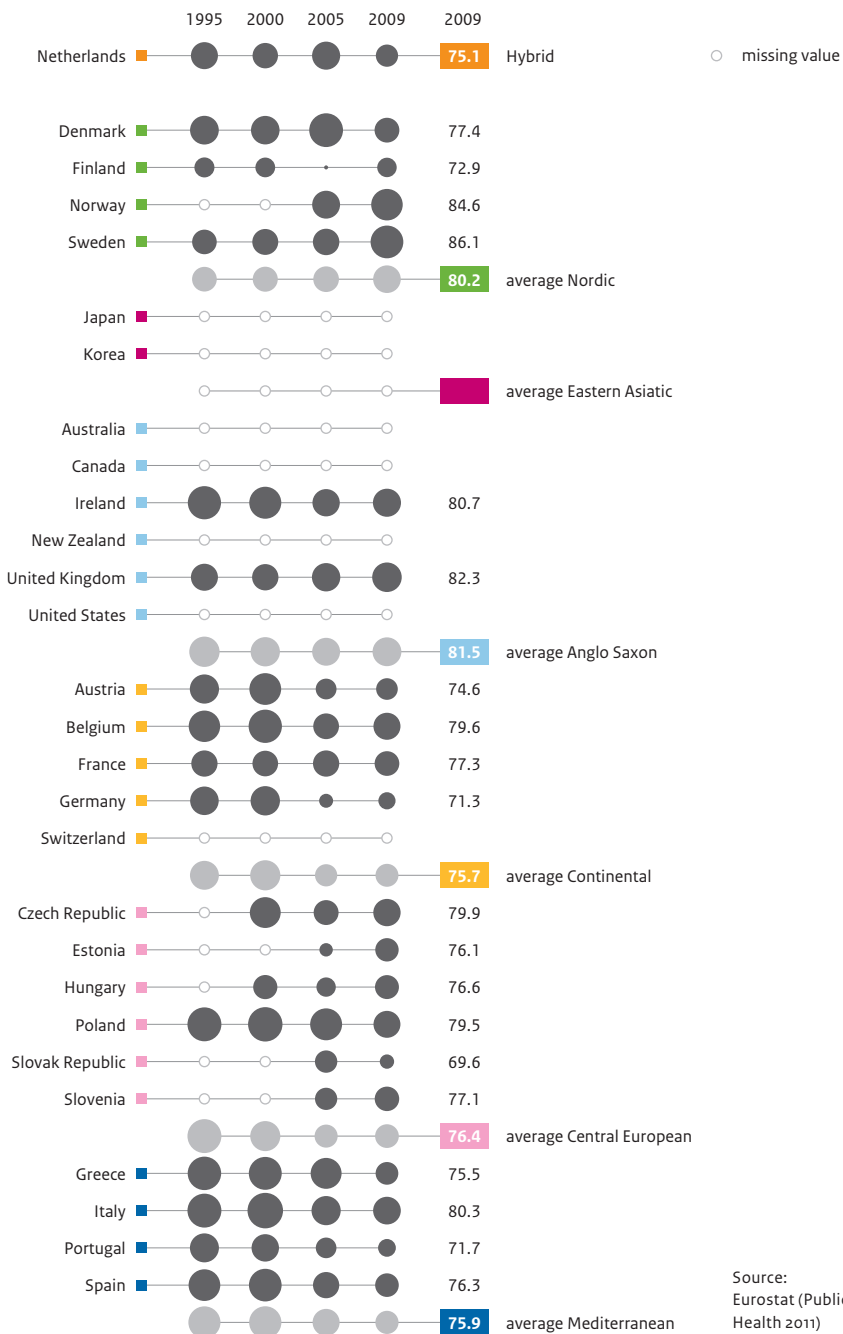
The indicator 'healthy life years' is based on self-reporting. The questionnaire aims to measure the extent of any impairments caused by a health problem that may have affected respondents in their daily activities (Eurostat).

The share of healthy life years shows an erratic development over the observed time period (figure 4.2).<sup>2</sup> With the exception of Norway, Sweden, Estonia, Slovenia and the United Kingdom, the share of healthy life years within life expectancy has decreased over the last few years. Poland and Slovakia have seen the percentage of healthy life years go down. With an increase of nearly 7%, the healthy life years of the Estonians and the Swedes have increased the most. The drop between 2005 and 2009 for Denmark and the Netherlands was caused by a change in definition (EHLEIS 2011): the calculation of healthy years was adjusted in 2008 to make results more readily comparable with other countries.<sup>3</sup>



Figure 4.2

Healthy life years as a percentage of life expectancy, 1995-2009 (in percentages)



Source:  
Eurostat (Public  
Health 2011)

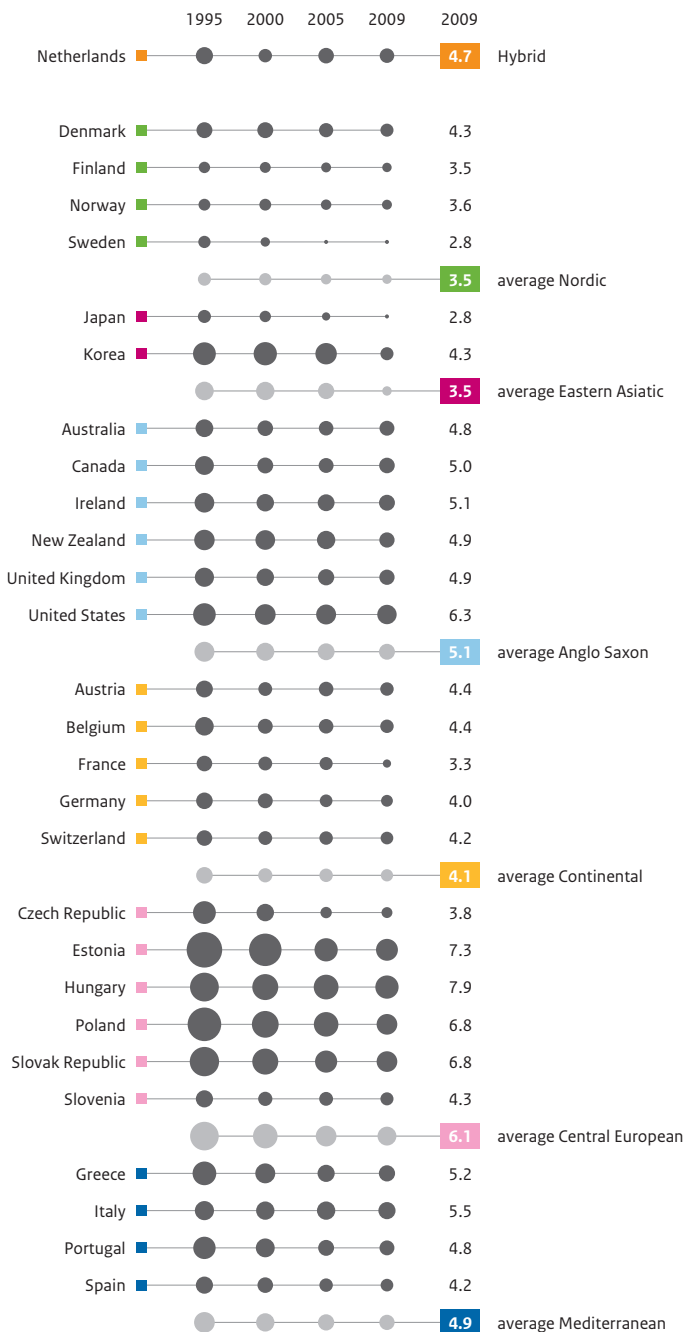
### 4.3.3 Infant mortality

Infant mortality is measured as the number of deaths of babies below the age of one per 1000 live births.<sup>4</sup> It can be seen as a measure of the quality of the health care system, as infant mortality rates tend to be higher when the health care system is less developed (King and Zeng 2001). Together with life expectancy, infant mortality is the most widely used indicator of health outcome (Verhoeven et al. 2007; Retzlaff-Roberts et al. 2004; Nixon and Ullman 2006; Or 2000; Afonso and St. Aubyn 2006; Joumard et al. 2008).

Overall, the infant mortality rate decreased between 1995 and 2009. In the latter year an average of five infants in every thousand births did not live past the first year of life. The infant mortality rate in the Netherlands lies close to the average for all 28 countries. Infant mortality in the Netherlands can be attributed in part to the relatively older age of mothers to be, their smoking habits, the high share of multiple births and the reserved attitude of Dutch physicians towards treating extreme cases of premature births (Euro-Peristat Project 2008). The highest mortality rate is found in Hungary, with eight deaths in every thousand births. The lowest mortality rates are found in Finland, Sweden, Japan and France (three deaths per thousand births).

Compared to 1995, the differences in infant mortality rates between OECD countries have decreased. The biggest reduction in the infant mortality rate has occurred in Estonia, where the number of deaths among infants has fallen since 1995 from fifteen to seven in every thousand births.

Figure 4.3  
 Infant mortality, 1995-2009 (in deaths per 1000 live births)<sup>a</sup>



a The number of deaths of babies below the age of one per 1000 live births.

Source: CIA (The World Factbook 2011); OECD Statistics (Health Data 2011)

#### 4.3.4 Alternative outcome indicators

##### Perceived health status

Another factor that provides an indication of a nation's health is the perceived health status. This factor could add to the existing outcome measures by incorporating a health measure from the point of view of citizens.

Overall, the level of self-reported health remained constant over the observed period (appendix B4). The vast majority of the populations in the Anglo-Saxon countries (85%) perceive their health status to be good, while a relatively small proportion of the Eastern Asiatic and Central European populations think the same (40%-50%)<sup>5</sup>. In 2009, nearly eight out of ten Dutch citizens considered themselves to be in good health. This is similar to the figure for the Nordic countries.

However, a possible problem with this indicator lies precisely in this subjective nature. Cross-national differences in perceived health status can be difficult to interpret because responses may among other things be affected by differences in cultural factors (OECD 2009a). Furthermore, research has shown that only 10% of the variation in self-reported health can be explained by differences in welfare states (Eikemo et al. 2008). The vast majority of the variation can be explained by differences in individual characteristics and as such cannot be specifically attributed to the health care system.

##### Obesity

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health, leading to increased health problems. Obesity is currently one of the fastest growing unfavourable health conditions, specifically among certain vulnerable groups (Christensen 2010). Must et al. (1999) have shown that more attention is needed for the prevention and treatment of obesity rather than for its associated comorbidities. The extent to which obesity manifests itself in a population provides an indication of the health status of that population. Obesity has been used as an indicator of health outcomes in a number of studies (Degos et al. 2008; Lakhani et al. 2005). Using obesity as a measure of outcome also fits within the definition of health outcomes as defined by Hussey et al. (2004).

By far the highest levels of obesity are found in the United States (33% of the population) and other Anglo-Saxon countries (appendix B4), the lowest levels in the Eastern Asiatic countries (under 4%). 12% of the Dutch population were severely overweight in 2009, a level comparable to the Nordic countries. The prevalence of obesity is rising in nearly all OECD countries (OECD 2011). However, research has shown that the number of obese older persons (aged 65+) is rising fastest in the Netherlands (+3.8% per year), closely followed by the United States, the United Kingdom and Italy (Lafortune and Balestat 2007).

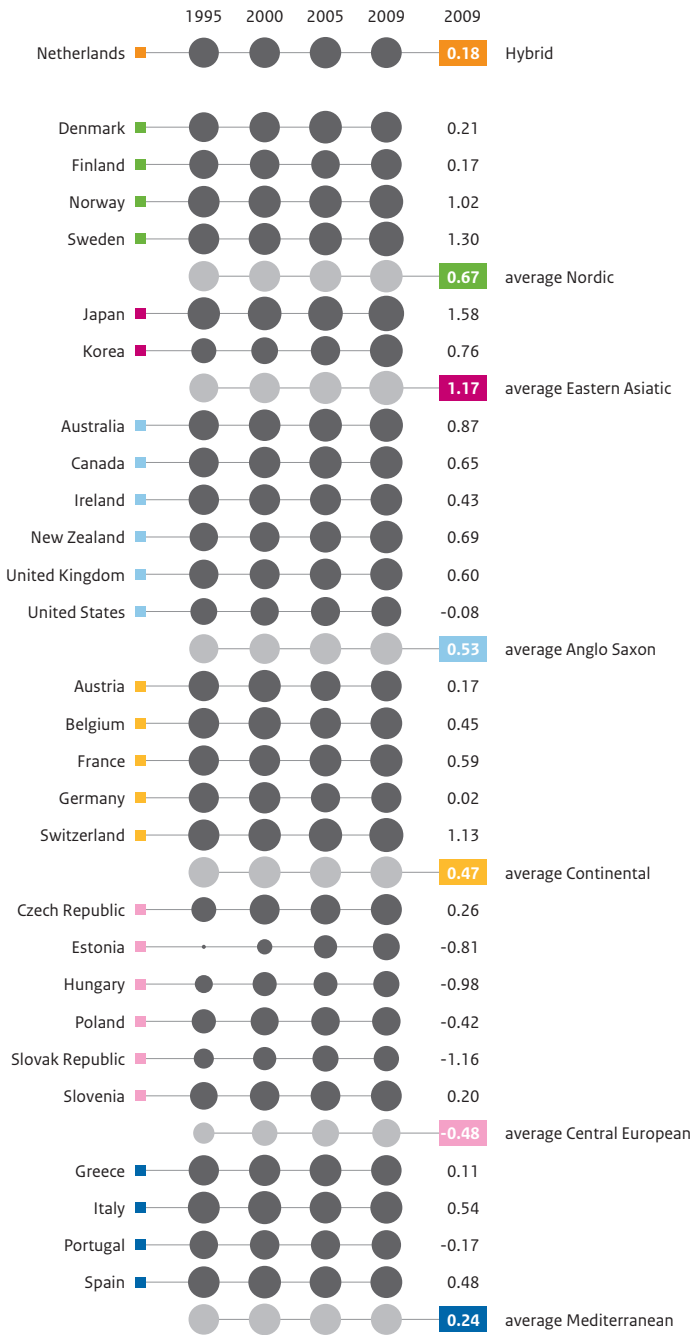
However, the extent to which obesity is influenced by the health care system is debatable. On the one hand policymakers have become increasingly aware of the so-called ‘Western diseases’ such as obesity. For instance, the Dutch government has focused on prevention and the promotion of healthy behaviour in terms of diet and exercise, although the expenditure related to such efforts forms only a small part of the overall budget. Dietary advice was until recently part of the compulsory basic insurance package, illustrating the attempt to combat the growing obesity rates. On the other hand, the level of obesity is predominantly influenced by individual behaviour. Populations prone to unhealthy eating habits and little to no exercise are likely to have more obese residents.

#### 4.3.5 Health outcome index

The country-specific information on life expectancy, healthy life years and infant mortality is combined to create a single outcome index of health.<sup>6</sup> Japan is by far the top performer when it comes to the outcome of the health care system (figure 4.4). Other countries with high scores are Sweden, Switzerland and Norway. In 2009, the Netherlands has a slightly below-average health outcome index, but performs much better than the Central European countries.

The outcome index for all countries increased between 1995 and 2009. The biggest improvement is seen in Estonia, followed by Korea, Hungary and the Czech Republic. The performance of the Mediterranean countries increased the least. The decline in performance by the Netherlands between 2005 and 2009 is partly due to a change in the definition of healthy life years (see § 4.3.2).

Figure 4.4  
Health outcome index, 1995-2009 (in index scores)



Source:  
OECD Statistics (Health Data 2011); Eurostat (Public Health 2011); CIA (The World Factbook 2011) SCP calculations

#### 4.4 Cost-effectiveness of the health care system

The outcome for health care can be influenced in part by how much is spent on the sector; generating high levels of health expenditures is likely to improve results to some extent. However, from a cost perspective it is important to secure value for money. The relationship between outcome and expenditure provides an indication of the cost-effectiveness of the health care system. Although this study is mostly directed towards identifying the performance of governments in public sectors, the role of private health expenditure cannot be ignored. In some countries, most notably the United States, private contributions play a major role in the overall expenditure on health care. Ignoring this private expenditure would lead to an overestimation of the effectiveness.

##### 4.4.1 Expenditure

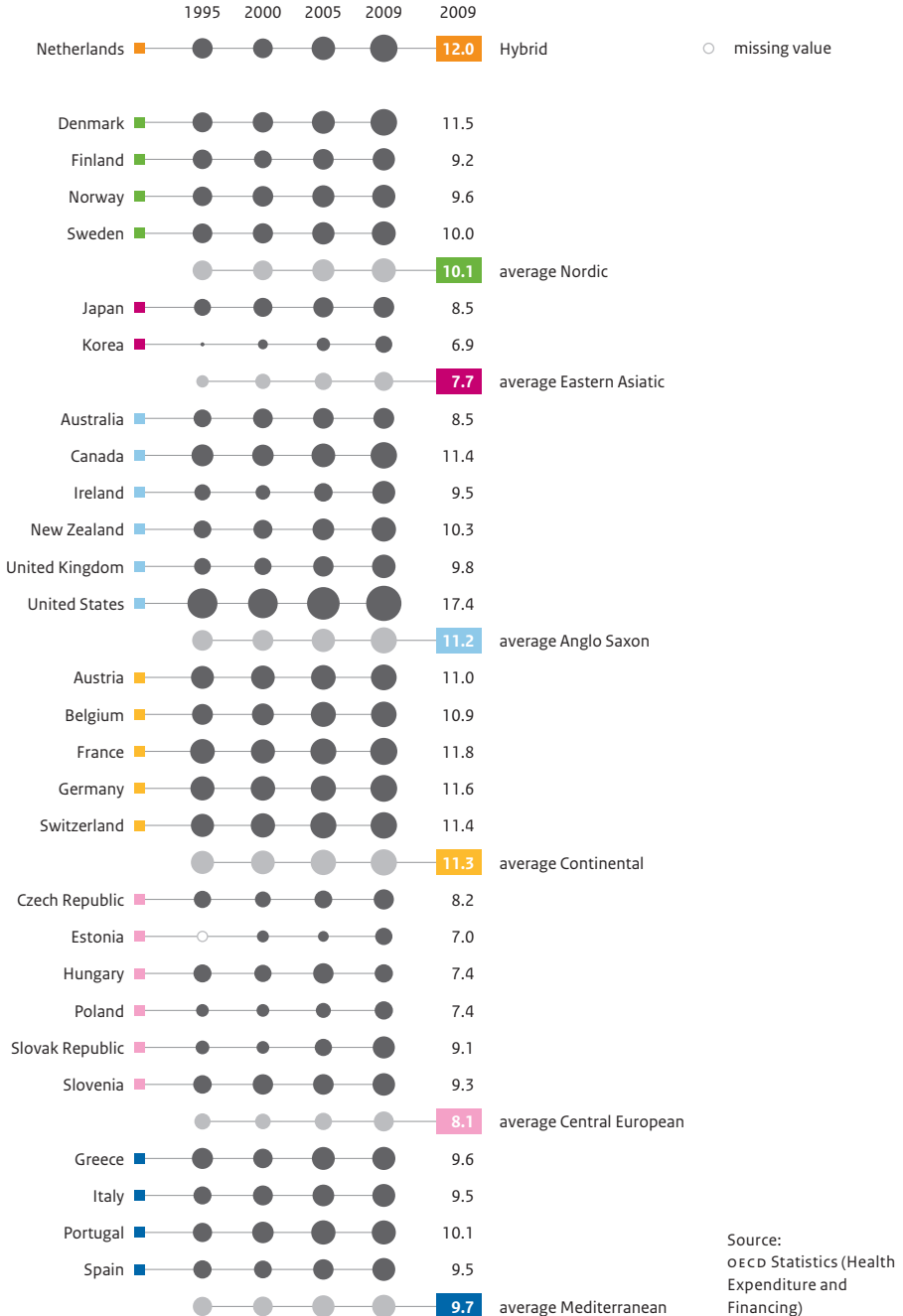
###### Total health care expenditure

As stated in section 4.2, the United States is the biggest spender on health care, at over 17% of the nation's GDP (figure 4.5). Other countries with high levels of total expenditure are the Netherlands, Denmark, Canada and the Continental countries. Korea and Estonia spend the least on health care, but are rapidly catching up with other countries.

Dutch expenditure on health care has increased sharply in recent years from 8% of GDP in 2000 to 12% eight years later.<sup>7</sup> The United States has seen a similar increase, closely followed by Slovakia and Ireland. Although Hungary spent more on health in 2009 than in 2000, it is the only country that spent less on health care than in 2005; the level of spending in 2009 was virtually the same as in 1995.

Figure 4.5

Total expenditure on health, 1995–2009 (in percentages of GDP)





### Private expenditure

The share of private expenditure for most countries is between 15% and 40% of total spending (figure 4.6). The United States is the only country where private health expenditure represents the majority of health care spending.

In most countries, the relative share of private resources is declining. Although the Netherlands seems to be one of the front-runners in this respect, with a decrease in the share between 2005 and 2009, this merely reflects the implementation of the Dutch Health Insurance Act in 2006. Prior to this, there was a division between public health insurance for households with a lower income and private health insurance for the remainder of the population. Since 2006, all individuals are obliged to have basic health insurance. Insurers are not allowed to set premiums to reflect different anticipated costs and are obliged to accept any applicant. Although health insurers are private sector entities, the premiums for the compulsory basic insurance are classified as public expenditure due to the strict regulations that are in place.

The only country that has seen a drastic shift towards private financing sources since 1995 is Slovakia (+26%). Korea, on the other hand, has drastically increased public spending, reducing the share of private expenditure by 22 percentage points.

Private expenditure mostly consists of private insurance and out-of-pocket payments. Private insurance is most dominant in the United States, where it accounts for one third of total health care expenditure. Averaged out over all countries, private insurance only accounts for 7.6% of total spend. The steep decline in the share of private insurance in the Netherlands is again an artefact caused by the introduction of the Health Insurance Act, under which only optional additional insurance packages are now classified as private insurance. Additional insurance arrangements are used very frequently in the Netherlands (in 2009, 90% of all individuals had additional insurance) but the average premium is much lower than the basic insurance premium (NZA 2011).

Figure 4.6

Private expenditure on health, 1995–2009 (in percentages of total expenditure)

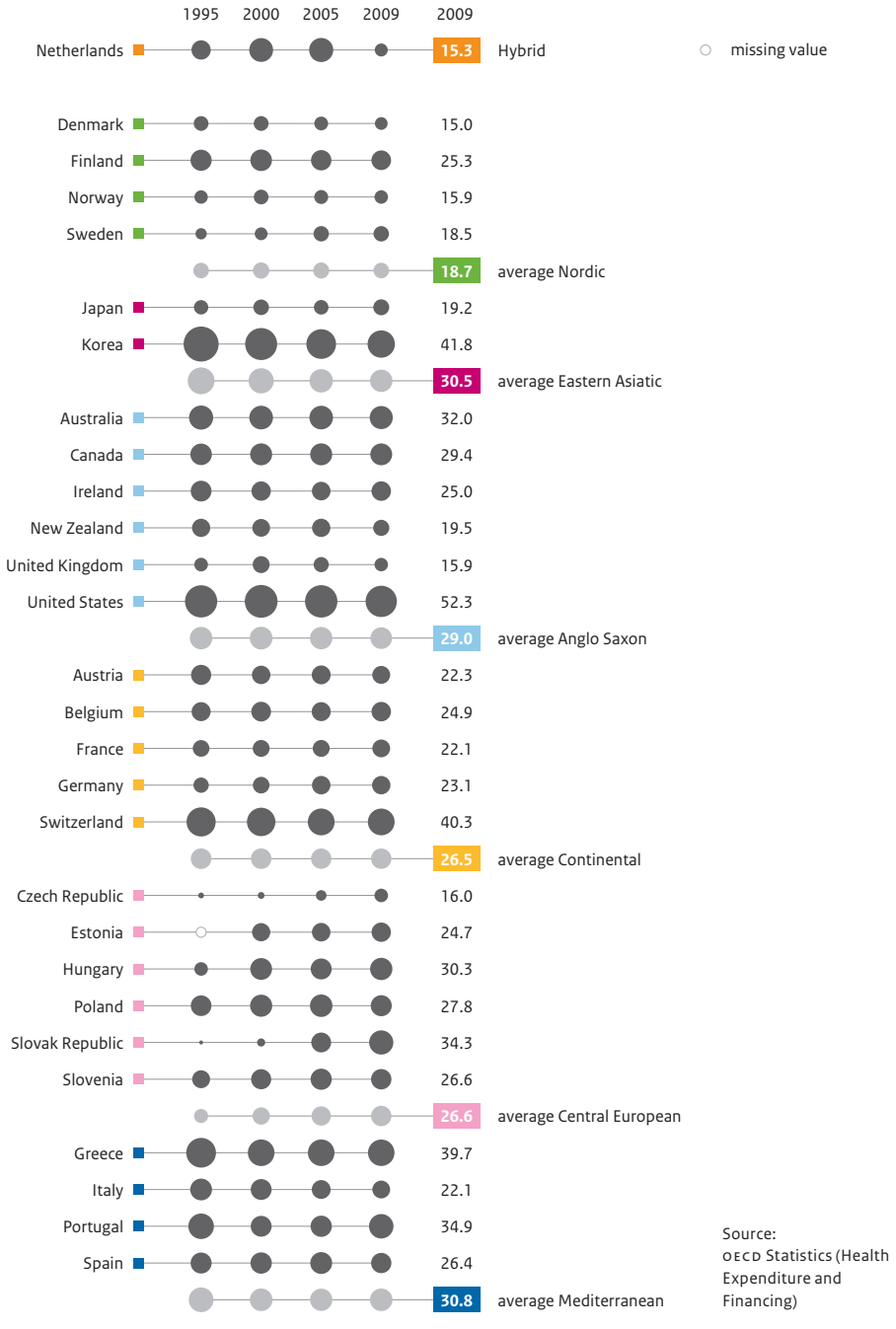
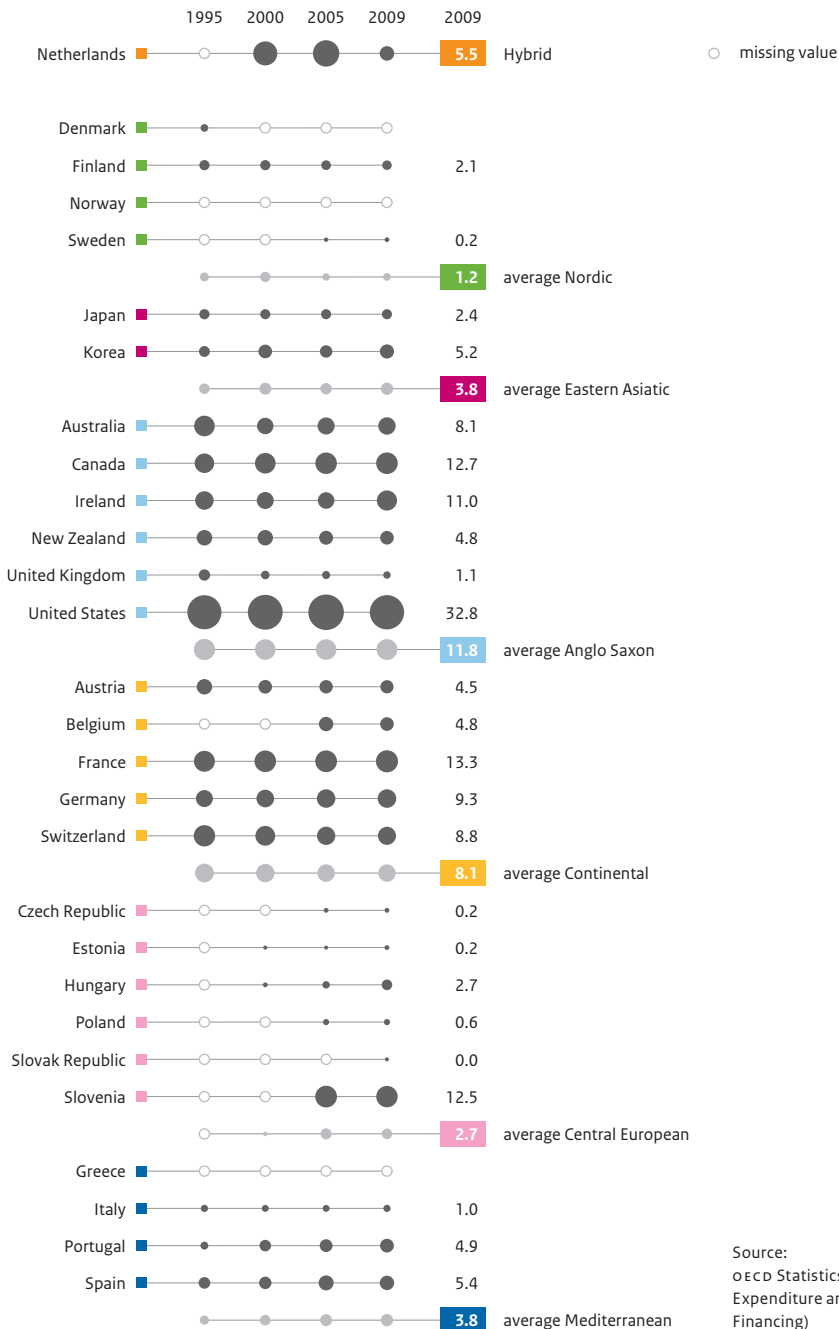


Figure 4.7

Private insurance, 1995-2009 (in percentages of total expenditure)



Source:  
OECD Statistics (Health  
Expenditure and  
Financing)

Out-of-pocket payments play a much smaller role in Dutch health care spending. In 2009 a little under 10% of all expenditure comprised such payments (figure 4.8). This share is well below the average of nearly 18%, and has remained relatively constant over time.

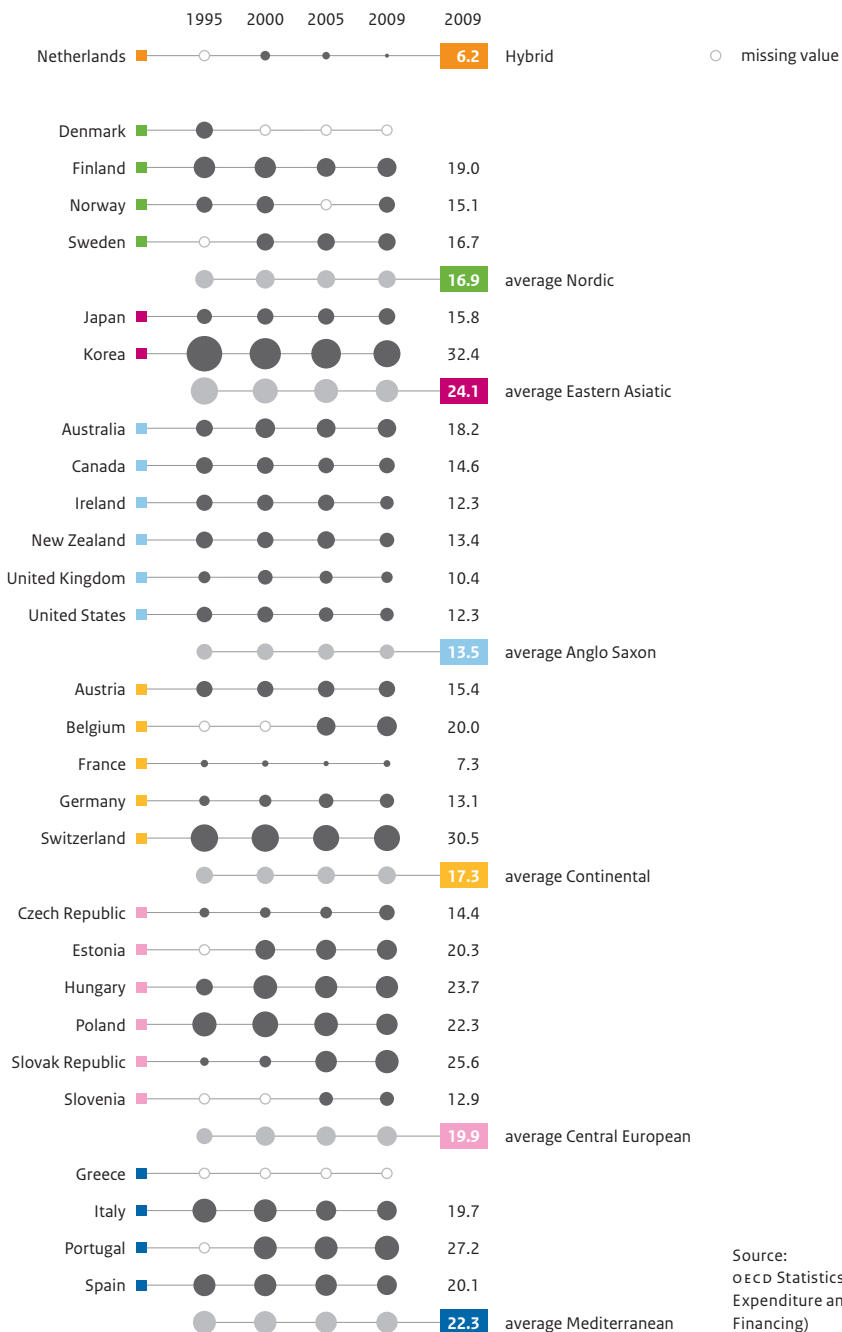
Korea (32.4%) and Switzerland (30.5%) have the largest share of out-of-pocket payments. In the former this share has declined drastically since 1995. This decline is due in part to the expansion of basic insurance coverage, leading to an increase in prepayments for health care increased and a concomitant reduction in out-of-pocket payments (Mathauer et al. 2009). The out-of-pocket payments in these countries are however still relatively high compared to other OECD countries. The basic insurance scheme in Korea covers fewer specialised types of health care; Koreans are either uninsured for these care needs or they need to be insured privately through schemes that require higher out-of-pocket payments. Other types of care may require user charges ('special room charge' and 'special treatment charge').

The Swiss out-of-pocket payments have remained fairly consistent over time. Switzerland is one of the wealthiest European countries, and it is therefore likely that the Swiss population can afford to pay a larger share of the health care costs in the form of out-of-pocket payments without it compromising the accessibility of the health care system.

Out-of-pocket payments are also an indicator of accessibility. Do people become less inclined to undergo treatment if they have to pay a substantial part of the costs themselves? Figure 4.9 indicates that this does appear to be the case. The figure illustrates that in a number of countries where out-of-pocket payments make up a large share of expenditure, individuals with a low income refrain from using medical care when they need it. This is most evident in the Mediterranean countries. Only 6% of the Dutch population with a low income claim to have unmet health care needs because they cannot afford the health care they need, making the Netherlands one of the best performing countries in this respect (see also Westert et al. 2010). This result is in line with the overall small share of co-payments in Dutch health care spending. Switzerland performs remarkably well, given its large share of out-of-pocket payments. An explanation could be that Switzerland is one of the most wealthiest countries and (individual) affordability is therefore less of an issue.

Figure 4.8

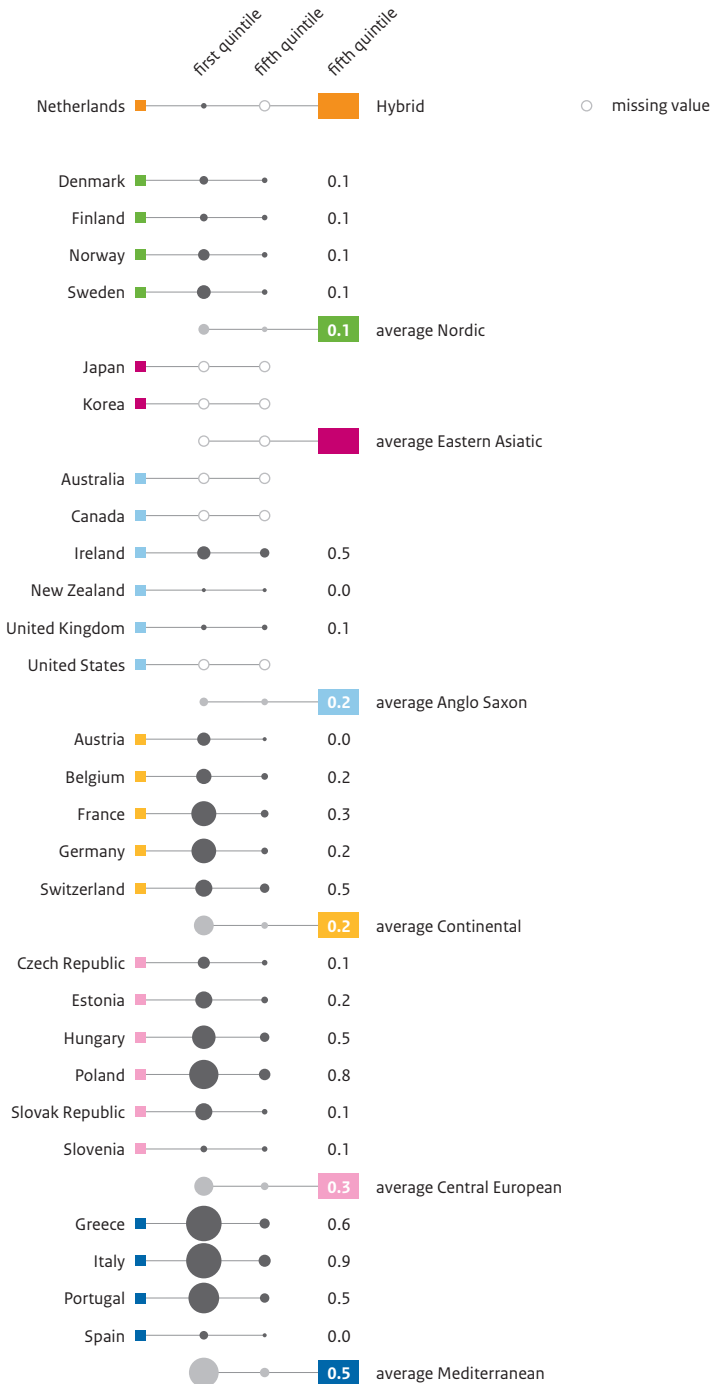
Out-of-pocket expenditure, 1995-2009 (in percentages of total expenditure)



Source:  
OECD Statistics (Health  
Expenditure and  
Financing)

Figure 4.9

Unmet medical needs due to affordability for the lowest and highest income quintile, 2009 (in percentages)

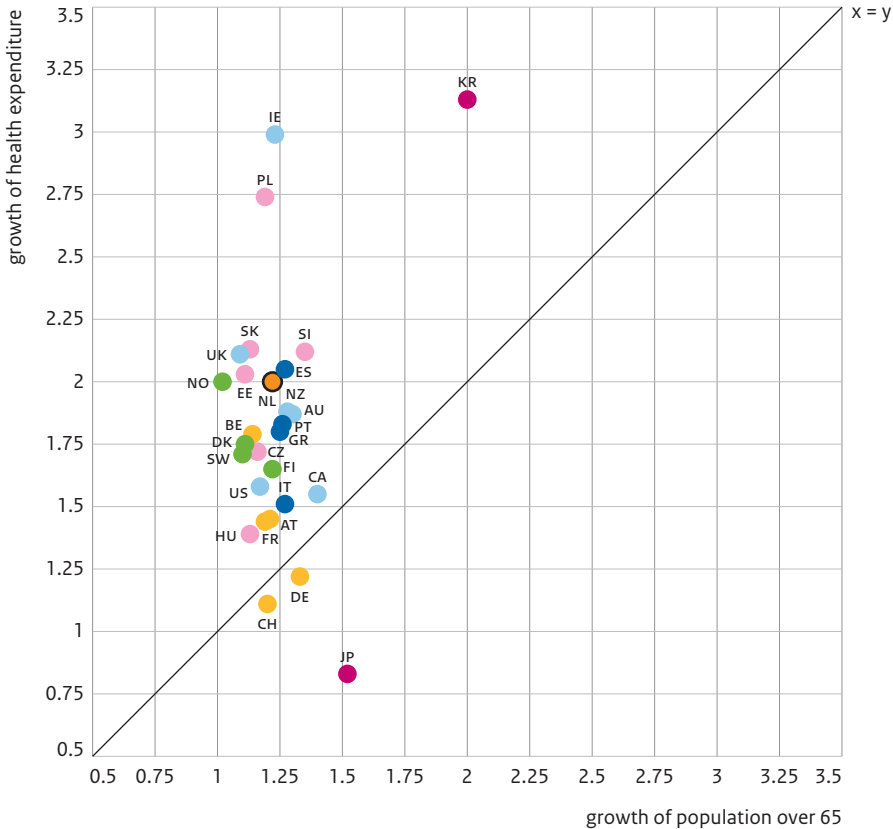


Source: Eurostat (Public Health 2011)

4.4.2 Affordability

The growth in health expenditure is often related to the ageing of populations. However, for most countries the growth in health care spending far outstrips the increase in the population aged 65 years or over (figure 4.10). The only exceptions are Japan, Germany and Switzerland. The number of Japanese people aged 65 or over has grown by 1.5% per year over the period considered, while the expenditure has risen by 0.8% per year. In Germany and Switzerland, the growth in expenditure nearly equals the growth in ageing. In the Netherlands, the growth in health spending (2.0% per year) exceeds the growth of the over-65 population (1.2% per year). Korea is a special case; this country has invested increasing amounts of money in the health care sector, in a catch-up effort relative to the other OECD countries. This in turn leads to health expenditure far outstripping ageing effects.

Figure 4.10  
Growth of population over 65 years versus growth in real health expenditure, 1995-2009 (in fractions)



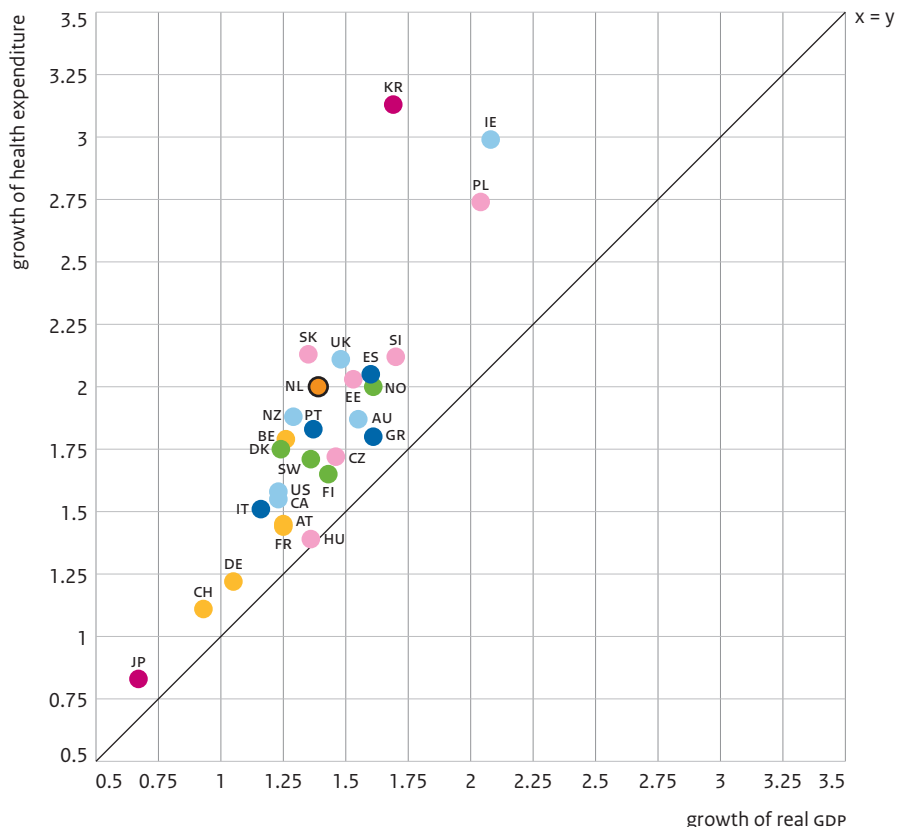
Source: oecd Statistics (Health Expenditure and Financing 2011); us Census Bureau (International Data Base 2011); scp calculations

Increasing health expenditure is more than just a result of population ageing effects, also being driven by things such as increasing life expectancy and healthy life years in all countries. This means that the need for care is postponed until later in life. However, with increasingly ageing populations in combination with steadily rising health expenditure, the affordability and sustainability of health care systems are being put at risk.

A comparison of the increase in real health expenditure and the growth in real GDP provides an indication of the affordability of current health care systems. In all OECD countries, health care expenditure increases at a higher rate than real GDP (figure 4.11). Again Korea stands out; its relatively recently developed health care system still requires substantial investment. The growth in Dutch health care spending (2.0% per year) also exceeds the growth in real GDP (1.4% per year). Hungary seems to have found a balance between health spending and net growth: expenditure here has increased in parallel with real GDP growth.

Figure 4.11

Growth in real GDP versus growth in real health expenditure, 1995-2009 (in fractions)



Source: OECD Statistics (Health Expenditure and Financing 2011, National Accounts) sCP calculations



In the light of these developments, the effectiveness of health care systems is becoming more and more important. However, there does not seem to be a strong correlation between health expenditure and overall health care outcomes (figure 4.12). Surprisingly, The United States spends the most on healthcare but also scores below average in terms of outcome. When the United States is excluded, the correlation increases to 0.28, which is positive but still not significant.

Japan and Korea show an opposite correlation, with a relatively low level of health care expenditure but high health care outcomes. The Netherlands, along with the Anglo-Saxon, Nordic and Continental countries all show a weak positive correlation between health care spending and health care outcomes: they spend more, but also gain more. The remaining countries have relatively low health care expenditure, but also smaller positive outcomes.

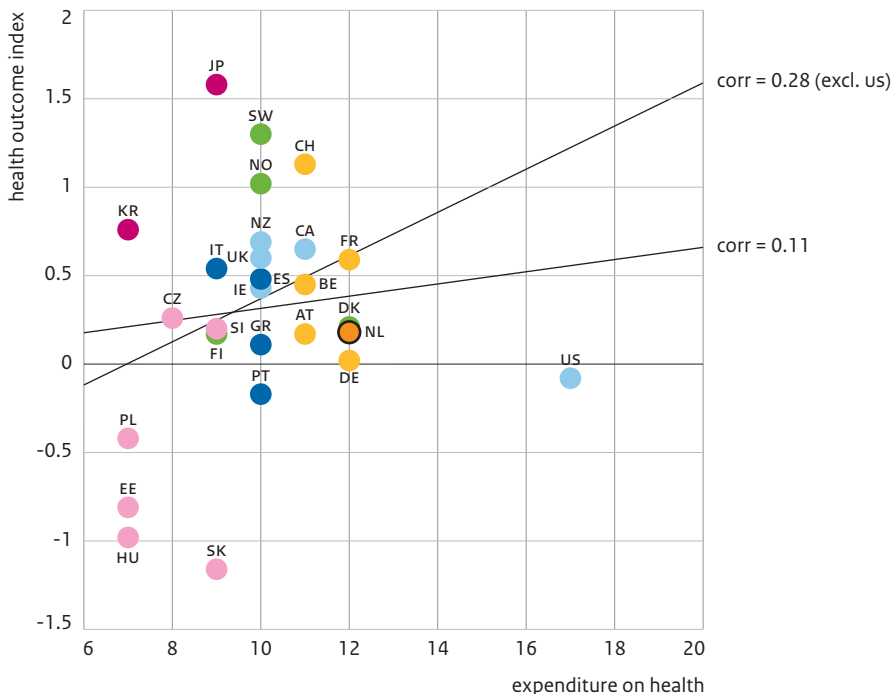
For the most part, the health care system in the Netherlands resembles that of the Nordic countries. However, with similar levels and distribution of the expenditure, Norway and Sweden perform better. Switzerland also has a more effective health care system. Thus, these three countries can be considered as good examples for the Netherlands. The most prominent difference in outcomes between all countries is the number of healthy life years, which is lower in the Netherlands than in other countries.<sup>8</sup>

As noted, in contrast to the Netherlands, a relatively large share of health expenditure in Switzerland takes the form of out-of-pocket payments. These payments could be an incentive for the Swiss to delay the use of health care when they experience minor health problems. This would have the effect of depressing total expenditure. Large out-of-pocket payments can also endanger accessibility: the costs of treatment mean that the unmet medical needs are four times higher among inhabitants in the lowest income quintile than in the highest income quintile (OECD 2011).

There is also no correlation between changes in expenditure and changes in outcome (correlation is  $-0.10$ ,  $p$ -value is  $0.60$ ). Increasing spending over time is not related to an increase in outcome over time.

Figure 4.12

Health expenditure versus health outcome index, 2009 (in percentages of GDP and index scores)



Correlations both not significant (p-values 0.57 (all) and 0.16 (excl. USA)).

Source: OECD Statistics (Health Data 2011, Health Expenditure and Financing 2011); Eurostat (Public Health 2011); CIA (The World Factbook 2011) SCP calculations

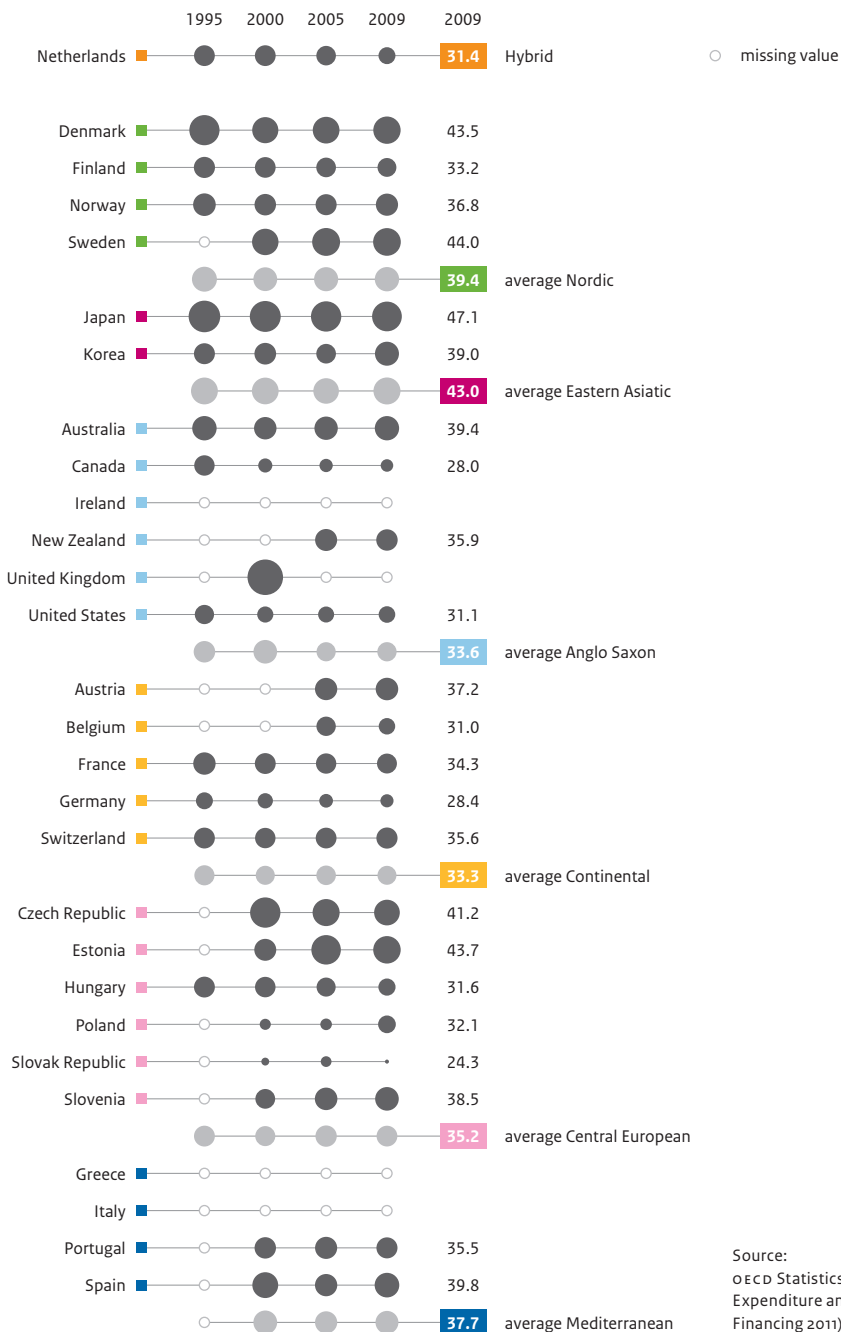
### Health expenditure: cure or care?

In general, two sectors can be distinguished in health expenditure. 'Care' is mostly aimed at care for older persons, for instance help with domestic chores or personal care. The care provided in hospitals or by general practitioners forms part of the 'cure' sector and is available to the entire population. In most countries, the emphasis is on the cure sector. In some countries, formalised care is virtually non-existent, while in others it plays a substantial role in the overall health care system. This section takes a closer look at the differences in expenditure in these two sectors.

A good deal of total health expenditure is spent on hospital care (figure 4.13). Japan spent the most on hospital care in 2009 (47%), Slovakia the least (24%). With a little under a third of all health care expenditure directed towards hospital care in the Netherlands, its share is slightly below average. However, the level of expenditure is comparable to that in Belgium, Finland, France, Poland and the United States.

Figure 4.13

Expenditure on hospital care, 1995–2009 (in percentages of total expenditure)



Source:  
OECD Statistics (Health  
Expenditure and  
Financing 2011)

Most countries allocated a smaller share to hospital care in 2009 than in 1995. Some countries spend more on residential care, others more on ambulatory (home) care, medicines or other care services. The two exceptions are Korea (an increase of 3.5% in spending on hospital care) and Switzerland (+0.3%). More pronounced differences are visible between 2005 and 2009. For instance, in countries such as the Netherlands, Belgium, Estonia and Slovakia, the share of hospital care decreased by roughly 3%. Other countries increased spending. The share taken by hospital care rose by nearly 5% in Korea and Poland and by 3% in Spain.

The second pillar of the cure sector is ambulatory care, which is provided on an outpatient basis. The services provided by physicians and dentists are (according to the OECD definition) the two most common forms of ambulatory care. The relative importance of ambulatory care did not increase in the OECD countries between 1995 and 2009 (figure 4.14). On average, a little under 30% of expenditure went on ambulatory care in 2009. The Anglo-Saxon countries, Australia and the United States, in particular, devoted around 33% of total expenditure to these services. In the Netherlands the share was over 22% in 2009. This share has been reducing since 1995, a trend that partly reflects the increased level of spending on nursing and residential facilities in this country.

The growing number of people aged 65 years or over will lead to an increase in the need for nursing and residential facilities. As a result, a shift in expenditure from cure to care is also likely. In terms of expenditure on nursing and residential facilities, this development is currently only visible for the Netherlands. In 2009, nearly 23% of total Dutch health spending was allocated to nursing and residential facilities (figure 4.15). This share rose by more than 10% between 2005 and 2009. The only two other countries that have seen an increase were Korea and Belgium, both with increases of a mere 2%. The Eastern Asiatic and the Central European countries spend relatively low amounts on care. Most Continental countries, with the exception of Switzerland, spend slightly above average, the Nordic countries slightly more than this.

Figure 4.14

Expenditure on ambulatory health care, 1995-2009 (in percentages of total expenditure)

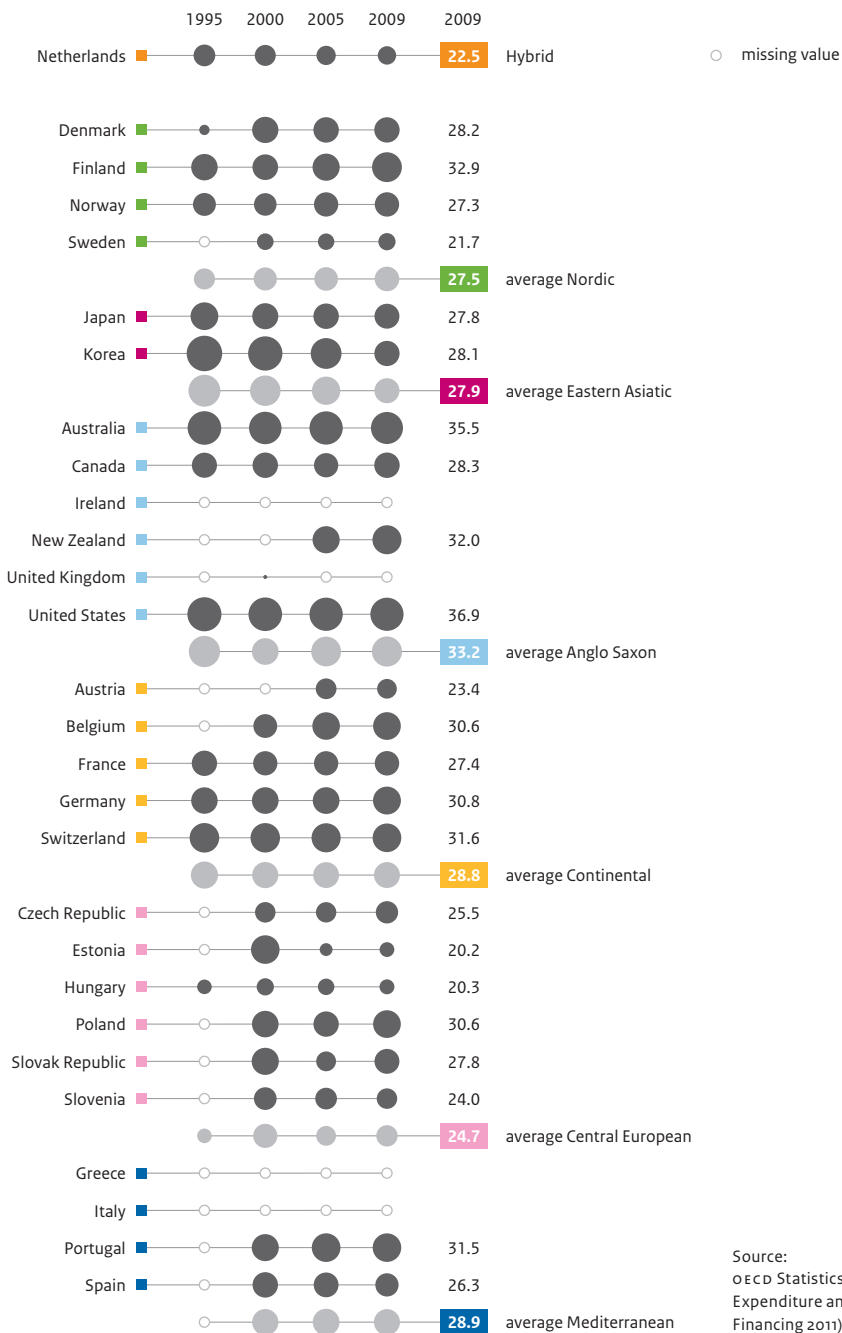
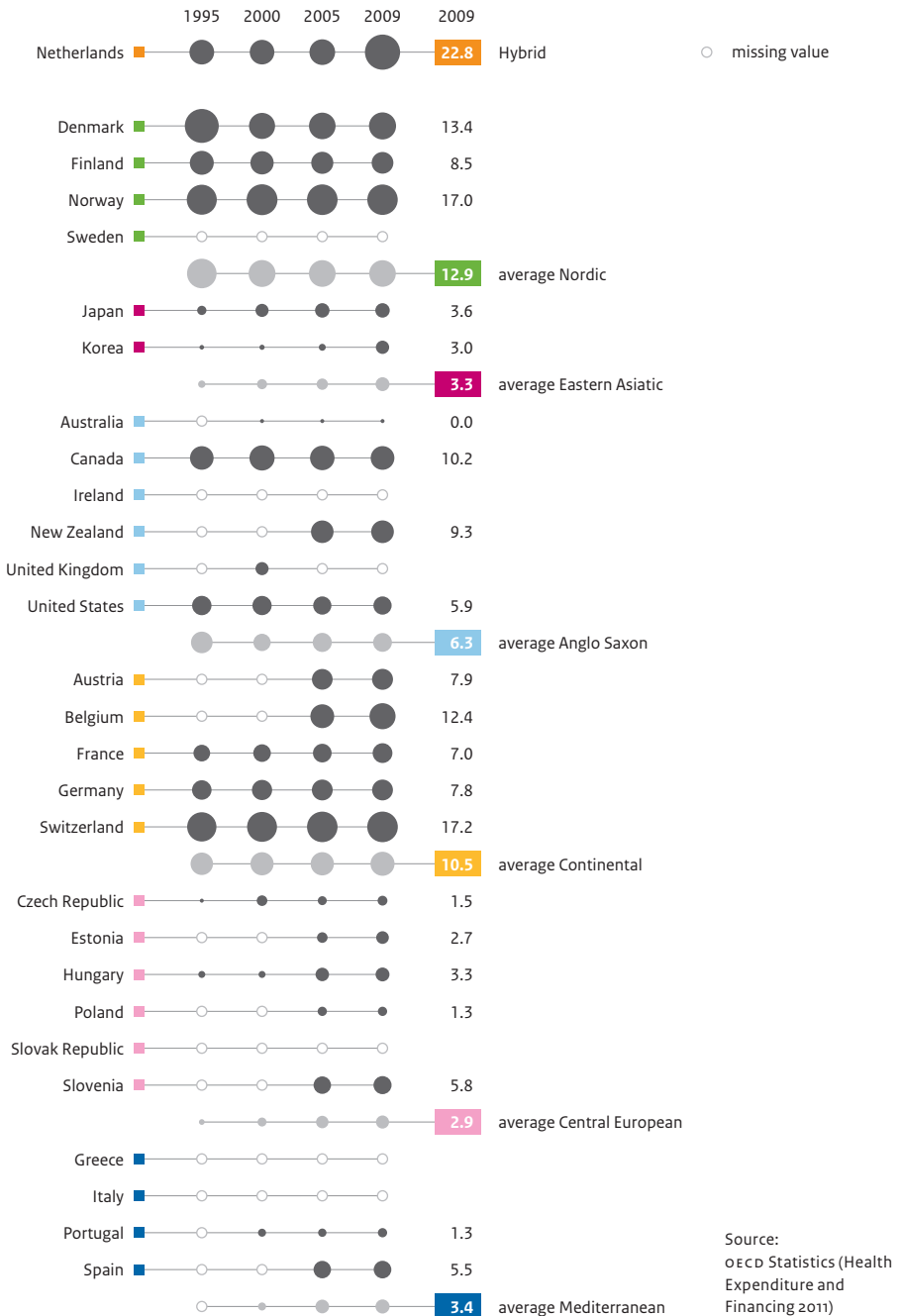


Figure 4.15

Expenditure on nursing and residential facilities, 1995-2009 (in percentages of total expenditure)



#### 4.4.3 Personnel

Health care input can also be viewed in terms of personnel. The costs associated with health care personnel are of course part of total expenditure. The Nordic countries and the Netherlands have the highest proportion of the population working as health care workers (OECD 2011: 61). Relatively few are found in the Central European countries, the Mediterranean countries and Korea. Since 1995 the proportion of health care workers has risen fastest in Ireland, closely followed by the Netherlands and Norway. Only Sweden has seen a decrease in the share of personnel in health care.

In the cure sector, two types of care workers are distinguished: physicians and nurses. Most countries had between two and four professionally active physicians per thousand inhabitants in 2009 (figure 4.16). The most prominent exception is Greece, which had over six doctors available.

Norway is also well above the average, with five physicians for every thousand people. Japan has the fewest physicians, followed by the Central European countries and the Netherlands. In the latter country, there are fewer than three doctors available for every thousand inhabitants.

The number of physicians rose moderately in most countries between 1995 and 2009. Again the exception is Greece, which saw a pronounced increase in the number in the observed fourteen-year period. France and Poland are the only two countries that have seen a very stable number of physicians.

With the exception of the Central European and Mediterranean countries, the number of nurses far exceeds the number of physicians (figure 4.17). The highest number of professionally active nurses in 2009 was found in Norway, with a little under 20 nurses per thousand inhabitants. In the Netherlands the number (11.2) was slightly above the average (10.5), similar to that in the Nordic and Anglo-Saxon countries. Surprisingly, Greece has the lowest number of nurses per thousand inhabitants. This means that although there are more physicians than average available if health problems occur within the Greek population, they are very shorthanded when it comes to nursing. This is due to the oversupply of doctors, who are substituting for nurses and taking on many of the responsibilities typically allocated to them (Petmesidou and Mossialos 2006: 297). Nurses also receive relatively low wages, making it a less attractive field of employment. Between 1995 and 2009 the level of available nurses rose slightly in all countries studied.

Figure 4.16

Number of professionally active physicians per 1000 population, 1995-2009

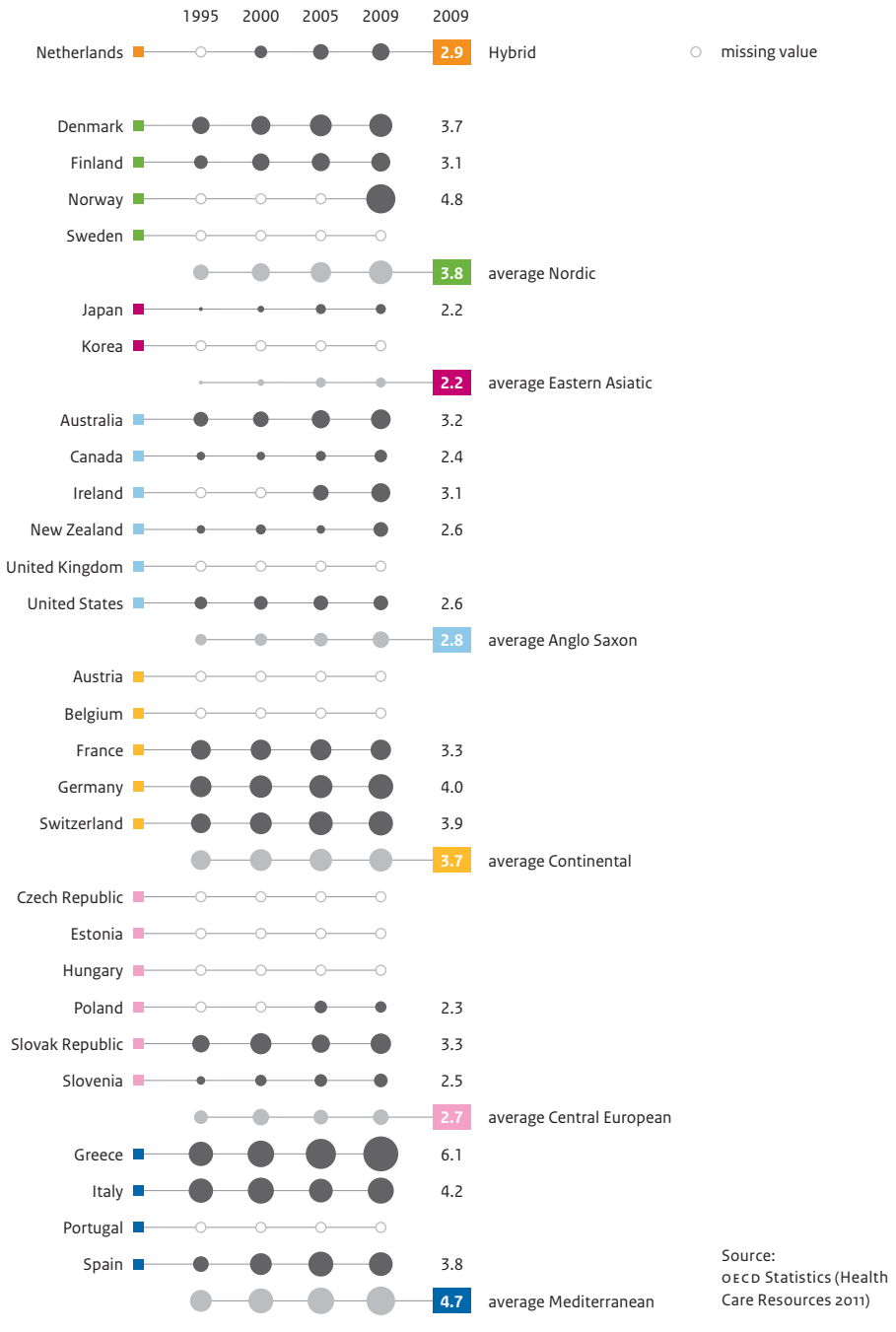
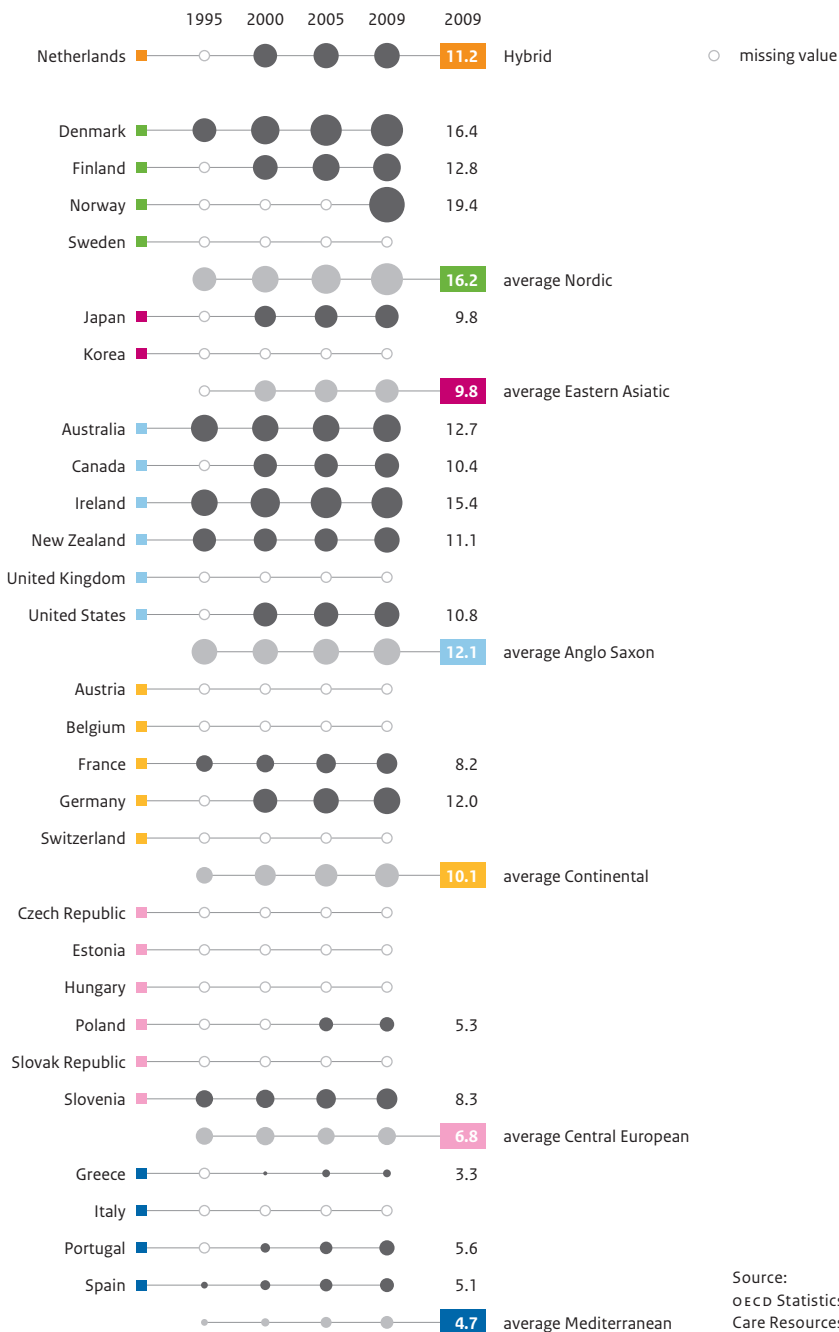




Figure 4.17

Number of professionally active nurses per 1000 population, 1995-2009



## 4.5 Output of the health care system

### 4.5.1 Production

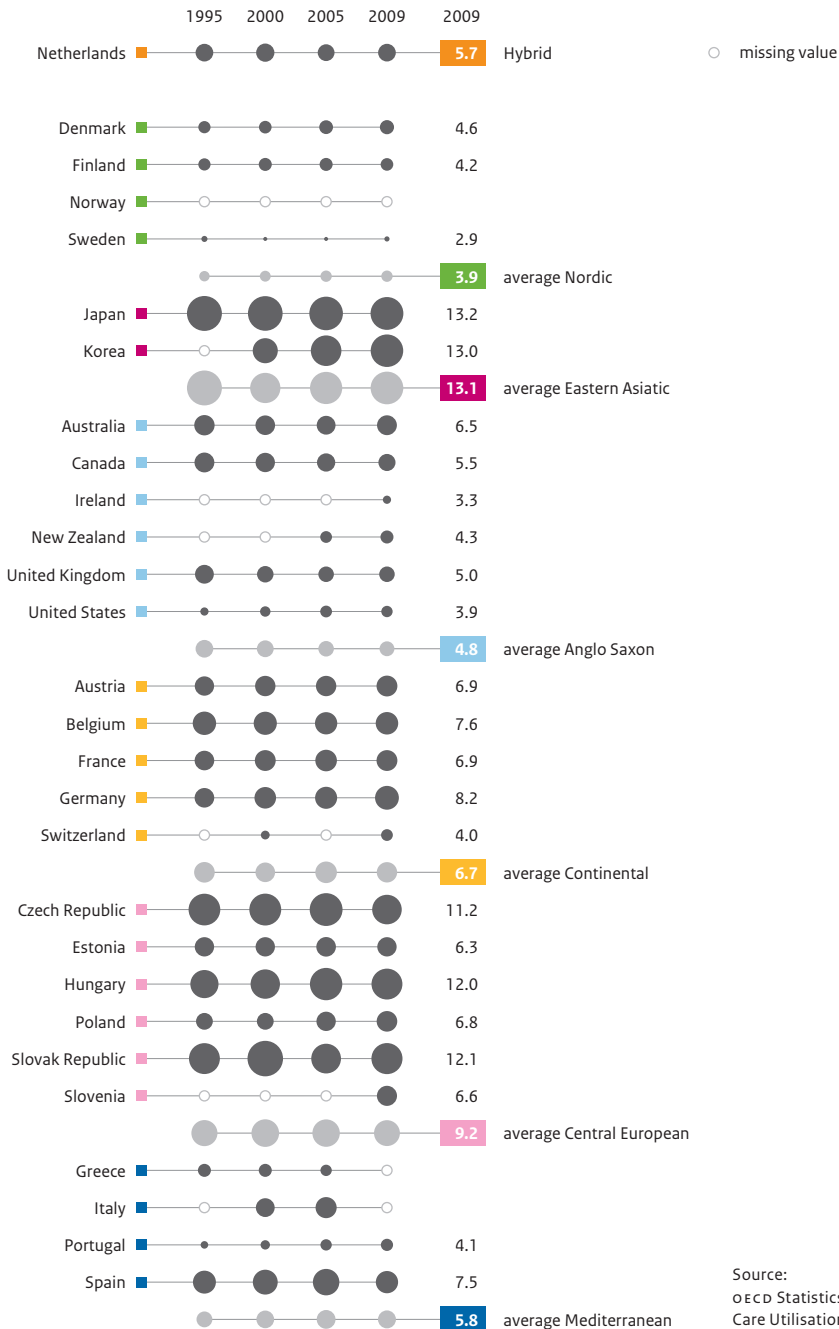
The output (or production) of the health care systems is measured using three indicators: the number of consultations per person, the number of discharges from hospital and the number of older persons who use some form of formal long-term care. The three measures are indicators of two important pillars of health care: cure (both hospitals and physicians) and care.

Residents of Eastern Asiatic countries visit a doctor most frequently, with an average of thirteen visits per person per year (figure 4.18). This frequency can partly be explained by the fact that people use visits to the doctor to obtain prescriptions, a task usually performed by pharmacies elsewhere (OECD 2007: 129), and that financial and other thresholds to visiting a doctor are almost entirely absent (OECD 2009b: 117). Central European countries are also characterised by relative high numbers of doctor's visits. With over nine visits per person per year, they exceed the average by more than two visits. The Nordic populations visit the doctor's surgery the fewest number of times each year. Swedes have the lowest number of doctor's consultations. The number of doctor's visits in the Netherlands is slightly below average, with a little under six visits per person per year. In the Eastern Asiatic countries the cost of a visit to the doctor (general practitioner) is kept low with low out-of-pocket payments. This means that in order to make running a surgery viable, each GP has to see a lot of patients. The low out-of-pocket payments contribute to the relatively low threshold to primary health care, prompting people to visit their doctor even for things such as a common cold.

The Netherlands is also one of the countries, along with the Nordic and Continental countries, with the most stable number of doctor's consultations per capita between 1995 and 2009.

Figure 4.18

Doctor's consultations, 1995-2009 (in numbers per capita)



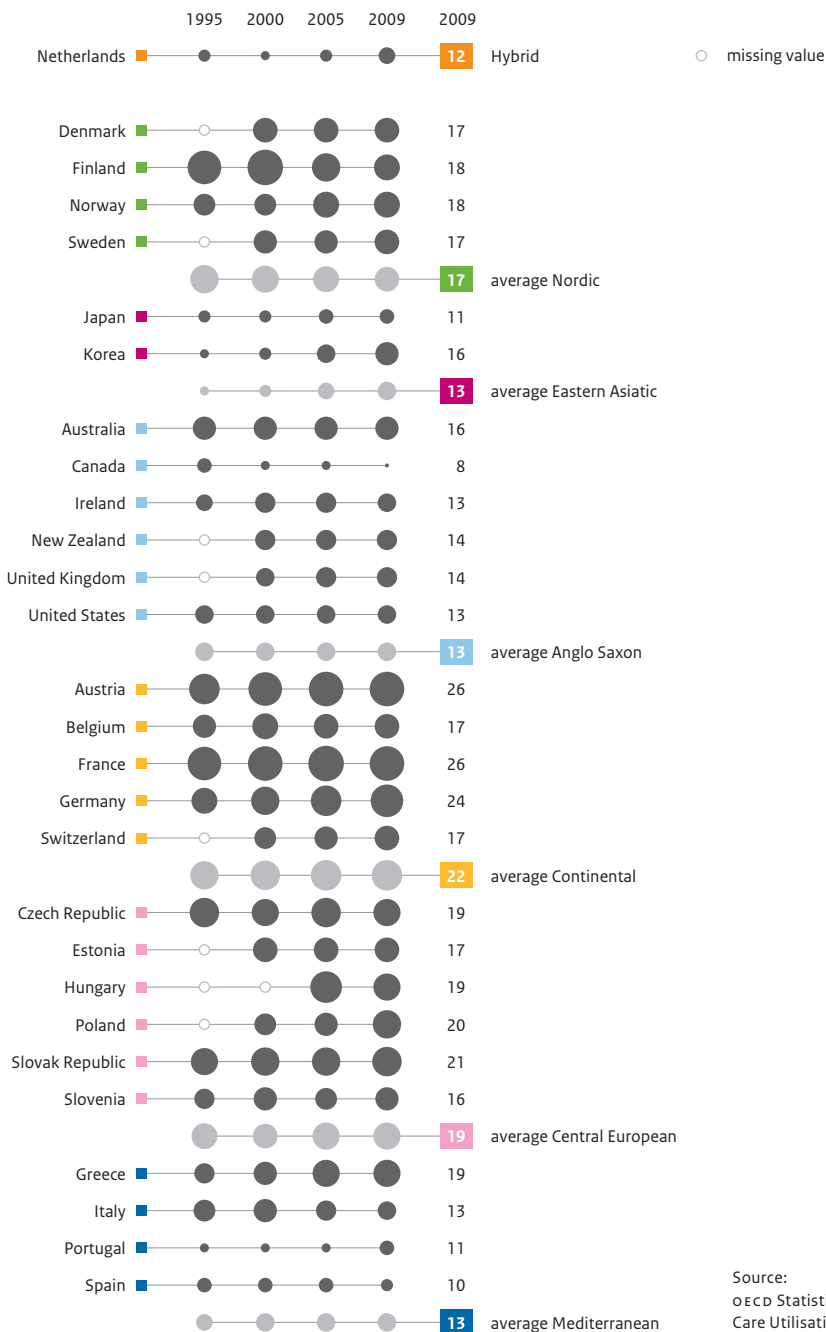
Source:  
OECD Statistics (Health  
Care Utilisation 2011)

Production in the cure sector can also be measured using hospital discharge rates. This rate describes the number of people per hundred persons who are discharged from hospital in a year and thus describes the use of hospital care by populations. With over 22% of the population being discharged from hospital in 2009, the Continental countries have the highest level of hospital utilisation (figure 4.19). The Central European countries are not far behind, with nearly 19%. The Canadian population uses the least amount of hospital care, followed at some distance by Japan, Spain and the Netherlands. It might be assumed that the number of discharges is related to the supply of beds: if more beds are available, more production can be achieved and discharge rates can be higher. In reality, however, the relationship between discharge rates and beds is ambiguous. France has the same number of beds as Belgium but discharge rates are much higher. Germany has more beds, but discharge rates are lower. The number of doctor's consultations does not provide a clear picture either. Of the aforementioned three countries, German people visit the doctor most frequently, while the German hospital discharge rate is below that of France but above that of Belgium. The French have the lowest number of visits to the doctor. There thus does not seem to be a clear relationship between hospital utilisation and the frequency with which members of a population visit their doctor.

The use of hospital care in the Anglo-Saxon countries remained stable between 1995 and 2009. The exception to the rule is Canada, which saw a decrease in discharge rates from 11% to 8%. The steepest decrease in hospital utilisation is recorded by Finland (−6%) and the biggest increase by Korea (+7%). There has been a moderate increase (+1%) in the number of hospital discharges in the Netherlands.

Long-term health care is the ongoing health and nursing care given to people who need continuous assistance due to chronic impairments and a reduced degree of independence and problems in performing activities of daily living (ADL). This care can be provided within institutions or by community-based facilities and typically comprises a mix of medical (including nursing care) and social services. The OECD data only record the former under health expenditure.

Figure 4.19  
Number of discharges per 100 population, 1995–2009



Source:  
OECD Statistics (Health  
Care Utilisation 2011)

The number of long-term care recipients as a percentage of the population aged over 65 provides an indication of the output of the care sector. The Nordic countries and the Netherlands are among the countries with the highest level of long-term care use in 2009 (figure 4.20). In the Netherlands, for instance, a quarter of the Dutch population of 65 years or over use some form of long-term care. The Eastern Asiatic, Mediterranean and Anglo-Saxon countries have the lowest level of long-term care use. With a long-term care utilisation rate of only 1%, the Portuguese older population consume by far the lowest amount of care. The use of long-term care remained fairly stable over the observed period. The Portuguese do not use a lot of hospital care or long-term care compared to other countries. This means that the production of public health care in Portugal is very low. However, this does not necessarily mean that people in need of care do not receive it. For instance, long-term care in Portugal mostly consists of privately financed care purchased from immigrant workers (Fonseca et al. 2010). Other Mediterranean countries have found similar solutions to the ongoing need for care (Pommer et al. 2007).

The combination of the number of doctor's consultations, hospital utilisation and use of long-term care provides an overall production measurement for health care systems. Overall, the Continental countries had the highest level of production in 2009 (figure 4.21). The Anglo-Saxon, closely followed by the Mediterranean countries, perform least well in terms of production. The production of the health care system in the Netherlands is around the average. The Nordic countries have increased their level of production, but not as much as Korea. Dutch health care production has increased gradually over the years.

Figure 4.20

Long-term care recipients, 1995-2009 (in percentages of the population over 65)

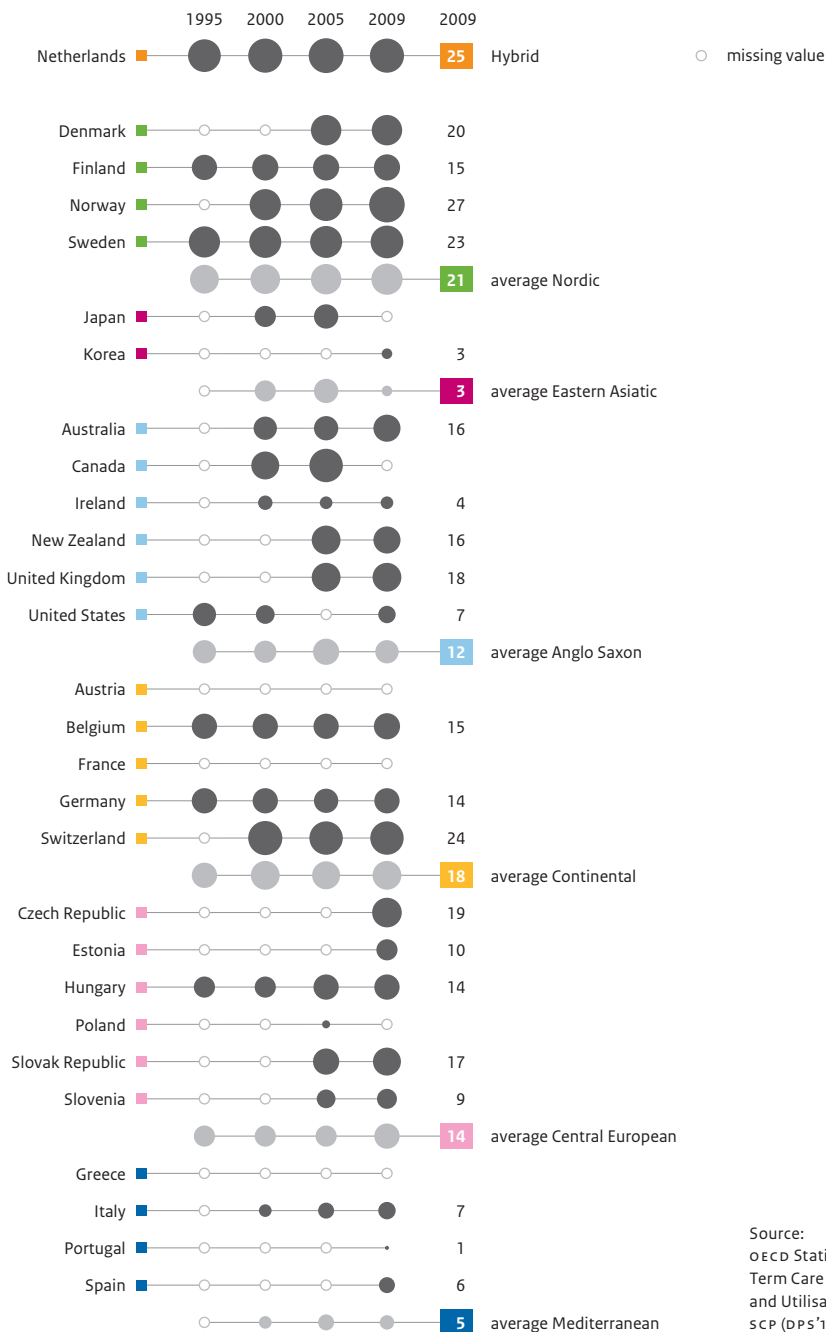
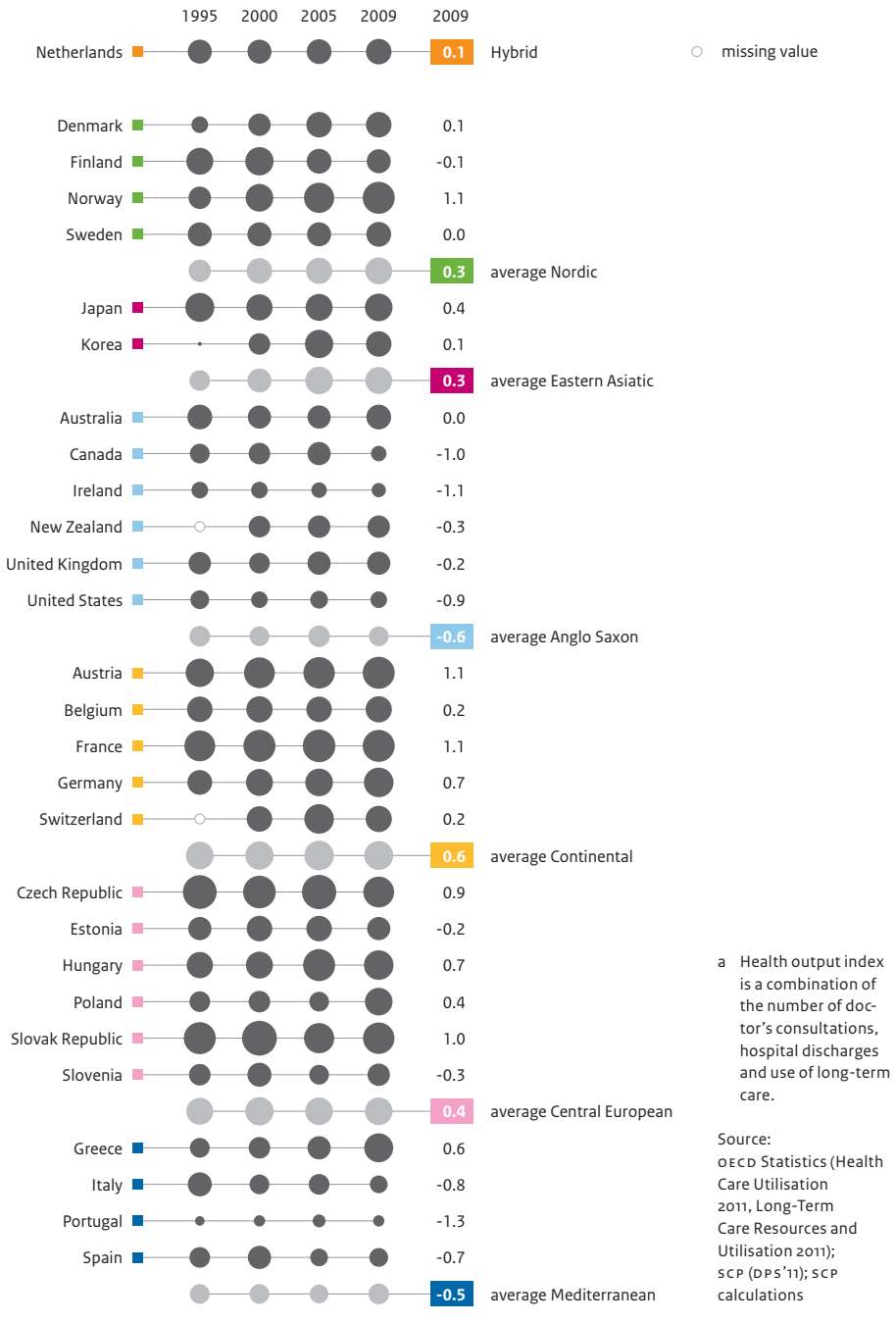


Figure 4.21  
Health output index, 1995-2009 (in index scores)<sup>a</sup>





#### 4.5.2 Productivity

##### Cure

Relating the production (output) to the expenditure (input) provides an insight into the productivity of the health care sector, albeit only a rough indication. As it was impossible to attain comparable productivity measures to distinguish absolute differences between countries, relative developments over time are compared. Since the first measuring point is unavailable in a substantial number of countries, we compare the previous years to the year 2009.

In virtually all countries, the expenditure per discharge from hospital has decreased over the last few years (figure 4.22). For the Netherlands, this can be explained in part by shorter hospital stays (Blank and Eggink 2011). The Anglo-Saxon countries have seen the steepest increase in productivity, the Continental countries the smallest. Portugal is the only country that saw a decrease in productivity between 2005 and 2009 in the cure sector. Since there is little use of hospital and long-term care in Portugal, the overall production level is low as well.

##### Care

A similar comparison can be made in the care sector. Unlike developments in the cure sector, the level of productivity generally decreases over the period considered (figure 4.23). The exception is Finland, where the expenditure per institutional nursing care client has decreased, indicating an increase in productivity. Expenditure per client in the Netherlands has risen markedly, although the increase between 2005 and 2009 is overestimated due to a change in the definition of expenditure on nursing and residential care facilities. The increase in expenditure shown per client is in line with Eggink et al. (2010), who show that labour productivity in Dutch retirement and nursing homes is declining steadily and is most likely related to the increased amount of care needed by patients and the increased level of quality. A slightly smaller, but still substantial, increase in expenditure per client is shown in Poland, New Zealand and Denmark.

Figure 4.22

Real expenditure per discharge, 1995-2009 (in index numbers, 2009 = 100)

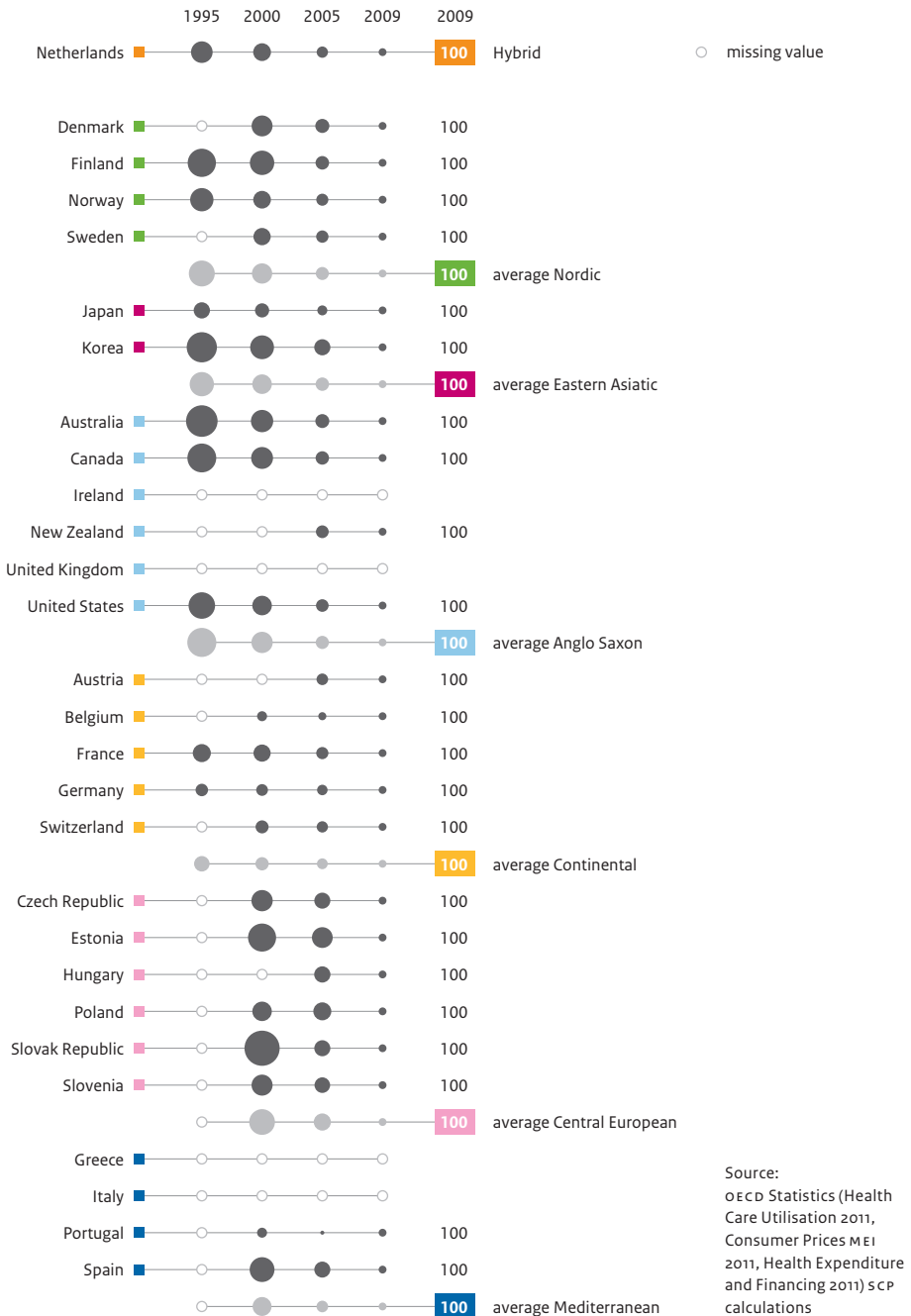


Figure 4.23

Real expenditure per client nursing and residential facilities, 1995-2009  
(in index numbers, 2009 = 100)

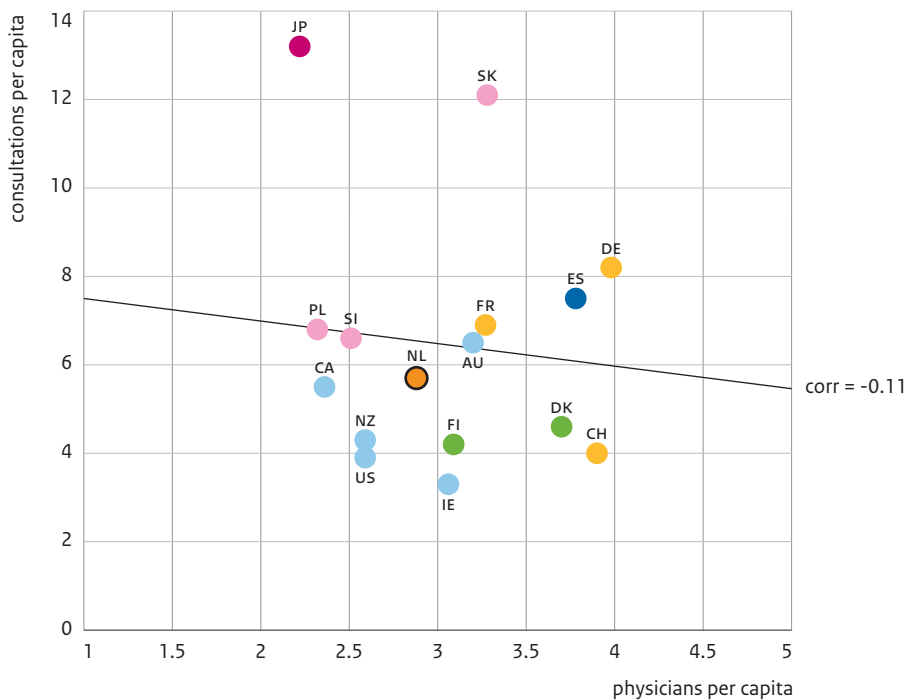


Source:  
OECD Statistics (Long-Term Care Resources and Utilisation 2011, Consumer Prices MEI 2011, Health Expenditure and Financing 2011); SCP (DPS'11) SCP revision

In the Anglo-Saxon countries and the Hybrid Netherlands, general practitioners are regarded as the gatekeepers of the health care system (Kuhry et al. 2004). Depending on the role of the doctor, the number of available physicians could also influence the number of consultations per inhabitant. However, there is no correlation between the number of physicians available per person and the number of consultations each person has in a year (figure 4.24). Japan and Slovakia stand out here, however. In Japan, the number of physicians per thousand inhabitants is relatively low, but the number of consultations is by far the highest. Slovaks also visit the doctor's surgery frequently, but there are also more physicians available.

Figure 4.24

Number of physicians per 1000 population versus number of consultations per capita, 2009



Correlation is not significant (p-value is 0.70).

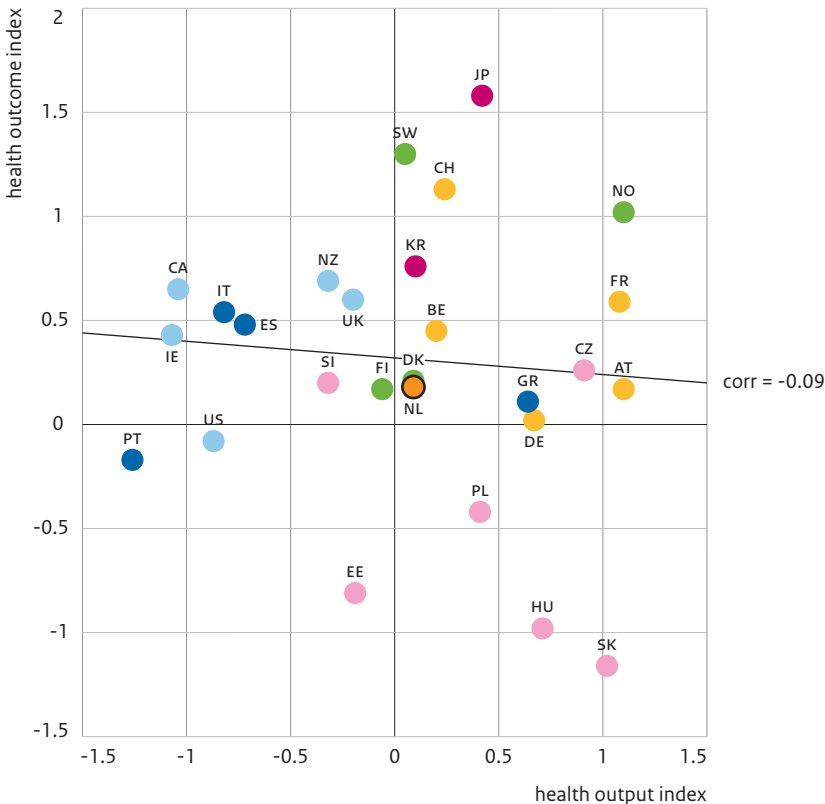
Source: OECD Statistics (Health Care Resources 2011, Health Care Utilisation 2011)

### Relating output to outcome

There is no correlation between the level of production (output) and the outcome of the health care system (figure 4.25). Some countries have a relatively high outcome with relatively low output levels – Sweden, Korea, Australia and Switzerland, for example. Norway and France produce a high level of health care, but also perform well. The United

States is characterised by below-average levels of both health care outcome and output. The US health care system therefore appears to be not only slightly inefficient, but also unproductive. With similar output levels Sweden, Switzerland and Korea perform better than the Netherlands. The health outcome is also greater in Norway, but this country also produces more health care. The lack of a significant relationship between output and outcome might lead to inefficient results, such as overconsumption. Promoting healthy lifestyles and giving more attention to prevention might be more cost-effective ways of improving outcome.

Figure 4.25  
Health output index versus health outcome index (in index scores)



Correlation is not significant (p-value 0.66).

Source: oecD Statistics (Health Care Utilisation 2011, Long-Term Care Resources and Utilisation 2011, Health Data 2011); scP (DPS'11); Eurostat (Public Health 2011); CIA (The World Factbook 2011) scP calculations

Are changes in output related to changes in outcome? Do we see outcome increase substantially in countries where output has increased? The answer is no. The correlation between changes in output and changes in outcome between 1995 and 2009 is not significant (correlation is 0.05, p-value is 0.79).

#### 4.6 Explaining differences in outcome

All in all, there are distinct differences in the performance of health care systems across OECD countries. But why do some countries perform better than others? Is the development of the health outcome index related to societal factors or are other elements, such as lifestyle habits, more important? The effect of macro-societal influences is examined by relating health outcome to (elements of) the national resilience barometer discussed in chapter 2. The influence of other possible factors is analysed by studying the international literature.

##### 4.6.1 Societal factors

The health outcome index is correlated with wealth (GDP per capita; figure 4.26), unemployment (table 4.3; figure 4.27) and labour participation. The index is higher in wealthy countries, countries with low unemployment rates and countries where more people participate in the labour market. There is no significant relationship with other indicators or with the overall national resilience barometer (see chapter 2). In the remainder of this section we will look more closely at the significant correlations.

The health outcome index is generally higher in wealthier countries (figure 4.26). People with more means are usually able to afford healthier diets and their lifestyle habits tend to be less unsound (with the exception of the United States). Four of the six Central European countries are clustered in the bottom-left corner, combining low wealth with poor health outcomes. The Eastern Asiatic countries combine (below) average wealth with good health performance. The United States is among the wealthiest countries, but performs below average. Switzerland and Norway are both healthy and wealthy. The Netherlands combines above-average results on both indicators and is located in the right half of the figure. The Dutch health outcome is somewhat lower than might be expected, mainly due to the below-average performance on healthy life years.

Table 4.3

Correlation between health outcome index and elements of the national resilience barometer  
(in index score and significance)

	correlation	p-value
national resilience barometer	0.34	0.07
demography		
growth of population	0.33	0.08
number of 15 year-olds/potential labour force	0.22	0.27
number of 65 year-olds/potential labour force <sup>1</sup>	0.23	0.23
economy		
GDP per capita in euros (PPP)	0.60*	0.00
average annual growth of real GDP per capita	-0.09	0.64
unemployment rate <sup>a</sup>	-0.47*	0.01
social circumstances		
labour participation (all, women, 55-64 year-olds)	0.53*	0.00
income inequality (gross income) <sup>a</sup>	0.02	0.93
percentage of non-Western foreign-born citizens <sup>a</sup>	0.26	0.25
public finances		
public expenditure as percentage of GDP <sup>a</sup>	-0.13	0.50
government surplus/deficit <sup>a</sup>	0.24	0.23
public debt <sup>a</sup>	0.28	0.15

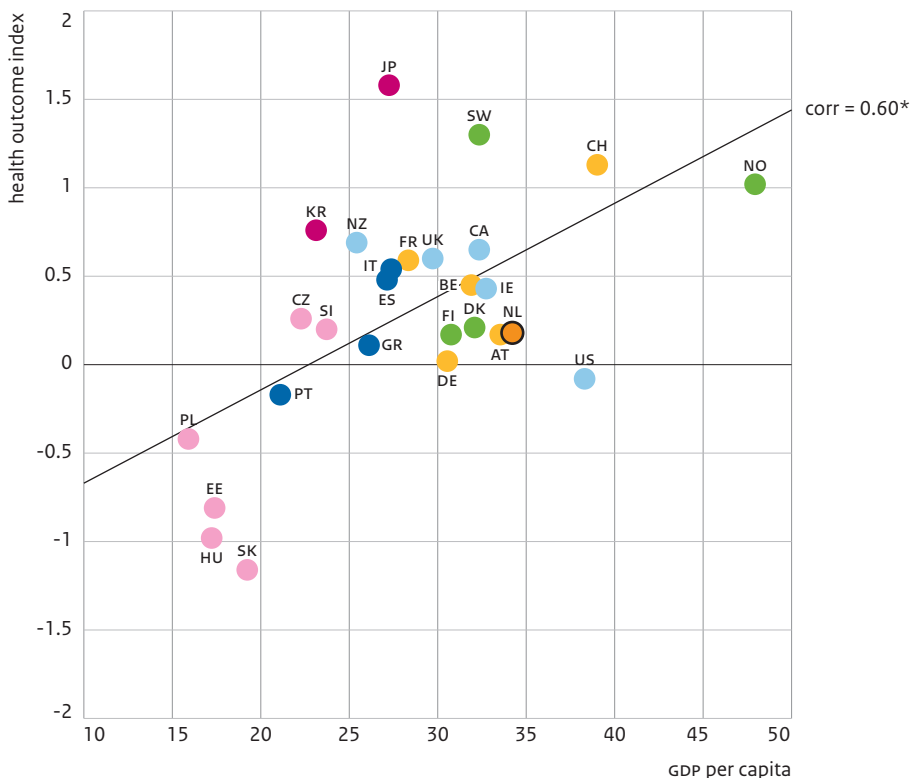
\* Significant ( $\alpha = 0.05$ ).

a These indicators have a negative weight in the national resilience barometer index (chapter 2).

Source: Eurostat (Public Health 2011, Government Statistics 2011); CIA (The World Factbook 2011); US Bureau Census (National Data Base 2011); OECD Statistics (Health Data 2011, National Accounts 2011, Labour Force Statistics 2011, International Migration Database 2011); Solt (SWIID<sup>11</sup>); IMF (World Economic Outlook Database 2011) SCP calculations

Figure 4.26

GDP per capita versus health outcome index, 2009 (in euros x 1000 and index scores)



\* Correlation is significant (p-value is 0.00).

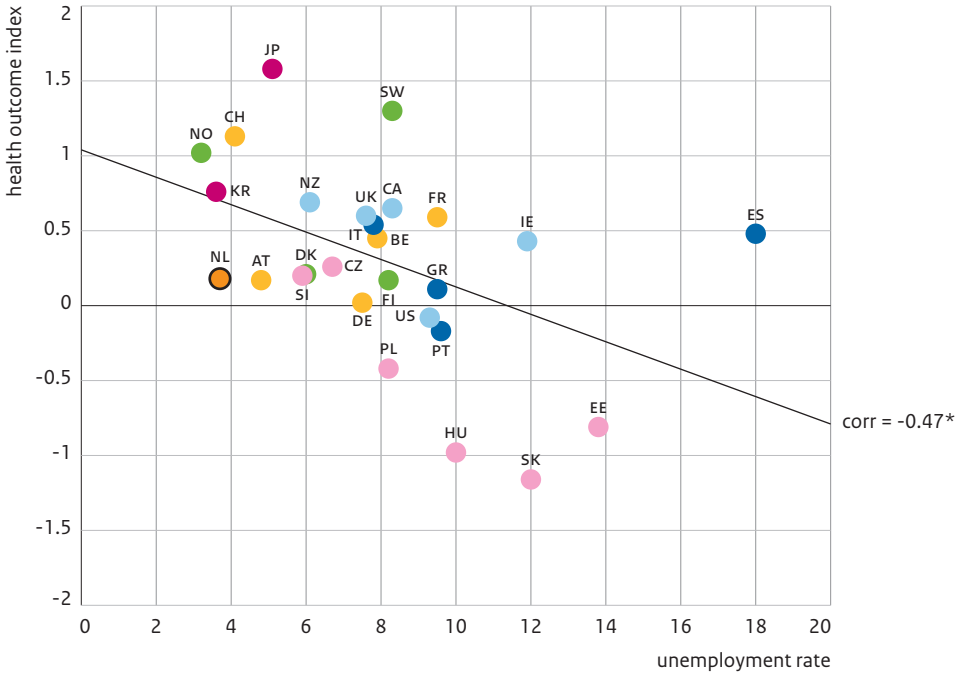
Source: OECD Statistics (Health Data 2011, National Accounts 2011); Eurostat (Public Health 2011); CIA (The World Factbook 2011) SCP calculations

Health performance is negatively correlated with the rate of unemployment (figure 4.27). This could, by analogy with the previous figure, point to underlying effects of wealth and lifestyle, for those who are unemployed generally have fewer means. An interesting exception is Spain, which is a relatively wealthy country faced with high levels of unemployment, but also relatively high health outcomes. The Netherlands combines very low unemployment with a slightly below-average performance on health. Countries with comparable levels of unemployment, such as Norway, Korea and Switzerland, show markedly better health results.



Figure 4.27

Unemployment rate versus health outcome index, 2009 (in percentages and index scores)



\* Correlation is significant (p-value is 0.01).

Source: OECD Statistics (Health Data 2011, Labour Force Statistics 2011); Eurostat (Public Health 2011); CIA (The World Factbook 2011) SCP calculations

Labour participation is positively associated with health outcomes: in countries where more people participate in the labour market, health outcomes tend to be higher. The relationship between the two can work in both directions. Several studies have shown that health influences the decision to participate in the labour market (Chirikos 1993; Currie and Madrian 1999; Maurer et al. 2011). Using an approach that explicitly takes into account the feedback effect that work and health can have on each other, Cai and Kalb 2012 show that for older women, work has a significantly positive effect on health.

#### 4.6.2 Separate components of health outcome

##### Life expectancy

Wealth (measured as GDP per capita), education level and lifestyle habits all seem to have a significant effect on life expectancy (Afonso and St Aubyn 2006; Joumard et al. 2008). Other factors that can also influence life expectancy are pollution (negative effect) and health care spending (positive effect) (Joumard et al. 2008). However, other studies indicate that the effect of health care spending on life expectancy appears to be more ambiguous (Puig-Junoy 1998; Spinks and Hollingsworth 2007). Retzlaff-Roberts et al. (2004) conclude that a number of countries (especially the United States) could reduce spending while maintaining current levels of life expectancy, provided the allocation of resources was carried out more efficiently. Panel data analysis has shown that gains in life expectancy are influenced the most by increased spending on health care, followed by increased levels of education and increased wealth (GDP) (Joumard et al. 2008).

Mackenbach et al. (2011) examined the development of life expectancy in the Netherlands in greater detail. The improvements could not be related to changes in lifestyle, socio-demographic factors or health status, for most of the trends were unfavourable. The authors conclude that the strong increase in life expectancy observed after 2001 is at least partly due to a sharp increase in the use of health care by older persons. Furthermore, mortality rates for a wide range of causes of death have declined. The potential importance of medical care as a determinant of life expectancy in high-income countries is also underlined (Cutler et al. 2006; Bunker et al. 1994; Mackenbach 1996).

##### Healthy life years

Compared to the rest of Europe, the Netherlands performs below average on this measure, with an expected 75% of life expectancy spent in good health (§ 4.3.2). This constitutes a poor result, especially since the Netherlands is one of the wealthiest countries in the European Union. Denmark, Belgium, Ireland and Sweden are all countries with comparable wealth but with a much higher performance on healthy life years. Lifestyle, income, educational attainment, occupational and socioeconomic status, urbanisation and medical technology have a significant influence on healthy life years (Verhoeven et al. 2007).

##### Infant mortality

King and Zeng (2001) have shown that infant mortality is among the best predictors of state failure. It is not surprising that infant mortality is (still) at a higher level in less wealthy countries, because financial means are a prerequisite for improving the quality of health care. Wealth alone is not enough to ensure low levels of infant mortality, however, as illustrated by the position of the United States. Infant mortality in the Netherlands is somewhat higher than could be expected; the Nordic countries are as wealthy as the Netherlands but have a lower rate of infant mortality.

Infant mortality is significantly correlated with alcohol consumption and pollution (Joumard et al. 2008). Higher levels of education, wealth, health expenditure and (both objective and perceived) health status lead to lower infant mortality rates. The largest decline in infant mortality rates can be attributed to increased health care expenditure, followed by increased wealth (Elola et al. (1995)). The authors also conclude that national health services (Nordic and Mediterranean countries) are more efficient than social security systems (Continental, the Netherlands) in reducing infant mortality.

Infant mortality decreased in all countries between 1995 and 2009. This improved performance cannot be explained by improved wealth (no figure). The countries with the highest mortality rates in 2009 are also those that have seen the steepest decline since 1995. So although these countries are still performing well below average, they are catching up quite rapidly.

The increases in educational attainment levels have a strong effect in reducing infant mortality (Jiménez-Rubio 2011). Lifestyle variables are not found to have a significant effect. Although lifestyle variables do have an effect on changes in infant mortality, the effect of wealth, education and especially health care spending is much stronger (Joumard et al. 2008).

#### 4.6.3 Other factors that influence health outcomes

Health outcomes are also influenced by several external factors (see figure 1.1). Although it goes beyond the scope of this study to account for the effects of these factors, some factors can add nuance to the results found. The European Observatory on Health Systems and Policies<sup>9</sup> produces comprehensive and rigorous reports on the dynamics of health care systems in Europe. These reports provide more insight into the functioning of health care systems in European countries. Some issues are relevant for the outcomes in this report, especially issues related to informal payments, the technical infrastructure of hospitals, migration of doctors and nurses and regional differences. The following observations have been derived from the most recent country reports (HiTs).

Informal payments (money paid ‘under the table’) are a common feature in most Central European countries and Greece, and play a minor part in other Mediterranean countries. Informal payments are intended to avoid waiting lists or queues or to buy health care quality. Another route to avoid delay or buy quality is the use of private facilities. In Greece, for example, over one third of those treated in a hospital reported at least one informal payment to a doctor, of whom about 40% because of fear of inferior treatment and 20% because it was ‘demanded’ (Economou 2010: 59). In Hungary, Poland and Slovakia, estimates of the magnitude of informal payments vary a good deal, but the share of such payments is substantial. Informal payments are less usual in Estonia, Slovenia and the Czech Republic. Some Central European countries are faced with infrastructural problems, related to the technical infrastructure of hospitals and the emigration of highly qualified nurses and doctors to Western European countries.

Capital investments in hospitals are vital because many hospitals date from the former Communist period and need to be modernised. For example, in Hungary the mean age of hospital buildings in 2004 was 50.5 years and the average number of buildings per hospital was 22. Moreover, insufficient public resources have been invested in the refurbishment of buildings and equipment (Gaál et al. 2011: 104). Not all Central European countries face the same problems. The Czech Republic only faces outdated long-term care facilities; the state of its acute care hospitals is comparable to Western European countries (Bryndová et al. 2009: 65). Moreover, emigration of qualified medical personnel is not a real problem in this country. Finally, in Central European and Mediterranean countries, especially, contrasts between rural and urban areas are an issue. These differences relate to the level and quality of facilities and the health status of the rural and urban populations. In general, cure and care facilities are at a lower level in rural areas, while the health status of the rural population is worse.

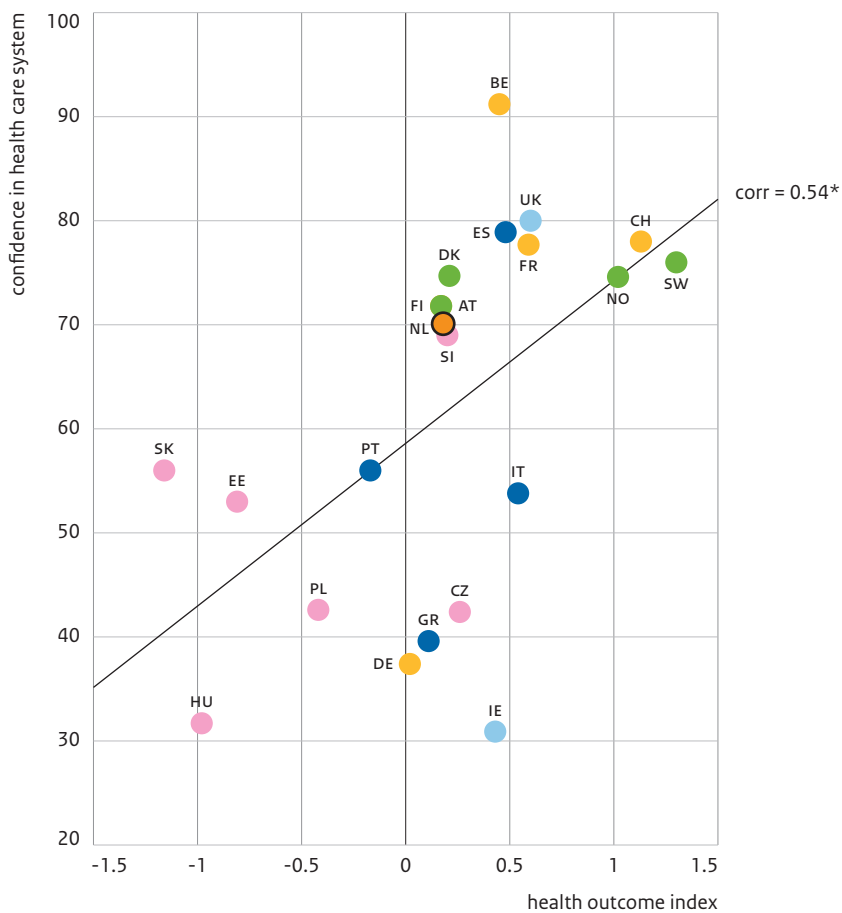
#### 4.7 Confidence in the health care system

The outcome indicators used in the previous sections were (mostly) based on objective, quantifiable measures. But how do people perceive the health care system? How do they value its performance? The European Values Survey provides information on the confidence that citizens have in the health care system (figure 4.28).<sup>10</sup> Confidence is highest in Belgium (91% have confidence) and lowest in Ireland (31%). Unfortunately, not all countries are included, as data are unavailable for the Eastern Asiatic countries and four of the Anglo-Saxon countries.

Overall, there is a significant positive correlation between the confidence that people have in the health system and the health outcome index. Confidence in three of the Mediterranean countries, three of the Central European countries, Germany and Ireland is relatively low given the level of the outcome. The opposite holds for the other Continental countries, the Netherlands, the United Kingdom and Denmark.

Figure 4.28

Health outcome index versus confidence in the health care system, 2008/2009<sup>a</sup>  
(in index scores and percentages)



\* Correlation is significant (p-value is 0.01).

<sup>a</sup> 'Quite a lot' or 'a great deal'.

Source: OECD Statistics (Health Data 2011); Eurostat (Public Health 2011); CIA (The World Factbook 2011); EVS (European Values Study 2008); SCP calculations

## 4.8 Conclusion

### What are the outcomes of health and what influences these outcomes?

The aim of health care is to achieve good health in the population. According to the outcome measures used in this chapter, the health of the population is improving in most countries. However, the underlying developments are more complex. Life expectancy is increasing in all countries and the infant mortality rate is declining. Both developments indicate overall improvement in the quality of the health care systems. However, unfavourable lifestyles are on the rise: obesity rates in most countries are up and have reached epidemic proportions in a number of countries, and even more so among the older population. This is a serious concern, because unhealthy lifestyles are good predictors of future health problems and health care demand. Combined with an ageing population, this trend endangers the affordability of health care systems. A telltale sign is the fact that health care expenditure increased more rapidly than GDP between 1995 and 2009 in almost all countries.

In most respects the Netherlands performs above average. Life expectancy is relatively high and infant mortality low. The only area where the Netherlands underperforms is on healthy life year; in 2009 there were only a few countries where healthy life years were lower. This results in an overall below-average performance for the Netherlands on the health outcome index.

Another cause for concern is that obesity is increasing rapidly in the Dutch population aged over 65 years. This is a portent of increasing demand for health care and it is likely to exacerbate the already unfavourable effects of ageing on the health care system. A great strength of the Dutch health care system is its accessibility. The relative share of co-payments by patients is very low and people do not experience a financial barrier to visiting a doctor when they require medical attention.

### How are these differences in outcome related to variance in output?

In countries where more patients are treated and more older persons receive help, health outcomes are not significantly higher. Health outcomes are more influenced by other factors such as lifestyle.

### How are these differences in outcome related to confidence in health?

Outcome is positively related to confidence in the health care system. In countries where the outcome is higher, citizens tend to have more confidence in the health care system. In the Netherlands, confidence is somewhat higher than might be expected given the level of outcome.

### How are these differences in outcome related to variance in input?

There is no significant relationship between expenditure and outcome. Most Central European countries spend little on health and outcomes are low, whereas health outcomes in the Eastern Asiatic countries are substantially higher at a comparable level of

expenditure. Expenditure on health in the United States is at least 50% higher than in all other countries, whereas health outcomes are well below average. This large difference compared with other countries can be partly explained by the performance of the large numbers of tests carried out for fear of litigation.

Population ageing is likely to have an upward effect on spending on nursing and ambulatory care in particular. The Netherlands already spends more than average on these provisions, making the expenditure even more vulnerable to the effects of ageing. Expenditures on nursing care, in particular, is very high in the Netherlands compared to other countries, doubling in relative terms between 1995 and 2009. This is surprising, as population ageing is more advanced in most other countries than in the Netherlands. This might be explained in part by the care provided for people with an intellectual disability; this sector is quite large in the Netherlands, especially compared to other countries. The current trend of shifting the focus away from nursing care to care provided in the home setting seems very prudent from the standpoint of affordability.

However, the towering costs of health care can be only partly explained by population ageing. Health care expenditure is already straining public finances. Does this mean that the accessibility of health care is also in peril? In some countries out-of-pocket payments make up a substantial part of total health expenditure, an indication that universal access may be under pressure. On average, however, the share of out-of-pocket has not increased over time. Also, the percentage of people in the lowest income quintile who have unmet medical needs because they cannot afford the care needed has remained constant over time. This confirms that accessibility has remained unchanged on average. Nonetheless, all countries are faced with increased pressure on their finances due to the economic recession and population ageing. Addressing escalating health care budgets could coincide with attempts to reduce consumption through implementation of financial incentives (increased out-of-pocket payments).

## Notes

- 1 Accessibility does not appear to be a major issue in Switzerland; see figure 4.9.
- 2 This appears to be due to changing definitions. The measurements of healthy life years in the years 2004, 2005 and 2006, especially, appear to deviate for a number of countries from the general trend; see appendix B4.
- 3 Owing to difference in definitions, these numbers do not match with data from Statistics Netherlands.
- 4 Data have been drawn from the CIA Factbook. Infant mortality rates in a number of Central European countries appeared to be more consistent in this dataset than the OECD data. On average, the rates according to the CIA Factbook are one percentage point higher than those in the OECD data.
- 5 Most countries use a fixed five-category answer to the question 'How is your health in general?'. Countries like Canada, USA and Denmark that use the categories 'excellent, very good, good, fair or poor' find more respondents in the 'good' category than most of the other OECD countries that use 'very good, good, fair, bad, very bad'.

- 6 The indicators are normalized by using the formula  $(x-\mu)/\delta$ , where  $x$  is the indicator,  $\mu$  is the average of the indicator and  $\delta$  is the standard deviation. The score of health is calculated as the (unweighted) average of the four normalized indicators. This approach is similar to the one adopted by Kuhry (2004) and Afonso, Schuknecht and Tanzi (2005).
- 7 The rise in expenditure can be partly explained by a change in the definition of Dutch health care costs in the OECD System of Health Accounts (SHA). From 2009 onwards, a large share of spending on long-term care (AWBZ) has been included in the SHA. According to Statistics Netherlands, which uses a broader definition of health care than the OECD, relative spending on health care increased from 13.2% of GDP in 2005 to 14.7% in 2009.
- 8 Due to a change in the definition of healthy life years in the Netherlands, trends over time for this indicator cannot be compared with other countries.
- 9 A partnership between the World Health Organization, the European Commission, the World Bank, the London School of Economics and a number of other organisations.
- 10 The question about confidence is 'How much confidence do you have in the health care system'. Response categories are 'a great deal', 'quite a lot', 'not very much' and 'none at all'. Reported here are the percentages of people saying that they have 'quite a lot' or 'a great deal' of confidence.

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## 5 Social safety

Evert Pommer, Lonneke van Noije and Ab van der Torre

### Policy objectives

Public services provided by the police and the courts aim to promote social safety for citizens and to protect society and its members from criminal activities. Criminal activities are violations of the personal integrity of members of society which are defined and forbidden by law. They differ over time and between countries. Responsibility for preventing and fighting crime is partly a public and partly a private matter. The recording, investigation and solving of criminal activities is the responsibility of the police, while the courts are responsible for prosecution and punishment.

Each country organises its law enforcement differently, but some general distinctions can be made. Most notable is the distinction between the Anglo-Saxon common law tradition and the continental European civil law tradition. In the common law tradition the judiciary is built upon precedents created by judges, while in the continental European tradition the legislator is the primary lawmaker. The Southern and Central European countries and most of the continental countries are characterised by a centralised court system. In the Netherlands and Luxembourg the absence of lay judges may be noted. Repression is especially characteristic of Southern and Central European countries and the USA. In some countries, police tasks are shared with private security firms (Van Steden 2007). In the Anglo-Saxon countries this is common practice, while in some continental countries, including the Netherlands, the legal competences of private actors are increasingly being extended. In nearly all countries, the police tend to be centralised.

Recent Dutch administrations have all given high priority to social safety problems. From 2002 to 2010 the official objective was to reduce crime and minor offences by 25%. From 2002 to 2007 the safety policy was primarily aimed at 'clearing the streets' of offenders by means of law enforcement. Incapacitation was the first priority, at the expense of resocialisation. Between 2007 and 2010, attention shifted towards reducing recidivism. The present administration has not explicitly committed itself to the previous objective of a 25% reduction in crime; however, it has made a clear turn towards tougher punishments. Over the past decade there has also been consistent attention for subjective safety. According to the present administration, only when released from fear of crime are people able to fully appreciate the freedom which the state aims to guarantee. Substantially reducing feelings of unsafety is therefore an integral part of the fight against crime (Van Noije 2011).

The European Council has adopted programmes to promote social safety in member states and to combat cross-border (organised) crime. The Stockholm Programme (2009) provides a roadmap for the period 2010-2014. This programme aims among other things to enhance police and judicial cooperation in criminal matters as well as in border

management. The programme focuses particularly on the fight against cross-border crime, such as human trafficking, sexual exploitation of children, child pornography, cyber crime, economic crime, corruption, counterfeiting and piracy, and drug trafficking. However, fighting crime is primarily a national responsibility.

In line with the goal of this report, in this chapter we try to find suitable answers to four questions: How do levels of crime vary between countries and over time? Are these differences related to variances in output (offenders ratio, conviction ratio, feelings of safety)? Do inputs (expenditure, personnel) vary between countries and over time? And last but not least, can differences in social safety be related to the composition of the population and characteristics of the criminal justice system?

### How to explain crime?

In general, crime can be seen as the result of individual determinants, societal factors as well as public and private action to prevent and fight crime. Government attempts to reduce crime contribute more or less effectively to the overall crime rate, but attempts are most effective in reaction to all kinds of individual, social, economic and international causes of crime. Hence, individual and social risk factors and physical opportunities are push factors, inducing crime. Private and public prevention and repression are pull factors, reducing crime.

Individual determinants are diverse, ranging from demographic, socioeconomic and psychological to cultural factors. To name but a few, men are more prone to delinquency than women, adolescents more than young children and older people. The risk of delinquency is also higher where there is poor schooling, poverty, unemployment, integration problems, drug use, mental health problems, a broken (single-parent) family, lack of social control in the family or community, and so on.

Social explanations for the occurrence of crime often determine the presence of individual risk factors. For example, the state of the economy influences the number of unemployed and financially deprived persons. The level of immigration determines the number of people having difficulty integrating in society. The level of inequality in society, in part influenced by political ideology, is thought to increase the need of deprived people to have their (fair or unfair) share of the national wealth (relative deprivation) (Vollaard, Versteegh en Van den Brakel 2009).

Individuals may protect themselves or others from victimisation by taking various security and safety measures. They may protect their property by installing good locks and alarm systems, avoiding notorious hot spots, behaving inconspicuously, getting a dog, and so on. All such measures and actions taken by individuals and private organisations to prevent crimes being committed against themselves or third parties are referred to as private prevention. Public prevention consists of all government measures to prevent and fight crime: from installing lampposts and cameras to defining crime in law, and tracing and punishing offenders. Although little is known about the true effectiveness of

preventive measures, some can be considered promising. As regards law enforcement, for instance, a high perceived chance of being caught by the police has been shown to prevent people from offending. Law enforcement thus seems to have a deterrent effect. However, it has proven less effective in preventing arrested or convicted offenders from reoffending. It has also proved to be doubtful whether the severity of punishments alone prevents convicts from reoffending, though this may deter potential first-offenders. Obviously, custodial sanctions incapacitate offenders for the duration of the punishment (Van Noije and Wittebrood 2008).

A dominant theory in criminology, the opportunity theory, combines the above individual and social determinants of crime and crime-fighting activities into one overarching explanation of crime. In the opportunity theory crime is thought to be determined by:

- 1 the presence of and exposure to (potential) offenders;
- 2 the presence of attractive targets; and
- 3 the level of technical or social protection of the targets (Cohen and Felson 1979),

all of which can be defined both at the individual level and at the neighbourhood or contextual level (Wilcox et al. 2003). Targets may refer to valuable goods and potential victims. On the individual level, an offence may simply depend on whether or not a potential assault victim carries pepper spray when passing a motivated violator. From a contextual perspective, the opportunity structure of large cities is favourable to crime, due to the extra large number of motivated offenders and the high availability of potential victims and valuables. At the same time, the level of anonymity is high – and hence social control is weak – and the physical structure of the city offers many hideaways and escape routes. Likewise, nightlife offers ample opportunity to commit crime, for instance because alcohol use may on the one hand increase the number of motivated offenders, and on the other trigger provocative behaviour on the part of the victim or leave them particularly defenceless. On an even higher level, the opportunity theory suggests that countries with a comparable number of equally motivated offenders and equally attractive targets will have different crime rates due to the level of protection they organise around the targets, and thus to the effectiveness of their social safety policy.

In this report crime rates are related to societal factors and government policy. Societal factors are taken into account by using aggregated information about social and economic characteristics such as the divorce rate, the share of immigrants, the share of young men, unemployment rates, income inequality, welfare, and so on. Unfortunately, because of its decentralised nature, information about private prevention is scarce. Government intervention is assessed through the use of resources (personnel, expenditure), the productivity of policy and the judiciary (clear-up rates, punishments) and characteristics of the judiciary.

#### Difficulties in comparative research

Different definitions and registrations obscure real differences in crime rates between countries. For cultural and historical reasons, the criminal code of each country is

different. This manifests itself in various ways. Actions regarded as criminal in one country are not in another. Also, activities classified as a criminal offence in one country are classified as minor offences (or misdemeanours) in others. These differences occur particularly when moral standards differ, such as views on the legality of drug use, prostitution, abortion and euthanasia. Furthermore, differences may exist in the definition of serious and minor offences. Also, the precise definitions of offence categories will differ (e.g. the distinction between serious and common assault).

Each country also organises its criminal justice system differently. The precise tasks of the police and the public prosecutions department will affect the crime rate. Whether a reported crime is recorded as such will depend on the police's obligation to report offences to the prosecution authorities, even if no suspect has been identified. The Dutch police are under no such obligation, while the French police are. But even in the Dutch case, previous growth in crime rates based on registrations are explained in about 75% of cases by better registration and in only 25% by an increase in crime (Wittebrood and Nieuwbeerta 2006). The question of whether the prosecutor has discretionary powers will also affect crime figures recorded by the police, and their decision to pass a case to the public prosecutions department. Another reason may be the insurance system. Citizens need a police report to claim for losses. This can vary between countries. Moreover, in countries where the police are mistrusted or corrupt, citizens may refrain from reporting offences.

The final drawback lies in the very nature of statistics. When compiling statistics certain choices have to be made. In the case of crime statistics, the most important choices concern the unit used and the point in time at which a case is counted. The unit can be offenders, offences or cases prosecuted. Each country will make its own choice here. The moment at which a case is counted determines its characteristics. For instance, a case that is initially registered as murder by the police may be considered culpable homicide after further examination by the public prosecutor.

However, the more effective a country is in solving crime and catching criminals, the higher its official crime rate will typically be. This is called the safety paradox. Likewise, if it is new policy to prioritise a certain type of offence, the number of arrested suspects will rise. Police organisations that do not have the means to live up to their duties or that turn a blind eye will effectively suppress crime figures, but hardly protect their citizens. We should bear this in mind when drawing conclusions about the effectiveness of a country's law enforcement. So, shortcomings of available data underline the need to be cautious when interpreting apparent differences found. In the case of recorded crime by the police, changes in levels are more interesting than the levels themselves. Owing to the considerable international differences between definitions and recording of crime, international victim surveys are generally more suited to comparing crime rates than police statistics. In victim surveys, respondents are asked whether or not they have actually been a victim of one or more predefined types of crime during a specific timeframe. Of course, victim surveys have some disadvantages (see next section), but the comparability



between countries is much better. Unfortunately, not all countries in this report carry out surveys among victims.

### 5.1 Outcome of social safety: crime rates

For local and national policy in general it is important to know how crime develops, which differences between regions and countries occur and which factors are behind these trends. Crime is not limited to local or national borders and is influenced by general developments all around the world. Thus changes in the level and nature of crime can be caused either by domestic factors (such as new legislation or demographic trends) or reflect broader international trends (erosion of traditional values and social networks, flow of migrants). Hence, for policymakers it is interesting to know which factors are universal and which are country-specific. Comparing trends in crime rates in the Netherlands with those in other countries can help to disentangle these universal and specific factors.

#### Victim surveys

As noted earlier, the way law enforcement is organised and put into practice differs from country to country, preventing the production of comparable statistics. On the other hand, institutional variety offers an opportunity to examine the likely effects of certain policy measures. We rely on international victim surveys as the most reliable source for cross-country comparisons. As data are not available for all countries on all relevant aspects of crime and law enforcement, this chapter focuses on a selection of countries.

The strength of victim surveys not only lies in the comparability across countries, but has also to do with the large *dark number* in official police records: only a fraction of the offences are, first, reported to the police and, second, recorded by the police. According to the 2010 Dutch victim survey (IVM), two-thirds of offences experienced were not reported to the police. In 71% of reported cases an official report was made, which was only 25% of the number of crimes experienced (Van Noije 2011). Because of the dark number in official records, victim surveys give a much better indication of crime levels than police statistics.

However, surveys also have some general drawbacks. First, the relationship between crimes reported by respondents and the crimes recorded by the police is troublesome because of different definitions: a victim thinks in subjective terms about what he/she experienced, not in the technical terms of the law. Second, victimless crimes (traffic offences, fraud, drug crimes) are not included in victimisation surveys. Likewise, crimes against companies and organisations are not included. Finally, cultural or societal differences in honesty and openness of answers on questions in victim surveys may occur, but there are no concrete indications of this kind of response sets. This study thus relies primarily on self-reported victimisation of citizens as an indicator for a country's crime rate.

### Levels of reported crime

The International Crime Victimization Survey (ICVS) measures and compares the level of crime in various countries (Van Dijk et al. 2005).<sup>1</sup> In 2005, the EU International Crime Survey replaced the ICVS (EU ICS). No International Crime Victims Survey of more recent date is available, except a pilot survey in six countries (Nicis 2011). In the ICVS, respondents were asked about victimisation for ten types of common crime that they themselves or their household may have experienced. Types of personal crimes included are sexual incidents (including rape and other sexual assaults), threats/assaults (including assaults with force), robbery and personal theft. After the first round in 1989, the surveys were repeated in 1992, 1996, 2000 and 2004/2005. In the years 1996, 2000 and 2004/2005 it was carried out in the 15 early member states of the European Union plus Poland, Hungary and Estonia and some non-European countries. Unfortunately, no information is available for some Central European countries and for Korea.

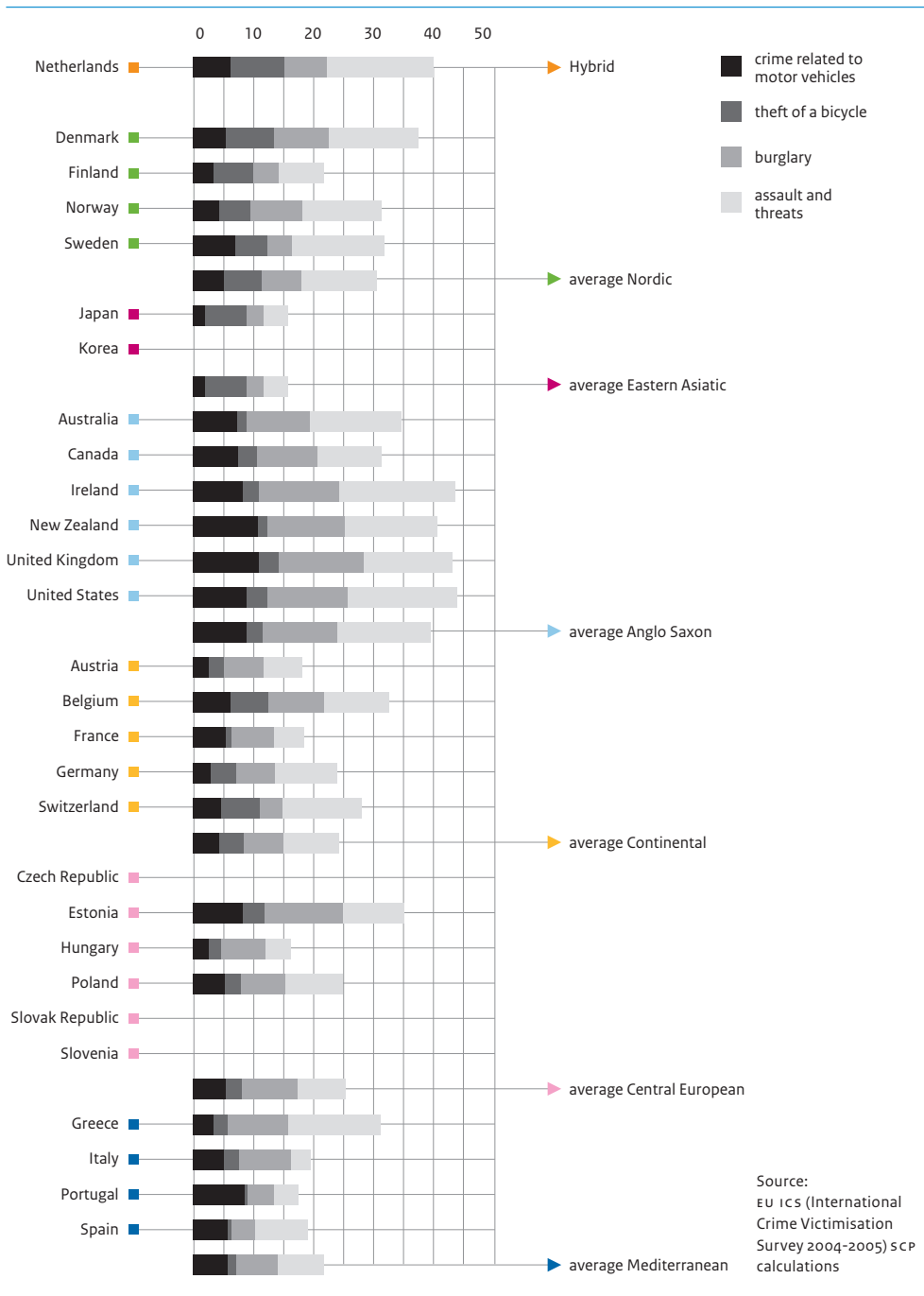
The ICVS allows for two indicators to be calculated. The first is prevalence: the proportion of respondents who have been the victim of a crime on one or more occasions over the course of a year. The second is the number of offences per 100 inhabitants in a year. This indicator is known as incidence.

Figure 5.1 shows a prevalence of 39 per 100 respondents in the Netherlands. This prevalence includes crimes related to vehicles (cars, motor vehicles and bicycles), theft, burglary and violence. Vandalism is excluded because of major differences in definitions between countries. The incidence is greater than the prevalence because some respondents were repeat victims, either of the same or different types of offences. The reported crime rate seems to be very high in the Netherlands, but this is caused by a high number of bicycle thefts; in the Netherlands, bicycles are simply widely available and easy targets, and the Netherlands thus has a favourable opportunity structure for bicycle theft. If this relatively minor offence is excluded, the reported crime rate is still high in the Netherlands, positioned between the high-crime Anglo-Saxon countries and the more moderate-crime Nordic countries. The Netherlands owes its high position to the high level of reported violence against persons (robbery, assault and sexual crimes). Remarkable is the high incidence of sexual offences in the Netherlands (9%), which is shared with Sweden and the USA (not reported in figure 5.1). Social disapproval of any sexual violation may contribute to these figures. The reported crime rates in Mediterranean countries (except Greece) and Continental countries (except Belgium) are rather low.

No association can be found between indicators of wealth or economic equality and overall levels of crime (Van Dijk et al. 2005). Only urbanisation explains some of the variation in overall levels of crime, but the correlation is fairly weak. It is well known that crime is generally associated with younger men, offenders as well as victims. At the macro-level, however, only a weak positive correlation could be found between the proportion of young men in a country and levels of crime.

Figure 5.1

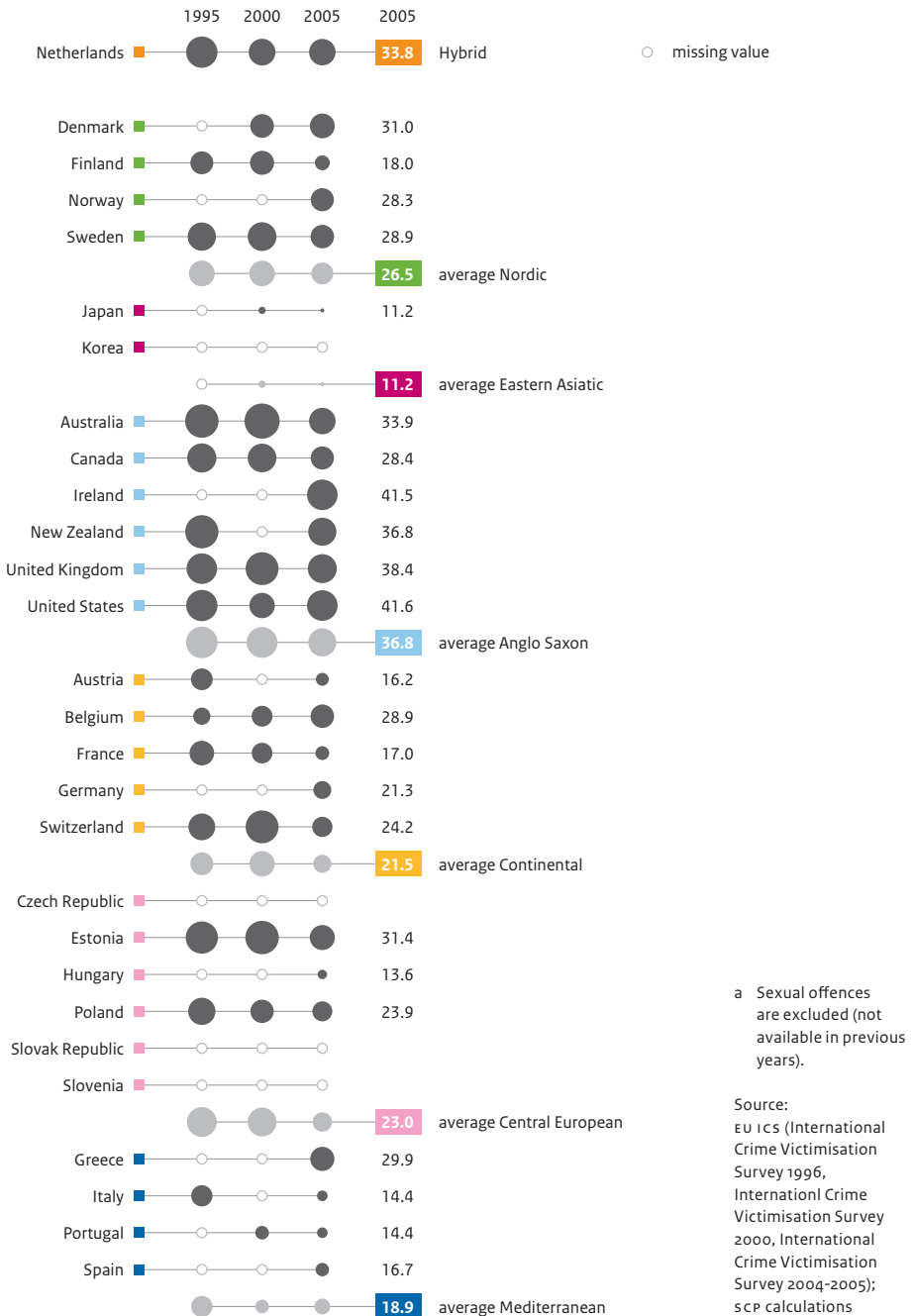
Number of offences per 100 inhabitants reported by victims, 2004/2005 (in incidence rates)



Source:  
EU ICS (International  
Crime Victimization  
Survey 2004-2005) SCP  
calculations

Figure 5.2

Number of offences per 100 inhabitants reported by victims, 1995-2005<sup>a</sup> (in weighted rates)



For some countries, including the Netherlands, reported crime figures are available for several years. For reasons of presentation, this information needs to be reduced to an index for the overall crime rate. To construct a crime index, all types of crime should be weighted by severity of offence. Severity can be calculated on the basis of sentencing by judges or the evaluation of citizens. But there are some objections to weighting, mainly because special circumstances can influence judgements (Van Kerckevorde 1995). Here, we use a weighting scheme produced by *INP* (Informatiemodel Nederlandse Politie). The time series of reported crimes are presented in figure 5.2.

Due to the omission of sexual offences in figure 5.2 (data on earlier years are not available), the levels of crime in figure 5.2 are lower than in figure 5.1. In most countries crime rates have dropped in the recent period. The figures indicate a general downward trend in victimisation by common crime. In the Netherlands, the fall in reported crime took place in the second half of the 1990s. All kinds of reported crime decreased in the Netherlands, except violence. In other countries, the reduction occurred between 2000 and 2005, except in Belgium, where crime rates were still increasing.

There is no clear explanation for this decline. Demographic factors could be partly responsible (share of young people declined, urbanisation stabilised), but this can hardly be the real story. An increasingly repressive law enforcement regime might be an additional explanation, for instance a higher chance of being caught by the police or of more severe punishments. Since 2002, the Dutch government has invested heavily to eliminate arrears throughout the criminal justice chain. No formal evidence is available for other countries. Since the decrease in crime has been most pronounced in property crimes, increased use of crime prevention measures may be a common factor behind the general downward trend in overall levels of crime (Van Dijk et al. 2005).

### Levels of recorded crime

We now switch from reported victim data to recorded police data. As was stated earlier, these results should be interpreted with caution because of different definitions of crime and differences in the organisation and functioning of the police system. For instance, a positive relationship is generally found between economic performance and crime, but this relationship is misleading because of these differences. High economic performance typically results in a more exhaustive registration process, and hence higher crime figures. Soares (2004) worked out this relationship by using figures on reported and recorded crime in an econometric panel model of crime. He found that the positive correlation between economic performance and crime, often found in cross-sectional analyses, is entirely caused by the use of official records. In his econometric analyses, it was not welfare but inequality which turned out to be the most important predictor of crime. Income inequality is part of the social index in our analyses.

Figure 5.3

Number of offences per 100 inhabitants recorded by the police, 1995-2008 (in weighted rates)

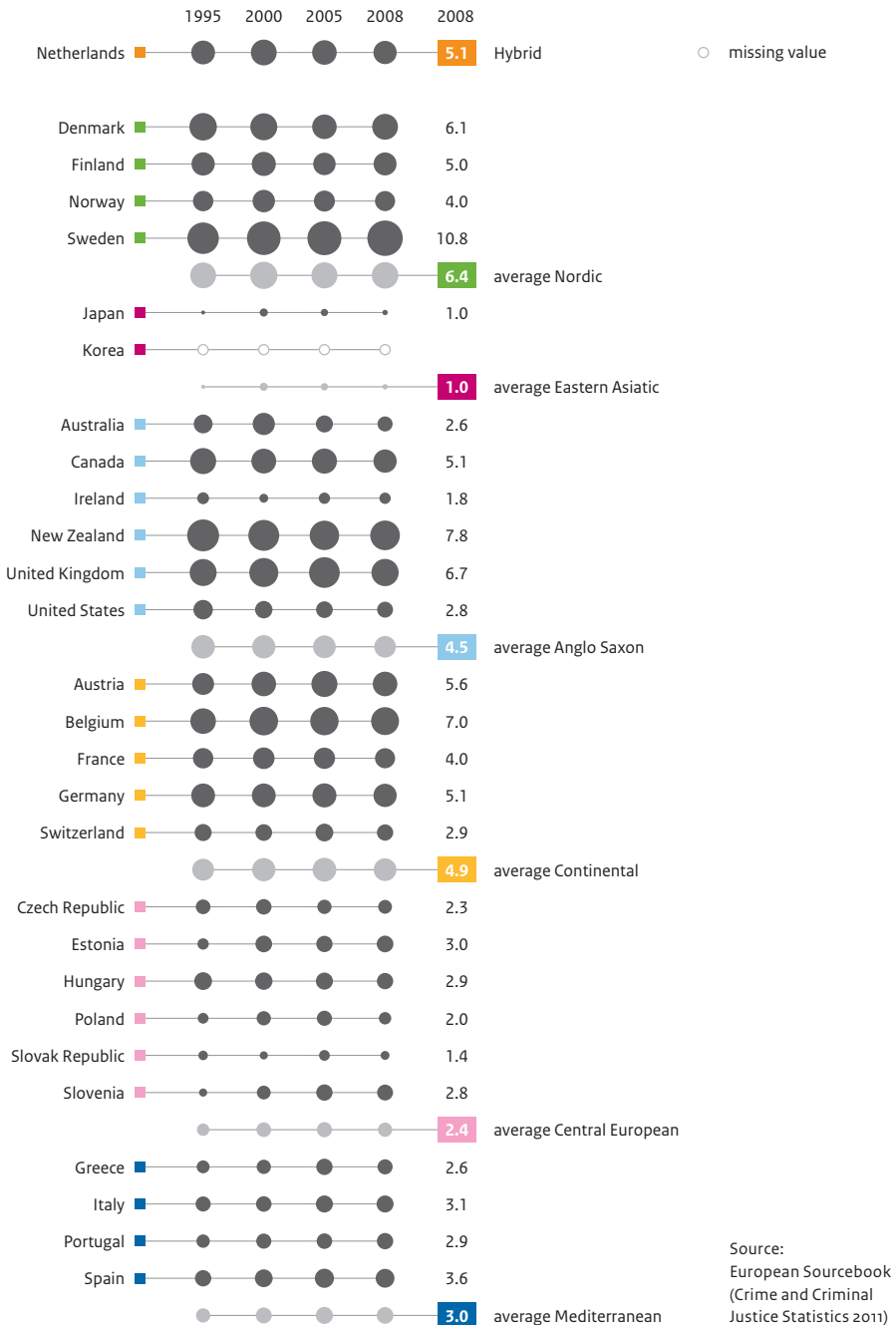


Figure 5.3 shows the number of recorded crimes per 100 inhabitants. The crime level is presented for 1995; the numbers for other years represent in- or decreases relative to earlier years. Here, and elsewhere in this chapter, traffic offences are not included in the figures. Offences in figure 5.3 are weighted by severity of offence.

The first conclusion is that crime recorded by the police is just a fraction of the crime reported by victims; reported crime is about five times higher than recorded crime. The second conclusion is that the same overall picture emerges: in general, crime rates are decreasing. Some decreases are concentrated in the 1995-2000 period (especially Anglo-Saxon countries), some in the 2000-2005 period (especially Nordic countries) and some in the 2005-2008 period (most countries). The third conclusion is that crime rates in all Mediterranean countries and some Central European countries are higher in 2008 than in 1995. The same holds for Belgium, Austria and Sweden. Finally, at the level of individual countries, the figures for recorded and reported crime diverge. In the case of the Netherlands, rates of recorded and reported crime are both rather high, but reported crimes decrease in the period before 2000, whereas recorded crimes do not decrease until after 2000. Furthermore, as regards reported crime, the USA, Ireland, New Zealand, the Netherlands and Denmark rank on top, while Sweden, the UK, New Zealand, Belgium and Denmark rank on top for recording crime. The ranking is thus rather different and the correlation is fairly weak (correlation equals .20).

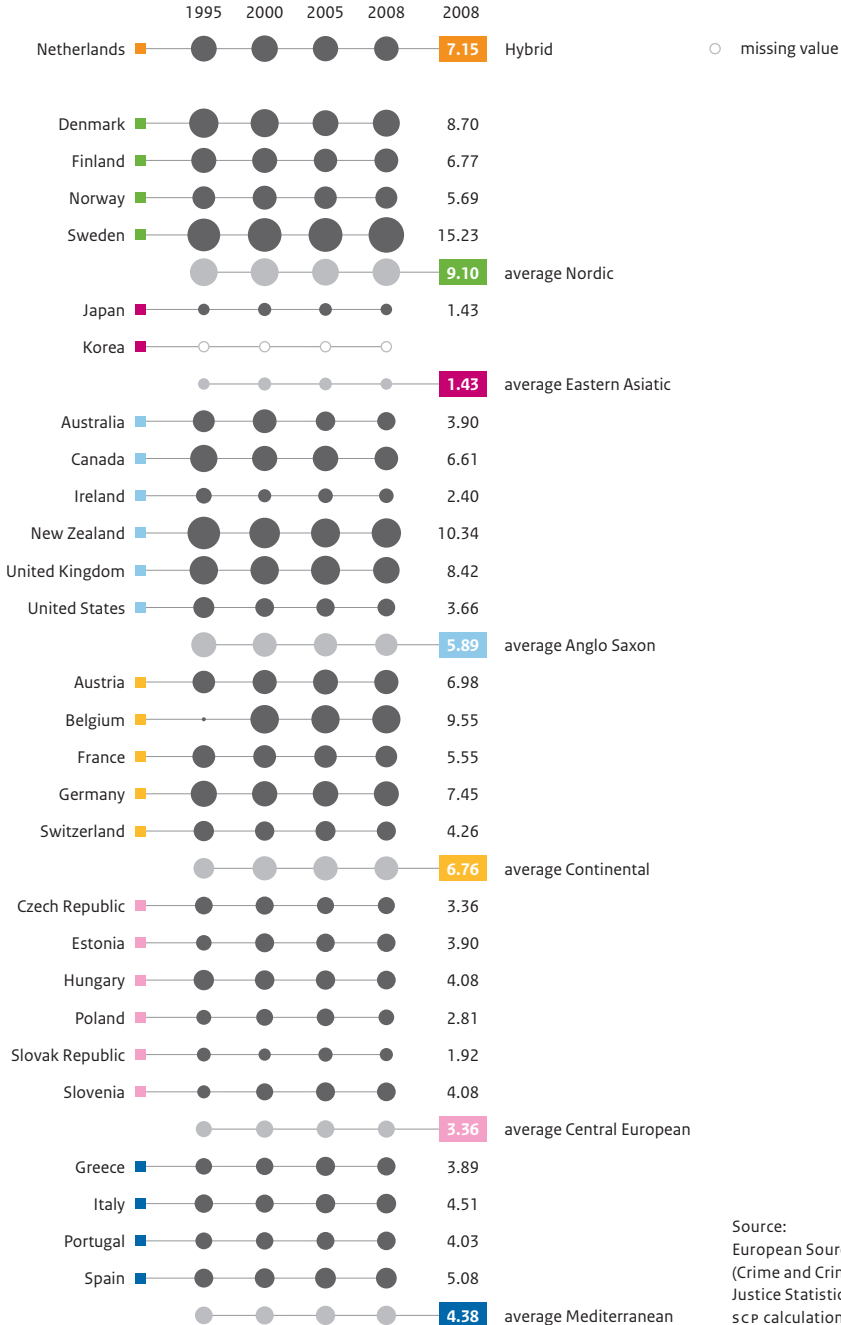
Figures 5.4 to 5.8 provide information on five serious types of crime: violent crime, robbery, domestic burglary, theft of motor vehicles and drugs-related crime. Vandalism and traffic offences have been excluded, so the totals in figure 5.4 are not consistent with those in figure 5.3.

The numbers in figures 5.4 to 5.8 diverge considerably, indicating not only differences in the actual occurrence of various offences, but also differences in the definitions, reporting and recording of crime between countries. For instance, Austria generally enjoys a rather low level of crime, but violent crimes seem to occur relatively frequently. In general, violent crime is high in Anglo-Saxon countries (UK, New Zealand, Canada) and low in Mediterranean and Central European countries. The Netherlands is ranked in between these groups. Robbery is not specific to a particular country group but it is to some individual countries like Denmark, Belgium, Spain, the United States and the United Kingdom. The same holds for motor vehicle theft (recorded frequently in Sweden, Denmark and New Zealand), but not for domestic burglary, which is high in the Anglo-Saxon countries and some individual countries (Denmark and Belgium). Differences in drug abuse are strongly related to country specific circumstances and policy. For example, in the Netherlands the trade in drugs is fiercely prosecuted but the use of drugs is tolerated, but this is not the case in most other countries.

Since institutional factors dominate recorded crime rates, changes in crime rates are more interesting than the rates themselves. Hence figure 5.5 shows the trend in violence recorded by the police.

Figure 5.4

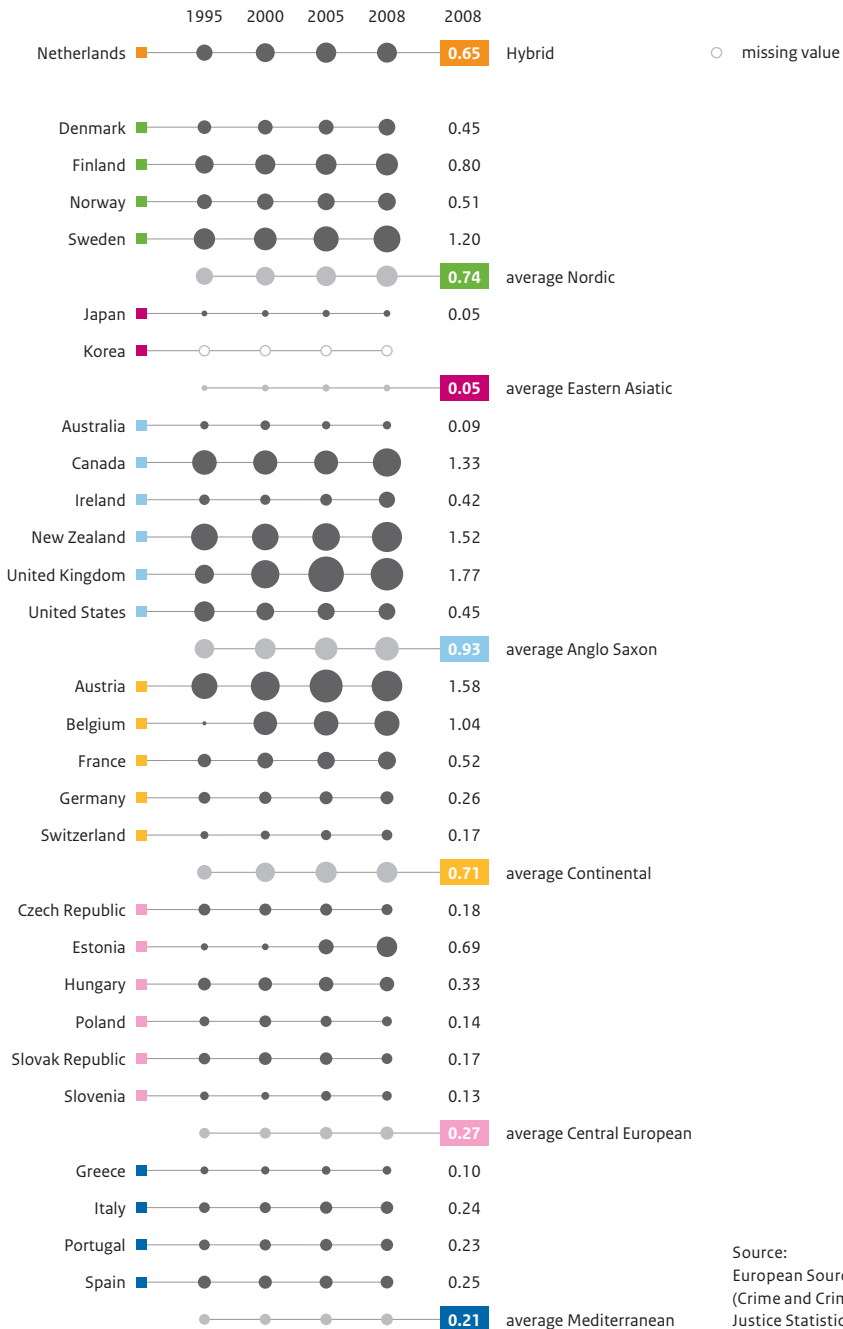
Number of recorded crimes per 100 inhabitants, 1995-2008 (in weighted rates)



Source:  
European Sourcebook  
(Crime and Criminal  
Justice Statistics 2011);  
SCP calculations



Figure 5.5  
Recorded violence per 100 inhabitants, 1995-2008 (in incidence rates)



Source:  
European Sourcebook  
(Crime and Criminal  
Justice Statistics 2011)

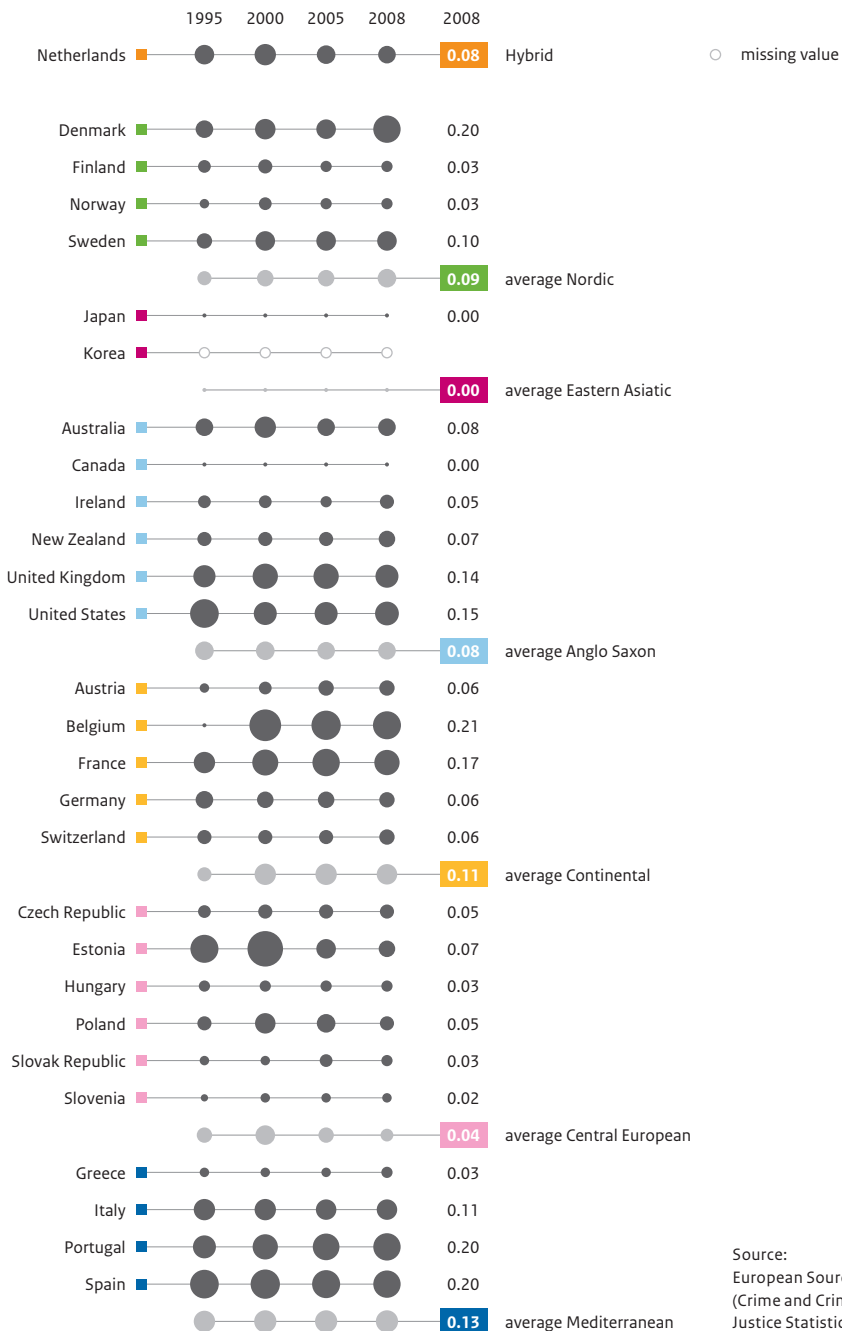
In general, violence is rising in all countries. But in Austria and the United Kingdom, the occurrence of violent crimes decreases after 2005. The same holds, but to a lesser degree, for the Netherlands and some Central European countries. In the USA, violent crimes show a decrease from 1995 onwards. Probably, combating violence against persons is more difficult than for other types of crime, although violent crimes are often the result of rational choice (Indermaur 1999). Other offences are decreasing (figures 5.6-5.8), probably because private and public protection can be arranged more easily.

Robbery encompasses activities like stealing or threat of force, including mugging and bag-snatching. A striking recent trend has been the falling levels of recorded robbery in new Eastern EU member states such as Poland, Estonia and Slovakia. There are some indications that this type of crime, especially organised crime, is moving from these Eastern countries (including Lithuania, Romania and Bulgaria, not included in our analysis) to Central and Western European countries. Not only may opportunity factors be responsible for this kind of crime migration, but also deterrence factors such as the chance of being caught and the severity of punishment. The same goes for vehicle theft, which has decreased in most countries but more especially in some Eastern countries like Poland and Estonia.

The Netherlands has witnessed a shift in raids away from large companies and financial establishments to small companies and shops, which is commonly assumed to stem at least partly from the increasingly heavy security measures taken by larger companies (Rovers et al. 2010). It is not clear whether this is a wider trend that is also emerging in other countries.

Trends in domestic burglary are generally decreasing, especially in Anglo-Saxon countries. Belgium seems to be a curious exception. Decreasing trends in domestic burglary can be attributed to a rapid increase in security measures taken by citizens to protect (and insure) their homes, for instance with better locks and alarm systems. In the Netherlands, large-scale public campaigns and differentiated insurance premiums have successfully encouraged such measures. However, according to Vollaard, Versteegh en Van den Brakel (2009) imposing restrictions on opportunities, such as better private prevention, cannot be the whole story in explaining diminishing theft and burglary. They conclude after an investigation in the Netherlands that offender-related factors and the public programme to reduce crime must also play a role. The public programme consisted of evidence-based actions to reduce crime: more severe and specific police action, intensifying the detection, prosecution and punishment of criminal activities and longer imprisonment of repeated offenders addicted to drugs. Offender-related factors could not be found because most of these factors (like the growth in one-parent families) indicated an increase of crime. According to Durlauf and Nagin (2011), substantial marginal deterrent effects can be achieved by increasing the visibility of the police, thus heightening the perceived risk of arrest.

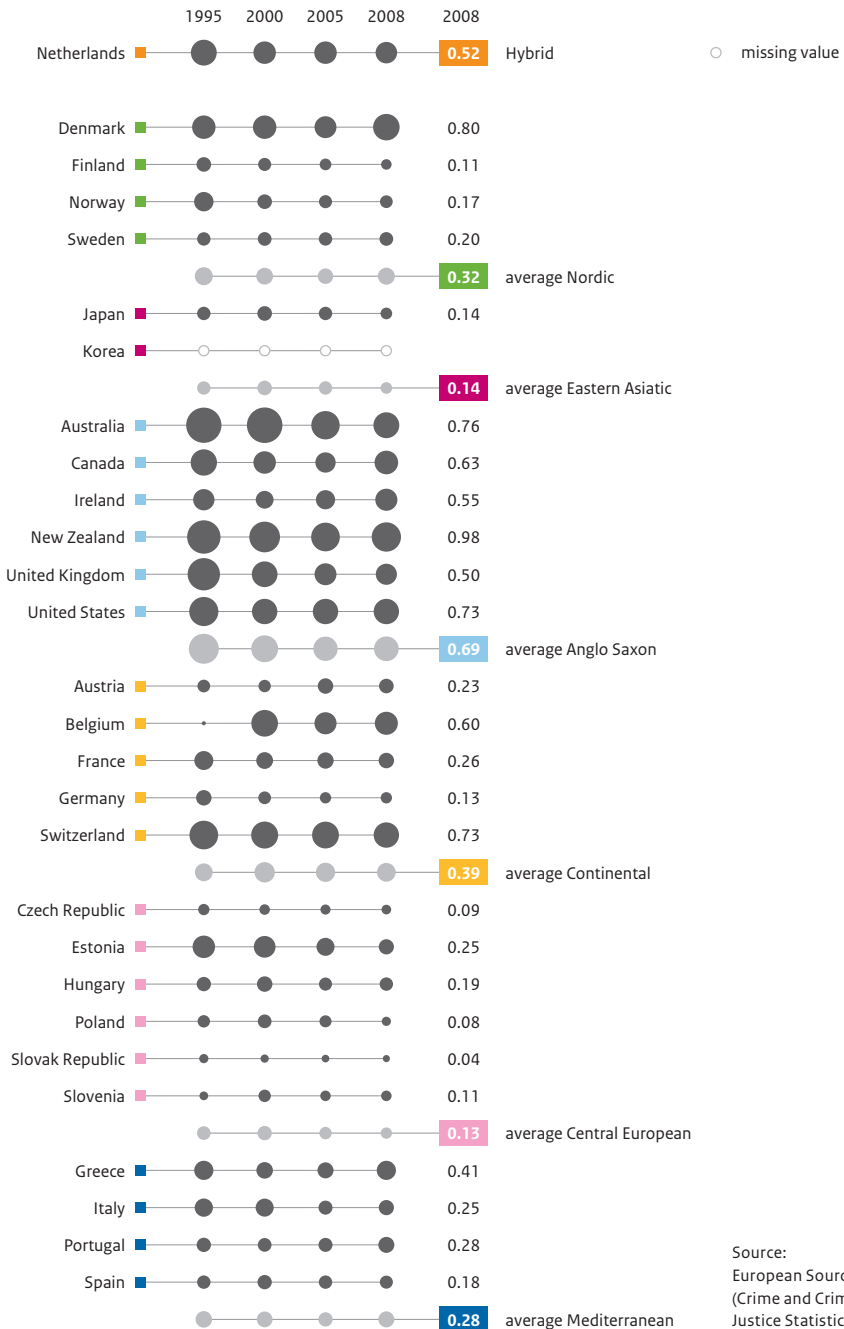
Figure 5.6  
Recorded robbery per 100 inhabitants, 1995-2008 (in incidence rates)



Source:  
European Sourcebook  
(Crime and Criminal  
Justice Statistics 2011)

Figure 5.7

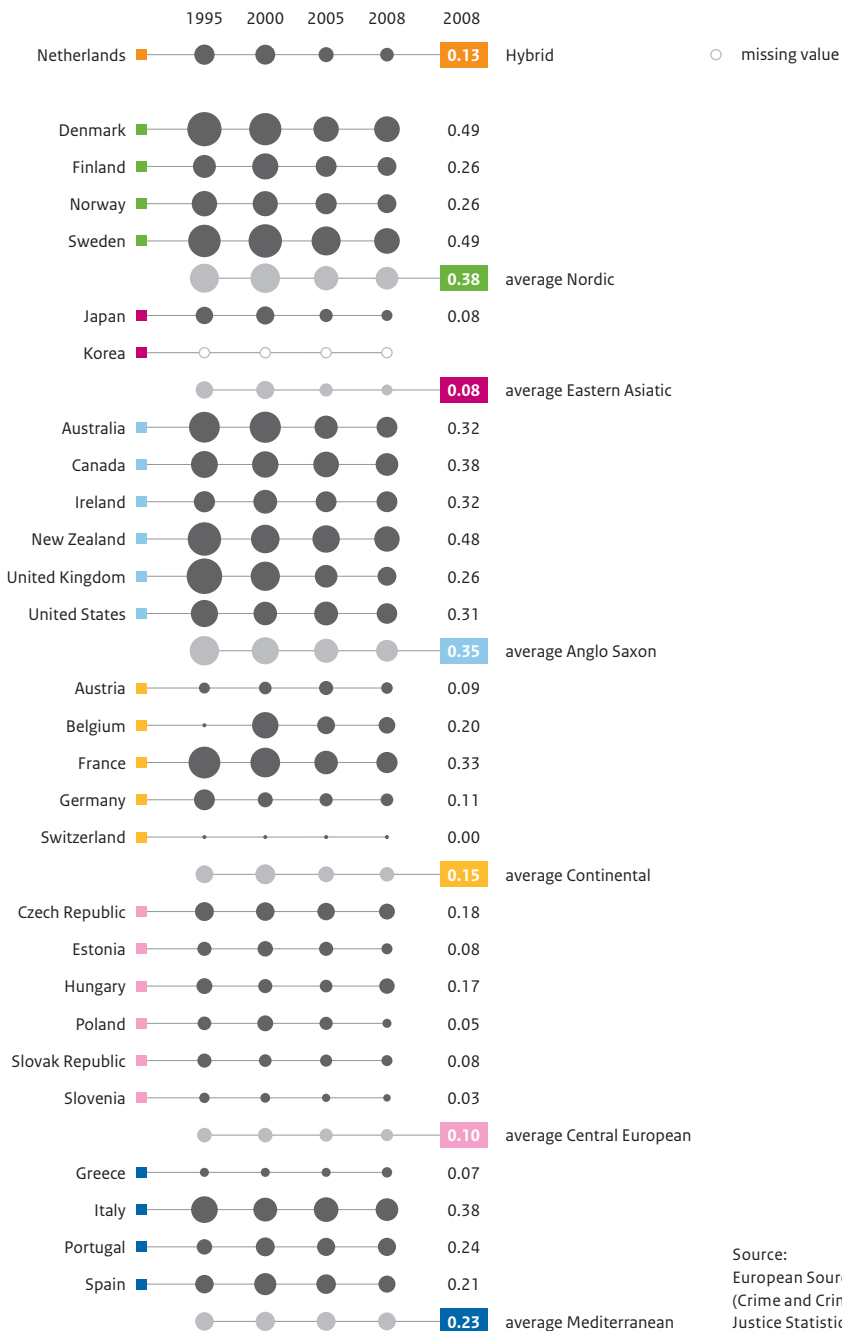
Number of recorded domestic burglaries per 100 inhabitants, 1995-2008 (in incidence rates)



Source:  
European Sourcebook  
(Crime and Criminal  
Justice Statistics 2011)

Figure 5.8

Number of recorded motor vehicle thefts per 100 inhabitants, 1995-2008 (in incidence rates)



Source:  
European Sourcebook  
(Crime and Criminal  
Justice Statistics 2011)

Levels of vehicle theft have decreased considerably in most countries, especially in Anglo-Saxon, Nordic and Continental countries. This is probably due to better private prevention in the form of protection of motor vehicles, largely because of security arrangements built in by manufacturers.

## 5.2 Determinants of crime

Crime is influenced by various social and economic factors, which contribute to differences between countries and trends over time. In this section, several factors that have proved relevant in the criminological literature are related to crime rates. We start with demographic, social and economic variables to compare the different countries (see chapter 2). These variables consist of population growth, dejuvenation and ageing (demographic dimension), welfare, economic growth and unemployment (economic dimension) and labour participation, income inequality and ethnic composition (social dimension). Among the relevant factors for social safety not included in these variables are urbanisation, single-parent families and (the speed of) social change.

Unfortunately, insufficient information is available on trends in reported crime. We therefore have to fall back on time series of recorded crime to observe whether changes in crime are related to changes in demographic, social or economic situations. As mentioned earlier, recorded crime rates are strongly influenced by differences in definitions of crime and differences in the performance of the police and courts. Differences in the levels of recorded crime therefore obscure real differences in crime rates between countries. According to Soares (2004), this can be explained by the distorting influence of levels of welfare. For example, if rates of recorded crime are corrected for different levels of welfare, income inequality, which is part of the social dimension, plays a significant role. Our assumption is that changes in recorded crime between countries tell us more about the potential causes of crime than differences in levels of recorded crime between countries.

Table 5.1 provides an overview of the correlations between the outcome index for crime (reported crime by victims) and the different societal indicators from chapter 2.

In general, there is a fairly strong relationship between the national resilience barometer, representing societal strength, and reported crime (figure 5.9). This positive association seems contra-intuitive, suggesting that better circumstances are generating poorer safety outcomes. However, the most important determinants of this relationship, the share of under 15 years-olds and over 65 years-olds in relation to the labour force, have an opposite effect regarding welfare (chapter 2) and social safety. While in general a growing juvenile population stimulates economic growth, this same phenomenon generally leads to more crime. Less intuitive is the positive relationship between types of public finance and reported crime. Most countries with good public finance management show high reported crime rates in 2005 (Anglo-Saxon countries), while most countries with weak public finance management show low reported crime rates (Italy, Hungary, France, Japan).

Table 5.1

Correlation between reported crime and elements of the national resilience barometer, 2005  
(in Pearson's correlation coefficients and significance)

	correlation	p-value
national resilience barometer	0.68*	0.03
demography		
growth of population	0.41	0.15
number of under 15 year-olds/potential labour force	0.67*	0.01
number of over 65 year-olds/potential labour force <sup>a</sup>	-0.62	0.07
economy		
GDP per capita in euros (PPP)	0.40	0.14
average annual growth of real GDP per capita	0.08	0.79
unemployment rate <sup>a</sup>	-0.31	0.29
social circumstances		
labour participation (all, women, 55-64 year-olds)	0.42	0.14
income inequality (gross income) <sup>a</sup>	-0.17	0.61
percentage of citizens born in a non-developed country <sup>a</sup>	0.25	0.49
public finances		
public expenditure as percentage of GDP <sup>a</sup>	-0.42	0.19
government surplus/deficit <sup>a</sup>	0.39	0.20
public debt <sup>a</sup>	-0.51	0.11

\* Significant ( $\alpha = 0.05$ ).

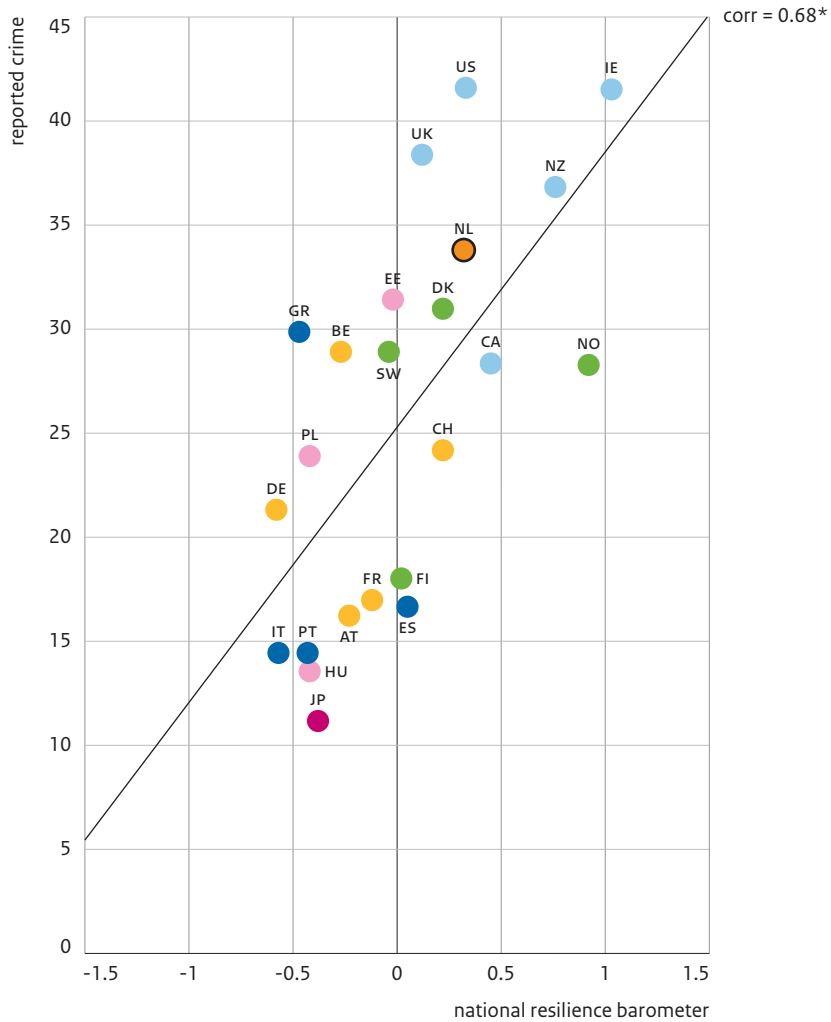
a These indicators have a negative weight in the index (see chapter 2).

Source: EU-ICS (ICVS 2004-2005); US Bureau Census (International Data Base 2011); OECD Statistics (National Accounts 2011, Labour Force Statistics 2011, International Migration Database 2011); Solt (SWIID '11); IMF (World Economic Outlook Database 2011); Eurostat (Government Statistics 2011); SCP calculations

A high score on this index points to an increasingly juvenile population. This relationship is consistent with the literature on crime, according to which a higher proportion of young people contributes to a higher level of crime (Hirschi and Gottfredson 1983). Young men, minors as well as young adults, are largely overrepresented among arrested suspects (Van Noije 2011), commonly explained by their experimental and riskier lifestyles. This relationship is confirmed in figure 5.11. Although this figure includes men as well as women, the share of the two sexes in the population hardly differs. If we substitute reported crime (by victims) with recorded crime (by the police) and relate recorded crime rates to the share of young men in the population, a weak inverse relationship emerges. This is because the share of young men in most Eastern countries and some Southern countries is high while recorded crime rates are low. If we substitute levels with changes in levels (from 2000 to 2008), no relationship can be found between (changes in) the share of young men and (changes in) recorded crime rates. Other relevant factors may thus overshadow the relationship between young men and recorded crime at country level.

Figure 5.9

Relationship between national resilience barometer and reported crime, 2005 (in index scores and weighted rates)



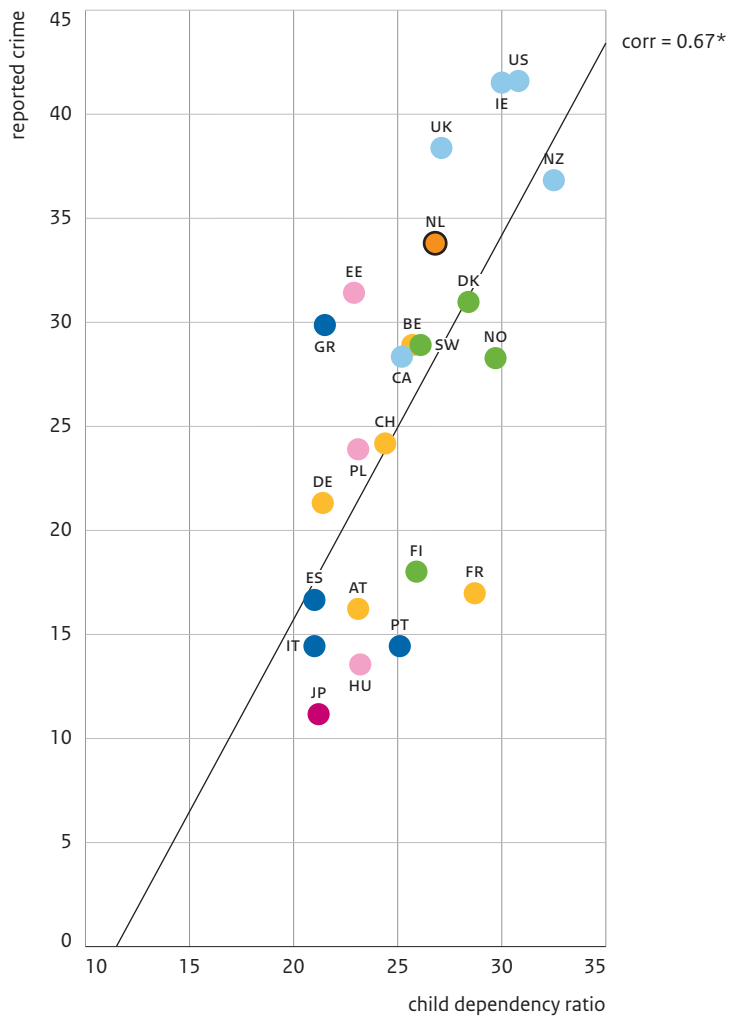
\* Correlation is significant (p-value is 0.00).

Source: EU-ICS (ICVS 2004-2005); US Bureau Census (International Data Base 2011); OECD Statistics (National Accounts 2011, Labour Force Statistics 2011, International Migration Database 2011); Solt (SWIID 2011); IMF (World Economic Outlook Database 2011); Eurostat (Government Statistics 2011); SCP calculations



Figure 5.10

Relationship between share of 15 years-olds related to the potential labour force and reported crime, 2005 (in percentages and weighted rates)



\* Correlation is significant (p-value is 0.00).

Source: EU-ICS (ICVS 2004-2005); US Census Bureau (International Data Base 2011); SCP calculations

### 5.3 Use of resources

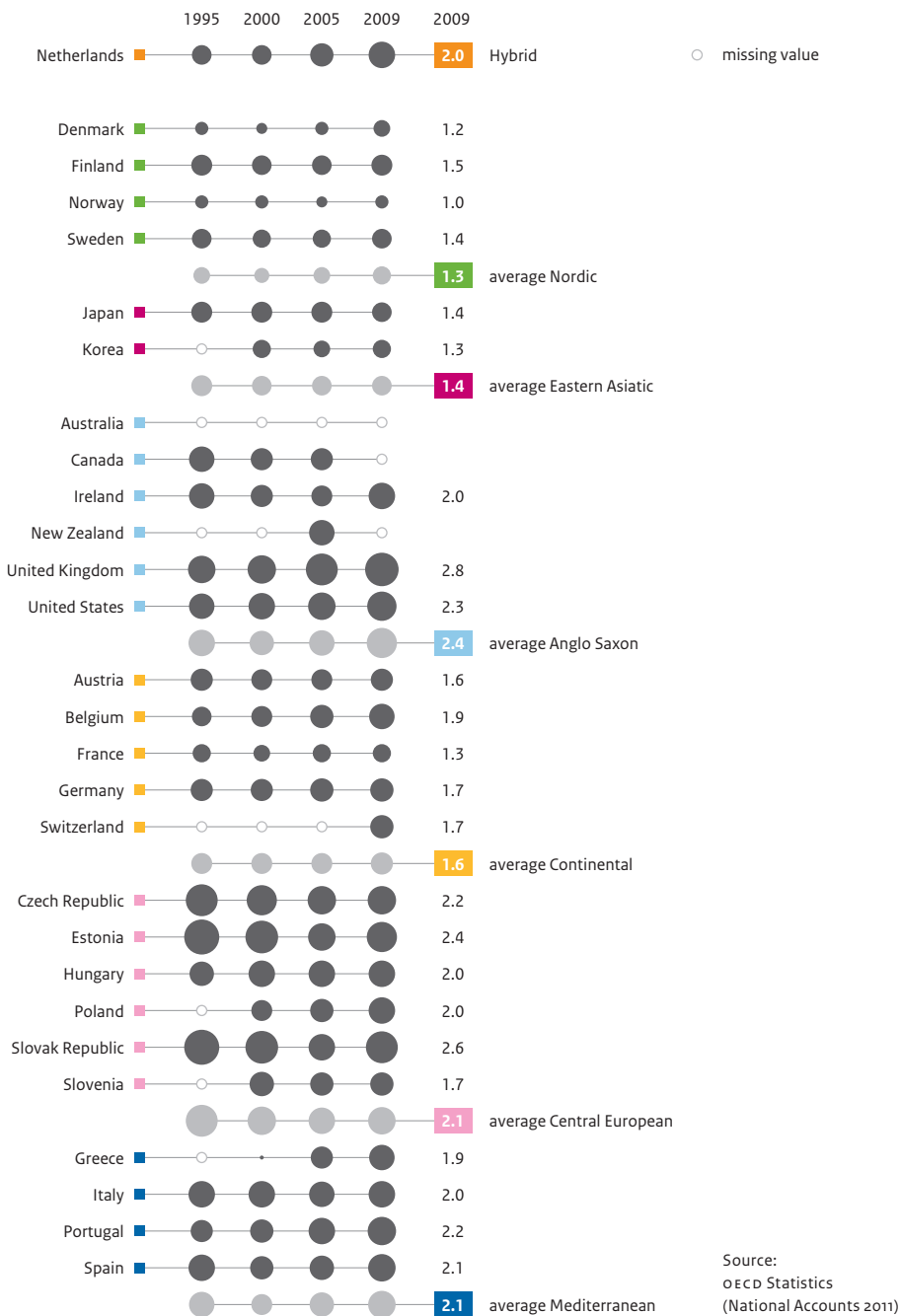
The public performance in terms of social order and safety not only depends on demographic, social and economic circumstances, but also on the deployment of financial and human resources. According to quasi-experimental evaluation studies by Van der Torre and Van Tulder (2001), Vollaard (2005), Vollaard and Koning (2005) and Urlings and Blank (2011), increases in police resources and personnel result in lower levels of crime. Machin and Marie (2005) confirm the positive relationship between police resources and crime. They used a large-scale policy intervention and created a quasi-experimental design. Additional resources were allocated to only some police forces to combat crime. They found that robberies fell significantly in the areas that received additional resources and concluded in this experiment that additional annual benefits outstripped the additional annual cost by a factor of five.

To discover the causal relationship between the deployment of resources and levels of crime, we need a dynamic approach. Changes in deployment of resources should be related to changes in levels of crime in later years. Low levels of crime can be the result of high deployment of resources but, conversely, high levels of crime can induce high deployment of resources. So, high deployment of resources at one moment in time can be the result of high crime rates as well as the cause of low crime rates. However, dynamic analysis goes beyond the aim of this report. As a result, the causal relationship between resources and crime remains a little obscure.

Figure 5.11 presents information on public expenditure on law and order as a share of GDP. This information is derived from the OECD classification of the functions of government (COFOG). Law and order in COFOG encompasses police services, law courts, prisons, fire services and R&D for public order and safety. This is a rather broad definition, encompassing more expenditure than for the police and courts as in this chapter. This could obscure some of relationships analysed in this section.

Figure 5.11

Public expenditure on law and order as a share of GDP, 1995-2009 (in percentages)



Relative spending on public order is high in the United Kingdom (2.8% in 2009) and some Central European countries (Slovakia 2.6%, Estonia 2.4%). The Mediterranean countries as well as the Netherlands spend about 2% of GDP on law and order. Spending is rather low in the Nordic and Continental countries. Changes in the share of spending on law and order since 1995 are rather limited and mainly restricted to some Central European countries. Furthermore, expenditure has increased in the United Kingdom, Portugal and the Netherlands.

No significant relationship exists in figure 5.12 between the level of reported crime by victims and the share of GDP spent on social safety (correlation equals 0.15). Likewise, no relationship exists between changes in recorded crime and changes in the share of GDP spent on law and order. Unfortunately, private spending on social safety could not be taken into account.

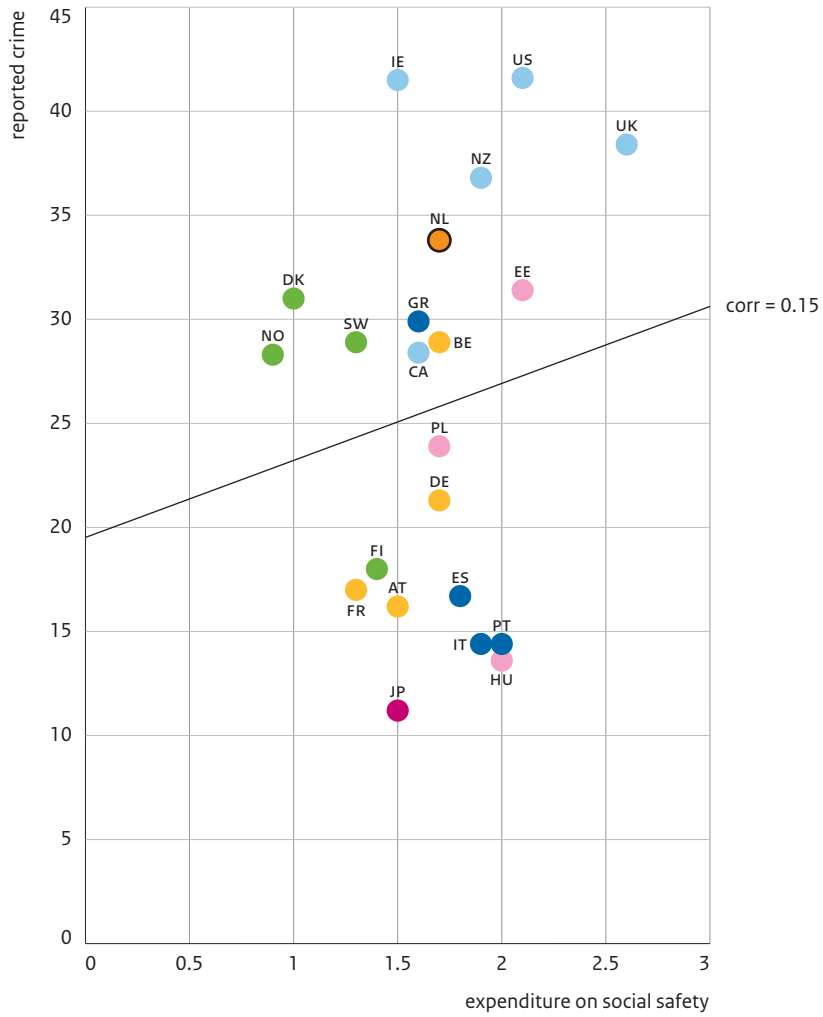
Figures 5.13 and 5.14 describe the trend in the deployment of personnel to bring safety to society. Police staff ratios are high in Mediterranean countries and low in Nordic countries (figure 5.13). We observe high ratios in some Central European countries (Czech Republic and Slovenia) and low ratios in some Anglo-Saxon countries (Canada and New Zealand). In the Netherlands, the police staff ratio is rather low. Ratios have increased in Slovenia and Greece and decreased in Slovakia and Estonia. In other countries, police staff ratios are fairly stable over time.

The picture is less clear as regards correctional personnel. We observe rather high ratios in the Central European countries and the United Kingdom and rather low ratios in diverse countries such as Spain, Ireland, Austria, France and the Nordic countries.

Reported crime and the share of police personnel are negatively correlated, although the relationship is just not significant at the 5% level (correlation equals  $-0.39$ , see figure 5.16). This suggests a positive effect of police force on social safety, although causality remains unclear. Because of the expected negative correlation between police capacity and crime, the role of deterrence deserves additional attention. This effect can be direct or indirect. A direct effect is apparent when crime drops due to the *actual* chance that offenders will be caught and brought to justice, reducing recidivism (specific deterrence). An indirect effect occurs when crime drops because of the *perceived* chance of being caught and brought to justice among potential offenders, which prevents them from offending (general deterrence).

Figure 5.12

Relationship between expenditure and reported crime, 2005 (in percentages of GDP and weighted rates)



Correlation is not significant (p-value is 0.51).

Source: OECD Statistics (National Accounts 2011); EU-ICS (ICVS 2004-2005); SCP calculations

Figure 5.13

Number of police personnel per 100,000 inhabitants, 1995-2008

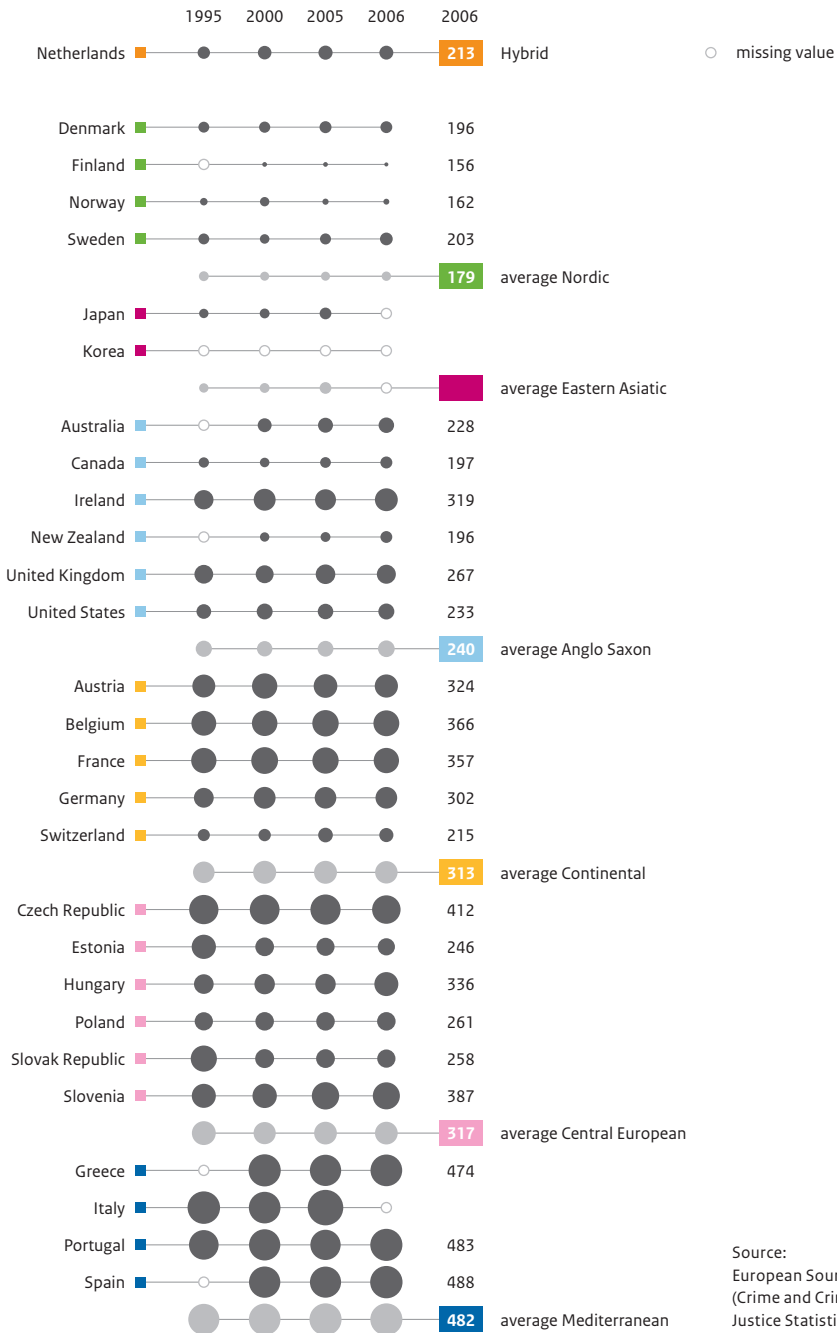


Figure 5.14

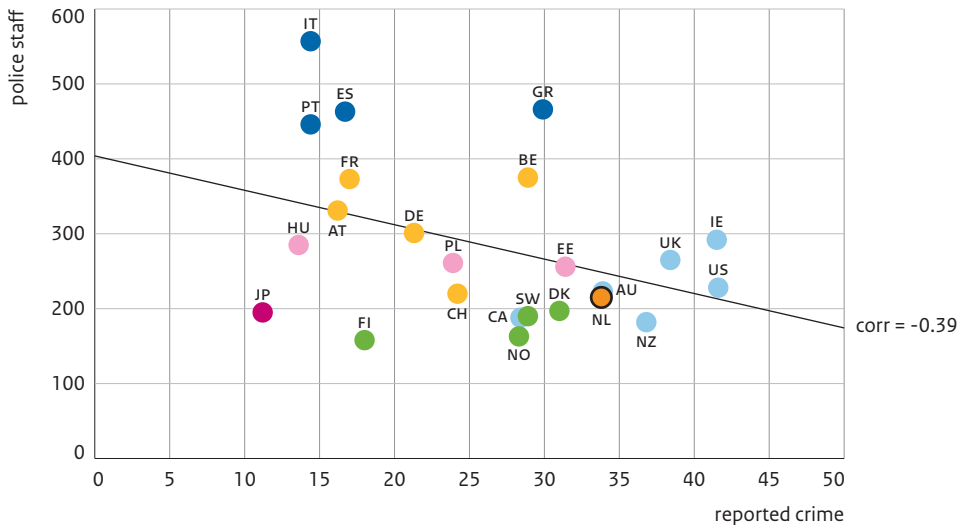
Number of correctional personnel per 100,000 inhabitants, 1995-2008



Source:  
European Sourcebook  
(Crime and Criminal  
Justice Statistics 2011)

Figure 5.15

Relationship between reported crime and number of police personnel, 2005 (in weighted rates and per 100,000 inhabitants)



Correlation is not significant (p-value is 0.06).

Source: European Sourcebook (Crime and Criminal Justice Statistics 2011); EU-ICS (ICVS 2004-2005); SCP calculations

#### 5.4 Deterrence

Deterrence refers to crime prevention through the risk of *arrest* and the risk of *punishment*. A distinction can be drawn here between general deterrence, preventing individuals in general from engaging in crime because of the risk of arrest and punishment, and specific deterrence, preventing actual criminals from engaging in crime. The risk of arrest and punishment may be assumed to prevent crime if potential offenders make a rational choice not to commit a crime. In general, this rational choice assumption is dubious, however (Greenberg et al. 1979). Van Tulder (1994) finds a deterrent effect of the risk of arrest but not of the risk of punishment, but Van der Torre and Van Tulder (2001) do find a deterrent effect of the risk of punishment. The deterrent effect of a perceived high chance of arrest is confirmed by a large-scale systematic review of (quasi-)experimental effect studies (Van Noije and Wittebrood 2008). However, this study did not find the increased risk of arrest to have a deterrent effect on offenders themselves (specific deterrence). If anything, it actually seemed to lower the threshold to committing new offences, especially among minors and for relatively minor offences. Likewise, in a solid panel study, Tauchen et al. (1999) found robust evidence of a general deterrence effect from the deployment of police resources, which seemed to have a stronger effect on first offenders than on regular offenders. They found no evidence for a specific deterrence effect.



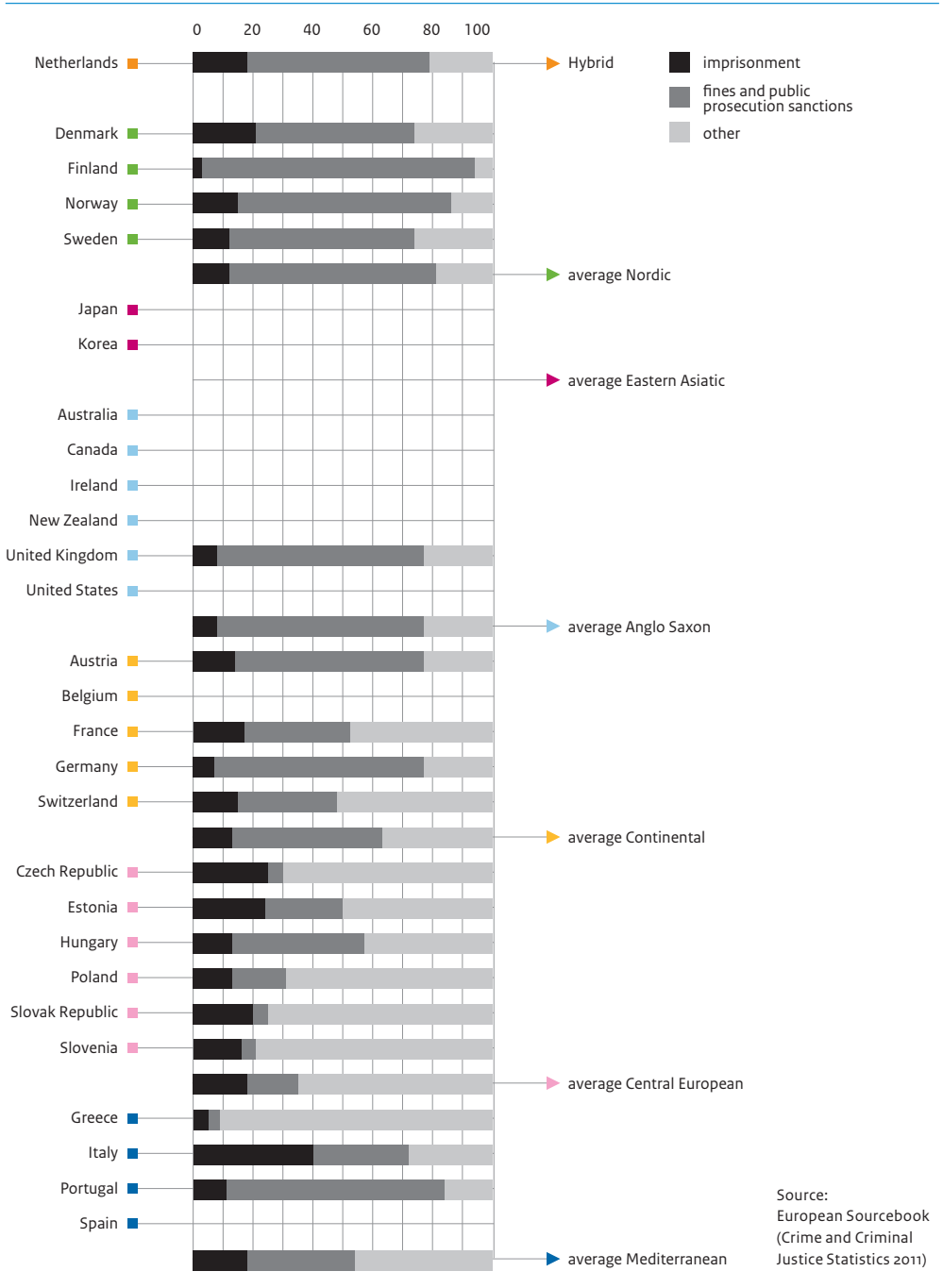
Evidence for general deterrence through the risk of punishment is less positive. For instance, Piliavin et al. (1986) conclude after panel-based empirical research that perceptions of rewarding opportunities influence criminal decisions, but perceptions of the risk of punishment do not. Cornwell and Trumbull (1994) observe that empirical literature suggests a strong general deterrent effect of punishment, but they present empirical evidence that the ability of criminal justice systems to deter crime is much weaker than existing literature suggests. This is because country-specific characteristics obscure the relationship between punishment and crime, which can only be clarified by panel data or time series.

In sum, deterrence at the micro-level, weighing the rewards of crime against its risks, appears to exist as far as the perceived risk of arrest goes. Given the lack of evidence for general deterrence through punishment and for specific deterrence through arrest, the effects on crime seem less robust than rational choice theory would suggest. The severity of punishments seems to have little by way of deterrence effect, nor is there any evidence that it helps to reduce recidivism (Van Noije and Wittebrood 2008), while public opinion in general (more than 80% of the EU population) demand more severe punishment of criminal activities (EU / TNS NIPO, Eurobarometer 2006). Durlauf and Nagin (2011) argue that it is generally more effective to shift available resources from severity-based policies (punishment) to risk-based policies (the chance of being caught).

Figure 5.16 distinguishes between three different types of punishment: imprisonment, fines and others sanctions. Imprisonment has one specific effect that the others lack: as long as a criminal is imprisoned, he or she cannot engage in criminal activities in the outside world (the effect of incapacitation). Despite this, in itself imprisonment has been found to bring about only small reductions in crime (DeFina and Arvanites 2002; Weatherburn 2004). In most countries, fines are the most common type of punishment. Imprisonment is especially high in Italy, while the number of fines is very low. In countries where 'other' types of punishment are high, this is often due to a large number of suspended prison sentences. Figure 5.17 shows the situation in 2006. In the Netherlands there is a shift (30%) from fines to other types of punishment. In Slovenia there is a large shift (more than 70%) from other punishments to imprisonment. In Denmark the number of fines increases relative to the other two types of punishment.

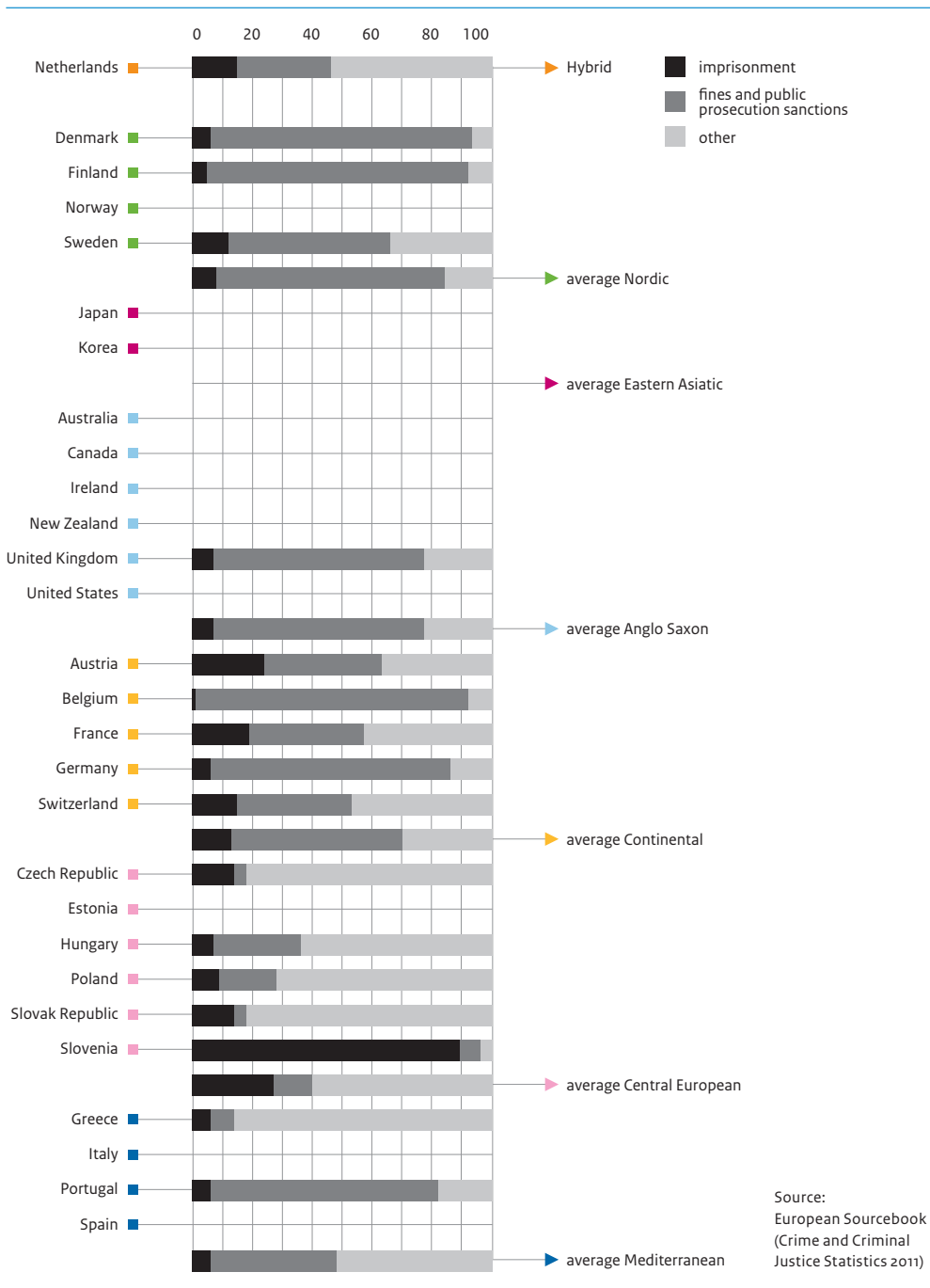
Figure 5.16

Share of types of punishment or measure, 1999 (in percentages)



Source:  
European Sourcebook  
(Crime and Criminal  
Justice Statistics 2011)

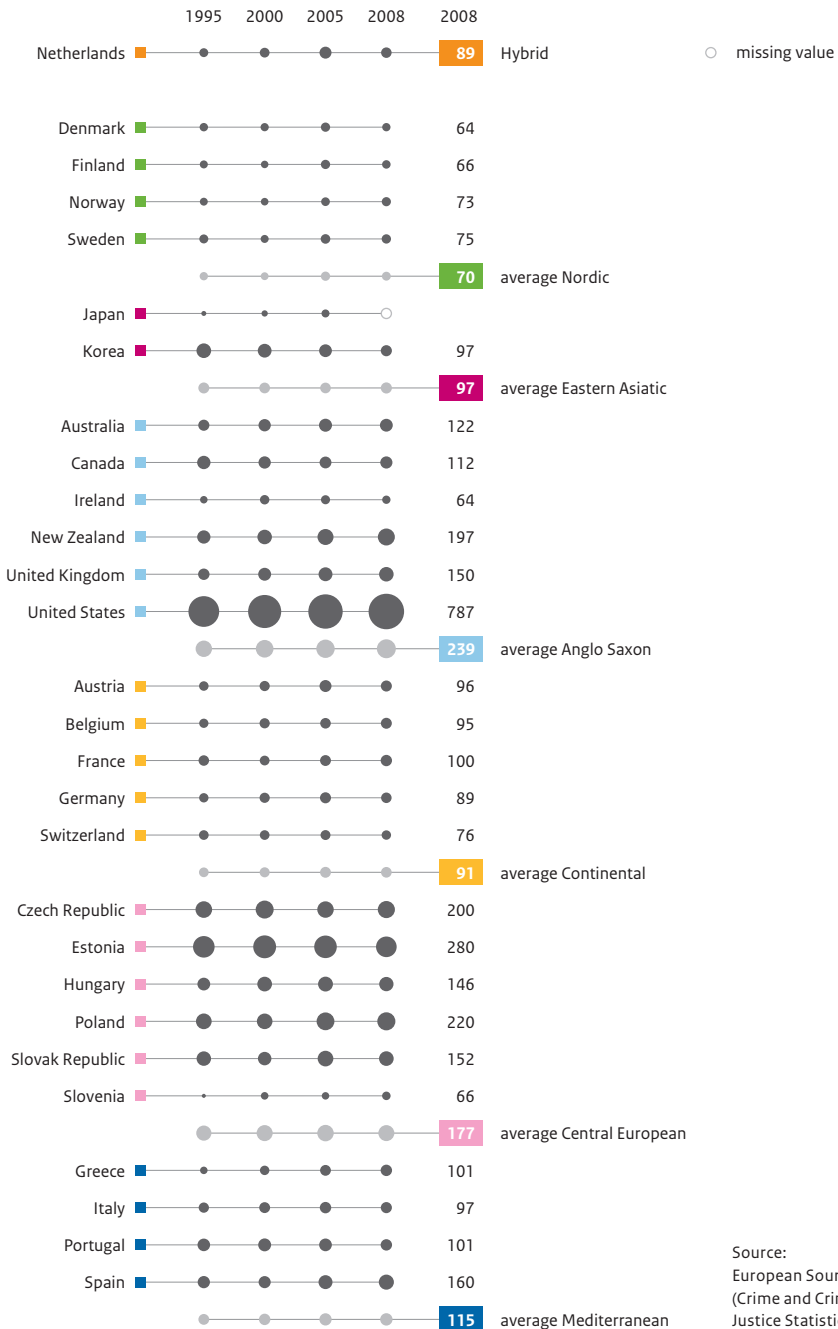
Figure 5.17  
Share of types of punishment of measure, 2006 (in percentages)



Source:  
European Sourcebook  
(Crime and Criminal  
Justice Statistics 2011)

Figure 5.18

Number of prisoners per 100,000 population, 1995-2008



Source:  
European Sourcebook  
(Crime and Criminal  
Justice Statistics 2011)

Figure 5.18 shows the number of prisoners per 100,000 people in the population in 2000, and the change in 2007. The prison population is highest for Estonia, but Poland is moving close. The prison population in the Netherlands is increasing compared to most other countries in the analysis. Unfortunately, figures for the USA are not available.

Clear-up rates, formerly collected by Interpol, are no longer available. We therefore have to use a proxy, in the form of the number of offenders (suspected persons) as a percentage of the number of recorded crimes: the offender ratio (figure 5.19).<sup>2</sup> Offender ratios in most countries are increasing, as in the Netherlands (between 1995 and 2005), but in some countries it is decreasing (UK) or stable (Italy). The same results were found by Smit et al. (2011). Finland scores more than 100%, due to the way in which they handle multiple offenders.

Another way to look at deterrence effects is to consider the ratio between convicted persons and recorded crime: the conviction ratio.

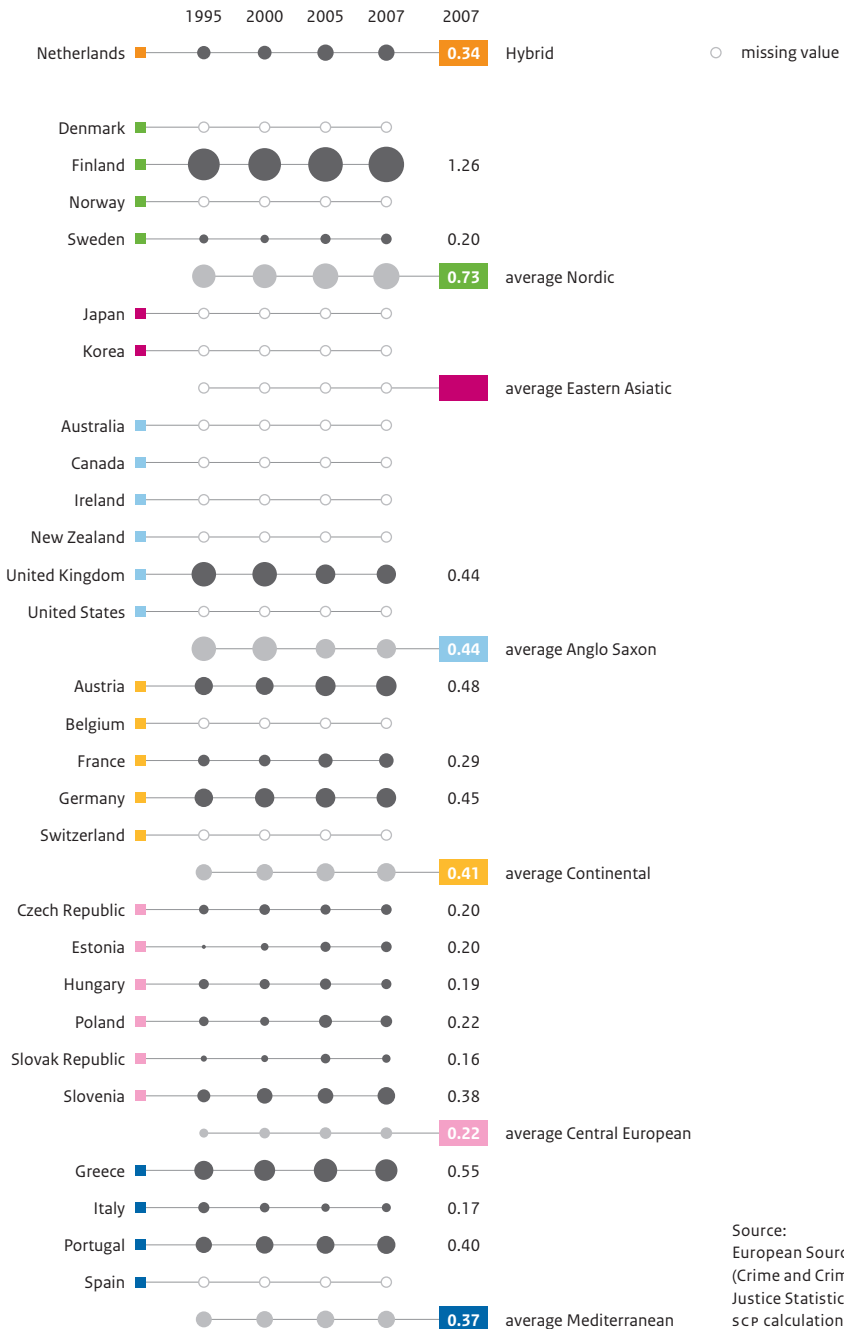
Between 1995 and 2005, most countries realized increasing conviction ratios. In some countries, especially the Mediterranean countries, conviction ratios have decreased. No clear country group trends can be observed. Central European countries perform well, with strongly increasing conviction ratios, and Mediterranean countries perform badly. Continental countries show a mixed performance, while that of the Netherlands is fairly stable. These results match with Smit et al. (2011), who found increasing conviction ratios in Central European countries and decreasing ratios in Mediterranean countries. No explanation was given for these trends.

When deterrence indicators are related to the number of offenders, a weak relationship can be observed. Conviction ratios, as expected, correlate negatively with the number of offenders per 100,000 of the population (figure 5.21). The more offenders are arrested and convicted, the smaller the number of offenders. This may be a deterrence effect, but the causality is not clear. The United Kingdom and Sweden diverge from the trend line.

Ignoring Estonia, a rather weak negative relationship can be observed between imprisoned persons and offenders, both per 100,000 of the population (figure 5.22). This relationship is in line with theoretical expectations: a higher imprisonment rate correlates with fewer offenders, suggesting some deterrence effect. It should however be borne in mind that the relationship is rather weak and that the causal relationship is not clear.

Figure 5.19

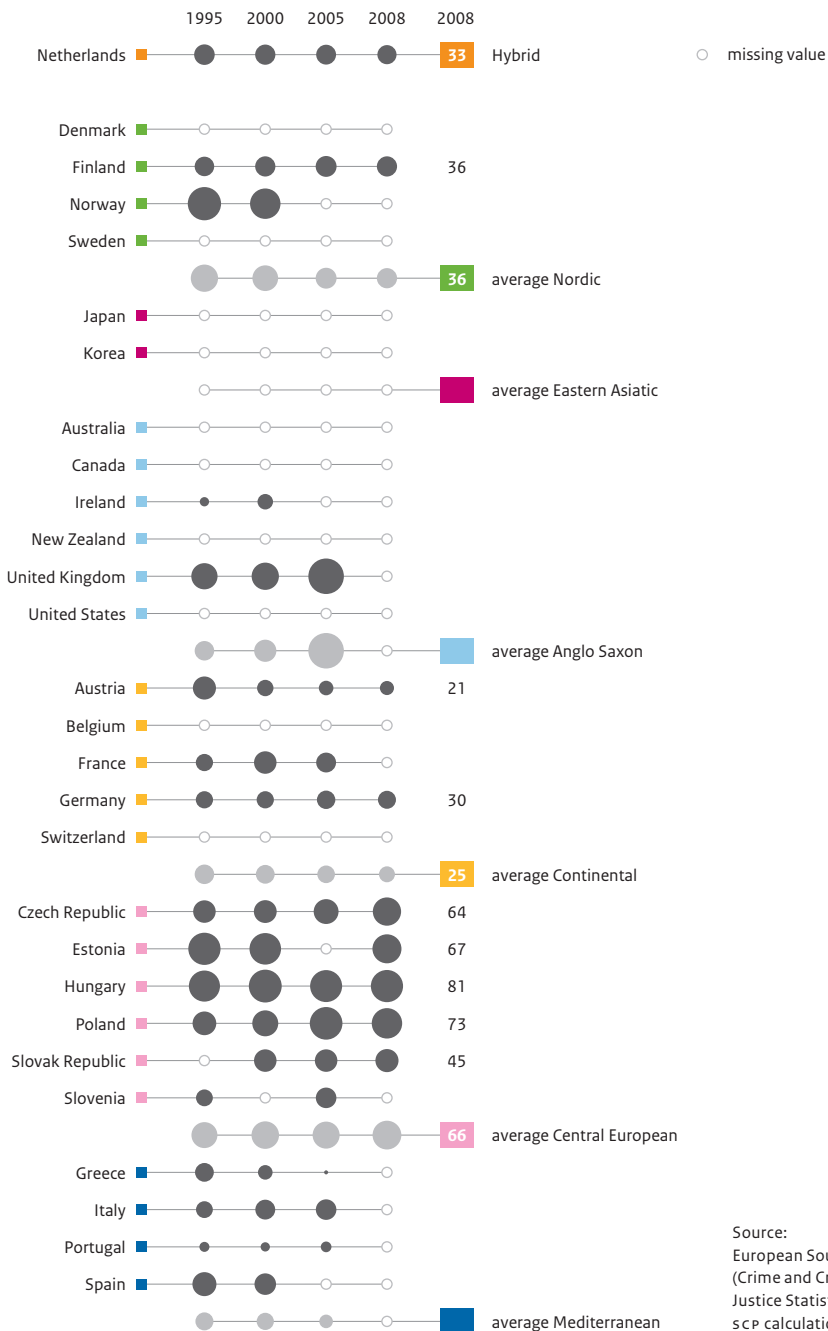
Offender ratio: offenders as a percentage of recorded crimes (proxy for clear-up rates), 1995-2007



Source:  
European Sourcebook  
(Crime and Criminal  
Justice Statistics 2011);  
SCP calculations

Figure 5.20

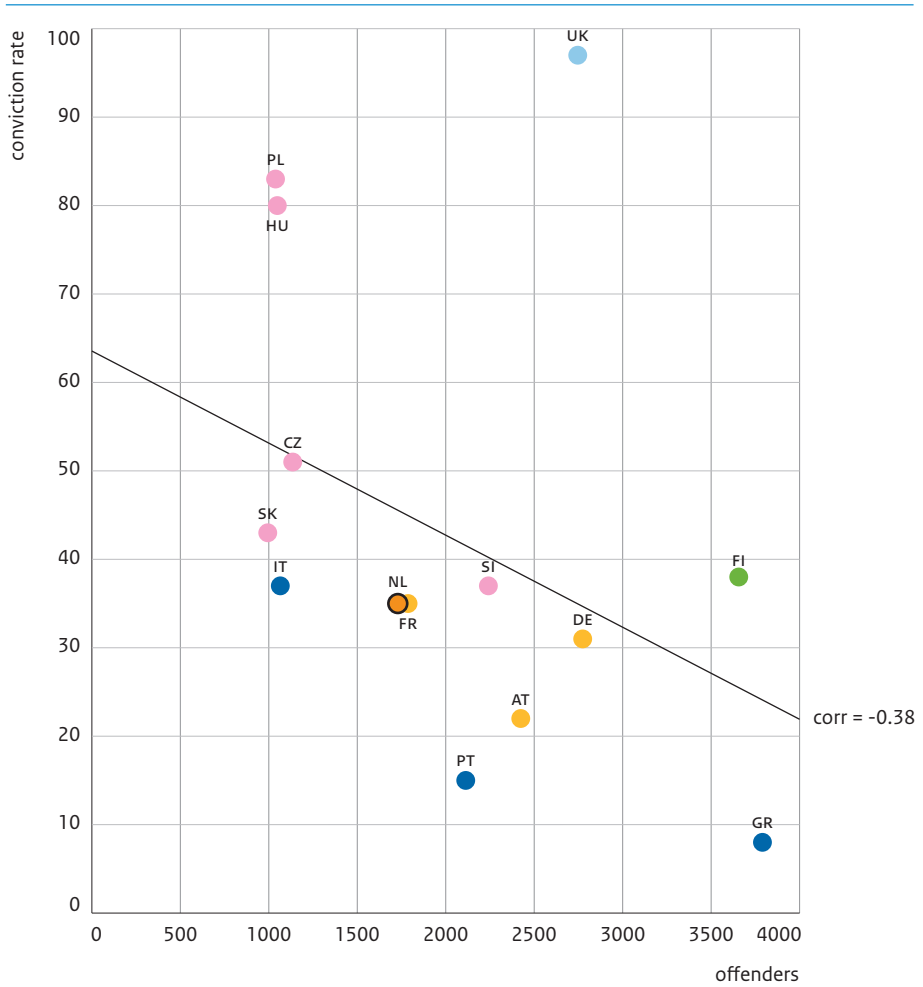
Conviction ratio: convicted persons as a percentage of offenders (excluding traffic offences), 1995-2008



Source:  
European Sourcebook  
(Crime and Criminal  
Justice Statistics 2011);  
SCP calculations

Figure 5.21

Relationship between number of offenders and conviction rate, 2006 (in numbers per 100,000 inhabitants and convicted persons as percentage of offenders)



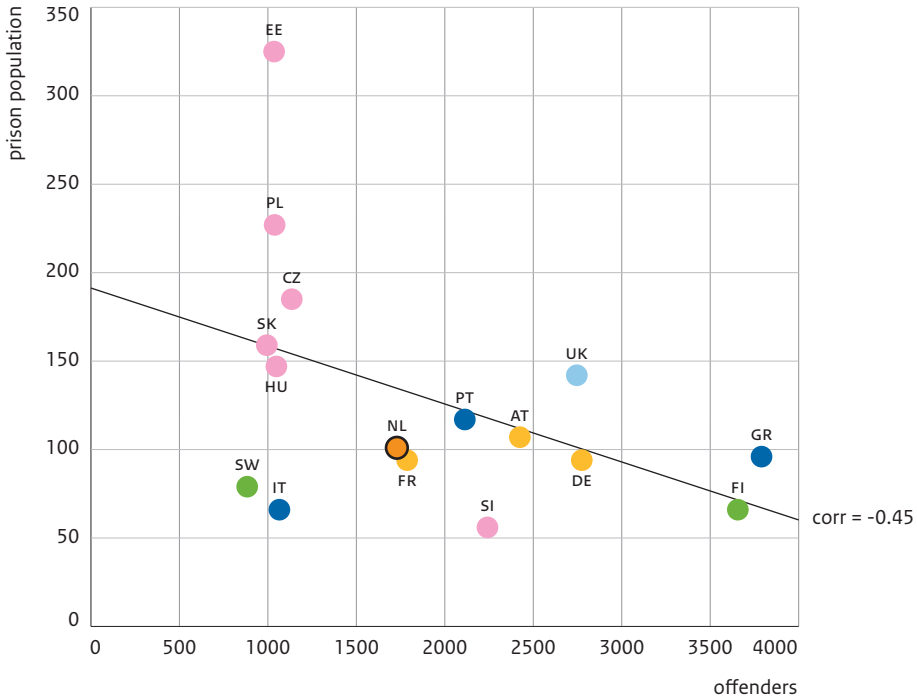
Correlation is not significant (p-value is 0.23).

Source: European Sourcebook (Crime and Criminal Justice Statistics 2011) SCP calculations



Figure 5.22

Relationship between number of offenders and prison population, 2006 (in numbers per 100,000 inhabitants)



Correlation is not significant (p-value is 0.08).

Source: European Sourcebook (Crime and Criminal Justice Statistics 2011)

### 5.5 Organisation of the criminal justice system

Our analysis of the organisation of the criminal justice system can be enriched with the characteristics of this system. Although the available data do not permit thorough analysis, a number of international overviews provide enough empirical material to make interesting observations.<sup>3</sup> The country classification applied in the other chapters for the 28 countries covered in the study (see chapter 1), seems appropriate for the criminal justice system.

When classifying legal systems, a traditional way of starting is to adopt the traditional distinction between the Anglo-Saxon common law tradition and the Continental European civil law tradition. The common law tradition, which originated in England, is built upon judgments by highly qualified and experienced barristers. In the Continental European tradition, by contrast, the legislator is the primary lawmaker and the statutory framework is the result of systematically organised major codes in well-defined areas (Blank et al. 2004).

In the common law tradition, then, a judge administers justice on the basis of precedents, and in the civil law tradition on the basis of codes. Within the civil law tradition, it is possible to distinguish further between the Germanic, the Romanistic and the Scandinavian traditions. The difference between the Germanic and the Romanistic tradition is rather technical, the Germanic one being more 'orderly and comprehensive'. The Scandinavian tradition combines the presence of a statutory framework with a pragmatic egalitarian approach to the legal process, reflecting an emancipated, collectivised and pragmatic society (Blank et al. 2004).

Not only the legal tradition, but also the kind of legal system provides opportunities to distinguish between countries. An important system characteristic is given by the difference between the adversarial system and the inquisitorial system. In the adversarial system both parties, the prosecution and the defence, try to convince an impartial and neutral jury or judge. This jury or judge attempts to determine the truth of the case. By contrast, in the inquisitorial system the judge's task is to actively investigate the case. Generally, the adversarial system is adopted in common law countries and the inquisitorial system in civil law countries.

Other characteristics of the criminal justice system are the extent of the discretionary power of the public prosecutor, the existence and importance of lay judges, the existence of plea bargaining and the role of juries. In addition some practical characteristics of the police and the judicial system can be included in the classification of criminal justice systems, such as the degree of centralisation of the police service, the role of private security firms, the degree of decentralisation and functional differentiation of courts and the emphasis on punishment.

When observing the characteristics of the criminal justice system (see annex 5), a striking connection emerges between legal tradition on the one hand and the kind of legal system and legal characteristics on the other. This connection is often indirect and more the result of common roots than of a direct causal relationship. Nevertheless, experience shows that countries with the same legal tradition often have fairly uniform scores for other characteristics.

The Anglo-Saxon group is characterised by a common law tradition, an adversarial legal system, a moderate to large role of private security services, sometimes plea bargaining, the existence of a system with lay judges, the prominence of the jury system and a police force of small to moderate size. The other groups belong to various subfamilies of the civil law tradition. The adversarial system is characteristic for the Anglo-Saxon countries, but is also applied in a number of Nordic countries and Japan. The Nordic, Central European and Mediterranean groups are characterised by a centralised court system. Most countries have some kind of lay jury system, but the Netherlands and Japan are the only countries where the absence of lay judges is explicitly documented.

The discretionary power of the public prosecutor is relatively extensive in the Netherlands; most country groups show a mixed picture with respect to this characteristic. Repression, in the sense of tough sentencing, is especially characteristic for Mediterranean countries, but also for some Continental and Central European countries and the US.

Police personnel per capita is low in the Netherlands, the Scandinavian countries and some Anglo-Saxon countries. The Mediterranean group and a part of the Continental and Central European group have a high level of police personnel. Broadly, the share of GDP spent on public order and safety corresponds with the police strength, because expenditure on the police accounts for the largest share of expenditure on public order.

An interesting question here is whether there is any correspondence between the characteristics of the criminal and justice systems and levels of crime. To this end, we investigated the correlation between recorded crime by the police or reported crime in victim surveys and these characteristics. Some characteristics can affect criminality directly, such as the police personnel per capita, whereas the influence of others will be more indirect because they affect the productivity or effectiveness of the actors in the legal justice system. Table 5.2 summarises the resulting correlations. To be able to calculate the correlations, the characteristics have been rendered numerical.<sup>4</sup> A warning should be made here: a correlation between two variables does not necessarily imply a direct relationship between them. Furthermore, a correlation says nothing about the direction of a possible causal relationship.

Table 5.2

Correlations between crime and characteristics of the criminal justice system (in Pearson's correlation coefficients)

characteristics of the criminal justice system	crime recorded by the police	crime reported by victims surveys
legal tradition	-.15	-.69*
legal system	-.36	-.54
centralisation of the police	-.36	-.32
specialisation of the police	-.29	-.02
role of private security services	-.47	.63*
discretionary power of the prosecutor	.08	.11
plea bargaining	.18	.40
centralisation of the court	.04	-.24
specialisation of the court	-.04	-.26
lay judge	.18	.10
lay jury	.22	.41
emphasis on punishment	-.66*	-.17

\* Statistically significant at the 5% level.

Source: European Sourcebook (Crime and Criminal Justice Statistics 2011); EU-ICS (ICVS 2004-2005) SCP calculations

The two correlations with the recorded crime differ greatly from each other. In total only three correlations are significant and in none of the variables is significant in relation to recorded and reported crime. So no strong conclusions are possible on basis of the combination of the correlations.

Based on the correlations between crime reported by victims surveys and characteristics of the system, we are able to draw some conclusions. The common law tradition has a positive relationship with crime, as does the adversarial legal system. These two characteristics, however, mainly relate to the Anglo-Saxon countries. Because of the similar cultural values of these countries, it is possible that there is another common cause for the high crime rates in these countries.

The role of private security services appears to be no guarantee against crime (significant negative relationship), although the causality remains obscure. However, lay juries seem to have a positive correlation with crime. Finally the quite high, although not significant, correlation between crime and plea bargaining can be mentioned. An obvious explanation is that the possible reduction in punishment for suspects who cooperate with the prosecutor leads to fear of being betrayed by their 'colleagues'. This can have a preventive effect.

## 5.6 Feelings of safety and trust in police and judges

Feelings of safety and trust in safety authorities have become central policy objectives in many countries. In the Netherlands, subjective safety has even been used as a separate policy indicator of the performance of the criminal justice system in the past decade. Feelings of safety, often reduced to fear of crime, refer to the extent to which citizens feel safe in everyday life, or inversely, the extent to which they are worried about or even afraid of being victimised. Trust in the criminal justice system is likely to contribute to a sense of safety. For most people, news media are the main source of information on crime and justice, and they subsequently have a major impact on perceptions of safety and police performance (Indermaur and Roberts 2009). In this section, we will first broadly review the relationship between feelings of safety and reported crime, and then the relationship between trust in the police and the judiciary and reported crime.

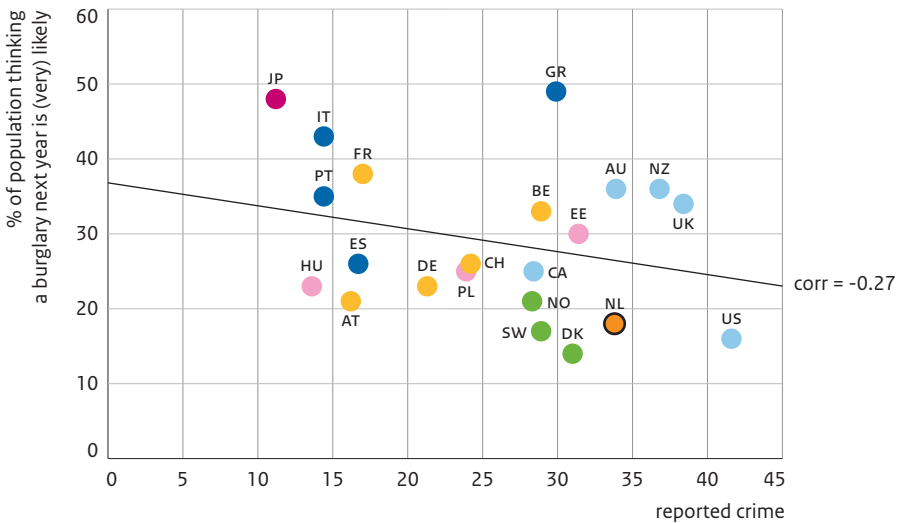
### Feelings of safety

Feelings of safety (or fear of crime) are a complex multidimensional concept and have been widely studied and debated in the literature on crime (Hale 1996; Vanderveen 2006; Pleysier 2010). Broadly speaking, we can distinguish two elementary dimensions underlying feelings of safety, the cognitive and affective dimensions. The former refers to a 'rational' appraisal of potential risks, the latter to the emotional response to a potential threat. In current research there is accumulating evidence that the cognitive component precedes the affective component. In other words, the perception of risk is assumed to be an important determinant of the fear of victimisation (e.g. Ferraro 1995; Warr 2000; Oppelaar and Wittebrood 2006).

Two international indicators are available to tap into subjective safety. The percentage of the population who think that ‘a burglary is (very) likely to occur in the coming year’ relates to risk perception, the cognitive dimension of subjective safety. The second indicator, the percentage of the population who ‘feel (very) unsafe on the street after dark’, is a particularly common indicator of subjective safety in victim surveys, and relates to feelings of safety in general, without disentangling the cognitive from the affective aspects of those feelings.

Figure 5.23

Relationship between reported crime and fear of burglary<sup>a</sup>, 2005 (in weighted rates and percentages)



Correlation is not significant (p-value is 0.22).

a Share of population who think a burglary next year is (very) likely.

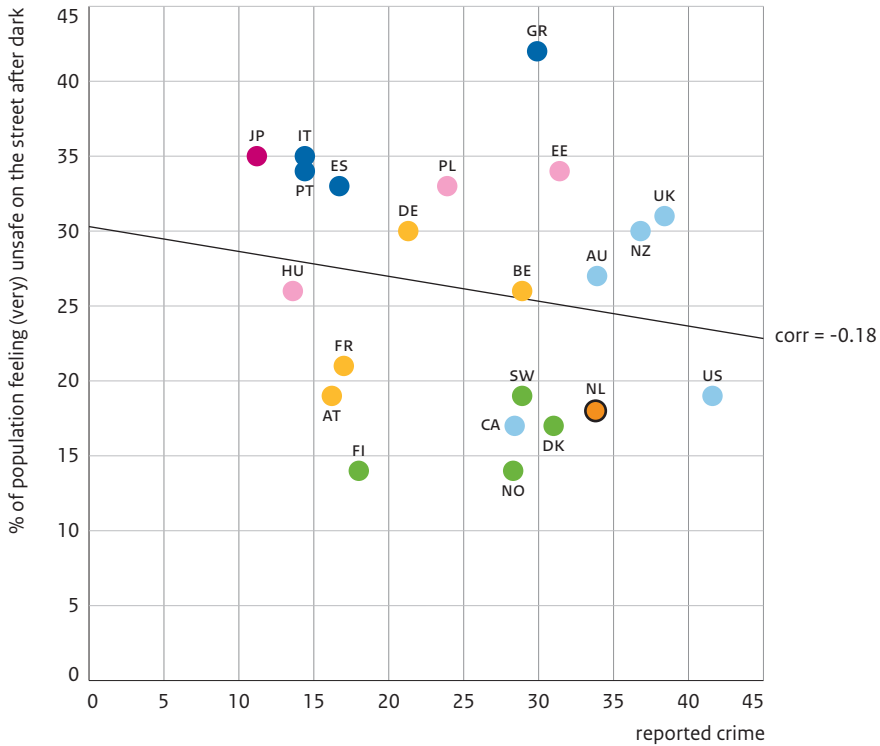
Source: EU-ICS (ICVS 2004-2005) SCP calculations

Figure 5.23 indicates that the relationship between the perceived risk of burglary in the coming year and the level of reported crime (or the actual risk of victimisation) is not significant. A high risk of burglary is perceived in Greece, Japan and Italy. In the Netherlands, a low risk of burglary is expected, as is the case in the Nordic countries and the USA.

Figure 5.24 shows an equally weak relationship between general feelings of safety on the street after dark and reported crime. Feeling unsafe after dark is reported more than average in Mediterranean countries, as well as Japan and some Central European countries. Interestingly, in both cases the relationship is negative; higher crime rates correspond to lower feelings of being unsafe.

Figure 5.24

Relationship between reported crime and feelings of unsafety<sup>a</sup>, 2005 (in weighted rates and percentages)



Correlation is not significant (p-value is 0.41).

a Share of population feeling (very) unsafe on the street after dark.

Source: EU-ICS (ICVS 2004-2005) SCP calculations

This negative relationship between subjective and objective measures of safety is not a rare finding in research on fear of crime. On the micro-level, empirical support for the relationship between the neighbourhood crime rate and feelings of safety is not at all self-evident (Wilcox Rountree 1998). The crime-fear relationship seems to be strongly mediated by demographic variables, but also by media coverage of local crime (Liska and Baccaglini 1990). Wilcox Rountree additionally shows that the effect of crime on fear is offence-specific: violence only increases fear of violence and burglary only fear of burglary. In short, objective safety alone cannot explain subjective safety; other structural features of the environment need to be taken into account.

The social disorder model describes these alternative structural features: rather than crime itself it is the signs of disorder, both social and physical incivilities, that communicate to people a risk of criminal activities. Skogan and Maxfield (1981) observed that in low-crime areas, incivilities may be of even greater concern than crime itself, for example impressions about a declining neighbourhood. The impact of incivilities on fear of crime has since received strong support.

On a macro-level, adequate indicators of social and physical incivilities are hard to find, not least because they are not simply objective (and countable) phenomena, but are partly the result of individual perceptions. Socio-cultural factors come into play when understanding the relationship between objective and subjective perspectives in different countries.

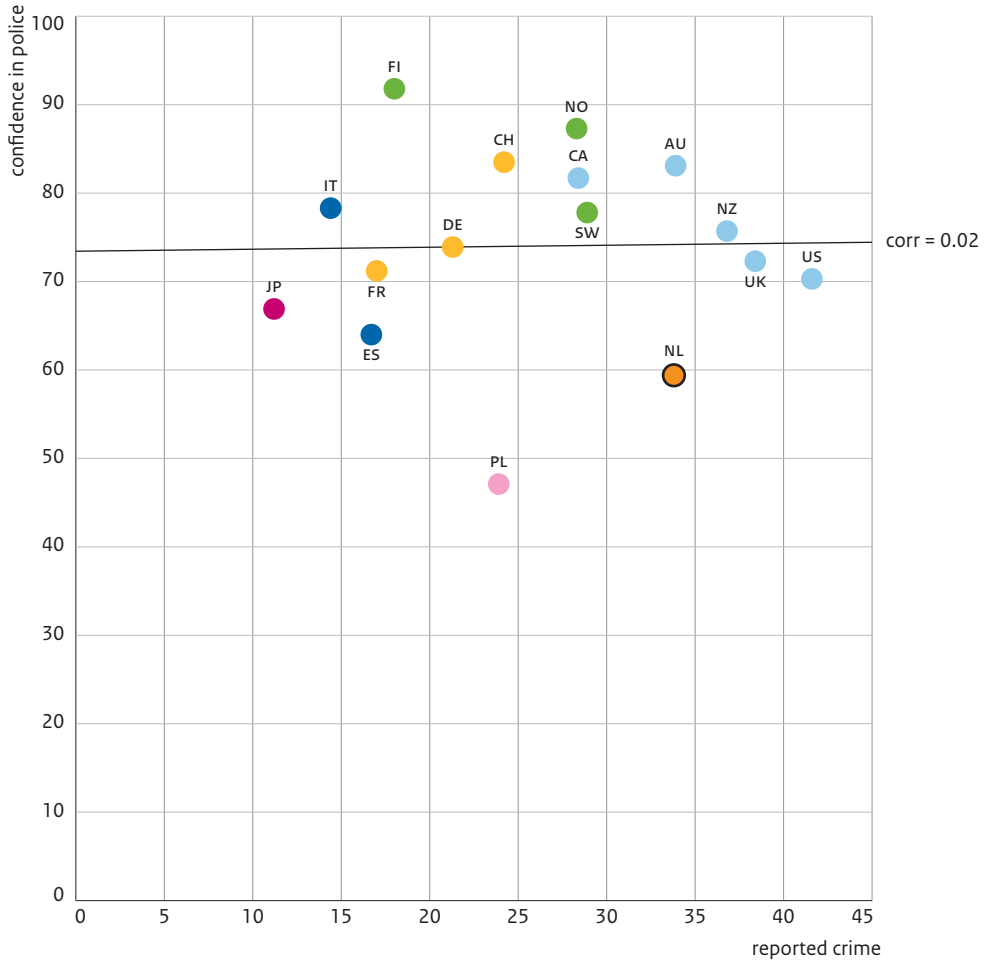
#### Trust in the police and the judiciary

Risk perceptions and the subsequent level of anxiety about crime in society partly depend on the extent to which people feel protected by the criminal justice system. Such a sense of protection demands a certain level of trust in the performance of the police and the judiciary. Trust in systems can mean different things (Sherman 2001; Jackson et al. 2011). It can refer to the people working in this system (their competence, integrity and fairness), to the working of the system itself (doing the right things), to the fairness of the system (procedural and distributive) or to the performance of the system (more public safety). Therefore, one must be cautious when interpreting the outcomes, especially in an international context. Also, one should distinguish between different parts of the criminal justice system (police, courts, prisons) as citizens perceive them as separate entities and may have more personal experience with one or the other.

Trust in the police and trust in the judiciary is not related to crime rates (figures 5.25 and 5.26). In general, trust in the police is high in Nordic and low in Eastern European countries. The same holds for confidence in the judiciary. In both figures, the Netherlands perform moderately. These figures are confirmed by data from the European Social Survey (Jackson et al.). According to respondents' view on how often the police make fair and impartial decisions, residents in Eastern European countries as well as France and Portugal report rather negative opinions, while residents of Nordic countries as well as Spain and Switzerland report rather positive opinions (Jackson et al. 2011). The same applies for trust in the fairness and competence of the courts.

Figure 5.25

Relationship between reported crime and trust in the police<sup>a</sup>, 2005 (in weighted rates and percentages)



Correlation is not significant (p-value is 0.95).

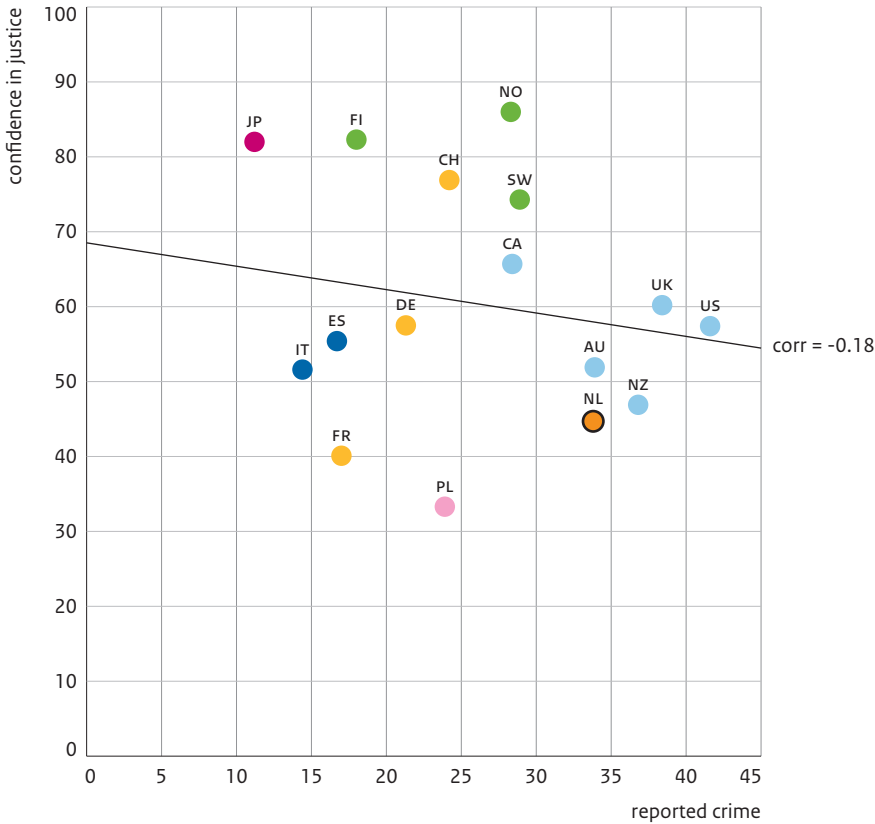
a Share of population with trust in the police.

Source: EU-ICS (ICVS 2004-2005); EVS (European Values Study 2005); SCP calculations



Figure 5.26

Relationship between reported crime and trust in the judiciary<sup>a</sup>, 2005 (in weighted rates and percentages)



Correlation is not significant (p-value is 0.51).

a Share of population with trust in the judiciary.

Source: EU-ICS (ICVS 2004-2005); EVS (European Values Study 2005); SCP calculations

This finding of a weak relationship between trust and system performance has been reported several times in the literature. For instance, Sherman (2001) found that public trust in the police and the court system in the US seemed to have little to do with crime rates, perceptions of police conduct or court performance. Trust may refer to the belief that the police and the courts have the right intentions, the proper competences and the proper instruments to protect citizens from crime. Trust is therefore not necessarily related to the level of crime. Nevertheless, one would expect that high crime rates, such as in the Anglo Saxon countries, do not correspond with high trust in the police and the courts. But our figures tell us otherwise. An explanation is not found in less favourable

circumstances (Anglo-Saxon countries perform better on demographic, social and economic circumstances) or a lower budget (the share of GDP spent on public order and safety is higher). Perhaps trust is less related to the performance of the police and courts as an institution than to the people working in those institutions. In that case integrity (positive) and corruption (negative) are more important determinants of trust than system characteristics like available budgets and crime rates. Integrity of public sector workers is expected to be high in Nordic and low in Eastern European countries (see chapter 7).

Irrespective of actual performance, perceived performance and trust are also likely to be influenced by the portrayal of organisations in the media. There is evidence to suggest either a direct relationship between media exposure and the perception of police effectiveness (Barlow et al. 1994) or an indirect one by the perception of neighbourhood problems (Dowler 2003). With the commercialisation of the media, the expanding technological possibilities, an increasingly demanding audience and readership during recent decades, journalists have exchanged their role of lapdogs for one of noisy yappers, under the pretext of being critical watchdogs. Their former approach to government authorities, typified by respect and prudence, is increasingly being taken over by a proactive and competitive hunt for soundbites (e.g., Blumler and Gurevitch 1995; Brants and Van Kempen 2002). Ministers, judges, prosecutors, police officers, emergency services – they are all more easily exposed to these developments, with potential consequences for trust and feelings of safety (Cappella and Jamieson 1997). There are indications that trust is not so much structurally declining but more temporarily driven by incidents highlighted in the media (Dekker and Van der Meer 2007). Media cultures – and the PR strategies of the organisations portrayed – differ greatly across the selected countries, which may shed another light on our findings.

## 5.7 Conclusions

Fighting crime has been a major policy objective of various Dutch administrations in the last decade. The official objective was to reduce crime by 25% in 2010 compared to 2002. The policy included an increase in the chance of criminals being arrested, longer imprisonment of repeated offenders and, in the final years of the period, tougher punishment of criminals. This policy was fairly successful, but private actions to protect private property appear to have been more important in reducing theft and burglary. Violent crimes recorded by the police did not fall at all and neither did violent crimes reported by victims. Tougher punishment of criminals is a recent trend in the Netherlands, but the expected effectiveness of this instrument is contrary to the empirical evidence.

In this chapter we have compared Dutch social safety with social safety in other countries and tried to find answers to the following questions: How do levels of crime vary between countries and over time? Are these differences related to variances in output of criminal justice system? Do inputs vary between countries and over time? And can

differences in social safety be related to the composition of the population and characteristics of the criminal justice system?

The first question refers to differences in crime rates. Comparing trends in crime rates in the Netherlands with those in other countries can help to reveal factors that are general for all countries and factors that are specific to the Netherlands. The first notable observations are the differences in drug abuse and sexual offences, which seem to be strongly related to country-specific circumstances and policy. For example, in the Netherlands the trade in drugs is fiercely prosecuted but use of drugs is tolerated. Furthermore, the rate of sexual offences in the Netherlands is rather high, a fact shared with Sweden and the USA. This result reflects differences in social disapproval and punishment of sexual violation, rather than real differences in the occurrence of this type of crime.

The reported crime rate by victims is rather high in the Netherlands, positioned between the high-crime Anglo-Saxon countries and the moderately high-crime Nordic countries. The Netherlands is characterised by a high level of violence against persons (robbery and assault). The levels of reported crime rates are falling in nearly all countries, especially in the area of property crimes. Increased use of crime prevention measures by citizens to protect (and insure) their homes and vehicles, for instance through the use of better locks and alarm systems, explains this general downward trend. However, violent crime is rising in nearly all countries. There is no clear explanation for growing violent crime rates, except that public order authorities pay more attention to violent crime, because this is an increasingly unwanted disruption of personal integrity (Smit et al. 2011). In contrast to reported crime, recorded crime rates are generally increasing. One evident explanation is the rise in drugs-related crimes, which are absent from reported crime rates. Another explanation may be more intensive efforts by the police to track down and prosecute criminals.

In most countries, including the Netherlands, the offender ratios (as a percentage of recorded crimes) are increasing. Between 1995 and 2005, most countries realised increasing conviction ratios. There are no clear country group trends. Central European countries perform well but Mediterranean countries perform badly. Continental countries show a mixed performance and the performance of the Netherlands is fairly stable. As expected, conviction ratios correlate negatively with the share of offenders in the population. The more offenders are arrested and convicted, the lower the number of offenders. This may be a deterrence effect, but the causality cannot be determined.

The next question refers to factors that generate crime and factors that reduce crime. Crime rates are on the one hand the result of individual determinants and societal factors generating crime, and on the other of private prevention and public intervention to reduce crime. The risk of delinquency is higher where there is poor schooling, poverty, unemployment, integration problems, drug use, mental health problems, broken families, and so on. In general, it is difficult to explain the development of crime rates. It is even more difficult to explain different levels and developments between countries

because of drawbacks in the definitions and recording of crime. For example, actions which in one country are regarded as criminal are not in another, or are classified as offences. As a result, differences in the development of crime rates are probably more interesting than differences in levels. Another problem are the 'dark numbers': criminal activities that are not reported to or observed by the police. In general, the amount of crime reported by victims is about five times higher than the crime recorded by the police. To avoid institutional differences between countries, the preferred approach to compare rates of *reported* crimes rather than rates of *recorded* crimes. Finally, nationally aggregated data are less suitable for explaining relationships which are posited by theory to hold for individuals. For example, urbanisation within a country is different from urbanisation at country level, while urbanisation is an important factor in explaining crime.

There is a fairly strong relationship between crime reported by victims and the demographic composition of the population, indicating that a growing juvenile population is correlated with higher crime rates. This relationship is consistent with the literature on crime. No significant relationship could be found between reported crime and economic indicators such as welfare and employment. Nor could a relationship be found between social indicators, such as labour participation, share of immigrants and income inequality, and crime rates. Furthermore, no clear relationships could be found between characteristics of the criminal and justice system and crime rates. Finally, only weak (expenditure) or moderate (police personnel) relationships were found between resources employed and crime rates.

The next question relates variances in inputs (deployed resources) and in outputs (risk of arrest and punishment) to variances in crime rates. In the previous report we found different performances for different country groups (Kuhry 2004). The Northern and Western European countries and Anglo-Saxon countries were characterised by high levels of crime, but low levels of repressiveness (severity of punishment and number of police officers per inhabitant), high levels of productivity (staff needed to convict suspects and to guard prisoners) and high confidence in the police and courts. On the other hand, Southern and Central European countries were characterised by low levels of crime but high levels of repressiveness, low levels of productivity and low levels of confidence. In this report, roughly the same pattern emerges. The Netherlands fits the Northern pattern in some respects, with a high level of crime, a low level of personnel and a high level of production, but fits the Central and Southern pattern more in other respects, with a growing level of punishment and a lower level of confidence in the police and justice system.

The Dutch public programme focused on combating crime in recent years has been fairly successful. Of course, the performance of the Dutch criminal justice system was aided by general international trends of falling property crime because of better private and public prevention, but evidence-based actions also contributed to the reduction in crime. These actions included more severe and specific police efforts, intensifying the

detection, prosecution and punishment of criminal activities and longer imprisonment of repeat offenders. In general, no robust relationship could be found at country level between the level of reported crime and the deployment of resources, such as the share of GDP spent on social safety and the share of police personnel in the population. The effectiveness and efficiency of resources thus seems to be more important than the size of the resources. This strategy is adopted in many countries, including the Netherlands. According to the international literature, substantial marginal deterrent effects can be realised by increasing the visibility of the police. In the Netherlands, the number of police officers in relation to the population is comparable with Nordic countries but much lower than in the Continental countries. Establishing more visible police officers in selected areas thus heightens the perceived risk of arrest and can contribute to more deterrence and less crime in the Netherlands.

Finally, can differences in crime rates be related to confidence and trust? No relationship could be found between feelings of safety and trust in the police and judges on the one hand and the real risk of crime in the selected countries at the other. This means that researchers should be very cautious in using subjective measures as an indicator for the performance of criminal justice systems. This observation is supported by the international literature, where significant mismatches are reported between the perceived chance of becoming a victim of crime and actual perpetration of crime. For example, older persons are in general much less likely to be victims of crime than young (male) persons, but are more likely to feel unsafe at home or in the streets.

## Notes

- 1 It is important to realise when interpreting the figures in the ICVS that victims might have fallen victim to a crime in another country. So the result is not a precise measure of crime in a particular country, but of crime as experienced by victims who live in that country. Depending on the type of crime and the country, the proportion of offences experienced abroad is between 0% and 20%.
- 2 Definition problems arise with the numerator as well as the denominator. A numerator problem can arise when persons are differently defined as suspects; a denominator problem can arise when multiple offences are recorded as different offences or as only one offence (according to the most serious one).
- 3 See for example Blank et al. (2004), Kangaspunta (1995), Brienen & Hoegen (2000) and Bureau of Justice Statistics (2011).
- 4 Common law=0, civil law=1; adversarial=0, inquisitorial=1; decentralised=0, centralised=1; not specialised=0, specialised=1; no=0, yes=1; small=0, large=1; low=1, rather low=2, rather high=3, high=4.

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## 6 Housing

Marietta Haffner, Christian Lennartz, Kees Dol  
(OTB Research Institute for the Built Environment, TU Delft)

Different approaches are possible for measuring goals in the field of housing, one of the policy areas of government in many countries.<sup>1</sup> In this study a policy system approach is adopted, based on ingredients such as policy goals, input and outcome. This section will show in a nutshell how these ingredients connect to the four research questions addressed in the study in the policy field of housing.<sup>2</sup>

Section 6.1 presents the outcomes of the housing system (research question 1) which are more or less strictly based on the basic goals of housing policy, the three cornerstones of Dutch housing policy:

- good quality dwellings;
- sufficient availability of dwellings;
- good affordability of dwellings.

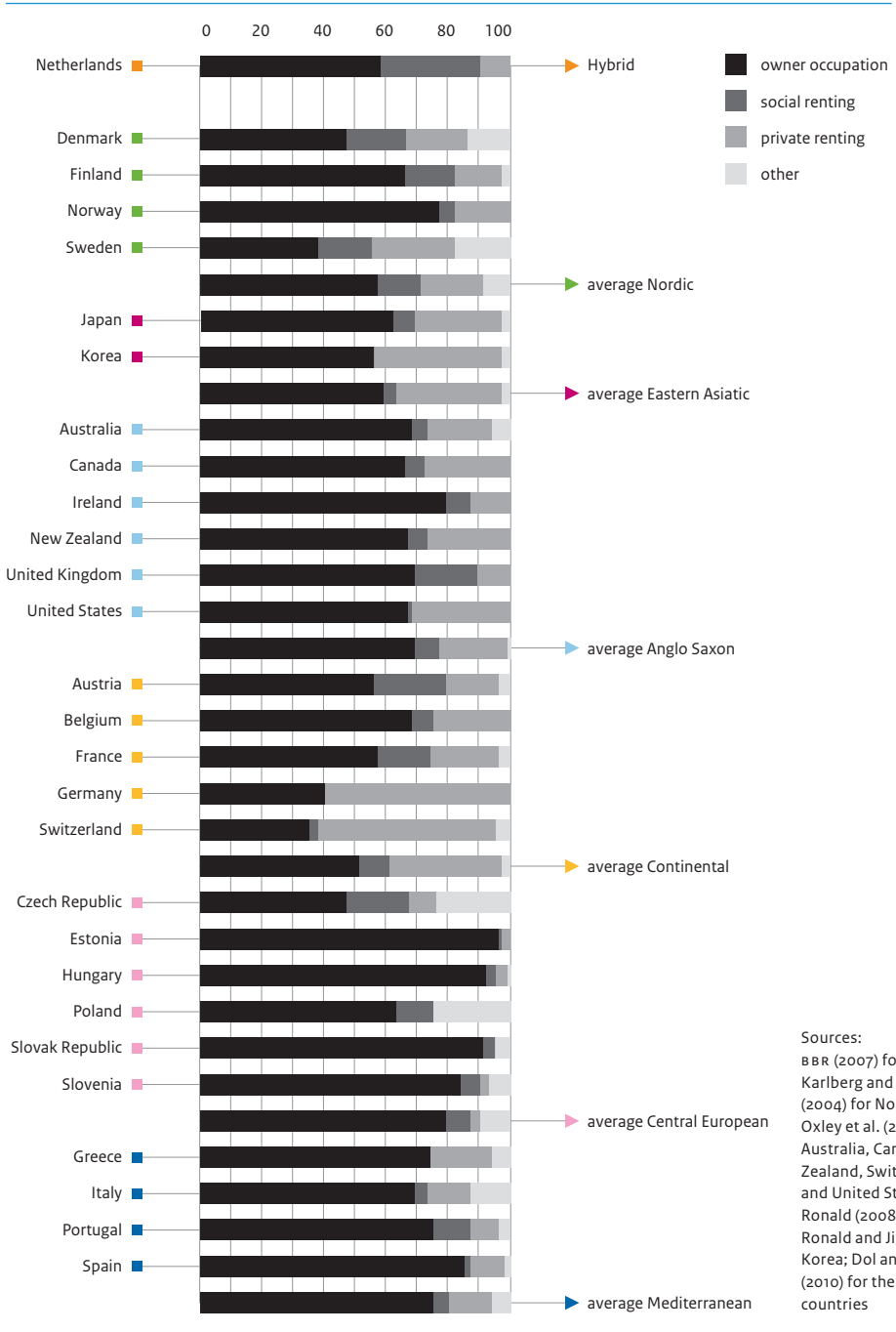
When applying this approach to the analyses, it is important to realise that present outcomes of the housing system on quality, availability and affordability will be strongly influenced by the past performance of the housing system. Hence, in the extreme one could imagine that it is possible that present housing outcomes will be almost completely determined by the past.

The influence of the past is reflected in the diversity of the tenure structure<sup>3</sup> that has emerged (see figure 6.1). In most countries except for the Czech Republic, Denmark, Germany, Sweden and Switzerland, the owner-occupied sector dominates the housing market today. There are several countries that have large private rental sectors and no or almost no social rental housing. The largest social rental sector is found in the Netherlands, followed by Austria, the United Kingdom, the Czech Republic and Denmark.

Tenure structure will influence housing outcomes. On the one hand, there are generally quality differences between rental dwellings and owner-occupied dwellings; on the other, affordability cannot be compared between the two tenures as the roles of the expenditure differ. In the owner-occupied sector, the owner of the dwelling will be the same person as the occupier, and in the rental sector they will be different persons. The owner will finance the acquisition of the dwelling, usually with a loan, while in rental housing the occupier will pay rent for using the dwelling. Since the status of investor (the owner-occupier in this chapter) is not separated from the status of the consumer (the occupier or the tenant in this chapter), these two tenures will be treated separately. This approach can also be justified because owner-occupation and renting are usually treated differently by housing policy.

Figure 6.1

Tenure structure, 2000-2009 (in percentages)



Sources:  
 VBR (2007) for Germany;  
 Karlberg and Victorin  
 (2004) for Norway;  
 Oxley et al. (2010) for  
 Australia, Canada, New  
 Zealand, Switzerland  
 and United States;  
 Ronald (2008) for Japan;  
 Ronald and Jin (2010) for  
 Korea; Dol and Haffner  
 (2010) for the other  
 countries

Section 6.2 focuses on the inputs of housing policy in relation to the outcomes of the housing system (research question 3). Contrary to the other chapters in this study, no useful indicator for the personnel involved could be presented; thus, government expenditure is related to housing outcomes. The focus on government expenditure (implying housing policy) in a comparative perspective means that the analysis is linked to the discussion of the way in which housing systems are intertwined with the welfare state. The assumption would be that there is a common pattern of housing market intervention within each welfare (state) regime. Such a common pattern would be based on:

- the degree of decommodification (the extent to which households can provide for their own housing, independent of labour market income);
- the degree of stratification (the extent to which government intervention is linked to the hierarchy within society);
- the mix of state, market and family in the provision of and intervention in housing (Hoekstra 2003, 2005).

Table 6.1 shows how the different welfare regimes would ideally relate to these characteristics. For example, a strong decommodification of households can arise from housing allowances and social housing (low rents), especially in the Nordic and Continental regimes. As the Netherlands combines characteristics of both regimes, it is classified as a separate regime, the Hybrid Netherlands (Wildeboer Schut et al. 2000; see also chapter 1), and it is expected to score highly on decommodification as well, primarily because of its large social rental sector. The Mediterranean housing system is characterised mainly by the strong position of the family in the provision of housing. An example is that the family provides funds when an owner-occupied dwelling is acquired (Juntto and Reijo 2010). Norris and Shiels (2007) highlight the fact that, in line with the strong and swift privatisation processes in the Central Eastern European (CEE) countries, housing systems there have predominantly developed towards an Anglo-Saxon housing model. The two largest economies in this cluster, Poland and the Czech Republic, have however retained a housing policy model that is more universalistic and entails strong government intervention in market processes (Juntto and Reijo 2010).

Housing has been called the ‘wobbly pillar’ of the welfare state (Torgerson 1987), mainly because in contrast to most other areas of public policy, by far the largest share of housing production and consumption takes place through the market. In order to illustrate this point of market influence, figure 6.2 presents data from the OECD National Accounts publication on gross fixed capital formation by institutional investors (i.e. capital investments), distinguishing between government, financial and non-financial corporations, as well as households and nonprofit institutions serving households. One caveat should be kept in mind here. Nonprofit institutions serving households are together in a category with households themselves. However, private nonprofit organisations serving households may operate as an enforcer of housing provision on behalf of governments (as according to the definition in the figure there is a contribution involved from government), or are at least heavily regulated; thus, the share of governments in the country columns can be underestimated. Despite this, the picture shows that the share of

public investments in relation to total investments is relatively low in most countries. Generally, figure 6.2 supports the argument that housing investment is largely provided by private parties and through the market.

Table 6.1

Housing systems and welfare regimes in Europe<sup>a</sup>

	Nordic <sup>b</sup>	Anglo-Saxon	Continental <sup>b</sup>	Central European <sup>a</sup>	Mediterranean
decommodification	high	low	relatively large	low	low, self-provision and family financing
stratification	low	high, based on income	high, based on social status	high	high
mix of state, market and family in housing provision	state dominant/strong in social rental markets; nonprofit organisations, Individualisation	market parties dominant, Individualisation	family, non-profit private organisations	market parties dominant	family and kin, private organisations, church

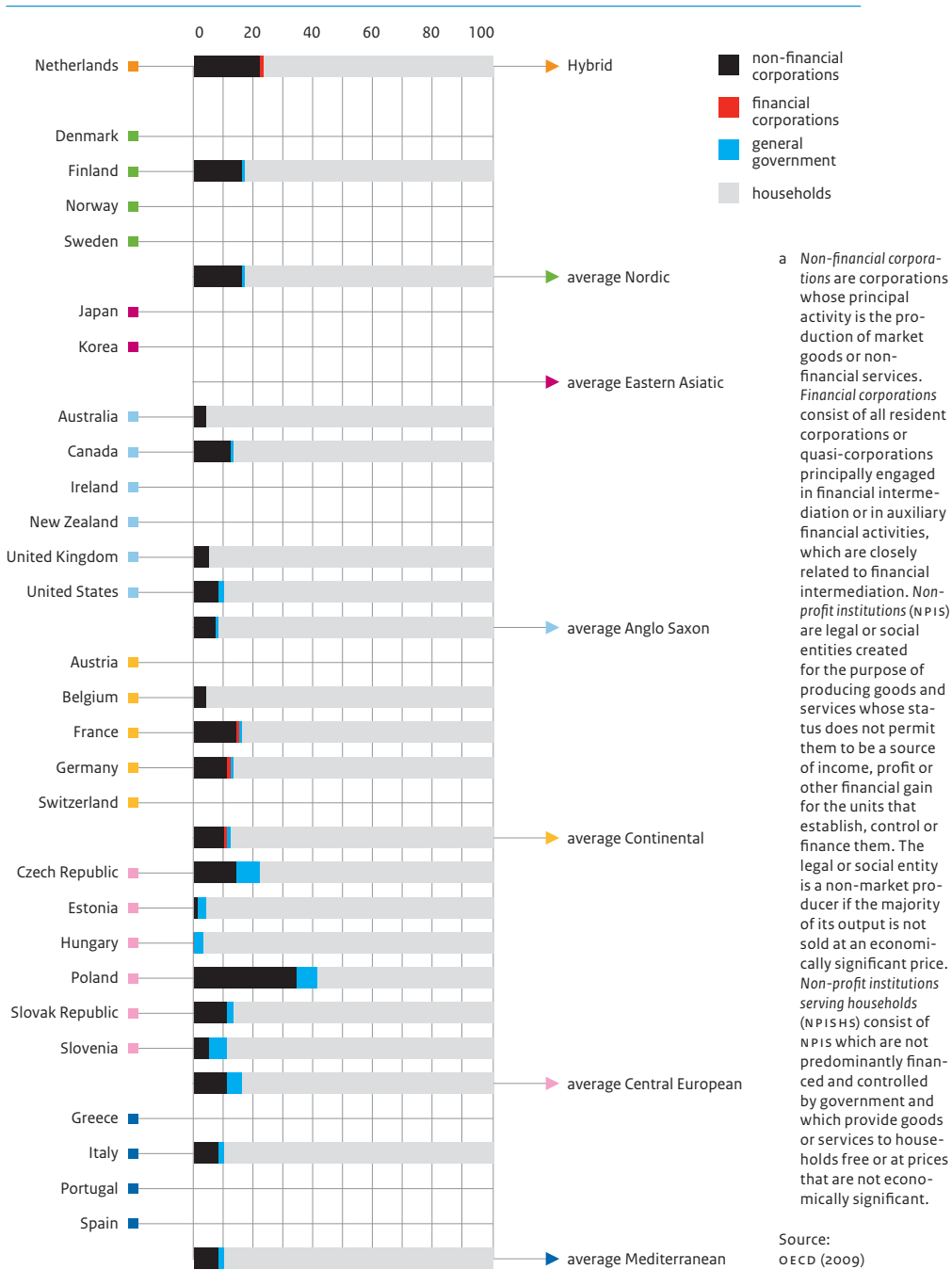
a The *Central European Model* largely follows the Anglo-Saxon housing system type; yet the two largest economies Poland and the Czech Republic share some elements of the Nordic system. The table has been devised in the context of housing regimes in Europe and other Western countries, and is thus sufficient for the purposes of this chapter. Yet, as Ronald (2008) points out, the *Eastern Asian housing regimes*, such as South Korea and Japan, are a distinct housing system type as well.

b The *Netherlands* combines characteristics of Nordic and Continental welfare regimes. For this study it is classified as a Hybrid country, as explained in chapter 1.

Source: Hoekstra (2003, 2005); Juntto and Reijo (2010)

The fact that housing seems to be the wobbly pillar of the welfare state does not imply, however, that the welfare policy approaches are ignored in this chapter (see also chapter 1). Bengtsson (2001) argues that housing policies are best understood as state correctives to the market. If this 'state correctives to the market' idea is pursued, it remains meaningful to distinguish different welfare policy approaches when examining the relationship between outcomes on the market and government measures to influence those outcomes.

Figure 6.2  
Investments (gross fixed capital formation) in total dwelling provision by institutional sector<sup>a</sup>, 2007  
(in percentages)



In order to analyse how different levels of performance in different countries might be explained either by welfare regime or other variables (combination of research questions 2 and 4), section 6.3 shows in more detail for the rental sector what government involvement in housing means in practice. The main modes of government intervention are discussed: supply structure and subsidisation, demand subsidisation (housing allowances) and regulation (rent regulation). With this cross-sectional approach, it has to be kept in mind that housing outcomes will be the result of all the factors that make up the housing system and its history. Housing policy will be one of the influencing factors, next to demographic developments, economic and capital market developments and norms and values of households. Ideally therefore, to determine public sector performance one would have to record policy aims and instruments from the past in order to understand current housing outcomes. Furthermore, one would follow up on the present housing goals and determine the effectiveness and efficiency of the instruments that are used to realise those goals. As it goes beyond the scope of this study to analyse all countries in depth, in this chapter a first attempt is made to ascertain the outcomes of the housing system for households and to what extent the effects of housing policy in relation to welfare regime can be filtered out.

## 6.1 Outcomes

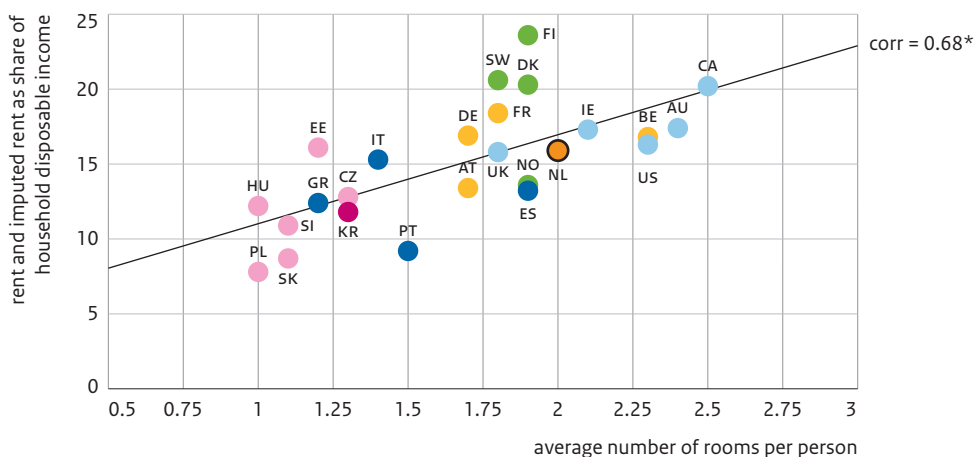
The closest to the ‘macro- approach’ that is used in the other chapters will be the approach that combines the outcomes of the OECD Better Life Index for housing quality and housing availability in combination with the housing affordability data from the National Accounts. One advantage of this approach is that it is possible to present information on most of the 28 countries considered in this study. The only indicator of technical housing quality in this dataset is the availability of flushing toilets inside the home. As this indicator does not distinguish much between countries (most have a share of close to 100%), it is not shown in a graph. The indicator of availability of housing is set (in the absence of a better alternative) at the average number of rooms per person. In figure 6.3 this availability indicator is compared to the ‘expenditure-to-income ratio’ which represents the ‘affordability’ measure as measured by the total housing consumption expenditure of households<sup>4</sup> as a share of total disposable household income corrected for social security benefits and social transfers in kind.

The positive correlation between the two indicators at country level largely follows the welfare regime typology, although with some overlap between the groups. The Mediterranean and Central European countries and Korea combine a lower number of rooms per person with the lowest housing expenditure as share of income, while the majority of the Nordic countries (except for Norway) show the highest ratios. The non-European Anglo-Saxon regimes and Belgium display the largest number of rooms per person, while expenditure-to-income ratios generally are not higher than those of the European Anglo-Saxon and Continental welfare states.

The ‘macro’-approach to measuring housing system outcomes is relatively easy to apply, as data are also available for countries outside the EU. The other side of the coin is that the indicator of quality (the flushing toilet inside the home and for sole use) is a very crude measure and not very distinctive for Western countries. Also, effects of government intervention cannot be distinguished; for example, personal subsidies like housing allowances are added to household income, while object subsidies show up in lower rents.

Figure 6.3

Average number of rooms per person versus indicators of the macro-rent and imputed rent as a share of income, 2009 (in rooms per person and percentages of expenditure-to-income ratio)



\* Correlation is significant (p-value is 0.00).

Source: OECD (OECD Better Life Index 2011); OECD Statistics (National Accounts 2011)

### Micro-analysis

A better indicator of dwelling quality, dwelling availability and affordability at the household level can be designed based on the European Union Statistics on Income and Living Conditions (EU-SILC) data<sup>5</sup> published by Eurostat, the statistical office of the European Union. These indicators are defined briefly here (more detail is given in appendix B6.1):

- The indicator for ‘unacceptable’ housing quality is defined as the share of households that indicate having two out of five problems with housing quality, i.e. no flushing toilet inside the home, no bath/shower inside the home, too dark, leakiness, dampness or rot, and noise from neighbours or from the street. It is based on the Eurostat indicator for dwelling deprivation, with noise added as fifth variable.
- The indicator of dwelling availability, or better unavailability, is operationalised in at household level<sup>6</sup> as the share of households that live in overcrowded conditions. Overcrowding is based on a measure of the number of household members per room<sup>7</sup> (Eurostat method).
- Unaffordability of housing (also called an affordability problem) is defined as the share of households whose actual (not imputed) housing expenses amount to more than 30% of

their disposable household income.<sup>8</sup> As there is no scientific foundation for such a norm – it does not show whether a household has enough income left for other consumption after paying for housing – the norms used in the literature and in practice usually lie between 20% and 30% (Haffner and Heylen 2011; Heylen and Haffner 2010).<sup>9</sup>

As one aim of this study is to provide a basic indicator of performance or outcome of the housing system, the three indicators are combined in such a way that they deliver one composite indicator: the share of households having ‘no housing problem’. This refers to households not living in a dwelling with at least two quality problems, nor living in a situation of overcrowding, nor living in a dwelling that is considered unaffordable. This assumes that the three indicators are weighted equally, although the quality indicator is based on at least two quality ‘problems’, assuming that two problems can be considered a sign of a structural problem with housing quality.<sup>10</sup> And if one considers overcrowding to be another aspect of household living quality, quality will affect the composite indicator by a factor of three to one in comparison to the indicator of housing affordability.

In the definition and dataset chosen for housing affordability, housing expenses will consist of rent paid minus personal subsidies (housing allowances) in the rental sector and mortgage interest (but not repayment) minus personal subsidies (housing allowances and income tax allowances) in the owner-occupied sector.<sup>11,12</sup> As explained in the beginning of this chapter, it is not the consumption expenses of owner-occupiers that are compared with the rent that tenants pay, but (part of) the financing expenses. From this it follows that financing expenses for a mortgage loan will be zero, once the mortgage loan is repaid. As these low ‘housing’ expenses for owner-occupiers can generally not be ascribed to effective housing policy, financing expenses for the mortgage loan and rent paid cannot be compared meaningfully when seeking to assess public sector performance. Outcomes of the housing system will thus be presented for the two tenure types separately.

### Rental sector

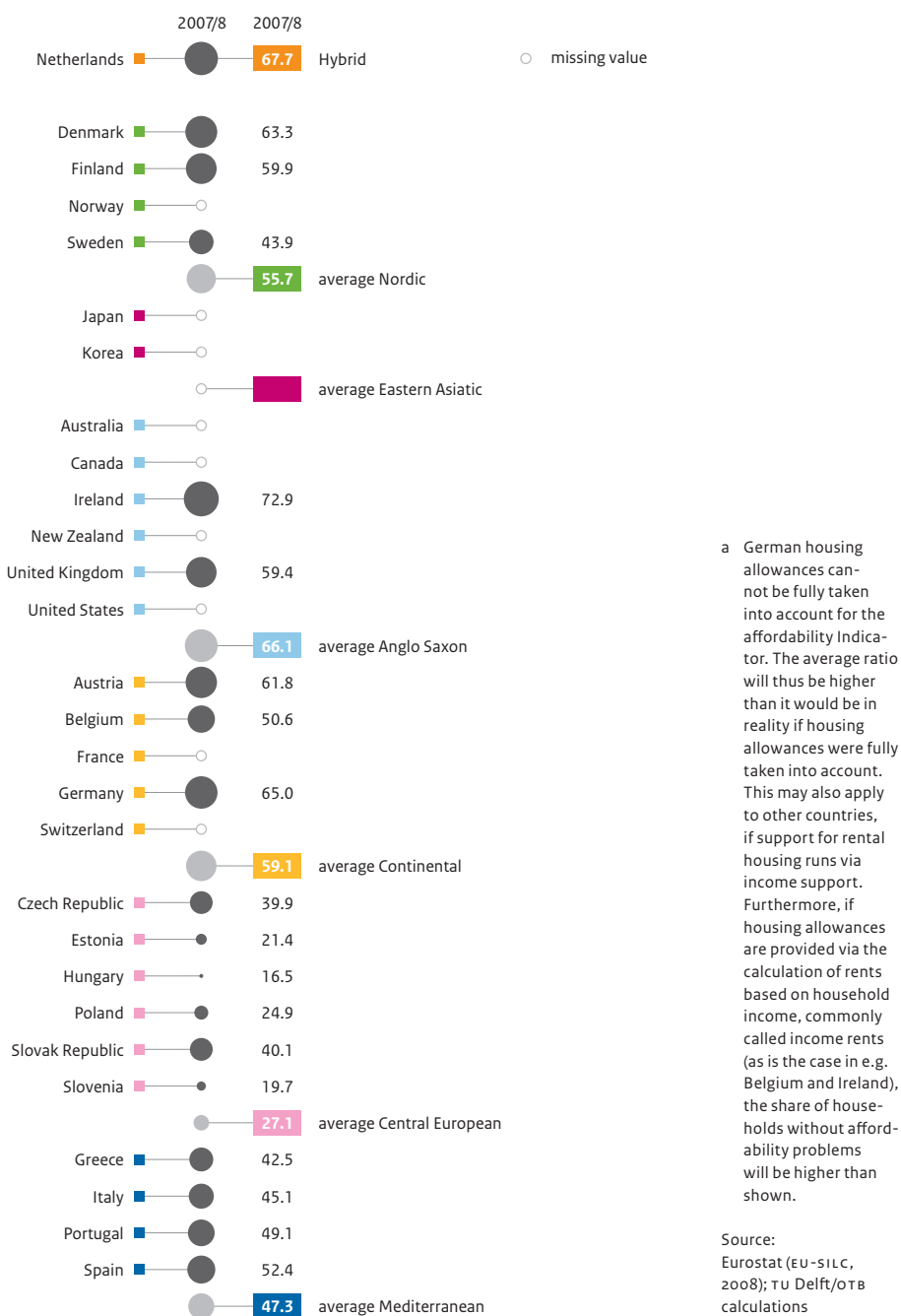
Figure 6.4 shows that the composite outcome indicator in the rental sector (which varies in size as figure 6.1 shows) is highest in Ireland, followed by the Netherlands, Germany, Denmark, Austria, Finland, the United Kingdom and Spain. Interestingly, all welfare regimes are represented in most of the countries with the highest outcome, except for the Central European countries; these are the countries where the composite outcome indicator turns out to be the lowest of the countries under consideration.

The data for the three indicators that underlie the composite indicator are based on a ‘problem’ perspective rather than the ‘no problem’ perspective on which the composite indicator is based. They are shown in table 6.2 and reveal the reason for the low composite outcome indicator in the Central European countries. Although affordability in these countries is generally high, it is more than likely outweighed by a large proportion of households with at least a quality and/or an overcrowding problem. The Czech Republic and Slovakia score highest because of their relatively minor affordability and quality problems.



Figure 6.4

Composite outcome indicator for the rental sector: the share of tenant households that are confronted with none of the three defined 'housing' problems<sup>a</sup>, 2007 and 2008<sup>13</sup> (in percentages)



COUNTRIES COMPARED ON PUBLIC PERFORMANCE

Table 6.2

Share of rental households defined as having a problem of affordability, overcrowding or quality (in percentages<sup>a</sup>)

	affordability problem	overcrowding problem	quality problem	no flushing toilet inside home (1)	no bath/shower inside home (2)	too dark (3)	leakiness, dampness or rot (4)	noise from outside (5)
Hybrid regime								
Netherlands	21	2	13	0	0	6	20	38b
Nordic regime								
Denmark	26	8	7	1		6	11	27
Finland	25	14	6	2	1	7	5	26
Sweden	42	17	6	1		7	9	21
Anglo-Saxon regime								
Ireland	12	9	9	0	0	6	17	22
United Kingdom	23	9	13	0	1	13	21	25
Continental regime								
Austria	14	17	10	1	3	9	14	25
Belgium	34	8	16	2	2	11	26	30
Germany <sup>c</sup>	19	10	12	1	2	7	17	33b
Central European regime								
Czech Republic	19	38	12	2	2	8	22	22
Estonia	28	42	33	26	22	12	27	19
Hungary	18	51	24	6	8	17	41	17
Poland	22	48	16	7	5	12	21	23
Slovakia	4	53	6	0	0	4	9	23
Slovenia	5	47	17	1	1	15	35	20
Mediterranean regime								
Greece	31	26	14	1	2	9	19	28
Italy	25	24	16	1	0	13	26	28
Portugal	16	16	27	7	6	16	33	31b
Spain	36	6	13	1	0	9	23	27
total for countries <sup>d</sup>	22	16	13	1	2	9	20	29

Empty cells indicate that no data are available; they are treated as 0%-cells.

- a The larger the group as expressed as share of households, the more households are confronted with the problem in question, either a problem of affordability (rent-to-income ratio above 30%), overcrowding or at least two of the five problems of housing quality.
- b EU-SILC 2008 does not give an explanation for the high shares of households indicating noise from outside the dwelling. The survey question asks whether there is too much noise from neighbours or from the outside. This is a subjective formulation which does not allow for the conclusion that noise is measured in the same way in all countries. Speculation about the effect of population density in inhabitants per square km in 2007 on noise perception is not unambiguous: the Netherlands (485), Belgium (350), the UK (251), Germany (229), Italy (201). Portugal which also scores high on noise problems, has a density (115) in the medium range (Dol and Haffner 2010).
- c German housing allowances cannot be fully taken into account for the affordability indicator. The average ratio will thus be higher than when housing allowances are fully taken into account. The position of Germany on affordability would then improve.
- d Calculated as the number of rental households with a certain 'housing problem' in all countries divided by the total number of rental households in all countries.

Source: Eurostat (EU-SILC 2008); TU Delft/OTB calculations

The effect of the individual indicators on the composite outcome indicator in the Mediterranean countries is more or less similar to that in the Central European countries, but to a lesser extent. The composite indicator is thus on average (slightly) higher than in the Central European countries. Portugal and Spain score highest of the countries of the Mediterranean welfare regime, but for different reasons. Portugal scores highest on the quality problems, but this is more than offset by the relatively low score on affordability and a middle-range score on overcrowding. Spain scores highest on the affordability problems indicator, but overall has the fewest problems among Mediterranean countries because of relatively low overcrowding and middle-range quality problems.

Other welfare regimes generally have higher composite outcome indicators than the Mediterranean and Central European countries. The higher scores in the other welfare regimes result from the share of households suffering from quality and overcrowding problems generally in those countries (with a couple of exceptions) being lower than the total share of households for all countries (last row in table 6.2). This outcome indicates a better than total result, implying fewer quality problems and fewer overcrowding problems. On affordability, the differences between these countries show, the range being wider than for overcrowding and quality problems. The Nordic regime, especially, scores high on unaffordability, as does Belgium. The countries that score better than the total for all countries on affordability have the highest composite indicators: the share of households without housing problems is highest in Ireland, the Netherlands, Austria and Germany.

On the strength of the relationship between the three indicators that make up the composite outcome indicator, none are significantly correlated. The relationship between affordability and overcrowding problems which is (non-significantly) negative is shown in figure 6.5.

Figure 6.5

Rental households in overcrowding versus rental households with problems of affordability, 2007  
(in percentages)



Correlation is not significant ( $p$ -value is 0.07).

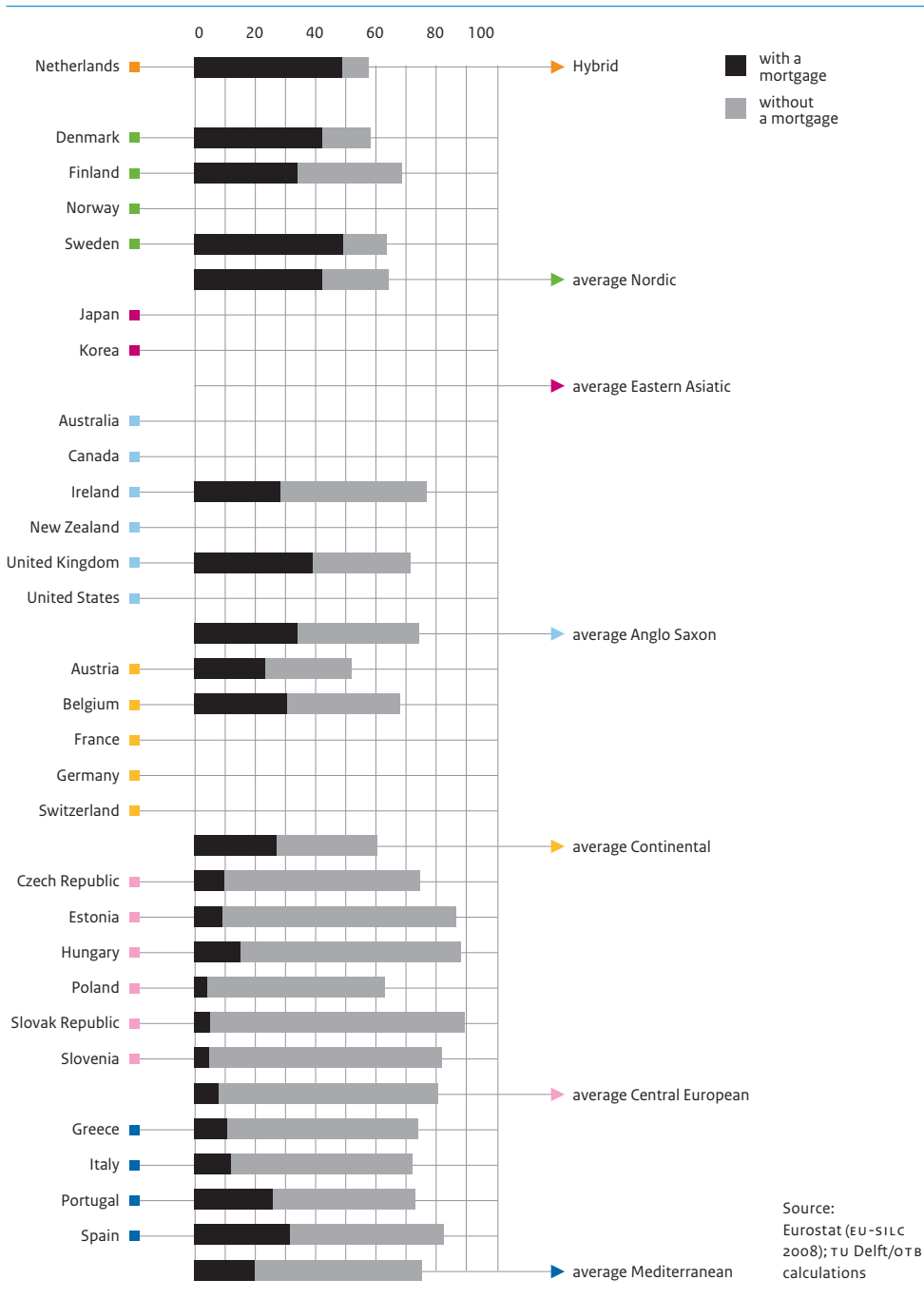
Source: Eurostat (EU-SILC 2008); TU Delft/OTB calculations

### Owner-occupation with a mortgage

In the definition of affordability that is applied here (see above), owner-occupiers without a mortgage (outright owners) do not have any financing expenses. The composite outcome indicator can thus only be calculated for owner-occupiers with a mortgage.<sup>14</sup> The Netherlands is the country where the share of owner-occupiers with a mortgage is highest (85%) followed by Denmark (72%). Expressed as a share of total housing stock (see figure 6.6), the Netherlands, together with Sweden (49%), has the highest share of owner-occupiers with a mortgage. In the Central European countries, in particular, but also in Italy and Greece, the share of owner-occupiers with a mortgage amounts to 15% or less of all households. Many of these differences are likely to be attributable to differences in pathways in the regulatory framework for mortgage markets (e.g. are the amounts that can be borrowed heavily or lightly constrained?) in combination with the norms and values of households towards borrowing (Toussaint 2010), as well as differences in demand for and supply of dwellings that are most likely also stimulated by policy.

Figure 6.6

Share of owner-occupancy, by owner-occupiers with a mortgage and owner-occupiers without a mortgage (in percentages)



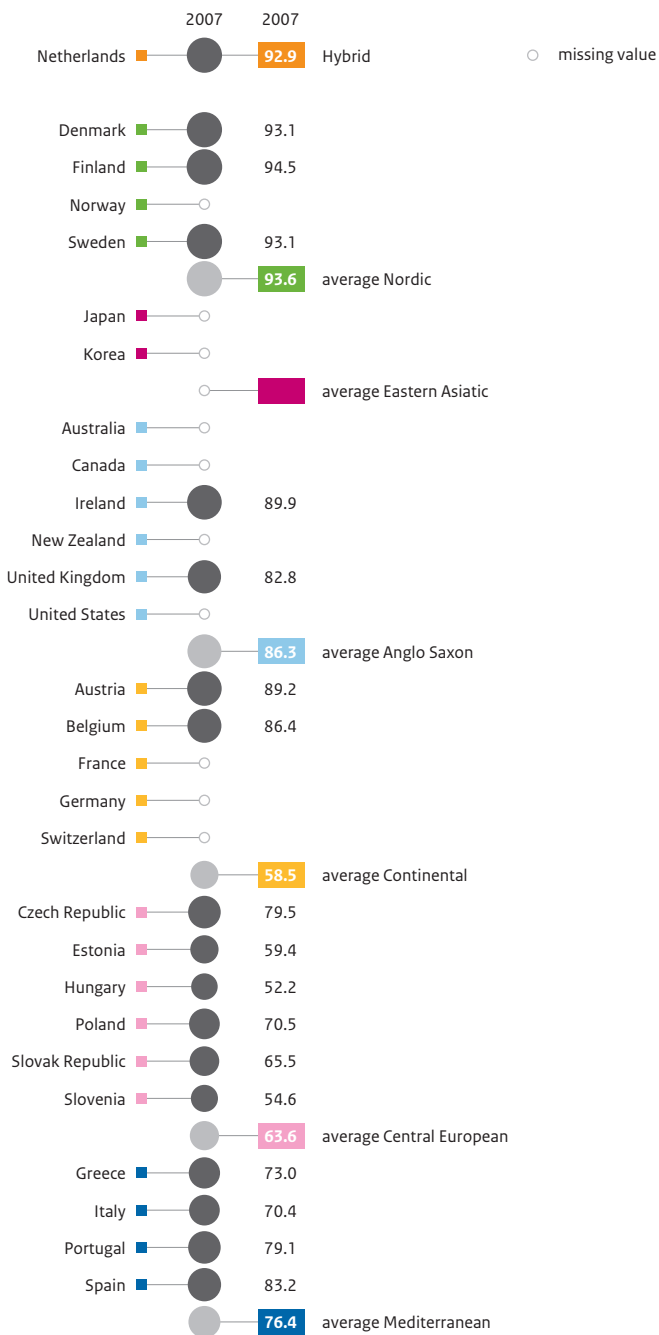
Source: Eurostat (EU-SILC 2008); TU Delft/OTB calculations

Figure 6.7 shows that the composite outcome indicator for owner-occupiers with a mortgage is highest in the Nordic countries, followed by the Hybrid Netherlands and the Anglo-Saxon and Continental regimes. Similar effects to those found for the rental sector can be distinguished for owner-occupancy with a mortgage, if the underlying indicators of unaffordability, overcrowding and 'bad' quality are taken into consideration (see table 6.3). These reveal the reason for the low composite outcome indicator in the Central European countries, except for the Czech Republic and Poland. The share of households in overcrowded conditions, in particular, is much higher than in the other countries (the Czech Republic scores lowest, with about the same share as Greece and Italy). The highest shares of quality problems are found in Hungary and Slovenia, but not in the other Central European countries, while housing generally is more affordable in the Central European countries than the total share for all countries, except for Slovenia and Slovakia. These relationships between the variables also apply to the countries of the Mediterranean regime, though the shares for overcrowding are mostly much lower than in the Central European countries.

On the strength of the relationship between the three indicators that make up the composite outcome indicator, the indicators of overcrowding and quality problems show a positive correlation (0.41). This figure is not shown here. The other positive relationship (also non-significant) is that between affordability and quality problems. The larger the group of households that spend more than 30% of household income on mortgage interest, the larger the group of households that are also confronted with at least two out of five quality problems. This surprising outcome is shown in figure 6.8: these households pay relatively more on mortgage interest, which implies either higher interest rates or larger mortgage sums (possibly to take into account the quality problems), or lower household incomes. In the latter case the assumption would be that households with lower incomes spend relatively more on servicing the mortgage loan and live in poorer quality housing than households with a higher income. Thus the expected negative relationship of a smaller number of households with quality/overcrowding problems and a larger number of households with affordability problems and vice versa, as was a more or less typical outcome for the tenants, cannot be observed. This suggests once again that mortgage interest payments may not be a very useful concept for measuring affordability effects.

Figure 6.7

Composite outcome indicator for owner-occupancy with a mortgage: share of owner-occupier households with a mortgage that are confronted with none of the three defined 'housing' problems, 2007 and 2008 (in percentages)



Source: Eurostat (EU-SILC 2008); TU Delft/OTB calculations

COUNTRIES COMPARED ON PUBLIC PERFORMANCE

Table 6.3

Share of owner-occupiers with a mortgage defined as having a problem of unaffordability, overcrowding or 'bad' quality (in percentages<sup>a</sup>)

	affordability problem	overcrowding problem	quality problem	no flushing toilet inside home (1)	no bath/shower inside home (2)	too dark (3)	leakiness, dampness or rot (4)	noise from outside (5)
Hybrid regime								
Netherlands	1	1	6			3	12	28 <sup>b</sup>
Nordic regime								
Denmark	2	3	2	0		4	6	15
Finland	1	2	3	1	1	4	4	13
Sweden	0	4	3	0		6	7	10
Anglo-Saxon regime								
Ireland	4	2	4	0	0	6	10	14
United Kingdom	8	2	8	0	1	10	12	20
Continental regime								
Austria	1	5	5	0	0	4	10	20
Belgium	3	2	9	1	0	8	16	19
Central European regime								
Czech Republic	0	18	4	0	1	3	10	15
Estonia	4	33	7	2	3	4	8	16
Hungary	1	41	13	1	3	9	27	12
Poland	2	27	4	0		4	7	18
Slovakia	8	28	3			2	6	20
Slovenia	11	30	11	0	1	10	25	21
Mediterranean regime								
Greece	4	19	6	0	1	3	10	23
Italy	8	17	9		0	6	16	26
Portugal	7	8	8	0	0	8	11	28 <sup>b</sup>
Spain	9	2	7			5	14	22
total for countries <sup>c</sup>	6	4	6	0	1	6	11	21

Empty cells indicate that no data are available; they are treated as 0%-cells.

a The larger the group as expressed as share of households, the more households are confronted with the problem in question, either the problem of affordability (mortgage interest-to-income ratio above 30%), overcrowding or at least two of the five problems of housing quality.

b EU-SILC 2008 does not give an explanation for the high shares of households indicating noise from outside the dwelling. The question asks whether there is too much noise from neighbours or from the outside. This is a subjective formulation which does not allow for the conclusion that noise is measured in the same way in all countries. A speculation about the effect of population density in inhabitants per square km in 2007 on noise perception is not unambiguous: the Netherlands (485), Belgium (350), the UK (251), Germany (229), Italy (201). Portugal which also scores high on noise problems, has a density (115) in the medium range (Dol and Haffner 2010).

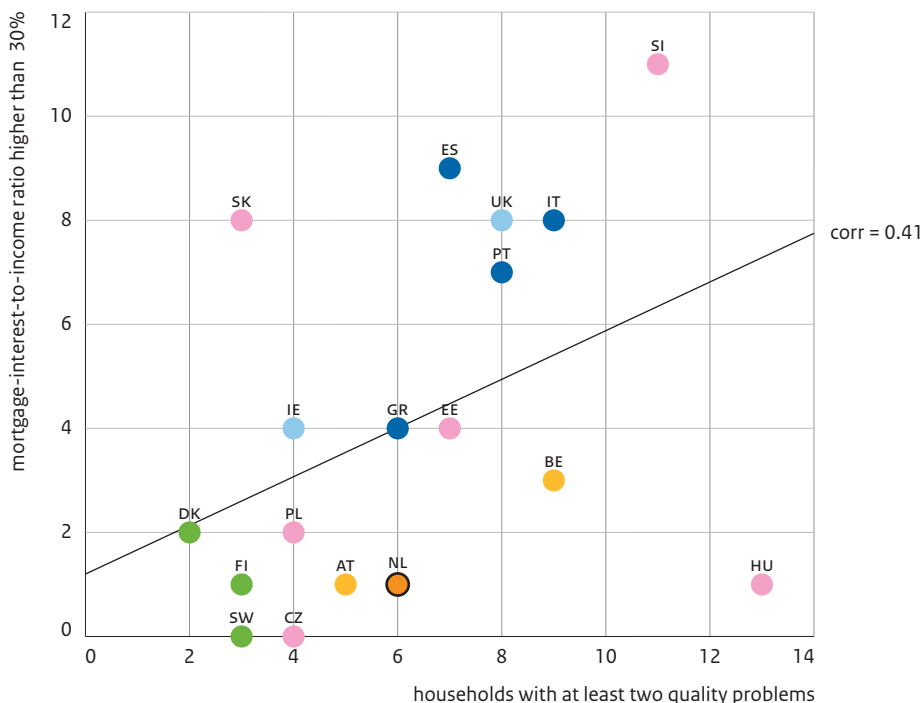
c Calculated as the number of rental households with a certain 'housing problem' in all countries divided by the total number of rental households in all countries.

Source: Eurostat (EU-SILC 2008); TU Delft/OTB calculations



Figure 6.8

Owner-occupiers with a mortgage with quality problems in housing versus problems of affordability, 2007 (in percentages)



Correlation is not significant (p-value is 0.06).

Source: Eurostat (EU-SILC 2008); TU Delft/OTB calculations

### Position of the Netherlands

The Netherlands generally scores well on the composite outcome indicators for renting and owner-occupancy with a mortgage. In both cases, the main reason is that overcrowding is generally not an issue, housing is relatively affordable and the share of households that are confronted with quality problems is equal to the total share for all countries; the problems of noise from outside, in particular, are relatively high, while the score for leakiness, dampness and rot is slightly higher than the total for all countries. The combination of the three problem indicators results in a top-two position on the composite outcome indicator (after Ireland in the rental sector and after Finland in owner-occupancy with a mortgage), which was designed specifically to measure the performance of housing systems.

## 6.2 Cost-effectiveness

The analysis in the previous section focused on a comparison of the performance indicators quality, availability and affordability in nineteen European countries on a micro-level. This section shifts the focus away from the system outcomes to the relationship between outcomes and input, namely government expenditure. More precisely, the aim is to give a general impression of the cost-effectiveness of public housing policy in order to guarantee high affordability of rental dwellings and owner-occupied dwellings with a mortgage, as well as good quality and sufficient availability of the same.

Ideally, the analysis of government expenditure would be focused on housing expenditure only and would distinguish between the two housing tenure modes as well, since this would guarantee that expenditure on rental housing and owner-occupancy would have the same basis as calculations of the outcome scores. However, the only reliable source for government spending on housing, based on COFOG (Classification Of Functions Of Government) developed by the OECD and published by the United Nations Statistics Division, allows neither the separating out of housing expenditure from expenditure for community amenities nor the drawing of a distinction between renting and owning.

COFOG only includes government expenditure. It does not necessarily include all financial effects of government intervention, such as interventions in the housing market through fiscal policy. In the Netherlands, for instance, the indirect expenditures on rent regulation (see e.g. Romijn and Besseling 2008) and, on mortgage interest deductibility, Van Ewijk et al. 2006) are not considered in the COFOG data. This can distort the results substantially, given that these indirect expenditures can be higher than the expenditures on things such as rent allowances, as is the case in the Netherlands. Another caveat here is that the costs of housing for households, as well as the quality of dwellings, might be influenced more strongly by government expenditures in the past than by current expenditures. They might also be influenced by regulation, which may not necessarily involve any government expenditure.

Before describing the relationship between expenditure and outcome, it will be useful to give an overview of how much public authorities actually spend on housing. Table 6.4 presents total expenditures on housing as a percentage of GDP by all government levels for all countries for 2007 (the year to which the EU-SILC data apply).

Table 6.4

General government expenditure on housing by COFOG, 2007 (in percentages of GDP)

	housing as part of social protec- tion expenditure (COFOG 10.6) <sup>a</sup>	housing and com- munity amenities (COFOG 6.0) <sup>b</sup>	total government expenditure on housing	rank (1=highest share of GDP)
Hybrid regime				
Netherlands	0.5	1.0	1.5	4
Nordic regime				
Denmark	0.7	0.6	1.3	6
Finland	0.2	0.3	0.5	18
Sweden	0.3	0.7	1.0	8
Anglo-Saxon regime				
Ireland	0.4	2.2	2.6	1
United Kingdom	1.1	1.1	2.2	2
Continental regime				
Austria	0.0	0.6	0.6	14
Belgium	n/a	0.4	0.4	20
Germany	0.1	0.8	0.9	10
Central European regime				
Czech Republic	0.1	1.1	1.2	7
Estonia	0.0	0.6	0.6	14
Hungary	0.9	1.0	1.9	3
Poland	0.1	1.2	1.3	5
Slovakia	n/a	0.8	0.8	11
Slovenia	0.0	0.6	0.6	14
Mediterranean regime				
Greece	0.2	0.3	0.5	18
Italy	0.0	0.7	0.7	12
Portugal	0.0	0.7	0.7	12
Spain	0.1	0.9	1.0	8

a Includes means-tested support to households plus administration costs of support systems.

b Includes government expenses for housing and community development (including R&D), water supply and street lighting.

Source: Eurostat (Government Statistics 2011); Ministry of the Interior and Kingdom Relations (2011) for housing (as part of social protection) in the Netherlands

The first observation is that except for Denmark, Hungary and the United Kingdom, government expenditures on housing and community amenities, which include investments in the development of new housing and urban renewal projects, exceed the expenditures on social protection such as housing allowances for tenants and owner-occupiers (demand subsidies). This seems unsurprising given the variety of measures targeting housing and community amenities (expenditures in support of supply); yet it might indicate that many governments have a preference for object subsidisation in the broadest sense rather than housing-related income support for households. Second,

one can see that total government expenditures on housing are at comparable levels in all countries. The highest share of expenditure as a percentage of the country's GDP is found in Ireland, at 2.6%. The only other country with a share above 2% is the United Kingdom, which is also the country with the highest share of demand-side subsidisation. Most governments spend about 0.5% to 1.5% of their GDP on housing. Third, we see that the volume of government expenditure on housing does not reflect the position of a country in the welfare regime typology. On the one hand, within each regime type there are countries that spend comparably more than average on housing. The most extreme case is the Nordic regime, where Sweden and Denmark spend relatively more than average on housing, while Finland is among the lowest-ranked countries. The same holds for the Central European regime, where Poland, Hungary and the Czech Republic spend a relatively large amount, but Slovenia, Slovakia and Estonia relatively little. Most interestingly, the two Anglo-Saxon welfare states, the United Kingdom and Ireland, are the most generous with regard to total expenditure. This seems paradoxical, since in the theory the Anglo-Saxon regimes are classified as the most restrictive and residual welfare states, so that one would expect relatively lower government expenditure in these countries.

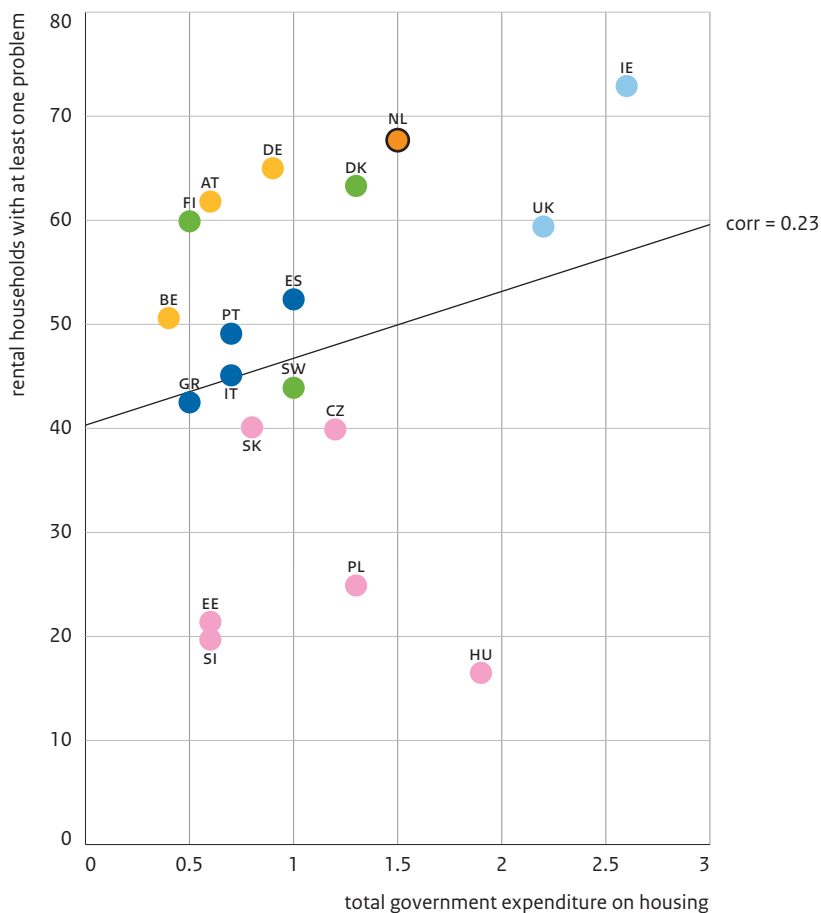
#### Cost-effectiveness in renting

The following question is then whether higher scores on the outcome measures can be associated with higher total expenditure on housing. As explained above, due to the inconsistency of affordability measures a distinction is made between rental housing and the owner-occupied sector. And, as a second best solution, because COFOG does not distinguish between the two tenure modes, the two sectors are related separately to total government expenditure on housing. Figure 6.9 shows the relationship between outcome scores and government expenditure on housing as a percentage of GDP. There is no evidence that relatively high public spending would lead to a lower accumulation of problems in the affordability/availability/quality matrix. This will not come as a surprise given the data limitations described above and given the fact that housing system outcome is not necessarily a function of current government expenditure.

The United Kingdom and Ireland might be seen as examples of the notion that higher public spending equals fewer housing problems; yet we can easily identify cases such as Poland, and especially Hungary, where public expenditure is high as share of GDP but the accumulation of problems follows the same line. Conversely, the relation is even less clear: where countries like Greece, Italy, as well as Estonia and Slovenia spend proportionally little on housing but still have a high accumulation of housing problems, governments in Finland and Austria, for example, achieve high outcomes with a relatively small housing budget. This finding is also linked to the general structure of the welfare state. Except for the Anglo-Saxon regimes of Ireland and the United Kingdom, other welfare regimes are not clustered in any specific way. When countries from the same welfare typology are positioned in similar areas in the scatter plot, this is mainly due to similarity in outcome scores rather than on both dimensions.

Figure 6.9

Government expenditure on housing versus rental households with at least one housing problem,<sup>a</sup> 2007 (in percentages of GDP and percentages)



Correlation is not significant ( $p$ -value is 0.34).

a It should be noted that Belgium and Slovakia are presented in the chart despite the fact that there are no data on housing allowance payments for these countries (see table 6.4). Their position should therefore be treated with caution. This also applies to countries where (some) rents are set according to income without any government expenditure involved (Belgium and Ireland).

Source: Eurostat (Government Statistics 2011, EU-SILC 2008); OTB/TU Delft calculations

The Netherlands, as a Hybrid welfare state regime, spends a relatively large amount on housing and community amenities, but also has the second smallest share of rental households experiencing any housing problem. Finland, Austria, Germany and Denmark come close to the Dutch performance, but with less government spending on housing and community amenities, while the UK achieves a similar performance with more

government spending as a proportion of GDP. As indicated earlier, the relationship between government spending on housing and community amenities and the performance of the housing system cannot be strong, as also shown by these comparisons between countries.

#### Cost-effectiveness in owner-occupancy with a mortgage

A very similar picture emerges for the relation between the outcome scores and government expenditure for owner-occupied households with a mortgage (see figure 6.10). Overall, the share of households experiencing no housing problem is higher for all countries compared to rental households (see previous section); interestingly enough, however, there is a relatively high consistency in each country's position when compared with the chart for rental households. Sweden and the Czech Republic are the biggest exceptions. With regard to the correlation between the two measures, the general impression from the rental sector holds true for owner-occupiers with a mortgage as well: with the data limitations described above (see also next section), government expenditure on housing is not a good predictor of the outcomes of the housing market. Similarly, there is no indication of a coherent clustering of welfare states. One might argue that in addition to the Anglo-Saxon cluster, all Nordic countries have limited housing problems in the owner-occupied sector; yet again, they achieve these scores with different amounts of public resources.

#### Reflections on government intervention without government expenditure

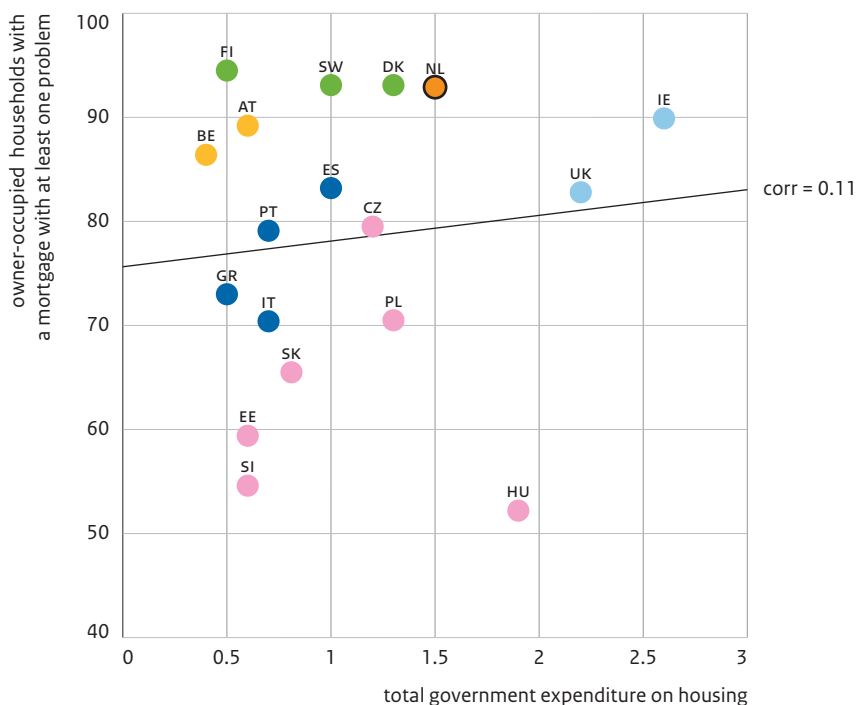
Abstracting from all measurement problems in relation to government expenditure on housing, the main conclusion of this section is that government expenditure cannot be directly related to the success of keeping costs at affordable levels, high quality of all dwellings, and little overcrowding. This seems only logical, since housing is primarily provided through the market and there is thus a large proportion of housing represented in the outcome score that is not necessarily influenced by budgetary government involvement.

As argued above, COFOG is an insufficient measure of government intervention in the housing market for diverse reasons. It is broader than housing as it is also about expenditure for community amenities. It is smaller than government intervention in housing because government can also intervene in housing using other instruments, such as through the regulation of prices (below the market price) and quality (above market quality), and also through fiscal policy. Only the total effect of government intervention will give the total picture, as instruments can be used interchangeably: for instance, price regulation or tax advantages can be used instead of housing allowances or grants. If housing affordability is considered alone, instruments that lower the costs of housing are abundant; e.g. in some countries social landlords do not pay any corporation tax, while private landlords do (e.g. the United Kingdom). Similarly, while in some countries, like Germany, private landlords draw on tax facilities (see Haffner et al. 2009), tenants in some other countries (e.g. Spain; Ministerio de Fomento (not dated) and/or owner-occupiers (e.g. the Netherlands; see appendix B6.3 and box 6.1) are treated

favourably by the tax system. Only when all these effects are added up can one compare government interventions across countries. Even then, however, the amount involved is current expenditure, the effects of which cannot be separated from the effects of the mix of government and market expenditure in the past. Thus whether the results of the housing system stem from spending on community amenities or on housing, an incomplete measurement of government involvement in housing, market influences or effects from the past remains a topic for further study.

Figure 6.10

Government expenditure on housing versus owner-occupiers with a mortgage with at least one housing problem, 2007 (in percentages of GDP and percentages)



Correlation is not significant (p-value is 0.66).

Source: Eurostat (Government Statistics 2011, EU-SILC 2008); OTB/TU Delft calculations

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**Box 6.1 Reflection on mortgage interest tax relief in the Netherlands**

From the Dutch point of view, an instrument that is not discussed in this chapter but which involves large amounts of money (more than those involved with rent allowances; Van Ewijk et al. 2006), is the mortgage interest tax relief (corrected for the taxation of imputed rent) which enables owner-occupiers to deduct mortgage interest from their income tax liability. Based on the incomplete EU-SILC data (see appendix B6.3), measured as a percentage of the income of the recipient household, the tax relief is highest in the Netherlands.<sup>15</sup> Andrews et al. (2011: 42) also conclude that the tax advantage is highest in the Netherlands (and the Czech Republic). This can be explained by two factors: all households with a mortgage loan use the relief, while mortgage interest can be fully offset against marginal tax rates. In other countries the amount that can be offset in this way is generally limited. Examples are a ceiling on the amount of interest that can be offset (e.g. Ireland), offsetting at the lowest tax rate (e.g. Finland), or other limits (e.g. Belgium) or a tax credit (e.g. Italy) (European Central Bank 2009; Wolswijk 2010).

The popularity of the mortgage interest tax relief in the Netherlands is evident from the fact that mortgage debt as a percentage of GDP is the highest in the EU (more than GDP in 2009; EMF 2009) and that the pattern of mortgage take-up has turned out quite differently from that in other countries, where annuity loans dominate. In 2009 the share of interest-only loans where households have one loan is about half, while it is almost 80% in combined loans (Blijie et al. 2010). The share of owner-occupiers with a mortgage is also highest in the Netherlands (together with Sweden; see figure 6.6).

Another way of analysing tax subsidies would be to use the term 'tax expenditures' (Listokin 2011; OECD 1984). This term is defined as 'a departure from the generally accepted or benchmark tax structure which produces a favourable tax treatment of particular types of activities or taxpayers' (OECD 1984: 7). In this view, tax relief is only a tax subsidy if it is a departure from the usual structure of the tax system. This definition is in line with a definition of subsidy as lowering the cost price of a product or service, and it implies that there are different ways of setting the benchmark, including across countries (Flood and Yates 1989; Haffner 2003; Hancock and Munro 1992; Pommer et al. 2011).

The conclusion must be that the mortgage interest tax relief is an important instrument that affects the housing market in the Netherlands, but that in a comparative perspective, the effects of all types of instruments should be added up to obtain the full picture of government intervention in the housing market.

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### 6.3 Analyses of differences in outcome in renting

The previous section shows that there is no direct link between high government spending on housing and community amenities and high outcome scores in a country's housing market. Consequently, there are good grounds for assuming that the way these public resources are spent, the existence of regulatory frameworks that replace or at least supplement direct public spending, as well as exogenous societal factors are more significant for housing outcomes. Hence, on the one hand this section will analyse the outcomes in the context of societal factors. On the other hand, and more extensively, it will compare housing policy schemes in more detail and discuss possible links with



welfare regime models; i.e. the question of whether housing policy rather than governments' housing expenditure shows some commonalities within each regime type.

To provide a better understanding of how the relation plays out in political practice and to identify some possible policy-related drivers of better rental housing outcomes for each welfare state regime, the welfare state regimes are briefly compared and the policies in the best-performing country are discussed in more detail. Accordingly, the six countries that usually are considered more in detail in the text are the Netherlands, as the primary study subject and example of a Hybrid welfare state, Denmark (Nordic regime), Germany (Continental regime), Spain (Mediterranean regime), Ireland (Anglo-Saxon regime), Czech Republic (Central European regime). The focus in this section is on the rental housing sector and thus on rental housing policies<sup>16</sup>, mainly because in many countries government interventions take place in and through the rental market and because the affordability indicator that is used here is more suitable for renters than for owner-occupiers.

The analysis and comparison of housing policies covers four main aspects: the first question is whether governments are directly involved in the supply of housing, particularly social housing, or whether they function primarily as a facilitator of the provision of housing through private parties (including for-profit and nonprofit corporations and private households). The second question is how housing allowances are distributed across households. Third, the outcomes of the housing system, particularly the affordability indicator, can be greatly influenced not just by housing allowance payments and object subsidies for developers, but also by rent regulation measures. If rents are kept at lower-than-market levels by the regulator, affordability is likely to increase. Before these policies are discussed, however, a possible positive influence of societal factors on effective outcomes of rental housing will be presented (see chapter 2 for further discussion of the societal factors).

### Outcomes in rental housing and exogenous societal factors

With the retreat of public institutions from the direct provision of (social) rental housing and their new role as a facilitator and regulator (Scanlon and Whitehead 2008), market processes have gained a more eminent position in rental housing supply. If one accepts this notion, it seems reasonable to assume that societal factors are not necessarily mediated through public spending, but may have a direct impact on the outcome of rental housing. Out of the 23 societal factors listed in chapter 2 of the study, six show a correlation with high housing outcome scores of at least 0.4: GDP per capita, growth of population, labour participation, potential labour force, non-Western foreign-born citizens and the demography index. The positive correlation between these six factors and high rental housing outcomes could, of course, be contingent. On the one hand, testing for a causal relationship goes beyond the scope of the study. On the other, analysing the joint outcome score rather than the three individual items (affordability, quality, overcrowding) makes the interpretation of the data difficult at times. This means that a single societal factor will probably have no effect on all three outcome measures, but

perhaps only on one. For instance, it might be assumed that higher levels of labour participation will lead to fewer affordability problems. Once again, however, it goes beyond the scope of the study to test for all relations between the 23 societal factors and the three individual outcome measures.

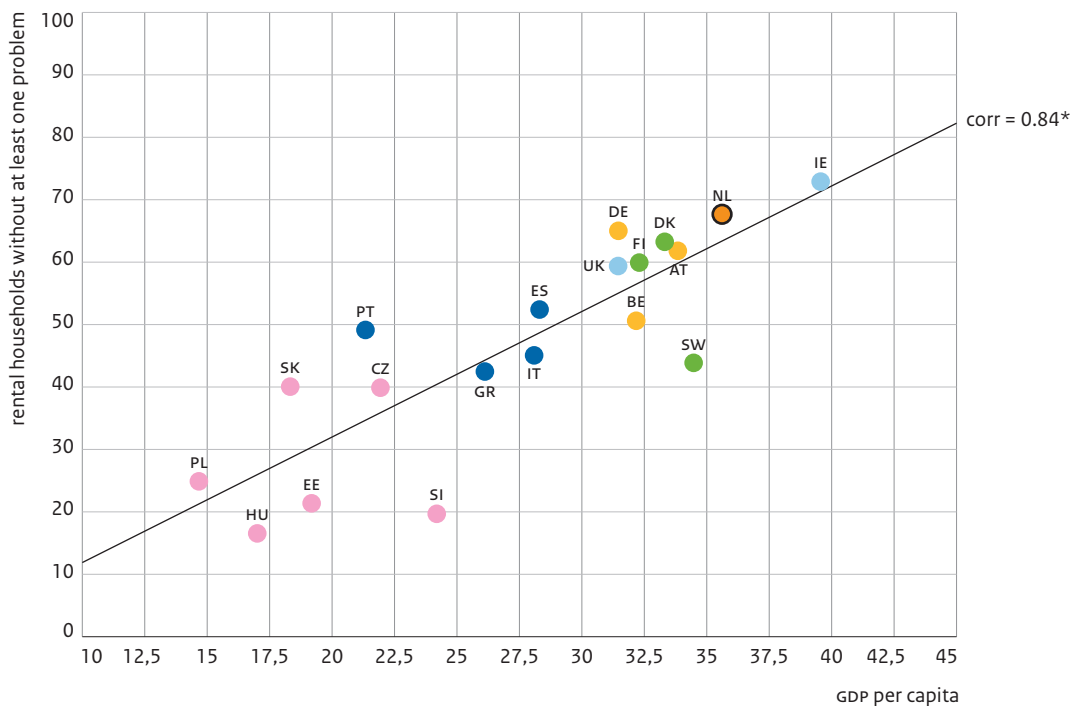
That said, one societal factor does seem to have a direct influence on rental housing outcomes. Figure 6.11 shows a highly positive correlation (0.84) between GDP per capita and the share of households without at least one housing problem. One possible explanation could be that in countries which are characterised by a higher level of economic development, the financial scope and demand for more spacious and qualitatively better dwellings is bigger than in countries with a lower level of development, though this might be counterbalanced by more unaffordable dwellings. In the Central European countries, the rental housing stock that exists today is largely the same stock that was built in the Communist era, leading to persistently low outcome scores for housing quality and high overcrowding levels, given that major refurbishments and renovations have not taken place. It seems, however, that economic development comes at a price, in the form of relatively high rent levels. In well-developed countries, especially the Continental and Nordic regimes, as well as Ireland, the demand for high-quality and larger dwellings is most likely an important driver of the relatively large affordability problems.

#### Supply structure and object subsidies for social housing providers

Ideally, government intervention in the supply of rental housing would be measured by the relative share of public and private investments in the provision of social housing and private rental housing. Government investments would imply a reduction in rent levels in comparison to market rent levels. Since the data on housing expenditure in OECD and Eurostat publications do not allow a distinction to be made between social and private renting, the relative shares in the rental market are used as a proxy. The idea behind this is that direct supply of rental housing by public authorities will typically be subsumed under social housing. Figure 1 shows the shares the rental tenures for the nineteen countries. Generally, there is a weak pattern of social housing relative to private renting provision across welfare regimes. In the Nordic regime, rental markets are relatively balanced; the case study country Denmark, particularly, conforms to this with almost equal shares of social housing and private renting provision. The Netherlands has a dominant position of social housing provision in the rental market. Germany stands as an example for Continental regimes with a large private rental sector. Unlike to the United Kingdom where social housing is the dominant rental tenure mode, private renting is the major rental tenure model in Ireland. No clear picture thus emerges for the Anglo-Saxon regime. Similar to most other Mediterranean-regime countries, Spain's rental market is dominated by private rental providers. Finally, except for Hungary and Estonia, a large majority of the rental housing stock in Central European countries is provided as social housing. The Czech Republic largely follows this pattern, where the main difference compared with other Central European countries (except Poland) is that the social housing sector is also relatively large within the housing market as a whole.

Figure 6.11

GDP per capita versus share of rental households without at least one problem, 2007 (in euros x 1000 and percentages)



\* Correlation is significant (p-value is 0.00).

Source: Eurostat (Government Statistics 2011, EU-SILC 2008); OTB/TU Delft calculations; OECD Statistics (National Accounts 2011)

However, since nonprofit and even for-profit private actors can provide social housing, the share of the two rental sectors alone does not say enough about government involvement in the rental market. The question thus arises of whether public authorities are directly involved in the provision of social housing or whether they primarily act as a facilitator of social housing (see table 6.5). In the Nordic regime no uniform picture emerges; in contrast to Sweden, two types of social housing providers can be found in Denmark and Finland, though in the latter country municipal housing companies dominate, while in Denmark private nonprofit housing associations dominate. Accordingly, public authorities operate mainly as a facilitator of social housing. Here, social housing construction is financially supported as well as being managed and supervised by public authorities (Scanlon and Vestergard 2007).

Table 6.5

Social housing supply structure and object subsidisation in 19 EU-countries

	types of social housing providers <sup>a</sup>	dominant type of social housing provider <sup>b</sup>	public expenditure on housing development (% of GDP) <sup>c</sup>	social housing construction publicly supported?	social housing management publicly supported?
Hybrid regime					
Netherlands	a, b	nonprofit housing associations	n/a	yes	no
Nordic					
Denmark	a, b	nonprofit housing associations	n/a	yes	no
Finland	a, b	municipal housing companies	0.0	yes	no
Sweden*	a	municipal housing companies	0.2	yes	no
Anglo Saxon					
Ireland	a, b	local authorities	1.6	yes	yes
United Kingdom	a, b	nonprofit housing associations	0.5	yes	no
Continental					
Austria	a, b, c	nonprofit housing associations	0.3	yes	no
Belgium	a, b	municipal housing companies	n/a	yes	yes
Germany	a, b, c	municipal housing companies/ private parties	0.4	yes	no
Central European					
Czech Republic	a, b	municipal housing companies	0.7	yes	no
Estonia	a	co-operatives	0.1	yes	no
Hungary	a	municipal housing companies	0.3	yes	yes
Poland	a, b, c	municipal housing companies	0.7	yes	yes
Slovakia	a	municipal housing companies	n/a	yes	no
Slovenia	a, c	municipal housing companies	0.2	yes	yes

Table 6.5 (continued)

	types of social housing providers <sup>a</sup>	dominant type of social housing provider <sup>b</sup>	public expenditure on housing development (% of GDP) <sup>c</sup>	social housing construction publicly supported?	social housing management publicly supported?
Mediterranean					
Greece*	a	central government agency			
Italy	a, b	public housing companies	0.1	yes	no
Portugal	a, b, c	municipal housing companies	0.2	yes	no
Spain	a, b, c, d	public housing companies	0.2	yes	yes

a = public entity (state, region, municipality).

b = legal entity operating on a nonprofit principle (public beneficial associations, housing associations, etc.). The definition of nonprofit is borrowed from the American Johns Hopkins Project: a nonprofit organization does not distribute any profits it makes to its owners, members or other associated parties (Steinberg 2003). Some authors, notably Hansmann (1987), speak of a nondistribution constraint. This definition has been explored for the Netherlands by the Netherlands Institute for Social Research | s c p, the Dutch partner in the Johns Hopkins Project (Burger and Dekker 2001).

c = private legal or physical person.

d = other.

\*= In Sweden it is a nonprofit and not a social sector. Greece does not have a social rental sector as such. The only organisation that provides social housing is the o e k Workers Housing Association, a tripartite organisation operating under the auspices of the Ministry of Employment and Social Protection.

b Dominant provider signifies the landlord group with the largest share of the social housing stock. For Germany it is not clear whether private persons or municipal housing companies own the largest share of social housing.

c Includes expenditure for rental and owner-occupied housing, though we can assume that the largest share is spent on social housing development in most countries.

Source: Dol and Haffner (2010); Cecodhas (2007); Eurostat (2011)

Social housing in the Netherlands is almost exclusively provided by private nonprofit housing associations. Until the late 1990s, this picture was quite different, since public authorities provided a substantial share of social rental housing. In line with this general trend of decreasing public provision of social housing, direct subsidies for the construction and management of social housing were no longer available (while those owed by government to social landlords for future management of occupied dwellings were paid out in an operation called grossing and balancing). Nowadays, social housing associations have to finance their social housing activities by their own means (mainly through rental income and commercial activities). Nonetheless, governments facilitate social housing production in two ways. On the one hand, municipalities often make building land available at discounted prices. On the other, local authorities and central government operate as guarantors for loans taken out by housing associations (Haffner et al. 2009).

With the exception of Belgium, there is a multiplicity of social housing providers in all Continental countries. In Germany (as well as in Austria), various governments since ww II have sought to include all kinds of parties in the provision of subsidised social housing, which means that municipal housing companies, associations, co-operatives, private individuals and private for-profit companies can apply for social housing subsidies. These object subsidies are distributed on the basis of a subsidiarity principle, where central government determines the rules and local authorities decide on which party will receive the subsidy. Interestingly enough, tax breaks are also available for private landlords who provide non-subsidised rental housing, signifying a strong housing policy tendency towards facilitating rental housing provision as a whole (Haffner et al. 2009; Droste and Knorr-Siedow 2007).

Ireland is a typical example of an Anglo-Saxon welfare regime where social housing is mainly provided by local authorities. Only very recently have housing associations surpassed the provision of local authorities in the UK. Municipal housing companies are supported in their effort to supply social housing by central government subsidisation policies. Norris (2005) points out that close to 100% of the total construction cost as well as land costs for social housing developers are funded by central government. Costs are mainly met by government grants, though land acquisition is financed through low-interest loans provided by a statutory intermediate lender. Central government repays the loans at the start of construction (Redmond and Norris 2007).

In contrast to most European countries, including within the Mediterranean regime, social housing provision in Spain is operated through the owner-occupied sector. In addition to the large owner-occupied social housing sector, municipal housing companies provide a marginal number of social rental dwellings. Similar to the German case, a subsidiarity principle applies in which local authorities decide how (social rent or social owner-occupation) grants from higher-level authorities are spent (Hoekstra et al. 2010).

The Czech Republic has a social housing sector that is largely dominated by municipal housing companies, a trait that is shared by all CEE countries except for Estonia. A relatively large share of the government budget is reserved for the construction of new housing (0.7% of GDP – including owner-occupancy and social rental subsidies), and is allocated in the form of central government grants to municipal suppliers. Central government sets the rules and prohibits local authorities from using subsidised flats for commercial purposes, selling flats to sitting tenants or mortgaging these flats for new loans (Lux 2009).

Overall, only a weak link can be observed between the structure of the social housing supply and social housing finance schemes on the one hand, and the clustering of welfare regimes on the other. Given the primary role of social housing in most countries, i.e. providing accommodation for those in housing need, the funding of social housing construction is directly supported from public resources in all welfare regimes. The subsidising of social housing management does not show a common pattern across all

welfare regimes. However, the ‘commercialisation’ of the social housing sector in the Nordic countries and the Hybrid Netherlands is reflected in a lack of government funding in all these countries. Somewhat revealing is that in all countries with high performance indicator scores (except for Ireland), direct subsidies for the management of social housing do not (any longer) exist. A rather speculative conclusion could thus be that the ‘commercialisation’ of the social housing sector through larger shares of private non-profit landlords or the introduction of private finance schemes does not aggravate the accumulation of housing problems.

### Housing allowances

In order to gain a better understanding of different demand subsidy schemes, this subsection uses EU-SILC data to extract information on how generous housing allowance payments are at household level.<sup>17</sup> Table 6.6 indicates that monthly housing allowance payments are highest in the Nordic countries and in the Anglo-Saxon welfare regimes. However, this figure in itself does not say much, since it could imply that allowance payments are only higher in these countries because of higher rent levels than in the other countries. More revealing for the generosity of allowance schemes is the share of housing allowance as a percentage of household disposable income and the share of households that receive housing allowances. From this perspective, the most generous policy regimes are still the Nordic and Anglo-Saxon countries, with a share of recipients of up to almost 50% of all rental households and housing allowance rates of around 20% of disposable income in Nordic regimes and as much as 36% in the United Kingdom. For the other welfare regimes (except the Hybrid Netherlands) these rates tend to be substantially lower.

Housing allowances across all welfare regimes are means-tested, yet they show some differences in eligibility criteria that run along the lines of what one might expect within the welfare regimes (Andrews et al. 2011; Danish Ministry of Social Affairs 2011a; Haffner et al. 2009; Lux 2009; Norris 2005). They may also be targeted at different groups. In Denmark and the Netherlands, for instance, pensioner households are a specific group. In Germany this applies to recipients of unemployment benefits. In Ireland different housing allowance schemes apply to the various rental housing sectors: income-based rents are used to assist households in the social housing sector, while private tenants can either receive a rent supplement through a system called Supplementary Welfare Allowance (swA) or Rental Accommodation Scheme.

Overall, the analysis of the country information on housing allowance schemes suggests two main findings. First, Denmark and the Netherlands share some universalistic traits which are signified by the high share of recipients among all tenants, while in Spain and the Czech Republic housing allowances are a more or less negligible tool of housing policy. A common trait among Mediterranean and Central European states is that there are only few rental households who receive housing allowances for their rental costs. In Spain less than 2% of the total population receive housing benefits, which is the third lowest value among all OECD countries (not in table 6.7; see Andrews et al.

2011). Although information is scant, the low availability of allowances might be seen as a hint in the direction of a typical Mediterranean demand subsidy policy model in which households in need have to rely on their family rather than on means-tested allowances provided by the state.

Table 6.6

Housing allowance payments by government in the rental sector in 19 EU-countries, 2007 (in euros and percentages)

	total housing allowance expenditure (€ x million)	mean housing allowance payment per month (€)	housing allowance ( % of disposable income)	rental households receiving housing allowances (%)
Hybrid regime				
Netherlands	1,917	148	13	35
Nordic				
Denmark	1,337	208	16	48
Finland	789	179	20	48
Sweden	919	212	23	24
Anglo-Saxon regime				
Ireland <sup>a</sup>	377	213	13	40
United Kingdom	16,958	429	36	45
Continental regime				
Austria	301	138	11	11
Belgium <sup>a</sup>	*	*	*	*
Germany <sup>b</sup>	847	96	12	3
Central European regime				
Czech Republic	36	3	13	7
Estonia	*	*	*	*
Hungary	14	20	6	13
Poland	152	35	12	8
Slovenia	(5)**	(83)**	(11)**	(4)**
Slovakia	*	*	*	*
Mediterranean regime				
Greece	78	148	18	4
Italy	445	122	10	4
Portugal	*	*	*	*
Spain	*	*	*	*

\* Fewer than 30 observations.

\*\* 30-49 observations.

a The income-related rent scheme means on the one hand that rents are relatively low, and on the other that they are not part of the housing allowance payments in the EU-SILC data, thus leading to an underestimation of demand subsidies in the country. This may also be the case in other countries.

b EU-SILC data do not include housing allowance payments that are linked to and paid with unemployment benefits. The largest share of government expenditure on housing allowances is however paid in this way rather than through the allowance scheme (*Wohngeld*).

Source: Eurostat (EU-SILC 2008); TU Delft/OTB calculations



Overall, the German benefits system largely aims to help meet housing needs temporarily during a period of unemployment and is directed towards the stratification of social groups, which is a typical trait of a Continental welfare regime.

The most interesting case is probably the Anglo-Saxon regime of Ireland. As expected, housing allowance payments differentiate between social renting and private renting. However, the share of recipients and the absolute amounts are relatively high. At this point we can only speculate about the possibility of a link with the deregulation of the private rental market and sharply increasing rents, which in turn evoke rising housing allowance expenditures. This can be observed in the United Kingdom as well and thus seems to be a common pattern in the Anglo-Saxon regimes. In contrast to the other cases, generous housing allowances in these countries are not necessarily a policy strategy, but the outcome of housing unaffordability and market developments. Moreover, there is no welfare state pattern as regards the way housing allowances are paid. One country in a welfare regime might employ direct income subsidisation (e.g. Ireland), while in another the allowance is paid as a cash benefit (e.g. United Kingdom).

Second, a direct link between housing allowance policies and the accumulation of housing problems in the nineteen countries is not apparent. For one thing there is the methodological problem of a substantial number of missing cases in the EU-SILC dataset. Also, it seems intuitive to assume that generous allowances do not necessarily lead to high affordability levels, since absolute rent levels and rent-setting regimes play a significant role as well.

### Rent regulation

The analysis of rent regulation in this study is grounded on the creation of a rent regulation indicator for social housing and private renting by Andrews et al. (2011). The indicator is based on regulation of initial rents, regulation of rent adjustments, and whether landlords can pass on additional costs to tenants. Overall, figure 6.12 shows large differences between the two rental sectors. Social housing rent levels are heavily regulated across the board, while the scores do not follow a pattern of government involvement across welfare regimes. In the private rental sector rent regulation tends to follow a certain pattern. In the Nordic countries, except for Finland, private rents are as regulated as social rents. The exact opposite holds for the two Anglo-Saxon regimes, where private sector rents are largely deregulated. The Hybrid Netherlands conforms to the Nordic regime, while the Mediterranean countries and, to a lesser extent, the Continental welfare states have a less regulated private sector. The Central European countries do not follow a common approach.

In order to gain a better understanding of how these indicators come about, rent control in the six case study countries will be described in more detail.

Rent regulation in the Netherlands stipulates a maximum rent level for rental dwellings based on a quality valuation point system. The quality valuation is based on the dwelling as well as (although to a lesser extent) on location criteria. Rent increases are subject to

yearly political decisions, whereas previous governments have followed an inflation-indexed rent increase policy. This system, which applies to both social and private renting, is unique in Europe; yet rents that exceed the so-called 'liberalisation threshold' of € 652 per month are deregulated and determined by market forces (Haffner et al. 2009).

In Denmark, social housing rents are determined on a cost basis, meaning that rents are fixed in accordance to the utility value of a dwelling. Rent increases are subject to a calculation of the operating budget for the following year; however, rent increases require the approval of the municipal authorities. The private sector broadly follows these premises. However, rents for dwellings built after 1991 are deregulated (Danish Ministry of Social Affairs 2011b).

There are wide dissimilarities in **Ireland** between rent setting in the two rental sectors. The private rental sector is fully deregulated and market forces determine rent levels and rent increases, whereas social sector rents are income-related, meaning that rent adjustments only take place when a household's income changes as well (Haffner et al. 2009).

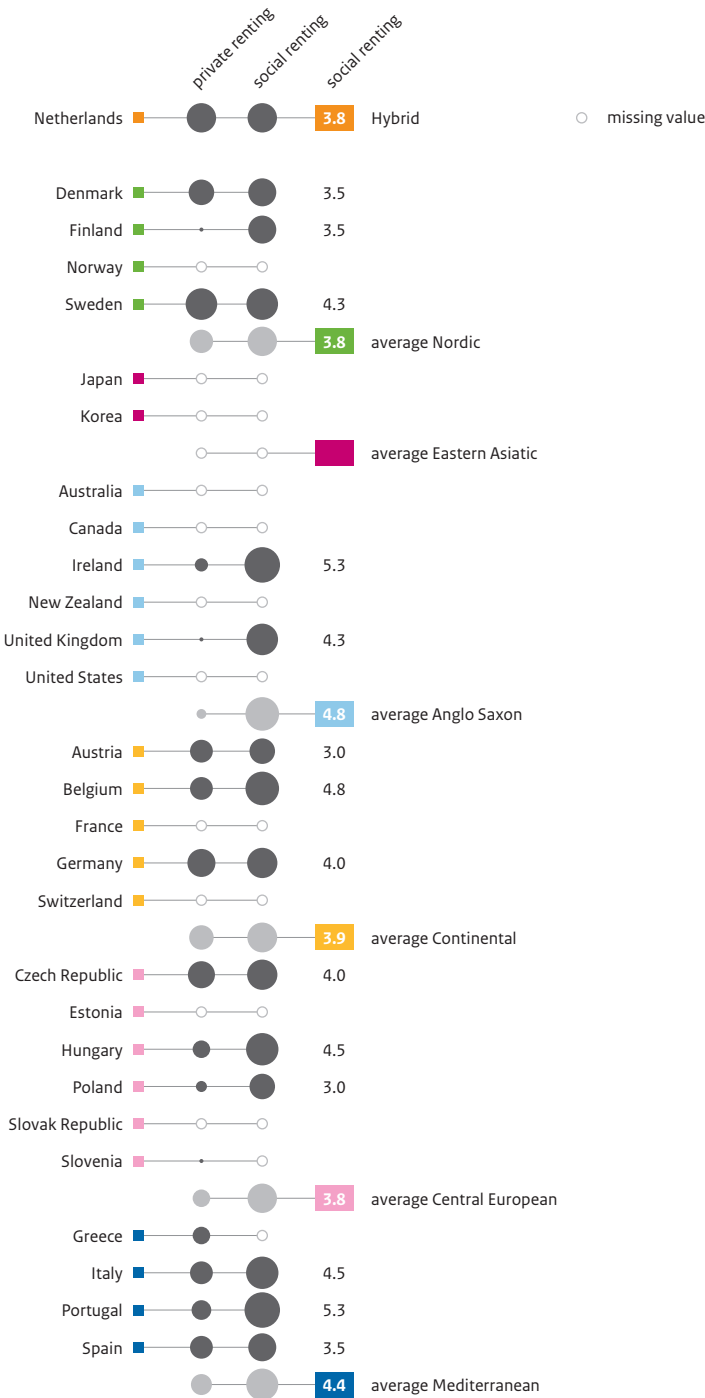
In Germany, rents for subsidised social dwellings are determined through negotiations between the subsidising body (the municipality) and the recipient (the landlord). They negotiate on the maximum rent that can be charged to the tenant. This system of rent negotiations also applies to yearly rent adjustments. Initial rents in the private sector are negotiated freely and are based on market principles. Rent adjustments, however, are bound to local reference rents, where the rent for each dwelling is compared to reference rents for buildings with similar qualities and in similar locations (Kemp and Kofner 2010).

Rent-setting in the Czech Republic is relatively atypical for a Central European country, since rents in both sectors are heavily regulated. Market principles in the private sector apply for foreigners and households living in dwellings that were built after 1993, homes that had been vacant before renting. The most recent Rent Act (2007) stipulates that private sector rents are free to rise to their market values over a period of five years. The determination of market values is based on local reference rents (Lux 2009).

In Spain, rental contracts now have a standard length of five years. Rent levels can be set freely at the beginning of a contract, but annual rent increases may not be higher than the inflation rate while the contract is still in force. After the term of the rental contract has expired, new negotiations on the rent may take place (Haffner et al. 2008).

Figure 6.12

Rent regulation systems in twenty EU-countries<sup>a</sup>, 2009 (in scale 0-6 of increasing degree of control)



a This indicator is a composite indicator of the extent of control over rents, how increases in rents are determined and the permitted cost pass-through into rents in each country. Control of rent levels includes information on whether rent levels can be freely negotiated between the landlord and the tenant, coverage of controls on rent levels and the criteria for setting rent levels (market-based, utility/cost-based, negotiation-based or income-based). Control of rent increases includes information on whether rent increases can be freely agreed by the landlord/tenant, whether rent increases are regularly indexed to some cost/price index or whether increases are capped or determined through some other administrative procedure, including negotiation between tenant/landlord associations. The pass-through of costs into rents includes information on whether landlords are allowed to pass on increases in costs into rents (cost pass-through) and the extent of such pass-through i.e. the types of cost that can be passed on.

Source: Andrews et al. (2011); data for this figure is reproduced from the figure in the original OECD publication

Generally, it is difficult to directly relate how strongly social and private rent levels are regulated to the performance of rental housing in each country. A basic assumption might be that the stronger the regulation of initial rents and rent increases, the lower the affordability problems in the rental housing sector of a country. However, a relatively large share of households with affordability problems (see table 6.2) is found in all types of rent regulation regimes, from Sweden with its strong rent regulation in both sectors to Greece with relatively light regulation. It thus seems fair to say that strong rent regulation appears not to be a panacea for affordability pressures; on the other hand, it is possible that without this policy measure, affordability problems would even be higher.

#### Housing policies in different welfare regimes

The analysis of policy approaches to various supply aspects, rent regulation and housing allowances suggests that there is no direct causal link between strong government intervention through housing policies and government expenditure on housing and community amenities on the one hand and high outcome scores for housing on the other. This confirms the view that these policies function as correctives to the market, where it is inherently difficult to quantify the influence of housing policies on outcome scores. This is not to say however, that a connection between strong government involvement and good performance scores cannot exist. The policy comparison shows that government intervention through rent regulation, supply-side measures and housing allowance schemes can correlate perfectly well with satisfying housing outcomes. Actually, policy measures are extensive in most of the best-performing countries. There is however no one (or more) welfare state model(s) that structurally outperform(s) the others.

In the Netherlands, the state seems to have a strong position in achieving the comparably good performance measures. There seems to be some evidence that in the Dutch case, strong government involvement in rental housing can go hand in hand with a relatively high outcome indicator for the rental housing market. It must be remembered, however, that much of that outcome will have been produced by massive object subsidisation in the past.

#### 6.4 Summary and reflections

The aim of this chapter was to provide a first attempt to measure the performance of housing policy with one composite performance indicator across countries. The starting point was the performance of the housing system from which the possible effects of housing policy (outcome and cost effectiveness) were distilled. The welfare state typology was used as the framework of analysis. In the context of this project, where the benefits of policy for the citizens – the outcomes – were to be analysed and quantified from a Dutch point of view, the basic goals of housing policy that were reviewed are the three cornerstones of Dutch housing policy:

- good-quality dwellings;
- sufficient availability of dwellings;
- good affordability of dwellings.

Outcome indicators were defined and evaluated for the policy goals. The results are discussed in the next section, which is organised around the research questions addressed in this report.

### Comparative results

*Research question 1* on the outcomes of housing systems was measured in two ways: at macro-level and micro-level. In the macro-analyses, the available indicator of quality was not used, as it did not distinguish between countries. Countries were therefore compared on affordability and availability (set as the average number of rooms per person for want of something better). These two factors showed a strong (significant) positive correlation (0.68), i.e. the higher the costs of housing consumption, the greater the number of rooms available per person. The results of this exercise indicate that ‘Western’ countries or welfare regimes are more likely to have less affordable (more costly) housing, but more spacious housing than the Central European and Mediterranean countries, which tend to offer more affordable housing but with less space.

The outcomes of the housing system were also measured at household level with the aid of the EU-SILC dataset from Eurostat. In this approach the results for tenants and owner-occupiers with a mortgage were evaluated separately. For the outcome indicators, benchmarks were set for what would be considered ‘too low a level’ of quality, ‘too high a level’ of overcrowding (the closest measure of insufficient availability of dwellings that is available) and ‘too high a level’ of housing expenses compared to household income. The indicators were added together to form one inverse composite indicator, meaning that the share of households without any of the three problems functions as the indicator to measure the performance of the housing system for the rental sector and for the owner-occupied sector with a mortgage. This implies that that quality and availability (which often turned out to be related) are more important in determining the composite outcome than affordability.

The conclusion based on the micro-analyses is similar to that for the macro-analyses, but more detailed. Generally, the countries that score well on the composite indicators are the Hybrid Netherlands, the Nordic, Anglo-Saxon and Continental countries or welfare (state) regimes. They mostly score better on housing quality and availability in comparison to the Central European and Mediterranean countries, although there are clear exceptions (more so for quality than for availability).

For tenants, the relationship between availability and affordability is slightly (non-significantly) negative: the higher the share of households with overcrowding, the lower the share in unaffordable housing. This is not an unexpected conclusion, since in many countries the government steers social renting more directly than the owner-occupied sector. In other words, governments will aim to minimise costs by providing and/or subsidising social housing that is of a comparably lower quality and smaller size per dwelling for certain household sizes, which at the same time guarantees comparably lower rent levels. In some countries this tenure type is very small, however.<sup>18</sup>

When measuring the cost-effectiveness of housing policy in order to answer *research question 3*, the measurement problems dominate: the COFOG government expenditure data are neither available for housing only (but for housing and community amenities), nor for renting and owner-occupation separately, and they do not include other government interventions in the housing market with effects for affordability (taxation, regulation). Abstracting from the measurement problems, the main implication is that government expenditure (at one given point in time) alone cannot explain the success in achieving affordable housing, high quality of all dwellings, and sufficient availability of dwellings. This seems relatively logical, considering that housing is primarily provided through the market in the owner-occupied sector, that there is at least some market functioning in (private) rental housing in most countries and that current outcomes are also the result of past actions.

Accordingly, for a better explanation of outcome differences in the rental sector across countries, the framework of welfare regimes was used as a ranking device. The relationship between societal factors and housing outcomes on the one hand, and housing policy in the rental sector and housing outcomes on the other, were considered more closely (*research questions 2 and 4*). As regards the *societal factors*, GDP per capita and the share of households without any housing problem were highly correlated. Countries with a higher level of economic development (the Hybrid Netherlands, the Nordic, Anglo-Saxon and Continental welfare regimes) tend to be able to afford middle range to higher rents as a share of household income in return for better quality and more space than those with a lower economic development. Mediterranean and Central European regimes have higher rents as a share of household income, but more overcrowding and affordability problems (with exceptions).

The analysis and comparison of *housing policies* focused on the aspects that are considered most relevant to the housing outcomes in the rental sector: public provision and object subsidisation of social housing, housing allowances and rent regulation. The conclusion here is that housing policy (or these instruments) cannot generally be very well classified according to the welfare regimes. Housing policy conforms to some expectations of the welfare state regime framework for housing allowance and rent regulation schemes, but not for government spending and the supply structure of social housing and object subsidies. It seems fair to conclude that, rather than following a wider pattern of the six welfare regimes, housing policies often follow an ad hoc principle that can either augment wider welfare policies or replace them (see also Bengtsson 2001). Moreover, as argued throughout this chapter, housing outcomes are largely influenced by market interactions and achievements in the past, either from housing or other social policy (i.e. income support), making the interpretation of the data problematic.

### Position of the Netherlands

The conclusion from the macro and micro-analyses of housing outcomes for the Netherlands are relatively similar on an abstract level: the Netherlands scores better on availability and lower on affordability, resulting in a relatively good outcome for

the housing system in comparison to many other countries. In the micro-analyses, the conclusion can be made more specific. The Netherlands scores highest on availability of dwellings for both tenants and owner-occupiers with a mortgage. It scores in the medium range for quality. For tenants, the Netherlands is in the medium range for affordability and for owner-occupiers with a mortgage at the affordable end of the spectrum. This combination results in a top-two position on the composite outcome.

Given the intentions of the current Dutch government of increasing rents (in combination with a reduction in housing allowances) in the aftermath of the global financial crisis when the economy ground to a halt for the second time, tenant housing affordability may become worse in the future. However, even the present position does not necessarily imply that the housing market is functioning well at the moment. The outcome indicators must therefore be seen as partial measures of housing system performance. In the Netherlands, the good position on housing system performance appears to be no guarantee for a housing market which is generally considered a dysfunctional one. The relatively large share of mortgage debt in comparison to other countries is regarded as one of the reasons for this.

In terms of cost-effectiveness, it must be remembered that there is no correlation for the countries under study between actual government spending on housing and community amenities according to COFOG and the housing system outcomes. Given the finding that the share of public investments in total investments is generally low, this result will not come as a surprise. The insight that the current housing situation will also be a product of past actions also points in the direction of low correlation. Furthermore, the COFOG data only provide a measure of current government spending, not of current government intervention. This is particularly true in the Netherlands, because of the strong intervention through the income tax system (the favourable tax treatment of the owner-occupied dwelling) and via rent regulation. A similar picture might possibly be painted for other countries with the same or a different instrument (e.g. exemption from corporation tax or offsetting rent against income tax), again implying that the COFOG data are incomplete when it comes to measuring government influence on housing outcomes.

### Reflections on research approach

The evaluation in this chapter was a first attempt to evaluate the outcome of housing policy in a comprehensive way by combining several relevant indicators for housing outcomes into one composite indicator. The final question in this study is how the approach can be improved. Several perspectives could be relevant here, in addition to improvement of the measurement of government intervention (COFOG).

There are some unresolved issues with the one-benchmark approach (and the way in which the underlying indicators are weighted). In such an approach, there will be a trade-off between simplicity and information. This point is illustrated by the two divergent aspects within the composite indicator: better quality and availability suggest

higher affordability problems and vice versa. A micro-approach using various separate indicators would allow for more rigorous, but also more nuanced, conclusions.

As regards the number of countries, it would have been preferable to use a bigger group of countries (the OECD member states) than the EU member states, without having to deal with each country by itself. For future work, one would have to evaluate whether other databases might be relevant. If, on the other hand, the EU-SILC were to be used again, two years of comparison will be available (EU-SILC 2010 versus EU-SILC 2005). A connection could possibly also be made with its predecessor (the ECHP).

For the database, a wish-list of 'nice-to-have' variables in the EU-SILC could be compiled, including for example the share of social housing. The housing expenditure variable could be improved as well. A distinction could for example be drawn between dwelling-related expenses and utilities-related expenses. Either a complete expenditure concept could be employed for owner-occupied housing (including other mortgage payments and all tax effects), or imputed rent could be used as a cost of housing consumption. Within EU-SILC, work on imputed rent is still in its infancy (Juntto and Reijo 2010; Törmälehto et al. 2010). Imputed rent could be used as a basis to determine economic subsidies, included for regulated rents that are below the market rate. The use of these types of affordability definitions would enable a sounder analysis of affordability. It would also be helpful if the EU-SILC database contained a house price variable.

As regards the indicators that were used, the outcome results for the rental sector mainly run along the lines of a distinction between Nordic, Hybrid, Anglo-Saxon and Continental versus the Central European and Mediterranean countries. That raises the question for this type of analysis of whether, on the one hand, the norms that operate in the former welfare state regimes can be applied to the latter welfare regimes. Perhaps other, more cultural factors, such as the prevailing norms and values in a country, are at play. On the other hand, it is perhaps open to question whether good quality and spacious housing can be achieved at the same time as good affordability. Perhaps, when countries move towards becoming economically advanced, an average rise in housing quality and availability may be an inevitable development without necessarily attaining a better affordability (as figure 6.11 implies).

The indicators that were used turn out to be general indicators for housing system outcomes. It may be difficult to develop specific housing policy indicators, but there may be good reasons to analyse the different patterns that lie behind the general outcomes. This could be approached by developing (or stimulating the development of) different types of indicator. In short, more work needs to be done – and can be done – to improve housing policy performance measurement.



## Notes

- 1 One approach is based on neoclassical economic ideas, an approach where the market dominates. A line of reasoning where large social sectors and transfer taxes hamper the mobility of households, and thus the efficient working of the labour market, fits in with such an approach. A second approach starts from a welfare economy point of view. It is reasoned that government intervention can improve the efficiency of the housing market in certain cases (for instance, when negative external effects are involved). Effectiveness will be improved by government when market outcomes from the viewpoint of society are perceived to result in an inequitable income distribution across households.
- 2 As the policy field of housing was not included in the earlier public sector performance publication by SCP (Kuhry 2004), the material in this chapter is taken from a pilot study that focuses more than the other chapters on the the approach of this study to the field of housing. The differences pertain to a discussion in this section of the possible links between welfare regimes and housing, the combination of research questions 2 and 4, and a methodological reflection in section 6.4. Furthermore, the countries included are mostly EU member states, the focus in time is on one particular moment and the analyses of the outcomes are mostly on a micro-level.
- 3 This classification hides ‘fuzzying’ tenures such as ‘cooperatives’ which can be classified under ‘other’ (e.g. Sweden), owner-occupation (e.g. Finland) or private renting (e.g. Germany) depending on how they are operated. The fuzzying tenures may have different characteristics from the main tenures, as may the main tenures themselves.
- 4 Rent paid for rental dwelling and rent imputed for owner-occupied dwelling. Imputed rent is the estimated amount of rent that would be paid if the owner-occupied dwelling were rented.
- 5 The indicators of overcrowding and affordability are objective indicators that are chosen by the researchers. The indicator of quality contains two subjective variables (too dark and noise from outside). More information about the EU-SILC database and the approach applied here can be found in appendix B6.1. Of the EU countries covered in this study, the data for France are missing from the EU-SILC.
- 6 Unavailability of dwellings cannot be considered to be entirely the same concept as overcrowding. However, at micro-level, this is the closest definition that can be applied. On a macro-level, unavailability of dwellings would be concerned with the number of dwellings in relation to the number of households.
- 7 EU-SILC does not contain a square-metres-per-dwelling variable. From national sources collected in Dol and Haffner (2010) which might use different definitions, it appears that the average number of square metres per person in an occupied dwelling for the countries in this study runs from 24, 26 and 29 in Poland, Slovakia and Czech Republic, respectively, to 45 in Sweden, 51 in Denmark and 66 in Luxembourg. The Netherlands, with an average of 41 square metres per person, has the seventh largest amount of space available per person.
- 8 It is thus a little higher than the average of 23.5% for Dutch tenants (Blijie et al. 2010).
- 9 Alternative indicators that are based on the residual income (after housing expenditure is deducted from disposable income) which is left for other consumption are presented in appendix B6.2.
- 10 In the context of this project, no further avenues for designing a different composite indicator could be explored.
- 11 Only explicit or separately registered personal subsidies for housing can be deducted from gross expenses to calculate the so-called net expenses. If there is any support for housing that runs via

the household income, for instance via income support, it will (incorrectly) not be deducted in this approach. Similarly, if rent includes costs for common areas (like saunas or rooms for washing machines), these cannot be separated out. These are some of the aspects on which measurements may differ between countries.

- 12 Expenses for utilities, repair and maintenance, and government fees or taxes (e.g. property taxes) are not included in this definition of housing; neither are any of these components included separately, even though some of them, such as maintenance expenses, would normally be considered to be housing expenses. They are not included because they cannot be separated from each other in the EU-SILC database.
- 13 The income data in the EU-SILC 2008 are for the year 2007 (except for the United Kingdom and Ireland), while the other variables are for the year 2008.
- 14 It cannot be calculated for Germany as the distinction between owners with and without a mortgage is missing from the EU-SILC.
- 15 This coincides with higher composite housing outcome indicator scores. However, allowance has to be made for the effects of capitalisation of demand subsidies in house prices, in the case of inelastic supply, before causality between the instrument and the outcome can be determined.
- 16 Interestingly these countries, except for the Czech Republic, are among the top third of countries with regard to the effectiveness score – which might be interpreted as another indicator for the weak link between housing outcomes and welfare policy regimes.
- 17 Information on housing allowances for owner-occupiers is presented in the appendix B6.3.
- 18 Because of the definition of affordability that was used (housing expense-to-income ratio lower than 30%), the results of the performance analysis make more sense for the rental sector (rent-to-income) than for owner-occupation with a mortgage (interest-to-income). The amount of mortgage interest is determined by the characteristics of the mortgage loan, which will not relate to the characteristics of housing consumption (quality, space and expenses).

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## 7 Performance of five other sectors

Jeroen Boelhouwer and Jedid-Jah Jonker

### Providing a more complete view of the public sector

In the previous chapters, four sectors have been described in detail, going into developments over time and largely following the heuristic model presented in chapter 1. The contribution of the public sector in these four policy domains, however, provides only a limited insight into the performance of the public sector as a whole. To obtain a more complete picture, this chapter will examine five other sectors, following the COFOG classification (see table 7.1).<sup>1</sup>

Table 7.1

Classification of functions of government<sup>a</sup>

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sectors studied in depth in this study

1	education
2	health
3	social safety
4	housing

sectors studied briefly in this chapter

5	social protection
6	economic affairs and infrastructure
7	environmental protection
8	recreation, culture and participation
9	public administration

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a The classification is largely based on COFOG but the names of some sectors have been adjusted to the content chosen in this study.

Source: OECD (2011a); SCP revision

As in the previous chapters, the focus here will be on the relationship between outcomes and costs. As was formulated in chapter 1, outcomes are defined based on goals (or desired outcomes) formulated by policymakers. Outcomes are influenced by the way in which a sector is organised, but it is difficult for policymakers to influence outcomes directly because outcomes are in large part dependent on other factors. In chapter 1 a distinction was made between societal circumstances (economy, demography, etc.) and other external factors (lifestyle, geographical circumstances, etc.). These factors will not be examined in this chapter. Generally speaking, it is easier to obtain higher outcomes in a certain sector if a country increases its expenditure on that sector. Examining cost-effectiveness provides an insight in the effectiveness of public spending: how do outcomes relate to the level of expenditure? Following the heuristic model described in

chapter 1, outcomes in a specific area are related not only to expenditure, but also to the confidence that citizens have in the public sector in question.

Unlike the previous chapters, this chapter will not look at developments over time, but will focus on the most recent available data for outcomes. For each sector these outcomes will then be combined into one overall outcome index. Other elements of the model that was presented in chapter 1 will be discussed only briefly (inputs) or not at all (outputs). Due to data limitations, the results for some sectors do not cover all 28 countries.

Some other difficulties should be mentioned here. For some sectors it is not easy to *define* outcomes.<sup>2</sup> For other sectors it is hard to *measure* outcomes: whether or not voter turnout is a proper outcome measure for good governance is something that is open to discussion.

The goal of this study is to examine the performance of the public sector. There are some sectors where performance is greatly influenced by external factors (see figure 1.1). In environmental protection, for instance, performance depends on geographical and international circumstances which are (partly) beyond the influence of the domestic public sector. Conclusions on performance should therefore be drawn with caution. This study provides an overview of outcomes in nine sectors. Four of these have been examined in depth in the previous chapters. For five other sectors more insight into the context is needed before it is possible to provide explanations for difference in outcomes.

Outcome indicators have been chosen to provide an insight into the performance of the sectors from the point of view of individual citizens. Most of these indicators can be influenced by policymakers, but for some sectors (for instance culture and participation) their scope of action is very limited.

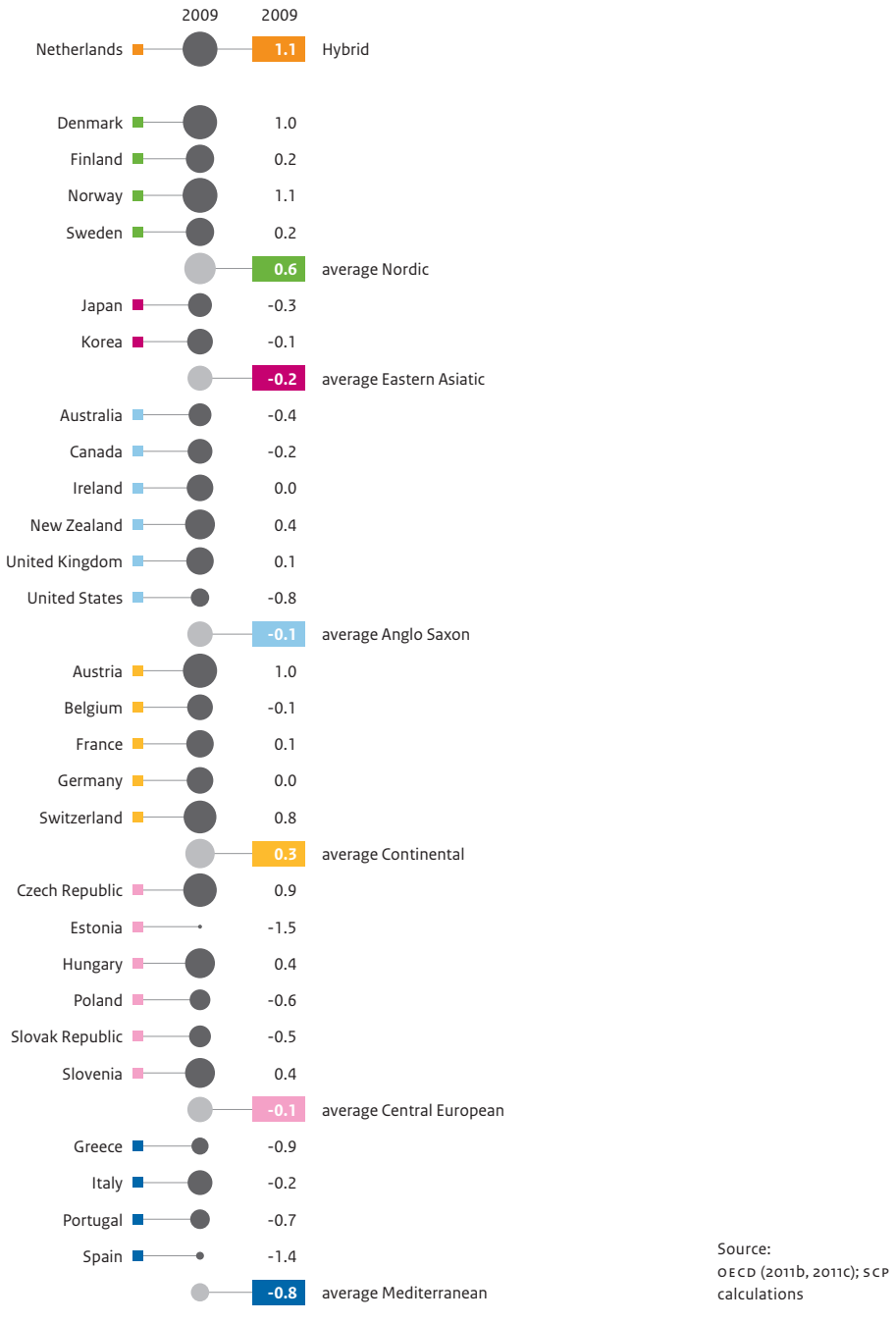
Given the limitations mentioned above, it is possible to provide a concise overview of the performance of the (almost) entire public sector, based on an analysis of cost-effectiveness (chapter 8).

## 7.1 Social protection

The goals of social security can be defined in a broad or narrow sense (Vrooman 2009: 112-113). According to the narrow definition, social security consists of collective benefits and provisions to provide income protection for those who need it. The broader approach also takes in security of work, health and social participation as objectives of social security (ibid.: 118). Following this broader definition, the level of relative poverty and the level of structural employment are chosen as indicators of the performance of social protection.<sup>3,4</sup> The level of poverty is an indicator of income protection, while structural employment measures security of work. Social participation and health are not included, as they are part of the recreation, culture and participation and health sectors, respectively.<sup>5</sup>

Figure 7.1

Social protection outcome index, 2009 (in index scores)



Source:  
OECD (2011b, 2011c); SCP  
calculations



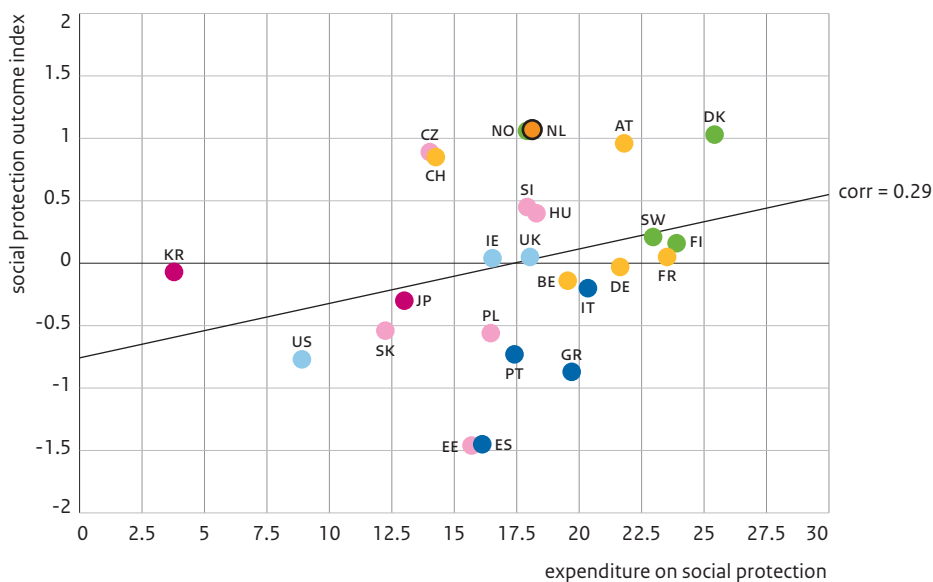
Countries in which both poverty and structural unemployment are low are the Netherlands, Denmark, Norway and Austria. At the other end of the spectrum are Estonia and Spain. There are a number of countries which show mixed results: low poverty and high structural unemployment is found in Slovakia, whereas Australia, Japan, Korea and the United States combine high poverty rates with low structural unemployment.

### Cost-effectiveness

Overall there seems to be a positive relationship between expenditure and outcome, but it is not a significant one (see figure 7.2).<sup>6</sup> The Mediterranean countries, Estonia, Slovakia and Poland are characterised by low expenditure and low outcomes (bottom left corner of the figure). At the other end of the spectrum, in the upper right hand corner, are the countries that combine high expenditure with high outcomes. Three of the Nordic countries can be characterised as such, as well as a number of the Continental countries. The Czech Republic and Switzerland combine low expenditure with good outcomes. Average expenditure and high outcome results are achieved by the Netherlands and Norway. Austria achieves the same outcome but spends substantially more.

Figure 7.2

Expenditure on social protection versus social protection outcome index, 2009 (in percentages of GDP and index scores)



Correlation is not significant (p-value is 0.16).

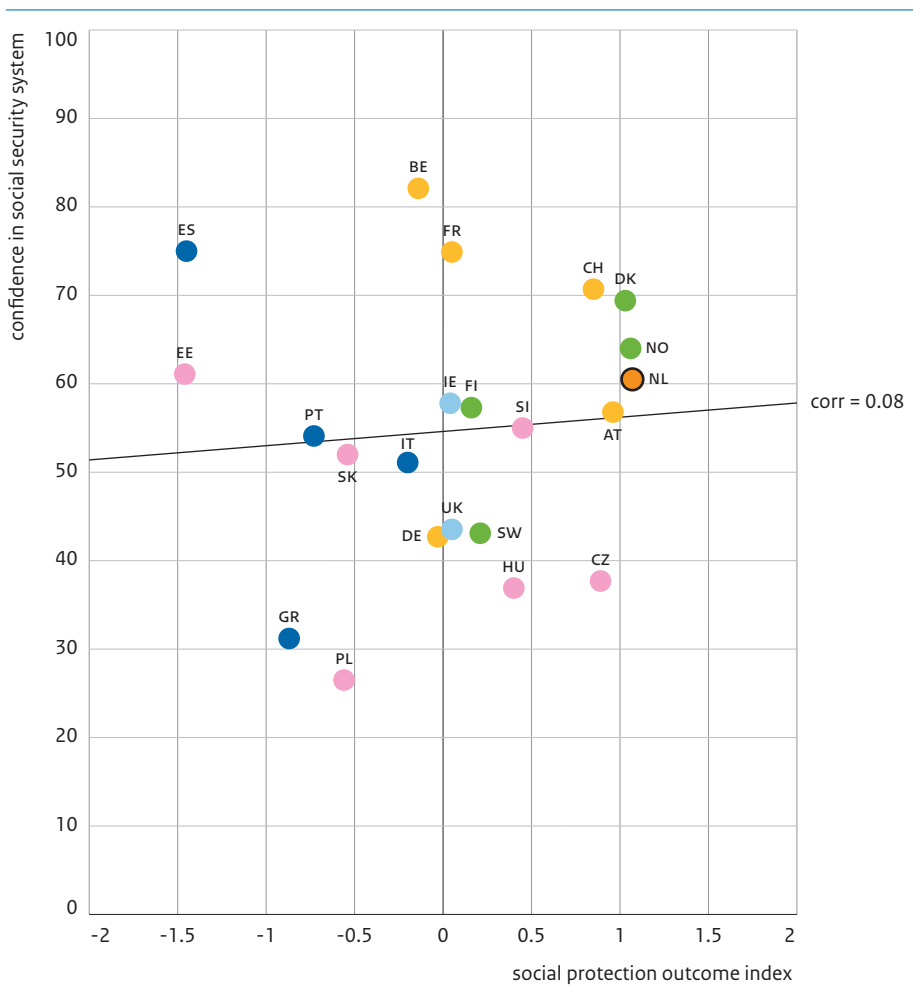
Source: OECD (2011b, 2011c); OECD Statistics (National accounts 2011); SCP calculations

### Outcome and confidence

There is no relationships between outcomes and confidence in the social security system (figure 7.3). The Mediterranean countries rank among the poorest performers in outcomes among the European countries. However, confidence varies greatly between the individual Mediterranean countries, ranging from 30% in Greece to 75% in Spain. Almost the same variation in confidence is found among the Nordic countries, where outcomes are generally high. The Netherlands combines high outcome results with above-average confidence levels. Its performance is very close to that of Norway and Austria.

Figure 7.3

Social protection outcome index versus confidence in social security system, 2009 (in index scores and percentages of the population)



Correlation is not significant (p-value is 0.71).

Source: OECD (2011b, 2011c); EVS (European Values Study 2009); SCP calculations

## 7.2 Economic affairs and infrastructure

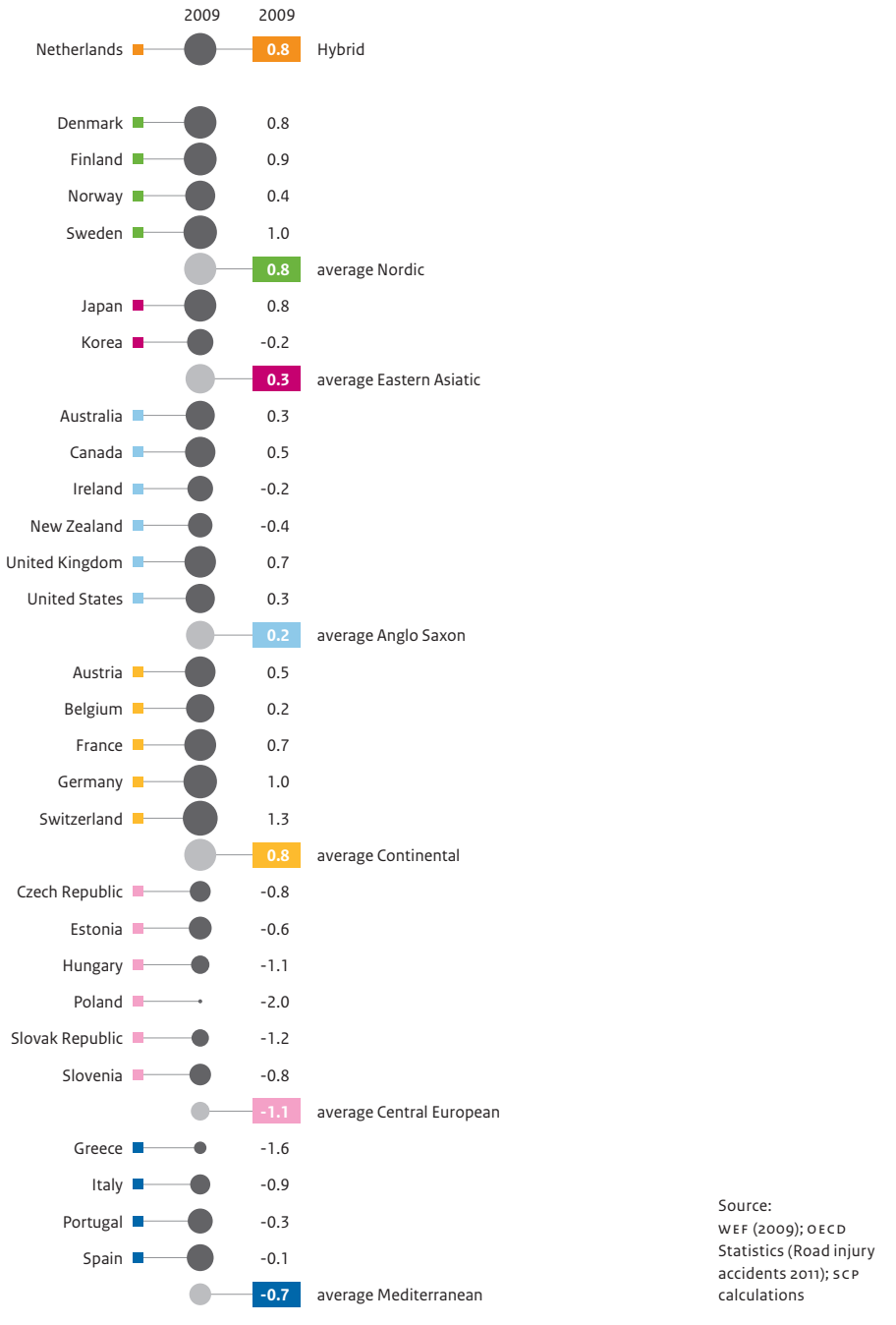
The public sector plays a limited role in economic affairs. It essentially comes down to promoting domestic commercial interests, both abroad and at home. The Dutch Ministry of Economic Affairs has defined its goal as ‘enhancing the country’s long-term competitive strength and facilitating the private sector’ (Ministry of Economic Affairs, Agriculture and Innovation 2011). The Danish Ministry of Economic and Business Affairs seeks to ‘improve conditions for growth’ (Ministry of Business and Growth 2011). The British Department for Business, Innovation and Skills wants to ‘make a difference by supporting sustained growth and higher skills across the economy’ (Department for Business, Innovation and Skills 2011). The Polish Ministry of Economics wants to ‘take measures to boost competitiveness and innovativeness’ (Ministry of Economics 2011).

Besides economic affairs, this sector also includes investments and maintenance of various infrastructures. In fact, on average this subsector accounts for 50% of total spending on the economic affairs and infrastructure sector.<sup>7</sup> In most countries, governments are responsible for building and maintaining various types of infrastructure and ensuring their quality and safety.

The fact that this sector consists of two distinctly different components makes it hard to assess overall performance. Separate analysis of these two dimensions would provide a greater insight into differences between countries, but that goes beyond the scope of this study. The outcome of economic affairs and infrastructure is measured using three indicators: two for infrastructure and one for economic activities. The Executive Opinion Survey by the World Economic Forum (WEF) contains a question on the overall quality of infrastructure. This can refer to product quality (are the roads well maintained?), capacity (congestion), but also to road safety (presence of traffic lights, roundabouts, etc.). The first two will be more or less covered by the question on overall quality. The measure of road safety looks at the number of traffic fatalities per inhabitant. The underlying assumption is that roads that are of better quality and are better maintained lead to a lower number of (fatal) accidents.<sup>8</sup> This measure also corresponds with the citizen’s perspective mentioned earlier. Performance on economic activities is measured by the Global Competitiveness Index (WEF 2009). This index measures ‘national competitiveness, capturing the microeconomic and macroeconomic foundations of national competitiveness’ (WEF 2009: 3). Unfortunately, no trust or satisfaction data were found for this sector.

Figure 7.4

Economic affairs and infrastructure outcome index, 2009 (in index scores)



Source:  
 WEF (2009); OECD  
 Statistics (Road injury  
 accidents 2011); SCP  
 calculations

The strongest outcome performance on economic affairs and infrastructure is achieved in Switzerland, which scores extremely well on all three indicators. Germany and Sweden also do well, due to strong results on overall infrastructure (Germany) and competitiveness and road safety (Sweden). The Central European and Continental countries all score below average. Poland and Greece show the poorest results overall, with Greece scoring the lowest overall on both competitiveness and road safety and Poland on overall infrastructure. The Netherlands does quite well, with an overall sixth best score on outcome. Although overall results on infrastructure are only just above average, the Netherlands does perform very well on road safety. The results on competitiveness are also well above average.

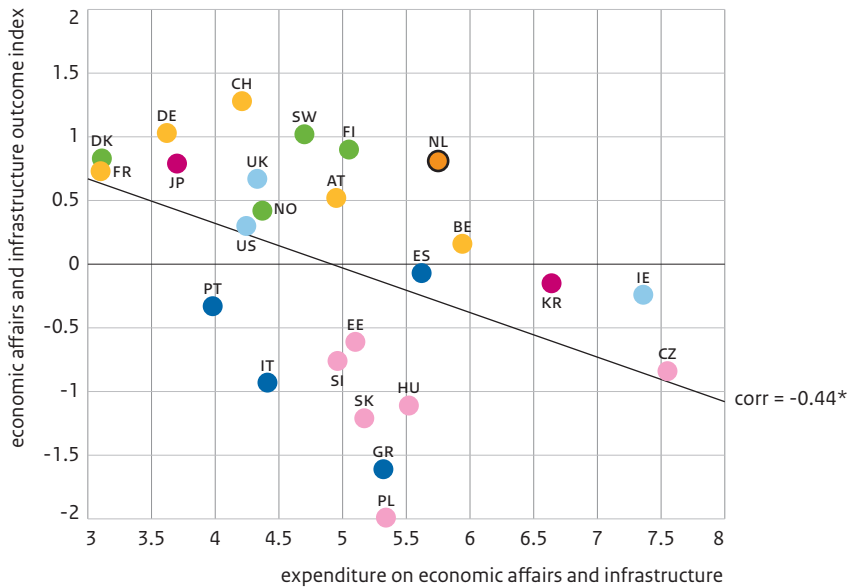
It is interesting to compare the Netherlands to Denmark, Finland and Japan – all countries with a comparable outcome score. Finland and Denmark both perform better on overall infrastructure and competitiveness, but the Netherlands shows a stronger performance on road safety. The results for Japan closely match those of the Netherlands, except that the Netherlands scores a little higher on competitiveness and road safety than Japan. Overall infrastructure is slightly better in Japan.

#### Cost-effectiveness

Expenditure and outcome are negatively related (see figure 7.5). Part of this relationship can be explained by the burden of the past: the infrastructure (both physically and economically) in almost all Central European countries is outdated and substantial investments are needed to bridge the gap compared with the Continental and Nordic countries. The Mediterranean countries, on the other hand, seem to work inefficiently, spending too much on economic activities that are below standard. The Netherlands spends a little over average to achieve results that are well above average. However, the best-performing countries spend less to achieve their excellent results. A more rigorous analysis of the performance of the economic affairs sector is probably needed. The Competitiveness Index measures more than purely economic activities, whereas the two measures of infrastructure only measure a limited part of all existing infrastructure.

Figure 7.5

Expenditure on economic affairs and infrastructure versus outcome index, 2009 (in percentages of GDP and index scores)



\* Correlation is significant (p-value is 0.04).

Source: WEF (2009); OECD Statistics (Road Injury Accidents 2011, National accounts 2011); SCF calculations

### 7.3 Environmental protection

‘Environmental protection’ is the label COFOG has given to an area that has become an important topic on the agenda of both policymakers and the general public. The notion of global warming and climate change has urged governments to set goals to reduce the impact of human behaviour on the environment (Treaties of Kyoto and Copenhagen). A broad range of indicators can be grouped under the umbrella notion of environmental protection. Although governments are keen on reducing global warming and combating other environmental damage, the impacts of policies pursued in this respect are often barely visible to citizens.

For most citizens, environmental protection in day-to-day life has less to do with sustainability and climate change and more with their immediate living environment. Of course, this is not to say that climate change is not important to citizens. In the long run it is, but actions taken today will only have effect in the future. In the COFOG classification, environmental protection is about both climate and the environment. The COFOG breaks down environmental protection into five groups:

- waste management (collection, treatment and disposal of waste);
- waste water management (sewage system operation and waste water treatment);
- pollution abatement (ambient air and climate protection, soil and groundwater protection, noise and vibration abatement and protection against radiation);
- protection of biodiversity and landscape (protection of fauna and flora species);
- Research and Development.<sup>9</sup>

Air and water quality are also the key issues in environmental protection as defined by the Dutch Ministry of Infrastructure and the Environment (I&M), in addition to: closer cooperation between government and trade and industry on waste management and fiscal incentives for eco-friendly cars. At European Union level, additional important issues are the reduction of greenhouse gas emissions, protection of biodiversity and the reduction of waste (Ministry of Infrastructure and the Environment 2012).

Following the COFOG classification, table 7.2 presents the operationalisation and the chosen indicators.

Table 7.2

Indicators for environmental protection based on the COFOG subsectors

1	carbon dioxide emissions per capita <sup>a</sup>	us Department of Energy's Carbon Dioxide Information Analysis Center (2008).
2	air pollution (effects on humans)	indoor air pollution (World Health Organization); outdoor air pollution (World Development Indicators, World Bank);
3	air pollution (effects on ecosystem)	sulphur dioxide emissions per populated land area (Emissions Database for Global Atmospheric Research (EDGAR) v3.2, United Nations Framework Convention on Climate Change (UNFCCC), Regional Emissions Inventory in Asia (REAS)); nitrogen oxide emissions per populated land area (EDGARv3.2, UNFCCC, REAS); non-methane volatile organic compound emissions per populated land area (EDGARv3.2, UNFCCC, REAS); ecosystem ozone (Model for ozone and Related chemical Tracers (MOZART) II model).
4	water (effects on ecosystem)	Water Quality Index (United Nations Environment Programme (UNEP) Global Environmental Monitoring System (GEMS)/Water); Water Stress Index (University of New Hampshire Water Systems Analysis); Water Scarcity Index (UN Food and Agriculture Organization (FAO)).
5	biodiversity	biome protection (International Union for Conservation of Nature (IUCN), CIESIN); marine protection (Sea Around Us Project, Fisheries Centre, University of British Columbia); critical habitat protection (Alliance for Zero Extinction, The Nature Conservancy).
6	waste	OECD Factbook 2010: Economic, Environmental and Social Statistics (total amount of municipal waste generated).

a Not included are emissions from land use such as deforestation.

The chosen indicators differ slightly from those used in other reports on the environment, because in this study the COFOG classification is taken as a starting point and the specific selection of countries sometimes makes data coverage difficult. However, the dimensions described in table 7.2 are comparable to those described in other reports.<sup>10</sup> Note that the term ‘environmental protection’ as used in this study relates to sustainability but is less comprehensive in its scope than usual as it includes only natural capital; social capital, economic capital and human capital are not included. CBS (2011) provides an extensive discussion of the various dimensions of sustainability.

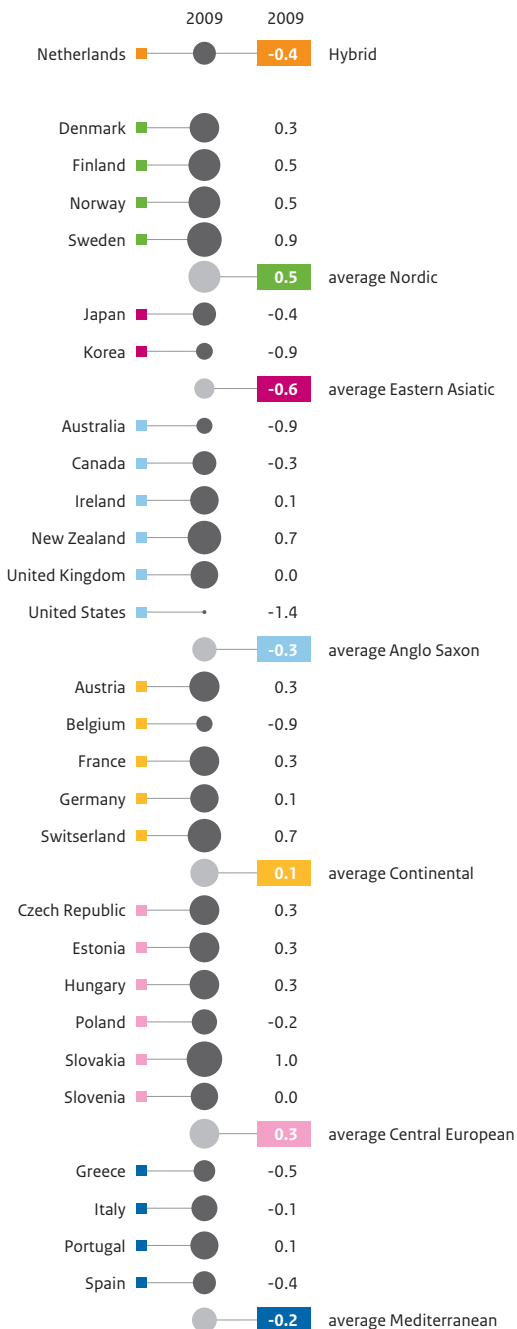
A few further comments need to be made concerning the use of the notion of environmental protection within the framework of this report. The first is that the COFOG classification takes the national perspective as its point of departure, whereas national governments are only to a limited extent (key) players in the field of environmental protection. In the Dutch case, about 80% of the legislation on the environment is derived from EU legislation. Secondly, it is difficult to tell whether these indicators really are indicators of the effects of *national* actions. For example, the air quality in the eastern part of the Netherlands, in particular, is influenced by the industrial Ruhr region of Germany. Third and finally, specific country characteristics can have an influence. In the Netherlands, for example, population density is high and land is used intensively; these factors influence environmental outcomes but are largely beyond government control.

### Outcome indicators

The six indicators in table 7.2 are combined into one composite environmental index.<sup>11</sup> The Netherlands performs above the average on biodiversity and (prevention of) waste, but the results are below average on the other indicators, in particular on air and water quality.<sup>12</sup> This leads to an overall below-average score. Though biodiversity is below average in Norway, Denmark and Sweden, the Nordic countries achieve the best overall scores (figure 7.6). There are wide differences among the Anglo-Saxon countries, with New Zealand being an overall top-five country, whereas the United States achieves the worst environmental score of all countries (mainly due to scores that are – far – below average for waste and carbon dioxide emissions). Population density does appear to have a strong relationship with environmental outcomes. When the outlier Australia is excluded, the correlation between population density and environmental outcome is significant and negative (correlation is  $-0.45$ ,  $p$ -value  $0.02$ ). This illustrates that it is more difficult for densely populated countries to obtain good results on environmental protection.<sup>13</sup>



Figure 7.6  
Environmental protection outcome index, 2009 (in index scores)



Source:  
us Department of  
Energy's Carbon Dioxide  
Information Analysis  
Center (2008); Emerson  
et al. (2010); OECD  
(Factbook 2010); SCP  
calculations

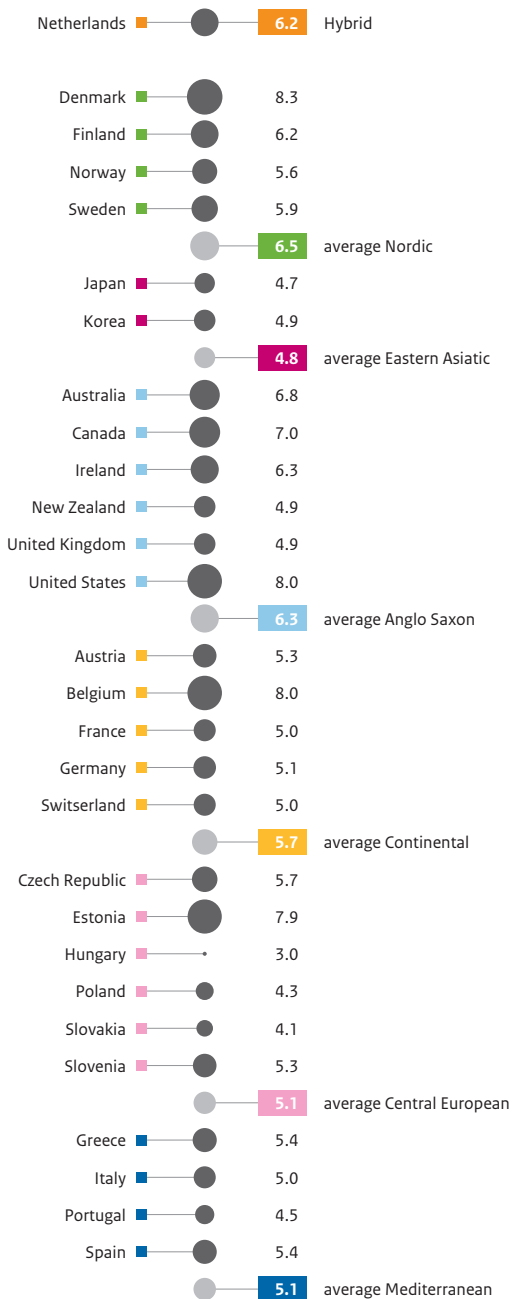
**Box 7.1 The ecological footprint**

The ecological footprint is a well-known alternative environmental index. The ecological footprint is a measure of how much (productive) land and sea is necessary to handle human consumption and to mitigate the waste associated with this demand. The ecological footprint differs greatly between countries and does not seem to be related to the welfare state clustering used in this study (see figure 7.7). The Netherlands achieves a score of 6.2 (global hectares per capita, in 2007), which is relatively high compared to the score of the Eastern Asiatic countries and most of the Central European and Continental countries. The footprint of Denmark, the United States, Austria and the Czech Republic, in particular, is high. None of the countries scores below the threshold of about 1.8 hectares per capita.

Relating the local environmental index to the ecological footprint reveals that the local environment is generally worse in countries that use more land for their consumption (coefficient = -0.36).

Figure 7.7

Ecological footprint, 2007 (in index scores)

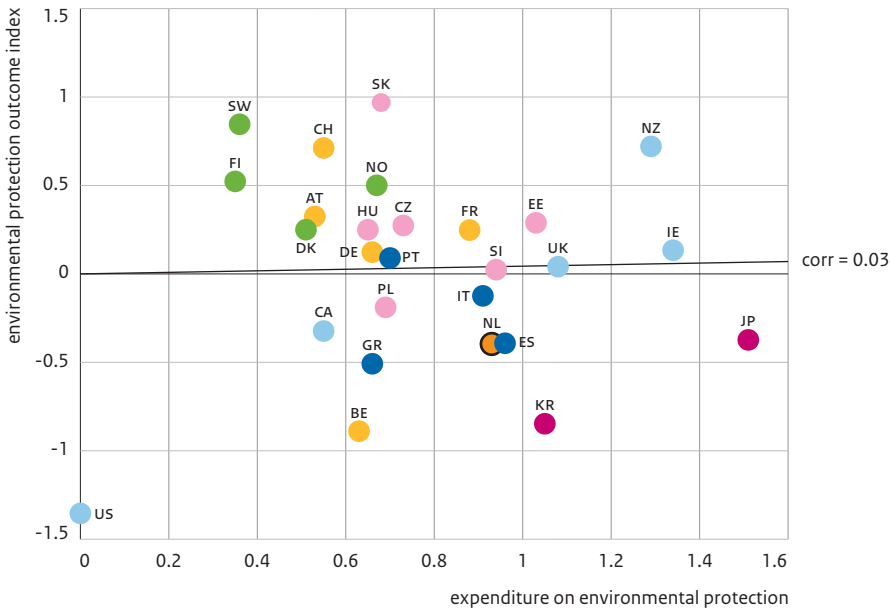


Source: National Footprint Accounts (2010)

Cost-effectiveness

Although environmental protection and sustainability have become important issues in the public and political debate, only small percentages of GDP are spent on it. Of the 28 countries, Japan spends the most, with 1.5% of GDP being devoted to environmental protection. The Nordic countries spend relatively little on the environment: Finland and Sweden less than 0.4%.

Figure 7.8  
Expenditure on environmental protection versus outcome index, 2009 (in percentages of GDP and index scores)



Correlation is not significant (p-value is 0.90).

Source: US Department of Energy's Carbon Dioxide Information Analysis Center (2008); Emerson et al. (2010); OECD (Factbook 2010); OECD Statistics (National Accounts 2011); SCP calculations

The cost-effectiveness of environmental protection may be gauged by relating the environmental protection outcome index to the expenditure (figure 7.8). There is no significant correlation between effectiveness as measured by the index and the percentage of GDP spent on environmental protection. There are huge differences between countries. For example, Japan spends more than three times the amount that Sweden does, but achieves a much lower performance. It must be borne in mind that only public expenditure is covered in this study, i.e. not including expenditure by the business sector. This can lead to an underestimation of total expenditure, for example in the Netherlands, where the business sector has to pay for waste removal.

As already mentioned, it is not only expenditure on environmental protection that has an effect on the environmental situation: external factors such as population density (for example, the air quality near busy roads in cities is worse than in the countryside) and the condition and type of domestic industry will also play an important role.

### Satisfaction and outcomes

How satisfied are people with environmental outcomes? Though there is much debate about the state of the environment, it is usually not a topic people find important enough for policymakers to act upon immediately. People distinguish between the problems of today (for instance the economy), where immediate action is required, and problems of the 'future' – problems that are more of a concern for future generations than for themselves (which of course can be discussed in terms of the urgency of future climate changes demanding action today (Verbeek and Boelhouwer 2010).

There are no comparable data across OECD countries on satisfaction with the quality of the environment. Therefore, an indicator is used here that measures satisfaction with one part of the environment, namely air quality. On average, the Central European countries are the least and the Anglo-Saxon and Nordic countries the most satisfied (figure 7.9). Satisfaction with air quality in the Netherlands is below average. There is no significant relationship between the outcome index and satisfaction (coefficient = 0.03).<sup>14</sup>

Figure 7.9

Environmental protection outcome index versus part of the population that is satisfied with air quality, 2009 (in index scores and percentages)



Correlation is not significant (p-value is 0.90).

Source: us Department of Energy's Carbon Dioxide Information Analysis Center (2008); Emerson et al. (2010); oECD (Factbook 2010); UNDP (2010); sCP calculations

## 7.4 Recreation, culture and social participation

This sector concerns the time people spend on leisure activities. When it comes to leisure time, government policy is directed mainly towards providing or facilitating services related to recreation, culture and participation. There is no specific policy aimed at people's behaviour. In other words, governments want to provide the conditions for individuals to recreate, participate or be culturally active. Whether citizens actually use these services is beyond government influence. Outcome indicators for this sector are chosen along the lines of the COFOG definition of this sector. The difficulty in this sector is that outcome and output (participation) coincide to a great extent. COFOG distinguishes the following four elements:

- 1 recreational and sporting services;
- 2 cultural services;
- 3 broadcasting and publishing services; and
- 4 religious and other community services.

- 1 *Recreational and sporting services* include active and passive sporting pursuits or events. A number of outcome indicators are chosen that measure active sports participation.
- 2 *Cultural services* encompass 'facilities for cultural pursuits' (libraries, museums, art galleries, theatres, exhibition halls, monuments, historic houses and sites, etc.). Measures of cultural participation (been to a theatre, museum, etc.) are used as outcome indicators.
- 3 *Broadcasting and publishing services* comprise the 'operation or support of broadcasting and publishing services'. Television, radio broadcasting, newspapers, books and magazines belong to this group. Watching television, listening to the radio and reading a book are chosen as outcome indicators.<sup>15</sup>
- 4 *Religious and other community services* constitute a broad division aimed at 'provision of facilities for religious and other community services [...]; grants, loans or subsidies to support fraternal, civic, youth and social organisations or labour unions and political parties.' This description relates to social networks and civic involvement, which can be operationalised by doing voluntary work.<sup>16</sup>

The chosen indicators are summarised in table 7.3. Comparable indicators have been used in a study on time spent on leisure activities in 16 EU-countries (Cloïn et al. 2011). Of all recreational activities, it was found that most time is spent on 'media consumption' (of which watching television is the most important activity, followed by reading a book), followed by social activities (social contacts and voluntary work) and other leisure activities, such as participating in sport and visiting cultural institutions (though also including gaming and using a computer).

Table 7.3

Outcome indicators for recreation, culture and social participation

cultural participation <sup>a</sup>	seen a ballet, a dance performance or an opera; been to a cinema; visited a library; been to a theatre; been to a concert; visited museums or galleries (at least once in the past year);
recreation <sup>b</sup>	watching television (two hours a day or more); listening to the radio (two hours a day or more); read a book (in past 12 months);
sporting activity <sup>c</sup>	exercised or played sport (at least once a month); been engaged in a non-sporting physical activity, such as cycling or walking from one place to another, dancing, gardening (at least once a month);
social participation/ civic involvement <sup>d</sup>	meets friends socially (at least once a month); does voluntary work (% yes, in the past week).

Source:

a European Commission (Eurobarometer 67, 2007).

b The last two indicators are from European Commission (Eurobarometer 67, 2007), the other from ESS (European Social Survey, 2008).

c European Commission (Eurobarometer 72.3, 2009).

d ESS (European Social Survey, 2008).

There are hardly any international comparative statistics on these topics. The best data sources available are the *European Social Survey* and the *Eurobarometer*. This does however mean that there are no data available for non-European countries.<sup>17</sup> The indicators in table 7.3 are combined into one composite number, the outcome index of recreation, culture and social participation (figure 7.10).<sup>18</sup>

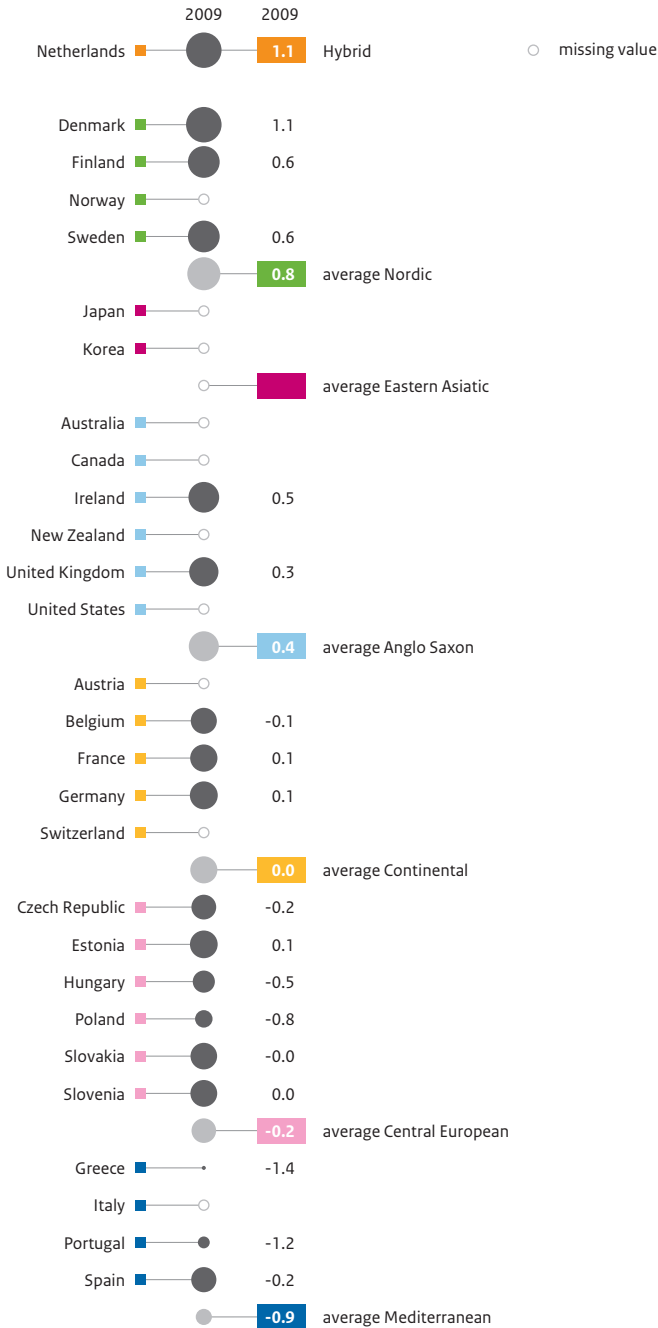
On average, the Nordic countries and the Netherlands achieve the highest outcomes and the Mediterranean countries the lowest. An important factor here is the available amount of free time. More free time means more (and more diverse) leisure time activities can be undertaken. People in the Netherlands, Norway, Finland, Belgium and Germany have more free time on average than people from the Central European countries, for example (Cloïn et al. 2011).

The Nordic countries and the Netherlands also have a long tradition of volunteering and high levels of welfare, which could also explain the higher outcomes (Cloïn et al. 2011). On the other hand, people living in countries in Southern and Eastern Europe are more active in informal care, especially through family ties (which is also related to differences in the social security arrangements). This could explain why Spain, for example, has the third highest results on social participation (not shown in table).

The country scores on the outcome index are to a great extent in line with the country clusters, though Spain performs better than the other Mediterranean countries. Spanish people do more voluntary work compared to the Portuguese and Greeks, and are more active in sports (which includes walking – see also Cloïn et al. (2011)).

Figure 7.10

Outcome index for recreation, culture and social participation, 2009 (in index scores)



Source:  
European Commission (Eurobarometer 67, 2007); ESS (European Social Survey 2008); European Commission (Eurobarometer 72.3, 2009); SCP calculations

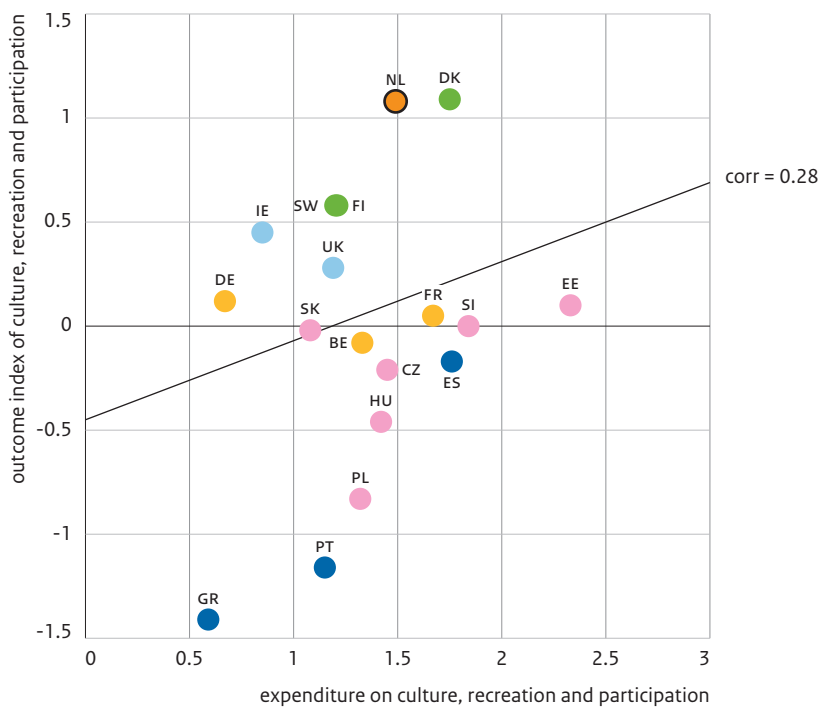


### Cost-effectiveness

Most of the public funds in this sector are spent on cultural services such as libraries and museums. Estonia spends the highest percentage of GDP on recreation, culture and social participation (2.3%) and Greece the lowest (0.6%). The Netherlands spends a little more of GDP on this sector than the average of all countries (1.5% vs. 1.2%). There appears to a positive relationship between expenditure and outcomes, though the correlation is not significant (coefficient = 0.26; see figure 7.11).

Figure 7.11

Expenditure on recreation, culture and social participation versus outcome index, 2009  
(in percentages of GDP and index scores)



Correlation is not significant (p-value is 0.33).

Source: European Commission (Eurobarometer 67, 2007); ESS (European Social Survey 2008); European Commission (Eurobarometer 72.3, 2009); OECD Statistics (National accounts 2011); SCP calculations

The low correlation between the outcome scores and expenditure levels might be connected to the individual choices involved in recreational and participation activities. Governments can mount public campaigns to promote and encourage people to visit

museums or to participate in sport, and governments play a facilitating role in providing the necessary services and amenities. In the end, however, governments have little influence over the use of these services: whether people watch television, participate in sport, do voluntary work or go to a museum is an autonomous individual decision.

### Outcome and satisfaction

No comparable data are available on how satisfied people are with their leisure time activities or with the amount and quality of cultural services and sporting facilities. Some information is available from the Eurobarometer survey in 2002 on how people rate the importance of leisure time. People were asked to rank the importance of fourteen items 'for having a good life'. In the Netherlands and Sweden, 'having sufficient leisure time' was the most important aspect, whereas for the EU-25 it was 'having a good job' (Delhey 2004). Rating leisure time as important for a good life is however something different from being satisfied with it.

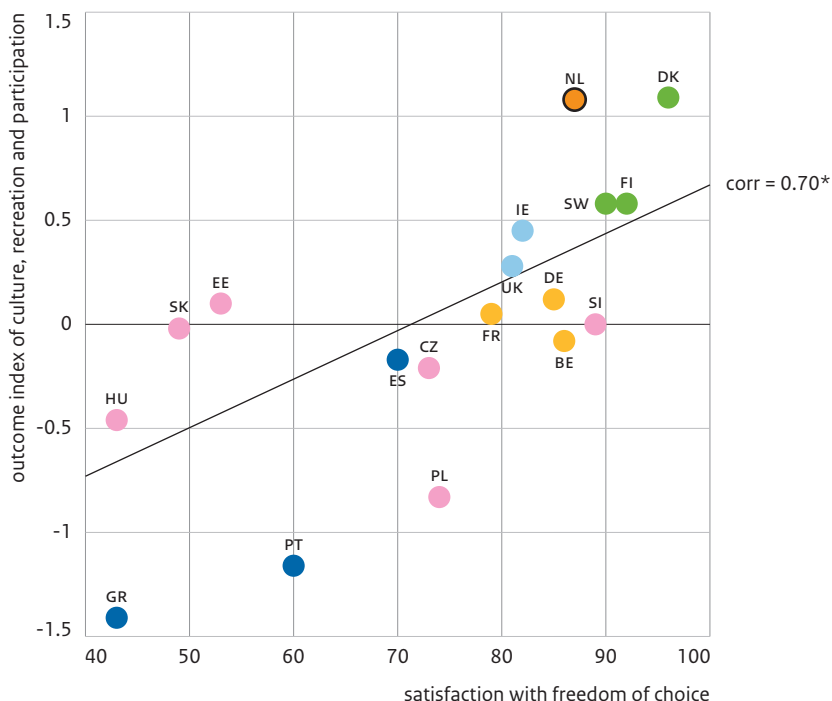
As a substitute for satisfaction with leisure time activities, we look at satisfaction with the amount of freedom of choice people have: do people really feel they can make their own choices? As stated earlier, the choices individuals make are very important in this sector. More than government policy, it is the choice of citizens themselves whether or not they participate in the cultural sector or how they engage in recreation. Satisfaction with the amount of freedom of choice goes beyond satisfaction with leisure time (activities), and can also include things such as satisfaction with the ability to choose your own telephone provider or transport company, or the freedom to participate in democratic processes. Freedom of choice also means the freedom to choose your own leisure activities. Freedom of choice is seen as an important feature of leisure (Bull 2009).<sup>19</sup>

Figure 7.12 shows that the relationship between outcomes and satisfaction with freedom of choice is positive and significant (coefficient = 0.74). There are however countries in which less than half the population are satisfied with the amount of freedom of choice they have (Hungary, Greece and Slovakia). In the Nordic and Continental countries and the Netherlands, satisfaction is higher than in other countries.

As stated above, freedom of choice could be related to other things besides freedom to choose leisure activities. It could for instance also be related to being able to participate in democratic processes, perhaps not so much at the national level (all countries included here are democracies), but possibly at the level of local or regional participatory processes (see also UNDP 2010). This could explain the relatively low satisfaction scores in the Mediterranean and Central European countries.

Figure 7.12

Share of the population that is satisfied with freedom of choice versus outcome index for recreation, culture and social participation, 2009 (in percentages and index scores)



\* Correlation is significant (p-value is 0.00).

Source: European Commission (Eurobarometer 67, 2007); ESS (European Social Survey 2008); European Commission (Eurobarometer 72.3, 2009); UNDP (2010); SCP calculations

### 7.5 Public administration

In order to measure the performance of the public administration, its goals first have to be defined. In this study, direct and indirect goals are distinguished. The indirect goal of public administration is to facilitate the performance of other public sectors. Direct goals relate to areas where citizens are confronted with (the performance of) the public administration. Various good governance guides have been defined (Kaufman et al. 2008). In 2009 the Dutch Ministry of the Interior and Kingdom Relations formulated a 'Good Governance Code' (*Code voor goed openbaar bestuur*, Ministry of the Interior and Kingdom Relations 2009). It contains seven rules for good governance, see table 7.4.

Table 7.4

Rules for good governance

rules	indicator	source
1 transparency and integrity	corruption perception index	Transparency International
2 participation	voter turnout in parliamentary elections	International IDEA
3 good services	use of Internet to interact with public authorities	OECD
4 effectiveness and efficiency	efficiency of tax administration <sup>a</sup>	OECD
5 legitimacy	open government	
	effective regulatory enforcement	World Justice Indicators
6 learning and critical self-reflection	use of performance budgeting system	OECD
7 accountability	voice and accountability	Global Insight, Political Risk Services

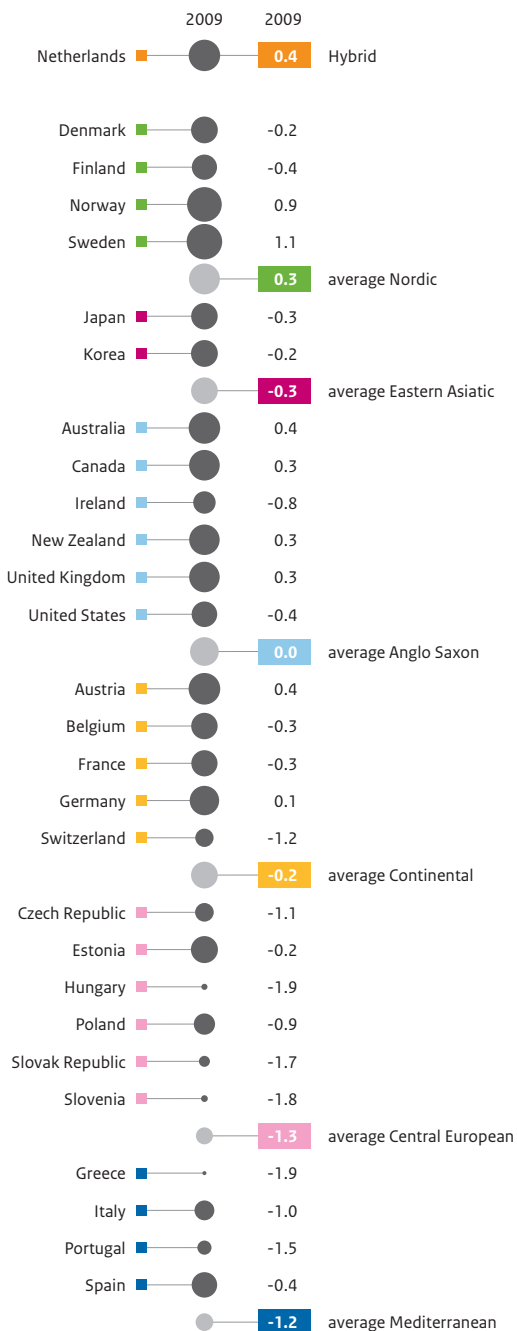
a Two indicators: 'Total revenue body expenditure as percentage of GDP' and 'Ratio of aggregate tax administration costs per 100 units of net revenue collection'.

Various indicators are available to measure the performance on each of the seven dimensions of public administration described in table 7.4. The middle column of the table describes the indicators selected here. The corruption perception index is a well-known indicator for the level of corruption in a country, which is often used as a measure of administrative performance (Afonso et al. 2005). Participation is measured by voter turnout in the last parliamentary election. Turnout is presumed to be a measure of political interest and awareness. The quality of service delivery by the public administration is approximated by the use of the Internet to interact with public authorities. The performance of the tax administration is used to measure the effectiveness and efficiency of the public administration. Legitimacy is operationalised by two elements of the World Justice Indicators: open government and effective regulatory enforcement. The first measures whether laws are comprehensible to and accessible for the general public, the second whether government regulations are effectively enforced and are applied and enforced without improper influence. The use of a performance budgeting system provides a measure of the learning and self-evaluation process of the public administration. Accountability is measured by two different indices for voice and accountability. The first is composed of the level of military involvement in politics and democratic accountability, the second of institutional permanence and representativeness. The nine indicators are combined into one outcome index.<sup>20</sup> The results are presented in figure 7.13.

The Nordic, Anglo-Saxon and Continental countries and the Netherlands are performing above average, as is Japan. The Central European and Mediterranean countries do not do as well, and this also holds for Korea, the United States, France and Belgium.

Figure 7.13

Public administration outcome index, 2009 (in index scores)



Source:  
 Transparency International (Corruption Perception Index 2009); OECD (2009, 2011a); International IDEA (Voter Turnout 2011); WEF (2009); Global Insight (Business Risk and Conditions 2009); Political Risk Services (International Country Risk Guide 2009); World Justice Project (Rule of Law Index 2009); s.c.p. calculations

The Netherlands ranks eighth overall, after Sweden, Australia, Denmark, Norway, New Zealand, Austria and Canada. The Dutch performance on learning and self-reflection is only average. Compared to the top-performing countries, the Netherlands scores especially weakly on effectiveness and efficiency. The indicators for effectiveness and efficiency, however, only look at the core performance of the tax administration: collecting taxes. In some countries, such as the Netherlands, the tax administration has more tasks (such as administering rent benefit, health care benefits and childcare benefits).<sup>21</sup> Only looking at taxes therefore provides a partial picture of the output of the Dutch revenue service and will lead to an underestimation of its performance.

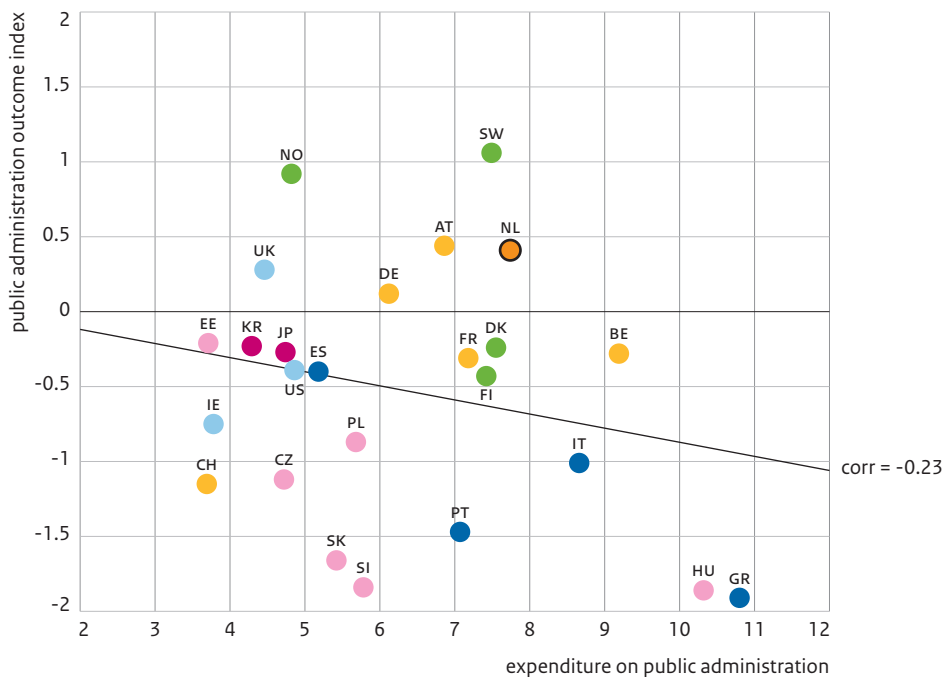
### Cost-effectiveness

Are countries that spend more on public administration also better off? Does more spending (measured as the percentage of GDP spent on public administration) lead to more effective outcomes? Figure 7.14 seems to suggest that the opposite holds – but the relationship is not significant. Three of the four countries with the largest public administrations are among the poorest performers on corruption. The Mediterranean countries are also known for their clientelism, where jobs in the public sector are handed out as favours. Such circumstances are likely to make the public administration in these countries less effective and more expensive. As mentioned earlier, the Netherlands achieves above-average results on public administration, but figure 7.14 illustrates that these results could possibly have been achieved using fewer means.

The indirect goal of the public administration, facilitating the performance of the entire public sector, is measured by relating the performance of the public administration to the combined performance of all other public sectors. Figure 7.15 shows that in countries where public administration outcomes are higher, other public sectors also tend to show better outcomes. The correlation between the two is significant (correlation is 0.53).

Figure 7.14

Expenditure on public administration versus public administration outcome index, 2009  
(in percentages of GDP and index scores)

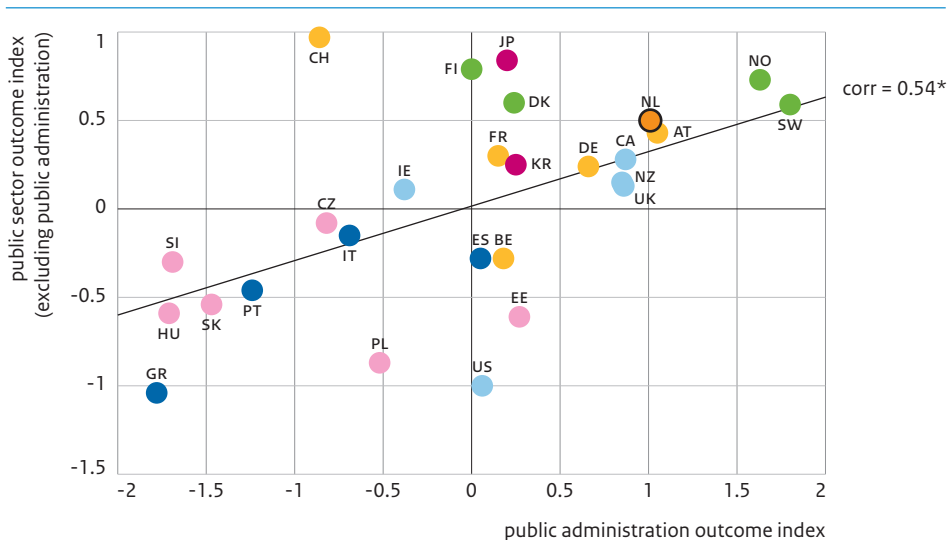


Correlation is not significant (p-value is 0.27).

Source: Transparency International (Corruption Perception Index 2009); OECD (2009, 2011a); International IDEA (Voter Turnout 2011); WEF (2009); Global Insight (Business Risk and Conditions 2009); Political Risk Services (International Country Risk Guide 2009); World Justice Project (Rule of Law Index 2009); OECD Statistics (National Accounts 2011); SCP calculations

Figure 7.15

Public administration outcome index versus public sector outcome index (excluding public administration), 2009 (in index scores)



\* Correlation is significant (p-value is 0.01).

Source: Multiple sources. For details see figures 3.7, 4.4, 6.4, 5.2, 7.1, 7.4, 7.6, 7.10, 7.13<sup>23</sup>, sCP calculations

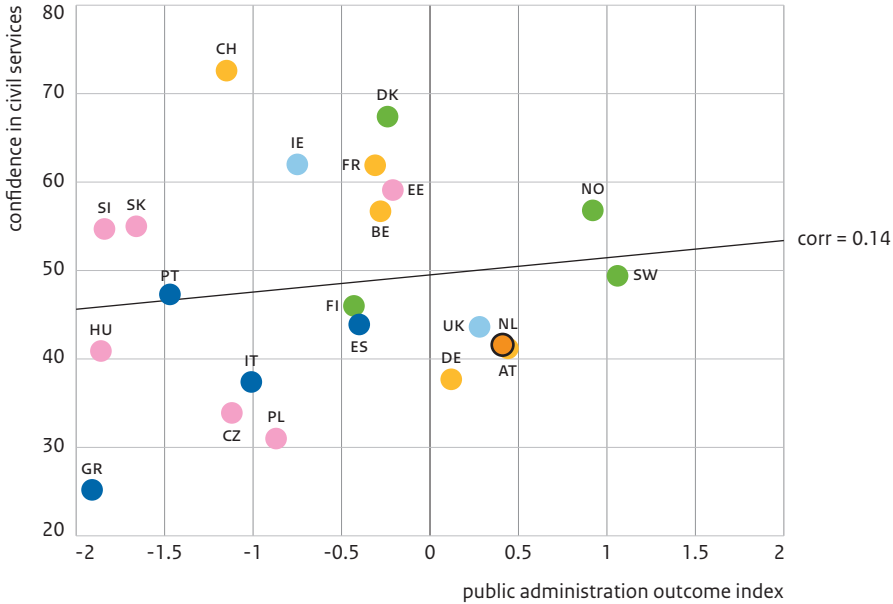
### Outcome and confidence

Figure 7.16 describes the relationship between confidence in the public administration and the outcome. Higher performance does not seem to be associated with more confidence: the relationship is not significant (correlation equals 0.14). Performance is low in most Mediterranean and Central European countries and confidence in the civil service in these countries also tends to be low. Exceptions are Slovenia and Slovakia, where confidence levels are relatively high, given the level of performance. The reverse holds for Norway and Sweden. For the Continental countries, a strong negative result is found. Germany and Austria combine a strong outcome with low confidence, whereas the opposite is true for Switzerland. The results for the Netherlands closely match those of Germany and Austria: good performance, but low levels of confidence.



Figure 7.16

Public administration outcome index versus confidence in the civil service, 2009 (in index scores and percentages of the population)



Correlation is not significant (p-value is 0.53).

Source: Transparency International (Corruption Perception Index 2009); OECD (2009, 2011a); International IDEA (Voter Turnout 2011); WEF (2009); Global Insight (Business Risk and Conditions 2009); Political Risk Services (International Country Risk Guide 2009); World Justice Project (Rule of Law Index 2009); EVS (European Values Study 2009); SCP calculations

7.6 Summary

This chapter examines the performance of five sectors: social protection, economic affairs and infrastructure, environmental protection, recreation, culture and participation, and public administration. In contrast to the earlier chapters, attention is limited to outcomes, inputs and confidence. The results are meant to serve as a starting point for a more extensive approach such as that adopted for the other sectors. Due to the compact analysis, not much attention is given to backgrounds, circumstances and nuances. The approach in this chapter should be seen as work in progress, as it also proved difficult to find appropriate indicators for a number of sectors.

What are the outcomes of the various sectors?

In general the outcomes of the five sectors described in this chapter are highest in the Nordic countries. The Netherlands, Austria and Switzerland also have above-average outcomes overall. Most opportunities for improvement are found in the Mediterranean countries, the

United States and Poland. The Mediterranean countries have low outcome scores on culture and social protection, and the Central European countries on public administration and economic affairs. Sweden has a top-three ranking in four of the sectors, but ranks tenth on social protection.

The outcomes in the environmental sector deviate most from the overall rankings. Slovakia has the best outcome on environmental protection, whereas it scores below average in the other sectors. The outcome on environmental protection is below average for the Netherlands; however, because of the relative good outcomes in other sectors, the Netherlands ranks fifth overall.

#### How are these differences in outcome related to variances in input?

An important question is whether the differences in outcome are related to differences in expenditure. Does spending more money go together with better outcomes? This does not appear to be the case. For most sectors there is no significant relationship between the inputs (expenditure) and outcomes as measured in this study. Nonetheless, looking not at separate countries but at groups of countries, it seems that the Mediterranean countries combine low expenditure with low outcomes, whereas the Nordic countries combine high expenditure with high outcomes. There are exceptions to this – for instance, Sweden and Finland spend relatively little on environmental protection but achieve good outcome scores (which has to do with geographical circumstances). In most cases the Netherlands combines average expenditure with relatively good outcomes.

There is one exception to the non-significant correlations between input and outcome. The expenditure on economic affairs is significantly related to outcomes in this sector, and is moreover *negatively* correlated. This is due in part to the outdated infrastructure in Central Europe that requires major expenditure on maintenance and renewal, and inefficient expenditure in the Mediterranean countries.

#### How are these differences in outcome related to confidence in the different sectors?

As the focus of this study is on the public sector from the citizen's point of view, it is relevant to look at the satisfaction of citizens with the different sectors. Unfortunately, hardly any such figures could be found for the five sectors that are described in this chapter. For some sectors, information about the confidence in the sector was used instead. The correlation between the outcome measures and confidence was however not significant in most cases, the only exception being the (positive) correlation between the outcome measure in the recreation sector and satisfaction with freedom of choice. This satisfaction measure is the best that was found, but is most likely related to more and other things than just leisure activities.

### What else is related to outcome?

The outcomes presented in this chapter are hardly related to expenditure or to trust/confidence. In part this is due to the indicators chosen – not all of them are good enough to justify firm statements about the sectors concerned. Besides, other factors are relevant, too, but are not discussed extensively in this chapter. This is the case for instance for cultural differences when it comes to leisure activities, or for geographical characteristics when it comes to environmental protection. In future studies, such in-depth analysis could be given more attention.

### 7.7 Improvement and progress in research

In 2004, SCP published a report on the performance of the public sector (Kuhry 2004). The aim of this study was to replicate that approach using the most recent data. However, analysing only a limited number of sectors reduces the ability to analyse the performance of the entire public sector (see also § 8.1). Therefore a first attempt has been made in this study to analyse (almost) all public sectors. Based on this initial result, we see a number of directions for future research to give this approach more breadth and depth.

#### Refining the current approach

In order to explore further the possibilities for improvement in performance, the detailed approach that has been adopted for education, health, social safety and housing would need to be extended to other sectors. In this study we have only been able to investigate correlations. It would be interesting to explore the possibilities for a more refined approach, for instance by using time series analysis to determine the effect of societal circumstances on performance. Frontier analyses could be performed to determine the countries which are able to achieve outcomes in the most efficient way.

#### Good data are invaluable for this kind of research

Availability of data is another important point. For housing, data were only available for a limited number of countries and only for one year. A further complication was that data for homeowners with a mortgage did not contain all expenditure items, making it impossible to perform a complete analysis of the entire housing sector. The results of the current study should be seen as a starting point for a more complete analysis of the housing sector. There are a number of initiatives currently being developed at the OECD and Eurostat, which might make a more comprehensive approach possible in the future.

Evaluation of outcomes in the area of social safety will be dependent on the availability of surveys among victims of crime. Registration data have proved to be an unreliable source of the 'true' level of crime, as better methods of registration lead to more crime being recorded, even though crime itself might not have increased (see chapter 5).

Rich datasets are available for education and health. However, regular changes in definitions and breaks in time series make it difficult to analyse developments over time. More

attention needs to be given by the data collecting agencies (OECD and Eurostat) to developing consistent time series.

### Outcome measures are not always available

Redefining outcomes is another important area for improvement. For a number of sectors it is hard to define or find appropriate outcome indicators. In particular, more appropriate indicators might be available for the five sectors that have not been examined in detail in this study. Our aim is to explore these possibilities in order to further enhance our understanding of public sector performance.

### Notes

- 1 The COFOG classification also has a tenth sector, defence. This sector is not included in this report as no good indicators for measuring the performance of the sector were found. Historically, the main goal of defence was to protect national boundaries. After the end of the Cold War, this goal became less self-evident and the defence sector broadened its horizons. International peacekeeping missions, combating international terrorism, the protection of commercial vessels against pirates and assisting in disaster relief in countries hit by natural catastrophes are examples of its new activities. The underlying goals could be defined as the protection of 'peace and security, at home and abroad' (Dutch Ministry of Defence). No performance indicators were found, albeit the Global Peace Index (GPI) provides some information. However, the GPI is not the perfect outcome measure for defence as it also incorporates non-defence indicators (e.g. the level of violent crime, the number of jailed persons and political instability) and combines input, output and outcome indicators.
- 2 The most obvious example is the defence sector, which is not included in the study as it was not possible to formulate outcomes. See also chapter 1.
- 3 The threshold for poverty is defined as 50 percent of the current median income. Structural unemployment is the rate of unemployment consistent with constant price inflation (Non-Accelerating-Inflation Rate of Unemployment, NAIRU), see Richardson et al. (2000). Note that the 'normal' unemployment rate is part of the societal factors as described in chapter 2. Explaining social protection outcomes by societal factors would lead to tautological results. In this chapter only the relationship between overall outcome and societal factors is examined.
- 4 The use of a relative poverty line has important limitations (see Vrooman 2009: 371-375). Poverty should only depend on the resources needed by the poor, not on the income and wealth of the non-poor (Sen 1976). Soede (2006) has proposed the use of a poverty line based on a generalised budget approach. Such a poverty line is however not available for all OECD countries. Vrooman (2009) has applied the budget approach to eleven countries.
- 5 In 2010 the EU set a series of 'Europe 2020 goals', one of which pertained to social protection (European Commission 2010). This is the goal of reducing the number of people at risk of poverty and social exclusion. The progress in achieving this goal is measured using a composite indicator which is made up of three indicators: people living in households with very low work intensity; people at risk of poverty after social transfers; and severely materially deprived people (Eurostat 2012). These indicators are not available for non-EU countries, and since other indicators are available for all countries, the latter are used here. Note that the correlation between the composite used in this chapter and the composite of the EU is 0.64, for countries for which both indices are available.

- 6 In Figure 7.2 all expenditure on social protection is taken into account. Some of that expenditure is however concerned with housing and sickness, which are also dealt with in the chapters on housing and health. Excluding these expenditure items gives a slightly higher, but still not significant correlation with the outcome index (0.37). Note that this could only be done for the EU countries, as for the other countries the total expenditure on social protection could not be broken down. Also, by far the majority of the expenditure on social protection is spent on pensions. Although older people are part of the target population and are included in the poverty indicator, they are not part of the structural unemployment indicator. Excluding expenditure on pensions from total expenditure on social protection leads to a correlation (not significant) of 0.05 (again for EU countries only).
- 7 Based on detailed Eurostat data for 17 countries.
- 8 Clearly, the quality of vehicles and the 'habits' of drivers are other factors that influence road safety. However, it goes beyond the scope of this report to perform a full analysis of the determinants of road safety. KIM (2010) provides an analysis of the decline in the number of fatal accidents.
- 9 The breakdown of environmental protection is based upon the Classification of Environmental Protection Activities (CEPA) as elaborated in the European System for the Collection of Economic Information on the Environment (SERIEE) from the Statistical Office of the European Communities (Eurostat)
- 10 The OECD Environmental Outlook to 2050 (OECD 2012 – published just before this report went to press) identifies four key environmental challenges that come close to the groups used in this report: climate change; biodiversity; water; and health and environment (which includes air pollution, unsafe water supply). The OECD Green Growth report (OECD 2011d) identifies 23 'headline' indicators ('not all of them are measurable today'), within five 'main indicator groups': socio-economic context and characteristics of growth; environmental and resource productivity; natural asset base; environmental quality of life; and economic opportunities and policy responses. The scope of this report is somewhat narrower. Finally, in the Sustainability Monitor of the Netherlands (CBS 2011) the headline indicators of 'natural capital' (one of the four forms of capital used to describe sustainability) are: nature (biodiversity); climate (CO<sub>2</sub> emissions); quality of air, water and soil; energy; and land (square metres per person). Looking at groups of indicators, a number of similarities are apparent between the various initiatives, though at the level of specific indicators there are differences, due for example to differences in scope and the countries used for comparison.
- 11 The indicators are combined to composite indicators per group. The resultant six (composite) indicators are standardised, and then the average of these scores is taken as the index score. Indicators for air pollution, water and biodiversity are taken from the Environmental Performance Index (Emerson et al. 2010). These indicators are already indices and are constructed in such way that a high score is a positive one. To give all indicators the same direction, the emission and the waste indicators are multiplied by -1 before taking the average.
- 12 The same conclusion was drawn by the Dutch Foundation for Nature Conservation and Environmental Protection (Natuur & Milieu) which used the whole Environmental Performance Index and many other environmental indicators to rank the Netherlands and the other EU member states (Natuur & Milieu 2011). See also CBS (2011) where the conclusion was drawn that, although the local environmental conditions had improved in the last decade, compared to other European countries the Dutch environment was not doing well.
- 13 Although the population density of Australia is low, the environmental outcome is below average, mainly due to the carbon dioxide emissions. If Australia is included in the analysis, the correla-

tion between population density and environmental outcome is no longer significant (correlation coefficient is -0.35, p-value 0.07)

- 14 This overall picture could be caused by the very dissatisfied Czech Republic and Slovakia. Leaving them aside, the correlation between satisfaction and outcome increases somewhat, but remains non-significant (coefficient = 0.29).
- 15 Unfortunately, with the data available it is not possible to differentiate between public and commercial radio and tv, although most of the money involved is likely to be spent on public broadcasting.
- 16 The term 'religious' also refers to voluntary work in this context.
- 17 Some indicators from the *European* and *World Values Surveys* could have been used, but then the number of countries as well as the number of indicators would have been smaller.
- 18 Before combining the indicators into one composite index, separate indices were constructed for cultural participation, recreation, sporting activity and social participation.
- 19 Bull (2009) cites Parker (1969: 33), who uses two important dimensions of the concept of leisure: time and the degree of freedom of choice: 'If the crucial time variable is whether a given space of time is work or not, the main activity variable seems to be the extent to which the activity is constrained or freely chosen.'
- 20 The indicators are standardised using the formula  $(x-\mu)/\sigma$ , where  $x$  is the indicator,  $\mu$  is the average of the indicator and  $\sigma$  is the standard deviation. The two indicators for effectiveness and for accountability are then averaged. Finally, the (unweighted) average is taken of the resulting seven indicators.
- 21 When comparing the efficiency of tax administrations, not only do these non-tax functions performed by revenue bodies differ between countries. For more detailed information on differences in tax administrations, see OECD (2011).  
Even when taking into account that the Netherlands Tax and Customs Administration administers some benefits, the efficiency is still lower than that of Estonia, Finland or Norway, for example – where benefits are also administered by the tax authorities. However: the efficiency of the Dutch tax administration has improved over the last ten years.
- 22 Public sector outcome index consists of a combination of the outcome indices on education, health, social safety, housing, social protection, economic affairs and infrastructure, environmental protection, and recreation, culture and participation.

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## 8 Overall performance of the public sector

Jedid-Jah Jonker and Jeroen Boelhouwer

The previous chapters have examined the performance of various public sectors. However, patterns of performance between sectors have not yet been analysed. Does a good outcome in one sector imply a higher probability of good outcomes in other sectors, or are these results unrelated? If there is a correlation, this means that some countries are achieving (on average) better results in all sectors than other countries. Other countries might be able to learn how these countries are able to achieve these better results. However, outcome results should always be judged in combination with the inputs that have been allocated to achieve them. If high levels of outcome are associated with sizeable levels of expenditure, it is important to look carefully at whether the potential gain in outcome is worth the additional expenditure. These issues are addressed in research questions (1) and (3) in chapter 1. Outcomes reflect objective and quantifiable results of public sector performance. A well-functioning public sector might also be associated with higher levels of trust in (associated) public institutions and higher levels of overall well-being. These elements are part of research question (4). Trust has been examined in the previous chapters; this chapter will look at levels of well-being. As in chapter 7, the approach taken in this chapter is to focus on the above aforementioned elements of the heuristic model in chapter 1. Other elements, such as output (research question 2) and system characteristics (question 5), are not included. This approach has been chosen in order to make this chapter more concise.

### 8.1 Combined performance of education, health, social safety and housing

Four sectors have been examined in detail in this study. It is not entirely by chance that these sectors were chosen. For health and education, excellent international comparative data are available. The same applies to social safety, although the data there are less recent. For housing, rich micro-data are available, although these data are limited geographically and in terms of periodicity. Differences in outcome and cost-effectiveness have been examined in detail for each sector in separate chapters. But how do countries perform across these four sectors? Table 8.1 displays outcome indices for these sectors plus a combined outcome index.<sup>1</sup> The original index scores have been converted into grades, making interpretation and comparison easier.<sup>2,3</sup> The combined outcome index is the average of the four separate outcome indices. Contrary to the rest of this report, countries in table 8.1 are ranked on the results on total outcome.

Measured over all four sectors, there does seem to be a correlation between the outcome results in the different sector. The Central European countries show the poorest results, together with the United States, Greece and Portugal. Top of the class are the Eastern Asiatic countries, three of the Nordic countries, Canada and Switzerland. The other

countries, including the Netherlands, are part of a large group that perform around the average.

Table 8.1

Combined outcome indices for education, health, social safety and housing (in grades)

		education	health	social safety	housing	total outcome
1	Japan	8.3	9.0	8.2	.	8.5
2	Korea	9.6	6.4	.	.	8.0
3	Finland	8.9	4.5	6.7	6.5	6.7
4	Canada	8.3	6.0	4.5	.	6.3
5	Switzerland	5.8	7.5	5.4	.	6.3
6	Norway	6.3	7.2	4.5	.	6.0
7	France	3.6	5.9	6.9	.	5.5
8	Sweden	4.8	8.1	4.4	4.6	5.5
9	Spain	3.6	5.5	7.0	5.6	5.4
10	Netherlands	6.0	4.6	3.3	7.4	5.3
11	Australia	5.8	6.7	3.3	.	5.3
12	Austria	2.6	4.6	7.1	6.7	5.2
13	Italy	3.0	5.7	7.5	4.8	5.2
14	Germany	3.6	4.1	6.0	7.1	5.2
15	Denmark	5.2	4.7	3.9	6.9	5.2
16	Ireland	5.4	5.4	1.6	8.0	5.1
17	United Kingdom	4.7	5.9	2.3	6.4	4.8
18	Belgium	3.8	5.4	4.4	5.4	4.7
19	New Zealand	5.2	6.2	2.7	.	4.7
20	Portugal	2.3	3.5	7.5	5.2	4.6
21	Czech Republic	3.9	4.8	.	4.1	4.3
22	Greece	2.5	4.4	4.2	4.5	3.9
23	Poland	4.9	2.7	5.4	2.4	3.9
24	Slovenia	4.8	4.6	.	1.8	3.7
25	Estonia	7.2	1.5	3.8	2.0	3.6
26	Hungary	2.4	1.0	7.7	1.4	3.1
27	United States	3.8	3.8	1.6	.	3.1
28	Slovakia	3.8	0.4	.	4.2	2.8

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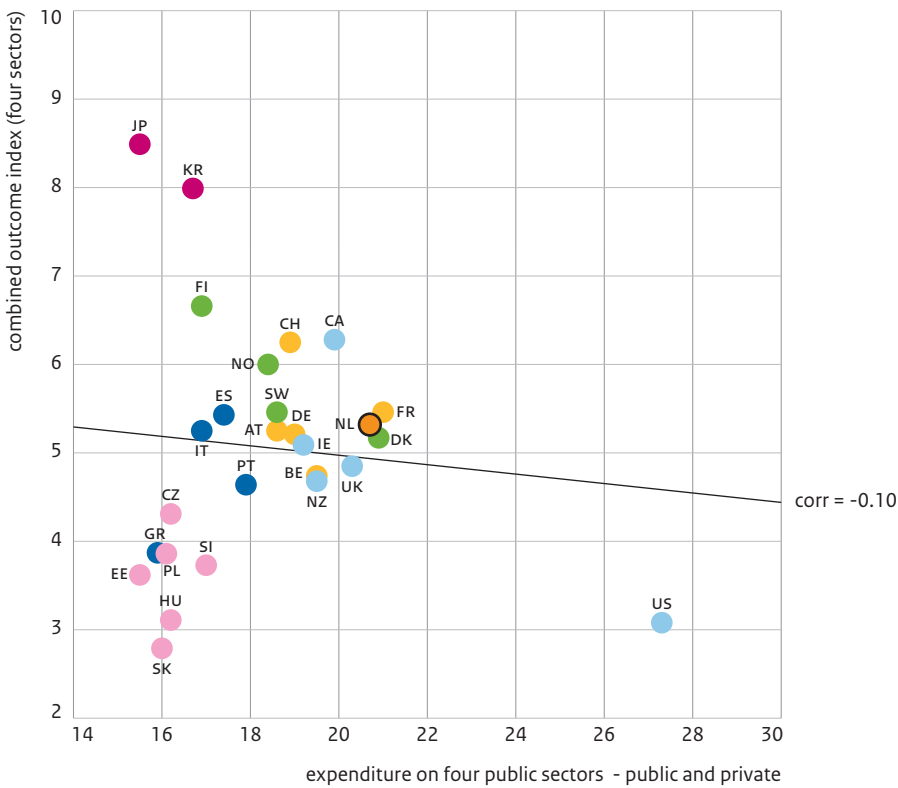
Source: Multiple sources. For details see figures 3.7, 4.4, 5.2, 6.4, SCP calculations

### More variation in outcome than in expenditure

Outcome results on their own are interesting, but acquire more depth when viewed in association with expenditure (figure 8.1). Contrary to what one would expect, there is no significant positive relationship between expenditure and outcome. The relationship is even negative, although it is not significant.<sup>4</sup> It should be noted that total expenditure also includes private expenditure on health and education (see also chapters 3 and 4).

This private expenditure will influence outcome and excluding it can lead to erroneous conclusions about the impact of expenditure on outcome. This inclusion of private expenditure explains why the United States spends the most on these four sectors, as private expenditure is a very significant part of total spending on health and education in that country.

Figure 8.1  
 Combined expenditure on education, health, social safety and housing versus combined outcome index, 2009 (in percentages of GDP and grades)



Correlation is not significant (p-value is 0.61).

Source: OECD Statistics (National Accounts 2011). For sources on combined outcome index see figures 3.7, 4.4, 5.2, 6.4, SCP calculations

It is interesting to note that the variation in combined expenditure on these four sectors is relatively much lower than the variation in outcomes.<sup>5</sup> Apparently, these four sectors require a certain amount of spending, at around 18% of GDP.

Another very striking result is that the two best-performing countries (Japan and Korea) are also among the countries that spend least on these four sectors, whereas the United States spends by far the most yet its combined outcome is among the lowest of all countries. Results from chapters 3 and 4 show that external and cultural factors, such as healthy lifestyle, social pressure to perform well at school and a relatively homogeneous population partly explain the strong performance of Korea and Japan in the fields of health and education. In the United States, lifestyle habits are more unhealthy and access to health care is limited due to high insurance premiums. Students in the United States perform relatively poorly in achievement tests and the differences in performance between social classes are relatively large. Reported crime in the United States (and Ireland) is the highest among all countries in this study.

#### These sectors only offer a limited view of total public sector performance

There are a number of shortcomings to equating outcomes in these four sectors to the performance of the entire public sector. First, the data on these four sectors are incomplete. Outcome indices for housing and social safety could not be constructed for a number of countries and indices for all four sectors are only available for sixteen of the 28 countries. Second, these four sectors represent 36% of total expenditure on the public sector. This makes it hard to claim that these sectors provide a picture of total public sector performance. By incorporating the results of the five additional sectors discussed in chapter 7, the coverage increases to on average of 97% of all expenditure.<sup>6</sup>

### 8.2 Overall outcome performance for nine sectors

There are different ways to classify the public sector into separate parts. In this study, we have chosen to align with the COFOG-classification (see chapter 1). This divides the public sector into ten different fields. Four of these have been examined in the previous section, and the results for the following five sectors are now added:

- social protection;
- economic affairs and infrastructure;
- environmental protection;
- recreation, culture and participation;
- public administration.

The inputs and outcome for these sectors are presented in chapter 7. The tenth sector in the COFOG classification is defence. This sector is excluded from our study as it is very difficult to define outcome indicators for this sector (see chapter 1). The outcome indices for these nine sectors are combined into one overall outcome index, which provides an indication of overall performance.

Table 8.2 shows the resultant grades on the outcome indicators in each of the nine areas. The last column shows the average grade over all sectors. Norway performs best with an average grade of 6.7, and Greece performs poorly in all sectors, attaining an average score of 2.7. The Netherlands is ranked seventh with an average outcome grade of 6.1. Looking at the performance across the various sectors, we see that the Mediterranean

and Central European countries and the United States generally show lower outcome results, whereas the Nordic countries, Japan, Switzerland and the Netherlands perform reasonably well or better in most sectors. The outcome results of the remaining Continental and Anglo-Saxon countries and Korea are somewhat in between these two groups, while Belgium could be classed with the Mediterranean and Central European countries.

The results show that the overall performance follows the welfare state classification of country groups reasonably well (Vrooman 2009; Castles et al. 2010). The most striking exceptions are Switzerland and the United States: the former performs markedly better than the other Continental countries and the latter clearly worse than the other Anglo-Saxon countries. Only Greece shows poorer results overall than the United States.

Although these general patterns can be distilled from the data, nuances have to be added for a more complete picture. Hungary and Portugal show poor results on most sectors, but rank among the top-performing countries on social safety. Environmental outcomes are very good in Slovakia and Estonia. Conversely, the outcome results for Japan are generally very good but are well below average on environmental protection and social protection. Switzerland does well on health, economic affairs and infrastructure and environmental protection, but shows poor results on public administration. The Netherlands has good outcome results in social protection and culture, but shows room for improvement in environmental protection and social safety.

#### General picture remains constant but with interesting nuances

Although the ranking based on the combined outcome results for nine sectors is somewhat different from the ranking based on four sectors, the correlation between the two rankings is 0.77. Korea has dropped eleven places to number 13, as strong performances in education and health are offset by weak performance in other sectors, most notably environmental protection. The overall grade for the Netherlands improves from 5.3 to 6.1, resulting in a gain of three places to seventh position. Some of the observed changes might be due to different operationalisations of the welfare state. The welfare state of Korea is for example much closer to the more limited Anglo-Saxon model of the welfare state than to more extensive Nordic or Continental versions. This might lead to lower outcomes in various fields of the public sector, as these sectors might be more limited in scale compared to those in other countries (even compared to those in Anglo-Saxon countries).

Table 8.2

Outcome ranking on nine COFOG sectors (in grades)

		educa- tion	health	social safety	housing	social protec- tion	economy	envi- ron- ment	culture	public admin.	total outcome
1	NO	6.3	7.2	4.5	.	8.0	6.0	6.8	.	8.3	6.7
2	JP	8.3	9.0	8.2	.	4.1	6.8	3.7	.	5.4	6.5
3	SW	4.8	8.1	4.4	4.6	5.6	7.3	8.0	6.7	8.6	6.5
4	FI	8.9	4.5	6.7	6.5	5.4	7.1	6.8	6.7	5.0	6.4
5	CH	5.8	7.5	5.4	.	7.4	7.9	7.5	.	3.3	6.4
6	DK	5.2	4.7	3.9	6.9	7.9	6.9	5.9	8.2	5.5	6.1
7	NL	6.0	4.6	3.3	7.4	8.1	6.9	3.6	8.2	7.0	6.1
8	AT	2.6	4.6	7.1	6.7	7.7	6.2	6.1	.	7.1	6.0
9	CA	8.3	6.0	4.5	.	4.6	6.1	3.9	.	6.7	5.7
10	DE	3.6	4.1	6.0	7.1	4.9	7.4	5.4	5.4	6.3	5.6
11	FR	3.6	5.9	6.9	.	5.2	6.7	5.9	5.1	5.3	5.6
12	NZ	5.2	6.2	2.7	.	6.2	4.1	7.5	.	6.7	5.5
13	KR	9.6	6.4	.	.	4.8	4.7	2.0	.	5.5	5.5
14	UK	4.7	5.9	2.3	6.4	5.1	6.5	5.1	5.8	6.7	5.4
15	IE	5.4	5.4	1.6	8.0	5.1	4.5	5.5	6.3	4.2	5.1
16	AU	5.8	6.7	3.3	.	4.0	5.6	1.8	.	7.1	4.9
17	CZ	3.9	4.8	.	4.1	7.5	3.1	6.0	4.4	3.4	4.7
18	IT	3.0	5.7	7.5	4.8	4.4	2.9	4.6	.	3.6	4.6
19	BE	3.8	5.4	4.4	5.4	4.6	5.4	1.9	4.8	5.4	4.5
20	ES	3.6	5.5	7.0	5.6	0.9	4.8	3.6	4.5	5.1	4.5
21	SI	4.8	4.6	.	1.8	6.3	3.3	5.1	5.0	1.6	4.1
22	EE	7.2	1.5	3.8	2.0	0.8	3.6	6.0	5.3	5.5	4.0
23	PT	2.3	3.5	7.5	5.2	2.9	4.2	5.3	1.5	2.5	3.9
24	SK	3.8	0.4	.	4.2	3.5	2.2	8.4	4.9	2.1	3.7
25	HU	2.4	1.0	7.7	1.4	6.1	2.5	5.9	3.6	1.6	3.6
26	PL	4.9	2.7	5.4	2.4	3.4	0.4	4.3	2.5	4.0	3.3
27	US	3.8	3.8	1.6	.	2.8	5.7	0.2	.	5.1	3.3
28	GR	2.5	4.4	4.2	4.5	2.5	1.3	3.2	0.8	1.4	2.7

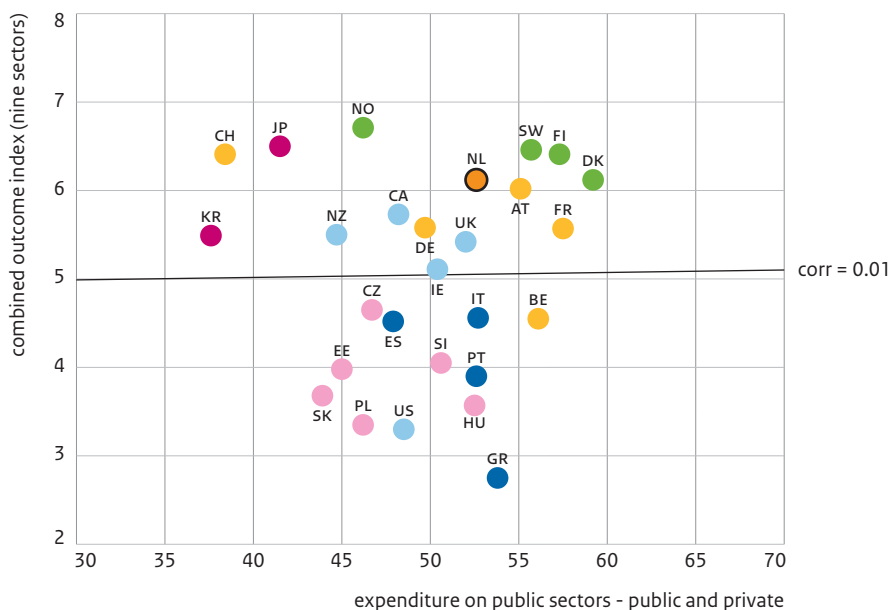
Source: Multiple sources. For details see figures 3.7, 4.4, 5.2, 6.4, 7.1, 7.4, 7.6, 7.10, 7.13, SCP calculations

### No relationship between level of expenditure and outcome

Relating overall outcome to total public sector expenditure reveals no correlation between the two (figure 8.2).<sup>7</sup> Big governments thus do not perform significantly better or worse than small governments. To a certain extent there does appear to be a relationship with country groups. All Nordic countries perform strongly, for example, three of which have a particularly large public sector. By contrast, the Mediterranean countries also tend to have a relatively large public sector, but perform below average. The Continental countries generally appear to hold the middle position. The Netherlands ranks

between the Nordic and Continental countries, although the Dutch public sector is smaller than that of both of these groups.

**Figure 8.2**  
Total public sector expenditure versus total outcome index, 2009 (in percentages of GDP and grades)



Correlation is not significant (p-value is 0.94).

Source: oECD Statistics (National Accounts 2011). For sources on combined outcome index see figures 3.7, 4.4, 5.2, 6.4, 7.1, 7.4, 7.6, 7.10, 7.13, SCP calculations

The level of expenditure is not the only factor that determines the outcomes. Sectors have to be organised effectively in order to achieve good results. In order to determine which factors are related to better outcomes, a thorough analysis has to be performed for each sector, as has been done for education, health, social safety and housing in the previous chapters. But outcomes are also influenced by societal circumstances, such as the level of wealth and demographic composition of the population.

### Are outcomes higher in well-functioning economies?

In chapter 2 thirteen societal characteristics were presented, relating to demography, economy, social circumstances and public finances. Twelve of these social characteristics were combined into one ‘national resilience barometer’, measuring the strength of a country. Table 8.3 shows that there is a positive (but not significant) correlation between the overall outcome and the national resilience barometer: ‘stronger’ countries also tend to have higher outcomes. When looking at the underlying indicators, a significant

correlation is apparent between outcome and GDP per capita, (low) unemployment, participation and government surplus/deficit. No statements can be made about causality, but countries that are able to make more people active on the labour market, keep the unemployment rate at a low level, have a well-functioning economy and do not have a (large) budget deficit generally have a better-functioning public sector.

**Table 8.3**

Correlation between overall outcome and (elements of) the national resilience barometer (in Pearsons correlation coefficient and significance)

	correlation	p-value
national resilience barometer	0.36	0.06
demography		
growth of population	0.10	0.62
number of under 15 year-olds/potential labour force	0.24	0.23
number of over 65 year-olds/potential labour force	0.19	0.34
economy		
GDP per capita in euros (PPP)	0.60*	0.00
average annual growth of real GDP per capita	-0.34	0.08
unemployment rate	-0.53*	0.00
social circumstances		
labour participation: all, women, 55-64 year olds	0.73*	0.00
income inequality in gross income	0.29	0.14
percentage of non western foreign born citizens	0.06	0.81
public finances		
public expenditure as percentage of GDP	0.07	0.74
government surplus/deficit	0.57*	0.00
public debt	0.03	0.89

\* Significant ( $\alpha = 0.05$ ).

Source Multiple sources. For details see figures 2.20, 3.7, 4.4, 5.2, 6.4, 7.1, 7.4, 7.6, 7.10, 7.13, SCP calculations

### 8.3 Well-being

Outcome provides a measure of public sector performance. The indicators used to measure outcome all have a strong quantitative and objective connotation. In our heuristic model we have also explicitly incorporated subjective evaluation of performance, by including trust (in public sector institutions) and well-being (see figure 1.1 in chapter 1). Trust has been examined in the previous chapters. As well-being is not linked to a separate sector, but evaluates life as a whole, it is more suitable to relate well-being to overall outcome. Therefore, this section will now look at the relationship between well-being and outcome.



In July 2011 the General Assembly of the United Nations adopted a resolution in which Member States are asked to ‘undertake steps that give more importance to happiness and well-being in determining how to achieve and measure social and economic development’ (UN 2011). In the resolution a clear relationship between well-being, happiness and public policies is assumed: countries are asked ‘to pursue the elaboration of additional measures that better capture the importance of the pursuit of happiness and well-being in development with a view to guiding their public policies.’ In this way the UN sees well-being and happiness as outcomes (at least in part) of public policies. The same line of reasoning is followed in the heuristic model that guides this publication (see figure 1.1).

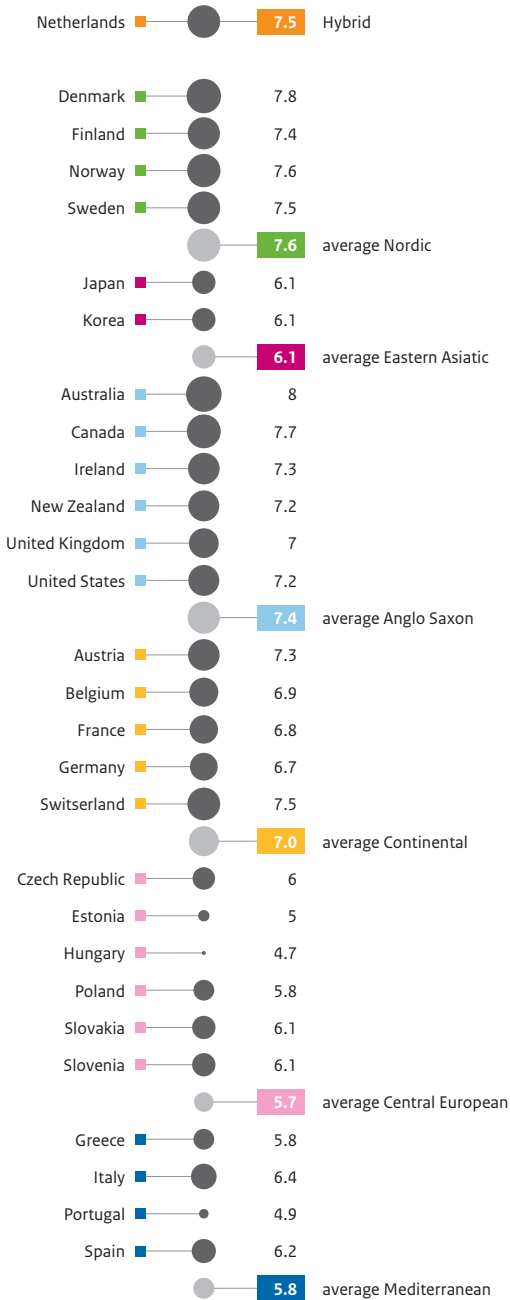
Prior to the UN resolution, governments in several OECD countries were already discussing the inclusion of measures of well-being as a (desired) goal of government policy. These discussions were intensified after the report by Stiglitz et al. (2009) on the measurement of economic performance and social progress. In the Stiglitz report social progress is not seen as being about economic progress alone, but also about sustainability and the well-being of people.

Well-being can mean a lot of things, it can be measured by descriptive indicators or by evaluative indicators. In the previous chapters some of these indicators were examined, The focus in this section is on overall life satisfaction.<sup>8</sup> Overall life satisfaction can be interpreted as an overall evaluation of the living conditions of individuals and households.

Citizens of the Nordic countries have the highest well-being on average, followed closely by the Netherlands (figure 8.3). People in the Central European countries have the lowest well-being. Within the groups of Central European and Mediterranean countries, the differences are larger than in the Nordic and Eastern Asiatic countries (in the latter countries, satisfaction with life is actually equal). The Netherlands ranks seventh.

Figure 8.3

Average well-being of the population, 2009 (in grades)

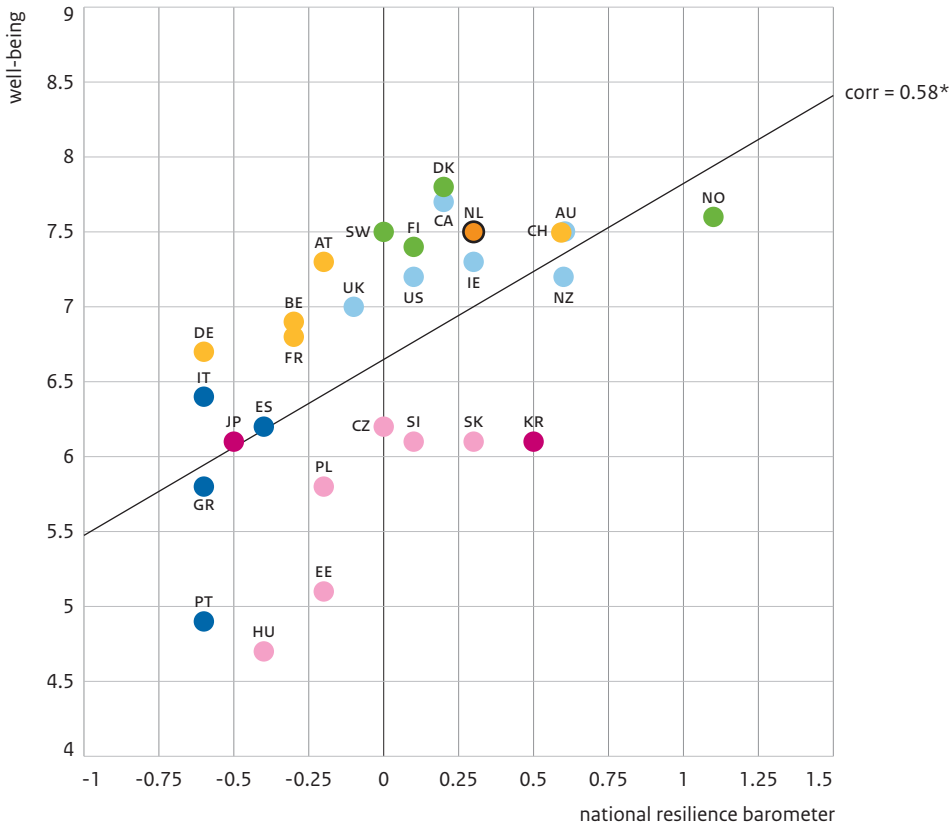


Source:  
UNDP (2011)

Well-being is higher in 'strong' countries

There is a positive correlation between the national resilience barometer and well-being (figure 8.4). Norwegians live in a strong country and have a high level of well-being, whereas both are low in countries such as Portugal, Greece and Hungary. Overall, well-being in the Central European countries is relatively low, given performance on the national resilience barometer whereas the opposite holds for most Continental, Nordic and Anglo-Saxon countries. The Netherlands also belongs to the latter group. International comparisons on life satisfaction differences between countries indicate that characteristics of society play an important role (Veenhoven 2012).

Figure 8.4  
National resilience barometer versus well-being, 2009 (in index scores and grades)



\* Correlation is significant (p-value is 0.00).

Source: UNDP (2011). For sources on national resilience barometer see figure 2.20, SCP calculations

Well-being is higher in ‘stronger’ countries where the national resilience barometer is higher. The correlation is highest with GDP per capita and labour participation; money and work do seem to make people more satisfied with life.<sup>9</sup> Well-being is also higher in countries where the population is increasing and there where there are relatively more young people. Satisfaction with life is not significantly influenced by the number of non-Western citizens or the level of income inequality. The latter result has also been found in comparative research on happiness in nations (Veenhoven 2012).

Table 8.4

Correlation between well-being and (elements of) the national resilience barometer (in Pearson's correlation coefficient and significance).

	correlation	p-values
national resilience barometer	0.56*	0.00
demography		
growth of population	0.51*	0.01
number of under 15 year-olds / potential labour force	0.52*	0.00
number of over 65 year-olds / potential labour force	-0.14	0.48
economy		
GDP per capita in euros (PPP)	0.82*	0.00
average annual growth of real GDP per capita	-0.19	0.32
unemployment rate	-0.42*	0.02
social circumstances		
labour participation: all, women, 55-64 year-olds	0.68*	0.00
income inequality in gross income	0.10	0.62
percentage of non-Western foreign-born citizens	0.33	0.13
public finances		
public expenditure as percentage of GDP	0.09	0.66
government surplus/deficit	0.30	0.13
public debt	-0.13	0.50

\* Significant ( $\alpha = 0.05$ ).

Source: UNDP (2011). For sources on national resilience barometer see figure 2.20, SCP calculations

### More expenditure on public sector does not make people more happy

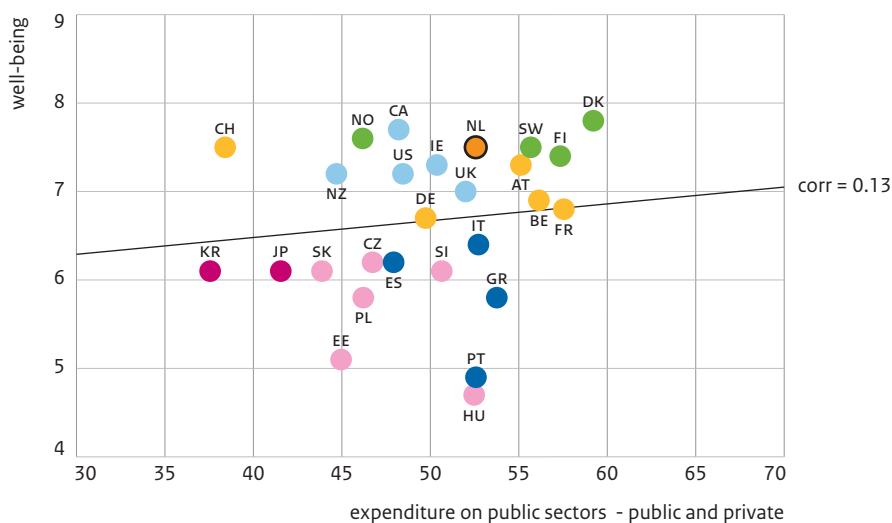
One may wonder whether the correlation between strong countries and well-being is influenced by public sector performance. Are people in strong countries with an excellent public sector performance or sizeable public expenditure happier than those in less well-performing or less high-spending countries?

The correlation between well-being and total public sector expenditure is shown in figure 8.5 The figure clearly shows that there is no correlation between the two. For example: Sweden and the Netherlands have equal levels of well-being and spend an almost equal percentage of GDP on the public sector, but Australia has an equally satisfied

population, although it spends far less money on the public sector. Veenhoven (2000) found that average happiness in nations is related to the quality of government, GDP and freedom/democracy.<sup>10</sup>

Figure 8.5

Total public sector expenditure versus well-being<sup>a</sup>, 2009 (in percentages of GDP and grades)



Correlation is not significant (p-value is 0.52).

a Expenditure includes private expenditure on health and education.

Source: UNDP (2011); OECD Statistics (National Accounts 2011); SCP calculations

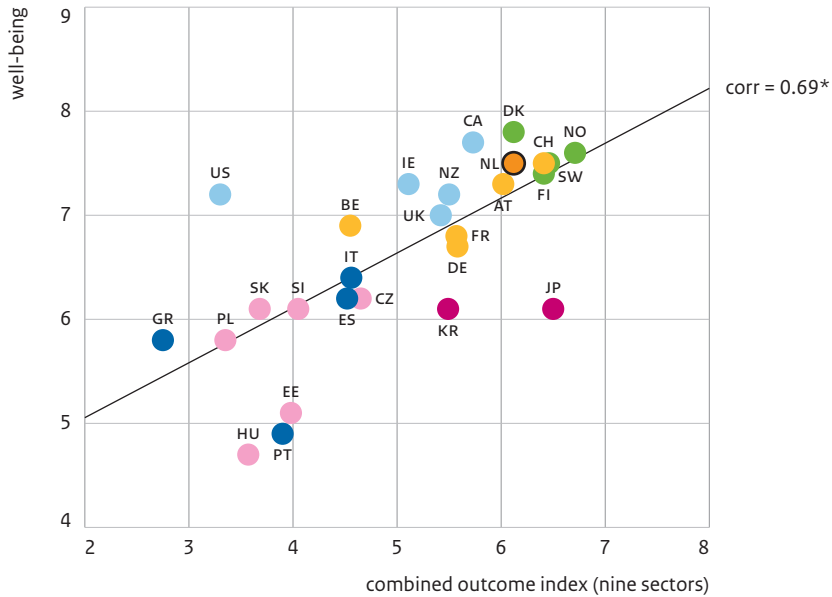
### Overall outcome and well-being are positively related

in the previous section it was shown that GDP is related to well-being, but income inequality, for example, is not. What about the relationship between well-being and overall outcome? It appears that there is a significant positive correlation between overall outcome and well-being (figure 8.6). This indicates that countries that perform well in the public sector are more likely to have residents with higher levels of life satisfaction.

The Nordic countries and the Netherlands combine a relatively good outcome score with high levels of well-being. Inhabitants of Hungary, Estonia and Portugal are less satisfied with life compared to what could be expected given the level of their overall outcome. On the other hand, Americans are more satisfied than the overall outcome for that country would suggest. These findings indicate that an effective public sector generally goes hand in hand with greater well-being.

Figure 8.6

Public sector outcome index versus well-being, 2009 (in grades)



\* Correlation is significant (p-value is 0.00).

Source: UNDP (2011). For sources of combined outcome index see figures 3.7, 4.4, 5.2, 6.4, 7.1, 7.4, 7.6, 7.10, 7.13, SCP calculations

## 8.4 Conclusion

This chapter examines the combined outcome of the public sector in 2009.<sup>11</sup> The results will now be used to answer the five research questions which were formulated in chapter 1. In answering some of these questions, we will also refer to the other chapters of this report.

### What are the outcomes of public sector performance for the various sectors?

Although there is considerable variation in performance, both between sectors and between countries as well as over time, some general conclusions can be drawn. The Nordic countries, Japan, Switzerland and the Netherlands generally show better than average outcome results in all public sectors, whereas the Mediterranean and Central European countries, the United States and Belgium generally underperform. The other countries fall in between. In all sectors and in all countries, even among the top-performing countries, there is room for improvement of the performance.

Some countries achieve remarkable rankings in one sector and disappointing rankings on other sectors. Korea, for example, has an average overall outcome, but has the highest outcome in education. Similarly, the overall outcome for Slovakia is relatively low, but it records the best outcome results on environmental protection. Japan and the Netherlands are the only two countries with two number-one positions, on health and social safety and on social protection and culture, respectively. Meanwhile, Norway ranks first overall without having the best outcome score on any of the sectors.

The Netherlands performs above the average, with seventh position on overall outcome. Besides social protection and culture, the Netherlands performs well on housing. However, it should be emphasised that it was only possible to obtain a partial picture of the housing sector and that the outcomes refer to the rental sector. Outcomes in the Netherlands work out less favourably compared with other countries on environmental protection and social safety.<sup>12</sup>

#### How are these differences in outcome related to variances in output?

Outcome has only been examined for the sectors education, health and social safety. For these sectors, there does not appear to be a relationship between levels of outcome and output and changes over time in outcome and output. More production thus does not mean better outcomes. Countries that focus only on production run the risk of ending up in a situation of overproduction, because the extra output is no longer efficient. Health care in Slovakia appears to be an example of this, as production is very high but the outcome results are very poor.

#### How are these differences in outcome related to variances in input?

In general, performance is not directly related to expenditure. Only for education do we find a significant (and in this case positive) correlation between expenditure and outcome. For the other eight sectors and also for the overall outcome, the relationship between expenditure and outcome is not significant. The results from chapters 3, 4 and 5 also show that increasing expenditure over time does not lead to better outcomes over time. A higher level of spending does not guarantee better results; this depends much more on the way money is spent and the way in which sectors are organised.

Korea, Switzerland, Japan and Norway achieve the best overall public sector outcomes, given the level of expenditure. The Mediterranean and Central European countries, the United States and Belgium can be classified as the most inefficient. Outcome levels in the Netherlands are reasonably close to the four most efficient countries, but the expenditure level in the Netherlands is higher than in those countries. The performance of the Netherlands is comparable to that of Sweden, Finland, Denmark and Austria.

#### How are these differences in outcome related to trust and well-being?

One would hope that people are more satisfied if public sector performance (as measured by outcomes) is higher. There is indeed a significant positive relationship between outcomes and well-being. The results again appear to be clustered along the lines of

the geographical country groups which represent welfare state types. Outcome and well-being are high in the Nordic countries, whereas both are low in the Central European and Mediterranean countries. The Netherlands ranks just below the Nordic countries and Switzerland. However, caution is needed in drawing causal inferences, as in this study we only look at correlations.

At the level of sectors, the picture is more ambiguous. For education, health, and culture and participation there is a significant positive correlation between outcome and confidence. No significant relationship was observed for social protection, environmental protection, public administration and social safety.

### Can differences in performance be related to other factors?

Achieving better outcomes is dependent on a number of factors. The organisation of the sector should be geared to its tasks. For instance, the results for education have shown that school autonomy, the presence of standard exams and late tracking improve outcomes. In social safety, repression has been found to be less effective in reducing crime, whereas increasing the visibility of the police has proven to be a successful intervention. The composition of expenditure can have a major impact on things such as accessibility; a large share of out-of-pocket payments threatens access to universal health care in a number of countries.

Outcomes also seem to be related to certain societal circumstances. Performance is for example better in countries where more people participate on the labour market. Wealthier countries also show better results. Where unemployment is higher, outcomes tend to be lower. There are also other factors that can influence (potential) outcomes, but which form only a limited part of this study. These are called 'external factors' here. A small and densely populated country such as the Netherlands will for example have to make more effort than others to achieve the same environmental quality as a larger and/or more sparsely populated country. Cultural factors can also play an important role: public administration in Mediterranean countries appears to have become very inefficient due to clientelism; and lifestyle habits can have serious effects on health outcomes.

### Which picture emerges from all these results?

Given the mostly descriptive approach used in this study, we are able to draw some overall conclusions. Outcome and expenditure are for all but one sector (education) not significantly related. The same applies for output and expenditure, although this relationship has not been examined for all sectors. The special position of public administration also emerges from the results, as countries that perform well on public administration also perform better overall. This could be an indication of the facilitating role of public administration in enabling other sectors to perform better.

No clear overall picture emerges concerning the relationship between outcomes and confidence. For three sectors, the relationship is significant and positive and for four



others it is not significant. In countries where the total public sector is well organised and works more efficiently, citizens tend to score higher on well-being.

Public sector performance is only partly influenced by welfare state regimes. Outcomes are more dependent on specific elements or characteristics of a sector. In order to look for ways to improve performance, it will be more beneficial to determine specific success factors than to try and emulate entire welfare state regimes. In the education sector, a good deal of research has already been carried out in order to analyse the effect of different characteristics. This is also the case, albeit to a lesser extent, for the health care and social safety sectors. Such a detailed approach would also need to be adopted for other sectors if we really wish look at ways of improving performance.

## Notes

- 1 The average is taken of the four separate outcome indices. For housing, observations are missing for the non-European countries. Hence, with respect to housing the picture is not complete.
- 2 The outcome index for each sector has been standardised, giving it a mean of zero with a standard deviation of 1. By multiplying this index by 2 and adding 5, the adjusted outcome index has a mean of 5 and a standard deviation of 2. Given that the index follows a normal distribution, 95% of the observations will lie between 1 and 9.
- 3 For countries where the outcome is unavailable for certain sectors, the average is taken of the available outcome indices. This implies that these countries score the average outcome for the sectors where the outcome is missing.
- 4 For housing, data are missing for nine countries, for social safety for four countries. There are sixteen countries for which outcome indices are available for all four sectors. The correlation between expenditure and the combined outcome index is not significant for these sixteen countries (0.45, p-value is 0.82).
- 5 Excluding the United States, the standard deviation for expenditure is 10% of the mean, whereas for the combined outcome it is 25% of the mean.
- 6 The remaining 3% is (average) expenditure on defence.
- 7 There are fourteen countries for which outcome indices are available for all nine sectors. The correlation between expenditure and the combined outcome index is also not significant for this group (0.49, p-value is 0.86).
- 8 The data in this section are drawn from the *Human Development Report 2011* (UNDP 2011). This report provides us with the latest available information for all included countries. However, the data were collected between 2006 and 2010. This means that the economic crisis of 2008 and – for European countries – of 2010 might not be taken into account; in general, the consequences of a crisis are felt by the majority of citizens with some time lag. The result could be that in some countries the reported happiness is higher than it is today. For countries that are included in the Eurobarometer, we performed correlation analyses, resulting in a correlation of 0.96 between the latest Eurobarometer (end of 2010) and the HDI numbers.
- 9 A much-discussed topic in happiness research is the so-called ‘Easterlin paradox’. This paradox is named after the economist Richard Easterlin, who found that average happiness in nations does not vary much with GDP, at least for wealthier nations (Easterlin 1974). This conclusion was rejected

by others, claiming that more wealth and more happiness do go together (Veenhoven and Hagerty 2003). Though the OECD countries are relatively well developed, there are rather wide differences in GDP (between the Nordic and the Central European countries for example).

- 10 Note that these correlations found with happiness apply at a societal level. On an individual level, other factors play a role in people's happiness (e.g. social relations, work and health). Also, there can be different correlations for various social groups in society. It therefore cannot be concluded from these figures that, for example, society can do without social security. Analysis at individual or social group level go beyond the scope of this report.
- 11 Or the most recent available data if data for 2009 were not available, such as for housing and social safety.
- 12 The latter is only partly caused by the large number of bicycle thefts in the Netherlands. Even when these are excluded, the number of people who indicate having been a victim of crime remains high.

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## Samenvatting

Hoe staat de publieke sector er voor en wordt de burger goed bediend? Eenvoudige vragen waar geen eenvoudig antwoord op is te geven. Het is namelijk lastig om prestaties in absolute zin te beoordelen. In relatieve zin gaat dat beter, en daarom hebben we de prestaties van negen publieke diensten van 28 ontwikkelde landen met elkaar vergeleken voor de periode 1995-2009. De centrale onderzoeksvraag is: hoe hebben de prestaties van de publieke sector zich door de tijd heen ontwikkeld en welke relatie is er te zien tussen prestaties en ingezette middelen, productie en vertrouwen van burgers in de publieke sector.

### Aanpak

Prestaties zien we als een combinatie van effecten (wat is er bereikt) en efficiency (tegen welke prijs). Effecten meten we aan uitkomsten die we zoveel mogelijk bezien vanuit het perspectief van de burger: wat merkt de burger van de publieke sector? Ook kijken we of de gerealiseerde effecten stroken met de door beleidsmakers gewenste uitkomsten. Zo kijken we bij onderwijs naar de prestaties van leerlingen en het bereikte opleidingsniveau van jongvolwassenen. Bij zorg gaat het om de gezondheidstoestand van de bevolking, bij sociale veiligheid om de criminaliteit die burgers ondervinden en bij wonen om de betaalbaarheid en kwaliteit van woningen. Daarnaast hebben we expliciet gekeken naar het vertrouwen van burgers in publieke sectoren. Onderzocht is of betere prestaties van een sector ook samengaan met meer vertrouwen van de burger in die sector.

Het proces van ingezette middelen tot gerealiseerde effecten is uitermate complex, omdat vele factoren een rol spelen. De staat waarin een land verkeert bepaalt bijvoorbeeld sterk het niveau dat de publieke sector kan realiseren: in welvarender landen zijn voorzieningen doorgaans van een hoger niveau. Daarnaast kunnen specifieke omstandigheden een rol spelen. Voor een dichtbevolkt land als Nederland is het moeilijker om doelstellingen op het gebied van het milieu te realiseren dan voor het dunner bevolkte Zweden. Bovendien zijn er verschillen tussen landen in de manier waarop de verschillende sectoren zijn georganiseerd. Denk bijvoorbeeld aan keuzes die invloed hebben op toegankelijkheid, betaalbaarheid en kwaliteit.

De relatie tussen uitgaven en effecten is indirect. Uitgaven worden gebruikt om productie te realiseren: aantallen leerlingen, aantal behandelde patiënten. Als het goed is zal de productie weer leiden tot bedoelde effecten: meer kennis en betere vaardigheden, toegenomen levensverwachting. Of dat lukt is niet tevoren al zeker en hoeft ook niet alleen het resultaat te zijn van de uitgaven en de productie zelf. Het is daarom belangrijk ook het proces tussen uitgaven en effecten in kaart te brengen om verschillen tussen landen te kunnen duiden.

Om al deze grootheden in onderling verband te kunnen plaatsen, is een heuristisch model opgezet. Door beperkingen in de data kunnen de relaties in het heuristisch model niet in onderlinge samenhang worden onderzocht. We kijken vooral naar eenvoudige correlaties tussen twee grootheden, zoals tussen uitgaven en opbrengsten. Het is niet mogelijk om uitspraken te doen over de richting (causaliteit) van de gevonden verbanden. Bovendien moeten we met indicatoren werken die de werkelijkheid vaak vereenvoudigd en partieel weergeven. Zo geldt voor de overheidsuitgaven dat huidige prestaties daar niet altijd rechtstreeks verband mee hebben, maar deels het resultaat zijn van het verleden, zoals de verouderde infrastructuur in postcommunistische landen.

Dit onderzoek is een beginpunt om de prestaties van een breed palet van publieke sectoren op structurele wijze naast elkaar te zetten. In totaal zijn negen sectoren onderzocht, die gezamenlijk het grootste deel van de publieke uitgaven bestrijken.<sup>1</sup> De sectoren onderwijs, zorg, sociale veiligheid en wonen zijn uitgebreid bekeken, waarbij ook aandacht is besteed aan de productie. We hebben hiervoor gebruik gemaakt van de omvangrijke gegevensbestanden van de Organisatie voor Economische Samenwerking en Ontwikkeling (OESO) en Eurostat. Voor data over sociale veiligheid konden we terecht bij het *European Sourcebook* en de internationale slachtofferenquête (EU ICS). Daarnaast zijn vijf andere sectoren meegenomen: sociale zekerheid, milieu, economische zaken en infrastructuur, cultuur en participatie, en openbaar bestuur. Voor deze vijf is alleen voor 2009 gekeken naar de relatie tussen uitgaven en effecten en naar de relatie tussen effecten en vertrouwen. Voor deze sectoren moesten we regelmatig uitwijken naar andere databronnen dan die van de OESO en Eurostat, omdat die slechts beperkte informatie bieden. Voor de sectoren cultuur en openbaar bestuur was het erg lastig om geschikte indicatoren te vinden.

In dit onderzoek viel de keuze op OESO-landen omdat hun publieke sector op een enigszins vergelijkbaar niveau opereert en veel van hun gegevens onderling vergelijkbaar zijn. Een aantal OESO-landen is buiten beschouwing gebleven, bijvoorbeeld vanwege de kleine bevolkingsomvang (Luxemburg), een duidelijk lager welvaartsniveau (Mexico, Chili) of onvoldoende gegevens (Israël). De resterende 28 landen zijn ingedeeld in zeven groepen, op basis van verzorgingsstaatmodellen. De indeling is afkomstig uit Castles et al. (2010) en borduurt voort op het pionierende onderzoek op dit gebied van Esping-Andersen (1990). De noordelijke landen vertegenwoordigen het sociaaldemocratische verzorgingsstaatmodel, met een grote rol voor de overheid en universele toegang tot voorzieningen. In het liberale model van de Angelsaksische landen is de rol van de overheid veel beperkter en zijn voorzieningen met name bedoeld voor de meest behoeftigen. De continentale landen gaan uit van een corporatistisch systeem, waarin een grote rol is weggelegd voor het maatschappelijk middenveld (vakbonden, kerk) en waarin, in tegenstelling tot de sociaaldemocratische en liberale modellen, niet het individu maar het gezin (of de familie) centraal staat. De voormalige communistische landen vormen een Centraal-Europees blok met een moeilijker te typeren verzorgingsstaat, omdat het systeem nog niet uitgekristalliseerd is en overblijfselen bevat van het totalitaire systeem, gecombineerd met liberale en corporatistische eigenschappen. Het

latijnse periferiemodel van de mediterrane landen kent de overheid een kleine rol toe en legt veel verantwoordelijkheid bij de familie. In het verzorgingsstaatmodel van de Oost-Aziatische landen zijn veel voorzieningen georganiseerd via de werkgever om werknemers aan zich te binden. Daarnaast zijn er hybride landen die niet goed in een van de genoemde verzorgingsstaatmodellen passen, omdat ze elementen van meerdere regimes vertonen. Van de 28 hier onderzochte landen wordt alleen Nederland aangemerkt als hybride. De uitkomsten voor de verschillende sectoren bespreken we per landengroep, waarbij we kijken naar de relatie tussen ingezette middelen en gerealiseerde uitkomsten en het vertrouwen van burgers in de sectoren.

## Nederland

Nederland weet over het algemeen goede prestaties te bereiken. Op het gebied van onderwijs, openbaar bestuur, sociale zekerheid en cultuur zijn de uitkomsten bovengemiddeld, terwijl het uitgavenniveau gemiddeld is. Op het gebied van wonen en economie zijn de uitgaven hoger dan in de meeste andere landen en dat geldt ook voor de prestaties. We moeten hierbij aantekenen dat we voor de woningmarkt alleen een beeld konden geven van de huursector, terwijl de overheidsuitgaven ook over de koopsector gaan.<sup>2</sup> De prestaties op het gebied van zorg, sociale veiligheid en met name milieu blijven in Nederland achter bij de ingezette middelen. Bij zorg ligt de gezonde levensverwachting wat lager dan in andere landen. De criminaliteit is in Nederland aan de hoge kant door onder andere de toename van geweldsmisdrijven. Vermogensmisdrijven zijn afgenomen, mede door de sterke inzet op preventie door zowel de overheid als de burgers (beveiliging van huizen). Hierin staat Nederland echter niet alleen; dit zien we ook bij andere landen. Voor een land als Nederland is het moeilijk goede prestaties te behalen op milieugebied, aangezien bijvoorbeeld de geografische omstandigheden (hoge bevolkingsdichtheid) ongunstig zijn.

Hoewel Nederland relatief goed presteert in openbaar bestuur en onderwijs, is het vertrouwen in die sectoren onder Nederlanders laag vergeleken met andere landen. Het vertrouwen in politie en justitie is daarentegen hoog, terwijl de criminaliteit hoger is dan gemiddeld. Ook in de zorg is het vertrouwen hoger dan men zou verwachten op basis van de uitkomsten. Het vertrouwen in de sociale zekerheid is iets hoger dan in andere landen, maar hier lijkt er gezien de prestaties op dit terrein sprake van enige onderwaardering. Men is kritisch over de luchtkwaliteit en daar geven de uitkomsten op het gebied van milieu ook aanleiding toe. In totaal zien we dat Nederlanders relatief behoorlijk tevreden en gelukkig zijn met hun leven. Dit komt overeen met de bovengemiddelde effecten van de publieke prestaties.

Toch zijn er verbeteringen mogelijk. De zorg, sociale veiligheid en milieu zijn al genoemd als sectoren waarin de prestaties in Nederland lager dan gemiddeld zijn. In de gezondheidszorg zien we dat Nederland nu al relatief veel geld aan intramurale verpleging en verzorging besteedt, terwijl de vergrijzing minder ver is voortgeschreden dan in

andere landen. De prestaties in het onderwijs zijn goed, maar er zijn aanwijzingen dat de kwaliteit van de docenten meer aandacht behoeft.

### Noordelijke landen

Denemarken, Finland, Noorwegen en Zweden horen tot de groep noordelijke landen. Zij zijn gemiddeld behoorlijk efficiënt en bereiken in de sectoren openbaar bestuur, wonen, zorg, milieu, en economie en infrastructuur goede prestaties bij een gemiddeld niveau van uitgaven. Bij onderwijs, sociale zekerheid en cultuur liggen de uitgaven wat hoger dan in andere landen en dat geldt in het algemeen ook voor de uitkomsten. Op het gebied van veiligheid bereiken zij met gematigde uitgaven een gemiddeld veiligheidsniveau.

Hoewel de noordelijke landen zich zeker als cluster onderscheiden, zijn er per sector ook duidelijk verschillen waar te nemen. In sociale veiligheid en onderwijs doet Finland het aanmerkelijk beter dan de drie overige noordelijke landen. Denemarken presteert sterk op cultuur en participatie, terwijl Zweden er sterk uitkomt in de zorg.

Het vertrouwen in de diverse sectoren is groot in de noordelijke landen. Dit komt overeen met de goede prestaties daarin. Opvallend is dat het vertrouwen ook groot is in politie en justitie, terwijl relatief veel mensen in deze landen hebben aangegeven slachtoffer van criminaliteit te zijn geweest. Dit ligt iets anders in Zweden, waar het vertrouwen in politie en justitie lager is dan in de meeste andere landen. De Zweden zijn ook minder tevreden over de sociale zekerheid, terwijl de prestaties hier bovengemiddeld zijn. In Finland is het vertrouwen in het openbaar bestuur relatief laag terwijl de prestaties niet slecht zijn. Inwoners van de noordelijke landen zijn, vergeleken met inwoners van andere landen, over het algemeen het meest tevreden met hun leven. Net als bij Nederland komt dit overeen met de goede prestaties van de publieke sector: ook deze zijn voor de noordelijke landen het hoogst van alle hier onderzochte landen.

### Oost-Aziatische landen

Japan en Zuid-Korea bereiken op de meeste terreinen zeer goede uitkomsten bij een gematigd niveau van uitgaven. Op het gebied van onderwijs, zorg en veiligheid behoren de twee zelfs tot de best presterende landen. Voor openbaar bestuur en sociale zekerheid liggen de prestaties rond het gemiddelde, terwijl de uitgaven laag zijn. Bij economie en infrastructuur liggen uitgaven en prestaties rond het gemiddelde. Alleen op het gebied van milieu blijven de uitkomsten achter bij de uitgaven.

Als we Japan en Zuid-Korea onderling vergelijken, zien we dat Japan het op het gebied van zorg en economie en infrastructuur beter doet dan Zuid-Korea. In Japan liggen daarentegen de uitgaven aan sociale zekerheid een stuk hoger, terwijl de uitkomsten op dit terrein iets lager zijn dan in Zuid-Korea.

Er is weinig bekend over het vertrouwen van Japanners en Zuid-Koreanen in de publieke sectoren. In Japan is men erg kritisch over de politie, maar zeer tevreden over justitie. Het eerste is opvallend, aangezien slechts weinig Japanners aangeven slachtoffer te zijn geweest van criminaliteit. De oordelen over luchtkwaliteit liggen rond het gemiddelde, terwijl de prestaties op het gebied van milieu daar bij achterblijven. Inwoners van Japan en Zuid-Korea zijn minder tevreden met hun leven dan inwoners van andere landen. In dit geval sluiten de (goede) prestaties van de publieke sector dus niet aan bij het ervaren geluk van de burgers.

### Angelsaksische landen

De prestaties van het Verenigd Koninkrijk, Ierland, Nieuw-Zeeland, Canada en de Verenigde Staten zijn over het algemeen niet erg onderscheidend van de andere landen. Op het gebied van wonen (alleen Verenigd Koninkrijk en Ierland) zijn de prestaties beter dan in de meeste andere (niet-Angelsaksische) landen, maar het uitgavenniveau ligt ook vrij hoog. Op het gebied van sociale veiligheid blijven de resultaten van de Angelsaksische landen achter, terwijl de uitgaven aan deze sector relatief hoog zijn.

Binnen de groep Angelsaksische landen doen vooral de Verenigde Staten het op een aantal punten duidelijk slechter dan de andere landen. Men geeft beduidend meer uit aan onderwijs en zorg terwijl de prestaties achterblijven. Bij sociale zekerheid en milieu zijn zowel uitgaven als prestaties laag. Maar ook andere landen wijken op bepaalde terreinen af van het globale Angelsaksische beeld. Ierland valt op door de hoge uitgaven aan economie en infrastructuur, terwijl de uitkomsten achterblijven. Waarschijnlijk gaat het om investeringen in een relatief verouderde infrastructuur. Canada laat sterke prestaties zien op het gebied van onderwijs, terwijl in Nieuw-Zeeland de prestaties op het terrein van milieu boven de andere landen uitsteken. Net als bij Nederland spelen (in dit geval gunstige) geografische omstandigheden een rol.

Vertrouwen in politie en justitie ligt voor Angelsaksische landen rond het gemiddelde. Vertrouwen in politie is iets hoger dan gemiddeld en in justitie iets lager. Dit is opvallend, aangezien de criminaliteit vergeleken met de andere landen zeer hoog is. Ook over de luchtkwaliteit is men in Angelsaksische landen tevreden, terwijl de uitkomsten op dit gebied lager liggen dan in andere landen. Voor de andere sectoren zijn alleen gegevens beschikbaar voor Ierland en het Verenigd Koninkrijk. Die tonen soms grote verschillen. In Ierland is er veel vertrouwen in het openbaar bestuur, terwijl de prestaties niet bijzonder zijn. Voor het Verenigd Koninkrijk is dit precies omgekeerd. De prestaties van de gezondheidszorg liggen voor beide landen iets boven het gemiddelde, maar het vertrouwen is in Ierland erg laag en in het Verenigd Koninkrijk juist hoog. Het is niet goed vast te stellen waar deze discrepantie vandaan komt. In het algemeen behoren inwoners van de Angelsaksische landen, na de noordelijke landen en Nederland, tot diegenen die het meest gelukkig zijn met hun leven. In grote lijnen zien we ook hier een overeenkomst tussen goede prestaties van de publieke sector en tevredenheid met het leven.

De uitzonderlijke positie van de Verenigde Staten is opvallend, aangezien dit land zeer lage uitkomsten in de publieke sector laat zien.

### Continentale West-Europese landen

De uitkomsten van de continentale landen België, Duitsland, Frankrijk, Oostenrijk en Zwitserland liggen, net als die van de Angelsaksische landen, rond het gemiddelde. België presteert op de meeste sectoren iets onder het gemiddelde, terwijl de uitkomsten voor de andere vier landen juist iets hoger zijn dan gemiddeld. Vergeleken met de Angelsaksische landen zijn de uitgaven en uitkomsten iets hoger. Op het terrein van economie en infrastructuur behalen zij met beperkte uitgaven goede resultaten. Dit geldt ook voor de sector wonen. Vooral in onderwijs presteren de continentale landen minder dan de meeste andere landen, terwijl de uitgaven op een vergelijkbaar niveau liggen. Ongunstige systeemeigenschappen van het onderwijs zorgen hier voor grote verschillen in prestaties tussen leerlingen van verschillende sociale klassen.

Zwitserland doet het beter dan de andere continentale landen in zorg, onderwijs, milieu en (samen met Duitsland) economie en infrastructuur. In totaal valt op dat de uitgaven in Zwitserland relatief laag zijn, terwijl de prestaties beter zijn dan die van de andere continentale landen. Hierin lijkt Zwitserland meer op de Oost-Aziatische landen. Wel lijkt er voor Zwitserland verbetering mogelijk in het openbaar bestuur. Hier scoort het duidelijk lager dan de andere continentale landen. Verder zijn er op deelterreinen nog wel wat verschillen waarneembaar. België blijft achter in sociale veiligheid en milieu en Oostenrijk doet het goed in sociale zekerheid.

In de continentale landen hebben burgers veel vertrouwen in de sectoren; meer dan in andere landen, zelfs als de prestaties achterblijven zoals in het onderwijs. De belangrijkste uitzondering is Duitsland, waar burgers minder vertrouwen hebben in de zorg, het onderwijs en de sociale zekerheid. De uitkomsten op deze terreinen liggen voor Duitsland ook (iets) lager dan gemiddeld. In België oordelen burgers minder positief over sociale veiligheid en luchtkwaliteit, wat aansluit bij de lagere prestaties. Inwoners van de continentale landen zijn over het algemeen vrij tevreden met hun leven, vooral de Oostenrijkers en Zwitsers. Dit oordeel sluit goed aan bij de prestaties van de publieke sector, die in het algemeen beter zijn dan gemiddeld. Uitzondering is België, waar inwoners meer dan gemiddeld tevreden zijn met hun leven, maar de prestaties van de publieke sector duidelijk minder zijn.

### Centraal-Europese landen

In de Centraal-Europese landen Estland, Hongarije, Polen, Slovenië, Slowakije en Tsjechië blijven de prestaties wat achter bij de andere landengroepen, terwijl de uitgaven maar iets onder het gemiddelde liggen. Vooral in openbaar bestuur, zorg, wonen, en economie en infrastructuur zijn de uitkomsten aan de lage kant. Voor de twee laatstgenoemde sectoren zal dit waarschijnlijk te maken hebben met een gedateerde



woningvoorraad en infrastructuur. Er zijn grote investeringen nodig om op een vergelijkbaar niveau te komen met de andere landen. Een achterhaalde infrastructuur zal ook invloed hebben op de prestaties in de zorg.

De lage prestaties van het openbaar bestuur in Hongarije vallen des te meer op omdat de uitgaven aan deze sector zeer hoog zijn. Hongarije valt in positieve zin op door de goede prestaties in sociale veiligheid. Estland scoort in vergelijking met de andere Centraal-Europese landen goed op openbaar bestuur; de prestaties in onderwijs behoren zelfs tot de top. Tsjechië toont goede resultaten in sociale zekerheid vergeleken met de andere Centraal-Europese landen, terwijl Slovenië zeer sterk presteert in milieu.

Net als de prestaties is het vertrouwen in de publieke sectoren in de Centraal-Europese landen lager dan gemiddeld. Vertrouwen is vooral erg laag in sociale veiligheid en gezondheidszorg. Het opvallende is dat slechts weinig mensen in de Centraal-Europese landen aangeven slachtoffer te zijn geweest van criminaliteit. Inwoners van Centraal-Europese landen zeggen tamelijk ontevreden te zijn met hun leven. Het verschil met de andere landen (behalve de mediterrane) is hierin vrij groot. Deze uitkomst strookt met de lage prestaties van de publieke sector.

### Mediterrane landen

De mediterrane landen Griekenland, Italië, Portugal en Spanje laten net als de Centraal-Europese landen ondergemiddelde prestaties zien, terwijl hun uitgaven boven het gemiddelde liggen en op een vergelijkbaar niveau zijn met de continentale landen. In openbaar bestuur, onderwijs, sociale zekerheid, cultuur, en economie en infrastructuur zijn de resultaten aan de matige kant, terwijl de uitgaven niet sterk afwijken. Voor openbaar bestuur zijn de uitgaven (met uitzondering van Spanje) zelfs vrij hoog. De ineffektieve publieke sector van de mediterrane landen wordt mede beïnvloed door de cultuur van cliëntelisme. Alleen op het gebied van sociale veiligheid liggen de uitkomsten van de mediterrane landen wat hoger dan gemiddeld, terwijl de uitgaven niet afwijkend zijn.

Binnen de groep mediterrane landen valt vooral Griekenland in negatieve zin op. Zo zijn de prestaties in openbaar bestuur, sociale veiligheid, cultuur, en economie en infrastructuur lager dan in de andere drie landen. Spanje presteert minder dan de andere op het gebied van sociale zekerheid, maar doet het wel goed in economie en infrastructuur, openbaar bestuur en cultuur.

Net als bij de Centraal-Europese landen is ook in de mediterrane landen het vertrouwen in de publieke sectoren lager dan gemiddeld. Nog een overeenkomst is dat dit aansluit bij de prestaties van de sectoren, met uitzondering van sociale veiligheid. Ook in de mediterrane landen is de gerapporteerde criminaliteit relatief laag. In Spanje is het vertrouwen in de gezondheidszorg relatief hoog, maar de prestaties zijn hier ook iets hoger dan gemiddeld. Hetzelfde geldt voor milieu in Portugal. Zoals gemeld zijn inwoners van

mediterrane landen niet erg tevreden over hun leven. Ook hier sluit deze uitkomst aan bij de lage prestaties van de publieke sector.

## Conclusies

Hoewel de prestaties van de verschillende landen grote variëteit vertonen, zijn de landengroepen vrij duidelijk terug te zien. De noordelijke landen doen het in het algemeen goed, net als Japan, Zwitserland en Nederland. De mediterrane en Centraal-Europese landen doen het minder goed, net als de Verenigde Staten. Als alle landen samen worden bekeken, is er in het algemeen geen relatie te vinden tussen uitgaven en prestaties. Deze uitkomst is in eerdere studies ook al naar voren gekomen. De efficiëntie en effectiviteit van de inrichting van de publieke sector zijn belangrijker dan de hoeveelheid geld die er aan wordt besteed. Zo is de publieke sector in Griekenland vrij omvangrijk, terwijl de prestaties achterblijven. Het omgekeerde geldt voor Zwitserland. Bij het zoeken naar manieren om de prestaties van de publieke sector te verbeteren, is het beter om per sector proberen vast te stellen welke succesfactoren een rol spelen dan om hele welvaartssystemen te gaan kopiëren.

Op het niveau van de sectoren blijkt de samenhang tussen prestaties en vertrouwen van burgers zeer wisselend. Voor de helft van de sectoren is er wel een samenhang, voor de andere helft niet. Wel blijken er duidelijke verschillen tussen landengroepen te zijn. Het vertrouwen van burgers is groot in de noordelijke landen en lager in de mediterrane en Centraal-Europese landen. Bij deze landengroepen komt het vertrouwen grotendeels overeen met de prestaties. Bij de continentale landen is het vertrouwen vaak groter dan men zou vermoeden op basis van de prestaties. Voor Nederland is het beeld wisselend en lijkt er geen duidelijke relatie te zijn tussen vertrouwen en prestaties. Tenslotte zien we in het algemeen dat mensen meer tevreden zijn met hun leven in landen waar de publieke sector beter presteert. Over de causaliteit van dit verband is op basis van dit onderzoek echter geen uitspraak te doen.

De brede aanpak van dit rapport laat zien dat er meerwaarde is te behalen door publieke sectoren naast elkaar te bekijken. Zo blijkt er samenhang te zijn tussen prestaties in verschillende sectoren, maar ook komt duidelijk naar voren dat alle landen nog sectoren hebben die vatbaar zijn voor verbetering vatbaar zijn. De aanpak in dit rapport borduurt voort op het werk van Kuhry (2004) en heeft deze verbreed door het aantal sectoren uit te breiden. De keerzijde van deze verbreding is dat het moeilijk is om tot een precieze duiding van de resultaten te komen. Ook was het nog niet mogelijk de integrale aanpak toe te passen op alle sectoren. Dit rapport biedt veel aanknopingspunten voor nader onderzoek en laat ook zien dat de internationale dataverzameling voor een aantal sectoren sterk verbeterd moet worden. Dit rapport geeft een breed en redelijk compleet beeld van de prestaties van de publieke sector, waar in vervolgstudies verdere diepgang aan kan worden gegeven.

## Noten

- 1 Het ontbrekende deel van de publieke uitgaven gaat vooral naar defensie, een sector die buiten beschouwing blijft omdat de effecten moeilijk te definiëren zijn op landenniveau en geschikte data ontbreken.
- 2 Voor de koopsector zijn alleen gegevens bekend over rente-uitgaven. Aflossingen blijven dus buiten beeld, waardoor geen compleet beeld van betaalbaarheid is te geven.

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