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Institutions Matter – Results of the Institutions Climate Index for OECD Countries

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Institutions Matter – Results of the Institutions Climate Index for OECD Countries

Anja Rohwer*

Introduction

"Laws and regulations, which set the framework for private-sector activity and create incentives, are important in explaining what is actually happening in an economy. We cannot understand the financial crisis, for example, if we do not know what non-recourse loans are, how structured securities are formed, what the Community Reinvestment Act stipulated, how the International Financial Reporting Standard (IFRS) accounting rules are designed, how the Basel II system functions and what liability restrictions exist for the banks. This is all much more complicated and empirically much more important than using the latest econometric testing procedures to show how up-to-date one's research is methodologically" (Sinn 2009).

More than anything else it is the institutional framework of an economy and the implied incentive structure that explain the welfare of a nation. Economists and policy makers alike are interested in the specific institutional determinants that best foster growth. In 2007, the Ifo Institute developed an Institutions Climate Index that assesses institutional quality across OECD countries and its relationship to economic growth. This article highlights some important developments that have come to light after the most recent update of the index. The index is used to understand the institutional drivers that affect countries growth prospects. It will be shown that the index's ability to track growth is undiminished.[1]

The institutional climate and economic growth

The Ifo Institutions Climate Index was created with the express intent of highlighting the key underlying variables that determine economic per capita growth in OECD countries. Since establishing the Institutions Climate Index, the Ifo Institute has maintained its interest in analysing how well the index tracks economic growth across OECD countries. Figure 1 shows the relationship between the Institutions Climate Index (right scale) and the four-year moving average of OECD per capita GDP growth (left scale).[2] The Institutions Climate Index is based on two-year lagged and five-year averaged institutional indicators. Thus the value of the index in 2010, e.g., is based on institutional indicators for the years 2004–08 averaged over the 24 OECD countries in the sample.

[1] For detailed results and the complete dataset, see the CESifo DICE Database (see Box).
[2] The four-year moving average of GDP per capita growth has been chosen to filter out business cycle fluctuations.

Figure 1

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Box

The methodology of constructing the Institutions Climate Index and the dataset

Based on a set of 61 candidate institutional indicators, Eicher and Röhn (2007) developed an index of endogenously selected and weighted indicators that are combined into one aggregate institutional index that reflects institutional quality and its conduciveness to economic growth in OECD countries. The methodology is as follows. First factor analysis is employed to reduce the dimensionality of independent variables and to address the high degree of co-linearity among covariates that measure similar institutional characteristics. The different factors are represented by the sub-indices in the Table below and the factor components are simply labelled "components" below.

Factors are then regressed on the moving average of GDP per capita growth in a fixed effects regression that features 24 OECD countries in our sample. To address business cycle fluctuations, we average growth over time periods, which render the three cross sections in our panel: 1990–94, 1994–98 and 1998–2002. Only those factors are retained that improve the fit of the regression (factors with t value > 1).The result is a set of factors that explain 44 percent of the variation in per capita GDP growth rates. The individual factor coefficient estimates are then used to establish the contribution of each sub-index on the aggregate institution index. Once the contribution or weight of each factor is determined, we use the factor loadings to identify the individual weight of each component in the aggregate index. (For a more extensive description of the methodology see DICE Database).

The Ifo Institutions Climate Index is then composed of eight distinct institutional sub-indices and 23 components. A score of 0 (1) indicates that a country received the minimum (maximum) score observed within the entire sample in each component. The weights of the sub-indices and of the components in the final index are shown below.

Sub-indices	Components	Source	Contribution index (%)
Optimal Taxation [a)]	Top marginal tax Tax wedge	EFW[b)] OECD[c)]	9.8 11.4
Basic Institutional Quality	Political stability Bureaucratic quality Law & order Property rights & legal structure Corruption Confidence in economic policy Legal/administrative restrictions	WES[g)] ICRG[f)] ICRG[f)] EFW[b)] ICRG[f)] WES[g)] WES[g)]	6.1 4.5 4.0 4.0 1.9 0.4 0.1
Fiscal Burden	Total tax revenue	OECD [d)]	(16.7)
Human Capital Efficiency	Tertiary gross enrolment Schooling Secondary gross enrolment Public educational expenditure	World Bank[h)] World Bank[h)] World Bank[h)] World Bank[h)]	4.8 4.0 3.2 2.9
Trade Openness	Tariffs Trade size Black market premium	EFW[b)] EFW[b)] EFW[b)]	3.8 2.9 1.5
Labour Markets	Early retirement index Labour market regulations Female labour participation	OECD[e)] EFW[b)] World Bank[i)]	4.1 3.2 0.8
Structure of Government Expenditures	Public consumption Gov't enterprises & investment	EFW[b)] EFW[b)]	4.1 2.5
Capital Markets	Private domestic credit Capital market controls	World Bank[i)] EFW[b)]	1.8 1.5

[a)] The sub-index Optimal Taxation assigns low values to countries with either insufficiently low or excessively high tax rates. The assumption is that taxes have a non-linear effect on growth. A certain quantity of tax revenues is necessary for growth to provide, for example, productivity- enhancing infrastructure investments. However, excessive tax rates deter private investment. The non-linear relationship between the tax rates and growth is captured by the squared tax component. It affects the sub-index, although it is not documented in the Table. – [b)] Fraser Institute, *Economic Freedom of the World* (2008). – [c)] *OECD Taxing Wages* (2008). – [d)] *OECD Revenue Statistics* (2008). – [e)] *OECD Employment and Labour Force Statistics* (2008). – [f)] *International Country Risk Guide* (2007). – [g)] Ifo World Economic Survey (2009). – [h)] World Bank Educational Statistics und Development Indicators (2008). – [i)] World Bank Development Indicators 2008.

Source: Eicher and Röhn (2007).

Figure 1 highlights how capable the institutional performance of OECD countries is for OECD growth predictions.[3] That is, the variation in lagged institutional quality seems to be closely related to the rise and fall of current growth observed across OECD countries. The performance of the index is especially surprising since the calibration of the index weights is based on three cross sections only (1994, 1998 and 2002) so that six years are out-of-sample predictions (for details, see Eicher and Röhn (2007) and Box)[4].

[3] One exception to the synchronous development is given in 2002. Whereas the index increased sharply between 2001 and 2002, economic growth deteriorated. The increase in the index is due to the increase in the sub-index Trade Openness. The sub-index 2002 refers to the quality of institutions in 2000. At that time the introduction of the euro removed some of the barriers for intra-European trade. The euro, however, did not stimulate economic growth to the same extent. From 2002 on the index and economic growth developed in a parallel manner.

[4] For a detailed analysis of the underlying institutional sub-indices and their components that were responsible for the aggregate movements in the index, see Eicher et al. (2008).

Ranking of countries 1994–2010

Table 1 displays the country index scores and rankings of the Institutions Climate Index from 1994 to 2010.[5] The index scores are comparable over time and show the absolute differences of the institutional quality among countries. They are the basis for the countries' rankings.

Comparing the development of a country's institutional climate (i.e., the country's ranking) over time reveals some interesting insights. In 2010 (corresponding to institutions averages over 2004 to 2008) Australia, Ireland, New Zealand and Finland were the most successful countries. Sixteen years ago the United States, Japan, Canada and Switzerland were ranked at the top. Of the four leading countries in

[5] Note that the index values of, e.g., 2010, correspond to institutions averaged over 2004 to 2008 (Eicher and Röhn 2007).

Table 1

Country rankings

Rank	1994		1998		2002		2006		2010	
	Country	Index score	Country	Index score	Country	Index score	Country	Index score	Country	Index score
1	US	0.676	US	0.665	Australia	0.692	Australia	0.692	Australia	0.678
2	Japan	0.669	Ireland	0.662	US	0.661	Ireland	0.669	Ireland	0.669
3	Canada	0.642	Japan	0.654	Netherlands	0.657	US	0.660	N. Zealand	0.651
4	Switzerland	0.639	Australia	0.654	Canada	0.655	Canada	0.658	Finland	0.646
5	Ireland	0.626	Netherlands	0.635	Ireland	0.654	Netherlands	0.657	UK	0.646
6	Netherlands	0.617	Canada	0.634	UK	0.632	UK	0.652	Netherlands	0.644
7	Australia	0.616	UK	0.628	Switzerland	0.631	N. Zealand	0.639	US	0.643
8	Germany	0.611	Switzerland	0.616	Germany	0.626	Denmark	0.627	Denmark	0.643
9	UK	0.607	Germany	0.614	N. Zealand	0.614	Germany	0.626	Germany	0.642
10	Norway	0.606	Norway	0.613	Japan	0.602	Sweden	0.620	Canada	0.633
11	Belgium	0.581	Portugal	0.607	Norway	0.601	Switzerland	0.618	Japan	0.623
12	Austria	0.571	Belgium	0.582	Denmark	0.593	Japan	0.617	Sweden	0.618
13	Denmark	0.570	N. Zealand	0.580	Sweden	0.593	Finland	0.616	Austria	0.616
14	Sweden	0.561	Finland	0.579	Portugal	0.592	Norway	0.610	Switzerland	0.604
15	Portugal	0.559	Sweden	0.579	Finland	0.590	Austria	0.594	Norway	0.600
16	S. Korea	0.554	Denmark	0.577	Austria	0.580	Belgium	0.593	Portugal	0.588
17	Finland	0.554	Spain	0.575	Spain	0.578	Spain	0.590	Greece	0.585
18	N. Zealand	0.543	Austria	0.572	Belgium	0.576	Portugal	0.590	Spain	0.580
19	France	0.534	France	0.539	Greece	0.547	Greece	0.550	Belgium	0.576
20	Spain	0.536	Greece	0.531	France	0.546	France	0.544	France	0.545
21	Mexico	0.506	Turkey	0.526	S. Korea	0.544	S. Korea	0.532	S. Korea	0.535
22	Italy	0.505	S. Korea	0.526	Italy	0.511	Italy	0.500	Italy	0.485
23	Greece	0.498	Italy	0.496	Mexico	0.501	Mexico	0.463	Mexico	0.478
24	Turkey	0.458	Mexico	0.494	Turkey	0.466	Turkey	0.462	Turkey	0.472

Source: Institutions Climate Index for OECD Countries.

2010 just Ireland performed very well in 1994 (rank 5). Australia (+6 since 1994), New Zealand (+15 since 1994) and Finland (+13) were not among the leading performers at that time. The educational reforms in Australia are responsible for its rise in the index. New Zealand's success story is mainly due to its labour market reforms together with a reduction of their trade barriers and its improvement of Human Capital Efficiency. According to Ochel and Osterkamp (2007) Finland improved its Basic Institutional Quality mainly by abolishing legal and administrative restrictions and by increasing confidence in economic policy. It also improved by opening the economy and reforming their education system through a rise in tertiary enrolment.

In 2010 Turkey, Mexico, Italy and South Korea are at the bottom of the ranking scale. In 1994 Turkey, Greece, Italy and Mexico were at the bottom. The highest ranking of the four countries was achieved by Greece in 2010 with position 17.

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 part of GDP is spent on public education. The economy is open to international competition. Generally Labour Markets are flexible. But even the high-ranking countries show some less favourable institutional characteristics. Taxation is not always optimal and the Capital Markets are less flexible. The same is true for Fiscal Burden (Table 2).

Low-ranking OECD countries, on the other hand, 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 to unproductive uses. A second impediment is the low Human Capital Efficiency (with the exception of South Korea). Education is neglected in these countries. And finally, Labour Markets (with the exception of Mexico and South Korea) and Capital Markets (with the exception of Italy) are too rigid. However, even in these countries some institutional qualities are quite close to international standards, e.g., in the fields of Taxation (with the exception of Mexico and South Korea), Fiscal Burden (with the exception of Italy), Structure of Government Expenditure and Trade Openness (Table 2).

Interesting insights on Greece

Currently the debt crisis in Greece has attracted great attention. Greece was more vulnerable to the crisis than other EU countries due to its structural problems that have been worsening for years. Although Greece reached an average real GDP growth at close to 4 percent per year[6] between 2000 and 2009, the strong growth performance was based on unsustainable drivers (European Commission 2011). In the Institutions Climate Index 2010 Greece achieved a rank of 17 whereas 16 years before Greece's position in the Institutional Climate Index has been 23rd (Table 1). Figure 2 shows key institutional characteristics of Greece for 1994 and 2010.[7]

[6] Against 2 percent in the euro area.
[7] 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 2010 lie outside the line for 1994. A 100 percent level for a certain institutional component is reached when a country is the top performer with respect to that characteristic during the time under consideration.

Table 2

Institutional quality as a percentage of the best-practice country 2010

Country	Optimal Taxation	Basic Institutional Quality	Fiscal Burden	Human Capital Efficiency	Trade Openness	Labour Markets	Structure of Government Expenditure	Capital Markets
Australia	69	91	67	95	76	82	78	60
Ireland	73	89	63	77	98	77	67	100
New Zealand	52	90	48	100	88	99	76	82
Finland	99	100	22	93	86	52	59	55
S. Korea	34	51	79	89	72	65	74	55
Italy	93	34	26	66	86	42	74	63
Mexico	23	35	100	43	85	76	90	28
Turkey	72	36	82	31	72	19	92	29

Source: Institutions Climate Index for OECD Countries.

Although there is an increase in the ranking positions, the Figure shows that Greece is still gravely lacking in most policy and institutional dimensions.

In the last few years corruption was the only component in the Institutions Climate Index which has deteriorated to a large degree. Other components like property rights and the legal structure, total tax revenue, secondary gross enrolment or trade size recorded only a slight dip. But particularly noticeable is the poor performance in most of the components. Greece's Basic Institutional Quality (an exception being political stability and confidence in economic policy) has low values. Additionally, the labour market is too rigid and the early retirement index is very low. Furthermore, public educational expenditures could be expanded. In spite of the low value of public educational expenditures, tertiary gross enrolment has increased considerably. In Figure 2 the component tertiary gross enrolment increased from 22 percent in 1994 to 94 percent in 2010.[8]

These results of the Institutions Climate Index are supported by recommendations on how to achieve a sustainable economy published by the OECD every year since 2005 in its series "Economic Policy Reforms: Going for Growth". Table 3 gives an overview of the key priorities. These include reducing administrative burdens on start-ups, reforming employment protection legislation, reducing the tax wedge on labour income, improving the efficiency and quality of the education system, etc.

With respect to the sub-index Basic Institutional Quality, the OECD has proposed the reduction of administrative burdens on start-ups, which are a substantial barrier to entrepreneurship. Although registration and licensing procedures have been simplified (OECD 2005, 78), there is still a need to continue to reduce bureaucratic burdens (OECD 2010, 112).

As to the labour market, the OECD has advised the Greek government every year since 2007 to reduce the minimum cost of labour by introducing a sub-minimum wage for young people and allowing for an opting out of the national minimum wage in regions with high unemployment (OECD 2007, 58). It was not until 2010 that the Greek government passed a law introducing sub-minimum wages for young people.

Another recommendation made by the OECD was to improve the efficiency of the higher education system. In response, the Greek parliament passed a law in 2007 to reform higher education. This reform includes measures "to improve the governance and accountability of universities, limit the duration of academic studies and raise loan provision" (OECD 2010, 112).

[8] For the sake of completeness it should be mentioned that the components trade size and private domestic credit also had a poor rating.

Figure 2

INSTITUTIONAL CHARACTERISTICS OF GREECE, 1994 AND 2010
(23 components) [a)]

[a)] In the 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 corruption component in 2010 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 lowest Corruption in 2010.

Source: Institutions Climate Index for OECD Countries.

Despite the efforts made by the Greece government to reduce some of the structural problems, the economic environment in Greece is still lagging behind compared to other member countries of the euro area.[9] The absence of rigorous structural reforms in Greece might be an explanation for the current crisis.

Conclusions

This article provides an overview of the recent update of the Ifo Institutions Climate Index. It has

[9] The report Greece at a Glance: Policies for a Sustainable Recovery, published by the OECD this year, aims at providing the Greek government with a strategy to reduce the structural problems.

Table 3

Key priorities according to the OECD to achieve sustainable growth for the Greek economy

Key priorities	2005	2006	2007	2008	2009	2010	2011
Reduce administrative burdens on start-ups	X	X				X	
Reduce barriers to network industries	X		X	X	X	X	X
Ease product market regulation		X					
Ease employment protection legislation	X	X	X			X	
Reduce incentives for early retirement	X	X					
Reduce implicit tax on continued work at older ages			X	X	X	X	
Ease entry to the labour market				X		X	X
Reduce the tax wedge on labour income					X	X	X
Improve the efficiency of the higher education system			X	X	X	X	X
Further simplify the tax system	X	X				X	

Source: OECD, Economic Policy Reforms: Going for Growth. Own compilation.

shown that the index continues to track OECD growth with precision. In 2010 the institutional quality was most growth-conducive in Australia, Ireland, New Zealand and Finland. At the other end of the ranking scale Turkey, Mexico, Italy and South Korea are the countries where structural reforms are necessary for sustainable growth. A more detailed analysis of Greece has shown which institutions have to be changed. The Ifo Institutions Climate Index can also be used in a similar manner by the governments of other countries to identify the institutions and areas of economic policy in need or reform.

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