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Competition Law and Policy Indicators for the OECD countries

Jens Høj

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By
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ABSTRACT/RÉSUME

Competition Law and Policy Indicators for the OECD countries

The aim of this paper is to construct indicators that measure the strength of policies aimed at preserving and promoting market competition by empowering antitrust and sectoral authorities. The indicators, which cover both general and sector-specific competition policies, extend previous OECD work covering economy-wide and sector-specific regulations that restrict competition and promote governance. It focuses on information for 2003 provided by a number of OECD sources. The results show relatively little variation in the overall indicator across countries, partly reflecting the convergence of competition policies across the OECD area over the past decade. However, inspection of individual elements reveals that enforcement efforts (both in terms of devoted resources and actually implemented sanctions) and policies in network industries vary considerably across countries. Thus, the main conclusion arising from this work is that member countries have been improving the general competition policy framework, but still have to fully implement the improved framework. Moreover, there remains a considerable scope for further progress in promoting competition in network industries.

JEL Classification: K2, L5
Keywords: Antitrust law, enforcement, regulated industrie, product market competition

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Indicateurs de l'efficacité de la politique de la concurrence dans les pays de l'OCDE

Ce document de travail présente la construction d'indicateurs mesurant l'impact des politiques qui encouragent le maintien et le développement de la concurrence des marchés en renforçant les autorités pro-concurrentielles et sectorielles. Ces indicateurs qui couvrent les politiques de concurrence au niveau global et sectoriel sont un prolongement des travaux précédents de l'OCDE concernant les restrictions de la concurrence dans l'économie au sens large ainsi que par secteur. Les indicateurs décrits ici sont construits à partir de données en provenance de sources de l'OCDE et concernent l'année 2003. L'indicateur le plus agrégé varie peu d'un pays à un autre, reflétant en partie la convergence des politiques pro-concurrentielles au sein de l'OCDE au cours de la dernière décennie. Une analyse plus détaillée montre cependant que les efforts de mise en œuvre des régulations sur les marchés des biens et services (ressources allouées, sanctions prises) et les politiques concernant les industries de réseaux sont beaucoup plus variables. Au total, les pays membres ont certes mis en place des politiques pro-concurrentielles théoriquement bonnes, mais il reste encore à compléter leur mise en œuvre. De plus, il subsiste de nombreux domaines, notamment dans les industries de réseau où l'amélioration de la concurrence peut grandement progresser.

Classification JEL : K2, L5
Mots clés : Politique de la concurrence, industries régulées, concurrence dans les marchés de biens

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THE COMPETITION LAW AND POLICY INDICATOR

by Jens Høj[1]

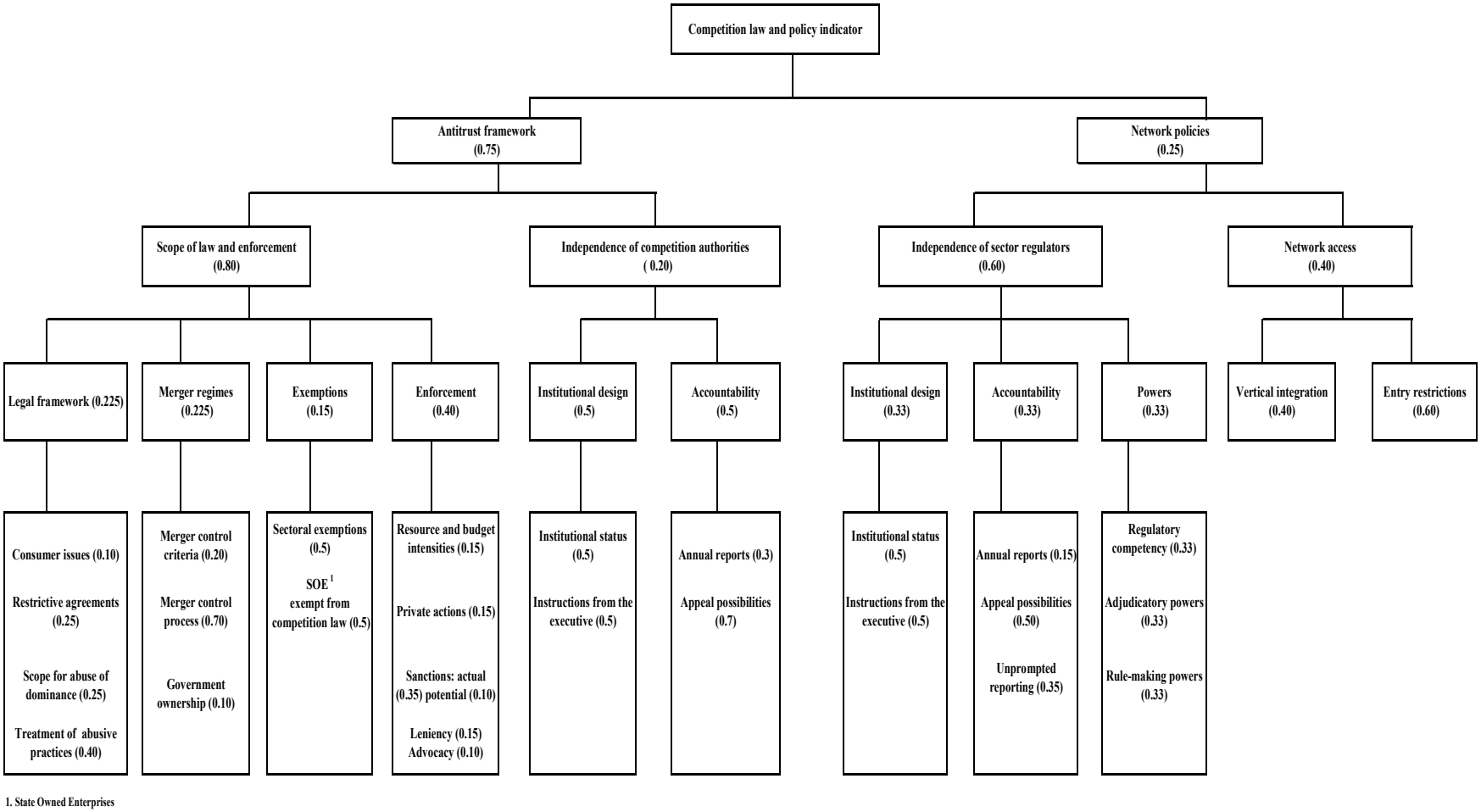
1. Introduction

1. This paper describes the construction of a Competition Law and Policy indicator (CLP) for each OECD country. The policies under scrutiny are either aimed at preserving market competition in general (*e.g.* antitrust law and enforcement) or specifically designed to promote competitive pressures in certain sectors. The indicator is an extension of previous OECD work on measuring product market regulations that restrict competition and promote governance in OECD countries at both the economy-wide level (Conway *et al*., 2005) and the sectoral level (Conway and Nicoletti, 2006). While the latter aims at measuring restrictions to competition due to inappropriate regulations (*e.g.* on entry or business activities), the CLP focuses on policies aimed at promoting competition (*e.g.* antitrust or access to networks). Thus, the two sets of indicators are broadly distinct and complementary.

2. Conceptually, policies that promote competition can be separated into those enhancing the general level of competition (typically *ex post* policies enforced by the competition authorities) and those encouraging and promoting competition in deregulated network industries (typically implemented *ex ante* by sector regulators). The data used come from databases collected in collaboration with the governments of OECD member countries which cover competition policy legislation and its enforcement, institutional design of the involved authorities and network policies. In order to construct the indicator, individual policies are scored against a benchmark of generally-agreed best practices in the area of competition enhancing policies. The overall indicator contains some 85 data points for each country, mostly concerning the general competition part. Figure 1 summarises the pyramidal structure of the CLP indicator, which encompasses a large number of sub-indicators that are progressively aggregated using a system of weights at each level of aggregation.

1 . This paper was originally prepared for the OECD Working Party 1 under the authority of the OECD's Economic Policy Committee. The author is a senior economist in the Economics Department. He is indebted particularly to Michael Wise from the Competition Division in the OECD's Directorate for Financial and Enterprise for extensive commenting and to Giuseppe Nicoletti for constructive supervision. In addition, the author would like to acknowledge the useful comments from Jean-Phillipe Cotis, Jørgen Elmeskov, Mike Feiner and many other colleagues in the Economics Department. Moreover, the author would like to thank for secretarial assistance from Irene Sinha and Véronique Henriksson as well as for statistical support from Christine de la Maisonneuve.

Figure 1. The CLP indicator system



1. State Owned Enterprises

3. The main characteristics of these indicators are that they are focused on policy and objectively measurable. In addition, their construction is based on a bottom-up approach, in which country scores can be related to specific and easily identifiable underlying policies. Thus, the indicators can be used for pointing out areas in which competition policies could be improved in each country relative to other countries' practices. Moreover, by measuring the relative effectiveness of competition policies in quantitative terms the indicators can potentially be used to explore the impact of these polices on economic performance. The CLP indicator is similar in spirit to the indicator constructed by Voigt (2006) for a larger set of countries. However, it covers a broader set of laws, regulation and institutions. Moreover, it provides a more detailed account of their actual enforcement.

4. The CLP indicators are presented as 2003 point estimates (albeit containing a limited number of 2004 data points) for each country and are conditioned on the system of weights used for the aggregation of individual observations. The weighting of the data points in the indicator (Figure 1) gives a relatively high importance to the antitrust framework (75%) and less to the network policies part (25%). Within both sub-indicators a higher weighting was accorded to elements concerning actual enforcement and processes as well as to legal framework elements considered important in countering hard-core cartels. To test the indicators' sensitivity to different weighting schemes a 'random weights' technique was applied to yield confidence intervals around the point estimates, providing a test of the robustness of cross-country comparisons.

5. The next section outlines the data and methodology for constructing the CLP indicator. In Sections 3 and 4, each of its main elements is discussed, with scores ranging from 0 (when policies are considered to be in line with best practice) to 6 (when policies are considered to be weakest). Each of these elements is then aggregated to obtain the CLP indicator and its two main sub-indicators (one for the antitrust framework and one for network policies). Section 5 tests the robustness of the aggregate indicator values to different sets of weights. The last section provides detailed indicator values for OECD countries.

2. Measuring competition law and policy

2.1 Data

6. The data used in this study come from three sources:

- The country studies carried out in the context of OECD Reviews of Regulatory Reform and the special chapters on competition and economic performance in the OECD Economic Surveys. During this work a large amount of data on substantive rules, exemptions, scope of the competition authorities' responsibilities, and enforcement was collected. This data base was completed with additional data points for the purpose of this study.

- Information on the institutional setup of competition and regulatory authorities that was collected by the OECD through a questionnaire sent to member countries.

- The OECD Product Market Regulation database concerning vertical separation and entry barriers in energy, transport and communication industries (Conway and Nicoletti, 2006).

7. The resulting data base generally has a high coverage and consistency across countries. For most countries, the coverage rate is close to or equal to 100%. Only for a few countries was it significantly lower in some areas, leading to their exclusion.[2] A particular case is the European Union, which has no

2 Particularly, missing data for the energy regulators in Korea and Luxembourg led to their exclusion in this area.

competition authority or sector regulators. Therefore only a sub-indicator for the scope of law and enforcement was constructed for the EU. Table 1 describes the number of data points by main policy area for a typical country.

Table 1. Description of basic data points used in constructing the CLP indicator

Area	*Number of data points*	*Short description*
Antitrust framework		
I. Scope of law and enforcement	**51**	
1.1 Legal framework	13	This area focuses on the scope of the general competition law to counter collusion and abuse of dominance, the enforcement capacity of competition authorities and the range of sanctions imposed on infringements.
1.2 Merger regimes	15	
1.3 Exemptions	9	
1.4 Enforcement	14	
II. Independence of competition authorities	**10**	This area focuses on the institutional design (independence, powers and accountability) of competition authorities
Network policies		
III. Independence of sector regulators	**16**	This area focuses on the institutional design (independence, powers and accountability) of sector regulators
IV. Network access	**8**	
4.1 Third-party access	5	This area focuses on regulations affecting market access and vertical separation of network sectors.
4.2 Structural separation	3	
Total	**85**	

Source : OECD

2.2 The CLP indicator system

8. The indicator system is built as a pyramid with three layers (Figure 1). The bottom layer summarises the basic information into 11 low-level indicators. These, in turn, are aggregated into four middle-level indicators, covering *i)* the scope and enforcement of antitrust law; *ii)* the degree of independence of competition authorities; *iii)* the degree of independence of sector regulators and *iv)* restrictions to access in network industries. These mid-level indicators feed into the two main sub-indicators of the antitrust framework and network policies. Aggregation of these two indicators yields the top-level indicator of Competition Law and Policy. Each of the lower-level indicators captures specific and clearly identifiable competition policy features.

9. The construction of the indicator begins by assigning values on a scale 0-6 from best to worst performance for each of the basic data points summarised in Table 1. Qualitative information (such as presence or absence of an exemption to antitrust law) is coded accordingly and the quantitative information

(such as resources devoted to enforcement) is assigned a value using a system of thresholds. The coded information is then aggregated into the 11 low-level indicators using a system of weights. Tables 2-10 (in Section 6) provide details on coding and weighting assumptions for these indicators, while Tables 11-15 show the resulting indicator values. Using a similar weighting system, the low-level indicators are subsequently aggregated into mid- and top-level indicators. Figure 1 shows the weights used in the aggregation. Thus, the value of the top level indicator can be traced to the value of lower level indicators, further down the pyramid, to specific data points in the databases.[3]

3. Antitrust framework indicator

10. The antitrust framework indicator incorporates a number of legal and enforcement elements. It is subdivided into two main sub-indicators: the scope of law and enforcement; and the independence of competition authorities. The ***scope of law and enforcement*** is assessed in terms of: *i)* the *legal framework* for addressing cartel behaviour and other anti-competitive activities; *ii)* the extent of *exemptions* from the competition law; *iii)* the effectiveness of *merger regimes* in preventing the creation of dominant market positions; and *iv)* the effectiveness of *enforcement* as measured by the risk of being prosecuted for engaging in anti-competitive activities and the associated costs. The second element in the antitrust framework concerns the ***independence of competition authorities***. This is related to the *institutional design* and the *accountability* of competition authorities. The corresponding indicator values for these two sub-indicators are shown in Tables 11-13. The main criteria for scoring countries in these areas are discussed below.

3.1 Scope of law and enforcement

3.1.1 Legal framework

11. The legal framework indicator assesses four elements of competition laws: the scope of provisions addressing unilateral behaviour of dominant firms (abuse of dominance); provisions addressing agreements that restrict competition; the way in which these abusive practices are dealt with and provisions concerning consumer issues.

Scope for abuse of dominance

12. All OECD countries try to control misconduct by dominant firms (such as exclusion, exploitation, predatory pricing, etc.). Thus, the focus is on the specific legal instruments used to counter abuse of dominance. These are scored as follows:

- Legal approaches that are based on dominance or monopolisation are scored 0.
- Provisions that counter exploitation of market power through charging a monopoly price are scored 0. Because the treatment of excessive prices is one of the few areas where substantive laws differ significantly, it is given more weight to highlight differences across countries.
- Provisions that address conduct that is not connected to market power or dominance are scored 6 because they are likely to address redistribution rather than competition issues.[4]

3 . The work here follows closely the methods applied in the construction of the OECD indicator of economy-wide Product Market Regulation, see Conway *et al.* (2005)

4 . This kind of provision includes *per se* rules against discrimination or pricing below costs, where the application is not dependent on market power or proof of actual harm to competition.

Restrictive agreements

13. This indicator covers both horizontal and vertical agreements. Provisions covering these agreements are assessed as follows:

- A *per se* ban on horizontal price fixing is scored 0. Where the imposition of a sanction requires showing actual effect, the score is intermediate. This element accounts for almost half of this sub-indicator.

- In terms of vertical restrictive agreements, a prohibition of resale price maintenance is scored 0 as such agreements can be a means of enforcing a horizontal cartel. Allowing limits on maximum resale prices or applying rule-of-reason treatment to resale price maintenance are given an intermediate score.

- In the area of vertical agreements, rules based on market power tests are scored 0, because they focus enforcement on vertical restraints that are more likely to have an effect on competition.

- In the areas of both horizontal and vertical agreements, *de minimis* rules are also scored 0 because they avoid wasting enforcement resources on trivial and purely technical cases and may permit what are often efficient joint ventures.

Treatment of abusive practices

14. This element focuses on the way in which abusive practices are addressed by the law. The treatment of these practices is assessed as follows:

- Prohibitions against monopolisation and abuses of dominant positions (such as exclusion and tying of products) are scored 0.

- *Per se* rules against non-price vertical agreements in the absence of market power (including predation and discrimination) are scored 6, as they might over-deter agreements that may be efficiency-enhancing.

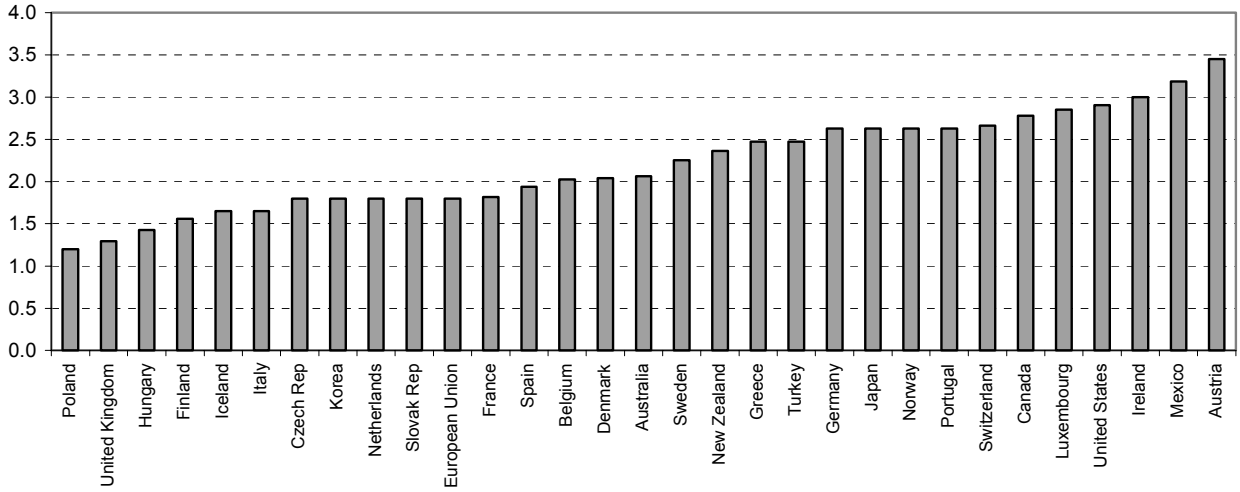
Consumer issues

15. Because of the strong complementarities between competition law and consumer protection principles, countries that have made competition authorities responsible for consumer protection are scored 0.

Legal framework indicator: results

16. Figure 2 shows the legal framework indicator. There is a relatively large variation across countries, reflecting at one end of the scale a relatively weak framework in some countries (*e.g.,* Austria, Luxembourg, Ireland, Turkey, Switzerland and Greece) and, at the other end, a number of countries that have modernised their legal framework over the past decade, either as part of their growth-enhancing strategies (*e.g.* the United Kingdom, Finland, New Zealand), or in response to EU requirements (*e.g.* the EU accession countries). The perhaps surprisingly weak result for the United States on this sub-indicator can mainly be attributed to a relatively weak legal stance with respect to treatment of abuse of dominance and abusive practices.

Figure 2. Legal framework



3.1.2 Merger regimes

17. This sub-indicator aims at quantifying the competition authorities' powers to prevent the creation of dominant market positions through mergers. It considers two aspects: *merger control criteria* and *merger control processes*.

Merger control criteria:

- The two most common standards (lessening competition and the creation or strengthening of dominant positions) are both scored 0. Other standards receive an intermediate score. The absence of a legal basis for merger control is scored 6.

- The announcement of safe-harbour thresholds for applying merger control is scored 0 as such thresholds reduces uncertainties and enable competition authorities to focus resources on important cases.

Merger control processes:

- The application of efficiency considerations is scored 0.

- Taking into account policy objectives other than competition is scored 6.

- Merger decisions that are taken independently of the government are scored 0.

- For merger notification processes, too high or too low turnover or asset tests may imply that relevant cases are not captured or too many cases are evaluated, respectively. Hence, both cases, together with absence of a test and hence of a pre-notification requirement, are scored 6.[5]

5 . See Table 3 for an explanation of how outliers were identified.

- A market share test for notification is scored 6, since it is indeterminate and difficult to comply with;

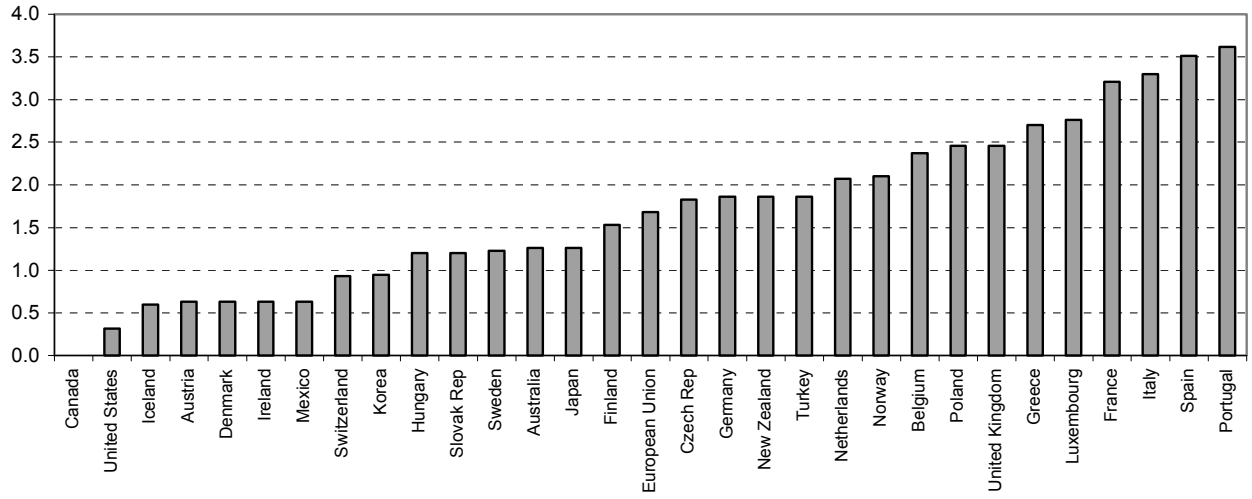
Government ownership:

- A score of 6 was also given if governments have special voting rights (*e.g.* golden shares) or special rights that can be exercised in merger and acquisition cases, since these may open the door for merger control based on policy objectives other than competition (see above).

Merger regime indicator: results

18. The cross-country differences in the sub-indicator for merger regimes are substantial (Figure 3). The variation is explained principally by differences in merger processes and by the existence of governments' special voting rights in mergers involving state-owned companies (Spain, France, Greece, the United Kingdom, Belgium, Portugal and Norway). On the other hand, there is relatively little variation in merger control criteria.

Figure 3. Merger regimes



3.1.3 Exemptions

19. Competitive pressures may be reduced if whole areas or sectors are waived from provisions in the general competition law. This section considers special regimes, exclusions and exemptions of particular sectors:

- *Sectoral exemptions* If special treatment or exemption are granted only to areas that receive such treatment in virtually all OECD countries because of special competition policy considerations (notably intellectual property, media, primary producer co-operatives and network industries), the score is 0. If additional areas or sectors are exempted, but are subject to competition law or policy implemented by other agencies an intermediate score was given. If any additional areas or sectors are exempt and are not subject to competition law enforcement by other agencies, the score is 6. Because of the difficulty of assessing the extent and effect of such special treatment, the sub-indicator makes no effort to quantify the scope of such non-standard exclusions.

State-owned enterprises exempt from competition law

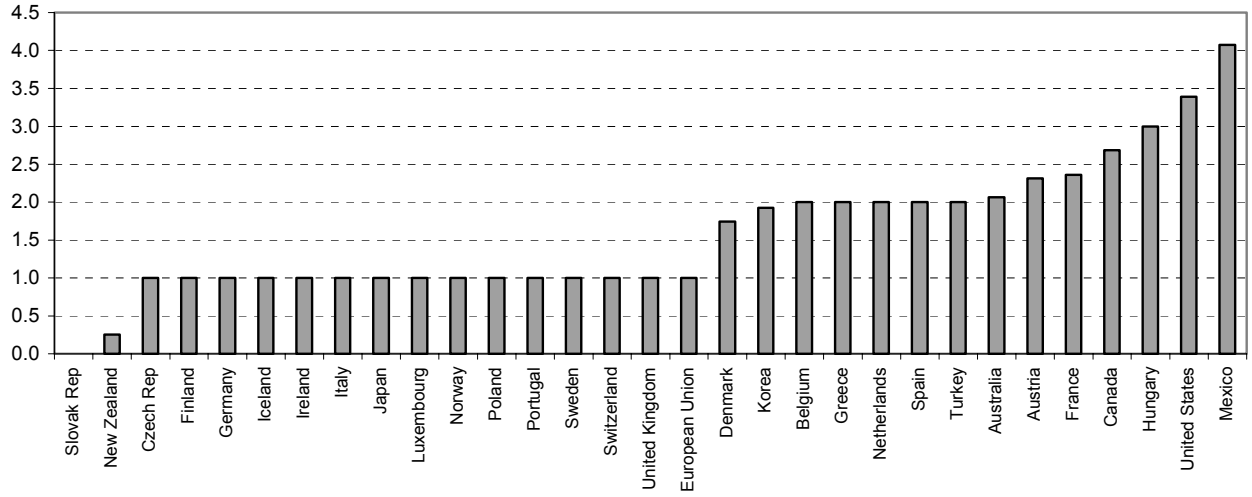
- Countries that apply the competition law to public-owned business companies are scored 0. Countries that exempt public-owned companies from some of the provisions in the competition law receive an intermediate (accumulative for each provision) score. Complete exclusion of publicly-owned companies from the provisions in the competition law is scored 6.

20. The competition impact of exemptions concerning public-owned companies depends on the size and scope of the public enterprise sector. To account for this, the above sub-indicator was weighted by the relative size of the government-owned business sector as reported in the indicator of public ownership included in the set of OECD indicators of Product Market Regulation (Conway *et al.,* 2005)

Exemptions indicator: results

21. The cross-country variation in the sub-indicator for exemptions from the competition law is fairly large (Figure 4). While in about half of the OECD countries, exemptions appear limited, in other countries (*e.g.* North America, Austria and France) there is considerable scope to reduce the number of sectoral exemptions and/or exemptions granted to public enterprises (for example the United States).

Figure 4. Exemptions from the competition law



3.1.4 Enforcement

Resources and budget intensities

22. The effectiveness of enforcement depends on the competition authorities' resources (budget and staff), which are measured relative to the size of the economy. As precise measures of resource inputs are difficult to compare the following method was adopted:

- A four group (linear) ranking was established for budget and staff separately;

- The simple average of the two resulting indicators was adjusted for the age of the current competition law, to capture the fact that enforcement effectiveness is also a function of enforcement experience.[6]

Private actions

23. The deterrence of public law enforcement is strengthened by the possibility to recover damages (or other kinds of relief) through private litigation. While most countries have such provisions, outside the United States the possibilities for private action are infrequently used. This sub-indicator is constructed as a simple average of the following elements of independent private litigation:

- When private action is authorised, the score is 0.
- If any recovery has actually been awarded, a 0 score was awarded.
- Conditioning of private action on prior findings by the competition authority is scored 6.
- The possibility for complainants to appeal decisions made by the competition authorities is scored 0.

Potential sanctions

24. An important element of deterring hard-core cartels is the credible threat of sanctions. This sub-indicator considers the range of potential sanctions that offenders are faced with:

- For firms, potential sanctions are maximum fine levels. The indicator score is 0 for fines that are expressed in terms of a high share of turnover. The score is 6 if the statute sets a maximum fine in absolute terms. An intermediate score applies if fines can be a multiple of gains obtained from misconduct.
- For sanctions to individuals, the indicator is scored 0 if jail sentences are possible, while an intermediate score is given if only financial fines are possible.

25. The summary potential sanction indicator is a simple average of potential firm level and individual sanctions.

Actual sanctions

26. The credibility of sanctions depends on whether sanctions have actually been issued. This sub-indicator covers the actual use of fines and jail sentences in the member countries. It includes two elements:

- The first element is based on the highest total fines that have actually been imposed in a case against horizontal price fixing. The scores reflect a linear distribution between the highest and

6 Except for Japan, the United Kingdom and the United States, where the age of the competition authority was used instead. No adjustment was made for countries where the current competition law had been in place for less than 10 years. The indicator was reduced by 20% if the law had been in place for between 10 and 20 years, 40% if the law had been in place for between 20 and 30 years, and by 60% if the law was older than 40 years.

lowest ratios between the fines and GDP. A score of 6 applies if no fines for horizontal price fixing have been issued.

- The other element is the maximum sanction actually imposed on individuals. The score is 6 when no individual sanctions have been issued, 0 when jail sentences have been applied, and intermediate where individual fines have been issued.

27. The summary indicator of actual sanctions is a simple average of indicators for sanctions issued at the firm level and at the individual level.

Leniency

28. A well designed leniency programme is a key instrument for destabilising hard-core cartels. The leniency programmes were scored according to the incentives they provide to collaborate with authorities. The assessment of these incentives includes the following factors:

- Countries with no leniency programme were scored 6.

- The most transparent programmes in terms of the treatment that an applicant could expect were scored 0.

- The programmes with the highest degree of asymmetry (*i.e.* giving the relatively largest degree of leniency to the first cartel member that collaborates) were scored 0.

- The programmes with the largest scope for leniency (that is, no fine at all) were scored 0.

29. Moreover, the sub-indicator was (linearly) weighted by the number of years during which programmes have been enforced to account for the diffusion of information about leniency possibilities among market participants.

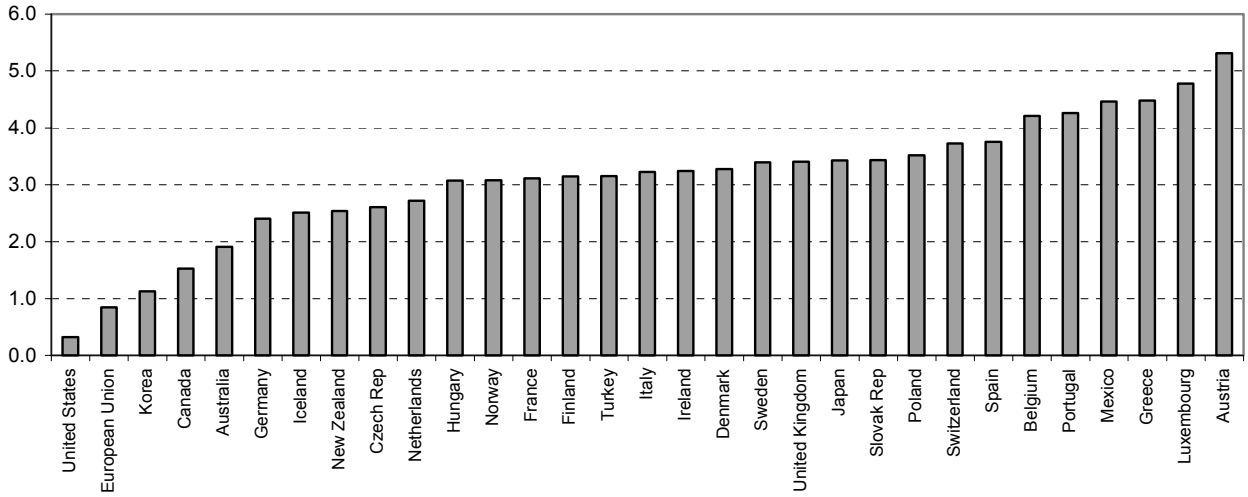
Advocacy

30. Advocacy is important to increase the scope and the policy effectiveness of competition law. It is measured here by the ability of competition authorities to carry out unprompted reporting on sectors, policy areas (*e.g.* privatisation) and laws or regulations issued by legislative or administrative bodies. Such ability is given a 0 score.

Enforcement indicator: results

31. The cross-country difference in the enforcement sub-indicator is larger than for any other sub-indicator (Figure 5). The best scoring countries (the United States, Korea and Canada) are characterised by having well-staffed competition authorities that impose deterrent sanctions and have a well-developed leniency programme. An additional factor for the United States is the wide scope for initiating private actions. The worst scoring countries (Austria, Luxembourg, Greece, Mexico, Portugal, and Belgium) have in common that insufficient resources are allocated to the competition authorities and that sanctions do not deter sufficiently unlawful conduct. The mid-level countries typically have problems with implementing deterrent sanctions, either because of limitations in the competition law or because courts fail to implement such sanctions. Moreover, in many cases leniency programs are absent or untested.

Figure 5. Enforcement



3.2 Independence of the competition authorities

32. Competition authorities have a varying degree of independence.[7] This sub-indicator measures independence in the institutional design of the competition authorities and their accountability. These elements also enter the measurement of independence for sector regulators.

Institutional design

33. The institutional design sub-indicator has two elements: the institutional status of the competition authorities and whether the authorities are subject to instructions from the executive.

- *Institutional status*. The indicator scores 0 when the competition authority has statutory independence from the executive and industry interests. Higher scores (in ascending order) are assigned to independent advisory bodies, a ministerial agency and a ministerial department. The latter is scored 6.

- *Instructions from the executive.* The indicator scores 0 when the competition authority cannot receive instructions from the executive and 6 when such possibilities exist on a broad basis. An intermediate score was given for specific instructions related to well-defined areas.

Accountability

34. This indicator is composed of the following two elements:

- The ability (or obligation) to report publicly the authority's decisions and advocacy. The score is 0 when annual reports are published.

7 . For example, the Danish decision-making board is formally independent (although with strong industry representation), but the competition authority that investigates is a ministerial department. In other cases, the competition authority may be de facto independent, but not legally (Finland).

- The ability of non-judicial bodies to overturn the authority's decisions. If that is not possible, the score is 0; if it is possible in all cases, the score is 6. An intermediate score was given when decisions can be overturned subject to conditions.

35. In a number of countries, there are two authorities implementing the competition law (other than the courts). In these cases the score was computed as an average of the scores obtained for each of the two authorities. Detailed values for this sub-indicator are shown in Table 13 below.

4. Network policies

36. The effectiveness of network policies is a function of the independence of sector regulators and conditions for network access. The CLP indicator measures the independence of sector regulators by their institutional design, their accountability and their powers. Network access conditions are related to the degree of vertical integration and legal restrictions to entry. Indicators for these two elements come from the OECD Product Market Regulation database (Conway *et al.* 2005) and are described in Conway and Nicoletti (2006).

4.1 Independence of sector regulators

37. The sub-indicator for institutional design includes the following elements:

- *Institutional status*. The indicator scores 0 when the sector regulators have the status of an independent regulatory authority. Higher scores were assigned (in ascending order) to independent advisory bodies, a ministerial agency and a ministerial department (6).

- *Receiving instructions from the executive.* The indicator scores 0 when the sector regulators cannot receive instructions from the executive and 6 when such possibilities exist on a broad basis. An intermediate score was given for specific instructions related to well-defined areas.

38. The sub-indicator for the accountability of sector regulators includes the following elements:

- Whether *public reporting* is undertaken

  - In the form of annual report, which is scored 0.

  - In the form of unprompted reporting on competition issues in sector regulation, which is scored 0.

- *Appeal possibilities*. The indicator scores 0 when appeals can be made to courts or specialised bodies to secure independent reviews of decisions. It scores 6 when governments can unconditionally overturn decisions made by the regulators. An intermediate score was given when the ability of governments to overturn decisions is submitted to conditions.

39. The sub-indicator for the powers of sector regulators includes the following elements:

- *Regulatory competence.* Which body is competent for implementing regulation in the sector?

- *Adjudicatory powers.* Which body has the adjudicatory powers for the sector?

- *Rule-making powers.* Which body has the powers to design specific rules for the sector?

40. For all three elements, the indicator scores 0 when these responsibilities are assigned to the regulator alone. If these responsibilities are shared with another independent body an intermediate score of 2 was given. A higher score of 4 was given if the regulator shares such responsibilities with either parliament or government. The indicator scores 6 when the regulator only has consultative competencies in these areas.

4.2 Network access

41. Securing non-discriminatory third party access to networks is one of the keys to promoting competition in newly deregulated network industries. In the context of the CLP indicator, this is measured by the indicators for entry regulation and vertical integration as reported in the OECD Product Market Regulation database (Conway and Nicoletti, 2006). [8]

- The indicator for *entry regulation* covers the degree of market opening (generally, free entry is considered best practice) and access conditions for and restrictions on third parties (generally, regulated third party access is considered best practice) in six network industries.

- The indicator for *vertical integration* covers the degree of vertical separation, where best practice is ownership separation and an intermediate score is given for accounting separation, for three network industries which historically had a high degree of vertical integration.

4.3 Network policies indicator: results

42. The cross-country difference in the network policies indicator is relatively small (Figure 6, Panel C). However, there are countries with abnormally high scores because sector regulators are missing altogether notably in Japan and Switzerland.[9] At the other end of the scale, there are relatively few countries that have very low scores. Most countries settle for mid-level scores, indicating scope for improvement in this area. Closer inspection shows that the most common problems are with network access, particularly with vertical integration. Moreover, there is scope for enhancing the degree of independence of sector regulators, particularly in the energy sectors.

5. The estimated Competition Law and Policy indicator

5.1 Results

43. Aggregating the information discussed above results in relatively small cross-country variation in the Competition Law and Policy (CLP) indicator across OECD countries (Figure 6). This reflects a convergence of competition policies over the past decade as manifested in the ongoing implementation of the European Union's single market programme and the liberalisation of network industries across the OECD area. Another factor is that, within each country, the strengths and weaknesses of competition law and policy have tended to offset each other in the aggregation.

44. The best overall approach to competition policies, as measured by the OECD indicator, is found in the United States and some of the EU countries, as well as in a number of the countries that have implemented widespread regulatory reforms over the past decade, such as Australia, the Czech Republic

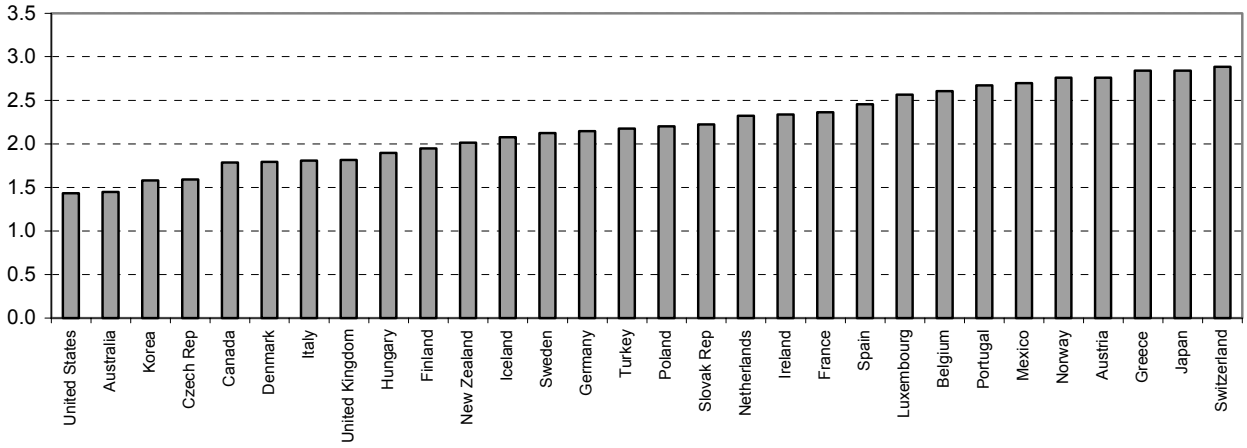
8 . The entry access indicator covers the electricity, gas, passenger rail transport, telecommunications, post, air passenger sectors. The vertical integration indicator covers the electricity, gas and passenger rail transport sectors.

9. In Germany, the telecommunications regulator was made responsible for the energy market regulation in 2005. The CLP indicator refers to 2003.

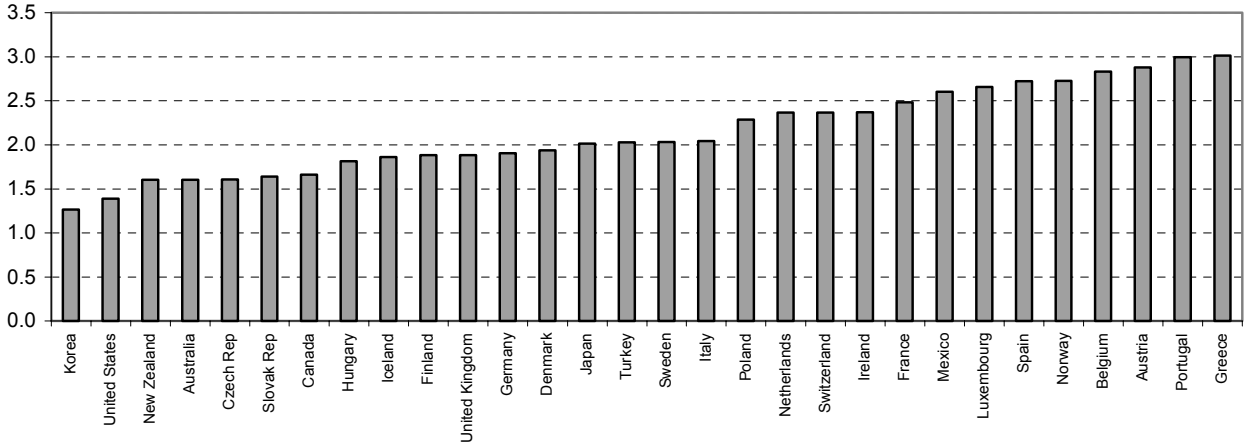
Figure 6. The Competition Law and Policy (CLP) Indicator and its main sub-components[1]

(0 to 6 scale from most to least favourable to competition)

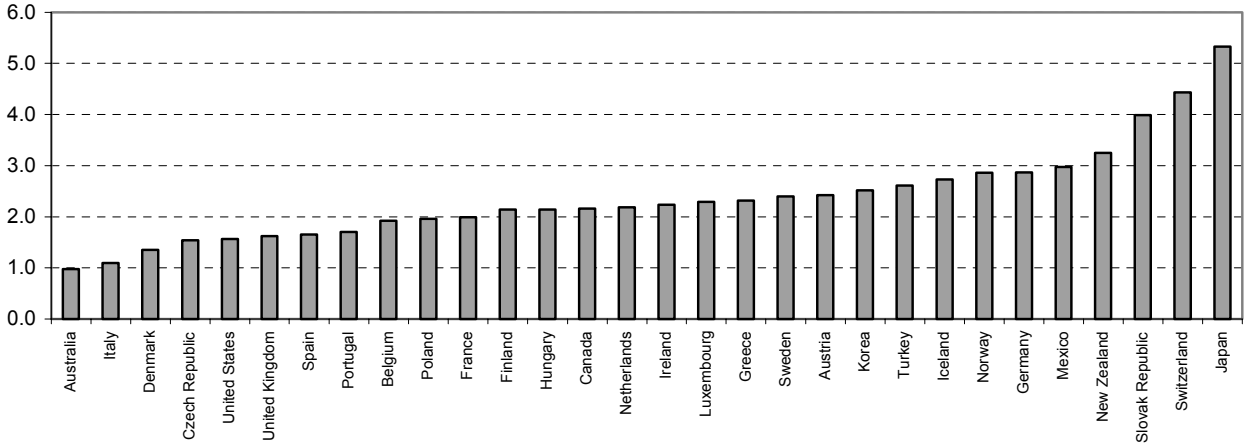
A. CLP indicator



B. Antitrust framework



C. Network policies



1. The CLP indicator measures the strength of overall competition policies. This can be divided into an indicator for antitrust framework (scope and enforcement of law and independence of competition authority) and an indicator for network policies (independence of sector regulators and network access).

Source: OECD calculations.

and Korea.[10] Among the other G7 countries Canada, Italy, and the United Kingdom also have overall approaches that score well by this indicator. In other countries, overall scores on the CLP are pushed up by the indicator for network policies. These countries include Germany, Japan, New Zealand and the Slovak Republic. *Vice versa*, in other countries, such as Belgium, Denmark, France, Poland and Portugal, it is the indicator for the antitrust framework that pushes up the overall CLP score. However, there are a few countries (Greece, Norway, Switzerland, Turkey, and Mexico) that score poorly in both areas. The countries that score best overall have mostly obtained their superior performance by implementing pro-competition measures across the board rather than having low scores only within particular elements of the indicator.

5.2 Robustness

45. The statistical significance of the estimated differences in competition law and policy is assessed using a "random weights" technique (Box 1). Figure 7 graphs the 90% confidence intervals for the indicator using this technique. As mentioned above, there is relatively little variability in the indicator across countries and the figure shows that across a relatively large number of countries the CLP indicators are not statistically different when taking into account the uncertainty about the applied weights. Nevertheless, the countries can be divided into three broad categories: a group of countries with relatively strong competition law and policies – including the Australia, the Czech Republic, Denmark, Italy, the United States, Korea, and the United Kingdom; a group of countries with relatively weak competition law and policies – including Switzerland, Norway, Japan, Greece, Mexico, Belgium, the Netherlands, and Portugal ; and "middle of the road" countries, which cannot be assigned to one of these groups with a 90% level of confidence.

Box 1. The random weights technique

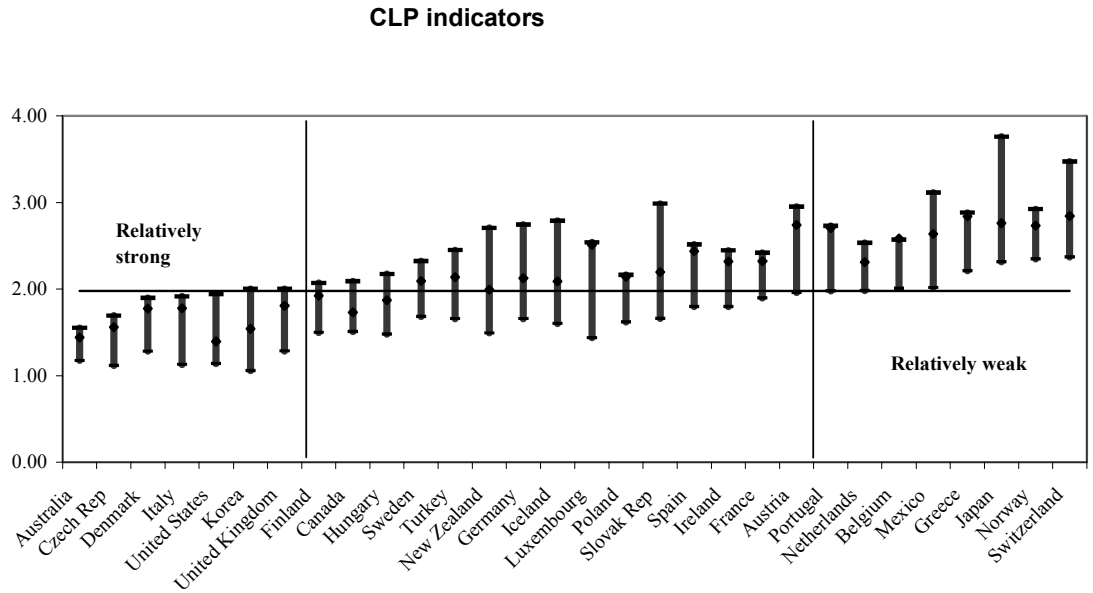
Eight lower level indicators were selected for the random weight testing, reflecting their relative importance in constructing the CLP indicator. The selection includes the four sub-indicators in the scope of law and enforcement indicator as well as the indicators for independence of the competition authorities and sectoral regulators, and the indicator for network access.

Starting with the 8 low-level indicators, this technique uses 10 000 sets of randomly-generated weights to calculate 10 000 overall indicators for each country. The random weights are drawn from a uniform distribution between zero and one and then normalized so as to sum to one. This is equivalent to assuming complete uncertainty about the most appropriate value of each of the individual weights used to construct the CLP indicators. Accordingly, the resulting distribution of indicators for each country reflects the possible range of values given no *a priori* information on the most appropriate value for each of the weights. Confidence intervals and the probability of a given country achieving a given rank are calculated from these distributions.

The confidence intervals are centred on the mean value of each country's 10 000 indicator values. Given that the weights are drawn from a uniform distribution between zero and one, the mean indicator values are asymptotically equivalent to indicators calculated using equal weights on each of the low-level indicators. These differ from the point estimates of the CLP indicators, given that the weights in the CLP system are not equal. Indeed, as weights on actual enforcement and sanctions are relatively larger, there is a tendency of the CLP indicators to be relatively close to the upper bound of confidence intervals. In all cases, however, the CLP indicator values fall within the confidence interval.

10. No network policy indicator was calculated for the EU as it has no sector regulators. However, the liberalisation of network industries in the European countries is following the relevant EU directives, whose aim is often to spread out best practices in this area.

Figure 7. Confidence intervals for the CLP indicators, at the 90% level



5.3 Concluding comments

46. This paper has presented an indicator for measuring the strength of policies aimed at preserving and promoting market competition by empowering antitrust and sectoral authorities. The indicator embodies both formal and practical aspects of such policies by combining the legal framework and enforcement with the institutional settings of authorities and regulators as well as network access provisions. The indicator that summarizes all these items does not differ widely across OECD countries. Countries with a strong antitrust framework tend to have relatively weak network policies and *vice-versa* with the two effects tending to offset each other in the summary indicator. This may reflect that countries with a tradition of strict enforcement of competition laws tend to rely on this for promoting competition in network industries. Conversely, countries with relatively weak antitrust policies may have found it necessary to implement strong network policies aimed at promoting competition. Another important finding is that countries with a strong overall competition policy framework tend to achieve best practice by implementing pro-competition measures across the board rather than focusing on particular areas. The indicators suggest that there is considerable scope for further progress in both antitrust and network policies in OECD countries. First, weaknesses persist in competition policy enforcement despite the widespread implementation of appropriate legal frameworks. Second, progress can be achieved by strengthening competition in network industries, particularly in terms of establishing independent sector regulators.

47. The development of competition and law indicators is relatively new and there are at least four avenues that could be followed in further research. Firstly, *the establishment of time series* for such indicators would allow research into the impact of competition policies on economic performance. Secondly, there remains *scope for further refinements*, in terms of measurements of enforcement, the optimal level of enforcement and the effects of pre-emptive action by competition authorities to counter anti-competitive behaviour, such as the use of warnings and informal communication with market participants. Thirdly, policy complementarities could be considered to investigate whether particular

combinations of policies are more effective than others. Fourthly, the *relative importance of individual policies* could be investigated further, both at the overall level and for individual countries.

6. The construction of the CLP indicator - tables

48. The following section provides a detailed description of how the low-level CLP indicators are constructed from the basic data (Tables 2-9). This is then followed by a description and documentation of the weights used to combine the low-level indicators into the summary top-level indicator (Table 10). Next, the CLP indicator values are presented (Tables 11-15).

Table 2. Low-level indicators: legal framework

		Coding of answers			
	Weight	Yes	No	Other answers	No
Restrictive agreements					
Per se prohibitions – horizontal price fixing	0.40	0	6		6
Per se prohibitions resale - price maintenance (RPM)	0.15	0	6		6
Maximum RPM allowed		3			
- Market power test for vertical restraint	0.30	0	6		6
- *De minimis* rules	0.15	0	6		6
Abuse of dominance					
- Dominance or monopolisation[1]	0.25	0	6		6
Other approaches		3			
- Exploitation [2]	0.25	0	6		6
- Abuse of economic dependence[3]	0.50	6	0	3	0
Treatment of abusive practices					
- Predation	0.20	3	6	*Per se* prohibition 0	
- Exclusivity	0.20	3	0	*Per se* prohibition 6	
- Tying	0.20	3	0	*Per se* prohibition 6	
- Discrimination	0.20	3	6	*Per se* prohibition 0	
- Other[4]	0.20	3	6	*Per se* prohibition 0	
Consumer issues		0	6		6

1. Whether the approach to single-firm problems is based on dominance, monopolisation, or some other principle.
2. Whether exploitation of market power (typically by charging higher prices) is prohibited as abuse of dominance or monopolisation.
3. Whether unfair treatment or customer-specific market power is addressed by the competition law, typically as "abuse of economic dependence". This category may include per se rules against discrimination or pricing below cost, in the absence of market power or proof of actual harm to competition
4. Such as refusal to deal, output restriction, hindering entry, gaining unfair advantages, and abuse of intellectual property rights.

Table 3. Low-level indicators: merger regimes

		Coding of answers		
	Weight	Yes	No	No answer
Merger control criteria				
- Lessen competition or strengthen dominant position	0.50	0	6	6
- Minimum level of concern or likely level of intervention[1]	0.50	0	6	6
Merger control process				
- Efficiencies considered	0.15	0	6	
- Other policy objectives considered	0.15	6	0	
- Decision made by independent body or government	0.40	Independent body 0	Government 6	
Turnover or assets tests[2]	0.15	Too high or too low 6	Otherwise 0	
- Market share tests	0.15	6	0	
Effects of government ownership				
- Do governments have special voting rights	0.50	6	0	
- Do governments have special voting rights that can be exercised in: merger cases	0.50	6	0	

1. If the law or enforcement guidance set out concentration or market share presumptions or thresholds with lower bounds (below which there is no concern) and upper bounds (above which a challenge is likely).

2. Domestic and global turnover or assets tests were regressed against their ratio to GDP. All observations outside the 95% confidence interval were given the score 6. The final score was the average of the score for the two tests.

Table 4. Low-level indicators: Exemptions

	Weight	Coding of answers	
		Yes	No
		6	0
Sectoral exemptions[1]	0.50		
Exemptions for government business activities	0.50	Average of a) and b) below[2]	0
a) State owned companies are exempted from the competition law:		Average of *i) –iv)* below	0
This exemption or exclusion applies to:			
i) horizontal cartels		6	
ii) vertical restraints		6	
iii) abuse of dominance		6	
iv) mergers		6	
b) Special regimes order by other government authorities[3]		6	0

1. When sectors exempted are not in the following list of "typical" exemptions: deregulated network industries, financial sector, intellectual property and media, and primary producer co-operatives.
2. The score was weighted by the extent of government involvement in the business sector, as measured by the OECD indicators of product market regulation (table 21 in Conway *et al.,* 2005).
3. This concerns cases where government-owned companies are regulated by another government authority than the competition authority and not according to the competition law.

Table 5. Low-level indicators: Enforcement

	Weight	Coding of answers Yes	No
Potential sanctions			
- Maximal fines	0.50	6	0
As a share of turnover[1]		2-5	
- Criminal sanctions	0.50		6
With jail		0	
With fines		3	
Actual sanctions			
- maximum fines imposed on horizontal restraint	0.50	Linear distribution of values according to the fine to GDP ratio with the highest ratio receiving a 0 score and the lowest a score of 6	
- Maximum sanction imposed on individuals	0.50		
Including jail		0	6
Including fines		3	
Private initiatives			
Authorised[2]	0.20	0	6
Recovery rate[3]	0.20		
High		0	
Medium		2	
Low		4	
Appeal rejection of complaint[4]	0.20	0	6
Independent action[5]	0.20	0	6
With limitations		3	
Derivative action[6]	0.20	6	0
With limitations		3	
Resource and budget intensity			
Budget to GDP[7]	0.50		
First quartile		0	
Second quartile		2	
Third quartile		4	
Fourth quartile		6	
Staff to real GDP[7]	0.50		
First quartile		0	
Second quartile		2	
Third quartile		4	
Fourth quartile		6	
Advocacy			
- Does the regulator have the right to carry out unprompted reporting?		0	6

1. No upper limits on fines. Fines set to a maximum of 10% of the firm's turnover. Fines determined as a multiple of profits = 4.
2. Whether an action can be brought, either by a public agency or a private party, in court or in the agency enforcement process, for restitution or recovery of damages caused by anti-competitive conduct.
3. The maximum recovery actually obtained (after appeal) in an action for damages or restitution, by judgment or settlement.
4. Whether a private party (other than the respondent) can appeal to the courts the competition agency's decision about whether there has been an infringement (including a decision to dismiss the party's complaint).
5. Whether a private party can bring an action in court, under the competition law or under the general provisions of the civil code, to obtain relief, including the recovery of damages caused by an infringement of the competition law.
6. Whether the right to bring a private suit depends on a prior finding by the public enforcement body that the law has been infringed.
7. To capture learning-by-doing effects in the effectiveness of competition authorities, the weighted indicator was lowered by 10% if the competition law had been in place between 10-20 years, by 20% if the law had been in place between 20 and 30 years, by 40% if the law had been in place between 30 and 40 years, by 60% if the law was older than 40 years.

Table 6. Low-level indicators: Institutional design of the competition authorities

	Weight	Coding of answers	
		Yes	No
Institutional design			
Institutional status	0.50		
Independent regulatory authority		0	
Independent advisory body		2	
Ministerial agency		4	
Ministerial department		6	
Instructions from the executive	0.50		0
For specific instructions		3	
Ministerial department		6	
Accountability			
Annual reports	0.50	0	6
Appeal possibilities other than courts:	0.50		
- *No*		0	
- *By a specialised body*		2	
- *Governmental or ministerial body, with qualifications*		4	
- *Governmental or ministerial body unconditionally*		6	

Table 7. Low-level indicators: Institutional design of the sector regulators

		Coding of answers	
	Weight	Yes	No
Institutional design			
- Institutional status	0.50		
Independent regulatory authority)		0	
Independent advisory body		2	
Ministerial Agency		4	
Ministerial department		6	
- Instructions from the executive	0.50	6	0
Sectoral powers			
Body competent for regulation	0.33		
- Agency only		0	
- Agency and another independent regulatory authority		2	
- Agency and parliament		4	
- Agency and government		4	
- Agency has only consultative (advisory) competencies		6	
Body having adjudicatory powers	0.33		
- Agency only		0	
- Agency and another body (e.g., competition authority)		2	
- Agency and government		4	
- Agency has no adjudicatory power		6	
Body having rule making powers	0.33		
- Agency only		0	
- Agency and another body (e.g., competition authority)		2	
- Agency and government		4	
- Agency has no rule-making power		6	
Accountability			
Annual reports	0.33	0	6
Unprompted reporting	0.33	0	6
Appeal possibilities	0.33		
Decisions can be overturned by:			
- Nobody (other than court) or by a specialised body		0	
- Governmental or ministerial body, with qualifications		3	
- Governmental or ministerial body, unconditionally			

Table 8. Low-level indicators: entry restrictions

Sector	Entry regulation:	Weights	Coding of data					
Electricity	How are the terms and conditions of third party access (TPA) to the electricity transmission grid determined?	1/3	Regulated TPA 0		Negotiated TPA 3		No TPA 6	
	Is there a liberalised wholesale market for electricity (a wholesale pool)?	1/3	yes 0				no 6	
	What is the minimum consumption threshold that consumers must exceed in order to be able to choose their electricity supplier ?	1/3	No threshold 0	<250 gigawatts 1	Between 250 and 500 gigawatts 2	Between 500 and 1000 gigawatts 3	More than 1000 gigawatts 4	No consumer choice 6
Post	Do national, state or provincial laws or other regulations restrict the number of competitors allowed to operate a business in at least some markets in the sector: national post - basic letter services	1/3	No, free entry in all markets 0		Yes, in some markets 3		Yes, in all markets 6	
	Do national, state or provincial laws or other regulations restrict the number of competitors allowed to operate a business in at least some markets in the sector: national post - basic parcel services	1/3	0		3		6	
	Do national, state or provincial laws or other regulations restrict the number of competitors allowed to operate a business in at least some markets in the sector: courier activities other than national post	1/3	no 0				yes 6	
Air	Does your country have an open skies agreement with the United States?[(1)]	1/2*W	Yes 0				No 6	
	Is your country participating in a regional agreement?	1/2*W	0				6	
	Is the domestic aviation market in your country fully liberalised? That is, there are no restrictions on the number of (domestic) airlines that are allowed to operate on domestic routes?	(1-W)	0				6	

Table 8. Low-level indicators: entry restrictions (cont'.)

Sector	Entry regulation:	Weights	Coding of data		
Rail	What are the legal conditions of entry into the passenger transport rail market?	1/2	Free entry (upon paying access fees) 0	Entry franchised to several firms 3	Entry franchised to a single firm or regulated according to EU 1991 directive 6
	What are the legal conditions of entry into the freight transport rail market?	1/2	0	3	6
Gas	How are the terms and conditions of third party access (TPA) to the gas transmission grid determined?	1/3	Regulated TPA 0	Negotiated TPA 3	No TPA 6
	What percentage of the retail market is open to consumer choice?	1/3		(1-% of market open to choice/100)*6	
	Do national, state or provincial laws or other regulations restrict the number of competitors allowed to operate a business in at least some markets in the sector: gas production/import	1/3	No, free entry in all markets 0	Yes, in some markets 3	Yes, in all markets 6
Telecom	What are the legal conditions of entry into the trunk telephony market?(2)	$1/4*w^t*(1-w^m)$	Free entry 0	Franchised to 2 or more firms 3	Franchised to 1 firm 6
	What are the legal conditions of entry into the international market?	$1/4*(1-w^t)(1-w^m)$	0	3	6
	What are the legal conditions of entry into the mobile market?	$1/2*w^m$	0	3	6

Notes:

1. The weight W is the average share of international traffic in total traffic (measured in '000 revenue passenger kilometers) in the OECD.

2. The weight wm is the OECD-wide revenue share from mobile telephony in total revenue from trunk, international, and mobile. The weight wt is the OECD-wide revenue share of trunk in total revenue from trunk and international telephony.

Table 9. Low-level indicators: vertical integration

Sector	**Vertical Integration:**	**Weight**	Coding of data			
Electricity	What is the degree of vertical separation between the transmission and generation segments of the electricity industry?	1/2	Separate Companies 0	Accounting separation 3		Integrated 6
	What is the overall degree of vertical integration in the electricity industry?	1/2	Unbundled 0	Mixed 3		Integrated 6
Gas	What is the degree of vertical separation between gas production/import and the other segments of the industry?	1/2	Ownership separation 0	Legal/Accounting 3		Integrated 6
	What is the degree of vertical separation between gas supply and the other segments of the industry?	3/10	0	3		6
	Is gas distribution vertically separate from gas supply?	1/5	0	3		6
Rail	What is the degree of separation between the operation of infrastructure and the provision of railway services (the actual transport of passengers or freight)?	1	Ownership separation 0	Legal separation 3	Accounting separation 4.5	No separation 6

Table 10. Weights assigned to low-level indicators in the summary indicators of competition law and policy

	Summary Indicators						
Low level indicators	**Competition law and policy**	***Anti-trust framework***	*Scope of law and enforcement*	*Independence of competition authorities*	***Network sector regulation***	*Independence of sector regulators*	*Network access*
Legal framework	0.135	0.180	0.225				
Merger regimes	0.135	0.180	0.225				
Exemptions	0.090	0.120	0.150				
Enforcement	0.240	0.320	0.400				
Institutional design of competition authorities	0.075	0.100		0.500			
Accountability of competition authorities	0.075	0.100		0.500			
Institutional design of sector regulators	0.050				0.200	0.333	
Accountability of sector regulators	0.050				0.200	0.333	
Powers of sector regulators	0.050				0.200	0.333	
Vertical integration	0.040				0.160		0.400
Entry restrictions	0.060				0.240		0.600
Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Table 11. The Competition Law and Policy indicator and its two main sub-indicators

	Antitrust framework	*Network sector regulation*	**Competition law and policy indicator**
Australia	1.61	0.98	1.45
Austria	2.88	2.42	2.76
Belgium	2.83	1.92	2.60
Canada	1.66	2.16	1.79
Czech Rep	1.61	1.54	1.59
Denmark	1.94	1.35	1.79
Finland	1.88	2.14	1.95
France	2.48	1.99	2.36
Germany	1.91	2.87	2.15
Greece	3.02	2.32	2.84
Hungary	1.81	2.14	1.90
Iceland	1.86	2.73	2.08
Ireland	2.37	2.23	2.34
Italy	2.04	1.10	1.81
Japan	2.01	5.33	2.84
Korea	1.27	2.52	1.58
Luxembourg	2.66	2.29	2.57
Mexico	2.60	2.97	2.70
Netherlands	2.37	2.19	2.32
New Zealand	1.60	3.25	2.01
Norway	2.73	2.86	2.76
Poland	2.29	1.96	2.20
Portugal	3.00	1.70	2.67
Slovak Rep	1.64	3.99	2.23
Spain	2.72	1.65	2.45
Sweden	2.03	2.40	2.12
Switzerland	2.37	4.44	2.89
Turkey	2.03	2.61	2.17
United Kingdom	1.88	1.62	1.82
United States	1.39	1.57	1.43
European Union	1.27		1.27

Table 12. Scope of law and enforcement

	Legal framework and rules	*Exemptions*	*Merger regimes*	*Enforcement*	**Scope of law and enforcement**
Australia	2.1	2.1	1.3	1.9	1.8
Austria	3.5	2.3	0.6	5.3	3.4
Belgium	2.0	2.0	2.4	4.2	3.0
Canada	2.8	2.7	0.0	1.5	1.6
Czech Rep	1.8	1.0	1.8	2.6	2.0
Denmark	2.0	1.7	0.6	3.3	2.2
Finland	1.6	1.0	1.5	3.1	2.1
France	1.8	2.4	3.2	3.1	2.7
Germany	2.6	1.0	1.9	2.4	2.1
Greece	2.5	2.0	2.7	4.5	3.3
Hungary	1.4	3.0	1.2	3.1	2.3
Iceland	1.7	1.0	0.6	2.5	1.7
Ireland	3.0	1.0	0.6	3.2	2.3
Italy	1.7	1.0	3.3	3.2	2.6
Japan	2.6	1.0	1.3	3.4	2.4
Korea	1.8	1.9	0.9	1.1	1.4
Luxembourg	2.9	1.0	2.8	4.8	3.3
Mexico	3.2	4.1	0.6	4.5	3.3
Netherlands	1.8	2.0	2.1	2.7	2.3
New Zealand	2.4	0.3	1.9	2.5	2.0
Norway	2.6	1.0	2.1	3.1	2.4
Poland	1.2	1.0	2.5	3.5	2.4
Portugal	2.6	1.0	3.6	4.3	3.3
Slovak Rep	1.8	0.0	1.2	3.4	2.0
Spain	1.9	2.0	3.5	3.8	3.0
Sweden	2.3	1.0	1.2	3.4	2.3
Switzerland	2.7	1.0	0.9	3.7	2.4
Turkey	2.5	2.0	1.9	3.2	2.5
United Kingdom	1.3	1.0	2.5	3.4	2.4
United States	2.9	3.4	0.3	0.3	1.4
European Union	1.8	1.0	1.7	0.8	1.3

Table 13. Independence of competition authorities

Country	Institutional design	Accountability	**Independence of competition**
Australia	1.50	0.00	0.75
Austria	0.75	0.90	0.83
Belgium	3.50	1.05	2.28
Canada	3.50	0.00	1.75
Czech	0.00	0.00	0.00
Denmark	2.00	0.00	1.00
Finland	2.00	0.00	1.00
France	3.00	0.00	1.50
Germany	0.00	2.10	1.05
Greece	2.00	2.10	2.05
Hungary	0.00	0.00	0.00
Iceland	3.50	1.80	2.65
Ireland	3.50	2.10	2.80
Italy	0.00	0.00	0.00
Japan	1.00	0.00	0.50
Korea	0.00	1.80	0.90
Mexico	0.00	0.00	0.00
Netherlands	3.50	2.10	2.80
New Zealand	0.00	0.00	0.00
Norway	3.50	4.20	3.85
Poland	2.00	1.80	1.90
Portugal	0.00	3.90	1.95
Slovak	0.00	0.00	0.00
Spain	3.00	0.00	1.50
Sweden	2.00	0.00	1.00
Switzerland	2.00	2.10	2.05
Turkey	0.00	0.00	0.00
UK	0.00	0.00	0.00
USA	3.00	0.00	1.50

Note: For countries with more than one competition authority, the country score is obtained as the simple average of the scores for the different agencies.

Table 14. Independence of sector regulators

	Telecommunications regulator				Independence of energy regulator			
	Institutional design	Accountability	Powers		Institutional design	Accountability	Powers	
Australia	1.5	0	2	1.16	0	0	2.67	0.88
Austria	0.75	4.5	4	3.05	1.5	2.1	2.67	2.07
Belgium	0	1.5	4.67	2.04	1	0	2.67	1.21
Canada	1.5	2.4	2	1.95	0	2.4	2	1.45
Czech Rep.	0	0	2	0.66	0	0	3.33	1.1
Denmark	3.5	0.9	2.67	2.33	0	0	2.67	0.88
Finland	3.5	0	4.67	2.7	0	0	2.67	0.88
France	0	0	4	1.32	0	0	4	1.32
Germany	0	0	2.67	0.88	6			6
Greece	0	0	3.33	1.1	1	0	6	2.31
Hungary	1.5	0	2.67	1.38	0	2.1	3.33	1.79
Iceland	5	0	3.33	2.75	6			6
Ireland	0	0	4.67	1.54	0	0	6	1.98
Italy	0	0	3.33	1.1	0	0	2.67	0.88
Japan	6	5.1	6	6	6			6
Korea	0	0.9	1.33	0.74				
Luxembourg	0	0.9	3.33	1.4				
Mexico	3.5	3	4.67	3.69	1.5	0	3.33	1.6
Netherlands	0	0	4	1.32	3.5	2.1	6	3.83
New Zealand	0	2.1	2	1.35	6			6
Norway	3.5	0	4.67	2.7	3.5	1.5	5.33	3.41
Poland	3	0	2	1.65	0	0	4	1.32
Portugal	0	0	4	1.32	0	2.1	3.33	1.79
Slovak Rep.	5	6	5.33	5.39	5	3.9	n.a.	4.45
Spain	0	0	1.33	0.44	0	1.5	4	1.82
Sweden	4	0	4.67	2.86	1	3	4.67	2.86
Switzerland	2.5	3	4.33	3.25	6			6
Turkey	0	3.9	2	1.95	0	0	3.33	1.1
United Kingdom	0	4.5	2.67	2.37	0	0	5.33	1.76
United States	0	0	2	0.66	0	0	2.67	0.88

Note: For countries with more than one regulator within a sector, the country score is obtained as the simple average of the scores for the different agencies.

Table 15. Network access

	Entry restrictions	Vertical Integration	**Network access**
Australia	0.65	1.10	**0.83**
Austria	1.49	2.70	**1.97**
Belgium	1.72	2.80	**2.15**
Canada	1.13	4.00	**2.28**
Czech Rep.	1.61	3.15	**2.23**
Denmark	0.49	1.30	**0.81**
Finland	2.00	3.10	**2.44**
France	1.81	3.80	**2.60**
Germany	1.29	2.50	**1.77**
Greece	3.15	3.30	**3.21**
Hungary	2.26	3.45	**2.74**
Iceland	0.65	n.a.	**0.39**
Ireland	2.41	3.30	**2.77**
Italy	0.46	1.80	**1.00**
Japan	1.81	6.00	**3.48**
Korea	3.98	6.00	**4.79**
Luxembourg	2.01	4.70	**3.08**
Mexico	1.72	4.65	**2.89**
Netherlands	1.31	1.80	**1.51**
New Zealand	2.00	3.00	**2.40**
Norway	1.79	3.10	**2.31**
Poland	0.82	3.90	**2.05**
Portugal	2.85	1.30	**2.23**
Slovak Rep.	1.74	3.15	**2.30**
Spain	1.89	2.80	**2.25**
Sweden	0.80	2.30	**1.40**
Switzerland	2.89	5.00	**3.74**
Turkey	3.18	4.95	**3.89**
United	0.59	1.20	**0.83**
United States	1.65	3.50	**2.39**

Source: OECD Product Market Regulation database.

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