

## Research Reports

# WHAT DOES THE INSTITUTIONS CLIMATE INDEX FOR OECD COUNTRIES TELL US ABOUT INSTITUTIONAL CHANGE AND ECONOMIC POLICY REFORMS?

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Why economic growth occurs – or does not occur – can be regarded as *the* question that concerns economics. Early answers to this question – the most famous being those given by Adam Smith in his “Inquiry” (1776) – focused primarily on what we now call “institutional causes”. The later introduction of more refined mathematical tools into economic analysis, and specifically into neo-classical growth theory, led to an emphasis on those growth determinants that lend themselves easily to mathematical treatment. Thus, for quite a while the augmentation of capital and labour, technical progress as well as the interplay between these factors have been considered sufficient to offer a deep enough understanding of the underlying causes of economic growth. It was the seminal work of Douglas North and Robert Thomas (1973) that challenged this view and laid the foundation for institutional economics. Basically, it was a move that went back to the roots, although it took some time until institutions became a respected subject in economic and econometric analysis. Meanwhile, not only direct factors of production but also institutional characteristics of economies (and of societies, for that matter) have been made measurable. The quantitative expression of institutions has been used for econometric comparisons over time and across countries, and for the continued search for the fundamental causes of economic growth.

It is this analytical tradition within which Eicher and Röhn (see this issue of DICE Report) develop an array of endogenously selected and weighted eco-

nommic indicators that are combined into one aggregate index of growth-conducive institutional quality in OECD countries. Factor analysis is employed in order to reduce the dimensionality of independent variables. The economically relevant factors are regressed on the average GDP per capita growth rates of 1990–1994, 1994–1998 and 1998–2002. This procedure resulted in a set of factors that is able to explain 44 percent of the variation in per capita GDP growth rates. The factor coefficient estimates together with the weights of each sub-index in a factor were then used to establish the impact of each sub-index on the aggregate institution index. Finally, the weights of each component in a sub-index were employed to calculate the influence of each institutional variable on the overall *Institutions Climate Index for OECD Countries*.

The result of the factor and regression analysis is an aggregate institutions index which is composed of eight distinct sub-indices (with their contribution to the overall index in brackets): Optimal Taxation (21.1 percent), Basic Institutional Quality (21.0 percent), Fiscal Burden (16.7 percent), Human Capital Efficiency (14.9 percent), Trade Openness (8.2 percent), Labour Markets (8.1 percent), Structure of Government Expenditure (6.6 percent), and Capital Markets (3.3 percent). Each sub-index is again comprised of several components. All components are aggregated into one index score for each country. The index is normalised to a range from zero to unity. A score of 0 (1) indicates that a country possesses the minimum (maximum) institutional quality observed within the entire sample in all components. The normalisation procedure assures comparability of the index over time.

The aim of this article is to relate the country rankings and their change over time to institutions, economic policy and, specifically, to economic policy reforms. In a first chapter, we consider four years (1994, 1998, 2002 and 2006) and highlight those countries which were able to keep either a high or low ranking over the period of twelve years. In a next step we focus on those countries that changed their ranking considerably, either moving up (the “advancers”) or moving down (the “decliners”) in the rankings. The eight sub-indices of the total index are used to shed light on the determinants of the improved ranking of four advancer countries: New Zealand, Australia, Finland and Denmark. For two of them – New Zealand and Finland – we then ask how institutional change and economic policy

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reforms can be related to their improved ranking. This is done on the basis of 23 components of the Index, which were broken down from the above mentioned eight sub-indices.<sup>1</sup> The same procedure is then applied to the decliner countries. Four countries with a downward trend (Japan, Switzerland, Norway and South Korea) are considered on the basis of the 8 sub-indices. For two of them – Japan and Switzerland – we relate the 23 components to their economic policy. The article closes with a summary.

### Ranking of countries 1994, 1998, 2002, 2006

Table 1 displays the country index scores and rankings of the *Institutions Climate Index* for selected years (1994, 1998, 2002, 2006).<sup>2</sup> The index scores are comparable over time and show the absolute differences of the institutional quality among countries. They are the basis for the ranking of countries.

<sup>1</sup> The total number of components is 25. However, the sub-index Optimal Taxation, consisting of three components, is treated here as one component. See the methodological explanations in the article of Eicher and Röhn in this issue.

<sup>2</sup> Note that the index values of, e.g., 1994 correspond to institutions averaged over 1988 to 1992 (see Eicher and Röhn in this issue).

Comparing the country rankings (i.e., the development of a country’s institutional climate) over time reveals some interesting insights. Measured on the basis of the average ranking position, the *United States* came out at the top. The country ranked first in 1994 and 1998 and second in 2002 and 2006. *Australia* is in second place, although it ranked only ninth in 1994. It continuously climbed up the ladder until it took the lead for the first time in 2002, which it still held in 2006. The third of the most successful countries is *Canada*, which ranked third in 1994, fifth in 1998, third in 2002 and fourth in 2006. *Ireland*, the fourth country, performed very well in the late 1990s until the early years of the new century. However, in 2002 Ireland dropped to the fifth position, and has remained there since then.

Turning to the other end of the ranking scale we find *Turkey, Mexico, Italy* and *Greece* at the bottom of the Index for the complete period, indicating persistent institutional deficiencies in these countries. The highest ranking of the four countries was achieved by Greece in 2006 with position 20.

The country rankings and their change over time, although interesting in themselves, mask important

Table 1

Country rankings

Rank	1994		1998		2002		2006	
	Country	Index Score	Country	Index Score	Country	Index Score	Country	Index Score
1	USA	0.692	USA	0.690	Australia	0.701	Australia	0.710
2	Japan	0.674	Ireland	0.673	USA	0.691	USA	0.681
3	Canada	0.648	Japan	0.664	Canada	0.678	Netherlands	0.670
4	Switzerland	0.647	Australia	0.660	Netherlands	0.665	Canada	0.668
5	Ireland	0.629	Canada	0.648	Ireland	0.657	Ireland	0.658
6	Norway	0.619	Netherlands	0.644	UK	0.653	UK	0.656
7	Germany	0.617	UK	0.643	Switzerland	0.652	N. Zealand	0.651
8	Netherlands	0.616	Norway	0.640	Germany	0.640	Finland	0.646
9	Australia	0.613	Switzerland	0.636	N. Zealand	0.630	Denmark	0.643
10	UK	0.610	Germany	0.631	Finland	0.628	Germany	0.634
11	Belgium	0.585	Finland	0.612	Norway	0.626	Switzerland	0.634
12	Austria	0.573	Portugal	0.603	Sweden	0.610	Norway	0.629
13	Denmark	0.573	Sweden	0.597	Japan	0.609	Sweden	0.627
14	Finland	0.569	N. Zealand	0.596	Denmark	0.608	Japan	0.619
15	S. Korea	0.563	Belgium	0.595	Austria	0.599	Austria	0.615
16	Sweden	0.561	Denmark	0.591	Spain	0.589	Belgium	0.602
17	N. Zealand	0.550	Austria	0.583	Portugal	0.583	Spain	0.589
18	France	0.546	Spain	0.582	Belgium	0.582	Portugal	0.583
19	Portugal	0.543	S. Korea	0.546	S. Korea	0.558	France	0.554
20	Spain	0.541	France	0.544	France	0.552	Greece	0.541
21	Italy	0.502	Greece	0.535	Greece	0.551	S. Korea	0.539
22	Mexico	0.499	Turkey	0.516	Italy	0.514	Italy	0.502
23	Greece	0.491	Italy	0.501	Mexico	0.510	Mexico	0.477
24	Turkey	0.448	Mexico	0.499	Turkey	0.447	Turkey	0.437

Source: Institutions Climate Index for OECD Countries.

information as to which institutional areas a country is behind in relative to the best practice country. We analyse these questions by means of radar diagrams (see Figures below). Each vector in the radar diagram shows one dimension of institutional quality. When the endpoints of each vector are linked, a polygon is created that maps the numeric components of each institution into one visual composite profile for the Index. The visual representation is important since any given overall index level can be achieved with very different combinations of institutional quality. In our radar diagrams, each vector represents the quality of one institutional dimension expressed as a percentage of the best practice country in the year under consideration. For example, a score of 80 percent for the Basic Institutional Quality sub-index in 2000 for a given country implies that the country's score for this variable lags 20 percent behind the score achieved by the country that had the best existing Basic Institutional Quality in 2000. Finally the change in the shape of the polygon can be examined to highlight the way in which changes in the institutional makeup of the country (and hence the value of the index) have come about.

High-ranking countries share some common institutional characteristics. They have a favourable Basic Institutional Quality. Governments protect property rights, enforce law and order and prevent corruption. Human capital is used efficiently. Tertiary and secondary enrolment rates are high. A considerable portion of GDP is spent on public education. The economy is open to international competition. The labour markets are flexible. The Structure of Government Expenditure is characterised by low consumption. On the other hand, high-ranking countries also show some less favourable institutional

characteristics which, however, differ from one country to the other. Taxation is not always optimal. The top marginal tax rate is – under the assumption that taxes have a nonlinear effect on growth – either too low or too high. The same is true for the tax wedge. Divergence from Optimal Taxation is greatest in the United States. The Fiscal Burden, that is to say total tax revenue as a percentage of a country's GDP, is relatively high in the four advanced countries and financial intermediation (Capital Markets) is (with the exception the United States) rather low (Table 2).

When we compare the institutional quality of high-ranking countries we become aware that the institutional setting is not uniform. Figure 1 (left part) compares the *United States* and *Australia* in 2006. Whereas the tax system is much more favourable in Australia than in the United States with respect to economic growth, the United States has advantages in other fields. Fiscal Burden is lower, government spends, in relative terms, less on consumption, and Labour Markets as well as Capital Markets are more flexible. The differences in the quality of institutions let us suppose that there is not only one “road” to higher quality institutional performance.

Between high-ranking and low-ranking OECD countries the institutional differences are of course far larger. The latter have a relatively poor Basic Institutional Quality, which is a fundamental impediment to economic growth in these countries because individuals are not sufficiently protected from the government's attempt to divert resources into unproductive uses. A second impediment is the low Human Capital Efficiency. Education is relatively neglected in these countries. And finally, Labour

**Table 2**

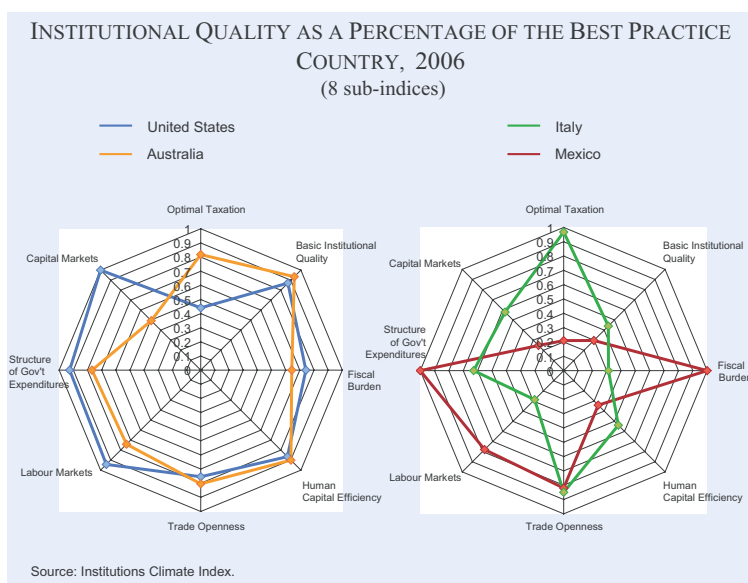
**Institutional quality as a percentage of the best practice country, 2006**

Country	Optimal Taxation	Basic Institutional Quality	Fiscal Burden	Human Capital Efficiency	Trade Openness	Labour Markets	Structure of Government Expenditure	Capital Markets
	(21.1%)	(21.0%)	(16.7%)	(14.9 %)	(8.2%)	(8.1%)	(6.6%)	(3.3%)
USA	44	87	74	87	75	94	93	100
Australia	82	93	64	90	80	74	77	50
Canada	75	91	53	78	83	81	73	60
Ireland	64	86	67	63	100	72	80	72
Greece	80	55	47	61	75	44	77	54
Italy	97	44	31	54	85	29	63	58
Mexico	21	30	100	34	82	78	100	25
Turkey	81	23	59	24	77	35	76	25

Note: The percentages in brackets show the contribution of the sub-indices to the overall Institutions Climate Index.

Source: Institutions Climate Index for OECD Countries.

Figure 1



Markets (with the exception of Mexico) and Capital Markets are too rigid. On the other hand, the institutional quality is quite close to international standards in the fields of taxation (with the exception of Mexico), Fiscal Burden, Structure of Government Expenditure and Trade Openness (Table 2).

The institutional structures of the four low-ranking countries are also quite different. Figure 1 (right part) compares the structures of *Italy* and *Mexico* in 2006. The great advantage of Italy is its tax system, a system that seems to be much more favourable than the Mexican one. In addition Italy dedicates more resources to the educational sector and has liberalised its Capital Markets to a larger extent. On the other hand Italy is gravely lacking in other policy and institutional dimensions. The Fiscal Burden is much higher than in Mexico, the Structure of Government Expenditure is less favourable and the Labour Markets are more rigid.

**Why did the advancers gain ground?**

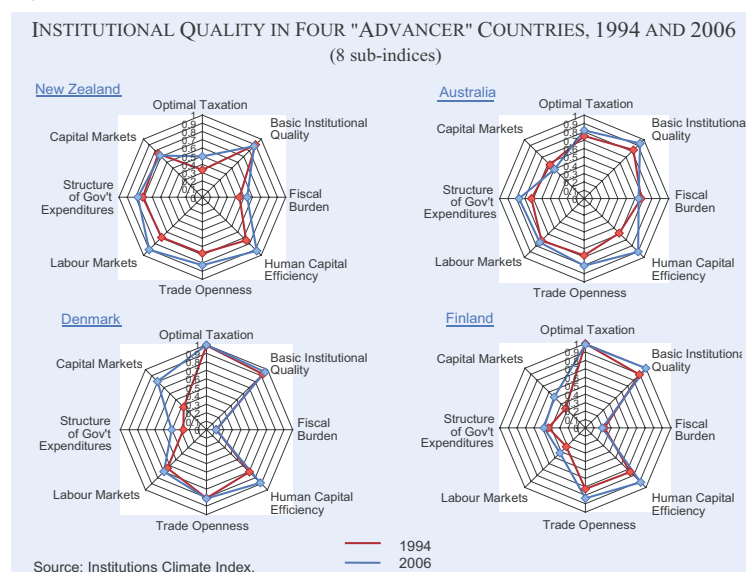
The strongest improvement in terms of institutional climate (Table 1) occurred in *New Zealand*. Ranked 17 in 1994, the country climbed up the growth-conducive climate ladder steady-

ly during the following years and reached rank 7 in 2006. *Australia*, improving by 8 ranks over the period considered, even outperformed *New Zealand* insofar as *Australia's* advance took place very quickly and led the country to the first rank already in 2002, where it has remained until today. A considerable and likewise steady institutional improvement can also be seen in *Finland*. The country was ranked 14 in 1994 and reached place 8 in 2006. The route *Denmark* took is somewhat different, because, in the beginning of our period, the country lost 3 ranks, moving down from rank 13 (1994) to

rank 16 (1998). But in the following years the country was able to improve its institutional ranking considerably, moving up to rank 14 (2002) and finally to rank 9.

Figure 2 consists of four parts and shows the institutional characteristics (8 sub-indices) of the four "advancer" countries for 1994 and 2006. A higher ranking over time means that the country concerned has improved its institutional climate *in relation to other countries*. This is reflected in Figure 2 in that the lines for 2006 lie, in general, outside the lines for 1994. A 100 percent level for a certain institutional sub-index is reached when a country is the top performer with respect to that characteristic during the time under consideration.

Figure 2



Although the lines for 2006 are generally outside the lines for 1994, the “radar” patterns and the changes of the patterns are quite different. *New Zealand* has improved most in terms of Labour Markets, Optimal Taxation, Human Capital Efficiency and Trade Openness, while in Capital Markets and Basic Institutional Quality there was practically no change. A medium improvement was attained in Structure of Government Expenditures and Fiscal Burden.

*Australia’s* largest improvement was in Human Capital Efficiency, followed by Structure of Government Expenditures, Trade Openness and Basic Institutional Quality. With respect to Capital Markets, however, there was a decline.

*Finland* presents a somewhat skewed picture, mainly due to weak performance in the variables Fiscal Burden, Labour Markets, Capital Markets and Structure of Government Expenditures in 1994. But there have also been improvements in nearly every institutional field. While Capital Markets being still at a low level compared to the best performing country, Human Capital Efficiency, Trade Openness and Labour Markets showed a significant gain. Even Basic Institutional Quality – already at a high level in 1994 – continued to improve and has now reached the top performing level, as is the case for Optimal Taxation.

The results of *Denmark*, another Nordic country, are similar to that of Finland and similarly somewhat skewed. Fiscal Burden had low scores in both countries, while the scores for Optimal Taxation and for Basic Institutional Quality were similarly excellent. In both countries, Capital Markets and Human Capital Efficiency have improved considerably. Labour Markets received much better ratings in Denmark than in Finland but has improved less.

Australia and New Zealand, being the best performing countries of our four “advancers”, have more or less “roundabout” radar lines which, moreover, are relatively close to the outer 100 percent circle. Both countries have improved some – but not all – institutional characteristics. The, albeit skewed, pictures for Finland and Denmark show

that both countries are top performers in several respects, but weaker performers with respect to Fiscal Burden and Structure of Government Expenditure. Both countries were not really able to improve the situation in these two fields. If they had, both countries would have achieved even better scores.

**Economic policy and reforms in two advanced countries**

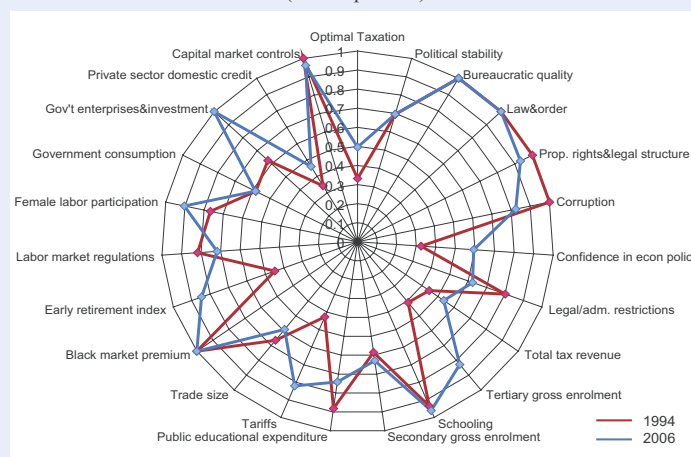
New Zealand and Finland belong to the group of countries that were able to improve considerably their respective ranking in our index between 1994 and 2006. In the following we investigate the possible underlying causes and consider the more detailed version of institutional variables, where the 8 sub-indices of Figure 2 are broken down into 23 components (Figures 3 and 4, respectively).

*New Zealand*

During the 1980s New Zealand had already implemented a series of important economic reforms, for example, by liberalising foreign trade, opening the financial sector and privatising state-owned enterprises (OECD 1999a). Its continuously improved ranking in terms of institutional climate after that first reform period (1994: rank 17; 1998: 14; 2002: 9; 2006: 7) suggests that institutional and economic policy reforms not only have been continued but more so than in other countries. Due to the delayed effect of institutions on growth (and by applying moving averages in the calculation), reforms from 1992

Figure 3

INSTITUTIONAL CHARACTERISTICS OF NEW ZEALAND, 1994 AND 2006 (23 components)



Source: Institutions Climate Index.

onwards were able to improve the index score and, thus, the ranking.

The main reforms of the 1990s and early 2000s focused primarily on labour market reforms, which have been especially “radical” (OECD 1999). Wage bargaining procedures were deregulated, unionism was put on a voluntary and contestable basis. Moreover, important reforms were implemented in various sectors like energy, coastal shipping, railways and taxi transport by introducing deregulation measures (not included in our index). Beside these reforms, there were important reform steps in the field of public finance by cutting tax rates and reducing expenditures, the latter mainly for social services.

These reforms succeeded in improving the institutional quality in New Zealand with respect to the sub-index Labour Market and the sub-indices related to public finance. But other sub-indices improved as well. Figure 3 goes into more detail and characterises New Zealand’s institutional climate on the basis of 23 components between 1994 and 2006. At first glance, the blue lines for 2006 are mostly, but not always outside of (i.e., better than) the red lines for 1994.

We will now consider each sub-index and its components in turn and start with the sub-index Basic Institutional Quality. This sub-index is at a high and nearly unchanged level and comprises seven components: *political stability, bureaucratic quality, rule of law and order, respect for property rights, corruption, confidence of the population in the economic policy of the government and legal and administrative restrictions against foreign investments* (i.e., climate for foreign investors). With respect to *bureaucratic quality* and *rule of law and order*, New Zealand is still a top performer. In terms of *property rights* it was a top performer, but has now slightly declined. The relative increase in the level of *corruption* is even higher. *Confidence of the population in the economic policy of the government* has improved considerably. This index is based on a regular world-wide survey that has been conducted by the Ifo Institute since 1991. The same regular survey has also been used for the component *climate for foreign investors*. This variable deteriorated about 20 percentage points relative to other countries. However, this tendency only partly coincides with the result of an analysis of the OECD (2005, 59), namely only for (the least restrictive) screening requirements foreign investors have to fulfil. Apart from these screening requirements the overall restrictions against foreign investments were reduced in New Zealand

dramatically between 1980 and 1998 and are now amongst the lowest in the world.

The sub-index Labour Markets consists of the components *labour market regulations, early retirement and female labour force participation*. Taken together, the sub-index improved considerably (Figure 2), but the components show different developments. The largest relative improvement occurred in *early retirement*. The underlying absolute change was a reduction in the early retirement rate from 37 to 22 percent. *Female labour force participation* increased (i.e., improved) relative to other countries by 13 percentage points, while the participation rate in absolute terms changed from 43 to 46 percent. The central variable, *labour market regulation*, has deteriorated by 10 percentage points relative to other countries. However, the underlying index measuring labour market regulation (Fraser Institute) did not show a remarkable change. The OECD (2005c, 96ff) has expressed concerns that New Zealand, after increasing the flexibility of labour markets during the first and second reform wave, reversed this course by having increased employment protection since the late 1990s (OECD 2004, 117) and reducing the degree of flexibility in that important market.

The variable Human Capital Efficiency with its four components – *public educational expenditure, average years of schooling of adults, secondary enrolment and tertiary enrolment* – also improved markedly. The largest improvement occurred in tertiary education. Relative to other countries New Zealand experienced a jump, improving this variable by 42 percentage points. The change itself is much smaller, although still considerable. According to World Bank data, tertiary enrolment increased from 61 to 85 percent. In *public educational expenditure* New Zealand fell by 14 percentage points. However, the change itself was positive, because the government, indeed, increased total educational spending. This again means that other countries did more.

Institutions of foreign trade (sub-index Trade Openness), including the components tariff and non-tariff barriers to trade (*tariffs*), the *black market premium* for foreign currencies and the *size of the trade sector* itself, also improved. The *black market premium* is of course zero in New Zealand, resulting in a 100 percent performance in this respect. A considerable improvement relative to other countries can be seen in the variable for trade barriers. Indeed, tariff rates are below the OECD average (OECD 2005a, 77), a

result of earlier reduction rounds for tariff and (mainly) non-tariff barriers.

The sub-index Structure of Government Expenditure, subdivided into (1) *government consumption* and (2) *government enterprises and investment* improved slightly. Government consumption itself was slightly reduced during the period observed. But other countries did the same. Thus, there is practically no relative change. The component *government enterprises and investment* improved considerably, which made New Zealand a 100-percent performer. Between 1985 and 1995, i.e. partly *before* our period of consideration, New Zealand privatised the bulk of its state-owned enterprises. But single privatisation actions were also carried out at the end of the 1990s.

Government tax revenues, or Fiscal Burden (without a further sub-variable), is about 36 percent of GDP, a value which has not changed very much during the period considered. However, there was a small *relative* improvement. This improvement was mainly due to tax rate reductions made in the earlier and later active reform phases.

The sub-index Capital Markets, consisting of two components – restrictions to international credit flows (*capital market controls*) and the degree of credit intermediation (*private sector domestic credit*) – declined slightly. With respect to the former variable, there are practically no restrictions, making New Zealand a top performer. The degree of credit intermediation improved slightly, but is still on a rather low level in comparison with other countries.

The sub-index Optimal Taxation, the computed combination of two variables – top marginal tax rates and total tax wedge – improved relative to other countries, but is still far removed from the best performing countries. In fact New Zealand has a relatively low top marginal income tax rate and a very low tax wedge.

*Finland*

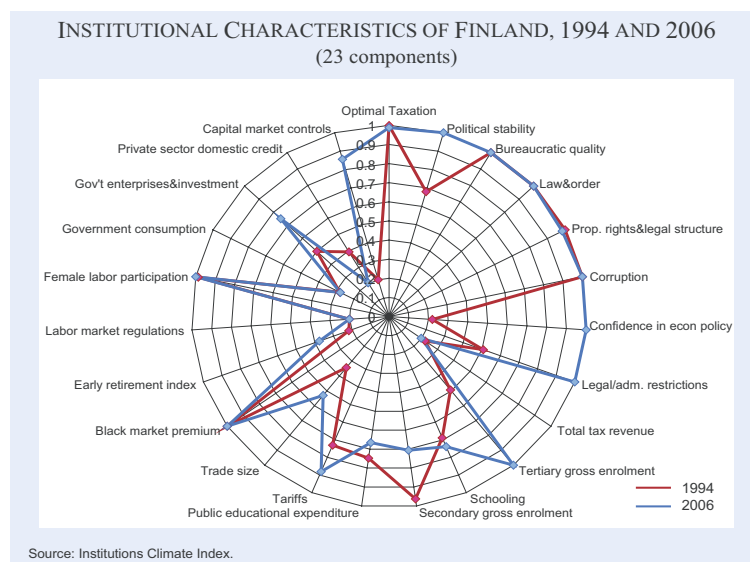
The second advanced country we have chosen to look at more closely is *Finland*. It started at rank 14 in 1994. At that time the country was experiencing a strong recession. A banking cri-

sis in the early 1990s and the collapse of trade with the Soviet Union combined with a weakened world economy were responsible for the recession. At that time Finland's institutions had not yet adapted to the economic structures of a modern open economy, although some institutional reforms had been undertaken in the late 1980s (OECD 2003, 32). The economic crisis of the early 1990s was the starting point, however, for major institutional and policy reforms. Finland succeeded in improving its institutional quality and climbed the ranking ladder until it reached position 8 in 2006 (Table 1).

The institutional and policy reforms undertaken since the early 1990s aimed at three objectives (OECD 2003):

- The transformation of Finland into a knowledge- and innovation-based economy. In order to achieve this, human capital efficiency was increased.
- The transformation of a heavily regulated economy based on the principle of economic nationalism into one based on open markets with high competition. In order to achieve this objective, emphasis was placed on increased openness of the economy – capital markets were liberalised and the goods and services markets were deregulated.
- The transformation of Finland into a society where fundamental public institutions are effective and confidence in economic policy is high. In order to achieve this objective, the basic institutions, reflected in our sub-index Basic Institutional Quality, were improved by reforming the public sector.

Figure 4



The increase of Human Capital Efficiency was mainly achieved by a rise of *tertiary enrolment*. Whereas in 1994 the enrolment rate in Finland was 49 percent of the enrolment rate of the best practice country, in 2002 and 2006 it reached 100 percent (Figure 4). Thirty-eight percent of the population of age group 25–34 attained tertiary education in 2004 (OECD 2006a, 39). The promotion of tertiary education was, however, just one part of the transformation of Finland into a knowledge- and innovation-based economy. Reforms in other fields, not included in our index, took place. Investment in research and development (R&D) was supported with a focus on information and communication technologies, knowledge-based technology centres were created, and education and innovation policy was coordinated by a national science and technology council (Schienstock 2004). Human Capital Efficiency was, however, not increased in every field. *Secondary enrolment* and *public educational expenditure* deteriorated compared to other countries.

The transformation of Finland into an open and competitive economy was encouraged by accession to the European Union in 1995. The transformation was achieved by an increase in Trade Openness. Tariffs were reduced. Simplified and efficient customs procedures were promoted. With respect to *tariffs* the relative position of Finland rose from 73 percent (1994) to 100 percent (1998) and afterwards decreased to 88 percent (2006). A friendly climate for international trade and investment was created. The *size of the trade sector* compared to the expected size (given the population, geographic size and location of Finland) rose (in relation to the best practice country) from 34 percent (1994) to 53 percent (2006). In addition to opening the country, the Capital Markets were liberalised. The liberalisation process, which started at the end of the 1980s, consisted of abolishing rent controls, exchange rate controls over short term capital movements, controls over borrowing from abroad and the ban on ownership of shares by foreigners in Finnish investment trusts (OECD 2003, 36). The index for *capital market control* increased from 20 percent in 1994 to 90 percent in 1998 and 86 percent in 2006 (Figure 4).

The fundamental public institutions of Finland (Basic Institutional Quality) are among the best in the world. Finland has always been characterised by a high institutional strength and quality of bureau-

cracy, a high level of law and order, an effective protection of property rights and very low corruption. In the early 1990s only some deficiencies were apparent. *Confidence of the population in economic policy* was relatively low. *Legal and administrative restrictions against foreign investments* and lacking *political stability* had a negative influence on foreign investors. In order to ameliorate its Basic Institutional Quality, Finland has since then carried out reforms to modernise public administration. Government services have been commercialised, part of state enterprises have been privatised and regulatory governance policy has been improved (OECD 2003, 35–37). Because of these reforms Finland succeeded in surpassing all OECD countries in all fields of Basic Institutional Quality in 2006 (Figure 4).

Although Finland has improved its institutional quality considerably and has remained on top in the sub-index Optimal Taxation, it was not one of the high-ranking countries in 2006. *Government tax revenues* as a percentage of GDP, which shows to which extent government diverts resources from private use, remained relatively high over the entire period. The same is true for *public consumption*. The sub-index Labour Markets is not in the best shape either, with the exception of *female labour force participation*. *Early retirement* improved by 16 percentage points from the low level of 22 percent relative to the best performing country in 1994. *Labour market regulation* did not improve.

#### Why did the decliners lose ground?

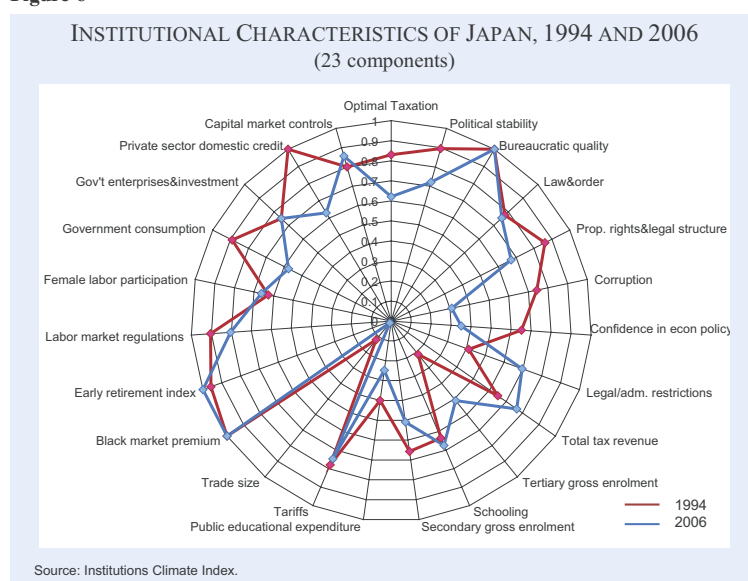
The strongest decliner in the country rankings was *Japan*. It was ranked among the top five countries until 2001. Since then Japan dropped 8 ranks down to 13 in 2002, and with a rank of 14 did not recover in 2006. Similar, though less dramatic, is *Switzerland*, which was ranked fourth in 1994 and has since then fallen to rank 11 in 2006. The main drop occurred between 1994 and 1998. Another decliner is *Norway*, with rank 6 in 1994 and rank 12 in 2006. The main drop in its ranking position occurred between 1998 and 2002. The fourth major decliner is *South Korea*, which held position 15 in the beginning and position 21 at the end. The main drop in the ranking position occurred between 1994 and 1998 (Table 1).

In none of the four countries was the decline in the ranking position due to just one of the 8 sub-indices.





Figure 6



lic debt. The Optimal Taxation sub-index deteriorated. While at the beginning of the economic crisis banks extended loans without proper risk assessment later on bank credits were restrained. Our component *private sector domestic credit* deteriorated. Moreover, there were measures to protect domestic firms from foreign competition. Thus, *trade size*, already at a low level in 1994, was further reduced in comparison to other countries. Finally, the economic crisis in Japan had an unfavourable impact on what we call Basic Institutional Quality. There was a sharp rise in *corruption* and *confidence in economic policy* decreased. The example of Japan shows that in an economic crisis growth-enhancing institutional reforms are difficult to implement.

Figure 6 shows the development the 23 components of institutional quality made from 1994 to 2006. Relative to the respective best performing country, Japan lost ground in a majority of institutional characteristics, which we will consider below.

The sub-index Basic Institutional Quality has deteriorated significantly (Figure 5). Of its seven components four have deteriorated strongly: *political stability*, *respect for property rights*, *corruption* and *confidence of the population in the economic policy* of the government. The increase in corruption – again relative to other countries – is especially striking. The very high *bureaucratic quality* was maintained and *administrative restrictions against foreign investors* have been lowered.

While the overall Labour Markets sub-index remained in a top position (Figure 5), its components

developed quite differently. *Labour market regulation* deteriorated relative to other countries. A relatively high degree of employment protection – at least for regular workers – is a reason for concern for the OECD (2005a). *Female labour force participation* has improved a bit but is still relatively low in Japan. On the other hand, male labour participation, specifically that of persons between an age of 55 and 64, is one of the highest in OECD countries. Thus, *early retirement* is low compared to other countries. This is due to the old-established employment behaviour of Japanese enterprises as well as to

policy reforms of the government, which started in 2001 aimed at gradually increasing the official retirement age from 60 to 65.

The sub-index Human Capital Efficiency (Figure 5) has improved slightly but is still mediocre relative to other countries. Of its four components, two have deteriorated (*public educational expenditure* and *secondary enrolment*), while *tertiary enrolment* has improved. However, there is at least another aspect of Human Capital Efficiency where Japan has achieved long-term improvement. Public expenditure for R&D (not included in the Index) as a percentage of GDP has increased continuously and significantly since the early 1980s – from an internationally low to an internationally leading level (OECD 2005b, 126).

Trade Openness, the next sub-index to be considered (Figure 5), is at a medium level only and has deteriorated slightly during the period considered. The components of the sub-index (*tariff and non-tariff barriers* to trade, the *black market premium* for foreign currencies and the *size of the trade sector* itself) are at a very low level, but their change is low. Remarkable is the low rating for *trade size*. Indeed, the foreign trade ratio is around only 9 percent. Trade barriers have practically not changed.

The sub-index Structure of Government Expenditure has drastically deteriorated (Figure 5). This is mainly due to the development of the component *government consumption* which has indeed in-

creased. While Japan was a world leader in public investment in percent of GDP during the late 1990s, the ratio went down in the early 2000s and is now at the average OECD level (OECD 2005a, 92).

The sub-index Fiscal Burden (Figure 5) has improved somewhat, i.e. has been reduced. This is due to consecutive tax rate cuts in order to overcome the deflationary phase. However, the long period of public deficits and the resulting increase of public debt – now one of the main economic policy problems in Japan – has led the OECD (2005a, 74) to the conclusion that expenditure cuts *and* an increase of revenues are necessary.

The sub-index Capital Markets has likewise declined (Figure 5). This is mainly due to lower bank credit to the private sector, which is, in turn, a result of the continuous attempt, albeit in small steps, of the government and the central bank to reduce the share of non-performing loans in the banking sector.

The sub-index Optimal Taxation – the computed combination of top marginal tax rates and total tax wedge – has likewise deteriorated, relative to other countries. The need for a comprehensive reform of the Japanese tax system has already been formulated in an OECD study of 2000. But reforms in this respect are still necessary (OECD 2005, 98f.).

*Switzerland*

The second decliner country we have a closer look at is *Switzerland*. It was initially ranked in fourth place in 1994. Since then Switzerland fell seven ranks down to rank 11 in 2006. The main drops occurred between 1994 and 1998 and between 2002 and 2006.

Switzerland is well-known for its open economy, a favourable regulation of factor markets and a small government. It is a society where fundamental public institutions are effective, and confidence in economic policy is high. These institutional advantages were responsible for Switzerland being ranked fourth in 1994.

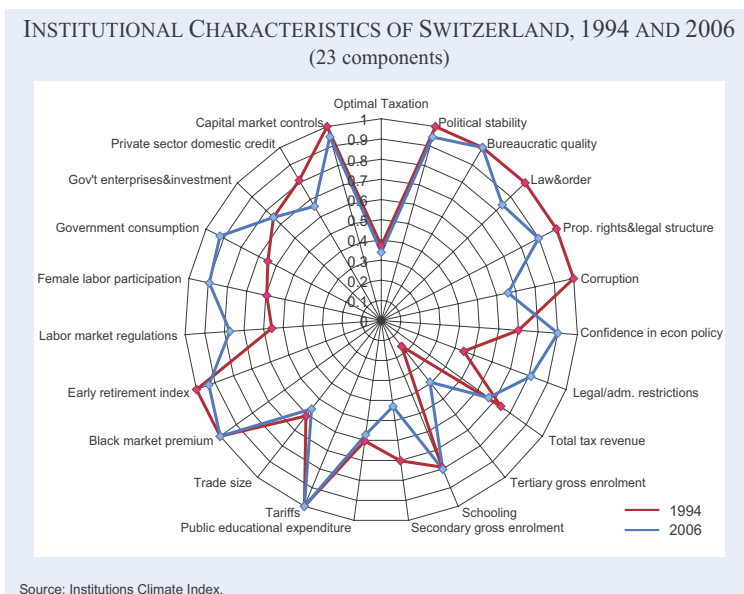
Since that time a piecemeal erosion of institutional advantages has taken place. Whereas central

institutions did not change in Switzerland, their quality improved in other countries. This was especially true in the EU member countries, which were forced to open up product markets, to promote competition and to streamline regulation. Switzerland’s failure to keep up with the worldwide pace of liberalisation and to reform its institutions has eroded its relative attractiveness as a business location (Gagales 2002).

Apart from this general inability to keep up with the pace of structural reforms in other countries, more visible deteriorations have taken place in three fields. Public finances were in good shape in Switzerland until the early 1990s. Public authority budgets, however, started to deteriorate rapidly from then on due to a vigorous growth in public (especially social) expenditure. The public deficit began to rise, and taxes as well as social contributions increased (OECD 2006b, 36–38). The Optimal Taxation sub-index decreased from 37 percent (1994) to 34 percent (2006), while Fiscal Burden increased relative to other countries, which is equivalent to a reduction of the tax revenue indicator from 74 percent (1994) to 67 percent (2006; Figure 7).

The second field where deterioration has occurred is that of fundamental public institutions (Basic Institutional Quality, Figure 5). Switzerland has always been characterised by a high *political stability and bureaucratic quality*, a high level of *rule of law and order*, an effective protection of *property rights* and very low *corruption*. This situation has

Figure 7



Source: Institutions Climate Index.

changed, however. Between 1994 and 2006 the *corruption* index decreased from 100 percent to 66 percent, the index for *law and order* from 100 percent to 84 percent and the protection of *property rights* index from 100 percent to 90 percent (Figure 7). Swiss organisations are concerned about this development and intent on fighting it (Economiesuisse 2005).

The Swiss movement down the ranking position can be attributed, thirdly, to the relative decline of the sub-index Capital Markets (Figure 5). *Private sector domestic credit* decreased by 15 percentage points and *capital market controls* by 5 percentage points from 1994 to 2006 compared to the best practice country (Figure 7).

Improvements in the field of *labour market regulations*, the increase of *female labour force participation* and of *tertiary enrolment* of students and less restrictions against foreign investments were not able to compensate the above mentioned institutional deteriorations.

## Summary

A new index, called *Institutions Climate Index*, measures the growth-conduciveness of institutions in OECD countries. While Eicher and Röhn in this issue of the DICE Report highlight the underlying method of construction and measurement of the index, this article analyses how the growth prospects of OECD countries have developed between 1994 and 2006 according to the overall index, its 8 sub-indices and 23 components. It relates the index and its sub-indices to the institutional changes and economic policy reforms that have taken place in the individual OECD countries.

The index makes it possible to rank countries according to their institutional growth climate. The United States, Australia, Canada and Ireland are at the top of the scale. Turkey, Mexico, Italy and Greece are positioned at the bottom of the index for the entire period, indicating persistent institutional deficiencies in these countries.

Institutions in OECD countries, however, are not characterised by path dependency and inflexibility. Institutions can change and can be changed. This has been demonstrated by New Zealand, Australia, Finland and Denmark, countries that improved their

ranking. New Zealand liberalised foreign trade, opened the financial sector and privatised state-owned enterprise in the 1980s and continued its reform process in the 1990s by deregulating the labour market and enforcing budget discipline. Finland opened up its economy and started a transformation process into a knowledge and innovation-based economy.

On the other hand there are countries that lag behind in the reform process. Japan, Switzerland, Norway and South Korea belong to this group. In Japan there was not much room for growth-enhancing institutional reforms because of severe recessions in the 1990s. Switzerland has failed to keep pace with the liberalisation process and institutional reforms in other European countries. Furthermore, public budgets, the Basic Institutional Quality and institutions of Capital Markets have deteriorated.

The *Institutions Climate Index* does not only classify countries, it can also be used by governments to analyse their own economic policy. The econometric approach undertaken by Eicher and Röhn has identified the most important institutional determinants of growth. Taking a closer look at institutional deficiencies of one's own country makes it possible to identify the institutions and areas of economic policy that have to be reformed. Of course, this can only be the starting point for a more profound analysis of the causes of these deficiencies. When drawing conclusions for a reform agenda, the policy reforms in advanced countries can show how reforms should be designed.

## References

- Economiesuisse (2005), *Wirtschaftspolitik in der Schweiz* 2005, Zürich.
- Eicher, T. S. and O. Röhn (2007), "Institutional Determinants of Economic Performance in OECD Countries – An Institutions Climate Index", *CESifo DICE Report* 5(1), 38–49.
- Gagales, A. (2002), "Growth in Switzerland: Can Better Performance be Sustained?", *IMF Working Paper* 153.
- North, D. and R. Thomas (1973), *The Rise of the Western World*, Cambridge University Press, Cambridge.
- OECD (2006a), *Education at a Glance, OECD Indicators* 2006, Paris.
- OECD (2006b), *OECD Reviews of Regulatory Reform: Switzerland Seizing the Opportunities for Growth*, Paris.
- OECD (2005a), *OECD Economic Surveys, Japan*, Paris.
- OECD (2005b), *Innovation Policy and Performance – A Cross-country Comparison*, Paris.
- OECD (2005c), *OECD Economic Surveys, New Zealand*, Paris.

OECD (2004), *OECD Employment Outlook 2004*, Paris.

OECD (2003), *OECD Reviews on Regulatory Reform: Finland a New Consensus for Change*, Paris.

OECD (2000), *The Tax System in Japan: A Need for Comprehensive Reform*, Paris.

OECD (1999), *OECD Economic Surveys, New Zealand*, Paris.

Schienstock, G. (2004), ed., *Embracing the Knowledge Economy – The Dynamic Transformation of the Finnish Information Society*, Cheltenham.

Smith, A. (1776), *An Inquiry into the Nature and Causes of the Wealth of Nations*.