

IN INDEX OF

LIBERALISATION

2020



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Report

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INDEX OF LIBERALISATION 2020

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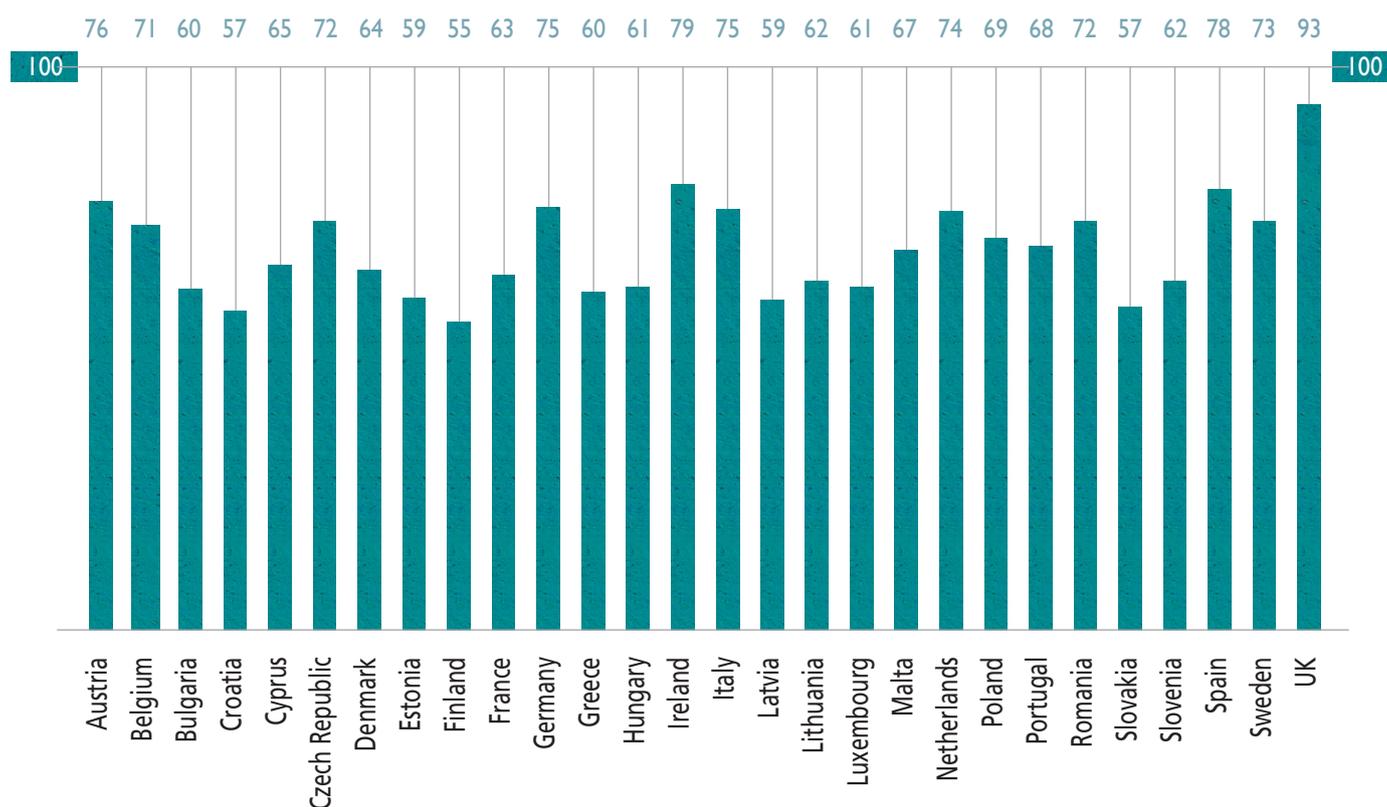
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Introduction



According to the 2020 Index of Liberalisation (henceforth: the Index), the European country that was most successful in liberalising its economy was Great Britain, with an average score of 93 (on a scale from 0 to 100), followed by Ireland (79) and Spain (78). The least open markets were Finland (55), Croatia and Slovakia (both with a score of 57). These results are based on a mixed qualitative-quantitative analysis of the degree of formal and substantial openness in nine sectors of the economy (motor fuel distribution, electricity market, natural gas market, labour market, postal services, telecommunications and e-communications, air transport, rail transport, and insurance) in 28 member states of the European Union.

The highest scores in the Index are associated with lower entry costs, greater dynamism, and a larger plurality of operators, offers, and products. In evaluating market openness, we focus on several sectors that were traditionally highly regulated or even organised as (state-owned) monopolies. In some cases, member states initiated the process of market opening on their own: for example, Great Britain pioneered the liberalisation of energy and telecommunications, and Sweden of railway transportation, in the 1980s. In most cases, though, liberalisation was a result of the EU's efforts to achieve market integration.

Introduction

This report is aimed at measuring the progresses that are made at the level of member states in creating the legal and regulatory conditions for preserving or even promoting competition. Before getting into the methodological details, it is important to declare why the Index of Liberalisation has been developed in the first place, and how it changed over time. There are at least three main reasons behind the Index.

To begin with, it is an effort to produce a potentially valuable piece of information regarding Europe's ability to pursue its economic targets, i.e. economic integration. For markets to become increasingly intertwined, one does not necessarily need to adopt common rules – although in some cases a degree of harmonisation may be a practical necessity – but markets should be open to suppliers from other countries, and consumers in one state should be able to buy products from producers in other states. Opening markets is part of being part of the European Union; however, not all countries pursued these targets with the same degree of determination, nor did they all have the same determination in doing so across each sector of the economy. Comparing the latitude of market openness across member states allows to keep track of how convergent or divergent the scenario of competition in Europe is, and whether or not member states are becoming permeable to innovations and economic pluralism. By the same token, it is useful to know which sectors are more and which are less open in which countries. Finding best practice is a crucial component of the effort to create information and possibly to promote an imitation process. It also allows liberalisation proponents to show that they are not just making a theoretical argument: liberalisation is real, and works, somewhere in Europe.

However, knowing where liberalisation is a reality is only part of the relevant information. It is also important to understand how it evolves over time: are markets becoming more open? Are there cases where economic freedom, after an initial expansion, was rolled back again, and why? Keeping track of the evolution of economic freedom in various sectors of the economy over time, as well as in a cross section, also shows whether, and how, liberty progresses. The Index of Liberalisation was started in 2007 as a mere benchmarking exercise between Italy and a few comparator countries. In 2013, its coverage was extended to the EU15 – i.e. the core countries of the European Union – and in 2014 to the whole EU28 (Great Britain included). Despite minor methodological adjustments, comparability has been by and large granted ever since.

Finally, liberalisation is strongly associated with economic growth and innovation. Focussing on budget-neutral ways to promote growth has been a major challenge until now, and it is becoming even more important as the European economy is hit by the coronavirus crisis. We hope that the Index will be helpful to European policy-makers as well as advocacy groups to find a European way to the economic recovery, that leverages upon greater economic freedom, rather than on the trade-off between today's stimulus and tomorrow's taxes.

The methodology

How do we measure the degree of liberalisation? Liberalisation is the process of opening up a market (previously closed) to competition. Several markets – such as network industries, transportation, banking and insurance, liberal professions, etc. – used to be heavily regulated in Europe, or even dominated by state-owned monopolies. By the process of liberalising, the legal and regulatory framework is reformed in such a way that three basic (economic) liberties are granted:

- Freedom to enter the market: new suppliers should be allowed to enter the market and offer their products to consumers.

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- Freedom of organisation: suppliers should be allowed to organise – and innovate – their productive processes as they wish, including choices regarding vertical or horizontal integration, “make or buy” some intermediate inputs, how to frame their offers, etc. Of course, even in an open, competitive market, limitations can be introduced, subject to either one (or both) of the following conditions: i) the limitations are required to achieve other legitimate goals (such as environmental protection, public health, etc.); ii) the limitations are required to overcome greater obstacles to competition (i.e. potential market failures such as “natural” monopolies that need to be regulated in order to prevent the monopolist from keeping potential competitors out of the market). In either case, the benefits of the limitations should be demonstrated and should be shown to be higher than the costs.
- Freedom to exit the market: inefficient firms should go bankrupt and free up capital and labour that are employed in relatively unproductive ways. Bail-outs, state-ownership, barriers to foreign investments, and other measures that make the market position of the incumbent firms less (or not at all) contestable should be avoided because they distort the market for products by distorting the market for factors.

Each sector of the economy has its peculiarities; hence, these freedoms can take different forms. For competition to take off, some sectors just need to be deregulated: removing unnecessary burdens is all that is needed to make choice possible. In other sectors, new rules need to be introduced as the old ones are removed or reformed: for example, network industries (such as energy, telecoms, railways, etc.) rely on natural monopolies (the grids). Access to the natural monopolies should be granted and it should be possible under non-discriminatory conditions, otherwise the natural monopoly operator, not the customers’ choices, would determine the outcomes of competition.

In order to capture these differences, in each sector a variety of indicators and subindicators are identified, that take into account both the sectoral peculiarities, and the broader context. Ideally, such indicators and subindicators are aimed at assessing the features of market *design*: competition rests on free entry, organisation, and exit, and all of the above rely on rules that make it possible for competitors to enter the market, produce and sell their products, and fail if inefficient. However, it is not always easy to collect data and information regarding the legal framework in 28 sovereign states with 24 official languages. Moreover, the effectiveness of laws does not depend solely on the law’s own text, but also on its enforcement. In order to overcome this issue, we also look at a variety of quantitative indicators, often related to the market *structure* (i.e. concentration, market shares, etc.) and *outcomes* (prices, switching rates, etc.). These latter data should be interpreted in the light of each sector’s characteristics: for example, to tell whether market shares are “high” or “low”, one should know about the sector (say, whether large, upfront investments are needed to enter the market) and its history. (Did it use to be run as a state-owned monopoly? If so, until when?) With all these caveats, data regarding the outcomes of the market can be taken as a proxy for the degree of freedom – or lack thereof – in that very market.

The indicators and subindicators collect raw data from publicly accessible databases or other sources of information. At this point, a value should be attached to them to express how “liberalised” a market is. The act of “measuring” can be thought of as an act of “comparing”: measuring always consists of comparing a quantity with a benchmark. In our case, we take as a reference the best-performing country under each dimension. For example, if one indicator measures market concentration, and – under the particular circumstances of that market – a lower concentration is a proxy for more vivid competition, we take as a reference the lowest concentration rate which is observed among the EU member states in the reference year. Hence, the best-performing country is assigned a score equal to 100, and the other countries are scored accordingly, with lower values corresponding to less economic freedom.

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This approach has both an advantage and a shortcoming. The advantage is that the degree of market openness is not measured against a purely theoretical (and perhaps impossible) ideal: it looks at real and well-functioning experiences. One message of the Index of Liberalisation, in fact, is that each EU member state has something to learn from the others that may improve its regulation of some area of the economy. The shortcoming is that, in some sectors, no country has really opened the market, so even the best-performing country – the one that shows of the maximum *observed* degree of openness – finds itself in a very early stage of liberalisation. Generally speaking, though, in most economic sectors, at least a handful of EU member states have ventured into making competition possible, well beyond the level that would have been required by merely complying with EU regulations.

The above procedure results in a sectoral index – i.e., each country is assigned a score with regard to its degree of market openness in each sector. The last step to determine which European economies are more (or less) open to competition, we average the sectoral results and obtain a country's overall index of liberalisation. Of course, this latter operation is arbitrary – to some extent, it assumes that the surveyed sectors are representative of the whole economy, which is not necessarily true.

2020 Index of Liberalisation rankings

Figure 1 and Table 1 show the result of the 2020 Index of Liberalisation. In comparing the 2020 results with the previous editions (2014-17), it should be noted that while they are generally comparable, one should not read too much into small differences (i.e. differences of just a few points). Differences over time are not necessarily due to relevant changes in the degree of competition across the economic sectors that are surveyed. They may also be due either to small methodological changes (that are duly explained in the sectoral chapters), or to the fact that the 2020 edition considers nine sectors, whereas the previous editions had ten. One sector, TV broadcasting, has not been updated due to the lack or inaccessibility of data.

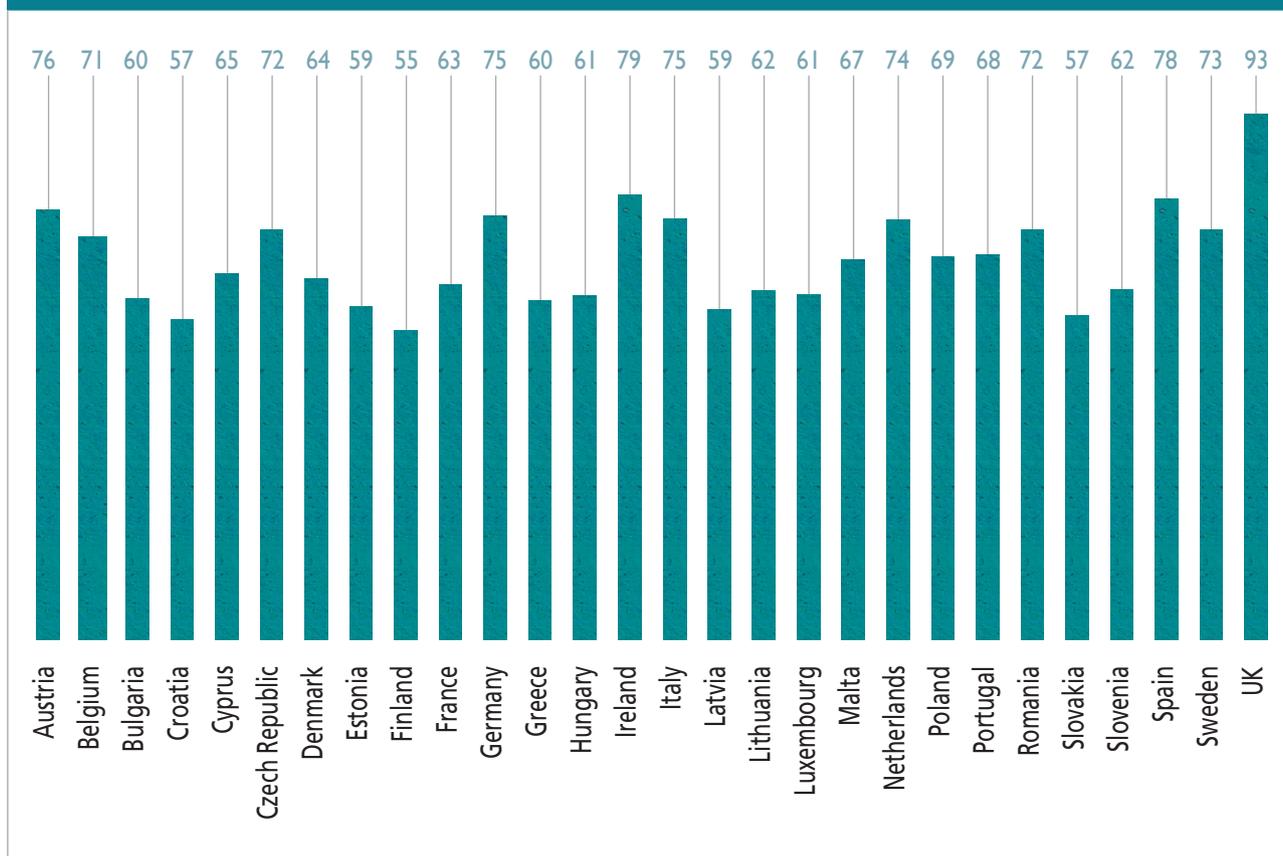
In 2020, like in the previous years, the UK emerged as the most open economy in Europe with a score of 93. (Despite Brexit, we will continue to include Great Britain in the Index insofar as harmonised data is available.) Compared to the latest edition (2017), the UK's score declines slightly (-2 points). The UK receives the highest rating (100) in five out of nine economic sectors, i.e. the natural gas market, the labour market, the electricity market, air transportation, and insurance markets. In the remaining it scores high as far as postal services (89), railways (86), and motor fuels distribution (85) are concerned, while it has a less exciting result with regard to telecommunications (78).

The UK is followed by Ireland (79) and Spain (78). The large distance between the best performer and the other countries – ten of which fall in the 70-79 bracket – tells quite clearly how far most EU countries are from implementing proper policies to open the markets beyond what is strictly required in order to comply with EU directives and regulations. Ireland scores very well with regard to labour (97), natural gas (91) and air transport (85), but it has disappointing results in the sectors of motor fuels distribution (66) and insurance (65). Spain is the best-performing country with regard to telecoms (100) but performs well in natural gas (91), electricity and airways (both 86), and insurance (80) as well. It scores badly in railways, though (41). As compared to 2017, Ireland gains 8 points and Spain gains one point.

The least liberalised countries in 2020, are Finland (55), Croatia (57), and Slovakia (57). Both Croatia and Slovakia score consistently low under each dimension, even though they are particularly bad as far as railway transportation is concerned, with scores of 14 and 23, respectively. Finland has low scores in almost all the surveyed sectors – with a very low score of 23 in the natural gas market – but has a very dynamic market for electricity, with a score of 90.

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Figure 1. 2020 Index of liberalisation



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Table 1. 2020 Index of liberalisation.

	Fuels	Gas	Labor	Electricity	Post	Telecoms	Airways	Railways	Insurance	Index
Austria	91	69	86	65	82	71	59	58	99	76
Belgium	54	91	77	78	81	70	76	34	82	71
Bulgaria	68	24	96	43	83	61	62	23	84	60
Croatia	48	n/a	58	56	76	65	58	14	79	57
Cyprus	58	50	87	30	81	52	75	n/a	84	65
Czech Republic	62	82	92	73	75	88	68	61	51	72
Denmark	46	52	94	68	68	85	70	53	39	64
Estonia	57	43	68	68	80	59	62	23	71	59
Finland	35	23	65	90	75	57	54	45	49	55
France	47	73	43	58	74	99	45	28	100	63
Germany	95	84	71	89	83	57	50	54	92	75
Greece	49	36	57	66	83	67	81	23	79	60
Hungary	60	59	85	55	66	41	78	26	77	61
Ireland	66	91	97	73	78	74	85	n/a	65	79
Italy	61	70	76	82	83	93	77	53	77	75
Latvia	61	37	80	61	75	54	70	17	72	59
Lithuania	64	52	83	62	93	45	69	10	78	62
Luxembourg	66	51	46	69	66	47	n/a	n/a	82	61
Malta	45	n/a	97	34	82	67	71	n/a	76	67
Netherlands	66	83	64	94	100	72	56	63	69	74
Poland	100	39	68	65	83	91	74	27	71	69
Portugal	68	84	50	93	91	68	66	29	64	68
Romania	60	53	80	66	89	82	78	65	81	72
Slovakia	55	52	53	61	77	60	72	23	60	57
Slovenia	68	58	66	69	79	73	61	18	67	62
Spain	75	91	69	86	76	100	86	41	80	78
Sweden	40	62	66	87	74	90	63	100	72	73
UK	85	100	100	100	89	78	100	86	100	93

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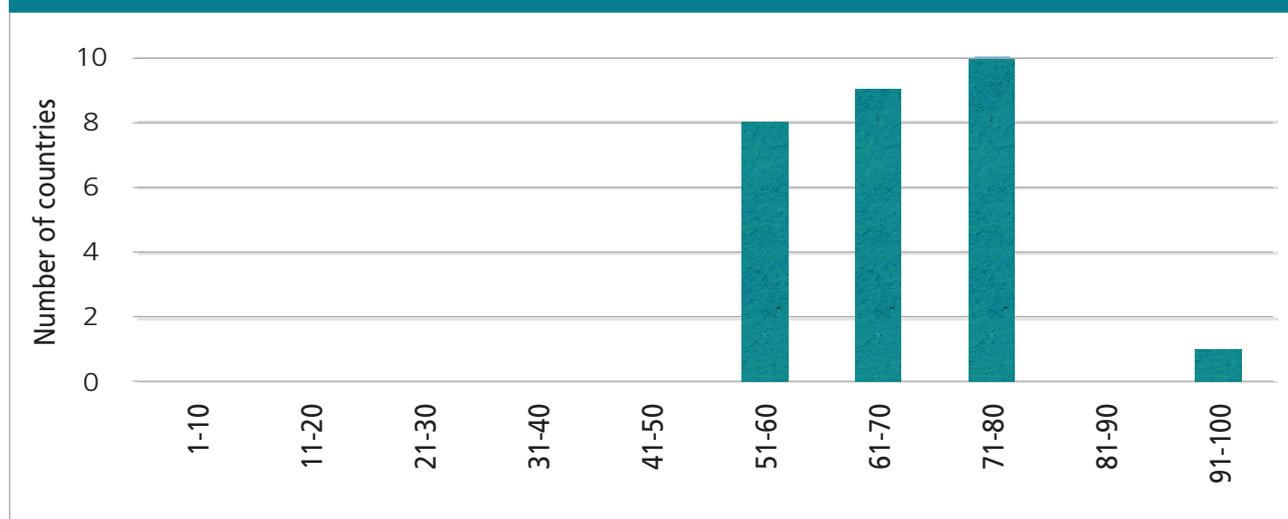
A few considerations about the distribution of member states across the Index of Liberalisation:

Firstly, countries that have been members of the EU for a longer time are more likely to display a high score: out of the ten most liberalised countries, eight belong to the core group of 15 countries that were members of the European Union in the 1990s. Two notable exceptions are the Czech Republic and Romania, which joined the EU in the 2000s, and rank 9th and 10th, respectively. Other exceptions are France and Greece, which rank 17th and 23rd, respectively. Finland – the worst-performing country – has been a member of the EU since 1995. The correlation coefficient between the Index and the number of years as a member of the EU is about 0.41. The UK provides another exception: despite its long membership of the EU prior to Brexit, it pioneered the political wave of liberalisation that subsequently – at least to some extent – also became a feature of EU policy. In most markets, hence, it would be hard to attribute the high degree of liberalisation which is observed in the UK to the EU's influence: the opposite is likely to be true.

Secondly, larger countries are more likely to have open economies than smaller ones: the correlation coefficient between the population of a country and its Index of Liberalisation is around 0.55. Correlation does not necessarily imply causation, but in this case, it may well be that governments of smaller countries are more likely to become captured by monopolists or quasi-monopolists, whereas larger economies allow for a greater plurality of vested interests whose fights result in a greater tolerance for competition.

The average value of the Index of Liberalisation across Europe is 67.4, with a standard deviation of 8.7 (as compared to an average of 67.3 and a standard deviation of 9.1 in 2017). The UK stands out as an outlier with a score of 93, although in some cases the country seems to be going back to new forms of regulation (the re-regulation of retail electricity and gas prices being major examples). All other countries fall in the 50-80 bracket. More precisely: eight countries score between 51-60, nine countries between 61-70, and ten countries between 71-80. The distribution is quite similar to what has been observed in the previous editions of the Index. Two lessons can be drawn: i) while at the sectoral level there is greater heterogeneity, the degree of market openness is more homogenous than one might think across the whole economy; ii) the main driver for the clustering of EU member states is likely to lie in the EU-led regulatory harmonisation, with a strong attitude to comply with the opening requirements but not going further (with a few sectoral exceptions across the member states and an outstanding exception, i.e. the UK). Figure 2 illustrates this.

Figure 2. Distribution of the Index scores.



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But how can we be sure that the Index – given its methodology – tells something interesting about how EU member states regulate some important sectors of the economy? Intuitively, it might be compared with other indices that measure something similar. These indices include the OECD’s Product Market Regulation (last updated in 2018), the Heritage Foundation’s Index of Economic Freedom, the World Bank’s Worldwide Governance Indicator for Regulatory Quality, the World Bank’s Doing Business, and the World Economic Forum’s Global Competitiveness Index. These indicators try to capture features that are either “formal” (such as economic freedom, product market regulation, or regulatory quality) or related to the market outputs (competitiveness, ease of doing business). But all of them are theoretically founded on the understanding that a freer economy is also a more dynamic one, and that freedom of enterprise requires sound institutions. If the Index of Liberalisation is well-designed, and if the underlying theory stands to empirical verifications, it can be expected to display some correlation with the other indices. Table 2 shows the correlation coefficients.

Table 2. Correlation coefficients between several indexes.

	Index Lib 2020	PMR2018	Index of Economic Freedom 2020	WorldWide Governance Indicators 2020 - Regulatory Quality	Doing Business 2020 Distance to Frontier	Global Competitiveness Report 2020
Index Lib 2020	1.00	-0.44	0.33	0.29	0.26	0.48
PMR2018		1,00	-0.39	-0.51	-0.69	-0.54
Index of Economic Freedom 2020			1.00	0.76	0.62	0.60
WorldWide Governance Indicators 2020 - Regulatory Quality				1.00	0.60	0.90
Doing Business 2020 - Distance to Frontier					1.00	0.56
Global Competitiveness Report 2020	a	a	a	a	a	1.00

As Table 2 confirms, the Index of Liberalisation shows a relatively high degree of correlation with all of the above-mentioned indices. That means that i) these indices measure features of an economy that are intertwined and ii) each index provides a peculiar piece of information. As far as the Index of Liberalisation is concerned, its correlation is highest when compared to the Product Market Regulation and the World Com-

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petitiveness Index. This fits with our prior expectations, insofar as PMR – like our index – is a sector-based measure (and it covers at least some of the same economic sectors); and the competitiveness index, at least under some of its several dimensions, covers what can be thought of as the output of the Index of Liberalisation, i.e. how some fundamental productive inputs (energy, telecommunications, etc.) are dynamic from the perspective of the final consumers.

Competition in the age of Covid-19

Of course, the 2020 edition of the Index of Liberalisation is largely based on data that refer to 2019 or earlier, depending on how fast harmonised data are made available by Eurostat and other sources. Different from any other year in the recent past, though, 2020 is a time of great change. The Covid-19 pandemic imposed a major toll on the world and EU economies. Governments all over the world reacted by pouring taxpayers' money into the economy in order to prevent mass layoffs or bankruptcies. Much changed from the competition point of view too.

The EU Commission introduced a temporary framework on state aid in March 2020, that by and large suspended or relaxed the usual limits to state aids. As this Introduction is being written, the Temporary Framework is expected to remain in force at least until June 2021 with regards to financial transfers from governments to private entities, and to September 2021 as far as government recapitalisations of non-financial firms are concerned.¹

Limits to, if not an outright ban on, state aid have been so far a key feature of Europe's competition policy. The Treaty on the Functioning of the European Union prevents member states from handing out money to firms, because that would distort competition and undermine the common market. Under the Treaty, state aid is allowed only under specific circumstances that must be approved by the EU Commission after the proposed aid has been properly notified. In order to be allowed, state aid must be shown to be necessary to pursue some legitimate goal (say, environmental protection), proportional, and non-discriminatory. The process may take time. As the pandemic spread in early 2020, the Commission reasonably relaxed the process in order to allow a timely intervention by the member states. Several months after, though, one would have expected the exceptional, transitional framework to be retracted. Instead, the temporary framework's validity has been broadened and extended: short of further extensions, the derogation will have been in place for more than one year. During these months, national governments have pumped big money into failing businesses to openly or covertly subvert competition and have even subtly nationalised – partly or fully – a handful of firms, large and small. The longer the temporary framework remains effective, the broader and more pervasive these distortions will become. And this, in turn, means that they will be politically harder to remove, undermining much of the progress that has been made so far in pursuing market integration among member states. The question of how it will be possible, and how long will it take to absorb the enormous amount of aid that is being awarded by national governments will remain open.

The drawback on free(r) markets does not concern the temporary framework on state aid alone. Its potential impact is magnified by the temporary derogations from the Stability and Growth Pact, under which member states are temporarily liberated from the usual budget constraints, including the limits on the deficit to GDP and debt to GDP ratios.² On top of that, and possibly even more relevant, the EU has agreed upon an unprecedented relief package of almost 700 billion euros, called Next Generation EU, under which it aims to

1. https://ec.europa.eu/competition/state_aid/what_is_new/covid_19.html

2. https://ec.europa.eu/commission/presscorner/detail/en/IP_20_499

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fuel the recovery by spending large amounts of resources on digital, green, and other fashionable areas. From a competition perspective, that may or may not entail distortions depending on how funds are allocated and mechanisms designed, but the appetite of member states for public spending is well visible. The probability is that very small that national governments, which have been asking the Commission to remove the limits on state aid for a long time, will administer the large resources they are awarded in a market-friendly way.

Conclusion

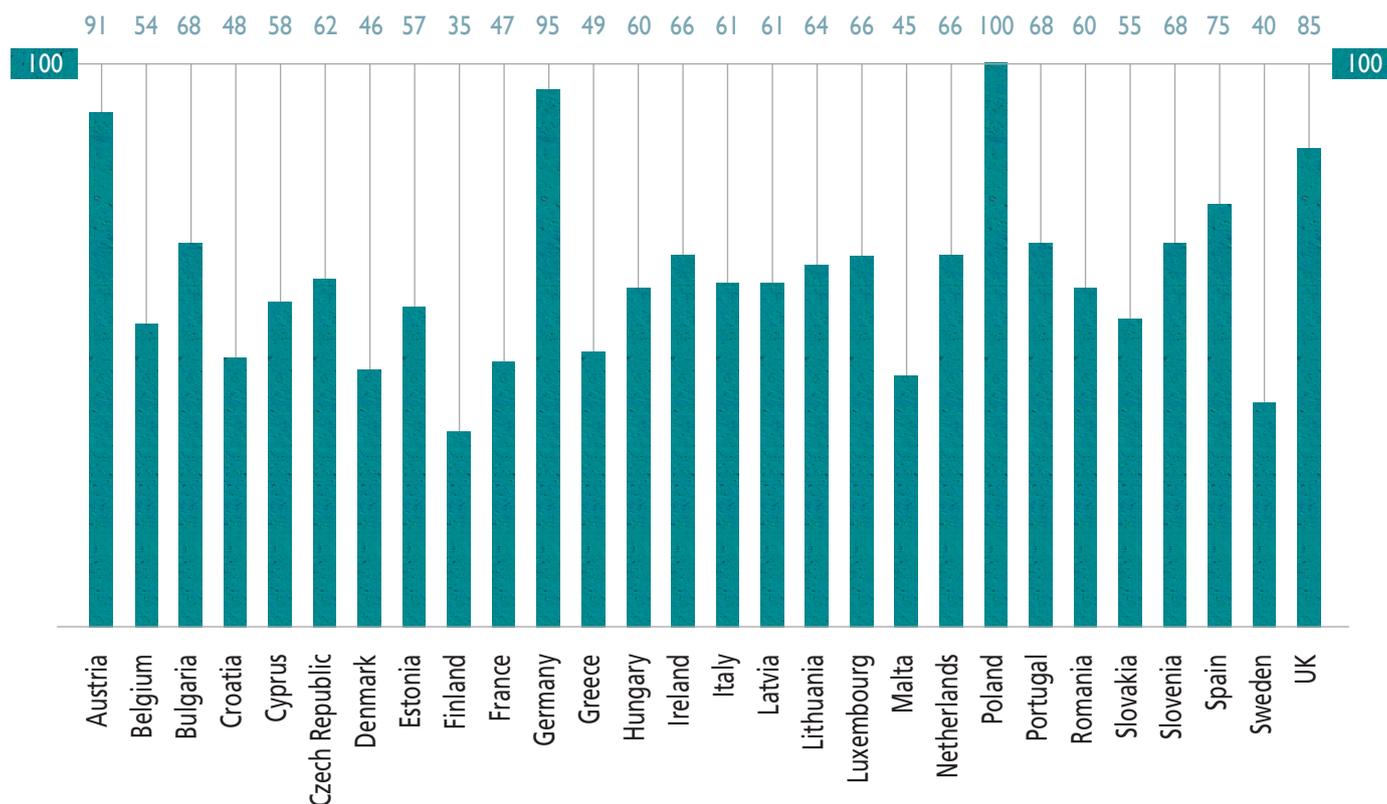
The 2020 edition of the Index of Liberalisation confirms a general trend that had already been observed in the previous editions. While most EU member states are not enthusiastic supporters of liberalisation, most of them have taken steps forward. This is to some extent the result of the efforts to pursue market integration on the part of the EU Commission, but it may also reflect the superior performance of liberalised markets.

For the first time, though, the future looks very dark. The UK – the country that had led both by example and by policy the efforts to increase the degree of competition – is leaving the European Union, and it has itself become much less keen on market opening. Second, a growing number of member states have been calling for “industrial policy” as an alternative to competition. Third, Covid-19 has (temporarily?) induced the removal of barriers to increased and discretionary state interventionism in the economy. This phenomenon is taking many forms: the temporary framework on state aid, the increasing role of governments in recapitalisations of firms, the increasing latitude and scope for deficit spending, including the “escape clause” from the Stability and Growth Pact, and the new funds from the EU; and the slowdown in the adoption of new, market-opening directives.

It is unclear where the EU is heading, due to the large uncertainties surrounding the coronavirus, the EU's ability to go back to stricter criteria for competition policy, state aid and public budgets, and the member states' political will to turn the EU into a transfer union rather than a (partly) economically integrated market.

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Chapter 1 Road fuels market



I. Summary

The retail market for road fuels is a mature and highly competitive one. Total demand has been declining for more than a decade. Within the broader downward trend in the demand for oil products in general, the consumption of motor fuels also declined as a consequence of more efficient vehicles. The demand for oil products in the European Union fell from about 730.3 to about 638.5 million tonnes per year between 2007 and 2018 (-12.6%). Diesel alone accounted for about 45.9% of the total demand, whereas gasoline accounted for about 12.6%.

Over the past 25 years though, a major shift occurred between gasoline and diesel. This was mostly a result of the reduced taxation of diesel that offset the greater production costs due to the effort to reduce carbon emissions. A new shift is taking place towards cleaner fuels that may be either blended in, or substituted for, traditional fuels. This latter shift also stems from increasingly strict environmental regulations, concerning, for example, the types of vehicles that are admitted into large cities and/or subsidies or even mandates for new gas stations to offer sustainable fuels or for cleaner vehicles. All of these changes also affect competition in

Road fuels market

the retail market for motor fuels, squeezing the margins of traditional operators and increasing the financial barriers to enter the market (for example, by requiring new gas stations to install costly equipment to supply sustainable fuels, including methane, LPG, electricity, or hydrogen).

Motor fuels are quintessentially homogeneous products. Hence, retailers can gain market shares by either engaging in costly price wars, by trying to differentiate their product by improving the quality of service, or by starting fidelity programs.

On top of these long-term trends – that are driven by both economics and policy – competition in the retail market for motor fuels relies on several aspects that are affected by regulation. First of all, regulation affects entry in the market by (not) allowing pure retailers to compete with vertically integrated companies which have traditionally dominated the market. Innovative suppliers include supermarket chains, which may charge lower margins and spread their fixed costs upon an array of different products, increasing total volumes (and revenues) rather than unit margins.

Secondly, regulation affects business conduct by (not) allowing bundling of different products, imposing greater costs or requirements upon suppliers, and depending on how sustainable mobility is supported. For example, regulations that require gas stations to install pumps to provide alternative fuels – even where there is little or no demand – are effectively raising financial barriers that may prevent newcomers from entering the market, or may drive smaller operators into bankruptcy.

Thirdly, regulation may affect the consumers' behaviour. This is particularly the case for the effect of fuel taxation. On the one hand, a different taxation of different products will impact the consumer's long-run choices of their vehicles, nudging demand towards – or away from – a target-fuel. On the other hand, higher taxes will reduce the incidence of price differentials on the price at the pump, hence reducing the incentive to engage in price wars on the supply side as well as the incentive to search for the cheaper gas station on the demand side.

In assessing the degree of market openness in the retail markets for motor fuels, we take into account the factors above which inform both the market design and its structure.

2. Methodology

In order to assess the degree of openness of the retail markets for motor fuels, we rely on three indicators: *Tax*, *Price*, and *Organisation*.

Tax reflects the burden of the fiscal component of the price: the higher the taxes, the lower the market openness, insofar as high taxes – i.e. a larger share of the end price which is non-contestable – reduce the perceived scope of price competition. *Tax* is calculated as a function of the average taxation of gasoline and diesel (including excise taxes and VAT), weighted by the national consumption of each fuel in the last available year (2018 in most cases). The source for the data is the European Commission.

Price takes into account the market price of each fuel, i.e. the price net of taxes. The underlying idea is that since road fuels are commodities that are traded globally at the wholesale level, price differentials at the retail level are likely to reflect the competitive situation. In fact, if markets were perfectly competitive all across Europe, the price of motor fuels would be the same everywhere. As with *Tax*, we take into account the price (as measured on December 31st, 2019) in each EU member states and we weight it by the national consumption in the year before. Data are taken from Eurostat.

Finally, *Organisation* looks at the degree of commercial innovation in the industry. We take two indicators in order to develop a proxy: the share of gas station that provide self-service facilities, and the share of gas stations that market non-oil products on top of oil products. Data are from the Databook of Unione petrolifera,

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Italy's confederation of oil companies that surveys all EU member states.

Where data are missing, we set the missing point equal to the worst observed data (for example, the highest price or the lowest share of self-service). Each indicator is set equal to 10 in the best performing country. Then the indicators are averaged – *Tax* weighs 20%, while *Price* and *Organisation* weigh 40% each – and the resulting Index is re-scaled in order for the best-performing country to have a score equal to 100.

3. The results

In 2020, the EU member states with the highest degree of liberalisation in the retail market for road fuels was Poland (which received a score of 100), followed by Germany (93) and Austria (91). Poland scores very well on *Tax* and *Organisation*, and this offsets a less-than-stellar result on *Price*. On the other hand, Slovenia, Ireland and the UK seem to have the most aggressive price competition but strike much lower scores on *Tax*.

On the opposite end, the worst-performing countries are Finland (with a score of 35), Sweden (40) and Denmark (45). These countries score very badly under all the indicators. Finland in particular scored significantly lower than the latest edition under the *Organisation* indicator. This is not due to a worsening of the situation per se, but is an effect of the greater coverage of the data we have used. Since the Index measures a relative, not absolute, performance, if the best-performing countries improve and increase the gap with the lagging countries, the score of the latter decreases.

The following table shows the results of each country under each dimension, as well as the general score.

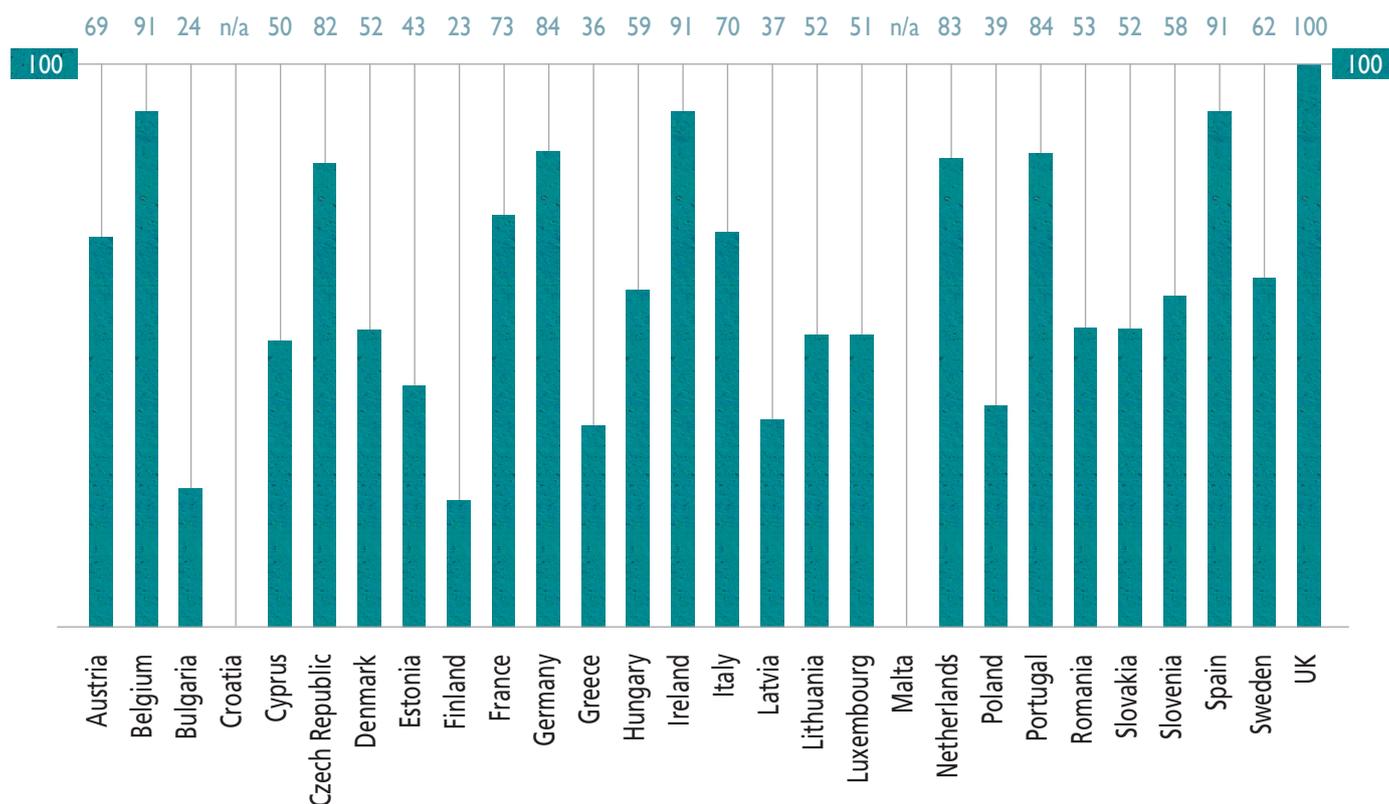
Road fuels market

Table 1. 2020 Index of Liberalisation – road fuel retail market.

	Tax [1-10]	Price [1-10]	Organisation [1-10]	Index of Liberalisation [0-100]
Austria	7.5	7.8	8.1	91
Belgium	1.6	8.7	2.2	54
Bulgaria	10.0	7.5	2.2	68
Croatia	6.7	5.0	2.2	48
Cyprus	7.5	6.7	2.2	58
Czech Republic	6.6	8.1	2.2	62
Denmark	5.4	0.7	6.6	46
Estonia	4.4	8.1	2.2	57
Finland	1.9	4.6	2.2	35
France	1.3	7.4	2.2	47
Germany	3.8	9.1	9.6	95
Greece	3.4	4.2	4.9	49
Hungary	9.3	6.2	2.2	60
Ireland	4.7	9.9	2.2	66
Italy	0.2	7.6	5.4	61
Latvia	8.3	7.0	2.2	61
Lithuania	9.3	7.0	2.2	64
Luxembourg	9.4	7.4	2.2	66
Malta	4.8	5.2	2.2	45
Netherlands	1.3	5.7	8.0	66
Poland	9.5	6.9	9.9	100
Portugal	4.3	5.8	6.7	68
Romania	7.6	7.1	2.2	60
Slovakia	8.0	5.8	2.2	55
Slovenia	5.2	10.0	2.2	68
Spain	7.9	5.2	7.2	75
Sweden	4.1	0.0	6.6	40
United Kingdom	0.0	8.5	10.0	85

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Chapter 2 Natural gas market



I. Summary

The market for natural gas is a relatively mature one all across of Europe. Still, it underwent major changes in the past decade. The International Energy Agency claimed in its 2010 World Energy Outlook that the world was entering the “Golden Age of Gas”, however things went differently: supply surged thanks to the unconventional resources in North America and elsewhere, and global markets became more integrated because of the increasing role of liquefied natural gas (LNG). Demand collapsed because of the economic crisis in the short run, and competing energy sources (particularly, renewable energies in electricity generation) in the long run.

Domestic production of natural gas in the European Union peaked in 1996 at 211 Mtoe. Since then it has been consistently falling: in 2018, European production was at about 94 Mtoe, or 55% lower. However, gross inland consumption grew for a while, with a peak of 448 Mtoe in 2010, then fell to a minimum low of 343 Mtoe in 2014 after which it slightly recovered (in 2018, gross inland consumption was of 392 Mtoe). The difference between domestic production and total demand is filled by importations, most of which are via

Natural gas market

pipeline, although the role of LNG is growing. Major investments in import capacity took place under the (wrong) expectation that demand would dramatically increase, so the rate of utilisation of several import infrastructures (particularly, LNG terminals) is relatively low – quite often between 20 and 30%. Alas, internal interconnections are missing, so – for example – several Eastern member states depend mostly or entirely on imports from Russia, while LNG terminals in Spain and Portugal remain unused.

Competition in the natural gas industry entails different stages: firms compete in the upstream market by producing natural gas domestically (where available) and importing it from abroad (via pipelines or LNG ships); they build their portfolio by buying natural gas in the spot markets and through long-term contracts; and they compete to supply end-users – both households and businesses – that, generally speaking, are legally free to choose their supplier.

In order to measure the degree of liberalisation, we look at how contestable each of these market segments are. Competition also depends on regulatory choices, especially with regard to transportation networks. As in other network industries, the transportation grid is a natural monopoly. On the one hand, it should be regulated in order to prevent the operator from extracting rents; on the other hand, third-party access at fair, non-discriminatory conditions should be granted to all competitors, especially where the incumbent – often a state-controlled entity – is vertically integrated.

2. Methodology

In order to assess the degree of market openness of the natural gas market, we rely on three indicators: *Upstream*, *Networks*, and *Retail*.

Upstream takes into consideration the degree of competition in the upstream industry, i.e. production and import. It is based upon three indicators: the share the state owns in the incumbent's stock, the number of main entities (i.e. operators with a market share larger than 5%), and the incumbent's market share. The underlying idea is that a market is less competitive if only a small number of entities are sizeable enough, if the incumbent has a larger market share, and if the state plays a greater role. The indicator is calculated as a weighted average of these three variables, of which state ownership and fragmentation weigh 25% each, while the incumbent's market share has a weight of 50%. Data regarding state ownership are constructed after a survey conducted by the authors; the other data are from Eurostat and the EU Commission's DG Energy.

Network evaluates the degree of separation between network operators and vertically integrated operators, both at the national transportation (TSO) and local distribution (DSO) level: the greater the degree of separation, the higher the score. Information regarding network separation is taken from various reports from the EU Commission, CEER and ACER.

Retail takes into consideration four indicators: the incumbent's market share, the number of main entities (i.e. operators with a market share larger than 5%), the switching rate, and the share of residential customers that are supplied under a regulated tariff. These variables receive a weight of 30%, 10%, 40%, and 20%, respectively. The sources for the data are Eurostat and DG Energy.

Once these indicators are calculated, they are averaged to determine the overall Index of Liberalisation, which is set equal to 100 for the best-performing country and rescaled accordingly. *Upstream* is given a weight of 40%, *Network* 20%, and *Retail* 40%.

In order to offset some problems with data availability, we have made minor changes in the methodology with respect to previous editions. The changes are small so comparability over time is still granted, but in the case of small countries (for example, Ireland) large changes show up that cannot be explained by the market evolution alone.

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3. The results

In 2020, the EU member states with the highest degree of liberalisation in the natural gas market were the UK with a score of 100, followed by Ireland, Spain, and Belgium (all of which scored 91). Great Britain scores very highly both on *Network* and *Retail*, but the *Upstream* sector appears relatively concentrated. Ireland finds itself in a similar situation, whereas Spain and Belgium do well on *Upstream* and *Network* but fall short as regards *Retail*.

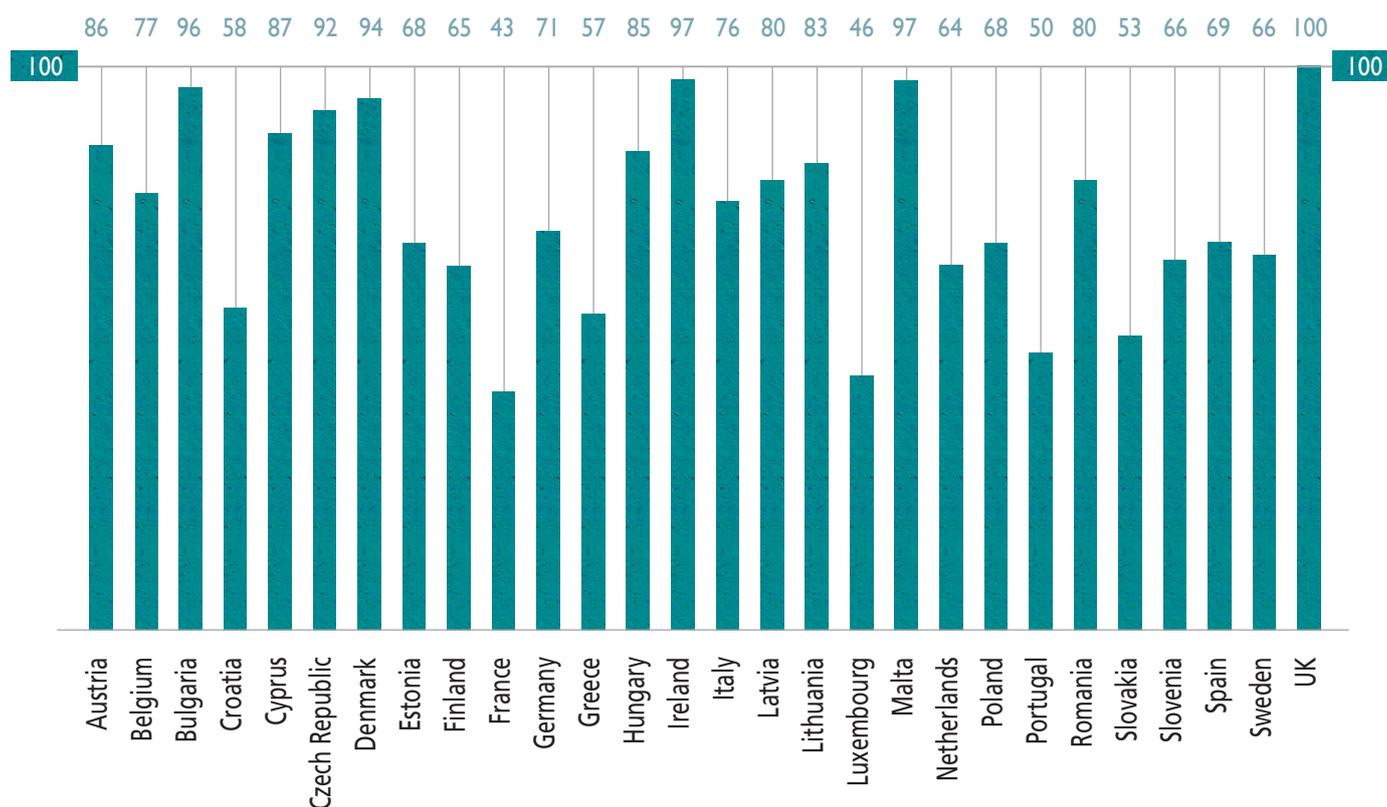
The worst-performing countries were Finland (23), Bulgaria (24), and Greece (36). All these countries barely show any sign of competition in the market. Greece and Bulgaria are formally committed to a reasonable degree of network separation, but they show very little dynamism in the market, both wholesale and retail.

The following table shows the results of each country under each dimension, as well as the general score.

	Upstream [1-10]	Network [1-10]	Retail [1-10]	Index of Liberalisation [0-100]
Austria	5.4	6.0	6.0	69
Belgium	7.5	8.5	7.1	91
Bulgaria	0.4	7.5	0.9	24
Croatia	n/a	n/a	n/a	n/a
Cyprus	4.3	6.0	3.2	50
Czech Republic	7.5	6.0	6.6	82
Denmark	2.9	8.5	3.8	52
Estonia	2.9	5.0	3.5	43
Finland	0.4	3.0	2.9	23
France	4.6	8.5	6.3	73
Germany	7.3	5.5	7.5	84
Greece	2.5	5.5	2.2	36
Hungary	5.1	6.0	4.3	59
Ireland	5.3	10.0	8.5	91
Italy	4.7	8.5	5.5	70
Latvia	5.6	2.0	1.1	37
Lithuania	6.0	7.0	1.3	52
Luxembourg	3.1	5.5	4.8	51
Malta	n/a	n/a	n/a	n/a
Netherlands	5.9	10.0	6.3	83
Poland	1.3	8.5	2.6	39
Portugal	5.2	8.5	8.1	84
Romania	4.0	7.0	3.5	53
Slovakia	3.3	6.0	4.6	52
Slovenia	4.6	4.5	5.4	58
Spain	8.1	8.5	6.6	91
Sweden	2.9	10.0	4.9	62
United Kingdom	6.4	10.0	9.4	100

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Chapter 3 Labour market



I. Summary

The regulation of labour markets directly impacts the choices regarding competition, capital allocation, and industrial organisation in all other sectors of the economy. All else being equal, rigid labour laws are typically associated with lower employment rates, higher adjustment costs during and after economic crises, and greater prevalence of the underground economy.

Labour laws typically affect the protection of existing employment, rather than the rights and the interests of employees. More flexible labour laws may entail larger employment reductions as a crisis hits, but also a faster recovery and a more efficient reallocation of production factors, that is what matters in the long run insofar as wealth and employment creation is concerned. Moreover, the workers' protection may be achieved via other policy tools, including the so-called "active labour market policies", that entail – for example – income subsidies to the unemployed and the provision of services to help them to get training and skills that are demanded by the labour market, and ultimately a new job.

Moreover, labour laws do not matter only as regards the economy's behaviour in times of crisis. Increasing

Labour market

competition in the product market and technological change require significant changes in how production factors – including labour – are employed. Other sources of uncertainty, such as global trade wars, Brexit, and obviously the pandemic crisis increase the need for reforms that can improve the economy's ability to adapt and evolve. Unfortunately, several EU member states still have rigid labour laws, that may undermine their economies' resilience and ability to grow and flourish.

This chapter follows the 2020 Employment Flexibility Index, prepared by the Lithuanian Free Market Institute in cooperation with the Civil Development Forum (Poland), the Institute of Economic and Social Studies (Slovakia), the Institute of Market Economics (Bulgaria), the Centre for Economic and Market Analyses (Czech Republic), the Academy of Liberalism (Estonia).

2. Methodology

The methodology used to measure the degree of liberalisation of labour markets across the European Union is illustrated in the Lithuanian Free Market Institute's 2020 edition of its Employment Flexibility Index.

Flexibility, which is assumed to be a feature of liberalisation, relies on four pillars: Hiring, Working Hours, Redundancy Rules, and *Redundancy Cost*.

Hiring regulation covers fixed-term contracts and minimum wage regulations. *Working hours* covers non-standard work schedules and a number of days of paid vacation. Regulation of *Redundancy Rules* covers mandatory legal requirements on dismissals for economic reasons. *Redundancy Costs* cover notification requirements, severance payments and penalties due when terminating a contract with a worker expressed in weeks of salary, and include unemployment protection after a year of employment.

All of these features are estimated for a representative agent, which is assumed to be a cashier in a supermarket or grocery store, aged 19, with one year of experience. The worker is employed full-time. The business is a limited liability company, that operates a supermarket or a grocery store in the country's largest business city, and employs 60 people.

The Index is calculated as the weighted average between the rigidity of employment (that takes into account *Hiring*, *Working Hours*, and *Redundancy Rules*), with a weight of 75%, and *Redundancy Cost*, with a weight of 25%. Differently from the LFMI's original index, sub-indicators are rescaled on a 0-10 scale and the general index on a 0-100 scale, with the best-performing country set equal to 100, for the sake of consistency with the Index of Liberalisation's general methodology.

3. The results

In 2019, the most liberalised country in the European Union – with regard to the labour market – was the United Kingdom credited with a score of 100, followed by Ireland and Malta (both at 97). The worst-performing countries are France (43), Luxembourg (46), and Portugal (50).

Of the EU countries, the UK has the most flexible labour law regulations, meaning the law has the least statutory requirements. For example, there is no limit to the maximum duration of fixed-term employment contracts, nor is there any statutory minimum of premiums for overtime, night work, or work on weekly rest days. France, Luxembourg and Portugal have the most rigid employment relations regulations.

The following table shows the results of each country under each dimension, as well as the general score.

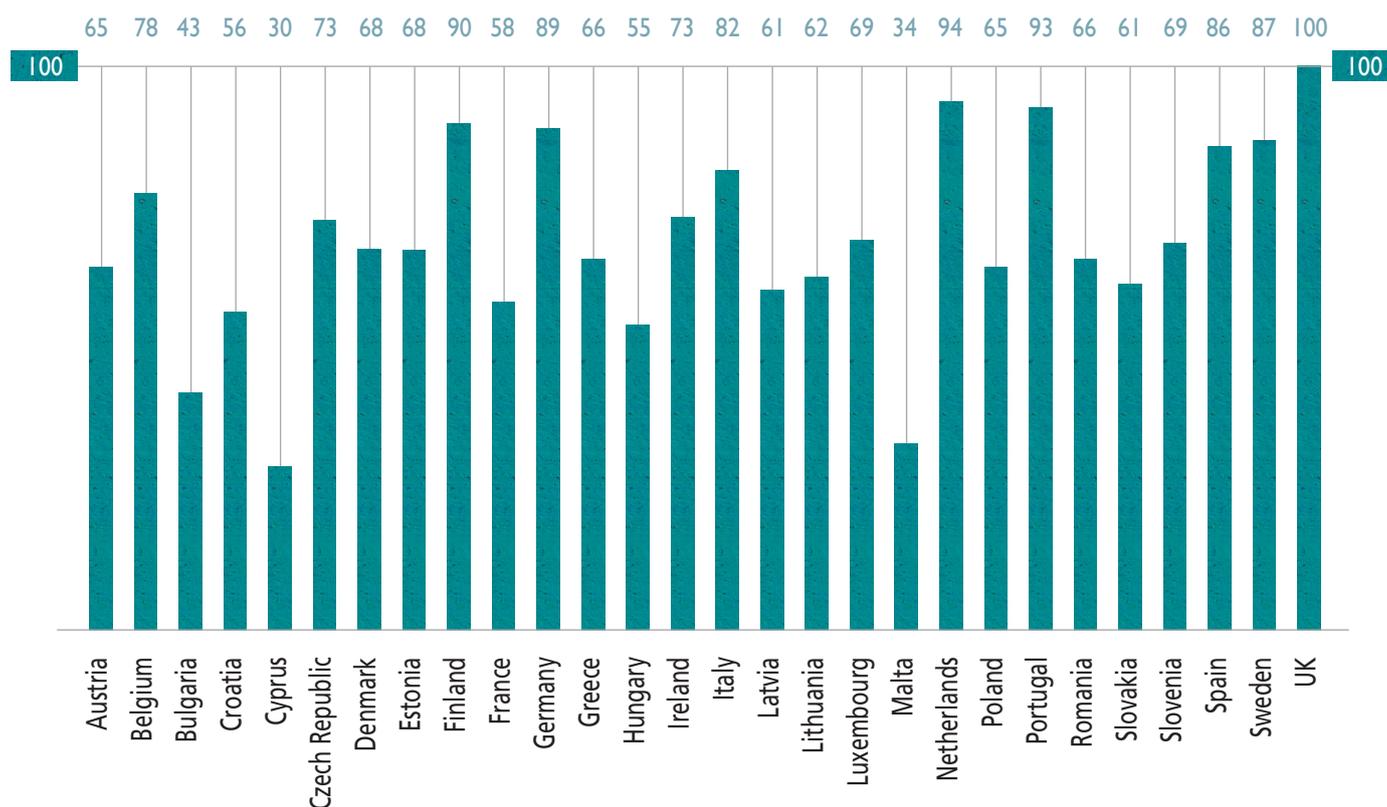
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Table 1. 2020 Index of Liberalisation – labour market.

	Rigidity of employment [1-10]	Redundancy cost [1-10]	Index of Liberalisation [0-100]
Austria	5.9	10.0	86
Belgium	8.0	0.9	77
Bulgaria	8.2	6.0	96
Croatia	5.2	3.0	58
Cyprus	6.0	10.0	87
Czech Republic	9.6	0.7	92
Denmark	9.6	1.3	94
Estonia	6.0	4.0	68
Finland	5.2	5.3	65
France	3.2	4.0	43
Germany	7.6	0.1	71
Greece	5.2	2.7	57
Hungary	7.8	3.8	85
Ireland	9.2	3.4	97
Italy	6.0	6.3	76
Latvia	7.2	4.0	80
Lithuania	7.5	4.0	83
Luxembourg	4.9	0.0	46
Malta	7.0	10.0	97
Netherlands	6.0	2.7	64
Poland	6.9	1.3	68
Portugal	4.6	2.2	50
Romania	5.2	10.0	80
Slovakia	5.2	1.3	53
Slovenia	5.3	5.1	66
Spain	6.7	2.0	69
Sweden	6.0	3.3	66
United Kingdom	8.8	5.7	100

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Chapter 4 Electricity market



I. Summary

The provision of electricity is becoming increasingly important in the European Union, both as an energy vector to fuel a variety of final uses, and as an instrument to achieve decarbonisation. Gross electricity generation in the EU28 has grown from 3,043 TWh in 2000 to 3,294 TWh in 2017, peaking at 3,362 TWh in 2010 before the economic crisis, and recovering almost entirely over the past decade. The share of renewable electricity has grown from about 15% in 2005 to above 30% in 2017. That was the result, on one hand, of a wide array of subsidies adopted at the national level (including monetary and non-monetary ones, such as dispatch priority or mandates), and, on the other hand, of technological progress that drove down the cost of alternative sources significantly.

The value chain of electricity can be schematically divided into three segments: wholesale markets (which include electricity generation and trading), the natural monopoly (transmission and distribution infrastructures), and retail markets. Under the European electricity directives and regulations, entry in both wholesale and retail markets is free, while natural monopolies are regulated with regard to both tariffs and third-party access.

Electricity market

However, competition is also distorted by a number of regulations and subsidies, both at the EU and national levels. As far as generation is concerned, subsidies and other regulatory privileges affect capital allocation and alter firms' business plans well beyond the "normal" market risk. The natural monopoly is subject to strict regulations, but vertical integration is still a reality in several member states, and the regulatory framework is not always robust enough to outweigh its shortcomings. Moreover, quite often the current liberalised markets are a result of the evolution of former state-owned monopolies: the state still holds large stakes in the incumbent in many instances, which reduces potential competition and increases the risk of regulatory capture. As far as retail markets are concerned, while EU directives require member states to allow all customers to switch suppliers, many jurisdictions still hold regulated tariffs that are often entrenched with the provision of electricity services by the incumbent.

Studying how competition evolves in electricity markets is also important because after an unprecedented process of market opening in the 1990s and early 2000s, the tide is changing all over the old continent (and in Great Britain, too). There are at least two independent drivers behind this. On one hand, environmental and climate policy: while the so-called energy transition can be achieved in principle via market-based instruments such as carbon pricing, virtually all EU member states have introduced policies that result in – and often are explicitly aimed at – picking winners, both among technologies and firms. The growth of subsidised renewables undermines the business model of conventional generation, yet many conventional power plants need to be kept warm in order to provide balancing services to the grid. In order to allow them to recover their fixed costs – that are not fully covered by their market revenue – several member states have introduced so-called capacity instruments, i.e. subsidies. On the other hand, after an initial period when state monopolies were broken up, politicians understood how much they can benefit from exercising direct control over state-owned monopolies and became increasingly successful in capturing the policy-making process.

2. Methodology

Given the strong similarities in the industrial organisation and the regulation, the methodology employed to measure the degree of liberalisation of the electricity market is quite close to that used in Chapter 2 about natural gas. Indeed, we rely on three indicators: *Generation*, *Networks*, and *Retail*.

Generation takes into consideration the degree of competition in the upstream industry, i.e. electricity generation and import. It is based upon five indicators: i) the share of the incumbent's stock owned by the state (with a weight of 20%); ii) the number of main entities, i.e. firms with a market share greater than 5% (weighted 10%); iii) the incumbent's market share (with a weight of 30%); iv) the share of energy which is subsidised (weighted 30%); and the kind of capacity remuneration scheme (if any), with a higher score assigned to market-based tools (weighted 10%). Data regarding state ownership and capacity schemes are from the authors' own survey; all other data are from Eurostat and the EU Commission's DG Energy.

Networks evaluate the degree of separation between network operators and vertically integrated operators, both at the national transportation (TSO) and local distribution (DSO) level: the greater the degree of separation, the higher the score. Information regarding network separation is taken from various reports from the EU Commission, CEER and ACER.

Retail takes into consideration four indicators: the incumbent's market share; the number of main entities (i.e. operators with a market share larger than 5%); the switching rate; and the share of residential customers that are supplied under a regulated tariff. These variables receive a weight of 30%, 10%, 40%, and 20%, respectively. The sources for the data are Eurostat and DG Energy.

Once these indicators are calculated, they are averaged to determine the overall Index of Liberalisation,

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which is set equal to 100 for the best-performing country and rescaled accordingly. *Generation* is given a weight of 40%, *Networks* 20%, and *Retail* 40%.

In order to offset some problems with data availability, we have made minor changes in the methodology with respect to previous editions. The changes are small so comparability over time is still granted, but in the case of small countries (for example, Ireland), large changes show up that cannot be explained by the market evolution alone.

3. The results

In 2020, the EU member states with the highest degree of liberalisation in the electricity market were the UK with a score of 100, followed by the Netherlands (94) and Portugal (93).

The worst-performing countries were Cyprus (30), Malta (34), and Bulgaria (43).

The following table shows the results of each country under each dimension, as well as the general score.

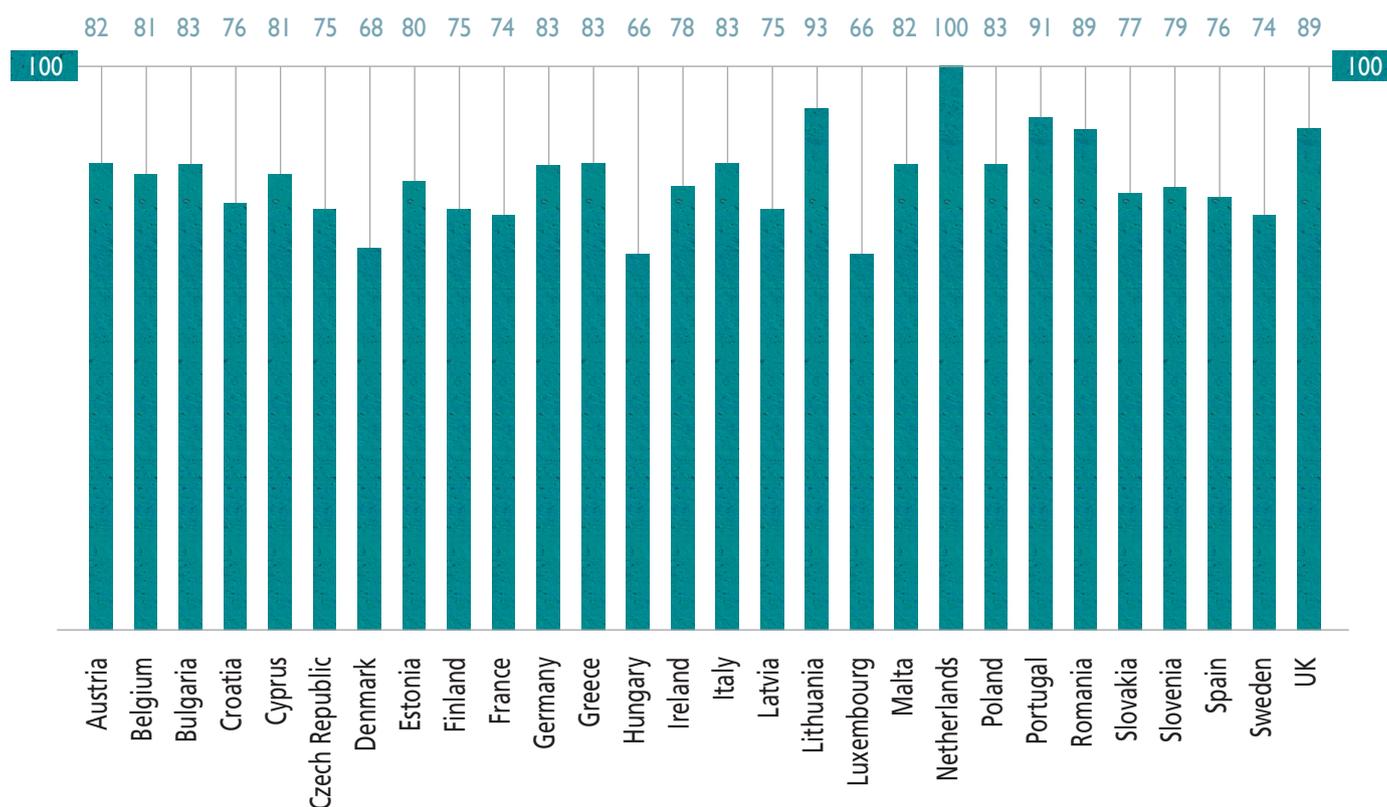
Electricity market

Table 1. 2020 Index of liberalisation – electricity market.

	Generation [1-10]	Network [1-10]	Retail [1-10]	Index of Liberalisation [0-100]
Austria	4.9	6.0	5.5	65
Belgium	5.2	8.5	6.7	78
Bulgaria	3.1	6.0	2.7	43
Croatia	4.3	6.0	4.4	56
Cyprus	4.0	2.0	1.2	30
Czech Republic	5.6	8.5	5.2	73
Denmark	4.9	8.5	4.9	68
Estonia	4.4	8.5	5.3	68
Finland	6.9	8.5	7.4	90
France	5.0	6.0	4.0	58
Germany	7.8	6.0	7.6	89
Greece	5.1	8.5	4.2	66
Hungary	6.0	6.0	2.3	55
Ireland	5.0	6.0	7.1	73
Italy	7.1	8.5	5.5	82
Latvia	5.4	7.0	3.7	61
Lithuania	5.8	10.0	2.0	62
Luxembourg	7.8	5.5	3.7	69
Malta	5.7	0.0	1.2	34
Netherlands	6.5	10.0	7.9	94
Poland	6.7	8.5	2.4	65
Portugal	7.3	8.5	7.7	93
Romania	6.6	7.0	3.5	66
Slovakia	4.0	8.5	4.4	61
Slovenia	4.0	8.5	5.8	69
Spain	7.8	8.5	5.6	86
Sweden	5.4	10.0	7.4	87
United Kingdom	8.1	8.5	8.3	100

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Chapter 5 Postal service



I. Summary

The role of the postal service has undergone major changes in the past couple of decades. The maintenance of a diffused network of post offices was regarded as a crucial feature of economic development and democracy. This explains why post offices are subsidised everywhere, and very often organised as a state-owned monopoly.

In the European Union, the process of liberalisation started in the late 1990s, with an increasing attention paid to defining the scope of universal service obligations, a growing emphasis on allowing competition where possible, and making the public service itself contestable.

In the meantime, technological progress has severely impacted the business, both as regards the underlying productive processes, and the demand's behaviour. The diffusion of electronic communications (emails, for example) and smartphones has caused a dramatic fall in the volume of letters. This phenomenon has been partly offset in the past few years by the increasing volumes of parcels due to the diffusion of ecommerce.

Postal service

2. Methodology

The index is based upon three main indicators: *Regulation*, *Access*, and *Market*, that contribute to the overall index by 20%, 35%, and 45%, respectively.

Regulation takes into consideration the following information (mostly qualitative): i) whether the market for delivery has been formally opened; ii) the market maturity, i.e. how long competition in the market has been allowed; and iii) the independence of the national regulator, including its power to collect data and how effective these powers are. The underlying idea is that for regulation to promote competition, it is not enough that entry is formally allowed: it takes time for competitors to grow and for regulation itself to evolve, and the regulator must be strong enough to resist capture and overcome regulatory asymmetries.

Access surveys whether, and under which conditions entry is allowed in the market. It considers the following information: i) the scope of universal service obligations; ii) the legal mechanisms of financing the net cost of the universal service obligation; iii) the regulation of entry to provide services within the universal service obligations; iv) whether the universal service and/or the universal service provider is VAT exempt. The way the universal service is organised and funded has a critical impact on actual as well as potential competition: moreover, it often happens that universal service providers enjoy undue privileges (for example VAT exemptions that make their products artificially cheaper than those offered by their competitors) or even reserved areas of business where entry is forbidden (e.g. the delivery of judicial acts).

Market looks at the actual outcomes from competition: i) the market share of alternative operators; ii) the share of the universal service provider's stocks in the hands of the state; iii) the income share from delivery of the universal service provider; iv) the degree of market concentration. Market outcomes are considered more prone to competition not only when the market's concentration is relatively low, but also when the state does not interfere directly with competitive dynamics (hence raising the risk of regulatory capture). Additionally, when the universal service provider does not engage in competition in contiguous markets where it may leverage upon its dominant position in its core market, cross-subsidisation may take place.

The data are taken from the authors' own surveys on the current regulatory frameworks as well as from the reports on the postal market released by EGRP and by the EU Commission. We have introduced minor changes in the methodology, so some caution is required in comparing this year's results with the previous ones.

3. The results

In 2020, the EU member states with the highest degree of liberalisation in the postal services is the Netherlands with a score of 100, followed by Lithuania (93) and Portugal (91). The worst performing countries were Luxembourg and Hungary (both with a score of 66) and Denmark (68).

The following table shows the results of each country under each dimension, as well as the general score.

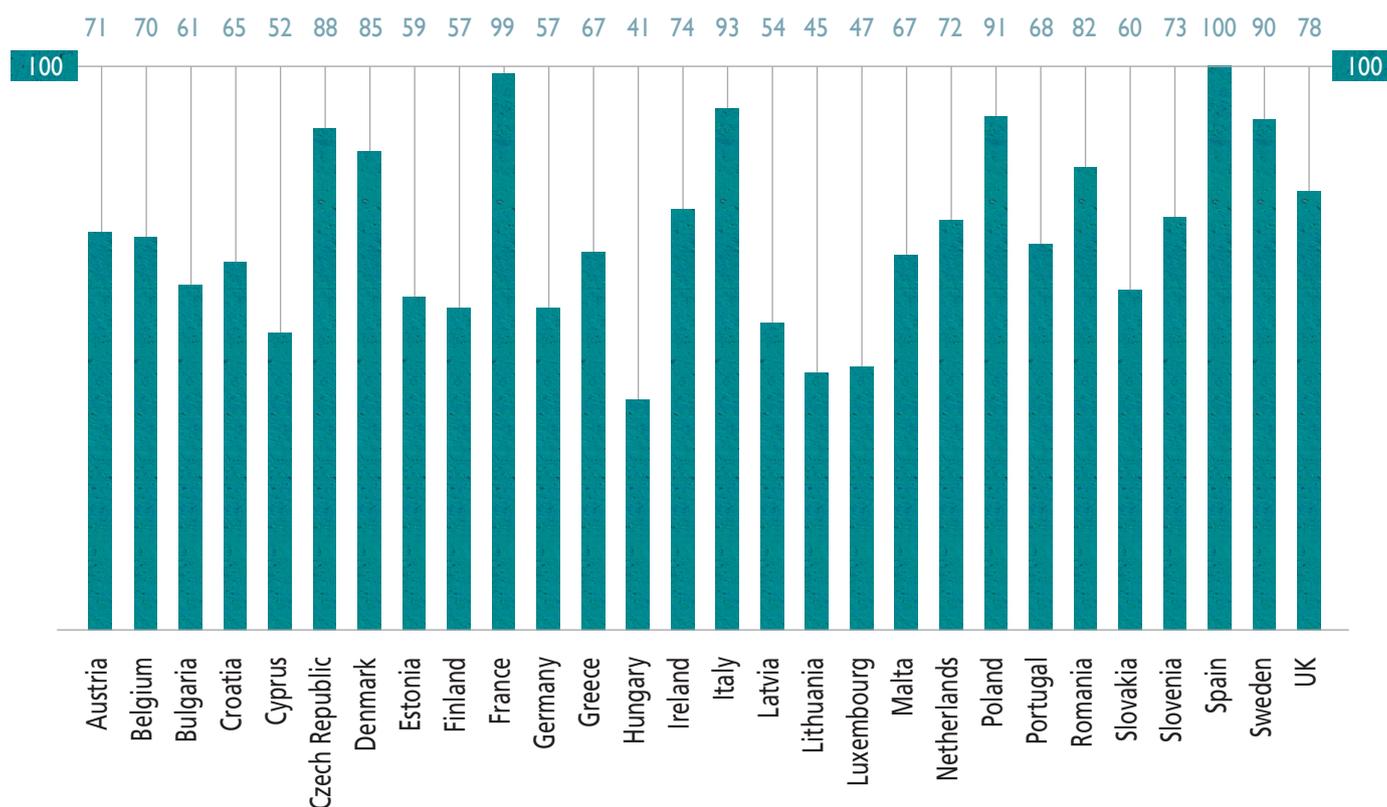
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Table 1. 2020 Index of liberalisation – postal service.

	Regulation [1-10]	Access [1-10]	Market [1-10]	Index of Liberalisation [0-100]
Austria	9,8	6,8	4,8	82
Belgium	10,0	5,5	5,4	81
Bulgaria	9,2	6,5	5,4	83
Croatia	8,5	6,5	4,5	76
Cyprus	8,4	6,8	5,2	81
Czech Republic	8,7	8,0	3,0	75
Denmark	7,7	7,5	2,6	68
Estonia	9,8	6,5	4,6	80
Finland	9,0	8,0	2,9	75
France	9,2	7,3	3,1	74
Germany	10,0	7,0	4,6	83
Greece	9,3	5,0	6,5	83
Hungary	8,4	5,0	4,1	66
Ireland	8,7	6,8	4,6	78
Italy	9,8	6,0	5,6	83
Latvia	9,0	6,8	3,8	75
Lithuania	8,7	8,5	5,7	93
Luxembourg	9,0	6,8	2,4	66
Malta	9,0	5,0	6,5	82
Netherlands	9,0	9,0	6,5	100
Poland	8,0	7,0	5,5	83
Portugal	9,1	6,8	6,7	91
Romania	8,2	7,5	6,0	89
Slovakia	9,0	6,0	4,9	77
Slovenia	8,7	7,8	4,0	79
Spain	9,8	6,0	4,4	76
Sweden	9,5	7,0	3,3	74
United Kingdom	10,0	8,3	4,7	89

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Chapter 6 Telecommunications



I. Summary

Like many other sectors, telecommunications are facing a time of large and rapid transformations led by technological, institutional, and behavioural changes. The development of telecommunication infrastructures and services is becoming a key enabler for economic growth and human capital formation. Faster, more reliable, and more secure fixed, mobile, and broadband networks require large investments and careful (de)regulation in order for competition to flourish.

Alternative models of market design are emerging too. While many governments believe that the construction of new grids should be set as a political goal, the policy tools adopted to achieve that goal diverge: some subsidise demand through vouchers or other incentives, others make public money available to suppliers to strengthen their infrastructures, and still others are re-nationalising telecommunication incumbents. Moreover, whereas in the past few years infrastructural growth has been determined by infrastructural competition i.e. a plurality of competitors investing to improve their own infrastructures, many argue that the telecommunication fixed and broadband networks should be treated and regulated as natural monopolies, like energy infrastructures.

Telecommunications

Finally, value creation is becoming more complex along the value chain. In the past the largest chunk was taken by infrastructure operators. Now operators “over the top” i.e. pure service suppliers such as Google or Amazon are capturing (and creating) a larger share of the value. This raises protests and requests for reforms that quite often hide a protectionist nature behind an apparent appeal to “fair” competition.

2. Methodology

The index is based upon three main indicators: *Market*, *Infrastructure*, and *Switching*. The indicators are then averaged to create the general score.

Market reflects how effective competition in the market is. In order to do so, it takes into account the market share of new entrants in the fixed voice (measured as minutes of conversation), fixed broadband (measured as number of lines), and mobile (measured as number of users). This allows us to understand to what extent the markets for electronic communications are dominated by an incumbent company. Market dominance can raise serious problems that have to do with both state ownership (which is still an issue in many although not all member states) and vertical integration. With regards to the latter, different from energy, telecommunications have features that make ownership unbundling relatively more complicated and its competitive pay-offs less clear. Not least, different from the energy sectors, in the telecommunications environment, competition among different infrastructures as well as between alternative service providers makes technical as well as economic sense.

This leads us to the second indicator, *Infrastructure*. Such indicator covers infrastructural developments, based on the principle that a plurality of infrastructures and technologies is likely to result in more lively competition, greater innovation and more benefits to the consumers. In order to reflect this complexity, we look at the existing infrastructures as well as at the market players' positions relative to the so-called ladder of investments: deeper infrastructural choices (such as Local Loop Unbundling in fixed markets or own networks in mobile markets) are favoured over lighter forms of access (such as bitstream or mobile virtual networks). With regard to fixed lines, we consider the relative importance of own networks, local loop unbundling, shared access, bitstream, and resale. With regard to mobile markets, we take into consideration virtual vs physical network operators and among the latter, the share that is equipped with 4G technologies.

Finally, *Switching* looks at the demand side, with particular regard to the share of transactions that involve number portability in the fixed and mobile lines, respectively.

The data source is the European Commission.

3. The results

In 2020, the EU member states with the highest degree of liberalisation in the sector of telecommunications is Spain with a score of 100, followed by France (99) and Italy (93). The worst-performing countries were Hungary (41), Lithuania (45) and Luxembourg (47).

The following table shows the results of each country under each dimension, as well as the general score.

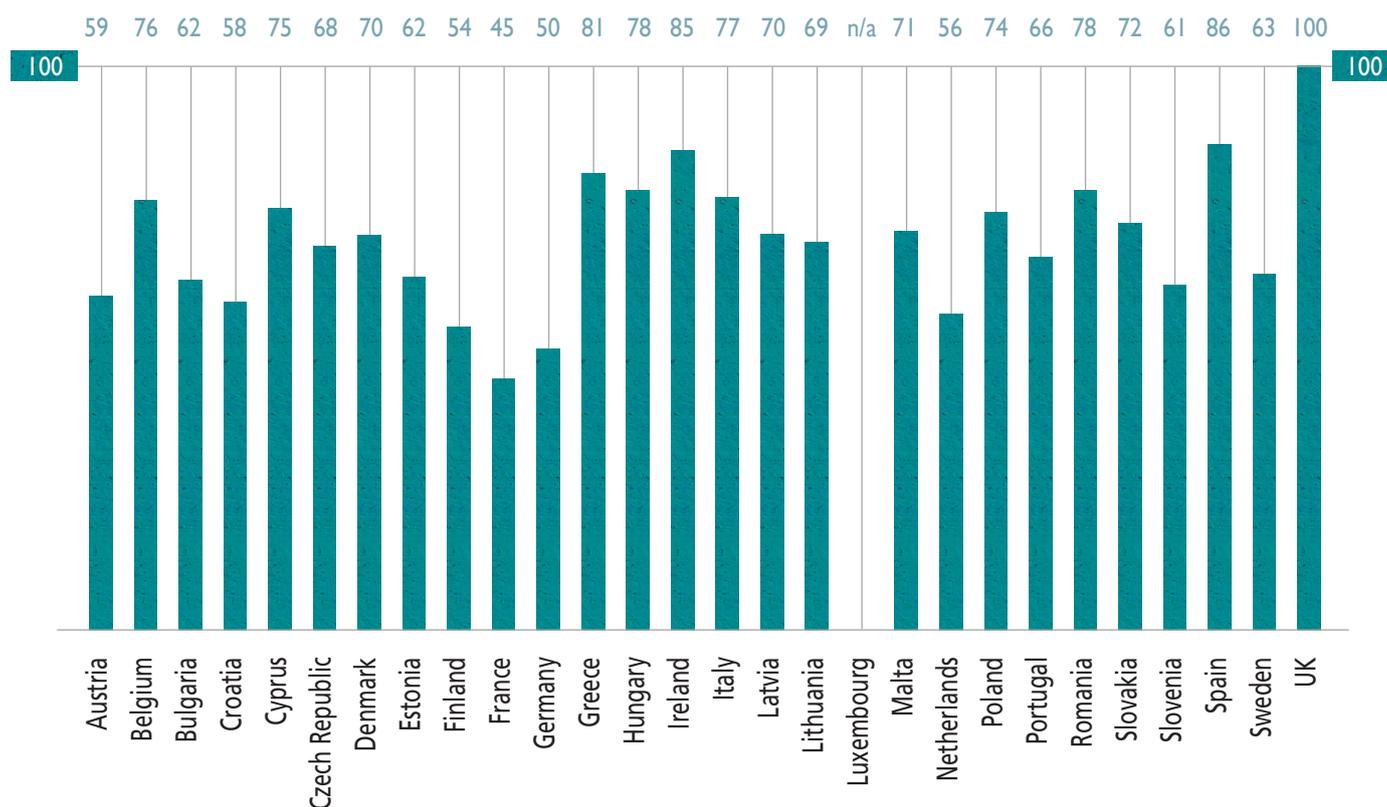
Index of liberalisation 2020

Table 1. 2020 Index of liberalisation – telecommunications.

	Market [1-10]	Infrastructure [1-10]	Switching [1-10]	Index of Liberalisation [0-100]
Austria	6.3	6.0	2.9	71
Belgium	6.5	4.4	4.1	70
Bulgaria	6.7	4.8	1.6	61
Croatia	6.0	5.1	2.9	65
Cyprus	4.1	5.0	2.1	52
Czech Republic	7.8	5.0	6.2	88
Denmark	6.4	6.3	5.5	85
Estonia	4.9	7.1	0.7	59
Finland	4.2	5.2	2.9	57
France	8.4	8.3	4.5	99
Germany	5.7	4.9	1.6	57
Greece	5.7	6.1	2.5	67
Hungary	4.0	4.4	0.4	41
Ireland	8.2	4.5	3.3	74
Italy	7.3	6.8	5.7	93
Latvia	5.0	4.0	2.7	54
Lithuania	4.6	4.6	0.6	45
Luxembourg	3.4	5.6	1.0	47
Malta	5.1	7.0	2.2	67
Netherlands	5.9	6.9	2.9	72
Poland	8.9	7.8	2.8	91
Portugal	7.2	6.0	1.3	68
Romania	8.0	8.2	1.4	82
Slovakia	6.0	4.8	2.2	60
Slovenia	7.2	5.6	3.0	73
Spain	8.3	7.1	6.1	100
Sweden	7.5	7.7	4.2	90
United Kingdom	6.5	7.3	2.9	78

Index of liberalisation 2020

Chapter 7 Air transport



I. Summary

The liberalisation of air transportation has been one of the most successful endeavours in market-opening in the recent history of the European Union. Given its inherently cross-national dimension, the regulation of the airways industry is by and large harmonised at the EU level and it relies on the principles of free entry and open competition (although relevant barriers exist to non-EU firms).

Twenty years after the kick-off of the liberalisation process which became effective in 1997, the industry's landscape has dramatically changed. National, state-owned monopolies are no longer in place in most EU member states, while traditional companies have changed their business model and their margins have been put under pressure by emerging low-cost carriers. Despite a consolidation process in the past few years, the market share of the largest companies at the EU level is around 10%, which makes market concentration relatively low.

Even in the market for long-haul flights where companies have traditionally been able to extract higher margins because of higher entry regulation and lower competition, competitive pressures have eventually showed

Air transport

up via the increasing number of Asian airways that supply flights to and from Asian destinations. As far as North-American destinations are concerned, low-cost carriers have emerged that might disrupt the market.

Of course, the Covid-19 crisis has severely hit the industry, leading to a collapse in demand, time-limited restrictions to flights, and the partial, temporary nationalisation of some traditional companies, such as Germany's Lufthansa and Italy's Alitalia (the latter having been in deep troubles well before coronavirus). The Index is based on 2019 data, so it doesn't capture these developments, but major changes are taking place that will be reflected in the future editions.

2. Methodology

The index is based upon two main indicators: *Regulation* and *Market*.

Regulation considers the regulatory quality, the regulator's independence and the existing barriers. First of all, we assess the degree of independence of the regulatory bodies. . Second, we look at the existing regulatory barriers, both in the air transportation market and as far as airports are concerned. Finally, we look at the frequency of legislative reforms in the air transportation sector in the previous five years: the idea is that more frequent changes make the regulatory and legal framework less certain, and act as a barrier to entry.

Market is a measure of the actual outcomes of the market, based on the idea that they provide a proxy to understand whether the market is actually competitive based on formal rules. To do so, we employ the growth rate of the demand for air transportation, the market share of new-comers and the market concentration indexes.

The overall Index averages the *Regulation* and *Market* indicators, with a weight of 3/5 and 2/5, respectively.

3. The results

In 2020, the EU member states with the highest degree of liberalisation in the sector of air transportation are the UK, with a score of 100, followed by Spain (86) and Ireland (85). The worst-performing countries were France (45), Germany (50) and Finland (54). While these latter countries strike a relatively low score under both dimensions, it should be emphasised that France and Germany have a very low score with regard to the *Regulation* indicator. That is due, in particular, to a very bad performance regarding the barriers to entry and regulatory barriers in airport regulation (in Germany, for example, limits to the available slots in the largest airports act as an effective barrier to entry from newcomers). Subsequently, the market is relatively concentrated in both countries.

The following table shows the results of each country under each dimension, as well as the general score.

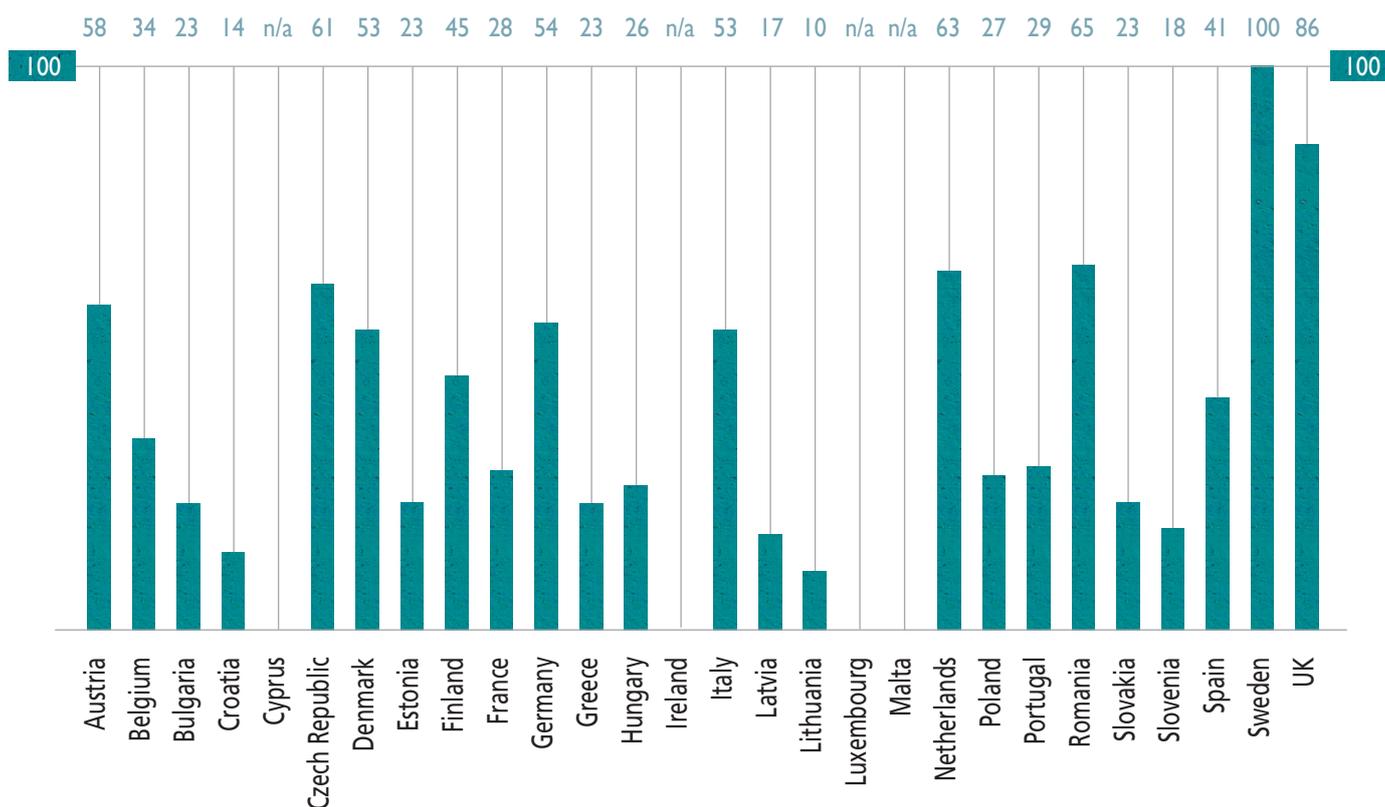
Index of liberalisation 2020

Table 1. 2020 Index of liberalisation – air transportations.

	Regulation [1-10]	Market [1-10]	Index of Liberalisation [0-100]
Austria	5.6	6.2	59
Belgium	7.5	7.6	76
Bulgaria	5.3	6.9	62
Croatia	5.3	6.2	58
Cyprus	6.9	7.9	75
Czech Republic	6.1	7.2	68
Denmark	7.2	6.9	70
Estonia	6.1	6.2	62
Finland	5.3	5.5	54
France	3.6	5.2	45
Germany	4.7	5.2	50
Greece	7.8	8.3	81
Hungary	7.5	7.9	78
Ireland	9.4	7.9	85
Italy	5.8	9.0	77
Latvia	6.7	7.2	70
Lithuania	6.9	6.9	69
Luxembourg	n/a	n/a	n/a
Malta	7.5	6.9	71
Netherlands	5.8	5.5	56
Poland	6.1	8.3	74
Portugal	5.0	7.6	66
Romania	7.5	7.9	78
Slovakia	5.6	8.3	72
Slovenia	6.4	5.9	61
Spain	9.2	8.3	86
Sweden	6.9	5.9	63
United Kingdom	10.0	10.0	100

Index of liberalisation 2020

Chapter 8 Railway transport



I. Summary

Like the airways, railway transportations have been severely hit by the coronavirus crisis, with regard to both the demand (which collapsed during the lockdowns, but also remained somewhat below previous levels in the following periods) and productive processes. These phenomena are not captured by the present Index which relies on data from 2019 or earlier (depending on availability). Moreover, different from airways, the efforts to open railways to competition have been disappointing so far. In most member states, the market is dominated by a state-controlled, vertically-integrated quasi-monopolist.

Despite the slow progress in market-opening, the railways are changing. Within the broader market for railway transportation, at least three separate markets coexist: regional (or local) transportation, which is usually subsidised; long-distance trains; and high-speed rail. In 2016, the European Union passed the so-called fourth railway package that requires member states to remove barriers to entry and guarantee third-party access to railway infrastructures, on top of granting adequate powers to the national regulatory authorities.

Railway transport

2. Methodology

The index is based upon two main indicators: *Regulation* and *Market*.

Regulation considers the regulator's independence, its actual powers, and how effective the unbundling of regulations is between infrastructure operators and service providers (that are often parts of the same, vertically-integrated conglomerate). The unbundling issue is particularly relevant given the features of railway transportation. The tradition of state-owned monopolies and the relative weakness of regulators (as compared to other network industries, such as energy or telecoms) increases the risk of market abuses.

Market is a measure of the actual outcomes of the market, based on the idea that they provide a proxy to understand whether the market is actually as competitive as one would say based on formal rules. To do so, we employ the growth rate of the demand for railway transportation, the degree of market openness in traditional railway transport, and the degree of market openness in high-speed rail (where applicable).

The overall Index averages the *Regulation* and *Market* indicators, with a weight of 2/3 and 1/3, respectively.

3. The results

In 2020, the EU member states with the highest degree of liberalisation in air transportation are Sweden with a score of 100, followed by Great Britain (86) and Slovakia (65). Sweden is the only country in the whole of Europe that imposed ownership unbundling between the network operator and service providers well before EU directives called for more moderate measures (in fact, Swedish infrastructures have been unbundled since 1988). The worst-performing countries were Lithuania (10), Croatia (14) and Latvia (17). Different from other sectors, in the case of railway transportation the gap between the leading country (Sweden) and the following ones is huge: 19 out of 24 countries have a score lower than 60, and 15 score less than 50. Four countries are not ranked (Ireland, Cyprus, Malta, and Luxembourg).

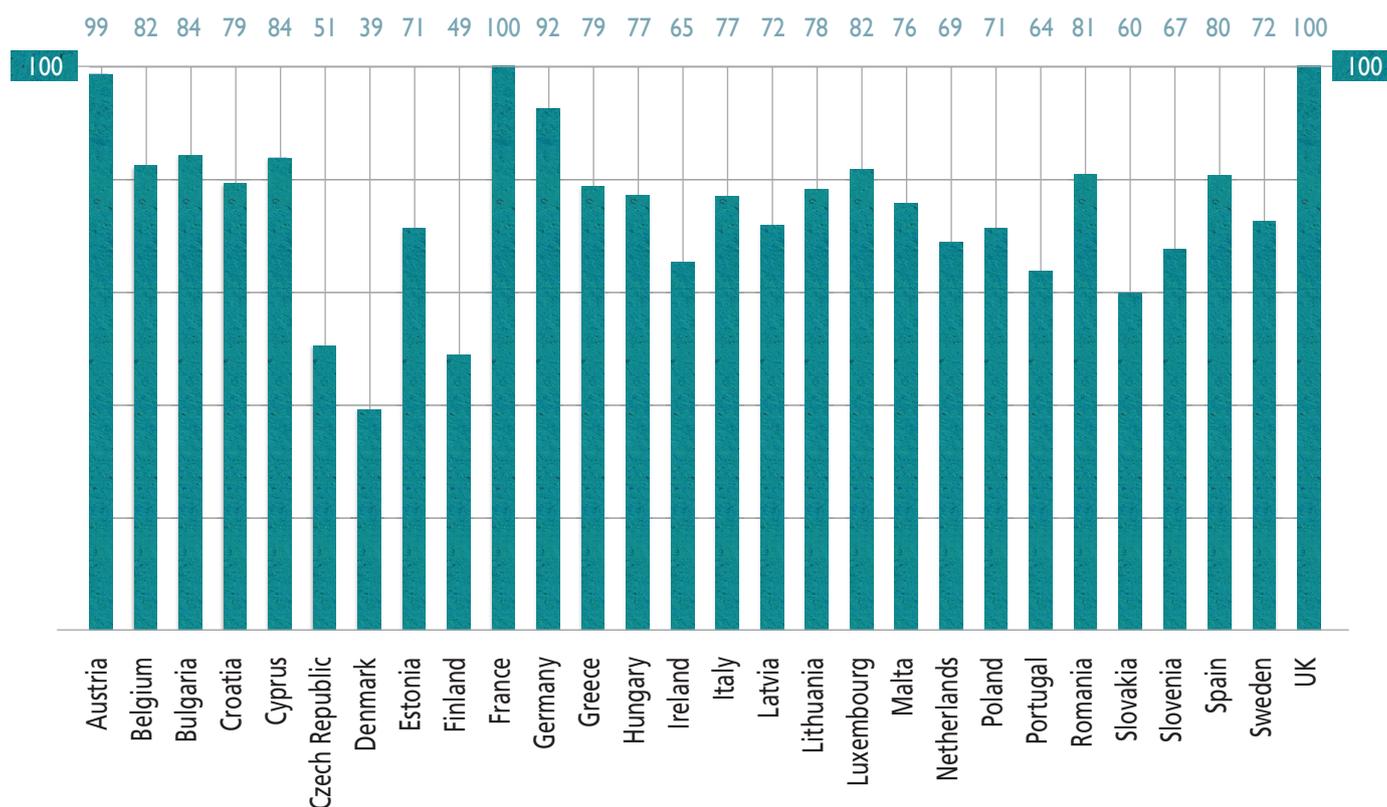
The following table shows the results of each country under each dimension, as well as the general score.

Index of liberalisation 2020

Table 1. 2020 Index of liberalisation – railway transportations.			
	Regulation [1-10]	Market [1-10]	Index of Liberalisation [0-100]
Austria	5.7	5.9	58
Belgium	6.0	2.1	34
Bulgaria	3.7	1.6	23
Croatia	2.0	1.0	14
Cyprus	n/a	n/a	n/a
Czech Republic	6.0	6.2	61
Denmark	6.3	4.8	53
Estonia	3.7	1.6	23
Finland	6.7	3.4	45
France	3.7	2.4	28
Germany	6.0	5.2	54
Greece	3.7	1.6	23
Hungary	3.7	2.1	26
Ireland	n/a	n/a	n/a
Italy	7.0	4.5	53
Latvia	3.0	1.0	17
Lithuania	2.0	0.5	10
Luxembourg	n/a	n/a	n/a
Malta	n/a	n/a	n/a
Netherlands	8.7	5.2	63
Poland	3.3	2.4	27
Portugal	4.7	2.1	29
Romania	6.0	6.7	65
Slovakia	3.7	1.6	23
Slovenia	3.3	1.0	18
Spain	6.0	3.1	41
Sweden	10.0	10.0	100
United Kingdom	10.0	7.9	86

Index of liberalisation 2020

Chapter 9 Insurance sector



I. Summary

Europe accounts for about a third of the world's insurance premiums. The development of a sophisticated, various supply of insurance products allows individuals and businesses to measure, manage, and take risks. A healthy insurance market is a necessary condition for economic and social progress.

People purchase insurance either because they feel it is sensible, or because they are required by legislative fiat. Insurance requirements are often associated with stricter regulations, generally intended to protect consumers or prevent companies to exercise market power. However, regulation often acts as a barrier to entry and reduces actual or potential competition. In order to understand whether, and to what extent, insurance markets are free in Europe, we look not only at the usual competition indicators (such as concentration indexes), but also at the pervasiveness of regulation and whether it limits, or even forbids, competition (as is the case in a few countries where specific products, such as occupational accident insurance, are supplied by state-owned monopolists). According to Insurance Europe, "Total European direct gross written premiums amounted to €1.311bn in 2018, made up of €764bn of life premiums, €407bn of property and casualty

Insurance sector

(P&C) premiums and €140bn of health premiums. Total premiums increased 6.2% in 2017, with life premiums growing 6.7%, P&C 5.7% and health 4.8%. In 2018, insurance penetration (gross written premiums as a percentage of GDP) increased by 0.21 of a percentage point to 7.46% and ranged from 0.5% in Liechtenstein to 14.3% in the UK'. A figure will make it even clearer how important insurance is for European citizens: "An average of €2,170 per capita was spent on insurance in Europe in 2018, compared to €2,049 in 2017".

The regulation of the European insurance market consists of EU directives and regulations as well as national legislations. Despite considerable efforts to harmonise the sector at the EU level, large differences still persist at the national level. In order to measure the degree of liberalisation of the insurance market in Europe, we look both at the most important sectors (such as life, motor, health, etc.) and to the features of regulatory choices.

2. Methodology

The index reflects the average of two main indicators: *Design* and *Structure*. Due to the lack of updated data, we have introduced a few methodological changes with respect to previous editions. In comparing 2020 results with 2017 or earlier data, some caution is needed.

Design is about the regulatory framework. It considers whether work-related accident insurance is supplied by a state monopoly rather than by competing firms, the market share of alternative distribution channels and the fiscal burden on the main products (life, motor, and health). In order to calculate the value of the *design* indicator, the above-mentioned scores are averaged. This is to check whether the entire market is contestable or if competition is forbidden in some areas. The existence, and the relative burden, of a plurality of distribution channels is a proxy for commercial innovation, which is itself an indicator of how effective competition is. Finally, higher taxes reduce the scope for price competition and make customers less willing to seek a cheaper offer as they do not fully perceive the potential advantages from switching to a cheaper offer.

Structure looks at the actual outcomes of the market. It considers how concentrated the market is by looking at the joint market share of the 5 largest operators, the market share of foreign operators (which is a proxy for the existence of entry barriers or privileges of domestic operators) and the degree of comparability among the insurers' offers, based upon the EU Commission's surveys on customer satisfaction. The scores are then averaged, giving a weight of 50%, 20%, and 30%, respectively.

The sources for the data are Insurance Europe and the EU Commission.

3. The results

In 2020, the EU member states with the highest degree of liberalisation in the insurance sector were France and Great Britain, that are granted the same score of 100, followed by Austria (99) and Germany (92). Interestingly enough, the UK scores very high with regard to *Design* but is less-than-stellar when it comes to *Structure*, while France strikes high scores (although not as high as Britain's *Design*) under both dimensions. The worst-performing countries were Denmark (39), Finland (49), and the Czech Republic (51).

The following table shows the results of each country under each dimension, as well as the general score.

Index of liberalisation 2020

Table 1. 2020 Index of liberalisation – insurance sector.			
	Regulation [1-10]	Market [1-10]	Index of Liberalisation [0-100]
Austria	9.3	6.4	99
Belgium	9.4	3.7	82
Bulgaria	8.7	4.7	84
Croatia	9.3	3.4	79
Cyprus	7.7	5.7	84
Czech Republic	6.0	2.0	51
Denmark	5.6	0.7	39
Estonia	7.7	3.7	71
Finland	6.3	1.5	49
France	9.0	7.0	100
Germany	7.4	7.4	92
Greece	7.1	5.4	79
Hungary	7.2	5.2	77
Ireland	7.6	2.8	65
Italy	8.5	3.8	77
Latvia	7.7	3.7	72
Lithuania	7.6	4.9	78
Luxembourg	8.3	4.7	82
Malta	9.4	2.7	76
Netherlands	8.0	3.0	69
Poland	8.4	3.0	71
Portugal	7.1	3.1	64
Romania	9.2	3.8	81
Slovakia	7.5	2.0	60
Slovenia	7.5	3.2	67
Spain	7.4	5.4	80
Sweden	7.4	4.2	72
United Kingdom	9.3	6.6	100

