

OECD Economics Department Working Papers No. 1200

The 2013 update of the OECD's database on product market regulation: Policy insights for OECD and non-OECD countries

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https://dx.doi.org/10.1787/5js3f5d3n2vl-en

OECD

Unclassified **ECO/WKP(2015)18**

Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development **31-Mar-2015**

English - Or. English

ECONOMICS DEPARTMENT

ECO/WKP(2015)18
Unclassified

THE 2013 UPDATE OF THE OECD'S DATABASE ON PRODUCT MARKET REGULATION – POLICY INSIGHTS FOR OECD AND NON-OECD COUNTRIES

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By Isabell Koske, Isabelle Wanner, Rosamaria Bitetti and Omar Barbiero

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ABSTRACT/RÉSUMÉ

The 2013 update of the OECD's database on product market regulation – policy insights for OECD and non-OECD countries

This paper investigates patterns in product market regulation across 34 OECD and 21 non-OECD countries, using an updated and revised version of the OECD's indicators of product market regulation (PMR). The analysis shows that liberalisation of product markets has further slowed over the past five years. However, even though there was little progress on average in the OECD over this period, a number of OECD countries implemented sizable reforms, often in an attempt to boost economic growth in wake of the economic crisis. On average across the OECD, countries have made particular progress in abolishing price controls or improving their design, streamlining administrative procedures for start-ups, simplifying rules and procedures or improving access to information about regulations. Room for further improvements is the largest in the areas of public ownership and the governance of state-owned enterprises as well as with respect to barriers to competition in network and services sectors.

JEL classification codes: K2 ; L2
Keywords: product market regulation

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Mise à jour 2013 des indicateurs de réglementation des marchés de produits de l'OCDE – Aperçus des systèmes réglementaires dans les pays de l'OCDE et certains pays non membres

Cette étude examine la réglementation du marché des produits à travers 34 pays de l'OCDE et 21 pays non membres de l'OCDE, en utilisant une version mise à jour et révisée des indicateurs de réglementation des marchés de produits (RMP) de l'OCDE. L'analyse montre que la libéralisation des marchés de produits a continué de se ralentir au cours des cinq dernières années. Cependant, même s'il y a eu peu de progrès en moyenne dans les pays de l'OCDE au cours de cette période, un certain nombre de ces pays ont mis en place des réformes non-négligeables, souvent dans le but d'augmenter la croissance économique à la suite de la crise économique. En moyenne dans l'OCDE, les pays ont fait des progrès en particulier concernant la suppression des mesures de contrôle des prix ou l'amélioration de leur conception, la simplification des procédures administratives concernant la création d'entreprises, la simplification des règles et des procédures ou l'amélioration de l'accès à l'information relative à la réglermentation. Les possibilités d'amélioration supplémentaire les plus importantes sont dans les domaines de la présence capitalistique de l'État et la gouvernance des entreprises publiques ainsi que dans les obstacles à la concurrence dans les secteurs de réseau et des services.

Codes JEL : K2 ; L2
Mots clé : réglementation des marchés de produits

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THE 2013 UPDATE OF THE OECD'S DATABASE ON PRODUCT MARKET REGULATION – POLICY INSIGHTS FOR OECD AND NON-OECD COUNTRIES

By

Isabell Koske, Isabelle Wanner, Rosamaria Bitetti and Omar Barbiero[1]

1. Introduction

1. Pro-competition regulation in product markets can help boost living standards. Many empirical studies have shown, overall, that competition can raise output per capita by increasing investment and employment as well as by encouraging companies to be more innovative and efficient, thereby lifting productivity (*e.g.* Bouis and Duval, 2011; Bourlès *et al.* 2010; Conway *et al.*, 2006; Nicoletti and Scarpetta, 2005). In light of these economic gains, countries have, step by step, removed badly designed regulations in product markets over the past decades, reducing state involvement in business sectors, making it easier for entrepreneurs to create firms and to expand them, and facilitating the entry of foreign products and firms. While in some cases regulation was totally abolished, in others it was replaced by better designed legislation that can even help to enhance competition.

2. To measure a country's regulatory stance and track reform progress over time the OECD developed an economy-wide indicator of product market regulation (PMR) in 1998 (Nicoletti *et al*., 1999), which was then updated in 2003 (Conway *et al*., 2005) and 2008 (Wölfl *et al*., 2009). The economy-wide product market regulation indicator is complemented by a set of indicators that measure regulation at the sector level. These indicators of non-manufacturing regulation (NMR) cover seven network sectors and five services sectors.

3. By now, the indicators have become an essential element of the OECD's work as they enhance the knowledge of regulatory practices in OECD countries and the potential for investigating their link with economic performance. They are an integral part of the *Going for Growth* exercise and *OECD Economic Surveys* where they are used to formulate recommendations for policy reforms. The indicators are also widely used by national governments, other international organizations, academia and international forums such as the G20. Similarly, the underlying data that allows comparing the detailed regulatory design across countries and time is extensively used to inform discussions about regulatory reform.

4. The current paper presents the 2013 update of the OECD's product market regulation database and the associated indicators. Two important changes are introduced to the indicator set. *First*, the methodology is revised and *second*, a broader set of information is used to preserve the relevance of the indicators. Since the inception of the PMR database in 1998 regulatory issues have evolved. Some of the issues that were still highly relevant at that time have by now been solved in most OECD countries through regulatory reform. At the same time, other issues have gained in importance as a result of new technologies or shifts in market structures or because because improvements in some areas mean that other areas have become new bottlenecks to competition. The information that has been added covers a wide range of different regulatory areas, including for instance shop-opening hours, the governance of state-owned enterprises, and entry regulation in network sectors. A the same time, all the information that was

1. Isabell Koske and Isabelle Wanner are with the OECD, Rosamaria Bittetti is a Researcher at Luiss LAPS and Omar Barbiero is at Harvard University. The authors would like to thank Alain de Serres, Jørgen Elmeskov and Jean-Luc Schneider for their useful comments and suggestions as well as Caroline Abettan for her technical and editing support.

previously included in the inidcatos has been kept, meaning that the indicators stay relevant for countires with a lower level of development.

5. The rest of this paper is structured as follows: Section 2 briefly presents the database that was compiled from the 2013 Product Market Regulation Questionnaire. Sections 3 then presents the main results of the update of both the economy-wide and the sectoral indicators, focusing on the current regulatory stance, recent reforms, and the potential for further reforms in the future. The final section concludes.

2. The bottom-up approach of the PMR methodology

6. The OECD's PMR database contains a large amount of information on regulatory structures and policies that is collected through a questionnaire sent to governments in OECD and non-OECD countries. The database covers all OECD countries and 21 non-OECD countries.[2] It is updated every five years and currently covers the years 1998, 2003, 2008 and 2013 (though not all data are available for all years and countries).[3,4] For a subset of questions – all those that are used to compute the indicators of regulation in the seven network sectors – the data from the questionnaires are complemented by data from publicly available sources to create time series data of annual frequency starting in the mid-1970s. During the current update, data for the years 2008 to 2013 was added for these questions.

7. The 2013 questionnaire contains around 1400 questions on economy-wide or industry-specific regulatory provisions. A bit more than 700 of the questions are used to compute the economy-wide PMR indicator and the NMR indicators on sector regulation.[5] All of these questions are closed questions that can either be answered with numerical values (*e.g.* the number of bodies that need to be contacted to start a business) or by selecting an answer from a pre-defined set of menu (*e.g.* the question whether a specific regulation exists can be answered with 'yes' or 'no'). The qualitative information is transformed into quantitative information by assigning a numerical value to each possible response to a given question (see Tables A1 to A18 in the Annex for details on the scoring system). The coded information is normalised over a zero to six scale, where a lower value reflects a more competition-friendly regulatory stance.

8. The coverage rate of the 2013 vintage of the PMR database (*i.e.* the number of non-missing values as a proportion of the total number of questions) is very high. Overall, slightly over 90% of the questions have been answered. However, there are considerable variations across countries (Table 1). For the questions that enter the PMR indicator, the coverage rate ranges from below 70% for India and Romania to 100% for the Czech Republic, New Zealand and several non-OECD countries. Two countries are completely missing, even though they had participated in the past: Indonesia and the United States.

2. The PMR database covers all OECD counties as well as the following non-OECD countries: Brazil, China, India, Indonesia, Russia and South Africa; Argentina, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, Nicaragua and Peru (in co-operation with the World Bank); Bulgaria, Croatia, Latvia, Lithuania, Malta and Romania (in co-operation with the European Commission).

3. In particular, the Unites States and Indonesia are not covered by the current update, implying that no data are available for these countries for the year 2013. The reported indicators for Argnetina are based on preliminary estimates as some of the underlying data has not been validated with national authorities. Subsequent data validation may lead to revisions to the indicators for this country.

4. The year 2008 refers to the situation in 2007 for all countries with the exception of Brazil, Chile, Estonia, Israel, Russia and Slovenia (2008) as well as India, Indonesia and South Africa (2009).

5. The remaining questions are either used for checking purposes or for two special projects, the creation of indicators on sector regulators (around 350 questions) and an analysis of countries' regulatory stance towards the Internet economy (close to 100 questions). For the indicators on sector regulation, see Beiter *et al*. (2014) and for the analysis of Internet regulation see Koske *et al*. (2014).

Missing values are generally filled by using 2008 data, with external information used only in a few cases. Where a missing value cannot be filled, the question is either ignored in the computation of the indicators and aggregation is done over all available data points. As too many missing values would distort the picture, the indicators are only computed if the overall coverage rate is at least two-thirds.

Table 1. Coverage rate of the 2013 vintage of the PMR database

OECD countries		Non-OECD countries	
Australia	94%	Brazil	79%
Austria	98%	China	100%
Belgium	91%	India	68%
Canada	74%	Indonesia	0%
Chile	98%	Russia	89%
Czech Republic	100%	South Africa	99%
Denmark	95%	Argentina	91%
Estonia	96%	Bulgaria	82%
Finland	99%	Colombia	89%
France	99%	Costa Rica	100%
Germany	93%	Croatia	83%
Greece	98%	Dominican Republic	99%
Hungary	94%	El Salvador	98%
Iceland	75%	Honduras	98%
Ireland	80%	Jamaica	95%
Israel	99%	Latvia	96%
Italy	99%	Lithuania	95%
Japan	86%	Malta	97%
Korea	77%	Nicaragua	100%
Luxembourg	84%	Peru	99%
Mexico	97%	Romania	70%
Netherlands	99%		
New Zealand	100%		
Norway	92%		
Poland	88%		
Portugal	87%		
Slovak Republic	99%		
Slovenia	94%		
Spain	96%		
Sweden	97%		
Switzerland	93%		
Turkey	86%		
United Kingdom	98%		
United States	0%		

Note: The coverage rate is defined as the number of non-missing values as a proportion of the total number of questions.

9. The indicators are based on 'objective' data about laws and regulations as opposed to 'subjective' assessments by market participants in opinion surveys. Hence, they capture the 'de jure' policy settings. While this makes the indicators more comparable across countries by insulating them from context-specific assessments, it also entails a number of limitations. For instance, informal regulatory practices such as administrative guidelines or self-disciplinary measures by professional associations are only captured to a very limited extent by the indicators. Also the way in which regulations are applied by authorities is hardly

reflected in the indicators, even though enforcement can have a considerable impact on the level of competition.

2.1. Economy-wide PMR indictor

10. The economy-wide PMR indicator is constructed through a bottom-up approach (Figure 1). In a first step, the numerical values assigned to each question are aggregated into 18 low-level indicators. These low-level indicators are then aggregated into seven mid-level indicators, which are in turn aggregated into three high-level indicators. At each step of aggregation, the composite indicators are calculated as weighted averages of their components. The aggregate PMR indicator is the simple average across the three high-level indicators *state control*, *barriers to entrepreneurship* and *barriers to trade and investment*. This bottom-up approach allows tracing indicator scores back to individual policies. The 18 low-level indicators cover the following topics:

- *Scope of state-owned enterprises (SOEs)*: pervasiveness of state ownership across 30 business sectors measured as the share of sectors in which the state controls at least one firm.

- *Government involvement in network sectors*: government stakes in the largest firms in 6 network sectors (electricity, gas, rail transport, air transport, postal services and telecommunication).

- *Direct control over business enterprises*: existence of special voting rights by the government in privately-owned firms and constraints to the sale of government stakes in publicly-controlled firms (based on 30 business sectors).

- *Governance of state-owned enterprises*: degree of insulation of state-owned enterprises (SOEs) from market discipline and degree of political interference in the management of SOEs.

- *Price controls*: extent and type of price controls in 8 sectors (air transport, road freight transport, retail distribution, telecommunication, electricity, gas, water, professional services).

- *Command and control regulation*: extent to which the government uses coercive (as opposed to incentive-based) regulation.

- *Licenses and permits system*: use of 'one-stop-shops' and the 'silence is consent' rule for issuing licenses and accepting notifications.

- *Communication and simplification of rules and procedures*: the government's communication strategy and efforts to reduce and simplify the administrative burden of interacting with the government.

- *Administrative burdens for corporations*: administrative burdens on creating a public limited company.

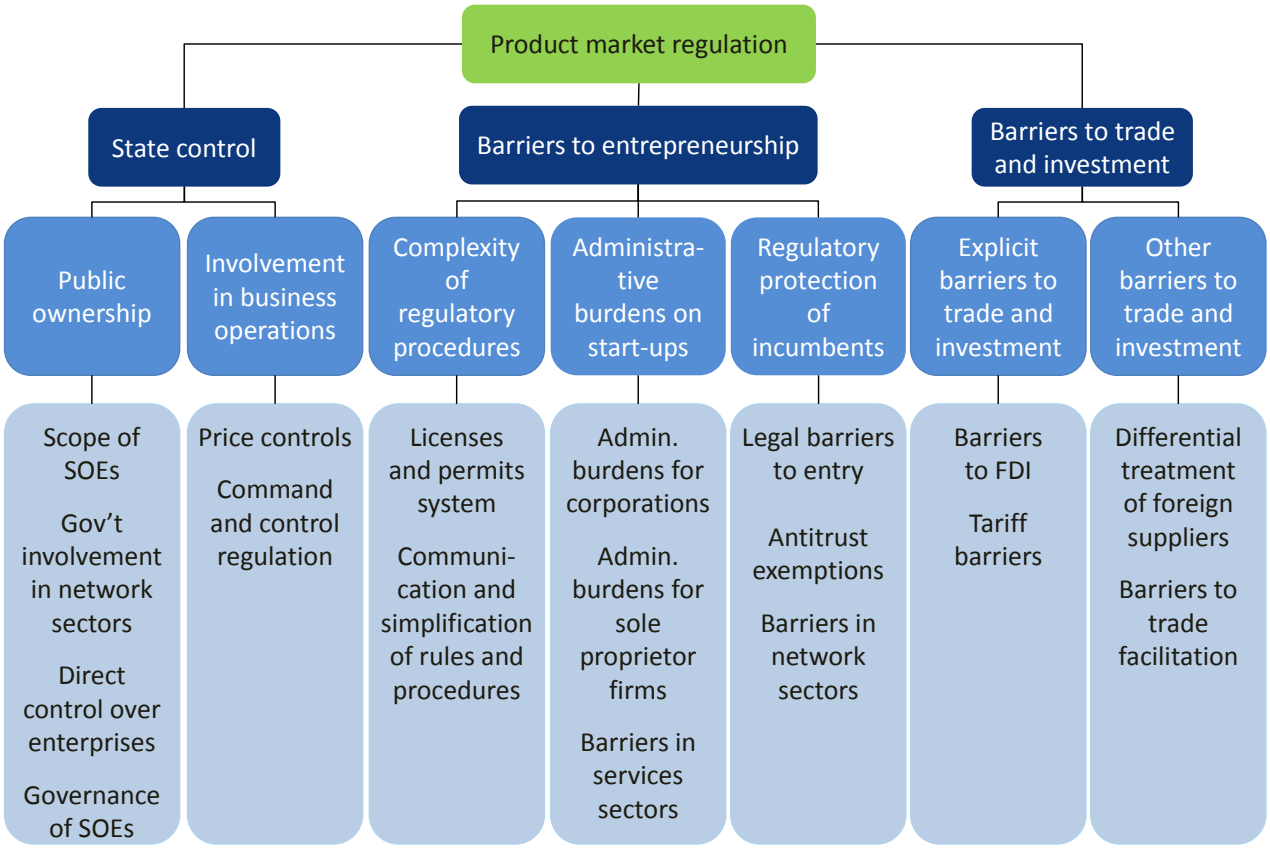
- *Administrative burdens for sole proprietor firms*: administrative burdens on creating an individual enterprise.

- *Barriers in services sectors*: entry barriers in professional services, freight transport services and retail distribution.

- *Legal barriers to entry*: pervasiveness of barriers to entry in 30 business sectors as a share of sectors in which there are explicit legal limitations on the number of competitors.

- *Antitrust exemptions*: scope of exemptions from competition law for public enterprises.
- *Barriers in network sectors*: entry barriers in 8 network sectors (gas, electricity, water, rail transport, air transport, road freight transport, postal services and telecommunication) and degree of vertical separation in 3 network sectors (gas, electricity and rail transport).
- *Barriers to FDI:* restrictiveness of a country's FDI rules in 22 sectors in terms of foreign equity limitations, screening or approval mechanisms, restrictions on the employment of foreigners as key personnel and operational restrictions (*e.g.* restrictions on branching and on capital repatriation or on land ownership)
- *Tariff barriers*: simple cross-product average of effectively applied tariffs.
- *Differential treatment of foreign suppliers*: discrimination of foreign firms with respect to taxes and subsidies, public procurement, entry regulation and appeal and procedures.
- *Barriers to trade facilitation*: recognition of foreign regulations, use of international standards and international transparency of domestic regulation.

Figure 1. Tree structure of the economy-wide PMR indicator



11. The 2013 update of the economy-wide PMR indicator introduces two main changes to the methodology. *First*, the scoring and aggregation system is revised to reduce the sensitivity of the overall indicator value to changes in particular data points, to align the scoring system across sectors (in particular in the components dealing with network sectors) and to move to equal weights also at the lowest levels of

aggregation.[6] *Second*, the new methodology makes use of a broader set of questions to maintain the relevance of the indicator set in the context of evolving competition issues in OECD countries. The additional information covers a wide range of different regulatory areas. The low-level indicators that are the most affected by the incorporation of additional data are *scope of SOEs*, *legal barriers to entry* and *price controls* (extension of the sector coverage), *use of command and control regulation* (refinement of the component on shop opening hours), *communication and simplification of rules and procedures* (refinement of both the communication and simplification components), and *barriers in network sectors* (refinement of the entry component and extension of this component to the water services sector). A new low-level indicator was created to cover the *governance of state-owned enterprises* as this topic has gained more and more attention in recent years. The *barriers to trade and investment* component was significantly overhauled to make use of data that was recently collected by the Directorate of Trade and Agriculture for the Services Trade Restrictiveness Index (Box 1 briefly discusses how the two indicators relate to each other). The *barriers to entrepreneurship* component was modified by reshuffling the composition of the mid-level indicators.

Box 1. The relationship between the PMR and the STRI

Both the PMR indicator and the STRI measure countries' stance of regulation and therefore overlap to a non-negligible extent. Nonetheless, there are important differences between the two indicators. First, while the PMR aims at capturing regulations that hamper productivity growth by constraining the activities of domestic or foreign firms, the STRI aims at capturing regulations that impede trade. The STRI therefore focuses on foreign firms only, but for them provides a more detailed picture of at-the-border and behind-the-border restrictions than the PMR indicator. Second, while the STRI measure most-favoured-nation (MFN) restrictions and, hence, does not take into account specific concessions such as, for example regional trade agreements or mutual recognition agreements, such specific concessions are taken into account in the PMR indicator. Third, while the PMR is an economy-wide indicator that covers a wide range of services and goods sectors, the STRI focusses on services sectors only.

To ensure consistency between the STRI and PMR indicators and limit the burden on countries in terms of answering the PMR questionnaire, the PMR database directly draws on the STRI database whenever the same questions are used in both indicators. For questions that are similar but not identical between the two databases or for which data from the STRI database were not yet available at the time the PMR questionnaire was circulated to countries, consistenty checks are carried out. The bulk of the information that is taken from the STRI feeds into the low-level indicator on *differential treatment of foreign suppliers* in the *trade and investment* component. This low-level indicator captures various types of discrimination of foreign firms with respect to public procurement, tax and subsidies, entry regulation and appeal procedures. Some STRI data are also used in other parts of the PMR indicator, notably data on the telecom sector which feed into the low-level indicators on *price controls* and *barriers in network sectors*, and data on professional services which feed into the low-level indicator on *command and control regulation*.

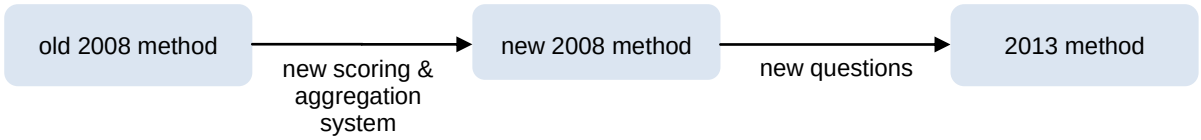
12. Moving from the old methodology (henceforth called 'old 2008 method') to the new one (henceforth called '2013 method') raises the issue of splicing. While the '2013 method' can be computed for the years 2008 and 2013, it cannot be computed for 1998 and 2003 due to the lack of data.[7] To keep the time-series dimension of the PMR indicator set while at the same time maintaining a single one, the pre-2008 vintages based on the old method have been spliced with the series computed under the new method. The splicing was done based on the year 2008, for which both the 'new 2008 method' and the '2013 method' are available. While the 1998 and 2003 vintages could not be revised to reflect new or rephrased questions, they could be recomputed on the basis of the new scoring and weighting system so as to make

6. While equal weights had already been applied in 2008 to aggregate the low-level indicators into medium and high-level indicators, equal weights were not always used to aggregate individual questions into the low-level indicators. This was changed in the current update.

7. The 2013 method can be computed for 2008 either because the necessary information was already gathered in 2008 or because the 2013 questionnaire specifically asks countries since when a certain regulation has been in place.

them more comparable to the 2008 and 2013 vintages. For this reason an intermediate version of the methodology was computed, which implemented the first modification mentioned above (the changes in scoring and weighting), but not the second modification (additional questions). This intermediate methodology is called 'new 2008 method' (Figure 2).

Figure 2. Moving from the old to the new method of computing the PMR indicators



13. Splicing was done by adjusting all indicator values for the difference between the 'new 2008 method' and the '2013 method' in 2008 (Figure 3). It was applied at the level of low-level indicators such as *scope of SOEs* or *price controls* and higher level indicators are obtained by aggregating the spliced series using equal weights. The splicing can lead to indicator values outside of the 0-6 range in which the PMR indicator normally varies (Figure 3).[8] While this happens in a small number of cases for the low-level indicators, it happens neither for the high-level indicators nor the aggregate PMR indicator.

14. Figure 4 compares the PMR indicator for 2008 based on the 2013 method with the indicator originally computed by Wölf *et al*. (2009).[9] On average across countries, the PMR score increases marginally as a result of the modifications (even though it falls in the case of several countries). This was to be expected given that the questions that were added typically refer to regulatory areas in which competition issues have become more pressing over the past 15 years and where policy action is warranted in many countries. The position of individual countries relative to the OECD average in terms of the stance of product market regulation is similar across the two methods. Exceptions include *inter alia* Belgium, Chile, France, Italy, Luxembourg , Portugal and Spain, which have an above-average score with the old method, but a below-average score with the new method, as well as Korea, for which the opposite is the caes. The precise rankings of countries also change, but as most countries are very close in terms of their score (as is discussed in the main paper) this is not surprising. Overall, the correlation between the old ranking and the new one is equal to 0.8.

8. For instance, if the 2008 value of a low-level indicator is close to 6 under the 2013 method, but close to 0 under the old 2008 method, a sizable fall in the indicator value between 1998 and 2008 under the old 2008 method may cause the 2003 and 1998 values to be above 6 after splicing.

9. Any differences between the numbers presented in Figure A4 as 'old methodology' and the numbers presented by Wölfl *et al*. (2009) are due to data revisions.

Figure 3. Splicing the 'new 2008 method' and the '2013 method'

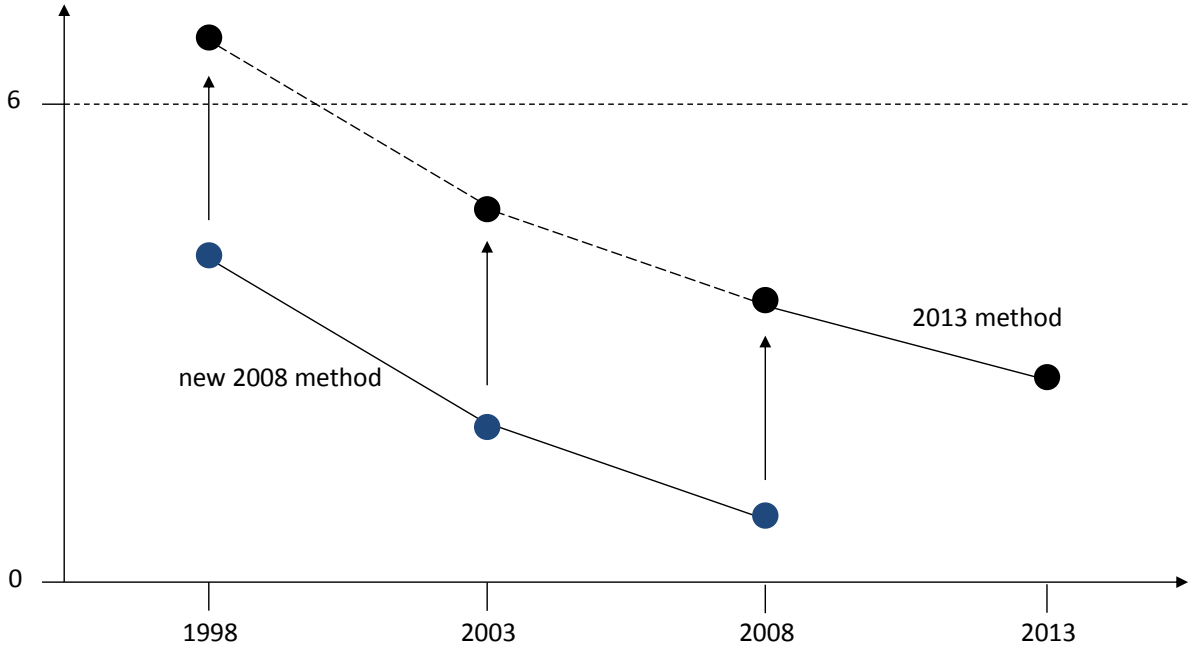
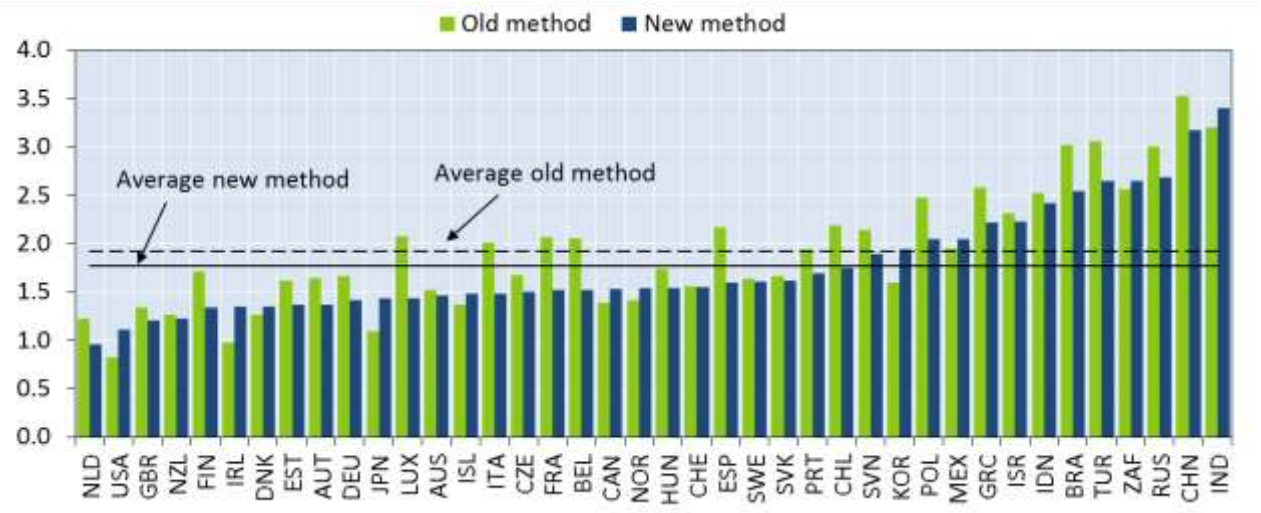


Figure 4. Comparing the old and the new economy-wide PMR for 2008

From 0 to 6 from least to most restrictive



Source: OECD, Product Market Regulation Database.

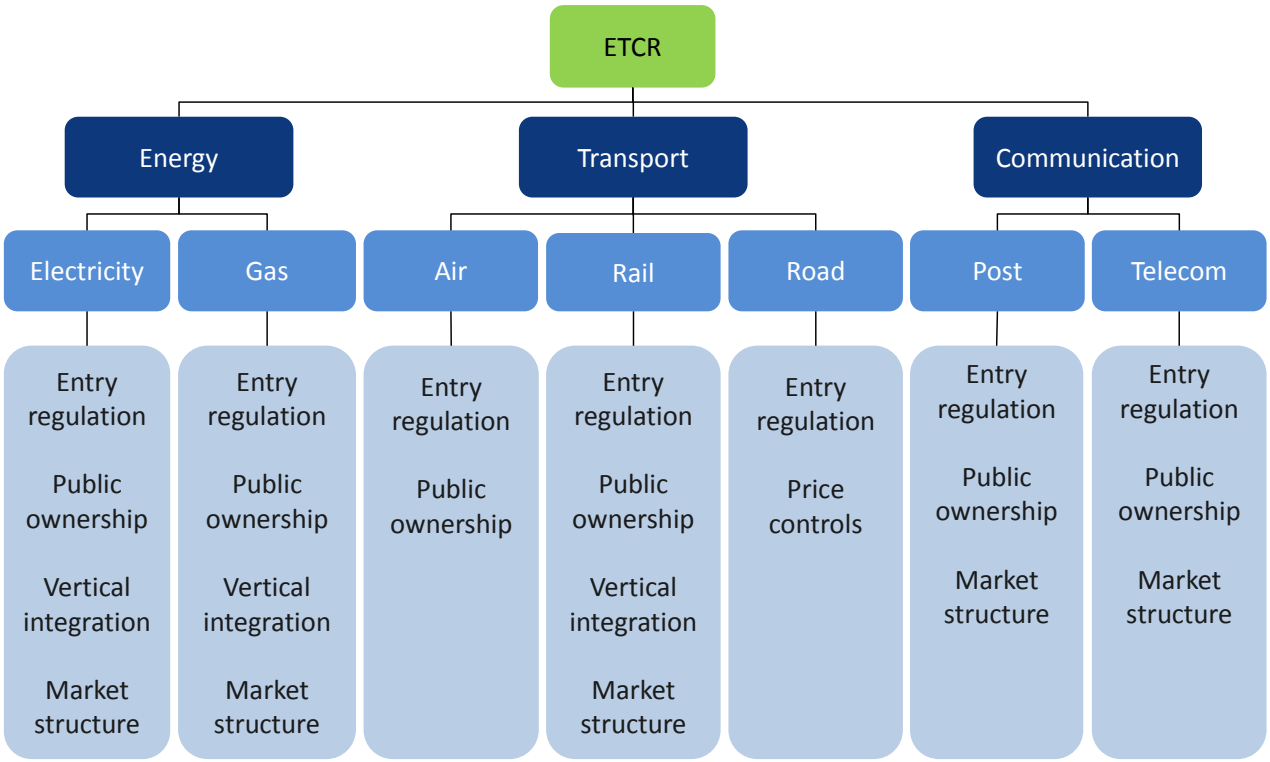
2.2. The NMR indicators of sector regulation

15. The economy-wide PMR indicator is complemented by a set of indicators that summarize information not by regulatory domain, but by sector. These indicators cover seven network sectors (telecom, electricity, gas post, air transport, rail transport, and road transport) and five services sectors (legal services, accounting services, engineering services, architecture services and retail distribution). Like the computation of the economy-wide PMR indicator, the computation of these sector indicators follows a

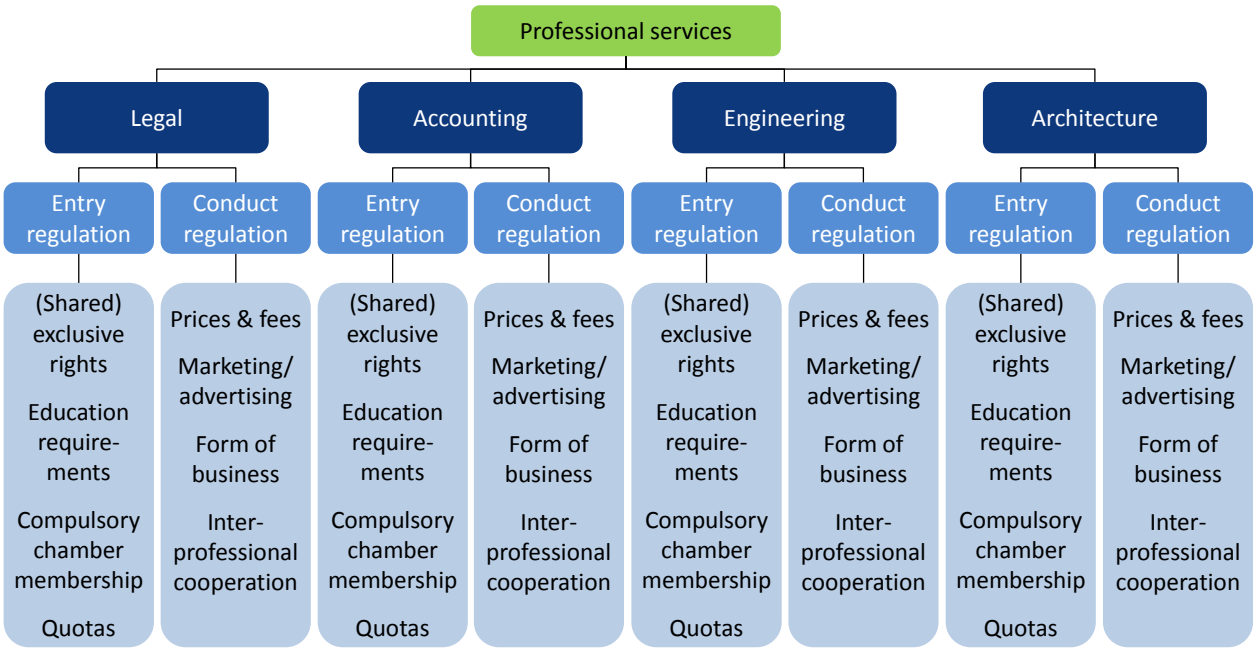
bottom-up approach (Figure 5). Most of the underlying data are also used in the economy-wide PMR indicator. The only exception is the market structure component of the indicators on the electricity, gas, rail transport, post and telecom sectors, which is not part of the economy-wide PMR indicator since the latter focus solely on policy settings. The seven indicators of regulation in network sectors are aggregated into one indicator of energy, transport and communications regulation (ETCR). The four indicators of regulation in accounting, legal, engineering and architectural services are aggregated into one indicator of regulation in professional services.

Figure 5. Tree structure of the NMR indicators

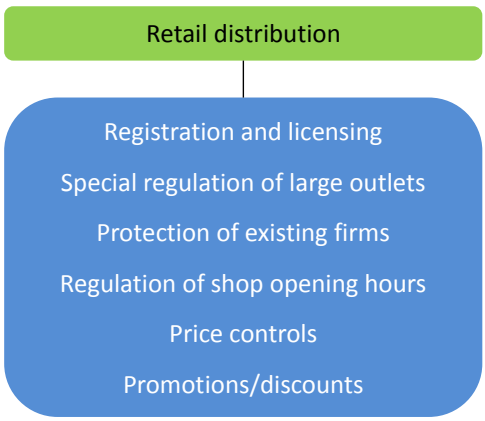
Panel A. Energy, transport and communication sectors



Panel B. Professional services sectors



Panel C. Retail distribution sector



3. Product market regulation in OECD and non-OECD countries

16. This section presents the results of the update of the PMR indicator set. It discusses the current regulatory stance in OECD and non-OECD countries, reforms that have happened since the last update in 2008, and also points out in which regulatory areas there is room for further improvement.

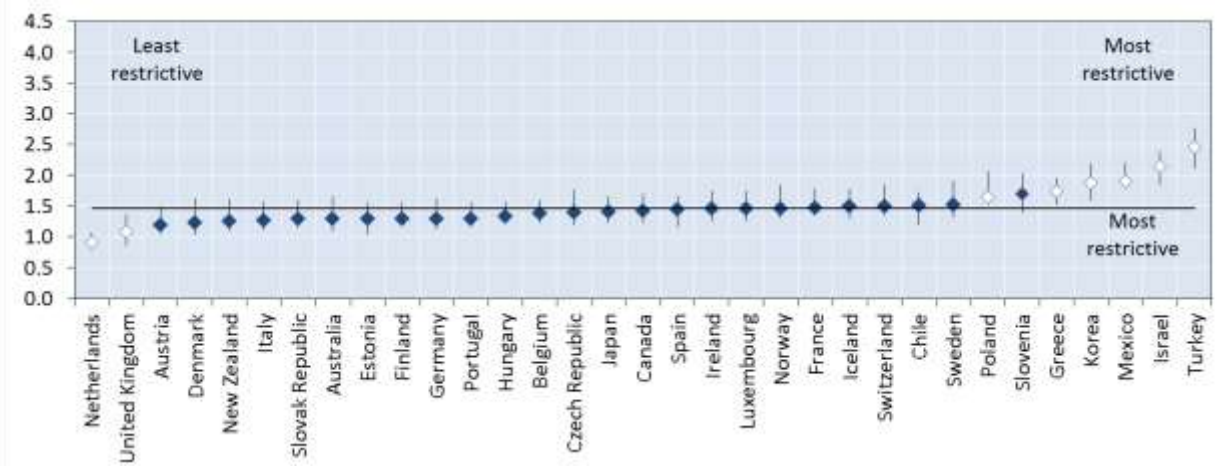
3.1. The current economy-wide regulatory stance

17. The results for individual countries from the compilation of the 2013 exercise are shown for the overall PMR indicator (Figure 6) and for the high-level indicators *state control*, *barriers to entrepreneurship* and *barriers to trade and investment* (Figures 7 to 9). All four figures show the indicator values obtained when using equal weights at each step of aggregation (point estimate), together with 90% confidence intervals that reflect the sensitivity of indicator values to the application of different sets of weights (see Box 2).

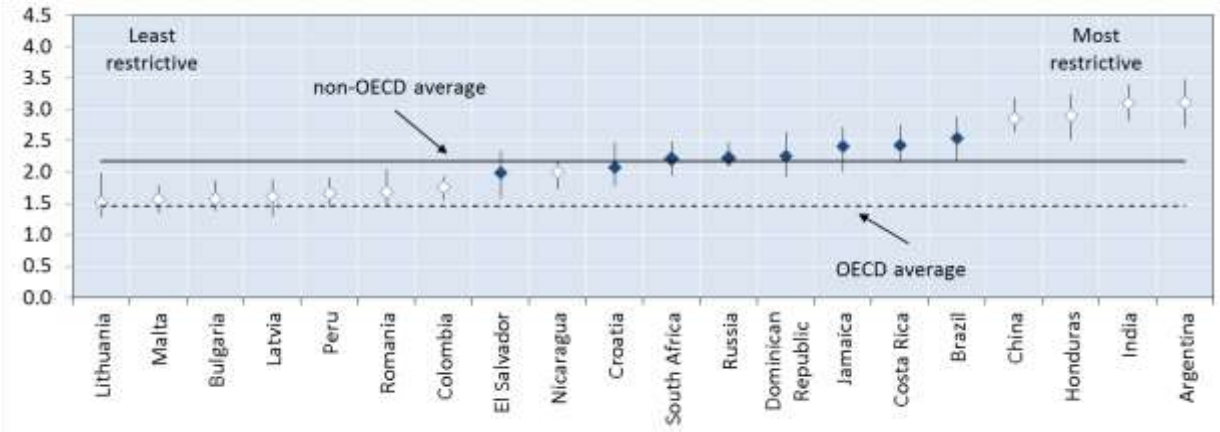
Figure 6. Economy-wide PMR score in 2013

Index scale 0 to 6 from least to most restrictive

Panel A. OECD countries



Panel B. Non-OECD countries



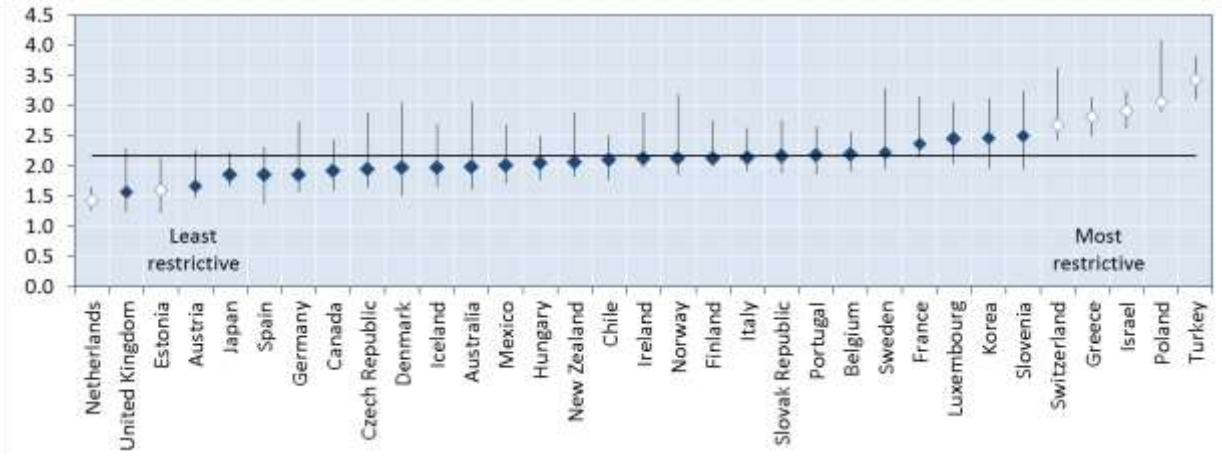
Note: Diamonds represent the indicator scores and vertical lines represent the 90% confidence intervals derived from the random weights analysis (Box 1). The two groups of countries with white diamonds (one group to the right and the other group to the left of the chart) have indicator values that are significantly different from each other. The horizontal lines in panel A represents the average score across all countries shown in the chart. The reported indicator for China is based on preliminary estimates. The reported indicator for Argentina still needs to be vetted by the authorities.

Source: OECD, Product Market Regulation Database for OECD, non-OECD EU and BRIICS countries; OECD-WBG, Product Market Regulation Database for Argentina, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, Nicaragua and Peru.

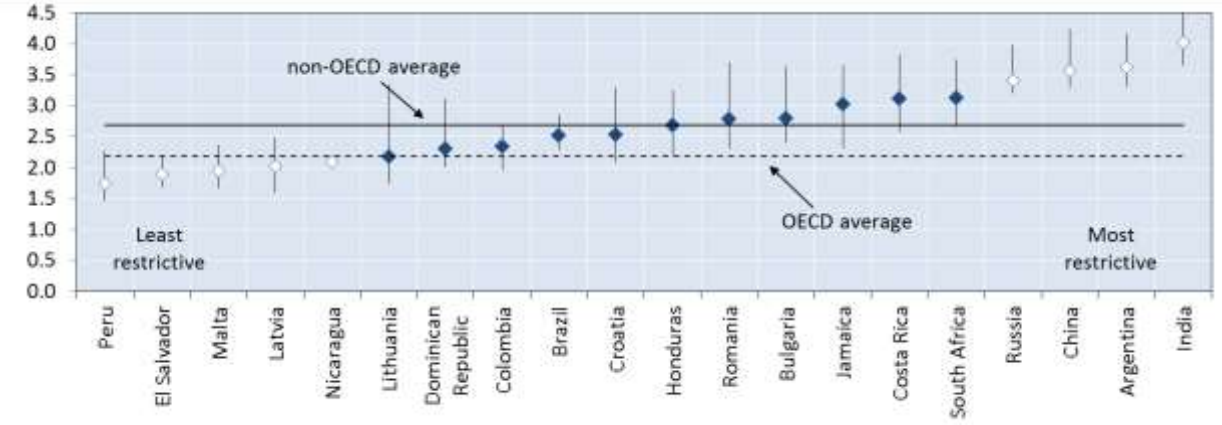
Figure 7. State control in 2013

Index scale 0 to 6 from least to most restrictive

Panel A. OECD countries



Panel B. Non-OECD countries



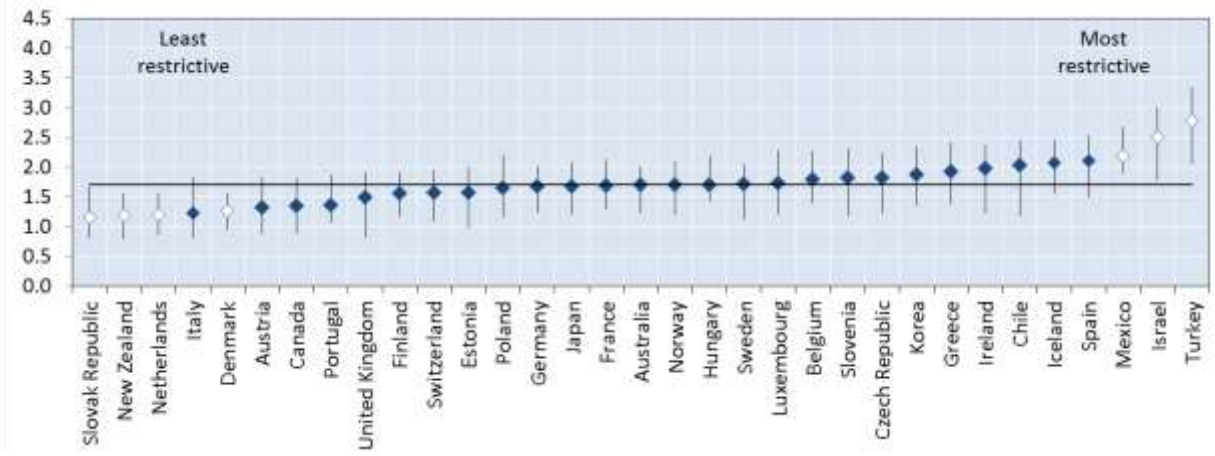
Note: Diamonds represent the indicator scores and vertical lines represent the 90% confidence intervals derived from the random weights analysis (Box 1). The two groups of countries with white diamonds (one group to the right and the other group to the left of the chart) have indicator values that are significantly different from each other. The horizontal line in panel A represents the average score across all countries shown in the chart. The reported indicator for China is based on preliminary estimates. The reported indicator for Argentina still needs to be vetted by the authorities.

Source: OECD, Product Market Regulation Database for OECD, non-OECD EU and BRIICS countries; OECD-WBG, Product Market Regulation Database for Argentina, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, Nicaragua and Peru.

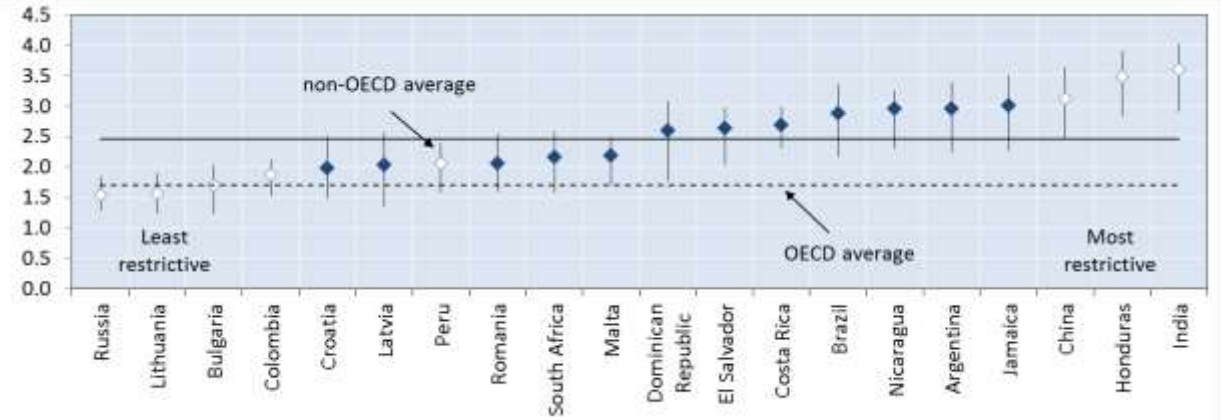
Figure 8. Barriers to entrepreneurship in 2013

Index scale 0 to 6 from least to most restrictive

Panel A. OECD countries



Panel B. Non-OECD countries



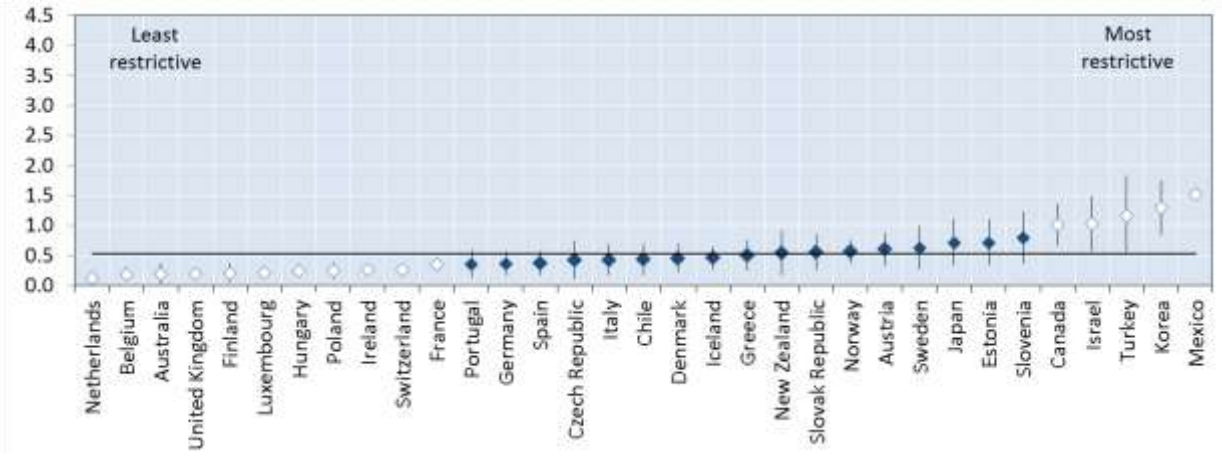
Note: Diamonds represent the indicator scores and vertical lines represent the 90% confidence intervals derived from the random weights analysis (Box 1). The two groups of countries with white diamonds (one group to the right and the other group to the left of the chart) have indicator values that are significantly different from each other. The horizontal line in panel A represents the average score across all countries shown in the chart. The reported indicator for China is based on preliminary estimates. The reported indicator for Argentina still needs to be vetted by the authorities.

Source: OECD, Product Market Regulation Database for OECD, non-OECD EU and BRIICS countries; OECD-WBG, Product Market Regulation Database for Argentina, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, Nicaragua and Peru.

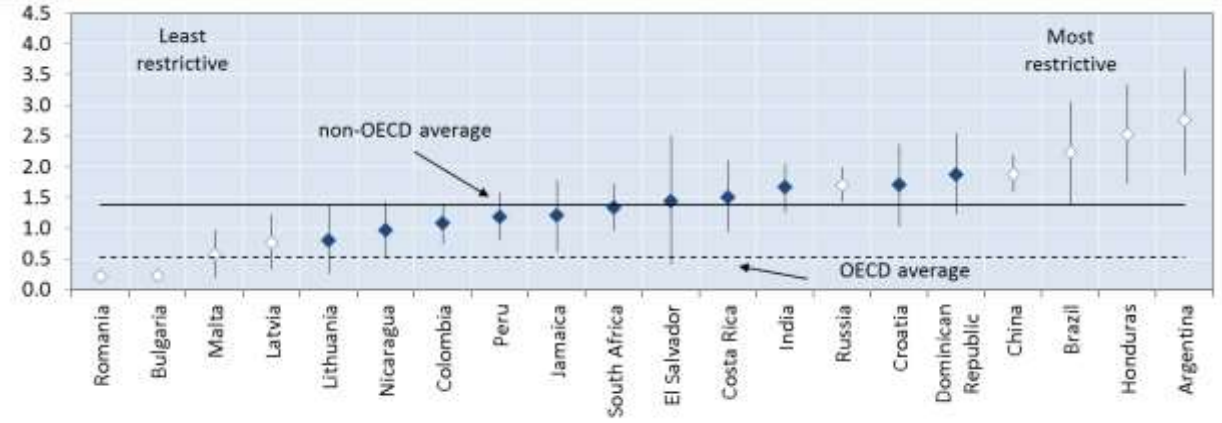
Figure 9. Barriers to trade and investment in 2013

Index scale 0 to 6 from least to most restrictive

Panel A. OECD countries



Panel B. Non-OECD countries



Note: Diamonds represent the indicator scores and vertical lines represent the 90% confidence intervals derived from the random weights analysis (Box 1). The two groups of countries with white diamonds (one group to the right and the other group to the left of the chart) have indicator values that are significantly different from each other. The horizontal line in panel A represents the average score across all countries shown in the chart. For Honduras, El Salvador, the Dominican Republic, Nicaragua, Costa Rica, Jamaica, Bulgaria, Croatia and Malta the indicator is computed based on an alternative methodology as the FDI Regulatory Restrictiveness Index does not exist for these countries, limiting the comprabilty of results. The reported indicator for China is based on preliminary estimates. The reported indicator for Argentina still needs to be vetted by the authorities.

Source: OECD, Product Market Regulation Database for OECD, non-OECD EU and BRIICS countries; OECD-WBG, Product Market Regulation Database for Argentina, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, Nicaragua and Peru.

18. Taking into account the uncertainty associated with the choice of the weighting scheme, the results indicate a similar stance of overall regulation across a majority of countries. Nonetheless, based on the indicator values, countries can be separated into three broad groups – those with an indicator value below the cross-country average, those that cannot be significantly distinguished from the average, and those with a value above the average (Figure 6). Product market regulations are significantly more competition-friendly than in the average OECD country in the Netherlands and the United Kingdom, while in Poland, Greece, Korea, Mexico, Israel and Turkey they are significantly less competition-friendly than in the average OECD country. The remaining group of OECD countries has a regulatory stance that is close to the OECD average, although to varying degrees according to the point estimates. Still, the

regulatory practices of the counties in this group are so close to each other that the ranking among the countries has no real significance. Non-OECD countries tend to have a stricter regulatory stance than OECD countries. Among non-OECD countries three groups of countries can again be identified. Regulations are less strict than the non-OECD average in Lithuania, Malta, Latvia,Romania, Peru and Colombia and stricter than the average in China, Honduras, India and Argentina.

Box 2. The random weights analysis

Composite quantitative indicators that are derived from lower-level qualitative information are prone to aggregation (and therefore measurement) errors, which ultimately reflects uncertainty regarding the appropriate weighting scheme. *First*, the choice of equal weighting is ultimately arbitrary, and the aggregate indicator values and cross-country positions would be somewhat different if alternative weighting scheme were applied. *Second*, the aggregate indicator values depend on the nesting structure of the indicators, which is again reflected in the weights attributed to each low-level indicator. For instance, the low-level indicator on *scope of SOEs* has a lower weight in the aggregate PMR indicator than the low-level indicator on *price controls*, since the former gets a weight of one-eighth in the high-level indicator on *state control* while the latter gets a weight of one-fourth.

In theory weights should be used that reflect the relative importance of each lower-level indicator for market outcomes, but in practice the latter is unknown. The PMR indicator set assigns equal weights at each step of aggregation. To investigate how sensitive the cross-country differences in the various dimensions of product market regulations are to the choice of the weighting scheme, a random weights technique is applied.

The random weights technique consists of using randomly drawn rather than equal weights to aggregate the 18 low-level indicators into the three high-level indicators. Starting with the low-level indicators, the technique uses 10 000 randomly generated weights to calculate 10 000 values of the three high-level indicators. The high-level indicators are directly computed from the low-level indicators to avoid making assumptions about the nesting structure of the mid-level indicators. The overall PMR indicator is then computed as the simple average of the three high-level indicators, *i.e.* at this final step of aggregation no randomization is applied. The reason is that randomization at such an aggregate level would lead to very wide confidence intervals. The random weights are drawn from a uniform distribution between zero and one and are then normalized so that they sum to unity.[1] The distributions of values of the high-level indicators and the overall PMR indicator are then used to calculate 90% confidence intervals around the mean value.[2]

1. In absence of knowledge about the distribution of weights, the choice of a uniform distribution was made for simplicity.

2. For the *state control* and *barriers to entrepreneurship* components the indicator values presented in Figures 7 and 8 do not lie in the middle of the confidence bands because the mid-level indicators do not consist of the same number of low-level indicators, while average value that is generated by the random weights analysis implicitly assumes that this is the case.

19. The decomposition of the overall PMR indicator into the three high-level components suggests that competition-unfriendly regulations are higher in the areas of *state control* and *barriers to entrepreneurship* than in the area of *barriers to trade and investment* (Figures 7 to 9).[10] The OECD average is equal to respectively 2.2 and 1.7 for the former two components, while it is equal to 0.5 for the latter component (for non-OECD countries the respective figures are 2.7, 2.5 and 1.4). Within the *state control* component high scores are primarily driven by public ownership of firms in business sectors (in particular in network sectors) and the poor governance of these firms. High scores on the *barriers to entrepreneurship* component are typically driven by a strong protection of incumbents in network and

10. This comparison assumes that the scales across policy areas are comparable so that a competition-friendly/unfriendly regulatory stance in one area is equally good/bad as a competition-friendly/unfriendly stance in another area. Since this might not be fully the case in practice, some caution is warranted in using these results.

services sectors and high administrative burdens on specific firms such as retail shops and road freight companies.

20. The relative position of countries varies somewhat across the three high-level indicators. For instance, the United Kingdom, the Netherlands and Estonia have a lower level of state control than other OECD countries, while the lowest barriers to entrepreneurship are found in the Slovak Republic, New Zealand, the Netherlands, Italy and Denmark. Barriers to foreign trade and investment are low in many countries, but particularly so in the Netherlands, Belgium, Australia and the United Kingdom.[11] Among non-OECD countries, state control is the lowest in El Salvador, Peru Malta and Latvia, while Russia, Lithuania, Bulgaria and Colombia have lower barriers to entrepreneurship than the other non-OECD countries included in the study. As regards foreign trade and investment, Romania, Bulgaria, Malta and Latvia are among the most open non-OECD countries covered by the analysis. Despite these differences, there is a tendency for OECD and non-OECD countries with a competition-friendly regulatory stance in one of the three areas, to also have competition-friendly regulations in the other two areas. The pair-wise correlations between the three high-level indicators are all around 0.6 or above.

3.2. The current regulatory stance at the sector level

21. The indicators of non-manufacturing regulation are presented in Figures 10 to 14.[12] Among network sectors, regulation tends to be particularly strict in electricity, gas and rail transport, with the average score across countries ranging between 2.5 and 4.7 for both OECD and non-OECD countries (Figures 10 and 12). In telecom, road and air transport sectors, by contrast, regulation is more conducive to competition. For these three sectors, the cross-country average is around 2 or below for both groups of countries (Figures 11 and 12).[13] The OECD countries with the lowest average score across the seven network sectors are the United Kingdom, Germany and Australia, while Slovenia, Mexico and Turkey have the highest score. Among non-OECD countries, the most competition-friendly regulations can be found in Peru, Colombia and El Salvador and the least competition-friendly ones in Costa Rica, China and South Africa.[14]

11. In the case of Australia this reflects low tariff and non-tariff barriers to trade and equal treatment of foreign suppliers as regards taxes and subsidies, public procurement, and appeal and redress procedures. Barriers to FDI, by contrast, are relatively high in Australia.

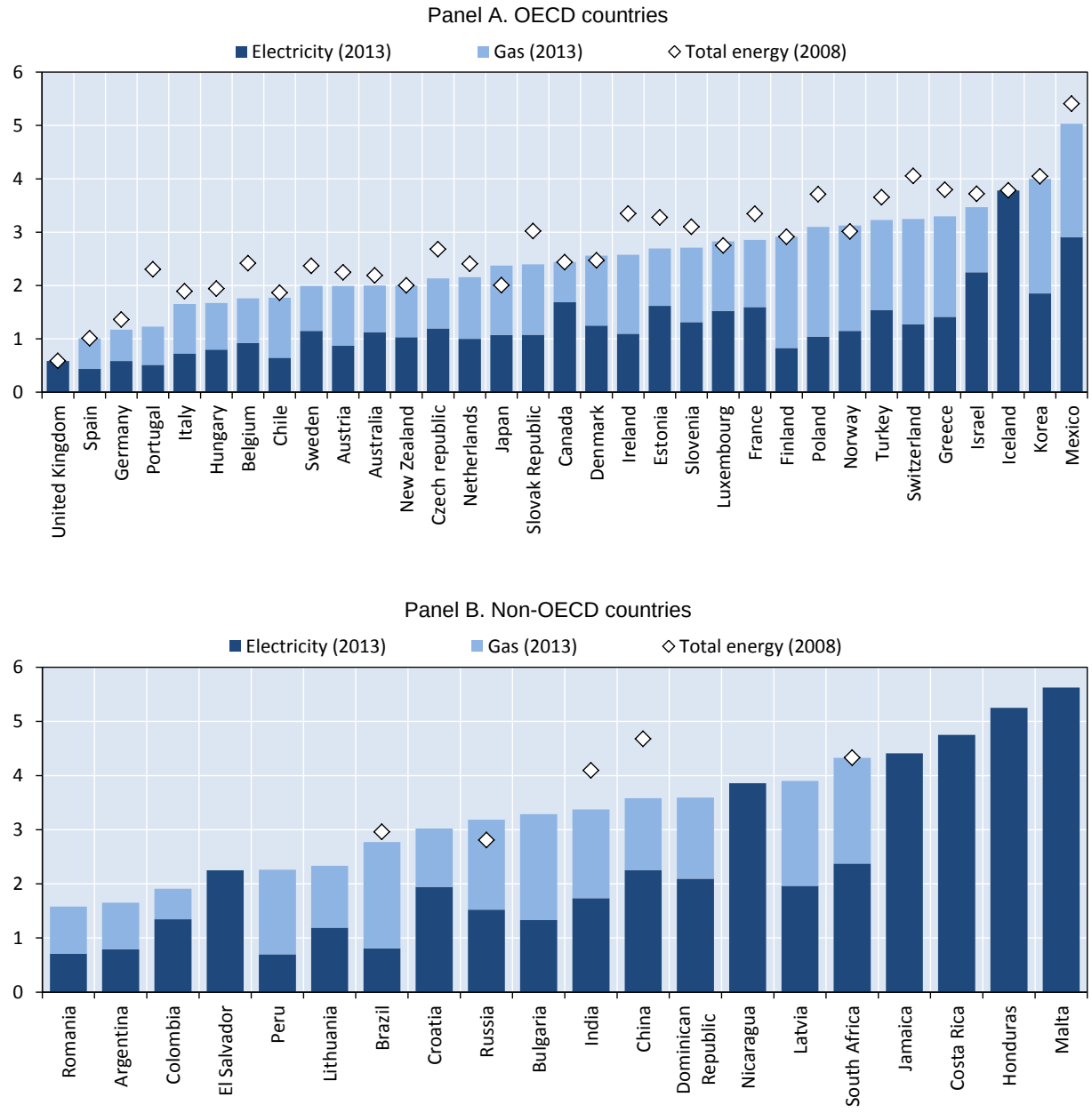
12. In Figures 10 to 14, each bar shows the average score across the sectors represented on the chart (top of the bar) and the contribution of each sector to the average score. In the case of a few OECD countries and many non-OECD countries, information on one or more sectors is missing.

13. Due to the long time-series dimension of the indicators on network sectors, they rely on a rather small number of questions. This warrants some caution in interpretation and use of the indicators as they do not take into account certain aspects that may have an important influence on the level of competition (e.g. price/tarrif regulation).

14. When evaluating the regulatory stance in network sectors it should be kept in mind that certain features such as vertical separation might be less relevant for countries with very limited size of the market.

Figure 10. Regulation of energy sectors

Index scale 0 to 6 from least to most restrictive

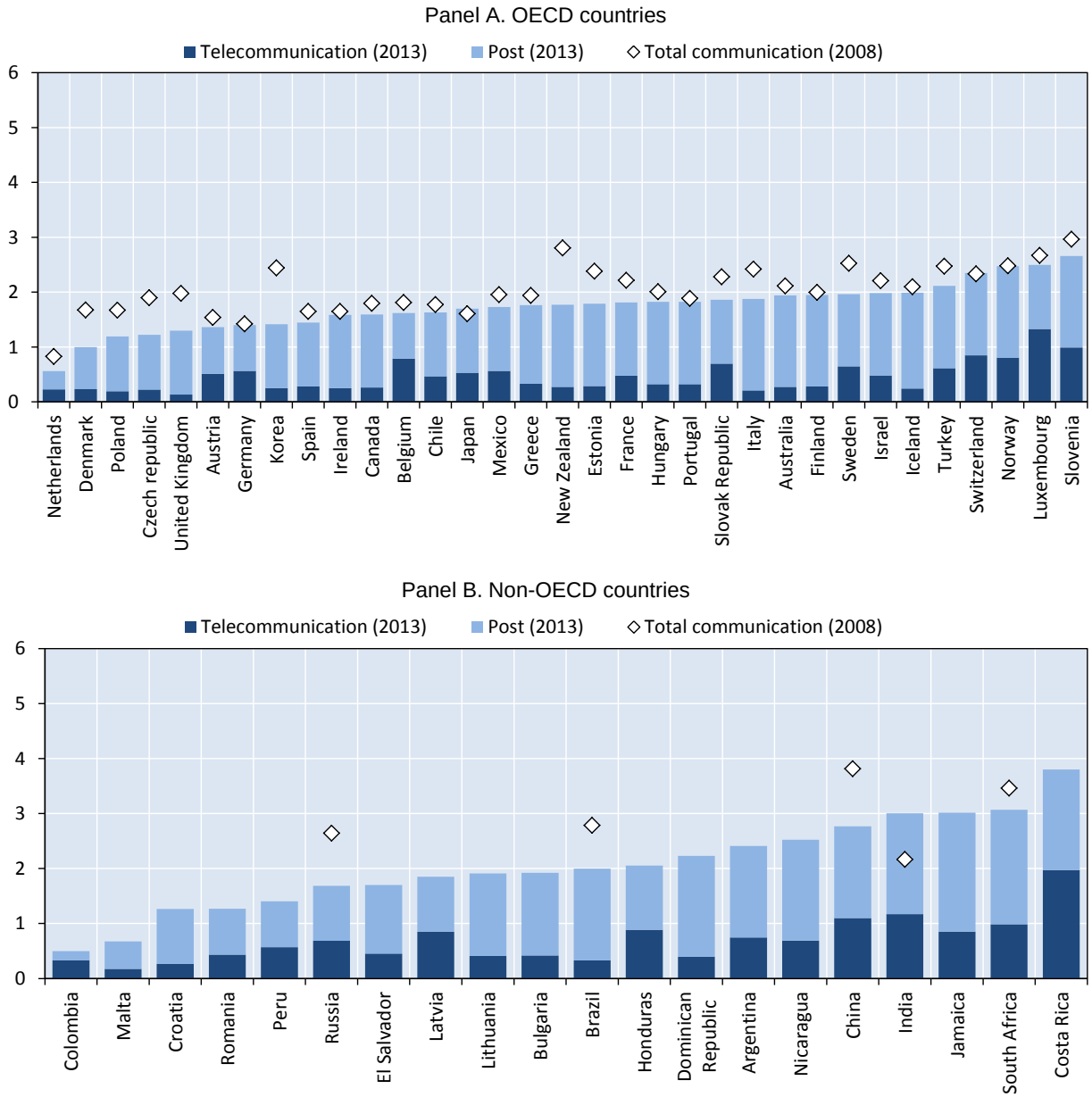


Note: Iceland, El Savlador, Nicarague, Jamaica, Costa Rica, Honduras and Malta do not have a natural gas sector of significant size. The charts therefore show the regulatory stance in the electricity sector only, rescaled assuming that the regulatory stance in the natural gas sector would be identical to that in the electricity if the natural gas sector existed. The results for these countries are thus not fully comparable to the others. The reported indicator for China is based on preliminary estimates. The reported indicator for Argentina still needs to be vetted by the authorities.

Source: OECD, Product Market Regulation Database for OECD, non-OECD EU and BRIICS countries; OECD-WBG, Product Market Regulation Database for Argentina, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, Nicaragua and Peru.

Figure 11. Regulation of communication sectors

Index scale 0 to 6 from least to most restrictive

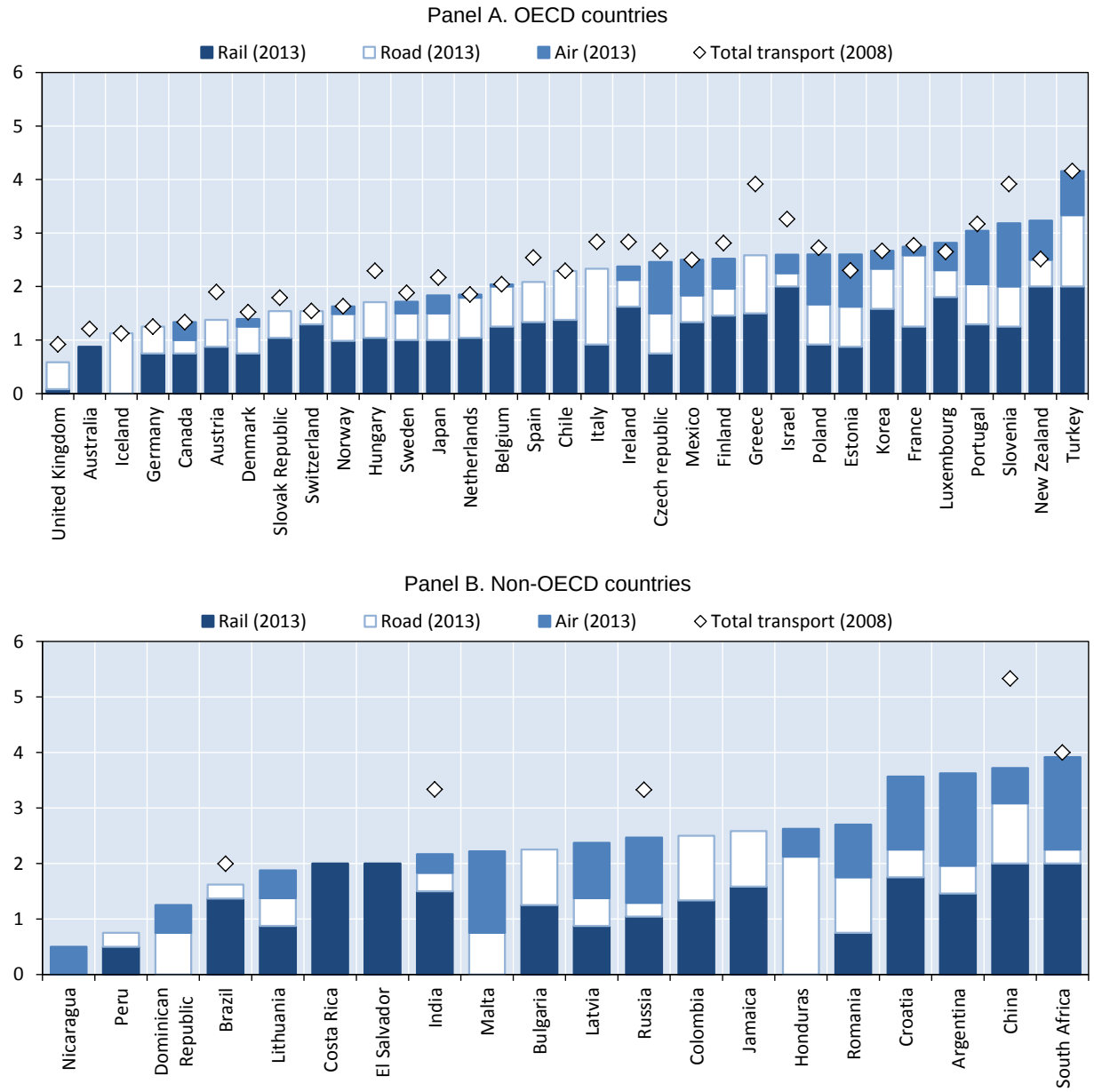


Note: The reported indicator for China is based on preliminary estimates. The reported indicator for Argentina still needs to be vetted by the authorities.

Source: OECD, Product Market Regulation Database for OECD, non-OECD EU and BRIICS countries; OECD-WBG, Product Market Regulation Database for Argentina, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, Nicaragua and Peru.

Figure 12. Regulation of transport sectors

Index scale 0 to 6 from least to most restrictive



Note: Iceland, Nicaragua, the Dominican Republic, Malta and Honduras do not have a rail transport sector of significant size. The charts therefore show the regulatory stance in the road and air sectors only, rescaled assuming that the regulatory stance in the rail transport would be identical to the average of the road and air transport sectors if the rail transport sector existed. The results for these countries are thus not fully comparable to the others. The reported indicator for China is based on preliminary estimates. The reported indicator for Argentina still needs to be vetted by the authorities.

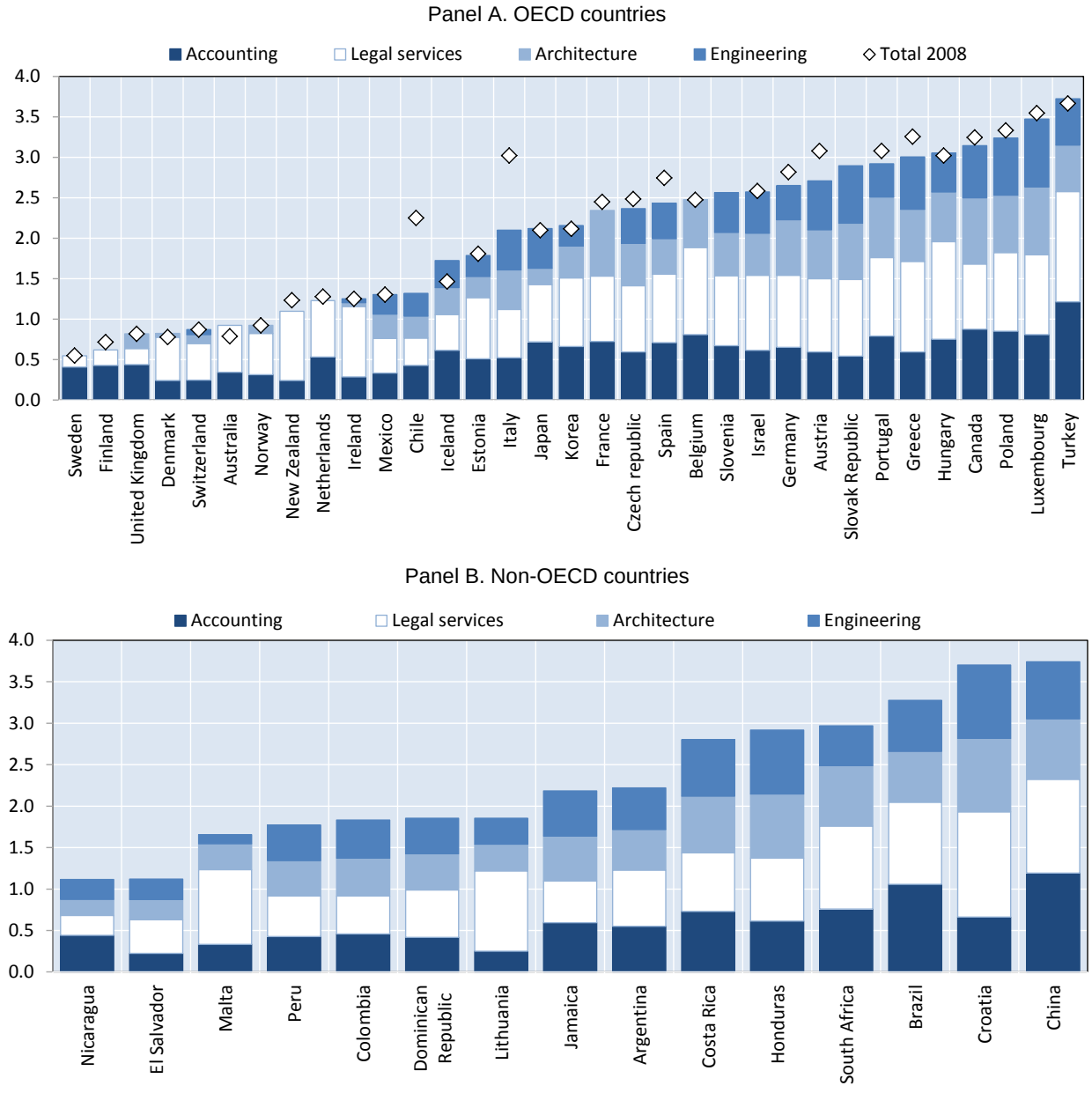
Source: OECD, Product Market Regulation Database for OECD, non-OECD EU and BRIICS countries; OECD-WBG, Product Market Regulation Database for Argentina, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, Nicaragua and Peru.

22. The indicators on professional services cover four professions, accounting, legal services, engineering and architecture (Figure 13). Among these four professions, the accounting and legal professions are the most heavily regulated in OECD countries. The average scores amount to respectively

2.3 and 3.0, compared with 1.3 and 1.6 for engineering and architecture. Non-OECD countries tend to regulate the four professions more heavily than OECD countries, with the legal profession facing somewhat stricter rules than the three other professions. For retail trade, by contrast, non-OECD countries seem to take a more liberal stance than OECD countries: The average score across countries amounts to 1.7 for the non-OECD group and to 2.0 for the OECD group (Figure 14).

Figure 13. Regulation of professional services

Index scale 0 to 6 from least to most restrictive

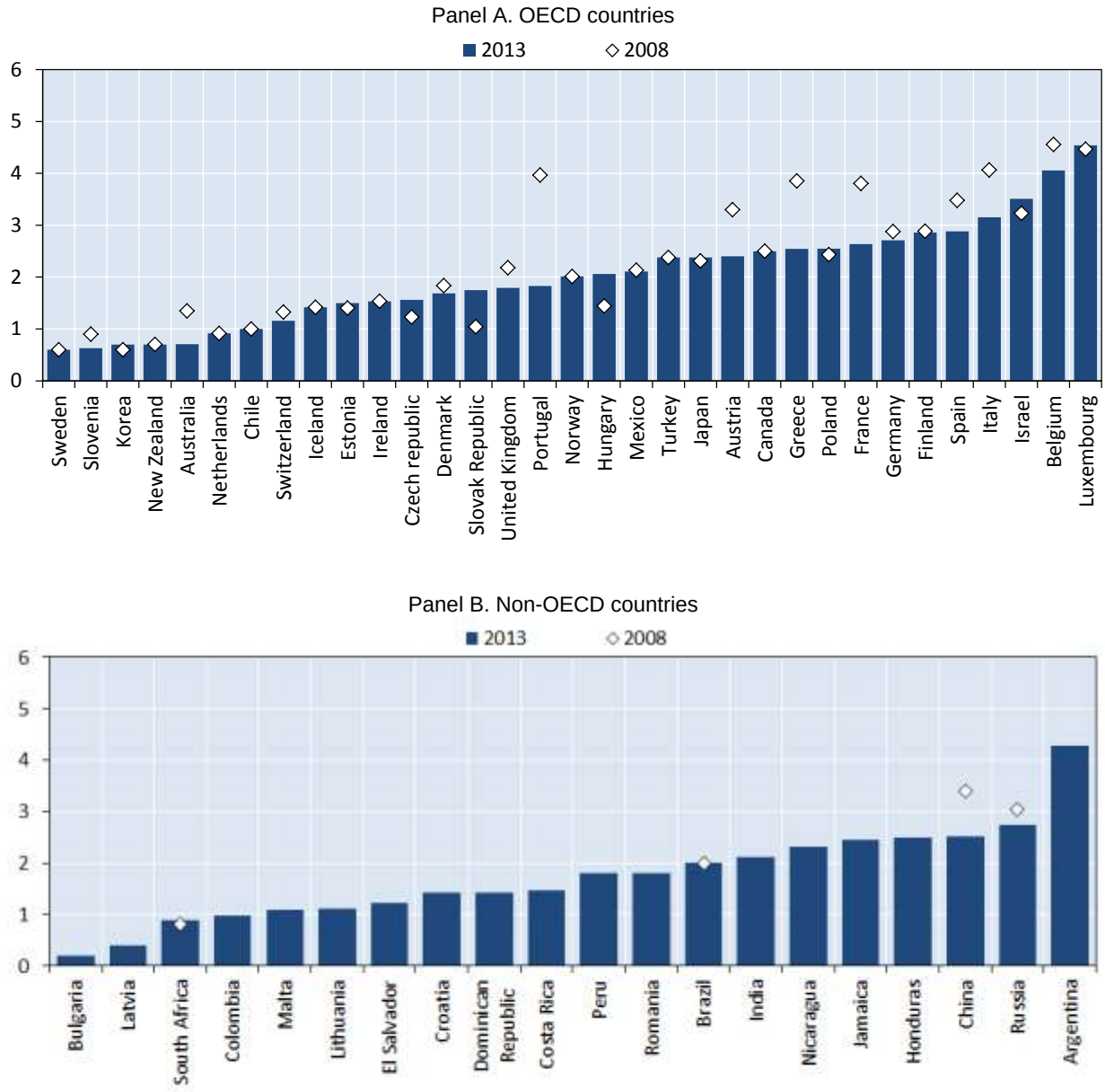


Note: The reported indicator for China is based on preliminary estimates. The reported indicator for Argentina still needs to be vetted by the authorities.

Source: OECD, Product Market Regulation Database for OECD, non-OECD EU and BRIICS countries; OECD-WBG, Product Market Regulation Database for Argentina, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, Nicaragua and Peru.

Figure 14. Regulation of retail trade

Index scale 0 to 6 from least to most restrictive



Note: The reported indicator for China is based on preliminary estimates. The reported indicator for Argentina still needs to be vetted by the authorities.

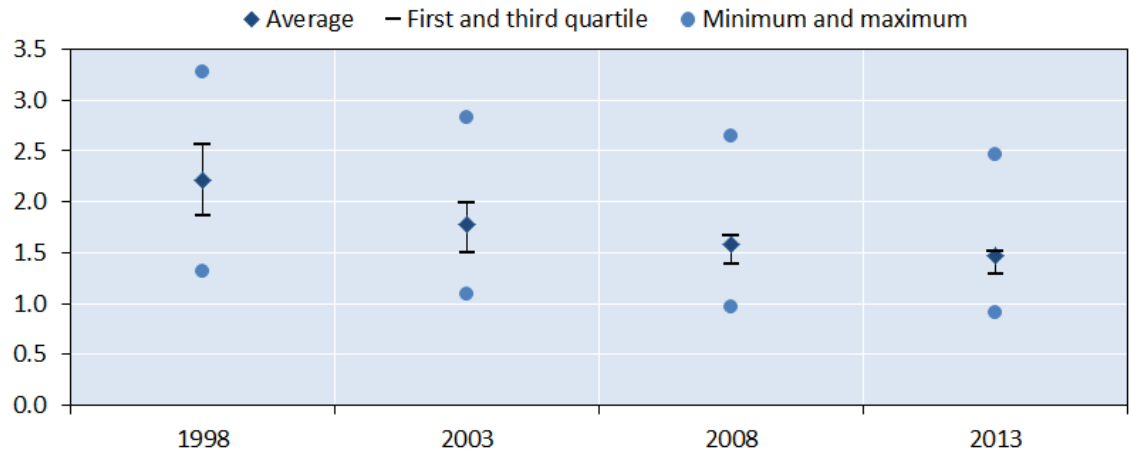
Source: OECD, Product Market Regulation Database for OECD, non-OECD EU and BRIICS countries; OECD-WBG, Product Market Regulation Database for Argentina, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, Nicaragua and Peru.

3.3. Recent reforms in product market regulations

23. OECD countries have considerably liberalised their product markets over the past 15 years (Figure 15). Reforms were typically larger at the beginning of this period. Between 1998 and 2003 the

average PMR score fell by 0.43, compared with 0.19 between 2003 and 2008 and a mere 0.12 between 2008 and 2013. The deceleration in the pace of reforms might reflect the fact that countries have already converged to a large extent towards best practice and further liberalisation has become harder over time as the lowest hanging fruits have already been reaped. However, it might also be a sign of countries having moved away from market-friendly legislation and practices.

Figure 15. The dispersion of the overall PMR indicator in the OECD has declined over time



Note: The average score, the first and third quartiles and the minimum and maximum scores are computed across all OECD countries for which data are available in a given year.

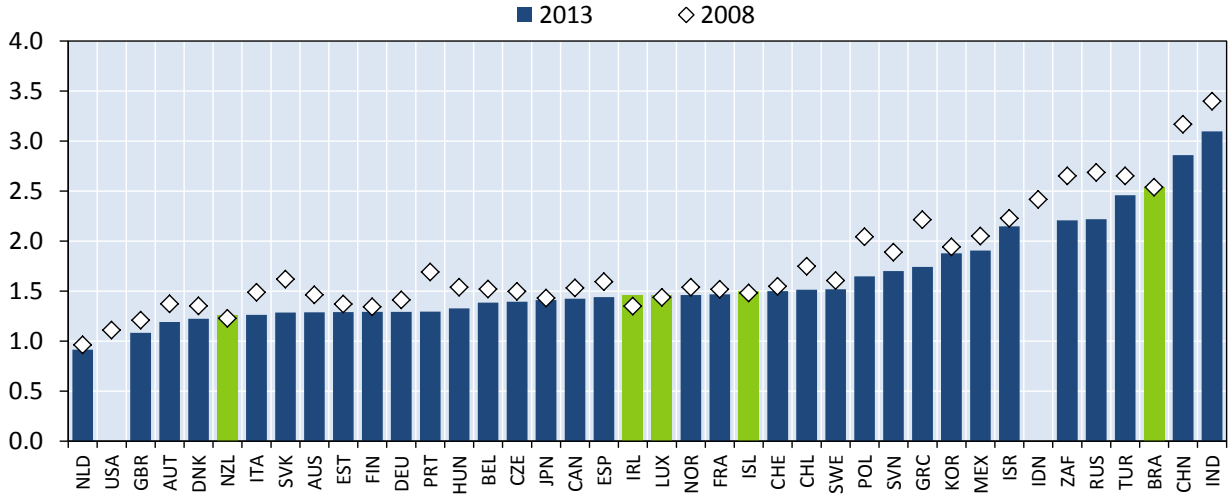
Source: OECD, Product Market Regulation Database.

24. Looking at the detailed country results sheds some light on this issue. In fact, the average changes hide important cross-country differences (Figure 16 and Table 2). Several OECD countries have implemented important reforms over the past 5 years, often triggered by the economic crisis. The country with the largest improvement in the overall PMR score is Greece (-0.47), followed by Portugal and Poland (-0.40) and the Slovak Republic (-0.33). While Greece is still among the OECD countries with relatively strict product market regulations, it has made a substantial leap forward. In Italy and Spain, which have also faced strong market pressures for structural reforms since 2011, progress has been more modest. The score of Italy and Spain fell by 0.22 and 0.15, respectively. Among non-OECD countries, the sizable improvement in Russia and South Africa is noteworthy, with the PMR score falling by 0.47 and 0.44.

25. At the same time, some countries have gone in the opposite direction over the recent past and have introduced regulations that might inhibit competition. Over the period 2008 to 2013, the overall PMR score has increased in nearly one-tenth of all OECD countries (Figure 16 and Table 2). In most cases however, the increase in the overall PMR score is quite small less than 0.15. The tightening of regulation occurred in all the regulatory domains covered by the indicators, but was somewhat more common in the areas of *governance of state-owned enterprises* and *barriers in network sectors*.

Figure 16. Countries displayed different extents of regulatory reform over the period 2008 to 2013

Index scale 0 to 6 from least to most restrictive



Note: For countries with blue (green) bars the score decreased or remained unchanged (increased) between 2008 and 2013. The 2013 value reported for China is based on preliminary estimates.

Source: OECD, Product Market Regulation Database.

Table 2. Overall PMR indicator, 1998 to 2013

Index scale 0 to 6 from least to most restrictive

Country	1998	2003	2008	2013	Country	1998	2003	2008	2013
Australia	1.72	1.34	1.46	1.29	Spain	2.39	1.79	1.59	1.44
Austria	2.12	1.61	1.37	1.19	Sweden	1.89	1.50	1.61	1.52
Belgium	2.30	1.64	1.52	1.39	Switzerland	2.49	1.99	1.55	1.50
Canada	1.91	1.64	1.53	1.42	Turkey	3.28	2.82	2.65	2.46
Chile	.	.	1.75	1.51	United Kingdom	1.32	1.10	1.21	1.08
Czech republic	2.64	1.88	1.50	1.39	United States	1.50	1.30	1.11	.
Denmark	1.66	1.48	1.35	1.22	Brazil	.	.	2.54	2.54
Estonia	.	.	1.37	1.29	China	.	.	3.17	2.86
Finland	1.94	1.49	1.34	1.29	India	.	.	3.40	3.10
France	2.38	1.77	1.52	1.47	Indonesia	.	.	2.42	.
Germany	2.23	1.80	1.41	1.29	Russia	.	.	2.69	2.22
Greece	2.75	2.51	2.21	1.74	South Africa	.	.	2.65	2.21
Hungary	2.66	2.11	1.54	1.33	Argentina	.	.	.	3.11
Iceland	2.03	1.62	1.48	1.50	Bulgaria	.	.	.	1.57
Ireland	1.86	1.58	1.35	1.45	Colombia	.	.	.	1.77
Israel	.	.	2.23	2.15	Costa Rica	.	.	.	2.43
Italy	2.36	1.80	1.49	1.26	Croatia	.	.	.	2.08
Japan	2.11	1.37	1.43	1.41	Dominican Rep.	.	.	.	2.26
Korea	2.56	1.95	1.94	1.88	El Salvador	.	.	.	1.99
Luxembourg	.	1.60	1.44	1.46	Honduras	.	.	.	2.90
Mexico	2.76	2.50	2.05	1.91	Jamaica	.	.	.	2.41
Netherlands	1.82	1.49	0.96	0.92	Latvia	.	.	.	1.61
New Zealand	1.45	1.29	1.23	1.26	Lithuania	.	.	.	1.52
Norway	1.87	1.56	1.54	1.46	Malta	.	.	.	1.57
Poland	3.19	2.42	2.04	1.65	Nicaragua	.	.	.	2.00
Portugal	2.59	2.12	1.69	1.29	Peru	.	.	.	1.66
Slovak Republic	.	2.18	1.62	1.29	Romania	.	.	.	1.69
Slovenia	.	.	1.89	1.70					

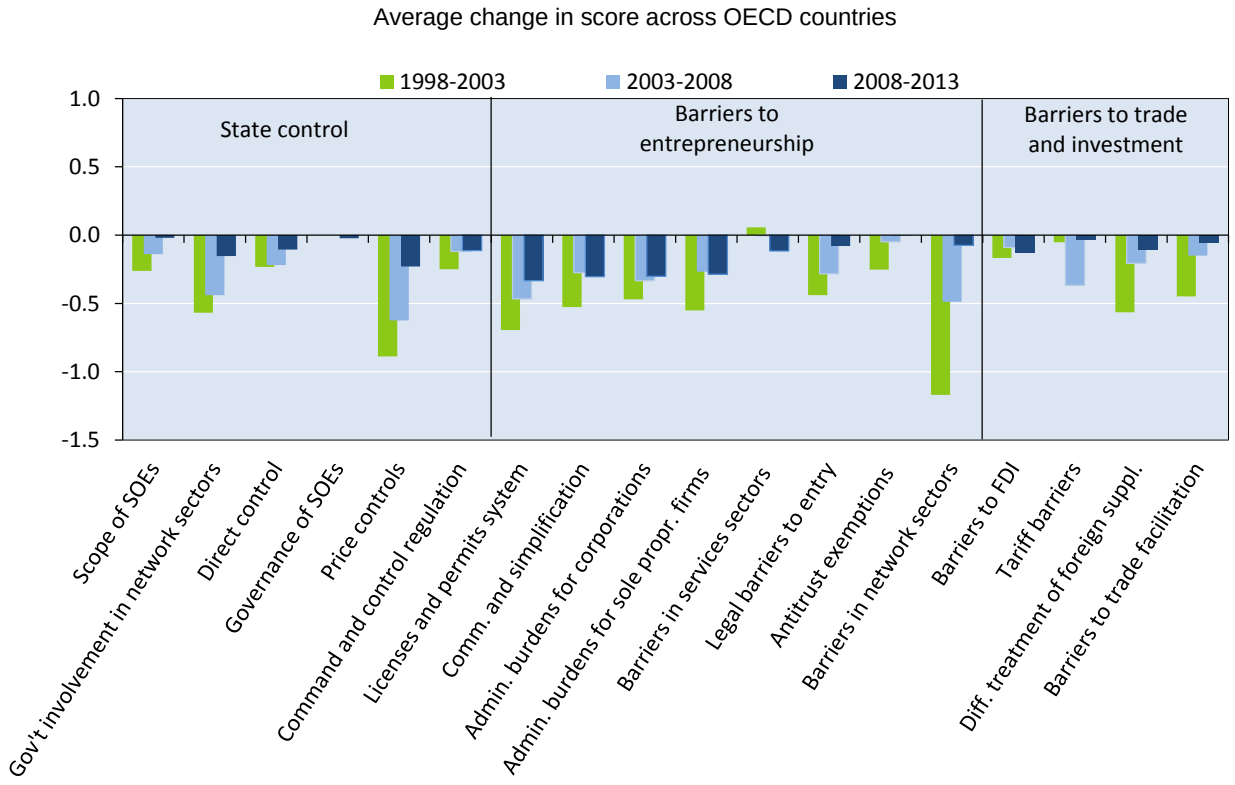
Notes: Due to missing values, the mid-level indicators are computed without: 'Direct control over business enterprise' for Indonesia and South Africa; 'Governance of state-owned enterprises', 'Communication and simplification of rules and procedures' and 'Barriers to trade facilitation' for Indonesia in 2008. The 2013 data refer to the situation on 1 January 2013. All reforms that happened after this date are not captured by the indicators. Due to the splicing, the data for 1998 and 2003 are not perfectly comparable to those of 2008 and 2013. The reported values for China are based on preliminary estimates. The reported values for Argentina still need to be vetted by the authorities.

Source: OECD, Product Market Regulation Database for OECD, non-OECD EU and BRIICS countries; OECD-WBG, Product Market Regulation Database for Argentina, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, Nicaragua and Peru.

26. Reforms over the past 5 years have not been concentrated in particular fields of regulation, but have been spread out quite evenly across the three major regulatory domains covered by the indicators (Figure 17 and Table 3). 26 OECD countries have eased restrictions on trade and investments (in particular by lifting barriers to foreign direct investment and phasing out differential treatments of foreign suppliers), 30 OECD countries have lifted barriers to entrepreneurship (in particular by modernizing license and permits systmes, streamlining administrative procedures for start-ups, simplifying rules and procedures and improving access to information about regulation) and 25 countries have reduced the level of state control (in particular by removing special voting rights and legal or constitutional restrictions to the sale of government stakes and or by abolishing price controls or improving their design). In terms of sectors,

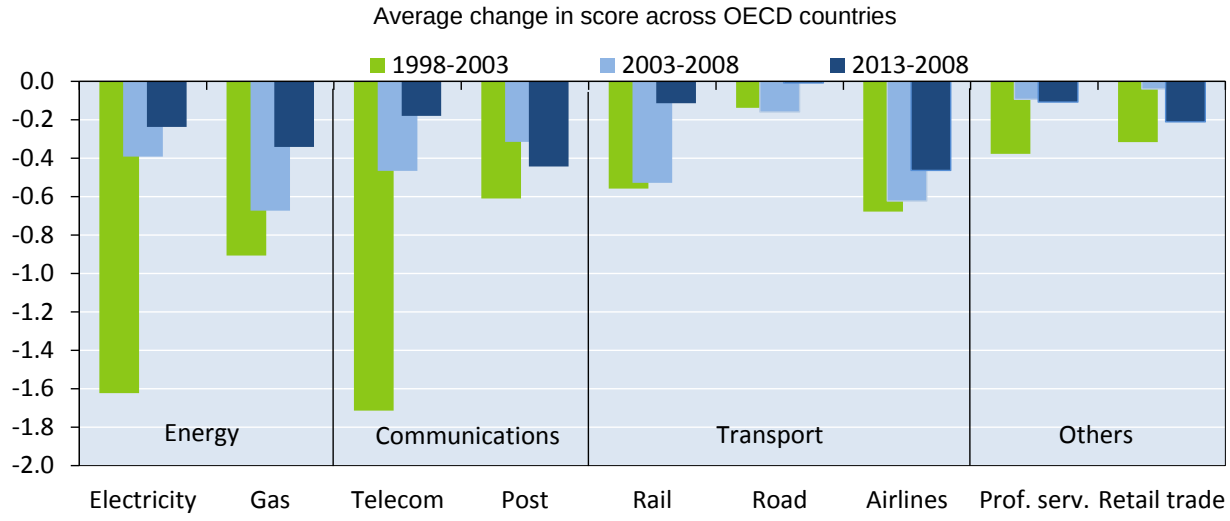
progress has continued to slow in the transport and energy sectors as well as in the telecom sector (Figure 14). In retail trade, the pace of reform over the past 5 years was similar to that over the 2003-2008 period and in the postal sector and professional services it has even accelerated a bit. The reform acceleration in the postal sector mainly reflects the implementation by the EU Postal Directive.

Figure 17. Changes in the overall PMR scores can be traced back to specific reform areas



Source: OECD, Product Market Regulation Database.

Figure 18. The sector composition of reforms



Source: OECD, Product Market Regulation Database.

Table 3. Recent reform patterns have varied across countries

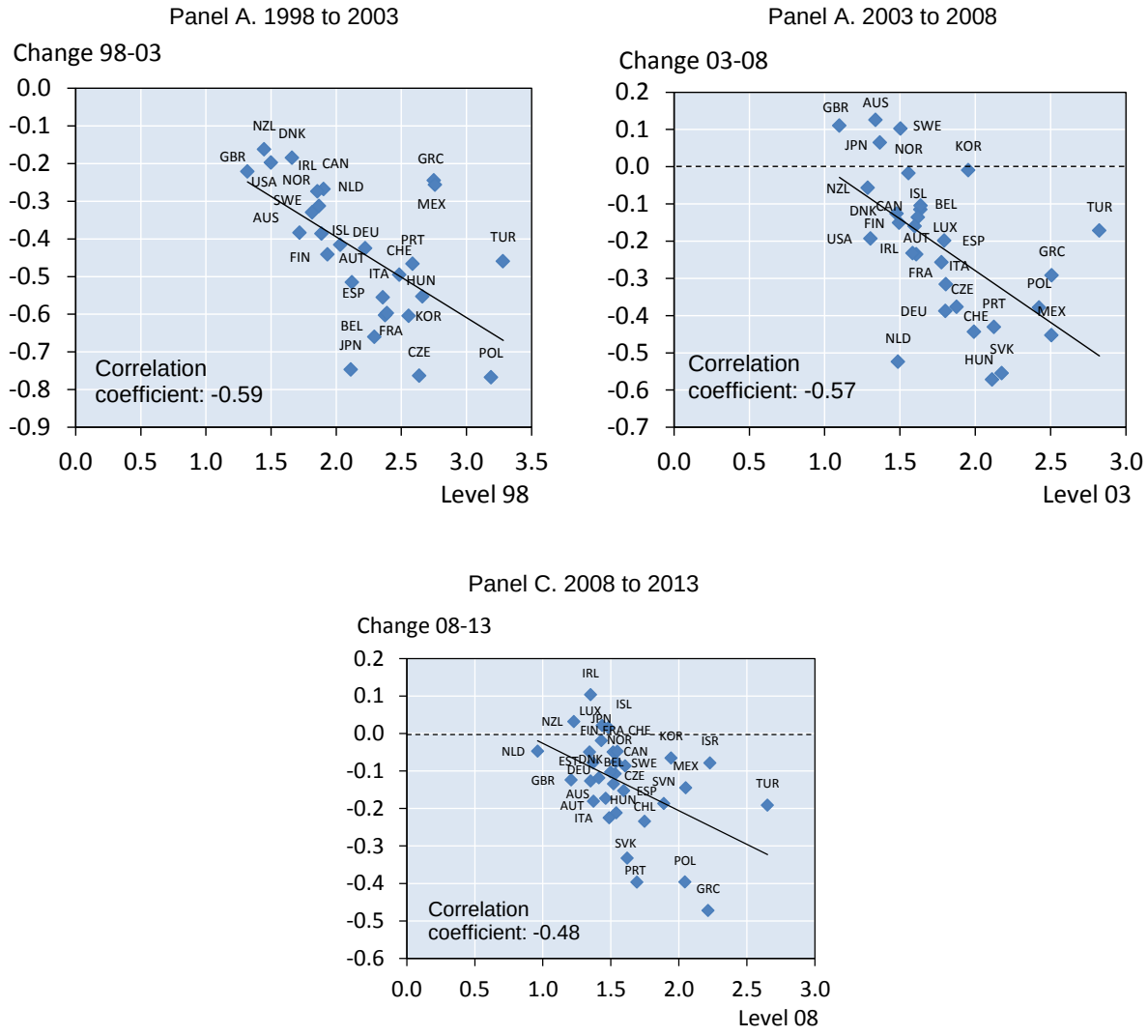
	State control						Barriers to entrepreneurship								Barriers to trade and inv.					
	Scope of SOEs	Government involvement in network sectors	Direct control	Governance of SOEs	Price controls	Command & control regulation	Licence and permits	Communi-cation. & simplification	Admin. bur-dens for corporations	Admin. burdens for sole proprie-tor firms	Barriers in services sectors	Legal barriers to entry	Antitrust exemptions	Barriers in network sectors	Barriers to FDI	Tariffs	Differential treatment of foreign suppliers	Barriers to trade facilitation	Number of -	Number of +
Australia	-	-	-	0	+	-	0	+	0	0	+	+	-	+	-	-	-	0	8	5
Austria	-	-	0	0	-	-	0	-	-	-	-	-	0	0	-	0	0	-	11	0
Belgium	+	-	-	0	+	0	-	-	0	0	-	+	0	-	-	0	0	-	8	3
Canada	-	0	-	0	0	-	0	-	0	0	-	0	-	-	-	-	0	0	9	0
Chile	-	-	-	0	0	-	0	-	-	-	+	-	0	-	-	0	0	-	11	1
Czech Republic	-	+	-	0	+	-	0	+	-	-	+	-	0	0	-	0	0	-	8	4
Denmark	-	-	+	0	-	-	-	-	0	0	-	-	-	-	-	0	0	-	12	1
Estonia	-	+	0	0	-	0	0	-	0	-	-	-	0	-	-	0	-	+	9	2
Finland	-	-	-	0	+	-	0	+	0	+	-	-	0	-	-	0	+	-	9	4
France	+	-	-	0	+	-	0	+	-	-	-	-	0	0	0	0	0	-	8	3
Germany	-	-	+	0	+	-	-	+	-	0	-	-	-	+	-	0	+	0	9	5
Greece	-	-	+	0	+	-	0	-	-	-	-	-	0	+	-	0	-	-	11	3
Hungary	+	-	-	0	+	0	-	-	-	-	+	-	+	-	-	0	-	0	10	4
Iceland	+	0	+	+	-	0	0	-	+	-	+	-	0	0	0	0	0	+	4	6
Ireland	+	-	+	0	+	0	0	+	+	0	0	-	0	-	-	0	-	+	5	6
Israel	0	-	-	-	-	+	+	-	-	0	+	-	0	-	0	0	-	+	9	4
Italy	-	-	+	0	-	-	+	-	-	-	-	-	0	+	-	0	0	-	11	3
Japan	+	+	+	0	-	-	0	-	0	0	+	-	+	+	-	0	-	+	6	7
Korea	+	-	+	+	+	0	0	-	-	+	+	+	+	-	0	+	-	-	6	9
Luxembourg	0	+	-	0	+	+	0	+	0	-	+	-	0	-	0	0	+	-	5	6
Mexico	0	0	+	0	-	0	0	-	-	-	0	-	0	-	-	0	0	-	8	1
Netherlands	+	-	+	0	+	0	0	-	-	-	-	-	0	0	-	0	0	-	8	3
New Zealand	+	+	-	0	-	+	0	-	0	0	-	-	+	+	0	-	0	-	7	5
Norway	0	-	+	0	-	0	0	-	-	-	0	-	0	0	-	0	0	-	8	1
Poland	+	-	-	0	-	+	-	-	-	-	-	-	0	-	-	0	0	0	11	2
Portugal	-	-	-	0	-	-	-	-	+	-	-	-	0	-	0	0	0	0	11	1
Slovak Republic	0	0	+	0	-	-	-	-	-	0	+	-	0	-	0	0	-	0	8	2
Slovenia	0	-	0	-	-	-	0	-	0	-	-	-	0	-	-	0	-	0	11	0
Spain	-	0	+	0	-	-	0	-	-	-	-	+	0	-	-	0	-	0	10	2
Sweden	-	-	+	-	0	0	0	-	-	-	0	-	0	-	-	0	0	+	9	2
Switzerland	0	+	+	0	0	0	0	0	-	0	-	+	0	-	-	0	0	0	4	3
Turkey	-	-	-	0	-	+	0	-	+	-	-	+	0	-	-	0	0	-	10	3
United Kingdom	0	0	-	0	+	-	0	-	+	-	-	-	0	0	-	0	-	0	8	2
Number of -	15	21	15	3	16	16	7	25	18	20	19	26	4	20	25	3	12	16		
Number of +	10	6	15	2	13	6	2	7	5	2	10	6	4	6	0	1	3	6		

Note: The minus (plus) sign represents cases where the PMR score fell (rose) between 2008 and 2013. The 0 represents cases where the score remained unchanged.

Source: OECD, Product Market Regulation Database.

27. Figure 19 also shows that the trend decline in the dispersion of PMR scores has continued as the difference between the first and third quartiles has diminished, albeit by a small margin (the maximum and minimum have even diverged somewhat over the most recent period). This convergence of countries over time is further illustrated in Figure 19 which plots the change in a country's PMR score over a certain sub-period against the level of the PMR score at the beginning of that sub-period. The trend lines are downward sloping in all three panels, suggesting that countries with the strictest regulations have implemented the biggest reforms. However, the trend lines have flattened over time, while the noise around the trend has increased. Over the most recent sub-period, Greece, Poland, Portugal and the Slovak Republic have made comparatively large reforms given their regulatory stance in 2008. Figure 19 also highlights the countries that have tightened their regulations in recent years (those above the dashed horizontal line in Panel C).

Figure 19. Product market regulation has converged across countries



Source: OECD, Product Market Regulation Database.

3.4. Potential for future reforms

28. Even though OECD countries have made product market regulations considerably more conducive to competition over the past 15 years, there remains room for further improvement, in particular with respect to *state control* and *barriers to entrepreneurship*. The low-level indicators and the detailed PMR data allow pinning down the regulatory domains in which reforms are the most pressing. Since this assessment assumes that reforms in the various areas are comparable in terms of their impact on living standards and that indicator values are comparable across policy areas, it must be interpreted with caution. Interestingly the domains with the greatest need for further reform are the same for both OECD and non-OECD countries:

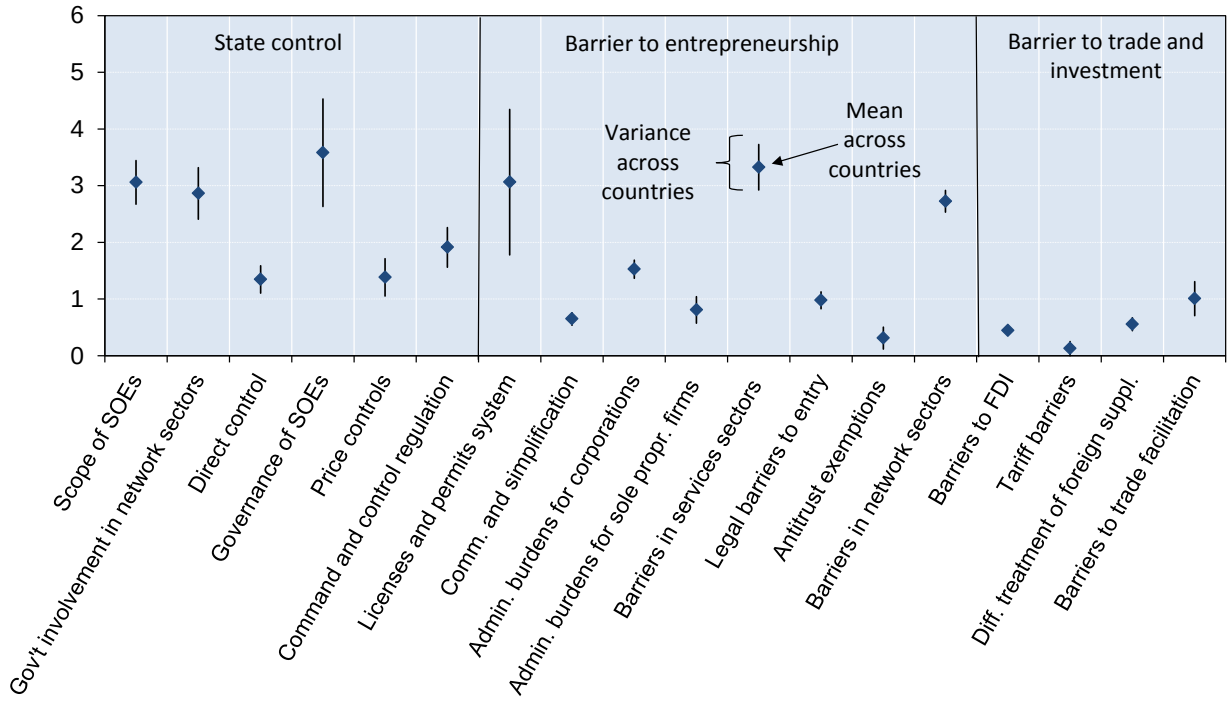
- In the area of *state control*, the average scores across OECD and non-OECD countries is still relatively high for the components *scope of SOEs*, *government involvement in network sectors* and *governance of SOEs* (Figure 20). The first two components capture public ownership, either in terms of the number of sectors in which governments control at least one firm or the share of the government in the largest firm in the sector. While it might be sensible for the government to retain a certain level of participation in specific sectors, there is room to further reduce public ownership in sectors such as wholesale and retail trade or the manufacture of petroleum products. In addition, the governance of state-owned firms could be further improved in many countries, for instance by incorporating them into joint-stock companies and by reducing government involvement in their strategic decisions.

- As for *barriers to entrepreneurship*, scores are still relatively high for the components *barriers in services sectors*, *barriers in network sectors* and, at least for non-OECD countries, *licenses and permits system* (Figure 20). To ease administrative burdens and facilitate firm entry in network and services sectors, countries could for instance lower the licensing requirements in road freight transport and retail distribution sectors, regulate third party access to gas grids (for electricity grids this is already the norm), make water abstraction rights tradable or at least give them away through a competitive process, allow for more competition in rail transport (in particular passenger transport), abolish chamber membership requirements in professional services and reduce the number of exclusive rights of professions (in particular in the legal and accounting professions). Which among these reforms are the most pressing varies of course by country.

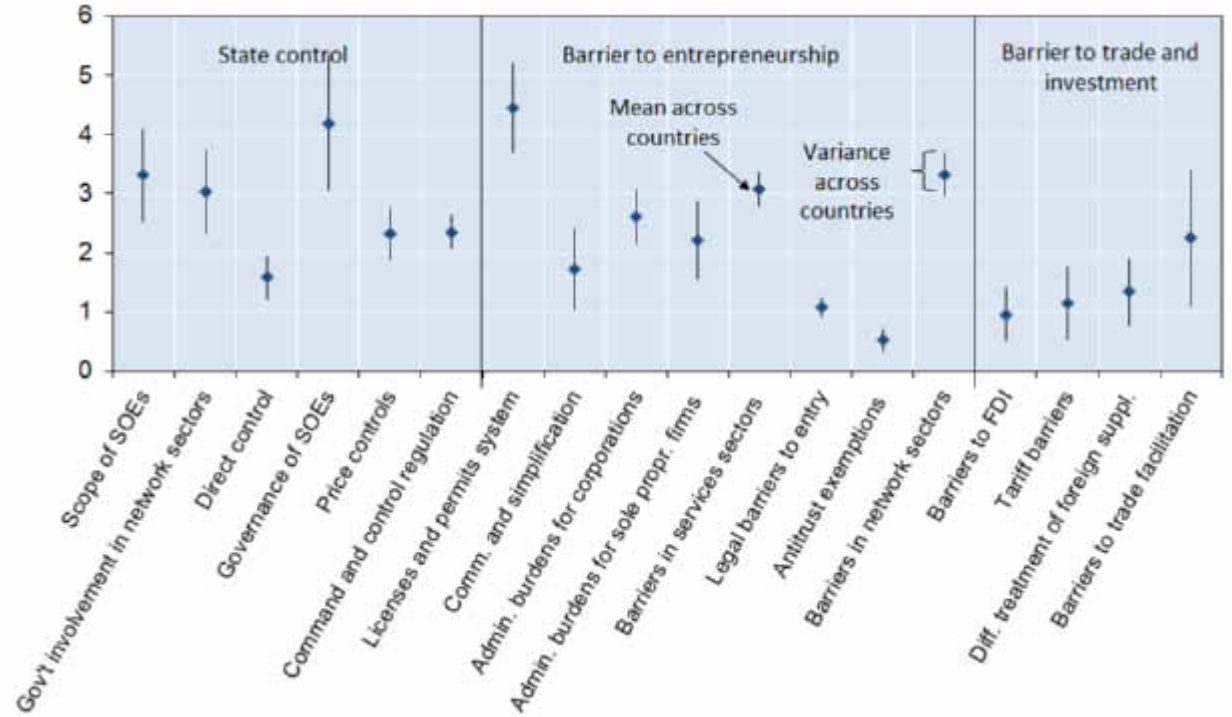
Figure 20. The scope for improvement remains significant in some areas

Index scale 0 to 6 from least to most restrictive

Panel A. OECD countries



Panel B. Non-OECD countries



Source: OECD, Product Market Regulation Database for OECD, non-OECD EU and BRIICS countries; OECD-WBG, Product Market Regulation Database for Argentina, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, Nicaragua and Peru.

4. Conclusions

29. This paper updates the OECD's product market regulation indicators, extending them to the year 2013. It also introduces two important changes to the indicators. *First*, the scoring and aggregation system is revised to reduce the sensitivity of the overall indicator value to changes in particular data points, to align the scoring system across sectors and to move to equal weights also at the lowest levels of aggregation. *Second*, the new methodology makes use of a broader set of questions to maintain the relevance of the indicator set in the context of evolving competition issues in OECD countries.

30. A statistical analysis of the updated indicator set yields the following key findings:

- Liberalisation of product markets has slowed over the past 5 years. On average across countries, the overall PMR score fell by 0.12 between 2008 and 2013, which is notably less than the declines observed during earlier periods (0.43 between 1998 and 2003 and 0.19 between 2003 and 2008).

- Even though there was little progress on average in the OECD, several countries implemented important reforms over the past years, often in an attempt to boost economic growth in wake of the economic crisis. The country with the largest improvement overall is Greece, followed by Portugal, Poland and the Slovak Republic.

- On average across the OECD, countries have made particular progress in removing restrictions to the sale of government stakes in firms (*e.g.* the requirement for parliamentary approval) or special voting rights, abolishing price controls or improving their design, streamlining administrative procedures for start-ups, simplifying rules and procedures or improving access to information about regulations and phasing out practices that discriminate against foreign suppliers.

- Even though regulatory barriers to product market competition have been lifted to a substantial extent over the past 15 years, room for further reform remains. The policy domains with largest scope for improvement include public ownership and the governance of state-owned enterprises, barriers in network sectors and barriers in services sectors.

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ANNEX

1. The following tables explain in detail how the 18 low-level indicators of the economy-wide PMR indicator (Tables A1 to A18) and the 12 NMR indictors (Tables A19 to A28) are derived from the answers to individual questions in the PMR questionnaire. Tables A1 to A18 follow the order of the tree structure displayed in Figure 1 in the main text, starting with the four low-level indicators that make up the *public ownership* component and ending with the two low-level indicators that make up the *other barriers to trade and investment* component.

Table A1. Scope of state-owned enterprises

ISIC (Rev. 4.0) code	**National, state or provincial government controls at least one firm in:**	**Sector weight**	**Coding of answers**	
		a_i	yes	no
12	Manufacture of tobacco products	1/n	6	0
192	Manufacture of refined petroleum products	1/n	6	0
24	Manufacture of basic metals	1/n	6	0
25	Manufacture of fabricated metal products, machinery and equipment	1/n	6	0
301	Building and repairing of ships and boats	1/n	6	0
302	Manufacture of railway and tramway locomotives and rolling stock	1/n	6	0
303	Manufacture of aircraft and spacecraft	1/n	6	0
3510	Electricity	1/n	6	0
3520	Gas	1/n	6	0
36	Water collection, treatment and supply	1/n	6	0
41, 42, 43	Construction	1/n	6	0
46, part of 45	Wholesale trade, incl. of motor vehicles	1/n	6	0
47, part of 45	Retail trade, incl. of motor vehicles	1/n	6	0
55	Accommodation, food and beverage service activities	1/n	6	0
491	Transport via railways	1/n	6	0
part of 5221	Operation of railroad infrastructure	1/n	6	0
4921, 4922	Other urban, suburban and interurban passenger transport	1/n	6	0
4923	Freight transport by road	1/n	6	0
part of 5221	Operation of road infrastructure	1/n	6	0
50	Water transport	1/n	6	0
part of 5222	Operation of water transport infrastructure	1/n	6	0
51	Air transport	1/n	6	0
part of 5223	Operation of air transport infrastructure	1/n	6	0
53	Postal and courier activities	1/n	6	0
61	Telecommunication	1/n	6	0
6419, 642, 643, 649, 661, part of 663	Financial service activities, except central banking, insurance and pension funding	1/n	6	0
65, 662, part of 663	Insurance, reinsurance and pension funding	1/n	6	0
70, 71, 73, 74, 78, 80, 812, 82, 855	Other business activities	1/n	6	0
86	Human health activities	1/n	6	0
59	Motion picture distribution and projection	1/n	6	0
Country scores (0-6)			$\Sigma_i a_i$ answer$_i$	

Note: n is the number of sectors for which data are available.

Missing data point rule:

The indicator is computed only if at least 10 data points are available. It is computed as the average across all available data points.

Treatment of network industries:

Electricity: average across four segments (generation/import, transmission, distribution, supply)

Gas: average across four segments (production/import, transmission, distribution, supply)

Transport via railways: average across two segments (passenger transport via railways, freight transport via railways)

National post, courier services: average across three segment (basic letter services, basic parcel services, courier services)

Telecommunication: average across four segments (fixed line network, fixed line services, mobile services, internet services)

Table A2. Government involvement in network sectors

ISIC (Rev. 4.0) code	What percentage of shares in the largest firm are owned by the national, state or provincial government?	Sector weight a_i	Coding of answers
Electricity		1/6	% government ownership / 100 * 6
Gas		1/6	
Rail transport		1/6	
Air transport		1/6	
Postal services		1/6	
Telecommunication		1/6	
Country scores (0-6)			$\Sigma_i a_i$ answer$_{ij}$

Missing data point rule:

If information on one or several sectors (subsectors) is missing, the indicator value is calculated as the simple average over all available sectors (subsectors).

Treatment of network industries:

Electricity: average across four segments (generation/import, transmission, distribution, supply)

Gas: average across four segments (production/import, transmission, distribution, supply)

Rail transport: average across three segments (passenger transport via railways, freight transport via railways, operation of railroad infrastructure)

National post, courier services: average across three segments (basic letter services, basic parcel services, courier services)

Telecommunication: average across four segments (fixed line network, fixed line services, mobile services, internet services)

Table A3. Direct control over business enterprises

	Question weight	Sub-question weight	Coding of answers	
	a_i	b_j	yes	no/not applicable
General constraints				
The government controls at least one firm and there are legal or constitutional constraints to the sale of the stakes held by the government[1]	1/2	1	6	0
Special voting rights				
National, state or provincial governments have special voting rights (e.g. golden shares) in at least one firm[1]	1/4		6	0
The special rights can be exercised in the following cases:	1/4			
Merger with or acquisition by another company		1/5	6	0
Change in controlling coalition		1/5	6	0
Choice of management		1/5	6	0
Strategic management decisions		1/5	6	0
Other important decisions (e.g. reduction of share capital, foreclosure)		1/5	6	0
Country scores (0-6)		$\Sigma_i a_i \Sigma_j b_j$ answer$_{ij}$		

1. Average value across sectors if data on at least 10 sectors are available. Sectors covered: manufacture of tobacco products; manufacture of refined petroleum products; manufacture of basic metals; manufacture of fabricated metal products, machinery and equipment; building and repairing of ships and boats; manufacture of railway and tramway locomotives and rolling stock; manufacture of aircraft and spacecraft; electricity: electricity generation or electricity import or electricity transmission or electricity distribution or electricity supply; gas: gas production or gas import or gas transmission or gas distribution or gas supply; collection, purification and distribution of water; construction; wholesale trade, incl. motor vehicles; retail trade; restaurant and hotels; railways: passenger transport via railways, freight transport via railways; railways: operation of railroad infrastructure; other urban, suburban and interurban passenger transport; freight transport by road; operation of road infrastructure; water transport; operation of water transport infrastructure; air transport; operation of air transport infrastructure; national post, courier services; telecommunication: fixed-line network, fixed-line services, mobile services, internet services; financial institutions; insurance; other business activity; human health activities; motion picture distribution and projection.

Missing data point rule:

In case of missing data points, a simple average of the available data points is used.

Table A4. Governance of state-owned enterprises

	Question weight	Coding of answers		
	a_i			
Degree of insulation from market discipline				
Are there any publicly-controlled firms which are not incorporated into joint-stock companies?		yes	yes	no
If yes, are these firms subject to private company law?		no	yes	not applicable
	1/4	6	3	0
Can government-controlled firms receive financing which is not available to private companies?	1/4	yes 6		no 0
Degree of political interference				
Do strategic choices of any publicly-controlled firms have to be reviewed and/or cleared in advance by national, state, or provincial legislatures?	1/4	yes 6		no 0
Who manages state equity holdings in publicly-controlled firms?	1/4	independent holding 0	Treasury 3	related ministry 6
Country scores (0-6)		$\Sigma_i a_i$ answer$_i$		

Missing data point rule:

If data on one or two the four questions are not available, the indicator is calculated as the simple average over all available data points.

Table A5. Price controls

	Sector weight	Question weight	Coding of answers		
	a_i	b_j			
Air transport	1/8		yes	no	
Prices of domestic air fares are regulated		½	6	0	
Number n of 5 busiest international routes subject to price regulation		½		(n/5)*6	
Road freight transport	1/8				
Retail prices of road freight services are regulated in any way by the government		1/3	6	0	
Government provides pricing guidelines to road freight companies		1/3	6	0	
Professional bodies or representatives of trade and commercial interests are involved in specifying or enforcing pricing guidelines or regulations		1/3	6	0	
Retail distribution	1/8				
Retail prices of the following products are subject to price controls:					
Certain staples (e.g. milk and bread)		1/8	6	0	
Gasoline		1/8	6	0	
Tobacco		1/8	6	0	
Alcohol		1/8	6	0	
Pharmaceuticals		1/8	6	0	
Cellular communication (except international retail roaming)		1/8	6	0	
Internet services		1/8	6	0	
Other products (e.g. books, taxi services, LPG)		1/8	6	0	
Telecommunication	1/8				
Local loop unbundling prices are regulated		1/6	0	6	
How does the regulator access relevant information about the cost structure of the local loop?		1/6	firms must regularly provide detailed cost information 0	firms must provide detailed cost information upon request 3	no access 6
			yes	no	
Interconnection prices are regulated		1/6	0	6	

Table A5. Price controls (*cont.*)

	Sector weight	Question weight	Coding of answers						
	a_i	b_j							
How does the regulator access relevant information about the cost of interconnection?		1/6	firms must regularly provide detailed cost information 0			firms must provide detailed cost information upon request 3			no access 6
			yes			no			
International wholesale roaming rates are regulated		1/6	0			6			
International retail roaming rates are regulated		1/6	0			6			
Electricity	1/8		yes/not applicable			for some consumers	no/no (only prices of last resort supplier)		
Electricity prices are regulated		1/2	6			3	0		
Some type of benchmarking is required in determining regulated pricing, which uses the objective of holding all distributors to the standard of the most efficient distributor		1/2	0			6			
Gas	1/8		yes/not applicable			for some consumers	no/no (only prices of last resort supplier)		
Gas prices are regulated		1/2	6			3	0		
Some type of benchmarking is required in determining regulated pricing, which uses the objective of holding all distributors to the standard of the most efficient distributor		1/2	0			6			
Water	1/8		yes				no/not applicable		
Do regulated water prices reflect an analysis of the financial costs of water provision?[2]		1/2	0				6		
Do regulated water prices reflect an analysis of the environmental costs of water provision?[2]		1/2	0				6		
Professional services	1/8								
The fees or prices that a profession charges are regulated by the government or self-regulated[1]		1	no regulation	non-binding recommended prices for some services	non-binding recommended prices for all services	maximum prices for some services	maximum prices for all services	minimum prices for some services	minimum prices for all services
			0	1	2	3	4	5	6
Country scores (0-6)			$\Sigma_i a_i \Sigma_j b_j$ answer$_{ij}$						

1. Average over four professions: accountancy, legal services, engineering, architecture.
2. Average over four types of users: agricultural users, manufacturing industry, electrical cooling, households.

Missing data point rule:

If data on a subsector or question are missing, the indicator of the sector is calculated as the simple average over all available subsectors/questions. In case all information is missing for a certain sector, no indicator value is computed for this sector and the overall indicator is computed as the simple average over all available sectors.

Table A6. Command and control regulation

	Topic weight a_i	Question weight b_j	Coding of answers		
General information	1/6		yes		no
Regulators are required to assess alternative policy instruments (regulatory and non-regulatory) before adopting new regulation		1/2	0		6
Guidance has been issued on using alternatives to traditional regulation		1/2	0		6
Road freight transport	1/6				
Regulations prevent or constrain backhauling (picking up freight on the return leg)		1/4	6		0
Regulations prevent or constrain private carriage (transport only for own account)		1/4	6		0
Regulations prevent or constrain contract carriage (contractual relation between an otherwise independent hauler and one shipper)		1/4	6		0
Regulations prevent or constrain intermodal operations (operating or ownership links between firms in different transportation sectors)		1/4	6		0
Air transport	1/6				
Carriers operating on domestic routes are subject to universal service requirements (e.g. obligation to serve specified customers or areas)			yes	yes	no
If yes, do these requirements put restrictions on the ability to exit particular activities or routes?		1/2	yes 6	no 3	not applicable 0
The government has liabilities for losses made by an airline company		1/2	yes 6		no 0

Table A6. Command and control regulation (*cont.*)

	Topic weight a_i	Question weight b_j	Coding of answers						
Railways	1/6								
Companies operating the infrastructure or providing rail services are subject to universal service requirements				yes 6				no 0	
If yes, do these requirements put restrictions on the ability to exit particular activities or routes?		1/2	yes 6			no 3			not applicable 0
The government has liabilities for losses made by a railway company		1/2		yes 6				no 0	
Retail distribution[1]	1/6		<10	< 12	< 14	< 16	< 18	< 20	>=20
Maximum number of hours shops can be open on weekdays[2]		5/7	6	5	4	3	2	1	0
Maximum number of hours shops can be open on Saturdays3		1/7	6	5	4	3	2	1	0
Maximum number of hours shops can be open on Sundays/public holidays[4]		1/7	6	5	4	3	2	1	0
Professional services[5]	1/6								
Regulation on advertising and marketing by professional services		1/3	no restrictions 0			restricted 3			prohibited 6
Regulation on the legal form of business[6]		1/3	no restrictions 0		some incorporation allowed 2		incorporation forbidden 5		sole proprietorships only 6
Regulation of inter-professional cooperation		1/3	all forms allowed 0		most forms allowed 3		allowed between comparable professions 4,5		generally forbidden 6
Country scores (0-6)						$\Sigma_i a_i \Sigma_j b_j$ answer$_{ij}$			

1. Average over two jurisdictions if effective regulation differs across states/provinces/municipalities. If there are no restrictions on shop opening hours, the jurisdiction is scored 0.
2. Maximum number of hours per weekday, difference between opening and closing hours on weekdays or maximum number of hours per week divided by 7.
3. Maximum number of hours on Saturdays, difference between opening and closing hours on Saturdays or maximum number of hours per week divided by 7.
4. Maximum number of hours on Sundays/public holidays, difference between opening and closing hours on Sundays/public holidays or maximum number of hours per week divided by 7. If shops are not generally allowed to open on Sundays/public holidays, the value is adjusted by multiplying it with the number of Sundays/holidays that shops are allowed to open during a year, divided by 65.
5. Average over four professions: accountancy, legal services, engineering, architecture.
6. 'Some incorporation allowed' means that public limited companies are not allowed, but private companies are. 'Incorporation forbidden' means that neither public limited companies nor private companies are allowed. 'Sole proprietorships only' means that only sole proprietorships are allowed.

Missing data point rule:

In case of missing data points, the sector-specific element is a simple average of the available sectoral sub-elements.

Table A7. Licenses and permits system

	Question weight a_i	Sub-question weight b_j	Coding of answers	
Silence is consent rule	1/3			
The 'silence is consent' rule (*i.e.* that licenses are issued automatically if the competent licensing office has not acted by the end of the statutory response period) is systematically used			yes 0	no 6
Single contact points - getting information on notifications and licenses	1/3			
There are single contact points ("one-stop shops") for getting information on notifications and licenses		1/3	yes 0	no 6
If such single contact points exist:			yes	no/not applicable
The policy has been implemented at the local level		1/3	0	6
Information on notifications and licenses are available via the internet		1/3	0	6
Single contact points - issuing/accepting notifications and licenses	1/3			
There are single contact points ("one-stop shops") for issuing or accepting notifications and licenses		1/3	yes 0	no 6
If such single contact points exist:			yes	no/not applicable
The policy has been implemented at the local level		1/3	0	6
Information on notifications and licenses are available via the internet		1/3	0	6
Country scores (0-6)			$\Sigma_i a_i \Sigma_j b_j$ answer$_{ij}$	

Missing data point rule:

If data on at least two of the three questions are available, the indicator is calculated as a simple average of the available questions.

Table A8. Communication and simplification of rules and procedures

	Topic weight	Question weight	Sub-question weight	Coding of answers		
	a_i	b_j	c_k			
Communication	1/2					
Publication of planned changes to laws and regulations		1/4		yes	-	no
The government periodically publishes a list of primary laws to be prepared, modified, reformed or repealed in the next six months or more on the Internet			1/2	0		6
The government periodically publishes a list of subordinate regulations to be prepared, modified, reformed or repealed in the next 6 months or more on the Internet?			1/2	0		6
There is a general policy requiring "plain language" drafting of regulation		1/4		0		6
Affected parties have the right to appeal against adverse enforcement decisions in individual cases		1/4		yes/in all cases 0	In some cases 3	no 6
Online availability of existing laws and regulations		1/4		yes	-	no
The text of all primary laws currently in force is available to the public via an online database that is free of charge			1/2	0		6
The text of all subordinate regulations currently in force is available to the public via an online database that is free of charge			1/2	0		6
Simplification	1/2*W					
Licenses and permits		1/2		0		6
National government (all ministries and agencies) keeps a complete count of the number of permits and licenses required			1/3	0		6
There is a program underway to review and reduce the number of licenses and permits required by the national government			1/3	0		6
There is a program underway to co-ordinate the review and reform of permits and licenses at subnational levels of government			1/3	0		6
Administrative burdens		1/2		yes		no
There is an explicit program to reduce the administrative burdens imposed by government on enterprises and/or citizens			1/2	0		6
If yes:				yes		no/not applicable
The programme includes quantitative targets			1/8	0		6
To reduce burdens the government uses new technologies for regulatory administration (E-government)			1/8	0		6
To reduce burdens the government streamlines government process requirements			1/8	0		6
To reduce burdens the government reallocates powers and responsibilities between government departments and/or between levels of government			1/8	0		6
Country scores (0-6)				$\Sigma_i a_i \Sigma_j b_j \Sigma_k c_k answer_{ijk}$		

note: $W=W_i/6$, where W_i is a simple average of the country's scores on admin. burdens on corporations, admin. burdens on sole proprietor firms, barriers in services sectors, and communication.

Missing data point rule:

The communication component is the simple average over all available questions if data on at least 3 questions are available. If no data are available on either licenses/permits or admin. burdens, the simplification component is equal to the available subcomponent. The indicator on licenses/permits is computed as a simple average over all three sub-questions if data on at least two out of the three subquestions are available.

Table A9. Administrative burdens for corporations

	Weight	Coding of answers						
	a_i	0	1	2	3	4	5	6
Number of mandatory procedures required to register a public limited company (pre-registration+registration)	1/5	<=4	<=7	<=12	<=18	<=23	<=29	>29
Number of public and private bodies to contact to register a public limited company (pre-registration+registration)	1/5	<=1	<=3	<=5	<=7	<=9	<=11	>11
Number of working days required to complete all mandatory procedures for registering a public limited company (pre-registration+registration)	1/5	<=16	<=33	<=49	<=66	<=82	<=98	>98
Total cost of registering a public limited company (pre-registration+registration) as % of GDP per capita	1/5	<=1	<=5	<=10	<=15	<=25	<=50	>50
Minimum paid-up capital required to register a public limited company (pre-registration+registration) as % of GDP per capita	1/5	<=5	<=25	<=50	<=100	<=250	<=500	>500
Country scores (0-6)		$\Sigma_i a_i$ answer$_i$						

Missing data point rule:

If no more than two out of the five data points are missing, the indicator value is computed as the average over all available data points.

Table A10. Administrative burdens for sole proprietor firms

	Weight	Coding of answers						
	a_i	0	1	2	3	4	5	6
Number of mandatory procedures required to register a sole proprietor firm (pre-registration+registration)	1/5	<=1	<=3	<=4	<=7	<=10	<=13	>13
Number of public and private bodies to contact to register a sole proprietor firm (pre-registration+registration)	1/5	<=1	<=3	<=5	<=8	<=10	<=12	>12
Number of working days required to complete all mandatory procedures for registering a sole proprietor firm (pre-registration+registration)	1/5	<=7	<=14	<=29	<=43	<=58	<=72	>72
Total cost of registering a sole proprietor firm (pre-registration+registration) as % of GDP per capita	1/5	0	<0.5	<1	<5	<10	<=25	>25
Minimum paid-up capital required to register a sole proprietor firm (pre-registration+registration) as % of GDP per capita	1/5	0	<2.5	<5	<25	<100	<=250	>250
Country scores (0-6)		$\Sigma_i a_i$ answer$_i$						

Missing data point rule:

If no more than two out of the five data points are missing, the indicator value is computed as the average over all available data points.

Table A11. Barriers in services sectors

	Sector weight a_i	Topic weight b_j	Question weight c_k	Coding of answers					
Professional services	1/3								
Compulsory chamber membership		1/3							
Membership in a professional organization is compulsory in order to legally practice			1	no 0				yes 6	
Exclusive or shared exclusive rights		1/3							
If access to the profession is regulated through a compulsory license, how many services does the profession provide under an exclusive or shared exclusive right?			1	0/no license 0	1 1.5	2 3		3 4.5	>3 6
Education requirement		1/3							
If access to the profession is regulated through a compulsory license:									
What is the duration of special education/university/or other higher degree?[1]			1/3	equals 0 if no license is required or the number of years of education (max of 6)					
What is the duration of compulsory practice necessary to become a full member of the profession?[1]			1/3	equals 0 if no license is required or the number of years of compulsory practice (max of 6)					
Are there professional exams that must be passed to become a full member of the profession?			1/3	no/no license 0				yes 6	
Road freight transport	1/3								
Do operators need to do the following in order to establish a national road freight business?									
Be granted a state concession or franchise by any level of government				yes	no	no	no	no	no
Obtain a license (other than a driving license) or permit from the government or a regulatory agency					yes	no	no	no	no
Notify any level of government or a regulatory agency and wait for approval before they can start operation						yes	no	no	no
Register in a transport register							yes	no	no
Notify any level of government or a regulatory agency								yes	no
			½	6	4.8	3.6	2.4	1.2	0

Table A11. Barriers in services sectors (*cont*.)

	Sector weight a_i	Topic weight b_j	Question weight c_k	Coding of answers		
Criteria other than technical and financial fitness and compliance with public safety requirements are considered in decisions on entry of new operators			1/10	yes 6		no/not applicable 0
These entry regulations apply also if a firm wants to transport only for its own account			1/10	6		0
An authorisation to operate does not cover the entire road network of the country			1/10	6		0
The authorisation to operate is of limited duration			1/10	6		0
The authorisation to operate is not transferable			1/10	6		0
Retail distribution	1/3			always required	depends on type of good sold or size of outlet	not required
Registration and licensing		1/4				
Registration in commercial register is needed to start up a commercial activity						
for selling food products			1/10	6	3	0
for selling clothing products			1/10	6	3	0
Notification to authorities is needed to start up a commercial activity						
for selling food products			1/10	6	3	0
for selling clothing products			1/10	6	3	0
Licenses or permits are needed to engage in commercial activity (not related to outlet sitting)						
for selling food products			1/10	6	3	0
for selling clothing products			1/10	6	3	0
Licenses or permits are needed for outlet sitting (in addition to compliance with general urban planning provisions)						
for selling food products			1/10	6	3	0
for selling clothing products			1/10	6	3	0

Table A11. Barriers in services sectors (*cont*.)

	Sector weight a_i	Topic weight b_j	Question weight c_k	Coding of answers						
If licenses or permits are required for selling food (type 2) are they product specific?[2]			1/10		yes 6				no or no license required 0	
If licenses or permits are required for selling food (type 2) do they relate to a certain type of activity?[2]			1/10		6				0	
Special regulation of large outlets		1/4								
What is the threshold surface limit at which regulation of large outlets applies?			1	no special regulation for large outlets 0	greater than or equal to $5000m^2$ 1	between $3000m^2$ and $4999m^2$ 2	between $2000m^2$ and $2999m^2$ 3	between $1000m^2$ and $1999m^2$ 4	between $500m^2$ and $999m^2$ 5	less than $500m^2$ 6
Protection of existing firms		1/4								
Are professional bodies or representatives of trade and commercial interests involved in Type 2, Type 3 or Type 4 licensing decisions?[2]			½		yes 6				no 0	
Are there products that can only be sold in outlets operating under a local or national legal monopoly (franchise)?			½		6				0	
Promotions/discounts		1/4								
Sales promotions are restricted to appear within a particular period of the year			1/3		6				0	
There are maximum limit values on discounts			1/3		6				0	
Are sales below cost prohibited or restricted beyond a prohibition of predatory pricing?			1/3		6				0	
Country scores (0-6)									$\Sigma_i a_i \Sigma_j b_j \Sigma_k c_k$ answer$_{ijk}$	

1. If years of education differ within the profession, the maximum duration is taken.
2. Type 2 = licenses or permits needed to engage in commercial activity; type 3 = licenses or permits needed for outlet siting; type 4: compliance with regulation especially designed for large outlets.

Missing data point rule:

For the retail distribution component, a simple average of the available data points is used. The same applies to the second part of the road freight component. If only two out of the three sectors (professional services, road freight, retail distribution) are available the overall indicator is computed as the average across these two sectors.

Table A12. Legal barriers to entry

ISIC (Rev. 4.0) code	National, state or provincial laws or other regulations restrict the number of competitors allowed to operate a business in at least some markets in:	Sector weight a_i	Coding of answers yes	no
12	Manufacture of tobacco products	1/n	6	0
192	Manufacture of refined petroleum products	1/n	6	0
24	Manufacture of basic metals	1/n	6	0
25	Manufacture of fabricated metal products, machinery and equipment	1/n	6	0
301	Building and repairing of ships and boats	1/n	6	0
302	Manufacture of railway and tramway locomotives and rolling stock	1/n	6	0
303	Manufacture of aircraft and spacecraft	1/n	6	0
3510	Electricity: electricity generation or electricity import or electricity supply	1/n	6	0
3520	Gas: gas production or gas import or gas supply	1/n	6	0
36	Water collection, treatment and supply	1/n	6	0
41, 42, 43	Construction	1/n	6	0
46, part of 45	Wholesale trade, incl. of motor vehicles	1/n	6	0
47, part of 45	Retail trade, incl. of motor vehicles	1/n	6	0
55	Accommodation, food and beverage service activities	1/n	6	0
491	Railways: Passenger transport via railways, freight transport via railways	1/n	6	0
part of 5221	Railways: Operation of railroad infrastructure	1/n	6	0
4921, 4922	Other urban, suburban and interurban passenger transport	1/n	6	0
4923	Freight transport by road	1/n	6	0
part of 5221	Operation of road infrastructure	1/n	6	0
50	Water transport	1/n	6	0
part of 5222	Operation of water transport infrastructure	1/n	6	0
51	Air transport	1/n	6	0
part of 5223	Operation of air transport infrastructure	1/n	6	0
53	Postal and courier activities	1/n	6	0
61	Telecommunication	1/n	6	0
6419, 642, 643, 649, 661, part of 663	Financial service activities, except central banking, insurance and pension funding	1/n	6	0
65, 662, part of 663	Insurance, reinsurance and pension funding	1/n	6	0
70, 71, 73, 74, 78, 80, 812, 82, 855	Other business activities	1/n	6	0
86	Human health activities	1/n	6	0
59	Motion picture distribution and projection	1/n	6	0
Country scores (0-6)			$\Sigma_i a_i$ answer$_i$	

note: n is the number of sectors for which data are available.

Missing data point rule:

The indicator is computed only if at least 10 data points are available. It is computed as the average across all available data points.

Treatment of network industries:

Electricity: average across two segments (generation/import, supply)

Gas: average across two segments (production/import, supply)

Transport via railways: average across two segments (passenger transport via railways, freight transport via railways)

National post, courier services: average across three segment (basic letter services, basic parcel services, courier services)

Telecommunication: average across four segments (fixed line network, fixed line services, mobile services, internet services)

Table A13. Antitrust exemptions for public enterprises or state-mandated actions

	Question weight	Coding of answers	
	a_i	yes	no
Is there rule or principle providing for exclusion or exemption from liability under the general competition law for conduct that is required or authorized by other government authority (in addition to exclusions that might apply to complete sectors)?	¼*W	6	0
Publicly-controlled firms or undertakings are subject to an exclusion or exemption from competition law such as horizontal cartels	¼*W	6	0
Publicly-controlled firms or undertakings are subject to an exclusion or exemption from competition law such as vertical restraints or to abuse of dominance	¼*W	6	0
Publicly-controlled firms or undertakings are subject to an exclusion or exemption from competition law such as mergers	¼*W	6	0
Country scores (0-6)		$W_i*\Sigma_i a_i$ answer$_i$/6	

note: W_i = Country score on: Scope of state-owned enterprises

Missing data point rule:

In case of missing data points, a simple average of the available data points is used.

Table A14. Barriers in network sectors

	Topic weight a_i	Sector weight b_j	Question weight c_k	Coding of answers					
Entry regulation in network sectors	1/2								
Gas		1/7							
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	
Is there a liberalised wholesale market for gas?			1/3	yes 0				no 6	
What is the minimum consumption threshold that consumers must exceed to be able to choose their gas supplier (m3/year)?[1]			1/3	no minimum consumption threshold 0	<= 12500 1	between 12501 and 25000 2	between 25001 and 50000 3	> 50000 4	no consumer choice 6
Electricity		1/7							
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?			1/3	yes 0				no 6	
What is the minimum consumption threshold that consumers must exceed to be able to choose their electricity supplier (GWh/year)?[1]			1/3	no minimum consumption threshold 0	<250 1	between 250 and 500 2	between 500 and 1000 3	> 1000 4	no consumer choice 6
Water		1/7							
Are the rights to abstract water separated from land ownership?[2]			1/8	yes/not applicable (because rights are tradable) 0			no/not applicable (because no special rights needed) 6		
If special rights are needed to abstract water:									
Can the allocated volume be adjusted at any time to reflect scarcity?[2]			1/8	0			6		
Are the rights tradable?[2]			1/8	0			6		

Table A14. Barriers in network sectors (*cont.*)

	Topic weight a_i	Sector weight b_j	Question weight c_k	Coding of answers								
If rights are not tradable, are they given away through a competitive process?[2]			1/8	yes 0							no 6	
If rights are not tradable, for how many years are they typically granted?[2]			1/8	1 year or less/not applicable (because rights are tradable) 0		between 2 and 5 years 2		more than 5 years 4		indefinitely/not applicable (because no special rights needed) 6		
Degree of private sector participation in water delivery[3]			1/8	private ownership of supply and distribution systems 0		concession 1	lease 2	OMC with comm. risk born by private operator 3	public ownership of supply and distribution systems OMC with commercial risk born by public sector 4	outsourcing 5	no private sector participation 6	
Are contracts awarded through a competitive process?[4]			1/8		yes 0				no 6			
Duration of concession contracts[4]			1/8	concession < 16 years 0	16 - 25 years 3	> 25 years 6	lease contract or OMC with commercial risk born by private operator < 8 years 0	8 - 15 years 3	> 15 years 6	OMC with commercial risk born by public sector or outsourcing < 3 years 0	3 - 7 years 3	> 7 years 6
Rail transport		1/7										
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 that compete in the same geographic area 2		entry franchised to several firms, each having exclusive rights to a geographic area 4		entry franchised to single firm 6		
What are the legal conditions of entry into the freight transport rail market?			1/2	0		2		4		6		
Air transport		1/7			yes				no			
Is the domestic aviation market fully liberalised?			1		0				6			
Road freight transport		1/7										
Does the regulator have any power to limit industry capacity (*e.g.* through licenses)?			1/2		6				0			
Are prof. bodies or representatives of trade/commercial interests involved in specifying or enforcing entry regul.?			1/2		6				0			

Table A14. Barriers in network sectors (*cont.*)

	Topic weight a_i	Sector weight b_j	Question weight c_k	Coding of answers			
Postal services		1/7					
Entry is free in at least one market in the sector?				yes		no	
Basic letter services			1/3	0		6	
Basic parcel services			1/3	0		6	
Courier services			1/3	0		6	
Telecommunication		1/7					
Unbundling of the local loop is required			1/5	0		6	
Interconnection is mandated			1/5	0		6	
Entry is free in at least one market in the sector?							
Fixed line network			1/5	0		6	
Fixed line services			1/5	0		6	
Mobile services			1/5	0		6	
Vertical separation in infrastructure sectors	1/2			ownership separation	legal separation	accounting separation	no separation
What is the degree of vertical separation between a certain segment of the gas sector and other industry segments?[5]		1/3		0	3	4.5	6
What is the degree of vertical separation between a certain segment of the electricity sector and other industry segments?[5]		1/3		0	3	4.5	6
What is the degree of separation between the operation of infrastructure and the provision of railway services?		1/3		0	3	4.5	6
Country scores (0-6)		□	□	$\Sigma_i a_i \Sigma_j b_j \Sigma_k c_k$ answer$_{ijk}$			

1. When only part of the retail market is open to consumer choice the score is computed as W*answer+(1-W)*6, where W is the share of the retail market that is open to consumer choice.
2. Simple average over groundwater and surface water.
3. In the case of public ownership of water supply and distribution systems, the score is computed as a weighted average over the different forms of private sector participation in service delivery.
4. Weighted average over the different types of contracts (i.e. concession, lease, operation and management contract with commercial risk born by private operator, operation and management contract with commercial risk born by public sector, outsourcing). In the case of no private sector participation in service delivery the country is scored 6.
5. Simple average over4 segments: production/import (gas) or generation/import (electricity), transmission, distribution and supply.

Table A15. Barriers to FDI

	Coding of answers	
FDI restrictiveness index[1]	FDI restrictiveness index * 6	
	yes	no
Special government rights can be exercised in the case of acquisition of equity by foreign investors	0,3	0
Country scores (0-6)	Σanswer	

1. Data on the FDI restrictiveness index are taken from Kalinova, B., Palerm, A. and S. Thomsen (2010), "OECD's FDI Restrictiveness Index: 2010 Update", OECD Working Papers on International Investment, no. 2010/3.

Table A15a. Barriers to FDI (for countries for which the OECD FDI index does not exist)

	Question weight	Coding of answers		
	a_i	yes		no/not applicable
Special government rights can be exercised in the case of acquisition of equity by foreign investors	1/4	6		0
Is foreign ownership constrained by allowing only joint ventures in at least one sector?	1/4	6		0
Is foreign ownership constrained by restricting mergers and acquisitions in at least one sector?	1/4	6		0
		yes (sector-specific)	yes (trans-sectoral)	no
Are foreign suppliers subject to regulations which do not recognize national treatment principles? [1]	1/4	6	3	0
Country scores (0-6)			$\Sigma_i answer_i$	

1. Average value across sectors if data on at least 10 sectors are available. Sectors covered: manufacturing, construction, energy, distribution, air, maritime and road transport, fixed and mobile telecoms, insurance and banking, hotels and restaurant and business services (legal, accounting, architecture and engineering).

Table A16. Tariff trade barriers

	Coding of answers												
Effectively applied tariff (simple average)	<=3%	<=4.5%	<=6%	<=7.5%	<=9%	<=10.5%	<=12%	<=13.5%	<=15%	<=16.5%	<=18%	<=19.5%	>19.5%
Country scores (0-6)	0	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6

Source: The World Trade Organization's (WTO) Integrated Data Base (IDB)

Table A17. Differential treatment of foreign suppliers

	Question weight	Sector weight	Sub-question weight	Coding of answers	
	a_i	b_j	c_k		
Taxes and subsidies	1/5				
Foreign suppliers are treated less favourably regarding taxes or eligibility to subsidies than domestic suppliers[1]				yes 6	no 0
Public procurement	1/5				
Computer services		1/5			
Discrimination in the application of financial or technical criteria for project tender			1/2	6	0
Restrictions on government offshoring of computer services			1/2	6	0
Construction		1/5			
Explicit access discrimination in favour of local firms			1/7	6	0
Domestic content of personnel/goods			1/7	6	0
Technical specifications affect conditions of competition in favour of local providers			1/7	6	0
Discriminatory qualification processes and procedures			1/7	6	0
Contract award on the basis of non-objective/discriminatory criteria			1/7	6	0
Procurement laws, regulations and procedures are transparent			1/7	0	6
Foreign suppliers can challenge the consistency of the conduct of a procurement with laws and regul.			1/7	0	6
Professional services[2]		1/5			
Foreign suppliers are prohibited from supplying services to the government or preference is given to local suppliers			1	6	0
Telecommunication services		1/5			
Discrimination in the application of financial or technical criteria for project tender			1	6	0
Road freight transport		1/5			
There are domestic carrier requirements for government transport contracts			1	6	0

Table A17. Differential treatment of foreign suppliers (*cont.*)

	Question weight	Sector weight	Sub-question weight	Coding of answers															
	a_i	b_j	c_k																
Sector-specific restrictions	1/5																		
Road freight transport		1/3		prohibited				limited				no restrictions							
Restrictions on cabotage			1/2	6				3				0							
Restrictions on foreign firms picking up freight			1/2	yes								no							
				6								0							
Air transport		1/3																	
The country has an open skies agreement with the US			1/3	0								6							
The country's open-sky agreements provide cabotage rights on the national territory to foreign carriers			1/3	0								6							
The country participates in a regional agreement			1/3	0								6							
Professional services[2]		1/3																	
The number of foreign professionals permitted to practice is restricted by quotas or economic needs tests				6								0							
Appeal procedures relating to regulatory decisions	1/5																		
Appeal procedures relating to regulatory decisions are open to affected or interested foreign parties as well[3]			1	0								6							
Anticompetitive behaviour	1/5																		
When business practices are perceived to restrict competition foreign firms can have redress through:																			
Competition agencies				yes	yes	yes	yes	yes	no	yes	yes	no	no	yes	no	no	no	no	no
Trade policy bodies				yes	yes	no	no	yes	yes	no	yes	no	yes	no	no	yes	no	yes	no
Regulatory authorities				yes	no	yes	no	yes	yes	yes	no	yes	no	no	no	no	yes	yes	no
Private rights of action				yes	yes	yes	yes	no	yes	no	no	yes	yes	no	yes	no	no	no	no
			1	0	0.75	0.75	1.5	2.625	2.625	3.375	3.375	3.375	3.375	4.125	4.125	5.25	5.25	5.25	6
Country scores (0-6)				$\Sigma_i a_i \Sigma_j b_j \Sigma_k c_k \text{answer}_{ijk}$															

Note: Information on the first three components (taxes and subsidies, public procurement, appeal procedures relating to regulatory decisions) are taken from the STRI database.

1. Average value across computer services, construction, professional services (accountancy, legal services, engineering, architecture), telecommunications (fixed line, mobile & Internet services).
2. Average over four professions: accountancy, legal services, engineering, architecture.
3. Average value across the following sectors: computer services, construction, professional services (accountancy, legal services, engineering, architecture).

Table A18. Barriers to trade facilitation

	Topic weight	Question weight	Coding of answers	
	a_i	b_j	yes	no/not applicable
General regulatory barriers	1/2			
Regulations are published or otherwise communicated to the public in a manner accessible (e.g. in a foreign language) at the international level		1/3	0	6
There are inquiry points where affected or interested foreign parties can get information on the operation and enforcement of regulations		1/3	0	6
There are specific provisions which require or encourage regulatory administrative procedures to avoid unnecessary trade restrictiveness		1/3	0	6
Measures for trade facilitation	1/2			
Regulators are required to recognize the equivalence of regulatory measures in other countries[1]		1/3	0	6
Regulators are required to use internationally harmonized standards and certification procedures[1]		1/3	0	6
The country has engaged in Mutual Recognition Agreements (MRAs) with at least one other country[1]		1/3	0	6
Country scores (0-6)		□	$\Sigma_i a_i \Sigma_j b_j$ answer$_{ij}$	

1. Average value across sectors if data on at least 10 sectors are available. Sectors covered: manufacturing, construction, energy, distribution, air, maritime and road transport, fixed and mobile telecoms, insurance and banking, hotels and restaurant and business services (legal, accounting, architecture and engineering).

Table A19. Electricity

	Topic weight a_i	Question weight b_j	Coding of data					
Entry regulation	1/4							
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 minimum consumption threshold 0	<=250 1	between 251 and 500 2	between 501 and 1000 3	> 1000 4	no consumer choice 6
Public ownership	1/4							
What is the percentage of shares owned, either directly or indirectly, by the government in the largest firm in the sector?[1]		1	% of shares owned by government / 100 * 6					
Vertical Integration	1/4							
What is the degree of vertical separation between a certain segment of the electricity sector and other segments of the industry?[1]		1	ownership separation 0		legal separation 3		accounting separation 4.5	no separation 6
Market structure	1/4							
What is the market share of the largest company in the electricity industry?[2]		1	smaller than 50% 0		between 50 and 90% 3		greater than 90% 6	
Country scores (0-6)			$\Sigma_i a_i \Sigma_j b_j$ answer$_{ij}$					

1. Simple average over 4 segments: generation/import, transmission, distribution and supply.
2. Simple average over 2 segments: generation/import and supply.

Table A20. Gas

	Topic weight a_i	Question weight b_j	Coding of data			
Entry regulation	1/4					
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
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?[1]		1/3	no 0			yes 6
What percentage of the retail market is open to consumer choice?		1/3	(1-% of market open to choice/100)*6			
Public ownership	1/4					
What percentage of shares in the largest firm in the gas sector are owned by government?[2]		1	% of shares owned by government / 100 * 6			
Vertical Integration	1/4					
What is the degree of vertical separation between a certain segment of the gas sector and other segments of the industry?[2]		1	ownership separation 0	legal separation 3	accounting separation 4.5	no separation 6
Market structure	1/4					
What is the market share of the largest company in the gas industry?[1]		1	smaller than 50% 0	between 50 and 90% 3		greater than 90% 6
Country scores (0-6)			$\Sigma_i a_i \Sigma_j b_j$ answer$_{ij}$			

1. Simple average over 2 segments: generation/import and supply.
2. Simple average over 4 segments: generation/import, transmission, distribution and supply.

Table A21. Rail transport

	Topic weight a_i	Question weight b_j	Coding of data			
Entry regulation	1/4					
What are the legal conditions of entry into the passenger/freight transport market?[1]		1	free entry (upon paying access fees) 0	entry franchised to several firms that compete in the same geographic area 2	entry franchised to several firms, each having exclusive rights to a geographic area 4	entry franchised to single firm 6
Public ownership	1/4					
What percentage of shares in the largest firm in operation of infrastructure sector is owned by government?		1/2	% of shares owned by government / 100 * 6			
What percentage of shares in the largest firm in the passenger/freight transport sector is owned by government?[1]		1/2	% of shares owned by government / 100 * 6			
Vertical Separation	1/4					
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
Market structure	1/4					
What is the maximum number of operators that compete in the same area/rail district passenger/freight transport market?[1]		1	>2 0	2 3		1 6
Country scores (0-6)			$\Sigma_i a_i \Sigma_j b_j$ answer$_{ij}$			

1. Simple average over 2 segments (freight transport and passenger transport)

Table A22. Air transport

	Topic weight a_i	Question weight b_j	Coding of data	
Entry regulation:	1/2			
Does your country have an open skies agreement with the United States?		1/3	Yes 0	No 6
Is your country participating in a regional agreement?		1/3	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?		1/3	0	6
Public ownership:	1/2			
What percentage of shares in the largest carrier (domestic and international traffic combined) are owned by national, state or provincial authorities?		1	% of shares owned by government / 100 * 6	
Country scores (0-6)			$\Sigma_i a_i \Sigma_j b_j$ answer$_{ij}$	

Table A23. Road transport

	Topic weight a_i	Question weight b_j	Coding of data	
Entry regulation	1/2			
In order to establish a national road freight business (other than for transporting dangerous goods or goods for which sanitary assurances are required) do operators need to obtain a license (other than a driving license) or permit from the government?		1/4	no/not applicable 0	yes 6
Are criteria other than technical and financial fitness and compliance with public safety requirements considered in decisions on entry of new operators?		1/4	0	6
Does the regulator, through licenses or otherwise, have any power to limit industry capacity?		1/4	0	6
Are professional bodies or representatives of trade and commercial interests involved in specifying or enforcing entry regulations?		1/4	0	6
Price controls	1/2		no	yes
Are retail prices of road freight services in any way regulated by the government?		1/3	0	6
Does the government provide pricing guidelines to road freight companies?		1/3	0	6
Are professional bodies or representatives of trade and commercial interests involved in specifying or enforcing pricing guidelines or regulations?		1/3	0	6
Country scores (0-6)			$\Sigma_i a_i \Sigma_j b_j$ answer$_{ij}$	

Table A24. Post

	Topic weight a_i	Question weight b_j	Coding of data		
Entry regulation	1/3				
Do national, state or provincial laws or other regulations restrict the number of competitors allowed to operate a business in at least some markets?[1]			no	yes	yes
Is free entry permitted in at least one market in the sector (i.e. can anyone enter the market, provided they meet licensing criteria)?[1]			yes	yes	no
		1	0	3	6
Public ownership	1/3				
What percentage of shares in the largest firm in the basic letter services sector is owned by the government?		1/3	% of shares owned by government / 100 * 6		
What percentage of shares in the largest firm in the basic parcel services sector is owned by the government?		1/3	% of shares owned by government / 100 * 6		
Do national, state or provincial governments control at least one firm in the courier services market?			no	yes	yes
Does at least one firm operate in the courier services market that is fully or partially private?			yes	yes	no
		1/3	0	3	6
Market structure	1/3		smaller than 50%	between 50 and 90%	greater than 90%
What is the market share of the largest company in the sector?[1]		1	0	3	6
Country scores (0-6)			$\Sigma_i a_i \Sigma_j b_j$ answer$_{ij}$	□	□

1. Simple average over three segments (basic letter services, basic parcel services, courier services).

Table A25. Telecom

	Topic weight a_i	Question weight b_j	Coding of data		
Entry regulation:	1/3				
Is free entry permitted in at least one market in the sector (i.e. can anyone enter the market, provided they meet licensing criteria)?[1]			yes	yes	no
Do laws or regulations restrict, in at least one market in the sector, the number of competitors allowed to operate a business (e.g. by establishing a legal monopoly or duopoly, or a limited number of franchises or licenses)?[1]			no	yes	yes
		1/3	0	3	6
			yes		no
Is unbundling of the local loop required?		1/3	0		6
Is mobile phone interconnection mandated?		1/3	0		6
Public ownership:	1/3				
What is the percentage of shares owned, either directly or indirectly, by the government in the largest firm?[2]			% of shares owned by government / 100 * 6		
Market structure:	1/3		>2	2	1
How many firms compete in the same market?[1]			0	3	6
What is the market share (in percent) of new entrants in the sector? - Domestic fixed-line telephony[3]			(1 - % of new entrants in the sector / 100)*6		
Country scores (0-6)				$S_i a_i S_j b_j$ answer$_{ij}$	

1. Simple average over two segments (fixed-line services, mobile services).
2. Simple average over four segments (fixed-line network, fixed-line services, mobile services, internet services).
3. Simple average over three segments (domestic fixed-line telephony, international fixed-line telephony, mobile telephony).

Table A26. Professional services

	Topic weight a_i	Sub-topic weight b_j	Question weight c_k	Coding of answers						
Entry regulation	1/2									
Exclusive or shared exclusive rights		1/4								
How many services does the profession provide under an exclusive or shared exclusive right?			1	0/no license 0	1 1.5	2 3	3 4.5	>3 6		
Education requirements		1/4								
If access to the profession is regulated:										
What is the duration of university or other higher degree?[1]			1/3	equals 0 if no license is required or the number of years of education (max of 6)						
What is the duration of compulsory practice necessary?[1]			1/3	equals 0 if no license is required or the number of years of compulsory practice (max of 6)						
Are there professional exams that must be passed?			1/3	no/no license 0				yes 6		
Compulsory chamber membership		1/4								
Membership in a professional organization is compulsory in order to legally practice			1	no 0				yes 6		
Quotas		1/4								
Is the number of foreign professionals/ firms restricted by quotas?			1	no 0				yes 6		
Conduct regulation	1/2									
The fees or prices that a profession charges are regulated by the government or self-regulated			1/4	no regulation 0	non-binding recommended prices for some services 1	non-binding recommended prices for all services 2	maximum prices for some services 3	maximum prices for all services 4	minimum prices for some services 5	minimum prices for all services 6
Regulation of advertising and marketing by professional services			1/4	no restrictions 0			restricted 3		prohibited 6	
Regulation of the legal form of business			1/4	no restrictions 0		some incorp. allowed 2		incorp.forbidden 5	sole practitioner only 6	
Regulation of inter-professional cooperaton[2]			1/4	all forms allowed 0		most forms allowed 3	allowed between comparable professions 4.5		generally forbidden 6	
Country scores (0-6)				$\Sigma_i a_i \Sigma_j b_j \Sigma_k c_k answer_{ijk}$						

Note: The overall indicator of professional services is the simple average of the indicators for accounting, architecture, engineering and legal services.

1. If years of education differ within the profession, the maximum duration is taken.
2. 'Some incorporation allowed' means that public limited companies are not allowed, but private companies are. 'Incorporation forbidden' means that neither public limited companies nor private companies are allowed. 'Sole proprietorships only' means that only sole proprietorships are allowed.

Table A27. Retail services

	Topic weight a_i	Question weight b_j	Coding of answers						
Registration and licensing	1/6		always required			depends on type of good sold or size of outlet		not required	
Registration in commercial register is needed to start up a commercial activity									
for selling food products		1/10	6			3		0	
for selling clothing products		1/10	6			3		0	
Notification to authorities is needed to start up a commercial activity									
for selling food products		1/10	6			3		0	
for selling clothing products		1/10	6			3		0	
Licenses or permits are needed to engage in commercial activity (not related to outlet sitting)									
for selling food products		1/10	6			3		0	
for selling clothing products		1/10	6			3		0	
Licenses or permits are needed for outlet sitting (in addition to compliance with general urban planning provisions)									
for selling food products		1/10	6			3		0	
for selling clothing products		1/10	6			3		0	
If licenses or permits are required for selling food (type 2):[1]				yes				no or no license required	
Are they product specific?		1/10		6				0	
Do they relate to a certain type of activity?[1]		1/10		6				0	
Special regulation of large outlets	1/6								
What is the threshold surface limit at which regulation of large outlets applies?		1	no special regulation for large outlets 0	greater or equal to $5000m^2$ 1	between $3000m^2$ and $4999m^2$ 2	between $2000m^2$ and $2999m^2$ 3	between $1000m^2$ and $1999m^2$ 4	between $500m^2$ and $999m^2$ 5	less than $500m^2$ 6
Protection of existing firms	1/6								
Are prof. bodies or representa-tives of trade and commercial interests involved in licensing decisions of type 2, 3 or 4?[1]		1/2		yes 6				no 0	
Are there products that can only be sold in outlets operating under a local or national legal monopoly (franchise)?		1/2		6				0	

Table A27. Retail services (*cont.*)

	Topic weight a_i	Question weight b_j	Coding of answers						
Regulation of shop opening hours[2]	1/6								
Maximum number of hours shops can be open on			<10	< 12	< 14	< 16	< 18	< 20	>=20
Weekdays[3]		5/7	6	5	4	3	2	1	0
Saturdays[4]		1/7	6	5	4	3	2	1	0
Sundays/public holidays[5]		1/7	6	5	4	3	2	1	0
Price controls	1/6								
Retail prices of the following products are subject to price controls:				yes				no	
Certain staples (e.g. milk and bread)		1/8		6				0	
Gasoline		1/8		6				0	
Tobacco		1/8		6				0	
Alcohol		1/8		6				0	
Pharmaceuticals		1/8		6				0	
Cellular communication (except international retail roaming)		1/8		6				0	
Internet services		1/8		6				0	
Other (*e.g.* books, taxi services, LPG)		1/8		6				0	
Promotions/discounts	1/6								
Sales promotions are restricted to appear within a particular period of the year		1/3		6				0	
There are maximum limit values on discounts		1/3		6				0	
Are sales below cost prohibited/restricted beyond a prohibition of predatory pricing?		1/3		6				0	
Country scores (0-6)		□				$\Sigma_i a_i \Sigma_j b_j$ answer$_{ij}$			

Notes: The overall indicator is computed as the simple average of the six topics. Due to lack of data for the low-level indicator 'promotions/discounts', the indicator is computed as a simple average of the five other topics for 2008, 2003 and 1998.

1. Type 2 = licenses or permits needed to engage in commercial activity; type 3 = licenses or permits needed for outlet siting; type 4: compliance with regulation especially designed for large outlets.
2. Before 2008 the indicator on shop opening hours is computed by scoring countries 0 if shop opening hours are regulated at the local or provincial level or not regulated at all and 6 if shop opening hours are regulated at the national level. The pre-2008 series and the post-2008 series are spliced based on the year 2008.
3. Maximum number of hours per weekday, difference between opening and closing hours on weekdays or maximum number of hours per week divided by 7.
4. Maximum number of hours on Saturdays, difference between opening and closing hours on Saturdays or maximum number of hours per week divided by 7.
5. Maximum number of hours on Sundays/public holidays, difference between opening and closing hours on Sundays/public holidays or maximum number of hours per week divided by 7. If shops are not generally allowed to open on Sundays/public holidays, the value is adjusted by multiplying it with the number of Sundays/holidays that shops are allowed to open during a year, divided by 5

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