

Unclassified

English - Or. English

3 May 2024

**DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS
COMPETITION COMMITTEE**

Cancels & replaces the same document of 2 May 2024

Working Party No. 2 on Competition and Regulation

Competition and Regulation in the Professions and Occupations – Background Note

by the Secretariat

10 June 2024

This document was prepared by the OECD Secretariat to serve as background material for the 77th meeting of the Working Party No. 2 on Competition and Regulation on 10 June 2023.

The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Organisation or the governments of its member countries.

More documentation related to this discussion can be found at
www.oecd.org/daf/competition/competition-and-regulation-in-professional-services.htm

Ms Federica MAIORANO
[Email: Federica.Maiorano@oecd.org]

JT03542965

Table of contents

Competition and Regulation in Professions and Occupations	4
1. Introduction	5
2. The regulation of professions and occupations	7
2.1. Context and trends	7
2.2. Forms of professional regulation and occupational licensing	12
2.3 Policy rationales for professional regulation and occupational licensing	14
2.2.1. The public interest approach	14
2.2.2. The private interest critique	14
3. Evidence on the impact of regulation	16
3.1. Measuring regulation	16
3.2. Impact on competition	17
3.2.1. Quality	18
3.2.2. Number of professionals	19
3.2.3. Wage premiums, prices and mark-ups	22
3.3. Impact on equality and inclusion	23
3.3.1. Equality and inclusion for licensed professionals	23
3.3.2. Broader implications	24
3.4. Impact on productivity and the economy	25
3.5. Conclusions	28
4. Competition advocacy	30
4.1. Analytical framework for the analysis of regulations	30
4.1.1. Potential regulatory barriers	31
4.1.2. Policy objective and link between the regulation and the policy objective	31
4.1.3. Alternative regulations and recommendations	32
4.2. Is a licence necessary?	33
4.3. Are entry requirements proportionate?	37
4.4. Are conduct requirements proportionate?	40
4.5. Communicating and advocating for reform	43
5. Technology and the future of the professions	46
5.1. Sustaining and disruptive innovation	46
5.2. Drivers of change	47
5.3. Future models of professional work and regulation	48

6. Conclusions	51
References	52

FIGURES

Figure 2.1. The share of the workforce holding an occupational licence varies widely across jurisdictions	9
Figure 3.1. Productivity gains from reducing regulation	27
Figure 4.1. Number of countries regulating fees and advertising in selected professional services	40

BOXES

Box 2.1. Major policy initiatives relating to the professional regulation and occupational licensing	11
Box 3.1. The relationship between regulation and quality is not clearcut	19
Box 3.2. The Product Market Regulation (PMR) indicator	21
Box 3.3. Occupation Entry Regulations (OER) index	26
Box 4.1. The EU proportionality test before adoption of new regulations of professions	33
Box 4.2. Facilitating entry in the presence of occupational licensing	36
Box 4.3. Mandatory opinions on entry and fees: the powers of the Autorité de la Concurrence	39
Box 4.4. Conduct Regulation	42
Box 4.5. Advocating for pro-competitive reform in Portugal	44
Box 5.1. Accountancy and the introduction of spreadsheet software	48
Box 5.2. EU Study on the impact of regulatory environment on digital automation in professional services	49

Competition and Regulation in Professions and Occupations*

In recent decades and across OECD countries, there has been an increase in the number of jobs that are subject to some form of professional regulation or occupational licensing. There has been renewed interest from policymakers and economists in assessing whether these are an effective way of achieving their intended aims. This paper first provides an overview of the policy justifications and forms of professional regulation and occupational licensing. It then surveys the relevant economic literature, which raises some concerns that professional regulation and occupational licensing can increase prices and harm competition without commensurate benefits to public safety or consumer protection. The paper considers the role of competition authorities in advocating for pro-competitive professional regulation and occupational licensing policies. Finally, the paper briefly considers emerging technological trends such as automation and digitisation which may have an impact on how consumers acquire services. The paper concludes that competition law has an important role to play in limiting unnecessarily restrictive regulations across the economy, including the design of professional regulation and occupational licensing regimes.

* This paper was prepared by Federica Maiorano and Connor Hogg of the OECD Competition Division, with additional research and editorial assistance from Alberto Noce. Helpful comments were provided by Ori Schwartz, Antonio Capobianco, María Pilar Canedo Arrillaga and Songrim Koo (all from the OECD Competition Division), Alberto Heimler (Chair of the Working Party No. 2 on Competition and Regulation), and Cristiana Vitale (of the OECD Economics Directorate). It was prepared as a background note for discussions on “Competition and Regulation in Professions and Occupations” taking place at the June 2024 session of the OECD Competition Committee’s Working Party No. 2 on Competition and Regulation, <https://www.oecd.org/daf/competition/competition-and-regulation-in-professional-services.htm>. The opinions expressed and arguments employed herein are those of the authors and do not necessarily reflect the official views of the Organisation or of the governments of its member countries.

1. Introduction

1. The range of jobs subject to professional regulation and occupational licensing has expanded across OECD members and accounts for up to 30% of employment in some jurisdictions (Bambalaite, Nicoletti and von Rueden, 2020^[1]). The regulation of occupations is widespread, extending beyond the *liberal professions* such as lawyers and engineers to a broader set of other economic activities which require, for instance, minimum qualifications and experience to obtain a licence. These occupations include, for example, dockers, driving school instructors, transporters, and hairdressers, depending on the jurisdiction. This paper considers a range of jobs subject to regulation and licensing, extending beyond the professions covered in earlier OECD competition policy roundtables.

2. The main reason for regulating professions and occupations is to address market failures such as information asymmetries and externalities. Professional services are credence goods where the average buyer cannot easily assess quality neither before nor after purchase. As a result, regulation aims to guarantee the quality of services offered by regulating the access and exercise of the profession. This logic has been applied over time to justify licensing or otherwise regulating a greater number of occupations.

3. Regulation has, however, become pervasive and in some cases has limited access to professions and occupations, restricting economic activities more than necessary to achieve those policy objectives. Competition authorities have long been active in improving competition in these markets, both through enforcement action and by advocating to make regulation more pro-competitive. Given the importance of regulated professions and occupations in the economy, these efforts are valuable and can be expected to deliver significant benefits to consumers and the economy.

4. Recent technological progress, including developments associated with artificial intelligence, is widely affecting the professions; leading to potential substitution of labour with capital and calling into question some of the reasons underpinning regulation in the first place (European Commission Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2021^[2]) (Susskind and Susskind, 2022^[3]). For instance, there is a question of whether the existing regulatory framework, imposing restrictions on the organisational structure of professional services businesses, is actually providing the right incentives for the significant necessary investments.

5. This paper aims to support advocacy efforts and includes an overview of the literature about the effects of regulation, which competition authorities can draw on to advocate for the benefits of less restrictive regulation where appropriate. The paper also brings together analytical frameworks developed by some jurisdictions and by the OECD to analyse regulatory barriers to competition, complementing them with examples of advocacy initiatives from several jurisdictions. Enforcement cases are not included in the scope of the paper.

6. This paper builds on and complements past OECD work on the topic and related issues. The Competition Committee and Working Party No. 2 on Competition and Regulation held several discussions on professional services, including on auditing (OECD, 2009^[4]), legal services (OECD, 2007^[5]) and health services (OECD, 2004^[6]). The discussions highlighted the fact that the regulatory framework in place often goes beyond what is strictly necessary and includes elements that can restrict competition, such as exclusive regional territories and minimum fees, or can soften it, such as self-regulation. The Working Party discussed the regulation of many occupations where the justification for regulation is less clear cut, since quality is much more easily assessed by the average buyer, especially after purchase. It also held

roundtables about the interplay of technological development and regulated professions: it discussed disruptive innovation in legal services (OECD, 2016^[7]) and ridesharing as a disruptor to the regulated profession of taxi drivers (OECD, 2018^[8]).

7. The OECD has published several Competition Assessment Reviews that dealt with professions and occupations. The Competition Assessment Review of Portugal (OECD, 2018^[9]) analysed 13 regulated professions, such as architects, auditors, lawyers and notaries. A number of other reviews, even though not focussing on the professions as such, included recommendations on a range of professions and occupations, including pharmacists (OECD, 2014^[10]), touristic guides (OECD, 2023^[11]), freight forwarders (OECD, 2021^[12]), electricians and carpenters (OECD, 2020^[13]).

8. The remainder of the paper is organised as follows. Section 2 describes the prevalence of regulated professions and introduces the main types of regulations, together with their justifications and policy objectives. Section 3 summarises the main messages of the empirical literature on the impact of occupational licensing and regulation, with a focus on the effects on competition. Section 4 sets out a framework to assess to regulations and presents examples, drawing from competition authorities' advocacy activities and OECD Competition Assessment Reviews. Section 5 describes some of the changes that technology is bringing about and their interplay with regulation. Section 6 concludes.

2. The regulation of professions and occupations

9. Across OECD member countries, the period since the Second World War has seen a major shift of economic activity and employment towards *servicification* (OECD, 2021^[14]) (UNCTAD, 2017^[15]) (European Commission, 2021, p. 2^[16]), with the provision of services now accounting for over 70% of global GDP (Lanz and Maurer, 2015, p. 1^[17]). Over the same period, the number of people providing services in fields that are subject to some form of professional regulation or occupational licence has dramatically increased. This has sparked renewed interest among academic and policymakers across a range of OECD member countries to better understand the scope of occupational licensing, the forms it may take, and the policy justification for its existence. This is also the case for the narrower set of *liberal* professions traditionally subject to licensing and regulation. For the purposes of the paper, the terms professions and occupations are used interchangeably to refer to any job subject to licensing or regulation.

10. This section of the paper will provide a short overview of these matters. Section 3 of this paper will then connect this context to the evidence on the impact of professional regulation and occupational licensing on competition and other related outcomes such as consumer welfare and worker geographical mobility.

2.1. Context and trends

11. In the United States, less than 5% of jobs were subject to state occupational licensing laws in the early 1950s. By the early 2010s this figure had grown fivefold to 25% (Kleiner and Krueger, 2013^[18]). Factoring in local and federal government licensing the figure rises to a total of 29%. In 2015 the White House Council of Economic Advisors estimated that “roughly two-thirds of the growth in licensing comes from an increase in the number of licensed professions”, with only a third explained by a change in the composition of the workforce towards licensed professions (e.g. healthcare) (Furman, 2015, p. 4^[19]).

12. Although similar historical trends data is not available in the EU, there is still significant policy interest in the sheer scope of professional regulation and occupational licensing. Around 22% of the European labour force are estimated to be directly subject to professional regulation (over 47 million citizens) (Koumenta and Pagliero, 2016, pp. 2-3^[20]). This is similar across other advanced economies such as Australia where about 18% of workers were subject to some kind of licensing or profession regulation (Productivity Commission, 2023, p. 63^[21]).

13. In addition to the wide scope of the workforce now subject to professional regulation and occupational licensing, there is also concern among policymakers that frameworks are inconsistent between jurisdictions (i.e. between states within federalised nations like the United States and Australia, between Member States within the European Union, and sometimes between localities in countries with devolved administrations) which limits opportunities for workers’ mobility. The European Commission reports that across its Member States there are almost 6 000 different regulated or licensed professions,

but only 600 that are consistently regulated in most jurisdictions (European Commission, 2021, pp. 2-3^[16]).¹ Similarly, the US Council of State Governments recorded “over 1 100 jobs were licensed, certified, or registered in at least one State [but] fewer than 60 were regulated by all the States” (Furman, 2015, p. 10^[19]) (Brinegar and Schmitt, 1992^[22]). Findings in Australia also found that roughly 70% of occupations requiring licensing “were not consistently licensed in all jurisdictions” within the country (Productivity Commission, 2023, p. 64^[21]).

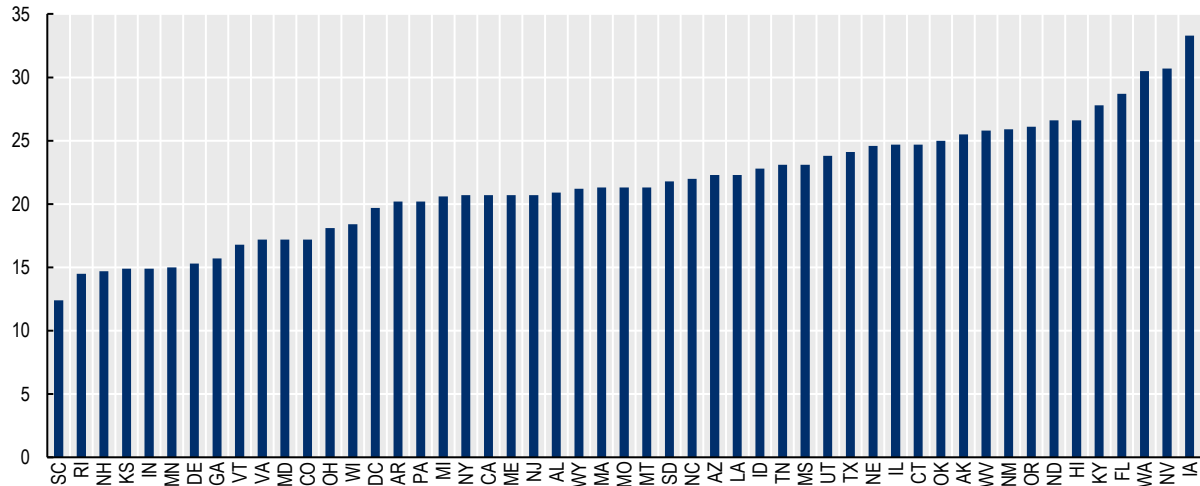
14. Figure 2.1 below illustrates the disparities between jurisdictions in the number of workers subject to professional regulation and occupational licensing. Within the US, this can vary from just 12% of South Carolinian workers through to 33% of workers in Iowa. Likewise, across the EU, Denmark is the lowest at 14% whilst Germany is the peak at 33%.

¹ The EU additionally has rules in place for recognising professions and occupational licenses between Member States.

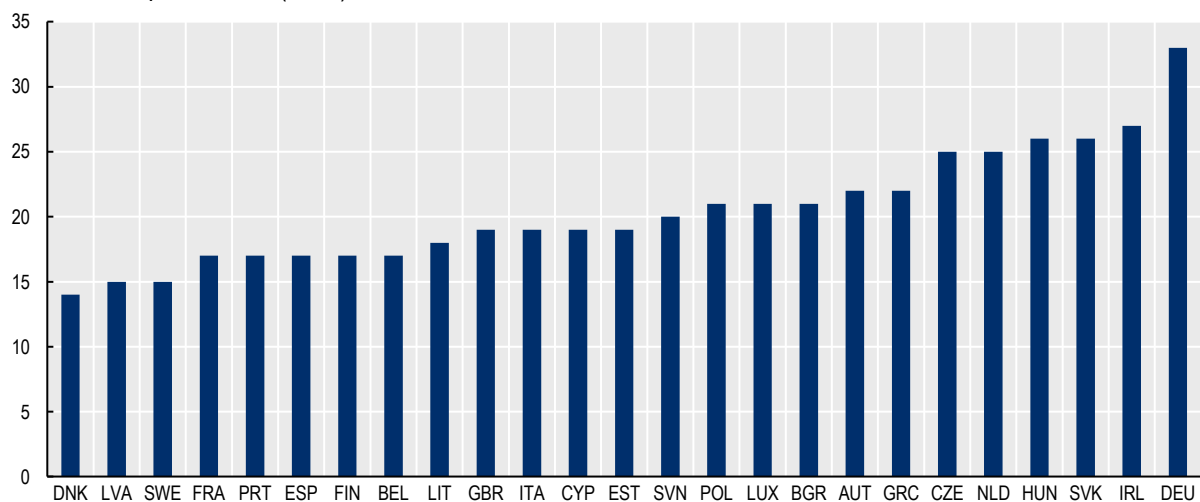
Figure 2.1. The share of the workforce holding an occupational licence varies widely across jurisdictions

Percentage of licensed workers (%)

Panel A: United States (2013)



Panel B: European Union (2015)



Note: Panel A: Compilation based on an analysis of data from a Harris poll of 9,850 individuals conducted in the first half of 2013 and (Kleiner and Vorotnikov, 2017^[23]); Panel B: Based on information retrieved from the EU Survey of Regulated Occupations.

Source: Reproduced from (Bambalaite, Nicoletti and von Rueden, 2020^[11]). Panel A: (Kleiner, 2017^[24]) based on analysis of data from a Harris poll and (Kleiner and Vorotnikov, 2017^[23]). Panel B: (Koumenta and Pagliero, 2016^[20]). To download this graph, please visit <https://bit.ly/2w4MR2X>.

15. Von Rueden and Bambalaite (2020^[25]) note that these differences reflect each jurisdiction's economic and industrial output, legal system and societal views on the role of the state. Kleiner and Soltas (2023, p. 2498^[26]) comment that there is some, albeit limited and dated, evidence that policy variation across US states can be explained by the political power of the occupations at local level. Moreover, countries appear to have a propensity to increasingly impose professional regulation or occupational licensing as a regulatory tool (Bambalaite, Nicoletti and von Rueden, 2020, pp. 9-11^[11]). This work is related to the OECD's Product Market Regulation (PMR) indicators, which measure the degree to which regulation within a country promotes or inhibits competition in markets for products and services. The most recent

PMR indicators from 2018 and 2013 also consistently reflect a general trend across both OECD and non-member countries to continue to impose high professional regulation and occupational licensing requirements.² However, the “variance shown by these values suggests that [the policy justifications] may not be valid and that in many countries there is scope for an assessment of the regulation imposed on professionals to ensure that the market failures effectively exist” (Vitale et al., 2020_[27]). The competition policy implications of this significant variation in the coverage of licensing requirements across different countries and between sub-national jurisdictions is discussed in Section 4.2 of this paper.

16. Over the past decade, these macro trends on *servicification* and the expansion of professional regulation and occupational licensing have led to initiatives by policymakers on the need to conduct more rigorous assessment of the benefits of these policies. This is primarily driven by the issues discussed in Section 3. of this paper, namely that increasingly pervasive occupational licensing and professional regulation schemes are not provided their intended policy benefits, particularly when balanced against their costs on consumers and workers. Some noteworthy examples of major policy initiatives are set out in Box 2.1 below.

² In July 2024 a new update will be issued including OECD countries, 6 accession countries, all EU member states and China. 2023/4 values will be comparable with 2018. Due to some changes in methodologies new 2018 values will be released, which are fully comparable with 2023/4 ones.

Box 2.1. Major policy initiatives relating to the professional regulation and occupational licensing

United States – White House Report on Occupational Licensing: A Framework for Policymakers

In 2015 the (Obama Administration) White House released a report outlining “the growth of licensing over the past several decades, its costs and benefits, and its impacts on workers and work arrangements”, concluding with recommendations on best practices for State governments.

The report is primarily concerned that policymakers are not sufficiently considering the full range of options when deciding on matters of professional regulation and occupational licensing. It concludes that the current framework is increasing costs to consumers and hampering worker mobility without sufficient evidence that the services being provided are of a higher quality and safer standard.

The report recommends States (or groups of States) conduct more cost-benefit assessments to reform or remove onerous professional regulations and occupational licensing requirements, and to consistently recognise qualifications across state lines.

European Union – Communication from the Commission on reform recommendations for regulation in professional services

In 2017 the European Commission issued a series of recommendations relating to professional services and occupational licensing. The recommendations aimed to “encourage and assist Member States in creating a regulatory environment conducive to growth, innovation and job creation” and were motivated by similar concerns as raised in the White House Report. That is, insufficient positive benefits based on the high costs to consumers and barriers to worker mobility across the Single Market.

Recommendations were made at both an EU-wide level and to individual Member States and were focused on ensuring that professional regulations and occupational licensing requirements were proportional and respected the Professional Qualifications Directive in relation to mutual recognition.

A 2021 update to the recommendations from the Commission expressed regret that “only a handful of Member States took action to remove disproportionate regulation” and that these changes predominantly took place in the context of the EU bringing infringement procedures where a Member State was in clear breach of EU law. The update, drafted in the middle of the COVID-19 pandemic stressed “the urgency of improving the single market for services as an important lever for competitiveness and resilience of the EU economy”.

Australia – Productivity Commission’s *Advancing Prosperity* report on a more productive labour market

In 2023, Australia’s Productivity Commission (the Government’s independent research and advisory body) released its second five-year report outlining a suite of policy reforms and recommendations aiming to reinvigorate productivity growth. Volume 7 of the report focuses on labour market reforms across areas including migration and occupational licensing policy.

The report advocates for more scrutiny being applied to occupational licensing regimes to ensure they are more consistent across the country, and are able to demonstrate that regulations are not overly burdensome and harmful to competition when balanced against their claimed benefits. This includes making stronger efforts to capture better data and evidence of outcomes when it comes to occupational licensing and professional regulations.

Sources:

White House (2015), Occupational Licensing: A Framework for Policymakers, https://obamawhitehouse.archives.gov/sites/default/files/docs/licensing_report_final_nonembargo.pdf.

European Commission (2021), Communication on taking stock of and updating the reform recommendations for regulation in professional services of 2017, <https://ec.europa.eu/docsroom/documents/46053>.
 Productivity Commission (2023), “5-year Productivity Inquiry: A more productive labour market”, Inquiry report no. 100, <https://www.pc.gov.au/inquiries/completed/productivity/report/productivity-volume7-labour-market.pdf>.

2.2. Forms of professional regulation and occupational licensing

17. This trend of an ever-expanding number of jobs subject to professional regulation and licensing raises several challenges in defining what these terms mean and how they apply. This section of the paper will aim to explain what is meant by the terms, while Section 4. presents an analytical framework for assessing the regulations, together with examples from competition authorities’ advocacy activities. Four overarching questions provide a useful framework:

1. Is a job a profession or licensed occupation?
2. What forms of entry regulations are imposed on the job?
3. What forms of behavioural regulations are imposed on the job?
4. How are these regulations supervised and enforced?

18. When answering the first question, it is important to note that there is no universally accepted definition of what constitutes a profession or a licensed occupation. Over time, a far greater number of jobs have been made subject to occupational licensing across OECD member countries, and have also sought to view themselves as a profession. Broadly, the two terms can be understood as:

- Profession – this refers to specific jobs deemed to be of sufficient importance so as to require advanced training, often enjoy exclusive rights, and in some cases to be regulated by their own membership. What constitutes a profession can vary between jurisdictions. Some use the term to refer to a wide range of jobs that are subject to these forms of regulations, whereas others use it refer only to the *learned* or *liberal* professions that were historically deemed to be of high status and importance to society and the economy (e.g. lawyers, doctors, accountants and engineers).
- Licensed occupation – a job which requires individuals who wish to perform certain services to obtain permission from the government or a state authority.

19. For the purposes of the paper, the terms professions and occupations are used interchangeably to refer to any job subject to licensing or regulation that regulates the entry and behaviour of people providing services in a market.

20. The second aspect of professional regulation and occupational licensing relates to the different forms of rules and requirements that may be present to enter the market for a service (OECD, 2004^[6]; 2007^[5]). The most common across forms of entry requirements are as follows:

- Market entry: Primarily, these involve setting qualification requirements to be able to enter and practice the profession, including training or apprenticeship requirements and knowledge or skill examinations. Compulsory membership of a professional association is also sometimes a requirement. Some professions or jurisdictions may additionally impose quantitative market entry rules, limiting the number of participants that may train or practise the profession at any one time. Such limits may also be set on a geographic basis, limiting the number of professionals as a ratio of the local population, setting a minimum distance between competing professionals, or limiting foreign entry into a market.
- Exclusive rights: These reserve certain activities or services as only being allowed to be provided to a consumer by a member of a profession, while another approach is to set which members of

society may use a specific title (e.g. doctor). A *de jure* approach sets through rules which tasks are reserved to a specific class of professional can provide (e.g. what medical treatments are the reserve of dentists and what could be provided by a para-professional such as a dental hygienist). Conversely, there are also *de facto* methods of control that shape consumer behaviour to limit who can provide professional services (e.g. insurance will not provide a reimbursement unless the services are carried out by a licensed specialist).

21. Entry requirements can also vary in stringency depending on the jurisdiction and industry. These can vary between:

- Licensing: the strictest form of entry regulation, which an individual obtains from an authority or a delegated body before they can use a title and offer a service. A slightly less burdensome version exists in some jurisdictions and industries where employees can undertake a regulated activity so long as they do so under the supervision of a fully licensed professional.
- Certification: regulations where a professional may choose to be certified by a third party so that they can use a legally protected title. While certification is not required to enter the market, it may indicate to consumers a certain level of quality and competence.
- Registration: a legal requirement for a professional to register with a regulatory body. Registration alone is generally not considered to be a sufficient burden to impact the choices of whether or not to work in an occupation and is therefore not considered an occupational licence.

22. The third aspect relates to restrictions or rules governing the behaviour of professionals and licensed occupations (OECD, 2004^[6]; 2007^[5]). These include:

- Advertising and promotion: Many professions still impose complete prohibitions on advertising of services or direct solicitation of customers. Less restrictive versions of these rules may still prohibit references to prices or comparative advertising.
- Fees and discounting: At their most severe, professions in some jurisdictions still set a fixed or minimum price for services. Other common but less restrictive forms of these rules include prohibitions on offering discounts, setting a recommended price, or imposing ethics guidelines that professionals do not charge significantly lower than the common price for such services in that geographic area.
- Organisation and structure: Limitations here can include (i) the requirements when combining with other professionals in the same field, (ii) the extent to which professionals can operate as a business with professionals from another field, (iii) a fixed corporate structure that professionals must adopt (e.g. partnership) and who may hold a stake in the business, (iv) restrictions on the number of locations that one professional can operate (e.g. pharmacists being limited in the number of pharmacies they manage).
- Liability: Many jurisdictions or professional associations make membership contingent on possessing a minimum level of liability insurance. Jurisdictions may regulate whether there are maximum limits on claims for civil damages against professionals.

23. The fourth and final way professional regulations and occupational licensing can vary in form and definition relates to their approach to oversight. This again depends on the jurisdiction and industry. One form involves state body or board that is responsible for functions such as regulation, licensing, and discipline of members of a profession. The alternative is a self-regulation model, where the professional association is responsible for controlling access to and regulating the conduct of members of the profession (in addition to the association's role as advocacy body for their members interests). Recognising that "members of such associations often have economic incentives to restrain competition and that the product standards set by such associations have a serious potential for anticompetitive harm" (Allied Tube Corp v Indian Head Inc 486 US 492, 1988^[28]), the Competition Assessments carried out by the OECD recommends countries "separate the regulatory function from the representative function for self-regulated

professional associations” (OECD, 2018, p. 20^[9]). An oft-cited metaphor is that it is a policy area in many jurisdictions where *rabbits have asked to guard the lettuce* (Susskind and Susskind, 2022, p. 41^[3]). Section 3. of this paper connects professional regulation and occupational licensing rules to the evidence of their impact on competition and other outcomes.

2.3 Policy rationales for professional regulation and occupational licensing

2.2.1. The public interest approach

24. The traditional policy rationale for professional regulation and occupational licensing is commonly referred to as the *public interest approach*. This approach identifies several potential market failures in the market for the services of professionals which justify an intervention (from either government or self-regulation). Within the relevant literature, three major market failures are identified.

- **Information asymmetries:** in many contexts where a consumer needs the services of a professional, the consumer will know far less about the nature of the transaction than the professional. These services are *experience goods* (where the consumer can only assess the quality of the service after the fact) or are *credence goods* (where the consumer will always lack the information to assess the quality of the service). Further, there are many situations where it is not possible to connect the quality of the professional and a positive outcome for the consumer. For example, even the best doctors cannot treat all illnesses, or legal disputes may be settled for reasons out of the control of even the most skilled lawyer. Alternatively, the services may not be necessary or have been the solution to the consumer’s problem. In these circumstances, professionals may (OECD, 2000, p. 18^[29]):

have an incentive to reduce overall quality. Unable to judge quality differences well, consumers may make their decisions based on the average quality they expect. Knowing this, and knowing that most consumers will not detect below-average quality, sellers may offer substandard service while charging the “average” price. Lower quality service may then proliferate, and the market for high quality service may even fail.

- **Externalities:** seeking the services of a professional can create risks to third parties who are not directly involved in the transaction. This generally occurs where an individual consumer accepts a level of service from a professional that may satisfy their needs, but is not socially desirable. In the context of accountancy, a poorly performed audit may satisfy the company seeking the audit, but may negatively impact the company’s financiers, creditors and investors. In medicine, while a patient may seek only to alleviate symptoms, there may be a wider public health risks in a cure to prevent contagion (OECD, 2000, p. 30^[29]).
- **Public goods:** these are goods that “can be consumed simultaneously by everyone, even by persons who do not ask and pay for it” (i.e. are non-rivalrous and non-excludable) (OECD, 2007, p. 24^[5]) (Pindyck and Rubinfeld, 1998, pp. 672-678^[30]). Since producers of these goods cannot exclude non-paying beneficiaries, public goods may be under-produced by market participants, justifying a regulatory intervention. Some public goods may require the ability to access the services of a professional as they may provide a wider benefit to society beyond the person paying for the service directly. For example, parties unable to afford access to legal services inhibit the public good of a properly administered justice system. Similarly, the work of notaries and conveyancers is connected to the public good of property rights being well-defined and easily enforceable.

2.2.2. The private interest critique

25. Academics focused on *public choice theory* or the Chicago economic theory of regulation believe professionals can be better explained by their “rent-seeking behaviour, effective lobbying and regulatory

capture” (OECD, 2007, p. 25^[5]) (Posner, 1974, pp. 335-338^[31]) (Love and Stephen, 1996^[32]). The private interest critique contests that each profession constitutes a powerful interest group as they are a small group that is well organised, single-issue oriented, able to provide high quality and relevant market information, and has no free riders (through compulsory memberships or licences). This leads to policymakers catering to the interests of professionals rather than public or consumer interests, which are far more diffuse and are not sufficiently organised in relation to each profession. It has been observed that this occurs with professions having an outsized influence both in how regulation is designed, but also in resisting reform efforts to liberalise a profession (Stolfi and Papamakariou, 2021^[33]). Private interest approach commentators do not ascribe this focus from policymakers towards the interests of the professionals rather than the public as corruption, but primarily a matter of incentives being heavily weighted in favour of professions.

26. The private interest approach also contends that professional regulation and occupational licensing creates substantial harm to competition. Professional regulation or occupational licensing is compared to a cartel, permitting undertakings to organise and monitor one another, erect barriers to entry and place rules surrounding conduct. Proponents argue that there is a wealth of evidence indicating that many professions generate excessive economic rents compared to the benefits they provide society.

27. It is beyond the scope of this paper to assess the validity of any particular sociological or economic theory underpinning the existence of the professions. It is important to note “the public and private interest theories of professional regulation are not mutually exclusive”, as both theories play a major role in understanding the framework and its impact on competition. For competition policymakers, “the complexities of the current regulatory framework may only be fully understood by a combined use of both approaches” (OECD, 2007, p. 26^[5]).

3. Evidence on the impact of regulation

28. Empirical work has largely investigated the effects of licensing occupations and professions, as well as of entry requirements, while conduct regulation has attracted less attention. Research has focused on the effect of licensing and entry requirements on higher prices and wages, together with lower employment and a reduction of supply, on the one hand, and on quality and skills, on the other hand (Bambalaitė, Nicoletti and von Rueden, 2020, p. 7_[1]). Another strand of the literature has looked at the impact of entry requirements on geographic mobility. Most of the literature focuses on US data, exploiting the variability of regulation among different states, and better data availability. The literature deals with a range of professions and occupations and goes beyond the liberal professions, such as lawyers or engineers. The occupations and professions covered in these studies range from doctors, nurses and dentists to interior designers, teachers and tourist guides. The terms professions and occupations are used interchangeably for simplicity.

29. For the purposes of the paper and the session, this literature review will be organised around the effects of regulation on competition (Section 3.2), including number of suppliers, prices and quality, and the effects on inequality and other social dimensions (Section 3.3). Understanding the social implications of tight professional regulation, such as limiting social mobility, can be of help when advocating for reform with policy makers and building consensus in society. The chapter concludes with evidence on the effects of regulation on productivity and the importance of the professions for the economy (Section 3.4). Both points suggest that regulation matters beyond the professions and occupations themselves, as it has broader economic repercussions. Before delving into the literature's findings, Section 3.1 provides some introduction to the measurement of regulation of professions and occupations. Given the focus of the paper and the session on policy, it would be important to identify the specific regulation that are being investigated in the literature, such as certification or training requirements, and their impact.

30. Finally, while understanding the impact of regulation on quality and prices, among other variables, is valuable for competition policy, empirical studies have more limited use to assess if regulations are proportionate or achieve their policy objectives. This broader assessment is considered in Section 4. .

3.1. Measuring regulation

31. The literature focusses mostly on licensing and entry regulation, that is requirements to access the profession, rather than conduct regulation, such as bans on advertising or various forms of price regulation. Typically, the analysis exploits cross-country or cross-state variation to identify the impact of licensing on the variable of interest, while there is more limited information of how regulation varies over time thus hampering panel data analysis. Moreover, it is usually hard to disentangle the impact of the specific elements of entry regulation, such as exams or training.

32. The simplest form of describing entry regulation is to identify the countries or states that require licensing or another form of regulation, such as certification or registration (discussed in Section 2. of this paper). Many papers consider the impact of entry regulation, regardless of whether it is through licensing

or a lighter form,³ while others, such as (Gittleman, Klee and Kleiner, 2017^[34]), (Koumenta and Pagliero, 2019^[35]) and (Blair and Chung, 2019^[36]), distinguish between licensing and certification. This allows assessing the different impact of stricter regulation compared with more flexible regimes. Pass rates at licensing exams are also used as a proxy of strictness of regulation (Kleiner and Kudrle, 2000^[37]). Many papers consider information on the additional requirements that accompany licensing, such as (Kleiner and Vorotnikov, 2017^[23]).

33. Conduct regulation has attracted more limited attention. For example, (Kleiner et al., 2016^[38]) examine scope of practice, i.e. the services that a certain professional can perform without supervision. This regulation could still be seen as a type of entry restriction, though, since it directly affects the number of suppliers that can offer a given service.

34. In order to provide a richer characterisation of the strictness of regulation, authors such as (Hermansen, 2019^[39]), (Farronato et al., 2023^[40]) and (von Rueden and Bambalaite, 2020^[25]) analyse information on the requirements that accompany the licensing process, even though the impact of the individual requirements is typically not identified separately in their studies and proportionality is not assessed. The former examines regulations classified into four categories: entry regulation, education and training requirements, renewal requirements and restrictions for ex-offenders. Drawing on information on these requirements, (Hermansen, 2019, pp. 24-33^[39]) builds an indicator of how restrictive or flexible regulation is in all US states. (Farronato et al., 2023, p. 24^[40]) derive a stringency score based on various dimensions of licensing regulation,⁴ while (von Rueden and Bambalaite, 2020, p. 19^[25]) build an indicator of strictness of regulation that covers qualification requirements, compulsory membership of a professional association and nationality requirements, among others (see Box 3.3). The latter indicator builds also on data from the OECD Product Market Regulation (PMR), which covers a subset of professions and measures entry and conduct regulation (see Box 3.2). As already mentioned, these indicators purely describe regulations to investigate their relationship with economic variables, but do not incorporate considerations on whether these regulations are proportionate or unduly restrictive.

35. Studies that analyse a single profession may investigate the impact of complex reforms, concerning both access to the profession and elements of conduct regulation (Athanassiou et al., 2015^[41]) (Koumenta, Pagliero and Rostam-Afschar, 2018^[42]). These are very useful for the specific professions and could support advocacy but tend not be suitable to draw more general conclusions.

3.2. Impact on competition

36. The literature has addressed the impact of regulation on many economic variables that are relevant for competition and its conclusions are therefore important to inform competition authorities' advocacy. The elements that have been studied include: quality; number of professionals and entry/exit; and prices of services, wages and mark-ups.

³ For example (Kleiner and Vorotnikov, 2017^[23]) and (Bambalaite, Nicoletti and von Rueden, 2020^[1]).

⁴ The information concerns “fees, number of required exams, minimum grade for passing an exam, minimum age required before practicing, education requirements (expressed in years or credit hours), experience requirements (in years), and (for the occupations in the License to Work database) an estimate of how many calendar days it takes for a professional to satisfy the occupational licensing requirements.”

3.2.1. Quality

37. As discussed in Section 2.2 above, ensuring a minimum level of quality is a key objective for regulating professions and occupations. Despite this expected outcome from regulation, in practice there does not seem to be strong evidence that regulation has positive effects on quality.

38. The difficulty in establishing a significant relationship may partly be due to challenges in measuring quality (OECD, 2013^[43]) but it may also be related to the way regulation tries to achieve quality. In these markets, it could be argued that quality is “a measure of the benefit for the consumer” (Hadfield, 2022, p. 1266^[44]). However, this tends to be different from how regulation promotes quality in practice, which is typically by focusing on inputs, such as ability, by imposing minimum training and qualification requirements, instead of quality itself. Moreover, as noted by (Productivity Commission, 2023, p. 62^[21]), some of the benefits associated to licensing requirements, such as additional training, may matter only in few and difficult cases involving potentially serious consequences and it may be difficult to measure this impact.

39. In terms of definition and measurement, there are other challenges too. The “benefit for the consumer” is subjective and it could be difficult to find objective measures to capture it in an empirical study. For example, in one of the papers finding a positive correlation between regulation and licensing, the quality of teachers is proxied by the selectivity of the university where they obtained their degree (Larsen et al., 2020^[45]). However, this is not necessarily informative of the quality of teaching. Other studies identify more objective measures, such as dental health, even though these are self-reported by patients (Kleiner and Kudrle, 2000^[37]). Another view is that regulation aims to guarantee a certain standard of service, which may not be the same as consumer benefit or satisfaction, and this can be hardly measured in a similar way.

40. In the context of professional services, there is the additional complexity of asymmetric information (see Section 2.2.1). Not only is quality not observable *ex ante* (experience goods), consumers may not be able to observe it *ex post* either (credence goods). They only observe the outcome, for instance if their illness was cured, which depends on the quality of the medical treatment received but is not entirely determined by it. This feature of professional services may suggest that consumers, without any regulatory intervention, are not able to tell apart good quality from low quality professionals. However, this is not a generally valid conclusion and it is crucial to examine the question on a case-by-case basis and to properly justify that there is a market failure and that it can be addressed by suitable regulation (see Section 4.1).

41. (Kleiner, 2017^[24]) notes that few studies have “shown significant benefits of occupational licensing on the quality of services” (see Box 3.1). Moreover, he distinguishes between those occupations that are not commonly licensed, such as interior designers, and those that are widely licensed such as those in the healthcare sector. The author recalls that for the former, licensing has a negligible impact on service quality, and for the latter, the impact is small even according to the few studies that do find evidence of a positive effect of licensing. (Hermansen, 2019^[39]) notes that the few studies that examine the initial adoption of licensing, such as that of midwives and physicians in the early 20th century, are the ones that tend to find positive effects.

42. Looking at the benefits from more pro-competitive regulation, case studies from six EU Member States on their regulatory reforms suggest that an increase in availability of service providers and competition do not seem to have negative effects on the quality of services, even though results are not conclusive and cannot be generalised (Koumenta, Pagliero and Rostam-Afschar, 2018^[42]).

Box 3.1. The relationship between regulation and quality is not clearcut

Kleiner and Kudrle (2000, p. 568) collected data on dental health through a survey administered to Air Force recruits and found that more stringent licensing requirements at US state level were not associated with improved dental health. There is also some evidence of positive effects, for example Larsen et al.(2020) find that increasing teachers' requirements improves their quality, Hotz and Xiao (2011) finds similar results for childcare and Anderson et al. (2016) estimate that the introduction of occupational licensing for midwives led to a drop of 6-7% in maternal mortality in the US.

More recent work has relied on data obtained from digital platforms where suppliers offer their services, which allows observing supply and demand on individual transactions. Farronato et al. (2023) analyse data from a platform for home improvement services and conclude that licensing status, which consumers can see on the platform, does not have a significant effect on the probability that a consumer selects the professional.⁵ Conversely, they do find that consumers are more likely to select a professional when the latter receives positive reviews on the platform. A survey of consumers confirms the results obtained from transaction data from the platform, showing that "more stringent licensing is not associated with higher customer satisfaction, as measured by ratings or customer retention" (Farronato et al., 2023, p. 30). The paper therefore addresses one of the main reasons for the introduction of licensing, that is to ensure quality standards in a situation of asymmetric information. The findings suggest that, while a licensing system can be a proxy for quality standards, it is a proxy that is only rarely updated and monitored, so not very informative for consumers. The survey results also highlight that consumers tend to be unaware of whether certain occupations are subject to compulsory licensing or not, and how hard it is to obtain a licence. As a result, consumers may find hard to associate quality and licensing in their state, which could partly explain why licensing does not seem to be especially valued by consumers.

Sources:

Anderson, D. et al. (2016), "The effect of occupational licensing on consumer welfare: Early midwifery laws and maternal mortality", NBER Working Paper 22456, <http://www.nber.org/papers/w22456>.

Farronato, C. et al. (2023), Consumer Protection in an Online World: An Analysis of Occupational Licensing.

Hotz, V. and M. Xiao (2011), "The Impact of Regulations on the Supply and Quality of Care in Child Care Markets", *American Economic Review*, Vol. 101/5, pp. 1775-1805, <https://doi.org/10.1257/aer.101.5.1775>.

Kleiner, M. and R. Kudrle (2000), "Does Regulation Affect Economic Outcomes? the Case of Dentistry", *The Journal of Law and Economics*, Vol. 43/2, pp. 547-582, <https://doi.org/10.1086/467465>.

Larsen, B. et al. (2020), "The effect of occupational licensing stringency on the teacher quality distribution", NBER Working Paper 28158, <http://www.nber.org/papers/w28158>.

3.2.2. Number of professionals

43. Research shows that entry regulation limits the number of professionals and that this result holds across different professions and occupations. Therefore, entry regulation restricts the number of suppliers on the market, when they act as independent professionals, and restricts the pool of workers for companies that may wish to enter the market or expand, such as law firms or accounting firms.

⁵ The authors warn that their results are based on a sample of relatively simple services, hence their focus on consumer satisfaction and not on safety considerations, which are important for other professions: "Our customer satisfaction metrics [...] are unlikely to take into account factors that are unobservable to the consumer during the transaction, that may impact consumer safety in the long-run (potentially years in the future), or that may cause externalities on other individuals."

44. Empirical work analysing a variety of professions finds average reductions in labour supply between 17% and 27%.⁶ Studies focusing on specific professions reach similar conclusions, even though the magnitude of the effects varies.⁷ For example, (Kleiner et al., 2016, p. 275_[38]) estimate that relaxing regulation, specifically increasing the scope of the medical tasks that nurse practitioners can perform in some US states,⁸ has a small positive impact on hours worked, which increase by 3-4%.

45. The impact of specific elements of occupational licensing has not been investigated widely and therefore it is not possible to reach conclusions on which regulations are especially distortive. (Blair and Chung, 2019, p. 932_[36]) test whether specific additional requirements for those jobs requiring occupational licensing have an impact on labour supply. These include “(i) an examination requirement, (ii) a continuing education requirement, (iii) a training requirement and (iv) whether it took more than one month to obtain the licence”. They note that, when including these specific requirements to their model, in addition to the overall variable capturing whether the occupation is licensed or not, the specific requirement does not have a significant impact on labour supply because it is not possible to disentangle its effect from the overall impact of licensing.

Dynamic measures of competition

46. The academic literature typically does not attempt to estimate concentration or other structural measures of competition. This could presumably be related to the fact that most studies are carried out by labour economists and that they often focus on individuals rather than firms. There is some evidence, though, that dynamic measures of competition, such as entry and exit rates, and churn rates increase when regulation is less restrictive.⁹ (Bambalaitė, Nicoletti and von Rueden, 2020, p. 15_[11]) find a negative correlation between an indicator of how strict occupational licensing is (see Box 3.3) and churn rates (defined as the sum of entry and exit, divided by the number of active firms) in a sample of 11 EU countries. This is consistent with (Canton, Ciriaci and Solera, 2014_[46]) who study four self-regulated activities in the EU (legal, accounting, architectural and engineering activities). They find that higher churn rates are associated with less restrictive regulation, measured by the OECD Product Market Regulation (PMR) indicator (see Box 3.2). When the PMR falls by 1, thus regulation is less restrictive, the churn rate increases by 1.75 percentage points.¹⁰

⁶ (Blair and Chung, 2019_[36]) analyse a broad sample including a variety of professions, such as teachers, nurses, secretaries and salespersons, subject to different licensing requirements across the US states. They estimate that occupational licensing reduces labour supply by an average of 17–27%. This is consistent with (Kleiner, 2006_[95]), showing that the number of jobs in partially licensed occupations grew 20% slower than the number of jobs in unlicensed occupations. A comprehensive review of the liberalisation of the professions in Greece finds overall positive employment effects (Athanassiou et al., 2015_[41]).

⁷ For instance, (Blair and Fisher, 2022_[97]) find that licensing reduces the number of suppliers on a platform of home repair and improvement services and reduces the “likelihood that a customer engaged in search finds at least one worker that can perform a task” by 25%, while lowering service provide surplus and without increasing consumer surplus.

⁸ “Nurse practitioners are trained to diagnose and treat common illnesses and injuries, manage chronic illnesses, prescribe medications, and provide counselling. They face a variety of state-specific occupational regulations that restrict their activities and their relationship with MDs” (Kleiner et al., 2016, p. 263_[38]).

⁹ Dynamic measures of competition indicate if a market presents firm dynamism, for example “new entrants [...] replace incumbent firms that exit” or “incumbents and new entrants [...] contest the position of other incumbents” (OECD, 2021, p. 16_[99]).

¹⁰ (Runst et al., 2018_[100]) investigate the impact of a reform of craftsmanship in Germany which exempted some trades, including brewers and interior decorators, from educational requirements and lowered requirements on others, such as bakers, butchers and car mechanics. The paper finds that the probability of entry increases between 1.0-1.8

Box 3.2. The Product Market Regulation (PMR) indicator

In 1998, the OECD created set of indicators measuring the degree of regulation of a country's economy. The Product Market Regulation (PMR) indicators measure to what extent policies promote or inhibit competition in the markets for products and services. They are “*de jure*” indicators, meaning that they only verify whether a law is in place or not, they do not check whether it is actively enforced or not.

The indicators are divided in two broad categories, economy-wide and sector indicators. For the purpose of this paper, the second category, and in the particular the PMR indicator for professional services, is of great interest.

The Professional Services indicator includes six regulated professions: lawyers, notaries, accountants, architects, engineers, and estate agents. One should be careful when comparing values across countries as the activities a specific profession may have access to vary from one jurisdiction to the other. For each professional service a separate value is published. Further, this value is broken down into two separate measures: one for Entry Regulation and one for Conduct Regulation. The first focuses on the condition that an individual must satisfy to qualify for practicing the profession while the second, instead, concerns the rules that establish what a professional can and cannot do. The weighted average of these two sub-indicators then gives the PMR value for the professional service in question.

The PMR indicators are updated every five years, with the last edition published in 2018 and the next one forthcoming in the summer of 2024. In 2021, the OECD organised a Workshop on regulatory barriers to competition in professional services, to discuss the application of the PMR in this area as well as potential revisions. The sample consists of all OECD countries plus 11 non-OECD ones. A bigger set of countries is considered in the OECD WBG indicator, prepared together with the World Bank Group using the same sources for data. The data is obtained by submitting questionnaires to the relevant authority in the country interested, at the national level for unitary states and at the federal one for federal states. The information is scored against widely accepted international best practices, and the final indicators have values ranging from zero, least regulated environment, to six, the most regulated one.

Note: The 2018 indicators included some meaningful changes and updates in the way regulation were scored and aggregated, therefore they cannot be directly compared with those published between 1998 and 2013. [A detailed explanation of the methodology used to build the OECD PMR indicators](#)

Source: [Indicators of Product Market Regulation - OECD](#)

Mobility

47. Licensing requirements typically vary from one country to another, or even across different states within a federal entity such as the United States. Since this may involve obtaining a new licence, or at least transferring the existing licence, this limits the extent to which suppliers licensed in one country can offer services in another country. As a result, differences in licensing regimes can lead to entry barriers that limit the number of providers and the extent of competition.

48. This phenomenon has been studied in the US to investigate the interplay between licensing and interstate migration. In order to move from one state to another, professionals who are licensed at state

percentage points for the occupations affected by the reform, with a larger effect for the trades that were fully liberalised than for those that were only partially liberalised, compared with a probability of entry of only 0.81% in the overall sample. Exit probabilities also increase for fully liberalised occupations. The study replicates (Rostam-Afschar, 2013_[101]) with some changes in the dataset and the methodology.

level incur costs to obtain a licence from the state they move to, which might even involve taking additional licensure exams. Therefore, individuals cannot move freely to a state with stricter regulation from a state with more flexible licensing requirements. For instance, (Johnson and Kleiner, 2020^[47]) compare the geographic mobility of professionals that are licensed at state level, with that of professionals in “quasi-national” occupations who still need to transfer their licence but at lower cost.¹¹ They conclude that state-licensed professionals move to another state at a rate that is 7% lower than that of “quasi-national” occupations.

49. The evidence is consistent with other empirical work¹² and with descriptive data in (White House, 2015, p. 15^[48]) suggesting that individuals in the most licensed occupations have lower interstate migration rates than individuals in occupations subject to less strict regulation.

3.2.3. Wage premiums, prices and mark-ups

50. Less competition and business dynamism, as measured for instance by lower entry and exit and lower churn, can also be detected by analysing wage premiums in regulated professions, compared with unregulated professions. Research indeed finds that there is a positive wage premium associated with occupational regulations, even though its magnitude varies both by profession and, within the same profession, across the wage distribution (see Section 3.3).

51. Most authors find a wage premium for those holding professional licences, with respect to individuals with similar qualifications. Studies using US data find an average premium between 5.7% to 15%, depending on the sample and the specification.¹³ (Gittleman, Klee and Kleiner, 2017, p. 75^[34]) find that a licence *or* a certification increases hourly wages by about 5.7%, but cannot disentangle the impact of the two.¹⁴ When they focus only on individuals holding licences that are required for their current jobs, the wage premium is higher, estimated at 7.5% (Gittleman, Klee and Kleiner, 2017, p. 83^[34]). Similar results as to the impact of licensing and certification hold for the EU too. (Koumenta and Pagliero, 2019, p. 840^[35]) find a 4% premium on hourly wages for those workers holding licences. They conclude that the wage premium is mostly driven by competency signalling (around two thirds) and only one third can be explained by “entry restrictions (associated with the monopoly effect of licensing)”.

¹¹ Interstate movement is discouraged by the fact that many licensed occupations develop a local clientele. To address this source of bias, the paper compares state-specific and quasi-national licensed occupations, since both face similar costs when moving away from their local markets.

¹² The negative impact of licensing on mobility is confirmed by (Hermansen, 2019^[39]), who analyses job mobility across states and industries using a rich dataset of information on the occupations that are subject to licensing in the US states and on the strictness of licensing regulation for a subset of 31 occupations. The analysis disentangles the impact of different elements of licensing regulation on workers’ moves across states. (Hermansen, 2019, p. 42^[39]) finds that “higher entry restrictions and higher renewal requirements are associated with lower between state and within industry job-to-job moves, while education and training requirements yields positive, but mostly insignificant estimates.”

¹³ For instance, (Kleiner and Krueger, 2013, p. 186^[18]) using a US sample estimate that the average premium to licensing ranges between 10% and 15%.

¹⁴ The paper distinguishes between licensing and certification, as follows: “we assume that a respondent had attained a license if a federal, state, or local government issued that respondent’s credential (“licensed”). By contrast, we assume that a respondent had attained a certification if a private agency issued that respondent’s credential (“certified”).” (Gittleman, Klee and Kleiner, 2017, p. 79^[34]) however, note that they cannot disentangle the impact of licensing and certification.

52. Moreover, studies have found wide variation in wage premiums by profession.¹⁵ (Kleiner and Krueger, 2013_[18]) posit that these differences might theoretically be explained by the different ability of the professions to capture rents, in line with the critique described in Section 2.2.2.

53. Consistently with these findings on wages, the literature tends to conclude that tighter regulation is also associated with higher prices of the services subject to regulation and higher mark-ups. (Kleiner et al., 2016, p. 263_[38]) estimate that tightening regulation, specifically limiting the scope of the medical tasks that nurse practitioners can perform in some US states,¹⁶ increases the price of routine medical visits for children by 3-16%. (Kleiner and Kudrle, 2000, p. 573_[37]) exploit variation in dentistry regulation across US states to estimate that stricter regulation results in 11% higher prices of dental services. There is also some evidence that relaxing regulations is associated with price declines or at least no increases relative to comparable services, as shown for instance in studies of reforms in Greece (Athanassiou et al., 2015_[41]) and Poland (Rojek and Masior, 2016_[49]).¹⁷ Focussing on the engineering and accounting professions, (Thum-Thysen and Canton, 2017_[50]) estimate higher mark-ups associated with tighter regulation as measured by the PMR (see Box 3.2).¹⁸

3.3. Impact on equality and inclusion

54. The empirical literature on the effects of occupational entry regulations on equality and inclusion is relatively limited (Bambalaite, Nicoletti and von Rueden, 2020, p. 33_[1]), but there are some relevant findings that can help provide a more rounded picture of the impact of regulation and support the case for reform.

55. In terms of impact on the licensed individuals, it appears that licensing makes it more likely for them to have a job, compared to non-licensed individuals. Moreover, there is evidence that it boosts the employability of minorities and women. However, there is a lot of variation in the wage premiums of licensed individuals and regulatory barriers seem to favour high earners disproportionately. In addition, licensing seems to limit social mobility, at least concerning some liberal professions. Therefore, it is not clear that regulation, as designed, is overall beneficial.

3.3.1. Equality and inclusion for licensed professionals

56. While occupational licensing does increase average wages (see Section 3.2.3), it does not appear to reduce wage inequality, as confirmed by studies on the US and the EU. Holding an occupational licence increases the likelihood of having a job but it “does not appear to reduce wage inequality, overall, and may, in fact, increase it in the bottom quartile” (Gittleman, Klee and Kleiner, 2017_[34]).¹⁹ These results are

¹⁵ (Kleiner, 2000_[102]) (Koumenta and Pagliero, 2019_[35]) In addition, (Morikawa, 2018_[96]) refers to a number of studies on wage premiums of professions and occupations, such as physicians, dentists, lawyers, barbers, hairdressers, and massage therapists.

¹⁶ See footnote 8.

¹⁷ While most studies use data on professionals, (Farronato et al., 2023_[40]) study demand-side data from a platform of home improvement services. They conclude that more stringent licensing laws are associated with less competition and higher prices.

¹⁸ The study uses firm-level data in 13 EU member states and finds that, when the PMR increases by one unit, mark-ups increase by about 5%. This is line with earlier results by the authors using sector-level data (Thum-Thysen and Canton, 2015_[122]).

¹⁹ (Koumenta and Pagliero, 2019, p. 846_[35]) find similar results using data from the EU. In their study, they investigated and concluded that licensing increases the difference between the 99th and the 1st percentiles, between the 95th and the 5th, and between the 90th and the 10th percentiles compared to the distribution of earnings for unlicensed workers.

consistent with (Kleiner and Vorotnikov, 2017^[23]), who have also studied the effect of licensing on the wage distribution in the US and found that the impact varies among the different percentiles of the distribution.²⁰ It is not clear how these differences relate to other considerations. For instance, some of the workers in the low percentiles in the income distribution may be younger and less experienced workers who, over time, will progress to higher wage percentiles. Conversely, a less positive explanation may be that some of the tasks performed by individuals in lower percentiles are also performed by non-licensed individuals, possibly with lower qualifications, offering lower prices. The latter tentative explanation might even throw into question whether those tasks required qualifications in the first place.

57. A much less investigated aspect of occupational licensing is its interplay with social mobility. Licensing imposes upfront costs, in terms of the time and money spent on qualifications and on-the-job training, as well as fees. It can be expected that these costs discourage candidates from lower-income backgrounds from entering some professions. (Mocetti, Roma and Rubolino, 2020^[51]) investigate potential linkages between licensing and social mobility. They exploit two major reforms that liberalised regulated professions in Italy and lowered regulatory barriers as measured by the OECD PMR Indicators. The authors find that a decrease of one point in the regulatory index, measured on a scale from 1 to 6, leads to a 2.3% decrease in the propensity for children to follow their parents' professional career compared to the control group. This is confirmed by (Basso et al., 2021^[52]), who conclude that candidates sitting the bar exam are more likely to succeed when they have relatives already practicing the profession. Even though the literature on social mobility is relatively limited at the moment, it appears that it would be a fruitful area for investigation, given how extensive occupational licensing has become (see Figure 2.1).

58. Finally, holding an occupational licence seems to help certain types of workers to signal quality and may make it easier for them to get jobs. For instance, (Law and Marks, 2009^[53]) conclude that licensing helped women and black workers to signal quality when licensing was introduced in the US, at a time when they might have been otherwise discriminated in the job market. Some positive impact on women is also reported in terms of lower gender earnings gaps for pharmacists, as well as greater flexibility and the opportunity to work part-time (Goldin and Katz, 2016^[54]), even though it is not clear to what extent this applies to other professions.

3.3.2. Broader implications

59. Beyond the impact on professionals themselves, regulation also has a social impact on consumers and citizens more broadly. While higher prices are associated with stricter regulation, the impact may fall disproportionately on certain income groups. (Hotz and Xiao, 2011^[55]) find that childcare licensing has the unintended consequence of increasing prices and reducing the number of providers in low-income neighbourhoods, while increasing the quality of providers in high-income neighbourhoods, which represents a welfare transfer from low-income to high-income neighbourhoods.²¹

60. (Kleiner and Soltas, 2023^[26]) estimate that the licensing of an occupation reduces its surplus by 12% compared to the unregulated scenario. 70% of these welfare costs are borne by workers, while 30% by consumers. In addition, economic models find that occupational licensing leads up to 2.85 million fewer jobs in the US resulting in USD 203 billion in annual costs to consumers (Kleiner, 2015^[56]).

²⁰ They note that for workers in lower paid jobs the effect of licensing on wages is much weaker than for those earning more. These differences are quite substantial and can be largely explained by whether workers have a licence or a certification. Once adjusting for occupation, the large differences in wage premiums even out across the distribution from a low of 7.9% for the lower paid occupations to a high of 9.5% at the top of the distribution.

²¹ The authors note that this finding by income is not precisely estimated. Quality is measured as a childcare centre's accreditation with the relevant body, the National Association of Education for Young Children (NAEYC).

3.4. Impact on productivity and the economy

61. Evidence on the impact of regulation on productivity and, more generally, the economy can help argue for the benefits of reform. The impact of professional services' regulation on productivity is an empirical question, since on a theoretical level regulation could have both positive and negative effects. By screening professionals so that only the highly skilled enter the market, regulation may lead to higher productivity than if entry was easier. However, entry restrictions and less competition may lower managerial incentives for more efficiency and innovation (Bambalaite, Nicoletti and von Rueden, 2020^[1]).

62. The impact of entry requirements and regulation on productivity and growth has not been studied extensively, though, and recent OECD work by (Bambalaite, Nicoletti and von Rueden, 2020^[1]) tries to fill this gap. The study investigates the relationship between occupational entry regulation (OER, see Box 3.3), on the one hand, and firm-level labour productivity and labour reallocation, on the other, in a sample of 11 EU Member States.²² They find that less restrictive regulation could lead to a 1.5% higher productivity growth for the average firm. This effect is particularly important for firms with one to ten employees, which would benefit from almost 2% higher productivity growth if regulation was lowered to the minimum level observed among the countries covered by the study (i.e. Sweden).

63. The study also finds that restrictive regulation harms employment growth, because it makes it difficult for workers to move from less productive to more productive suppliers. If this reallocation was easier and the extent of occupational regulation was reduced to the lowest level observed among the 11 countries in the sample (i.e. Sweden), this could result in 10% higher employment growth on average.

²² Their dataset consists of 11 occupations (three professional and three personal) in 11 EU member states. This is a subset of a broader group of countries and services for which (von Rueden and Bambalaite, 2020^[25]) have built an indicator of restrictiveness of Occupational Entry Regulation (OER).

Box 3.3. Occupation Entry Regulations (OER) index

The Occupational Entry Regulations (OER) index focuses on a set of homogenous restrictions across personal and professional services. The OER indicator covers five professional services, nine personal services, and nurses for a set of 18 OECD countries, India, and South Africa. The sources of the data are the European Commission “Regulated Profession Database” and the OECD “Product Market Regulation Database”, while for countries not covered by these databases the information was collected from country-specific sources.

The structure of the indicator is the following. The most aggregate level distinguishes between three types of OER: licensing, licensing required only for supervisors, and certification. Licensing is the most restrictive form of regulation of the three, licensing only for supervisors is considered less restrictive and therefore the indicator score is discounted. Certification is the less restrictive option, as it is completely voluntary, so the indicator is discounted even more.

At the second level, regulations are categorised along three different areas: administrative burdens, qualification requirements, and mobility restrictions. The first dimension covers the burdens to obtain the legal authorisation to practice. It includes i) territorial restrictions, ii) restrictions on the total number of authorisations granted, and iii) registration requirements of professional associations. The second dimension focuses on the educational requirements for entering an occupation. These are i) the number of possible pathways to obtain the qualification, ii) whether courses are mandatory, iii) whether traineeships are mandatory, and iv) the presence of mandatory exams. The last dimension records the barriers to mobility between different jurisdictions like i) the presence of transparent recognition mechanisms of out-of-jurisdiction qualifications, ii) the obligation of out-of-jurisdiction workers to take local exams, and iii) the necessity to demonstrate citizenship.

The final score of the indicator is scaled between 0 (no regulation) and 6 (fully regulated).

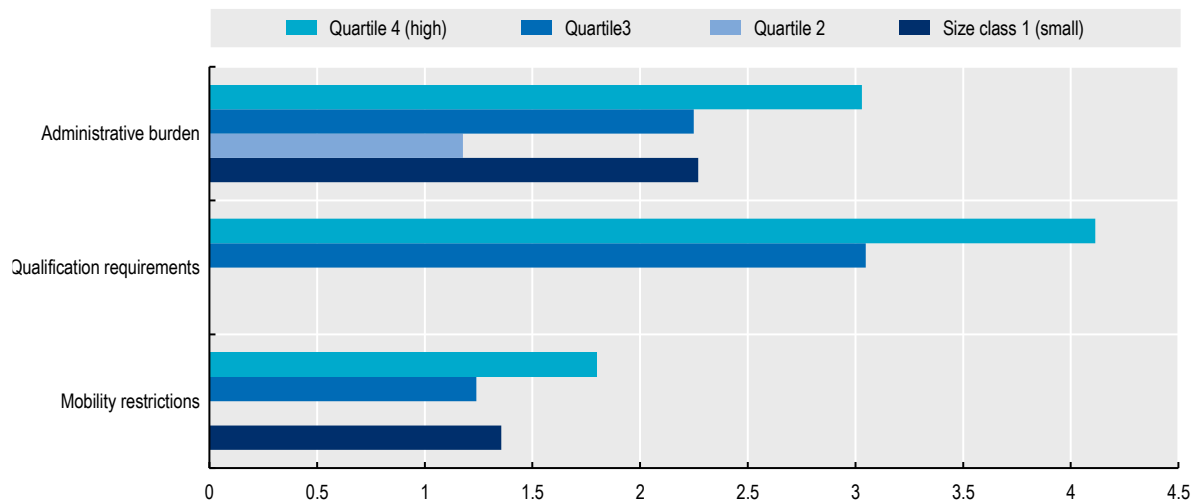
Notwithstanding all the positive aspects of the indicator, this new measure is subject to a series of limitations. First, no consideration is given to the differences in quality of the services provided by professional as there is no comparable data available. Second, several aspects of regulation had to be omitted as they were not common to all occupations, such as the price of a licence, collectively agreed limits to fees, grandfathering rights and so on. In some markets, these may play a crucial role and therefore the resulting score could be underestimated. Finally, the indicator does not cover the number of reserved activities that are associated with each profession or occupation.

Note: The five professional services included in the study are: Accountant, Architect, Civil Engineer, Lawyer, and Real-estate agent. The nine personal services are: Beautician, Baker, Butcher, Driving Instructor, Electrician, Hairdresser, Painter Decorator, Plumber, Taxi Driver. Source: von Rueden, C. and I. Bambalaite (2020), “Measuring occupational entry regulations: A new OECD approach”, OECD Economics Department Working Papers, No. 1606, OECD Publishing, Paris, <https://doi.org/10.1787/296dae6b-en>.

64. From a policy perspective, it is useful to disentangle the effects of specific types of regulations (see Box 3.3). (Bambalaite, Nicoletti and von Rueden, 2020^[11]) examine the impact on productivity of lowering qualification requirements, administrative burdens and mobility restrictions individually, while keeping the other types of regulations unchanged. They find that qualification requirements have an especially large impact on productivity. If they were reduced from the highest value in the sample (i.e. Germany) to the lowest (i.e. Sweden), the most productive firms would experience a 4% increase in productivity growth (see Figure 3.1).

Figure 3.1. Productivity gains from reducing regulation

Productivity gains from reducing regulation from most to least regulated country



Note: This figure shows, other things equal, the impact of a reduction in the average stringency of occupational entry requirements, measured by three sub-indicators introduced in this paper, from the sample maximum to sample minimum (always Sweden). For administrative burdens, the most restrictive burdens are recorded for Portugal, for qualification requirements it is Germany, and for mobility restrictions it is Hungary. Calculations are based on estimates from Table 4, models IV and V, of (Bambalaite, Nicoletti and von Rueden, 2020^[11]) on results that are statistically significant only.

Source: Reproduced from (Bambalaite, Nicoletti and von Rueden, 2020^[11]), Figure 10.

65. In addition to evidence on productivity gains at firm level, research has shown that relaxing regulations has a positive impact at an aggregate level. A study found that the EU Services Directive,²³ which sought to remove the barriers that hinder businesses from offering their services in another country, generated GDP gains between 0.26% and 1.78% for EU members, with the average EU level impact on GDP at about 0.8% (Monteagudo, Rutkowski and Lorenzoni, 2012^[57]).

66. Professional services account for a significant share of the economy²⁴ and are important inputs into other sectors. Therefore, any inefficiencies as well as any gains, including those associated with regulation, will spread to other sectors of the economy. Data for the EU indicates that, for instance, EUR 1 of final demand for architectural and engineering activities generates EUR 1.9 of gross production in the whole economy. One euro of final demand for legal and accounting activities generates EUR 1.8 of gross production (Canton, Ciriaci and Solera, 2014, p. 13^[46]).

67. In summary, there is some evidence that occupational entry regulations have a negative impact on productivity and employment growth and that lowering barriers to mobility across countries can deliver GDP gains. Given the importance of regulated occupations and professions in the economy and their role

²³ Council Directive 2008/8/EC of 12 February 2008 amending Directive 2006/112/EC as regards the place of supply of services.

²⁴ The European Commission noted that “business services, many of which are regulated professional services, contribute around 13% to EU gross value added and almost 14% to EU employment” (European Commission, 2021^[16]). In addition to their direct economic contribution, professional services have so-called “forward linkages”, i.e. they are inputs to other economic activities, and “backward linkages” as professional services are users of other sectors’ outputs.

as inputs to other economic activities, regulatory reform could therefore deliver important economic benefits.

3.5. Conclusions

68. The literature focusses mostly on licensing and entry regulation, that is requirements to access the profession, rather than conduct regulation, such as bans on advertising or various forms of price regulation. Moreover, it is usually hard to disentangle the impact of the specific elements of entry regulation, such as exams or training. Finally, the empirical studies covered in this paper do not examine whether regulation is proportionate and whether it does achieve its objectives.

69. As discussed in Section 2. above, ensuring quality is a key objective for regulating professions and occupations. Despite this expected benefit, in practice there does not seem to be strong evidence that regulation has positive effects on the quality of services. The literature does not investigate more broadly other positive effects that regulation may achieve, though, such as consumers' access to services offered by suitable professionals or the signalling value of certifications for new entrants.

70. Research shows that entry regulation limits the number of professionals and that this result holds across different professions and occupations. Therefore, entry regulation restricts the number of suppliers on the market, when they act as independent professionals, and restricts the pool of workers for companies that may wish to enter the market or expand, such as law firms or accounting firms. The academic literature typically does not attempt to estimate concentration or other structural measures of competition. There is some evidence, though, that dynamic measures of competition, such as entry and exit rates, and churn rates increase when regulation is less restrictive.

71. Licensing requirements typically vary from one country to another, or even across different states within a federal entity such as the United States, and this limits the extent to which suppliers licensed in one country can offer services in another country. As a result, this limits the number of providers and the extent of competition²⁵.

72. Less competition and business dynamism, as measured for instance by lower entry and exit and lower churn, can also be detected by analysing wage premiums in regulated professions, compared with unregulated professions. Research indeed finds that there is a positive wage premium associated with occupational regulations, even though its magnitude varies both by profession and, within the same profession, across the wage distribution. The literature also tends to conclude that tighter regulation is also associated with higher prices and mark-ups of the services subject to regulation. As noted above, the literature does not consider if the regulation achieves other objectives or whether it is justified, calling for case-by-case assessment by competition authorities and policy makers (see Section 4).

73. While occupational licensing does increase average wages, it does not appear to reduce wage inequality. Holding an occupational licence increases the likelihood of having a job but it “does not appear to reduce wage inequality overall, and may, in fact, increase it in the bottom quartile” (Gittleman, Klee and Kleiner, 2017^[34]). There is some evidence suggesting that it does not have an especially negative impact on women and minorities, in fact it seems that it is a helpful signalling device for them. However, it does not seem to favour social mobility: when regulation is strict and licensing more costly, it is more likely that individuals from more privileged backgrounds can obtain licences at the expense of others.

74. Beyond the impact on professionals themselves, regulation also has a social impact on consumers and citizens more broadly. There is some evidence that the effect of higher prices and lower access to services does not fall on all consumers in a uniform way but impacts disadvantaged consumers more.

²⁵ See discussion of policy initiatives and barriers to mobility in Section 2.

75. Finally, there is some evidence that occupational entry regulations have a negative impact on productivity and employment growth and that lowering barriers to mobility across countries can deliver GDP gains. Given the importance of regulated occupations and professions in the economy and their role as inputs to other economic activities, regulatory reform could therefore deliver important economic benefits.

4. Competition advocacy

76. Competition authorities are very active with advocacy efforts concerning professions and occupations. While there are many differences in the extent of licensing and the specific regulations across countries (see Figure 2.1), regulatory barriers to competition tend to be similar across the countries that do regulate. These regulatory barriers are also similar across different professions and occupations. While regulatory barriers are found in laws and regulations, statutes and decisions by professional bodies with regulatory functions can also create barriers to competition. Professional bodies affect competition not only through regulation but also through anti-competitive practices, such as price fixing, which however are not included in the scope of the paper.

77. Building on competition authorities' advocacy for pro-competitive regulation, it is helpful for countries to set up a framework that public authorities can use when they develop draft regulations about professions and occupations. This can limit the extent of restrictive regulation if draft regulations undergo an ex-ante review through a competition lens. It can also promote a common understanding between competition authorities and policy makers about regulatory barriers to competition, which in turn can help cooperation on ex-post reviews of existing legislation.

78. There is also value in a legal requirement that any new regulation of professions and occupations is assessed, along the lines of the European Proportionality Test Directive (see Box 4.1). The identification and assessment of existing or proposed public policies that unduly restrict competition is also recommended by the OECD Recommendation on Competition Assessment [[OECD/LEGAL/0455](#)].

79. This section outlines a general analytical framework applicable to the following three issues that competition authorities deal with in their advocacy activities concerning the regulation of professions and occupations: (i) whether a licence is necessary; (ii) whether the specific licensing requirements are proportionate; and (iii) whether conduct regulation is proportionate. It is followed by examples of opinions by competition authorities for each of the three groups. It concludes with some considerations about advocacy initiatives more generally.

80. The section refers generically to occupational or professional licensing, as this is the terminology adopted in the indicators and the empirical literature discussed above in the paper. However, other jurisdictions use a variety of different definitions that are slightly different but broadly refer to similar situations. While in some jurisdictions, such as the US and Australia, occupational licensing is the most frequent term, elsewhere, such as in the EU, it is common to refer to regulated professions (see Section 2.2).

4.1. Analytical framework for the analysis of regulations

81. This sub-section sketches a common framework applicable to the three groups of issues listed above. Any consideration that applies only to one of the three groups above will be covered in one of the following sub-sections.

82. The framework mainly draws on the approaches set out in OECD (2019^[58]), European Commission (2022^[59]) and Productivity Commission (2023^[21]). The OECD Competition Assessment Toolkit is a general methodology that can be used to analyse regulations ex ante or ex post. The US Guidance on accounting

for competition effects (US Office of Information and Regulatory Affairs, 2023^[60]) provides a similar framework. The European Proportionality Test Directive (see Box 4.1) focusses on professions and occupations, and applies to regulations and requirements ranging from protected titles and reserved activities to qualifications and advertising bans (European Commission, 2022^[59]). Productivity Commission (2023^[21]) focusses on occupational licensing and contains a framework to analyse both licensing requirements and whether licences are needed in the first place.

83. These methodologies share a common structure, summarised in the following steps: (i) identification of potential regulatory barriers; (ii) identification of the policy objective and link between the regulation and the policy objective; (iii) identification of alternative regulations, balance of benefits and competition distortions and recommendations of the least restrictive option.

4.1.1. Potential regulatory barriers

84. Legislation concerning professions and occupations may create competition concerns. This does not mean, however, that it is the only source of potential barriers having an impact on professions and occupations. First, sector-specific legislation may contain provisions that concern professional services, such as legislation on construction services that describes the qualification and experience needed by engineers involved in public works. Second, professional bodies that are entrusted with regulatory functions may issue circulars or other decisions that restrict competition beyond what is necessary.

85. In order to have an initial indication of which regulations potentially raise competition concerns, it is useful to refer to (European Commission, 2022^[59]), which sets out a non-exhaustive list of regulatory requirements that are to be analysed in line with the Proportionality Test Directive (see Box 4.1). The rationale for a proportionality test defined at EU level is to “avoid fragmentation of the internal market and to eliminate barriers to the taking-up and pursuit of certain employed or self-employed activities” (par. 5, preamble). While competition is not its ultimate aim, eliminating barriers to access the professions is in line with the objective of making regulation more pro-competitive. The following are examples of the requirements to be assessed under the Directive: prior authorisation to access the activity, exclusivity, compulsory chamber membership, involvement of competitors in granting of authorisations, quantitative or territorial restrictions, legal form requirements, shareholding requirements, ban on having more than one establishment, requirements on minimum number of employees, minimum and/or maximum tariffs, voting rights/board membership requirements and notification/registration obligations.

86. In addition to these specific requirements, other potential restrictions can be identified using the OECD Competition Assessment Checklist (OECD, 2019^[58]). While the Checklist is not targeted at professional and occupational legislation, it provides guidance on the type of regulations that are likely to restrict competition. It flags four groups of restrictions: (i) regulations limiting the number or range of suppliers, such as establishing a licensing process as a requirement of operation; (ii) regulations limiting the ability of suppliers to compete, such as advertising bans or price regulation; (iii) regulations reducing the incentives of suppliers to compete, such as those creating a self-regulatory regime; (iv) regulations limiting the choices and information available to consumers, such as those reducing the ability of consumers to change suppliers.

4.1.2. Policy objective and link between the regulation and the policy objective

87. When a regulation has the potential to restrict competition, for instance because it sets a licensing requirement (OECD, 2019^[58]), the next step is to identify the objective of the regulation and to understand whether the market fails to deliver that objective in the absence of regulation.

88. While the rationale of regulation can be broadly explained in terms of addressing market failures and public interest objectives, as discussed in Section 2. , it is important that policy objectives are specific and that they are linked directly to the regulation in question. When analysing regulations, competition

authorities typically ask policy makers to spell out clearly how certain requirements contribute to achieve their objective. It is often hard, however, to establish a connection between a given requirement and a policy objective, as reported by (European Commission, 2022, p. 21^[59]). A general statement that the “academic qualification required for practice of the profession serves to guarantee the knowledge and skills needed for said practice and ensure compliance with the standards in terms of quality and safety that a client can expect” does not seem to articulate how the academic qualification ensures quality and safety. Indeed, academic qualifications may be necessary but not sufficient to ensure quality.

4.1.3. Alternative regulations and recommendations

89. If there is a policy objective that requires regulatory intervention, the next question would be what type of intervention would address that issue. The OECD Competition Assessment Toolkit (2019, pp. 72-78^[58]) suggests consulting relevant stakeholders and, ideally, potential new entrants to gather useful information about alternative regulations, as well as to rely on the experience of other jurisdictions. In some cases, the conclusion may be that other alternatives are not suitable or not sufficient to address the policy objective and that the regulation is necessary.

90. When assessing the costs and benefits of licensing and other regulations of professions and occupations, it is worth considering social implications too. Entry requirements that go beyond what is necessary to perform the tasks involved are likely to prevent some individuals from entering the labour market and exacerbate intergenerational mobility issues (see Section 3.). This also represents an additional cost for existing workers who need to acquire new qualifications or invest in continuing education, thus subtracting time from their remunerated work. A similar argument about the opportunity cost of training was made, in relation to training on food safety, in OECD (2016, pp. 263-267^[61]). Regulation imposed a training requirement to all staff working in the manufacturing, transportation and retail trade of food, regardless whether they did handle food or not. The OECD recommended targeting the requirement only to staff that had direct contact with the foodstuffs.

91. Finally, competition authorities’ opinions about regulatory barriers make recommendations to make the regulation less restrictive than the original one. They can compare potential alternatives using a variety of approaches, such as listing pros and cons or quantifying the impact of the different alternatives.²⁶ Ultimately, the option that addresses the market failure or the public interest in the less restrictive way will be the option that the competition authority will recommend.

²⁶ OECD (2019, vol. 3) suggests some criteria to develop alternatives and to compare them.

Box 4.1. The EU proportionality test before adoption of new regulations of professions

Directive (EU) 2018/958 sets out a common proportionality test that Member States are required to conduct before adopting new, or amending existing, regulations concerning the professions. The introduction of a common approach was motivated by significant differences among the existing procedures used by Member States to evaluate new provisions.

According to the directive, Member States must ensure that all new provisions restricting access to regulated professions have as their goal the attainment of public interest objectives. Importantly, purely economic and administrative reasons cannot be accepted as valid justifications.

Article 7 of the directive discusses in detail the actual test to be carried out. First, Member States must ensure that the provisions being discussed, and the restrictions linked to these, are proportional to the objective being pursued, and do not impose measures that go further than that. Second, Member States must carefully consider the impact of the provisions on the correct functioning of the internal market, if there are already existing rules and laws that fail to meet the objectives being pursued, and whether there are no less restrictive alternatives available. Third, they must establish whether the qualifications required to perform the reserved activity are warranted given its complexity, if there are other ways to obtain the necessary qualifications, and the activities being reserved can be shared with other professions. Finally, Member States are required to assess the ways in which the proposed provisions combine with the minimum requirements individuals must satisfy to obtain a licence or be part of a professional body. These requirements can be an obligation to continue professional development, limitations and requirements on advertising, and rigid guidelines on minimum and maximum tariffs professionals can charge.

As the goal of the directive is to create an efficient common approach, ensuring transparency and co-operation among member states has a prominent place in the framework. Member States are required to make information about the proposed provisions available to all stakeholders and consult with them. They also must make this information available to other Member States and the European Commission, so that they may comment or take inspiration from successful experience elsewhere.

Source: Directive (EU) 2018/958 of the European Parliament and of the Council of 28 June 2018 on a proportionality test before adoption of new regulation of professions, OJ L 173, 9.7.2018.

4.2. Is a licence necessary?

92. The rationale for introducing occupational licences is often to ensure a certain level of service quality (see Section 2.2.1), relating to objectives such as safety and consumer protection. In particular, safety concerns are especially acute in the healthcare sector which is one where licensing is prevalent: at the same time, it is hard for consumers to verify service quality and there is a high risk that consumers will be harmed in the event of a bad choice. Similarly, licensing is common in the construction sector, at least in supervisory roles, in view of the public interest in compliance with building standards and other technical regulations that require certain minimum knowledge and qualifications. There are, however, other occupations for which the risk for consumers and the public from a poor choice is not significant. The nature of the occupation and the public interest that its regulation is designed to protect is a key consideration in assessing if a licence is needed.

93. There may be different considerations about the need for a regulatory intervention, depending on whether the consumer is an individual or a company. In the latter case, it is likely that the information

asymmetry with the service provider will be less severe than if the consumer is an individual and the need for licensing likely to be lower.

94. For cases when the risk of consumer harm is low, Productivity Commission (2023^[21]) mentions the example of negative licensing, which was recommended by the New South Wales Productivity Commission together with the application of consumer protection legislation. Negative licensing allows for “the prohibition of businesses or individuals from practice in a particular occupation, but involves no prior approval nor a formal (positive) licence for practitioners” (Productivity Commission, 2023, p. 63^[21]). While it removes excessive burdens, it still protects consumers by excluding certain providers that policy makers consider unsuitable, possibly because of harm occurred in the past or other criteria (e.g. preventing gang members from owning tattoo parlours to improve community safety) (Government of South Australia, 2016, p. 35^[62]). Examples of activities considered posing low risk to consumers and workers include debt collection without face-to-face contact, tattooing and hair dressing (New South Wales Productivity Commission, 2021^[63]).

95. Productivity Commission (2023, p. 67^[21]) sets out the evidence to assess if a licence is likely to address the policy concerns, as follows:²⁷

- “Are health and safety risks the result of practitioner competency?”
- Is poor quality work due to lack of training, inexperience, or poor incentives?
- What training, qualification and experience would exist without licensing?
- Are other laws and regulations failing and if so, could they be improved?”

96. The first two questions concern the link between specific policy objectives and the introduction of licensing, while the third tries to establish a counterfactual to licensing, such as the situation in a comparable country where the occupation is not licensed. Productivity Commission (2023, p. 69^[21]) warns however that it can be hard to assess risk and acknowledges that licensing is sometimes introduced in response to incidents involving public safety and is hard to reverse later on. Given the variation in approaches to licensing the same profession across different countries (discussed in Section 2.1), there is a question of whether the evidence used to assess risk, and to connect the risk and the specific policy response, i.e. licensing, is sufficient or is detailed enough. Productivity Commission (2023, pp. 74-76^[21]) explains this variation partly by pointing to insufficient evidence to inform policy.

97. The last question is around alternative ways to achieve the policy objective, where laws and regulations to consider could be consumer protection legislation, product safety rules and other technical rules, such as building regulations. If regulation on its own is not considered sufficient, one of the following could be a less restrictive approach than licensing all individuals in a profession or occupation:

- A licence held by *managers/supervisors* and not all individuals: When individuals work for a company, it could be argued that managers will supervise the work and that there would be processes in place to ensure quality (European Commission, 2022, p. 32^[59]).
- Shared activities: Under this option, while the activity would still be subject to licensing, it would be performed also by other professionals. For example, according to the OECD 2023/24 PMR dataset to be released in July 2024, in OECD countries lawyers rarely have exclusive rights to perform certain services, such as drafting legal documents or transferring titles to real estate, which can be provided by other professionals too.
- A *certification* for individuals wishing to practise the profession or the occupation: Under this option, consumers can select anyone to provide the service but may find the quality certification useful as

²⁷ These questions are designed to inform the choice around whether licensing is the best response. (Productivity Commission, 2023, p. 67^[21]) also spells out a later step, i.e. whether licensing is well designed, which focuses on minimum requirements, duration, etc.

an indicator of quality (European Commission, 2022, p. 32^[59]). Certification may be beneficial both to consumers and new entrants, whose services are not yet known to consumers. If the criteria are very strict and consumers have strong preferences for certified individuals, though, a certification may be limiting too.

98. European Commission (2021, p. 7^[16]) mentions another barrier which could be defined as “fragmentation”, that is a situation where the legislation creates narrow professional niches. In respect to the profession of architect, the report found such “fragmentation” of the profession in some countries, where there are different types of architects for specific types of services. As a result, the market is artificially split into smaller markets with fewer suppliers, even though professionals may be able to deliver services in more markets.

99. Even when an occupation is subject to individual licensing and the alternatives set out above are not feasible, there may be ways to lower barriers to entry. As described in Box 4.2 below, competition authorities have advocated for more training centres and licensing centres, as well as for more frequent exams, to make it easier for prospective entrants to access the profession and for consumers to have access to services.

Box 4.2. Facilitating entry in the presence of occupational licensing

In 2022, the Irish competition authority supported the call by the country's Higher Education Institute to increase the number of third-level training institutions for veterinaries from the single one that was active. The competition authority had been advocating for such a change since 2008, when it published a detailed report on the state of the veterinary profession in Ireland, highlighting how a lack of more training facilities was forcing the country to rely on practitioners trained abroad to satisfy its demand. In the study, the lack of alternative options for training were attributed to the high costs per student in a veterinary undergraduate programme. They are more than 2.3 times more expensive than other medical students, and 3.3 times than business students.

In 2015, the Italian competition authority issued an opinion recommending that the number of bodies authorised to train and release lifeguard licences, be increased from the three entities active at the time. The authority also advocated for the introduction of clear guidelines that should be pro-competitive and impose no unjustified restrictions on the establishment of new licensing centres. Such recommendations were implemented in a 2016 law, that established a nationwide process to select new licensing centres. However, the article implementing such changes has been deferred many times over the years. In 2021, the competition authority issued a new opinion once again highlighting the importance of the matter, pointing out how fewer licensing centres were reducing the supply of lifeguards and putting public safety at risk.

The OECD has also been advocating for a reduction of such barriers. In its 2023 competition assessment of Tunisia, much attention was given to the regulation of touristic guides in the country, and on recommendations to make the profession more accessible. The OECD recommended that the procedure for applications and renewals be improved, lengthening the duration of the licence or making the renewal process easier. It recommended that the licensing exams be held more often.

Source: CCPC (2023), Annual Report, https://www.ccpc.ie/business/wp-content/uploads/sites/3/2023/08/2023.06.29_CCPC_Annual-Report-2022.pdf

CCPC (2008), Competition in Professional Services – Veterinary Practitioners, <https://www.ccpc.ie/business/wp-content/uploads/sites/3/2017/02/2008-06-19-Vets-Final-Report.pdf>

Italian Competition Authority (2021), Opinion AS1798, Training and Access to Lifeguard Activities

OECD (2023), OECD Competition Assessment Reviews: Tunisia 2023, OECD Competition Assessment Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/a80cda01-en>

100. The mutual recognition of licences is an issue in federal states such as Australia and the US, when licences are issued at sub-national level and require some form of conversion to be valid in another area from the one that issued them. Conversion may involve, for example, the submission of documents and the payment of fees, which may create barriers to entry in the new markets. The mobility of professionals across member states is an important policy objective in the European Union and underpins, together with the promotion of the Single Market, the policy initiatives about the professions at EU level (see Box 2.1). Evidence discussed in Section 3. indeed points to the impact of licensing on reducing the geographic mobility of individuals holding licences. Recognising this, Australia introduced a scheme for the automatic mutual recognition of occupational licences and registrations issued by states and territories (Productivity Commission, 2023, p. 85_[21]). The benefits of this simplification measure were estimated at

AUS 2.4 billion.²⁸ Similarly, the European Union has a mechanism in place for the mutual recognition of licences issued by different member states.²⁹

101. Finally, while not strictly competition barriers, costly and complex procedures do affect entry. There may be situations where, while the requirements may be proportionate taken one by one, obtaining a licence results in a burden overall. This may be the case when several authorities are involved, for instance because of the need to obtain certifications from different parts of the public administration, or when documents must be submitted to an authority located in the capital. Another example of administrative burden is when licences have a short duration, say annual, therefore imposing costs on professionals to renew (see Box 4.2).

4.3. Are entry requirements proportionate?

102. This sub-section focusses on the requirements, associated with a licence or a certification, which are necessary to enter the market. These include minimum qualification requirements and the compulsory membership of professional bodies. Moreover, it covers licence quotas and geographic restrictions on the area that a licensed individual can serve. The following sub-section deals with the regulation of how the profession or occupation is exercised and organised. The classification of the requirements under one of these two categories follows the convention in European Commission (2022^[59]).

103. Similarly with the introduction of a licence, the policy objective underpinning minimum qualifications and training tends to be to guarantee a certain level of service quality, against the backdrop of asymmetric information between consumers and service providers.

104. The analysis of minimum qualifications and training requirements is often complex. For certain professions, such as doctors, dentists and vets, it is a foregone conclusion that they should be subject to minimum qualification requirements. Moreover, there may be limited room to find alternatives that lower barriers to entry while still achieving the policy objective. In other cases, it may be possible to find workable alternatives to existing regulations. In the majority of jurisdictions where they are licensed, according to the OECD 2023/24 PMR dataset to be released in July 2024, there is only one pathway to obtain the licence of certain professions such as lawyer, notary, architect and engineer. Allowing alternative pathways to the profession does not lower standards, but allows candidates with different backgrounds to enter the market, in some cases possibly retraining from earlier careers. The Portuguese Autoridade da Concorrência identified an excessive requirement in a proposal by the Bar Association to require a masters' degree from candidate to legal practice traineeship (Autoridade da Concorrência, 2022^[64]). In other occupations, the Korea Fair Trade Commission (KFTC) issued a few opinions about qualification requirements that were later adopted in legislation. These included broadening the set of qualifications required to become livestock inspectors (KFTC, 2023^[65]) and allowing individuals with shorter degrees to qualify as special security officers (KFTC, 2020^[66]). A similar approach was followed in OECD (2019, p. 199^[67]) about access to various professions, such as freight forwarder and shipping agent, where the OECD recommended allowing holders of high-school diplomas to sit professional capacity examinations.

105. When professions or occupations are self-regulated, it is necessary to be a member of the relevant professional body to practise that profession or occupation. Professional orders exercise regulatory and disciplinary powers over their members. Compulsory membership is still imposed in most jurisdictions for some professions, such as engineers, lawyers and notaries, while it is less common for accountants,

²⁸ <https://ministers.treasury.gov.au/ministers/josh-frydenberg-2018/media-releases/24-billion-boost-economy-government-cuts-red-tape> (accessed on 10 April 2024).

²⁹ https://single-market-economy.ec.europa.eu/single-market/services/free-movement-professionals/recognition-professional-qualifications-practice_en (accessed on 15 April 2024).

according to the OECD 2023/24 PMR dataset to be released in July 2024. Membership fees have occasionally been found to be excessive and to be a barrier to entry, such as in a recent opinion by the Croatian Competition Agency (Croatia, 2023^[68]), while COFECE recommended eliminating a requirement for construction managers to be members of their professional body (COFECE, 2016^[69]). More generally, if professional bodies have the power to authorise or certify the entry of new competitors, they may have an incentive to block or delay entry. For this reason, COFECE recommended removing these powers from professional bodies (COFECE, 2016^[69]). In the UK, the competition authority has been instrumental in improving competition in the legal market.³⁰ One of the main changes in the regulatory framework was the separation between professional bodies, as representatives of the legal professions, and authorities regulating legal services (Decker, 2021^[70]).

106. Quantity and geographic restrictions follow a different rationale and usually have the stated objective of ensuring that consumers have access to the relevant services throughout the country. When the number of licences is set in conjunction with geographic restrictions, the licence holder can serve the local market facing, potentially, limited competition depending on the number licences and therefore may have an incentive to serve that market. Depending on the number of professionals in relation to the local market, quantity restrictions can have a more or less severe impact on competition. In France, the Autorité de la Concurrence has an important role in facilitating new entry in certain legal professions still subject to quantity restrictions (see Box 4.3), by issuing opinions on the number of new entrant and the pace of entry. According to the OECD 2023/24 PMR dataset to be released in July 2024, territorial restrictions have been largely lifted for lawyers in OECD countries, while they are still relatively common for notarial services. Quantity and geographic restrictions are frequently found in other sectors too. In a 2022 opinion, the Italian competition authority recommended removing a restriction on the number of chemical professionals that could be registered to provide services at two ports (AGCM, 2022^[71]). In an earlier opinion, it found that some museums and archaeological sites segmented the market geographically by only allowing locally registered guides (AGCM, 2018^[72]).

³⁰ The UK's contributions to earlier roundtables provides an overview of the activities of the Office of the Fair Trading, one of the predecessors of the Competition and Markets Authority, as well as the latter's market study (OECD, 2007^[5]) (OECD, 2016^[7]).

Box 4.3. Mandatory opinions on entry and fees: the powers of the Autorité de la Concurrence

Following the introduction of the Law for Growth, Activity and Equal Economic Opportunities (Macron Law) in 2015, the Autorité de la Concurrence has the power to propose measures related to the entry of new professionals and on the level of tariffs charged by the professionals. The professions covered by the law are notaries, court bailiffs and judicial auctioneer (now unified as commissioner of justice), and lawyers at the French Administrative Supreme Court and French Supreme Court.

How Does it Work?

Every two years, the Autorité submits a mandatory opinion to the Ministers of Justice and of the Economy, assessing the state of the regulated professions and, when necessary, recommending the number of new professionals that can enter the market and the pace of entry. The second step of the procedure is a public consultation with the relevant stakeholders that results in the publication of a map highlighting the areas where the new professionals will be based to improve the quality of the services for citizens. The map is then reviewed by the Ministers who can choose to accept it or send it back to be modified.

The map distinguishes between “free-establishment areas” and “regulated-establishment areas”. In the former case, the Autorité has concluded that there is a need for the appointment of new professionals, and that this can be done, at the pace set out in the map, without an extensive or case-by-case analysis. In the latter case, the Autorité analyses whether any new appointment poses the risk of “undermining the continuity of the operation of existing professionals and compromising the quality of the service provided”. It will then be up to the Minister of Justice whether to accept a candidacy or not.

New Professionals

The Macron law has increased the number of professionals active in each of the regulated professions covered by the law to reconcile this with the needs of the French economy (Autorité de la concurrence, 2021). It has also been successful in introducing young graduates in the professions and in improving women’s access to the professions. Over the years, the Autorité has issued four maps recommending the entry of new notaries, three for commissioners of justice, and four for lawyers to the courts. Overall, the establishment of new professionals has been successful, with only a few backlogs, and the economic performance of both old and new professionals has been positive (Autorité de la concurrence, 2023).

Tariff Setting

The objective of the law is reforming the pricing system of the regulated professions mentioned above, achieving balance between fair and clear pricing for citizens, and reasonable remuneration for professionals. The Autorité is consulted on a mandatory basis on matters regarding the structure of tariffs and on the methodology for setting them. In addition, they are consulted on a non-mandatory basis for matters such as biennial reviews of the tariff levels. The tariffs are calculated considering “the main costs of providing the service, while ensuring reasonable remuneration for professionals”. Reasonable remuneration is calculated by reference to an average income rate target that is set by decree every two years, itself determined from a reference rate set by the French Administrative Supreme Court.

Note: The opinions on the lawyers did not include a map, as all the lawyers to the specific courts work in Paris.

Sources:

Autorité de la concurrence (2021), Freedom of establishment of notaries, court bailiffs and judicial auctioneers: proposed maps for 2021-2023, <https://www.autoritedelaconcurrence.fr/en/communiqués-de-presse/freedom-establishment-notaries-court-bailiffs-and-judicial-auctioneers>

Autorité de la concurrence (2023), Avis 23-A-10 du 07 juillet 2023, <https://www.autoritedelaconcurrence.fr/fr/avis/23-a-10-relatif-la-liberte-installation-des-notaires-et-une-proposition-de-carte-revisee-des-zones-1>
 Freedom of establishment | Autorité de la concurrence (autoritedelaconcurrence.fr) ; (Autorité de la Concurrence, 2021^[73])

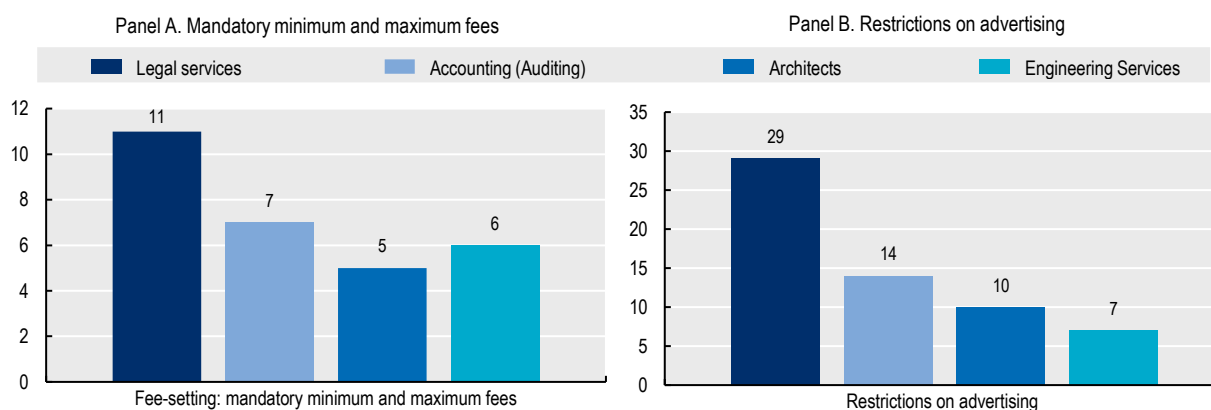
4.4. Are conduct requirements proportionate?

107. This group of requirements includes, among others, regulations about fees, restrictions on the legal structure or ownership of professional services firms, and advertising restrictions. Most examples of opinions and competition authorities' recommendations in this area concern regulated professions, rather than occupations.

108. For some of the main regulated professions (legal professions, engineers, architects and auditors), some forms of conduct regulation appear to be less frequent than entry regulation. Based on information from the OECD Services Trade Restrictiveness Index (STRI), only 5 countries out of the total 50 covered by the index set minimum and maximum fees for architects and 10 countries impose advertising bans.³¹ Figure 4.1 shows that numbers are higher for other professions, notably legal services, while remaining a minority of the total.

Figure 4.1. Number of countries regulating fees and advertising in selected professional services

Panel A: Mandatory minimum and maximum fees; Panel B: Restrictions on advertising



Note: The OECD STRI provides information on the number of regulations affecting trade in services. It is updated every year, and it covers trade in 22 different sectors between 50 countries. The project includes composite indices for each country and sector in the sample, quantifying restrictions on foreign entry and the movement of people, barriers to competition, regulatory transparency, and other discriminatory measures that impact the ease of doing business.

Source: OECD Services Trade Restrictiveness Index, <https://www.oecd.org/trade/topics/services-trade/>

109. Conduct requirements have a variety of specific objectives, under the common umbrella of ensuring quality of service and preserving the independence of the professionals. The introduction of minimum fees is justified by a belief that, given asymmetric information, consumers will not be able to tell apart good quality from bad quality suppliers. As a result, low-price/low-quality suppliers, it is argued, will benefit and high-quality suppliers will not be able to compete in the market. Another justification is that professionals need a reputation of solidity and independence and, if they do not earn enough, the trust

³¹ These are the OECD countries plus Brazil, China, India, Indonesia, South Africa and few others.

relationship with their clients may be put into question. Finally, minimum fees are considered important in public procurement where public administrations claim that they cannot identify a base price for their negotiation without it.

110. Even though provisions on minimum prices have been removed in many countries (see Figure 4.1), in the last few years there have still been interventions by competition authorities in this area.³² For example, the Commission for the Promotion of Competition in Costa Rica recommended removing the professional bodies' power to set minimum fees (Costa Rica, 2022^[74]), which led to the introduction of a bill to remove minimum fees in a number of professions (Costa Rica, 2023^[75]). Conversely, a 2023 law re-introduced them into Italian legislation for a broad set of professions.³³ The so-called fair compensation ("equo compenso") depends on parameters that take account of the quantity and quality of the work done, to be set in secondary legislation for the different professions. Maximum fees can also be found in professional services, often in conjunction with restrictions on the number of licences. For example, the Portuguese Autoridade da Concorrência advocated for the phasing out of maximum prices for notarial services, together with the removal of the quota system (OECD, 2018, p. 139^[9]).

111. There are a variety of rules that concern the legal form and the ownership of professional services firms. It is sometimes the case that only licensed individuals can own a firm. For instance, in some countries only pharmacists can own and manage a pharmacy, to ensure that they provide a personal service and that they act in the interest of the patient (OECD, 2014, p. 109^[10]). According to the OECD 2023/24 PMR dataset to be released in July 2024, countries that prevent non-licensed individuals from owning pharmacies are now a minority in the OECD, though, and among those that impose some restrictions it is common to allow non-pharmacists to own the minority of the business. Conversely, restrictions on ownership and on voting rights are still prevalent for law firms and notarial firms, where non-licensed professionals cannot own shares or vote. There are also requirements for specific legal forms. It is sometimes the case that only partnerships are allowed, while it is not possible to set up joint stock companies where non-licensed individuals hold shares, or where the majority of voting rights is held by non-licensed individuals.

112. The policy objective of these rules tends to be to preserve the independence of the professional in question and the adherence to the ethical standards of the profession. The underlying concern is that capital investors would pursue purely commercial objectives at the expense of high standards of service provision. These regulations involve downsides, though, such as excluding alternative business models and limiting outsiders' contribution in terms of innovation and, crucially, investment (OECD, 2018, pp. 96-101^[9]). Indeed, some services could be provided by professionals with alternative training (e.g. tax consulting services are typically provided by both accountants and lawyers) or using more innovative technologies (Hadfield, 2022^[44]).

113. Several recommendations about ownership and legal structure were made in (OECD, 2018^[9]) concerning a range of professions, such as lawyers, architects and engineers in Portugal. The report also recommended amending the restrictions on multidisciplinary professional societies and, thanks to the advocacy efforts of the Autoridade da Concorrência, the legislation was made more flexible (see Box 4.4). According to the OECD 2023/24 PMR dataset to be released in July 2024, partnerships or other forms of cooperation between professionals are often not allowed in the legal professions, while these restrictions are rarely imposed on other professions, such as accountants or engineers. Among the main improvements, the legislation now allows natural persons who do not hold a professional licence to be

³² Including enforcement cases, which however are out of scope for this Background Note, such as the Lithuanian Competition Council's decision against the Notary Council (Case C-128/21) and CADE case against the Brazilian Bar Association for setting a fee schedule for its members, <https://www.gov.br/cade/pt-br/assuntos/noticias/cade-sugere-condenacao-do-conselho-federal-da-ordem-dos-advogados-do-brasil>.

³³ Legge 21 aprile 2023, n. 49, <https://www.gazzettaufficiale.it/eli/id/2023/05/05/23G00051/sq>

partners, managers or directors of multidisciplinary professional societies.³⁴ Even if they are not licensed and members of the relevant professional body, under the same law they are bound by the ethical duties applicable to the exercise of the professions covered, which addresses the policy objectives mentioned above. Ownership restrictions in other professions were recently targeted by advocacy efforts also in Ireland, where the CCPC advocated against a bill that would make it illegal for corporates to own and manage a veterinary practice (CCPC, 2022^[76]).

Box 4.4. Conduct Regulation

Minimum Prices

In 2018, after a long process of advocacy efforts by the competition authority, Croatia adopted the Draft Road Safety Act. This new law allows driving schools to set prices independently. Previously, driving schools were obliged to set prices for a one hour driving lesson at least equal to a prescribed minimum. The authority had argued that such a practice prevented competition as the ability for individual operators to freely set prices is a basic prerequisite for a well-functioning competitive market.

Ownership Limitations

The profession of real estate agent is heavily regulated in Iceland, as reported in the 2020 OECD Competition Assessment Review. The PMR index for the country was 2.24 versus an average of 0.87 for OECD countries in 2018. In particular, the country has some of the toughest ownership regulations, requiring that all real estate agencies must be owned and administered by an authorised agent. Further, every office of an agency must be administered by an authorised agent, implying that to open a new branch there must be at least a second qualified realtor to oversee it. The OECD has stressed how ownership limitations can reduce investments and the emergence of new business models, ultimately reducing innovation. Further, it noted how such restrictions seem excessive to ensure consumer protection and that the quality of the service be sufficient, and that better instruments are available to achieve these goals. For example, stronger enforcement of consumer protection law, and rules for conflicts of interests for real estate agents. Thus, the OECD recommended that the ownership requirement be abolished.

Multidisciplinary Practices

Multidisciplinary practices are associations of different self-regulated professionals, organised in the same firm to supply different services to the market. Such associations are often restricted or outright banned. These bans are meant to avoid conflicts of interest, but harm competition in various ways, including foregone lower average costs, no possibility for economies of scope, and no benefits from convenient “one-stop shops” for clients. The 2018 OECD Competition Assessment of Portugal covered such restrictions in the context of professional firms, meaning restrictions or prohibitions of partnerships. Under Portuguese law multidisciplinary practices were allowed if “the main corporate objective is the exercise of a profession organised in a single professional public association, jointly or separately with the exercise of other professions or activities”. Given this, multidisciplinary activity was not allowed for legal firms as they had a single and exclusive corporate objective. Also, professional firms of accountants were not allowed to carry out multidisciplinary activities as the bylaws of the profession required firms to have a single objective. The OECD recommended that such prohibitions be removed. Thanks to the advocacy efforts of the Portuguese competition authority, the Portuguese parliament approved Law 12/2023. This guaranteed the maintenance of the general rule that multidisciplinary

³⁴ Law No. 64/2023, <https://files.diariodarepublica.pt/1s/2023/11/22400/0000400010.pdf>

activity is not prohibited and stated that individual bylaws and provisions of professional orders that prohibit them must be tested based on necessity and proportionality.

Note: The Product Market Regulation (PMR) indicator measures the degree to which policies promote or inhibit competition in markets for specific products or services. The score of the PMR indicator ranges between 0 and 6, low values indicate a more competition friendly regulatory regime. Sector specific measures are available only for 6 regulated professions: lawyers, notaries, accountants, architects, engineers, and real estate agents.

Sources:

Croatia (2019), Annual Report on Competition Policy Developments in Croatia: 2018, [https://one.oecd.org/document/DAF/COMP/AR\(2019\)43/en/pdf](https://one.oecd.org/document/DAF/COMP/AR(2019)43/en/pdf).

OECD (2020), OECD Competition Assessment Reviews: Iceland, OECD Competition Assessment Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/84785d3a-en>

OECD (2018), OECD Competition Assessment Reviews: Portugal: Volume II - Self-Regulated Professions, OECD Competition Assessment Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/9789264300606-en>

114. Restrictions to advertising often involve restrictions to professionals' ability to advertise their prices and to compare their services and the quality provided to those offered by other professionals. The rationale for advertising bans is similar to the logic underlying minimum prices. It is thought that advertising prices in regulated professions will lead to a "race to the bottom" where low-quality/low-price suppliers attract more consumers and drive out of the market high-quality suppliers (Competition Bureau, 2016^[77]). Furthermore, since the client-professional relationship is based on trust, advertisement, it is claimed, may weaken that trust. However, advertising restrictions risk being detrimental as they limit the information available to consumers and make switching less likely, which in turn decreases competitive pressure and increases prices. Finding the right balance between protecting consumers and promoting competition is going to be specific to the case at hand and on the actual impact of advertising restrictions on quality, prices and other market variables (Competition Bureau, 2016^[77]). An almost absolute ban on advertising is unlikely to deliver benefits, though, as argued by the Lithuanian Competition Council in its advocacy about the legal framework for notarial services (Lithuanian Competition Authority, 2021^[78]) and as found by the Supreme Court of Canada who "struck down a wide-scale prohibition on advertising" (Competition Bureau, 2016^[77]). An example of distortions related to advertising, even though not from an advocacy initiative, is the intervention of the Basque competition authority against a local dentists' association (Autoridad Vasca de la Competencia, 2016^[79]). The association ran an advertisement which raised doubts about the services provided by certain clinics and advised patients to visit "trusted" clinics and was fined by the competition authority.

4.5. Communicating and advocating for reform

115. In addition to the work on developing and issuing recommendations, competition authorities engage in several activities to advocate for reform and for the implementation of their pro-competitive recommendations. This advocacy work builds on more general communication activities describing the benefits of competition for consumers and the economy, as well as interactions with policy makers and professional bodies to build reputation and trust in the authority. It also complements them, by offering opportunities to deal with the business community outside enforcement cases and by developing ongoing co-operation with policy makers.

116. In the context of advocating for regulatory change, competition authorities target policy makers and professional bodies, to understand better the objectives of the regulation, to formulate less restrictive ways to achieve those objectives and to build consensus. For the latter, it is also important to invest in a media strategy that reaches the broader public, especially in countries where the general population is not especially aware of the benefits of competition. Overcoming resistance to change by professional bodies tends to be complicated, in light of the power that they sometimes accumulate in influencing policy (see

Section 2.2.2). A combination of different communications tools is likely to be valuable, as shown by the successful strategy of the Portuguese competition authority (Box 4.5).

Box 4.5. Advocating for pro-competitive reform in Portugal

The OECD and the Autoridade da Concorrência, in consultation with relevant stakeholders, conducted an extensive assessment of regulatory barriers in several professions and developed recommendations to make regulation more pro-competitive (OECD, 2018). At the end of the project, a launch event communicated the main findings and disseminated the recommendations.

In the past few years, the Autoridade has invested in a variety of advocacy activities to promote implementation, including participation in public events and conferences, and meetings with relevant stakeholders. Moreover, it issued an Action Plan setting out the priority recommendations and communicating the benefits of reform, focussing on the statutes of the professional associations and on requirements to access and exercise the professions (Autoridade da Concorrência, 2018). It has since issued several opinions on proposals for legislative amendments and on draft laws and regulations.

Thanks to these activities, many of the recommendations were implemented. The Follow-up of the Action Plan details these positive developments, as follows:

- Separation of regulatory and representative functions in public professional associations
- Amendment of internships (object, duration, evaluation model and associated costs) to make them more proportionate
- Reduction of barriers to multidisciplinary activities by professional societies
- Elimination of restrictions on ownership and management of professional societies

Sources:

Autoridade da Concorrência (2023), Competition in the Self-Regulated Liberal Professions - Follow-up of the AdC's Action Plan, https://www.concorrenca.pt/sites/default/files/processos/epr/Follow-up%20of%20the%20AdCs%20Action%20Plan_Self-regulated%20Liberal%20Professions.pdf.

Autoridade da Concorrência (2018), Action Plan, <https://www.concorrenca.pt/sites/default/files/documentos/Plano%20de%20A%C3%A7%C3%A3o%20para%20a%20Reforma%20Legislativa%20e%20Regulat%C3%B3ria%20Profiss%C3%B5es%20Autorreguladas%20Transportes.pdf>.

OECD (2018), OECD Competition Assessment Reviews: Portugal: Volume II - Self-Regulated Professions, OECD Competition Assessment Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/9789264300606-en>.

117. Advocating for the implementation of recommendations and monitoring regulatory changes is resource intensive. However, there are benefits to these activities. When competition authorities monitor the status of their recommendations, they can further advocate for their implementation and have an influence on draft legislation. For instance, based on an earlier market study on veterinary services, the Irish Competition and Consumer Protection Commission had an impact on draft legislation and contributed to improving access to training (see Box 4.2). In the UK, the Competition and Markets Authority (CMA) reviewed the status of implementation of its earlier 2016 recommendations and updated its recommendations (Competition and Markets Authority, 2020_[80]).

118. As an added benefit of monitoring, when recommendations are implemented and do have an impact, competition authorities can use the information to strengthen their reputation about relevance and impact. Ex-post evaluation typically focusses on enforcement decisions and does not concern opinions and recommendations for pro-competitive reform (OECD, 2023, p. 19_[81]). Nonetheless, any information about the qualitative and quantitative benefits from reform can be helpful and could be usefully included in authorities' annual reports.

119. Finally, competition authorities frequently issue guides and publications targeted at professional bodies and industry associations. These publications, however, focus on increasing awareness of competition law and promoting compliance (OECD, 2023, p. 7^[81]) and are therefore more relevant in an enforcement perspective than for the purposes of pro-competitive reform.

5. Technology and the future of the professions

120. Previous sections of this paper have identified a disconnect between the traditional policy justifications for the existence of professional regulations and occupational licensing, and the real-world outcomes across OECD members. Broadly, the policy landscape seems to create less competition and higher prices, with limited evidence that the strictness of current regulations meaningfully improve service quality or consumer satisfaction.

121. These concerns from a competition policy perspective connect to a broader critique that the *social contract* that underpins the existence of the professions is no longer fit for purpose in the 21st Century. This critique contests that access to the services of professionals is too expensive, is unnecessarily opaque, and that the service model is based on outdated ways of work with a high level of resistance to change, resulting in professions that are underperforming for many of their customers (Susskind and Susskind, 2022, p. 4_[3]).

122. Past OECD roundtables have extensively explored that where there are market failures in a sector of the economy (e.g. consumer dissatisfaction with prices or quality of goods and services), there are strong incentives to innovate (OECD, 2023_[82]; 2023_[83]; 2016_[7]; 2018_[8]). For the professions, the key questions are considering the extent to which technological innovations will impact these services markets, and the role professional regulation and occupational licensing will play in encouraging or limiting these developments (European Commission Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2021_[2]).

123. This section of the paper will explore the major technological innovations that may impact the way the professions and licensed occupations deliver services to consumers, and how consumers acquire these services. It will then connect this to the nature of regulatory reform that may be needed to best adapt the professions and occupations to new technologies.

5.1. Sustaining and disruptive innovation

124. When discussing technological innovation and the professions, it is useful to consider the typology of innovation described by Clayton Christensen, which differentiates between *sustaining* innovation and *disruptive* (also sometimes referred to as radical) innovation (Bower and Christensen, 1995_[84]). In the context of the professions, *sustaining* innovations are incremental steps that reflect the behaviour of regulated professionals using technology to improve upon existing services and maintain their incumbent position in a market.

125. Christensen contends *sustaining* innovations over time create markets where the services offered are too complex, expensive and sophisticated for a large part of the customer base (Bower and Christensen, 1995_[84]). In comparison, *disruptive* innovations are more irregular but bring about more radical change to markets. Disruptive innovations tend to “reduce or significantly alter market shares of incumbent firms in existing markets or create new markets and business models” (OECD, 2023, p. 7_[82])

(Bower and Christensen, 1995^[84]). This change could mean a transition from being only able to hire a professional to resolve a problem, to instead having a range of different digital products and services that could resolve the problem. A challenge for regulators of professions and occupations is ensuring new forms of competition through innovation are encouraged and invested in, and appropriately balanced against existing public policy justifications for licensing (Hadfield, 2022^[44]).

126. Nonetheless, it is difficult to assess the likelihood that a specific technological innovation will have a seismic impact on markets (or even create new ones), to what extent they may enhance or replace existing professional services, and how they may interact with existing licensing and regulatory regimes.

127. What can be more confidently observed is that digital technologies in the 21st Century are continuing to increase in their capacity to capture and utilise data across many areas of the economy (Susskind and Susskind, 2022^[3]). A particular focus for the largest technology firms currently is on developing tools that can solve problems and answer questions from individual users across a diverse range of areas of professional expertise, drawing on more data than any individual expert ever could utilise.

128. The technological innovation that is currently attracting the most attention in relation to the professions and occupations is Artificial Intelligence (“AI”). The most popular publicly available AI chat bot reached 100 million users in just under two months and became the fastest growing consumer internet app in history (Milmo, 2023^[85]). These recent developments build upon the already significant focus on AI among firms aiming to innovate in professions such as law, accounting and medicine (Legal Geek, 2023^[86]) (Glasner, 2024^[87]) (Y Combinator, 2024^[88]). When it comes to the future capabilities of AI (Susskind and Susskind, 2022, p. 206^[3]) observe:

the overall trajectory of technological advance is clear and of great importance for the professions—more and more tasks that once required human beings are being performed more productively, cheaply, easily, quickly, and to a higher standard by a range of systems.

5.2. Drivers of change

129. These technological innovations connect to broader trends in how the services of professionals are requested and how they are delivered, namely moving towards more routinised and proactive services. (Susskind and Susskind, 2022, pp. 130-136^[3]).

130. The first is a transition away from the work of the professions and occupations as a bespoke service. While historically, consumers have understood services as an indivisible lump of human labour, handcrafted or individually created by a trusted individual, today such work is highly *routinised* and broken up into discrete tasks, with systems in place to utilise large amounts of standard form materials prepared for use by all clients in a similar situation. Over time as technologies such as AI continue to advance, it is likely more and more of this work will be fully automated or merely supervised by human workers.

131. This transition from bespoke to increasingly routinised work also allows professionals and licensed occupations to be bypassed to some extent and no longer operate as gatekeepers of expertise. Working Party 2 has previously explored some forms of gatekeeping broken down by intra-professional competition — for example ridesharing apps like Uber competing with taxicab services, accountancy firms seeking to enter the market for the supply of legal services, or a wider range of healthcare professionals acquiring some of the rights previously the sole domain of doctors (OECD, 2016^[7]; 2018^[8]). Digital technology has already allowed new firms completely disconnected from traditional professionals to enter and compete for customers. These include automation tools that can generate customised legal documents for businesses at a fraction of the cost of retaining legal counsel. In healthcare, an array of websites can provide comprehensive explanations of illnesses and potential treatments, eschewing the traditional model of seeking an appointment with your local doctor.

132. A third trend is a move towards proactive services. In the past, the services of a professional were sought reactively, responding to a trigger — be it a toothache or tax bill. Technology has significantly advanced the capacity to embed professional expertise into processes and systems. This can include:

- Remote monitoring of patient data to track for warning signs of medical issues that would otherwise be undetected until too late for the most effective treatment (Guan et al., 2023^[89]).
- Accounting software with built in systems to detect risks which may be missed during audits (which are usually only conducted over a sample of transactions depending on the size of the firm) (Wolters Kluwer, 2024^[90]).

133. These drivers are all fundamentally driven by the immense cost pressures across many professions. Individuals, firms and governments are putting pressure on the professions to generally deliver more-for-less. These further drive demand for technological innovation, new competitors and disruption that can increase the efficiency and the accessibility of professional services and licensed occupations.

5.3. Future models of professional work and regulation

134. The title of a popular BBC News interactive tool asks the question that generally dominates the popular conversation surrounding technology and the future of the professions (and perhaps even all employment), *Will a Robot Take Your Job?* (Stylianou et al., 2015^[91]). Proponents frequently use historical analogies to argue that professions and occupations today will cease to exist due to AI, similar to the decline of many crafts and trades following the Industrial Revolution.

135. But this view, that robots or AI will replace humans in jobs (Miller and Cox, 2023^[92]) (CBC News, 2016^[93]), is perhaps too narrow. It fails to recognise that while many historically prominent crafts and trades are no longer necessary in the modern age (e.g. candle making), demand for their output (sources of lighting) are in real terms higher than any time in history (Susskind and Susskind, 2022, p. 260^[3]). Box 5.1 below considers a historical example relating to the accountancy profession.

Box 5.1. Accountancy and the introduction of spreadsheet software

VisiCalc, the first computer programme for spreadsheets was released in 1979. Widely thought of as the first *killer app* — software so useful that it alone was worth buying a computer — VisiCalc digitised the laborious process of constructing and calculating spreadsheets by hand and fundamentally changed the accounting profession.

In the US alone, there are now 400 000 fewer bookkeepers or accounting clerks than there were in 1980. Technology enabled professional accountants to rapidly decrease the cost and labour required to provide their services, whilst also increasing the sophistication of the analysis that could be provided. This in fact led to a marked increase in demand for accountancy services, so that there are now over 600 000 more accountants operating in the US than there were in 1980.

Sources:

Hartford, T. (2019), “50 Things That Made The Modern Economy – The Spreadsheet”, BBC Radio, <https://www.bbc.com/news/business-47802280>.

Goldstein, J. and D. Kestenbaum (2015), “Spreadsheets! - Planet Money Episode 606”, National Public Radio, New York, <https://www.npr.org/sections/money/2015/02/25/389027988/episode-606-spreadsheets>.

136. A more nuanced perspective is that in the medium term, many tasks within professions will be less likely to be performed by people. For example, consulting firm McKinsey estimates that by 2030 “activities

that account for up to 30 percent of hours currently worked across the US economy could be automated", with workers increasingly set to concentrate on the most sophisticated and complex advice giving part of their work (Ellingrud et al., 2023^[94]). Further, it is likely that professionals will need to be trained in skills and roles different to those we now see as a cornerstone of their profession; focused more on building and training systems rather than directly applying their labour to a customer's needs. In short, technology may not necessarily create mass unemployment in professions, but it may necessitate substantial redeployment, and may affect the skills and educational requirements for professions.

137. While it remains to be seen, what forms of rebalancing are likely to occur across professions, there are a range of options. Online communication tools and increasing digitisation could lead to a widespread adoption of multi-sided online platforms for seeking advice, sharing expertise, and acquiring the services of professionals in an ever-broader range of professions. Advances in AI could reach the stage where systems are built using the knowledge and expertise of experts, which are then deployed to assist or even replace professionals in a range of settings (European Commission Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2021^[2]) (Susskind and Susskind, 2022^[3]). Box 5.2 outlines recent research conducted by the EU that sought to better study the relationship between regulation of the professions and technological innovation.

Box 5.2. EU Study on the impact of regulatory environment on digital automation in professional services

The EU conducted a large survey across citizens in 12 EU member states working across the architecture, engineering, legal and accounting professions. The survey aimed to better understand the interaction between digital automation and the regulatory environment. It found:

- At present, professionals still see costs of adoption and lack of skills as the key barriers to digital automation in their professions. Regulatory constraints dictating how professions are to function and provide services are also perceived as obstacles.
- The largest firms with the highest revenue are those currently most focused on digital automation, and the tasks being automated still predominantly support processes common to all businesses (i.e. invoicing and payments).
- Some professions such as accounting and architecture see automation delivered by online service providers as a form of direct competition to their businesses given the significant amount of their work that has already been replaced by digital technologies. On the other hand, lawyers and engineers are more likely to view automation delivered by online service providers as a way of complementing their current offering.

Source:

European Commission Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (2021), The impact of regulatory environment on digital automation in professional services, EU Publications Office, Brussels, <https://data.europa.eu/doi/10.2873/529784>.

138. Questions on future models of the professions are likely to raise issues for competition authorities and policymakers. Among others, these may include:

- What changes may be necessary to occupational licensing or professional regulations to respond to firms that are able to compete to provide services in a profession by relying on the assistance of AI or other expert systems? This could include the relaxation of rules guaranteeing the exclusive rights of professions over time as expert systems become more useful and accessible. Training and qualification requirements may also need adapting to fully exploit new technologies. Competition authorities around the world played a role in this policy debate in relation to taxicab regulation following the advent of ride-sharing technologies, where historical requirements such as

route knowledge were no longer viewed as necessary as technologies such as GPS guidance and smartphone map apps became ubiquitous (OECD, 2018^[8]). It will also be important to understand if the changes to consumer preferences that occurred in the market for taxi services will apply in other professions or occupations.

- How might market concentration change in professions where a small number of firms may be able to design systems that competently complete many of the tasks currently done by professionals in that industry? Access to data and expertise could become viewed as key inputs when assessing competition dynamics in markets for services. If investments in new technologies are significant, smaller firms may not be able to compete with the market leaders and may fall behind.
- Do limits on market entry, the costs of compliance, and rules on non-professional or interdisciplinary ownership of firms reduce the incentive to innovate or invest in new technologies? These may become issues to more deeply examine when conducting competition assessments of regulation, as evidence from existing professions and occupations suggests firms are likely to seek to preserve their unique status in ways that may slow innovation and the adoption of technologies (OECD, 2016^[7]; 2018^[8]).
- Will there be a need to change rules regarding proscribed business models or corporate structures in markets where workers in a much wider range of professions can offer their services through online platforms rather than through a specific service provider? Competition dynamics that have been considered in the context of digital platforms such as two-sided markets, network effects and multihoming may become relevant to a far wider range of markets for services. This Working Party has previously considered whether ownership and investment restrictions in the legal sector were artificially limiting the ability of innovative firms to offer their services through online platforms (OECD, 2016^[7]). Traditional rules of ring-fencing or otherwise isolating professions from competitive pressure are no longer likely to be as effective as technology-focused disruptors enter markets.

139. The intersection of competition policy issues raised by new technologies is by no means unique to the topic of the professions and occupations. Past, present and future sessions of the Competition Committee will continue to explore how competition policy interacts with issues such as online privacy and data protection, generative artificial intelligence and social networking platforms.

6. Conclusions

140. Across OECD member countries, there has been an enormous growth in the number of jobs subject to professional regulations or occupational licensing requirements. While historically these rules applied to *liberal professions* such as lawyers and engineers or through trade guilds, today jobs such as hair braiders through to wine tasters are subject to government regulation depending on the jurisdiction. These regulatory hurdles can be established by laws or rules established by a jurisdiction, but also by professional bodies that have been granted regulatory functions by the state. Unjustified professional regulations and occupational licensing, going beyond what necessary to achieve their policy objectives, create limits on the supply within a market, restricting free competition.

141. The public policy basis for these interventions into the market are primarily driven by a desire to safeguard consumers from unsafe or otherwise poor quality service providers. This can be a particular challenge in the markets for services as consumers usually lack the ability to know about the quality of a service before and also sometimes after the service has been provided (often referred to as “credence goods”). The risk deriving from poor quality is especially severe in certain sectors, such as healthcare or constructions, where licensing is prevalent. In other occupations, however, the public interest rationale for licensing is less convincing. It is in these occupations that regulatory approaches diverge across countries largely diverge, suggesting that the rationale and evidence basis for regulating are not always robust.

142. This paper has outlined growing concerns and the body of evidence that argues that professional regulations and occupational licensing are being imposed in ways that are overly burdensome and without sufficient evidence they are an effective policy intervention. A primary concern is that the anticompetitive effects of such rules merely increase prices for consumers, limit access to professional opportunities for newcomers and do not meaningfully improve quality.

143. The paper also outlined a number of trends in relation to emerging technologies that are likely to impact the professions in the future. This includes reduced information asymmetries between consumers and professionals, new ways of professional expertise being created, and perhaps even the ability to rely on AI-driven expert systems to provide the services currently delivered by professionals.

144. With heightened levels of interest in regulatory impact analysis, there is scope for competition authorities to promote a common understanding with policy makers about regulatory barriers to competition and limit the extent of restrictive regulation by an ex-ante review through a competition lens. Promising areas for focussing advocacy activities could be those related to conduct regulation. For example, restrictions on ownership and organisational structure are frequent and can be relaxed without affecting entry requirements for professionals or the nature of licensing itself, which involve more detailed technical knowledge and assessment of risks. Even among entry requirements, it could be possible to introduce some flexibility, by allowing for different paths to access the profession.

145. The assessment of both existing and new professional regulations and occupational licensing rules would aim at identifying less restrictive ways to achieve policy objectives and make rules and regulations more pro-competitive.

References

- AGCM (2022), *Problemi Concorrenziali nell'Accesso all'Attività di Consulente Chimico di Porto in Alcuni Porti Italiani*, [71]
[https://www.agcm.it/dotcmsCustom/getDominoAttach?urlStr=192.168.14.10:8080/C12563290035806C/0/065F2CB815A01B08C125891F005434CC/\\$File/AS1878.pdf](https://www.agcm.it/dotcmsCustom/getDominoAttach?urlStr=192.168.14.10:8080/C12563290035806C/0/065F2CB815A01B08C125891F005434CC/$File/AS1878.pdf).
- AGCM (2018), *Disposizioni che Determinano Disparità di Trattamento delle Guide Turistiche in Funzione dell'Ambito Regionale in cui Hanno Conseguito l'Abilitazione*, [72]
[https://www.agcm.it/dotcmsCustom/getDominoAttach?urlStr=192.168.14.10:8080/C12563290035806C/0/AB3756AFE755C144C1258368003847FA/\\$File/AS1549.pdf](https://www.agcm.it/dotcmsCustom/getDominoAttach?urlStr=192.168.14.10:8080/C12563290035806C/0/AB3756AFE755C144C1258368003847FA/$File/AS1549.pdf).
- Allied Tube Corp v Indian Head Inc 486 US 492 (1988), . [28]
- Anderson, D. et al. (2016), "The effect of occupational licensing on consumer welfare: Early midwifery laws and maternal mortality", *NBER Working Paper 22456*, [103]
<http://www.nber.org/papers/w22456>.
- Athanassiou, E. et al. (2015), "The effects of liberalization of professional requirements in Greece", *Centre of Planning and Economic Research (KEPE)*, [41]
<http://www.ec.europa.eu/DocsRoom/documents/13363/attachments/1/translations/en/renditions/native>.
- Autoridad Vasca de la Competencia (2016), *COMPETENCIA MULTA CON 250.000 EUROS AL COLEGIO DE DENTISTAS DE ÁLAVA Y CON 10.000 EUROS A SU PRESIDENTE POR UNA INFRACCIÓN MUY GRAVE CONTRA LA LEY DE LA COMPETENCIA*, [79]
https://www.euskadi.eus/contenidos/informacion/dosier_de_prensa/es_publico/adjuntos/nota%20de%20prensa%20odont%C3%B3logos23112016%20AVC.pdf.
- Autoridade da Concorrência (2023), *Competition in the Self-Regulated Liberal Professions - Follow-up of the AdC's Action Plan*, [121]
https://www.concorrencia.pt/sites/default/files/processos/epr/Follow-up%20of%20the%20AdCs%20Action%20Plan_Self-regulated%20Liberal%20Professions.pdf.
- Autoridade da Concorrência (2022), *Comentários e recomendação à proposta da Ordem dos Advogados que visa promover a alteração do requisito da formação académica para a inscrição no estágio de advogado*, [64]
<https://www.concorrencia.pt/sites/default/files/processos/epr/Coment%C3%A1rios%20e%20Recomenda%C3%A7%C3%A3o%20da%20AdC%20C3%A0%20proposta%20da%20OAA%20de%20altera%C3%A7%C3%A3o%20do%20EOA%20quanto%20ao%20requisito%20acad%C3%A9mico%20de%20acesso%20ao%20est%>.

- Autoridade da Concorrência (2018), *Action Plan*, [120]
<https://www.concorrencia.pt/sites/default/files/documentos/Plano%20de%20A%C3%A7%C3%A3o%20para%20a%20Reforma%20Legislativa%20e%20Regulat%C3%B3ria%20Profiss%C3%B5es%20Autorreguladas%20Transportes.pdf>.
- Autorité de la Concurrence (2021), “Assessment and prospects of opening up the French notarial profession to competition in 2015”, *Presentation at the OECD Workshop on Regulatory Barriers to Competition in Professional Services*, [https://web-archive.oecd.org/2021-11-15/614015-Reform-of-the-regulation-of-notaries-in-France-and-its-impact.pdf](https://web.archive.oecd.org/2021-11-15/614015-Reform-of-the-regulation-of-notaries-in-France-and-its-impact.pdf). [73]
- Autorité de la concurrence (2023), *Avis 23-A-10 du 07 juillet 2023*, [117]
<https://www.autoritedelaconcurrence.fr/fr/avis/23-a-10-relatif-la-liberte-dinstallation-des-notaires-et-une-proposition-de-carte-revisee-des-zones-1>.
- Autorité de la concurrence (2021), *Freedom of establishment of notaries, court bailiffs and judicial auctioneers: proposed maps for 2021-2023*, [116]
<https://www.autoritedelaconcurrence.fr/en/communiqués-de-presse/freedom-establishment-notaries-court-bailiffs-and-judicial-auctioneers>.
- Bambalaite, I., G. Nicoletti and C. von Rueden (2020), “Occupational entry regulations and their effects on productivity in services: Firm-level evidence”, *OECD Economics Department Working Papers*, No. 1605, OECD Publishing, Paris, <https://doi.org/10.1787/c8b88d8b-en>. [1]
- Basso, G. et al. (2021), “Quality and selection in regulated professions”, *CEPR Discussion Paper No. 15674*, <https://cepr.org/publications/dp15674>. [52]
- Blair, P. and B. Chung (2019), “How Much of Barrier to Entry is Occupational Licensing?”, *British Journal of Industrial Relations*, Vol. 57/4, pp. 919-943, <https://doi.org/10.1111/bjir.12470>. [36]
- Blair, P. and M. Fisher (2022), “Does occupational licensing reduce value creation on digital platforms?”, *NBER Working Paper 30388*, [97]
https://www.nber.org/system/files/working_papers/w30388/w30388.pdf.
- Bower, J. and C. Christensen (1995), “Disruptive Technologies: Catching the Wave”, *Harvard Business Review*, Vol. 73/43. [84]
- Brinegar, P. and K. Schmitt (1992), *State Occupational and Professional Licensure*, Council of State Governments, Lexington Kentucky. [22]
- Canton, E., D. Ciriaci and I. Solera (2014), “The economic impact of professional services liberalisation”, *Economic Papers* 533, [46]
https://ec.europa.eu/economy_finance/publications/economic_paper/2014/pdf/ecp533_en.pdf
- CBC News (2016), “2% of Canadian jobs at high risk of being affected by automation, new study suggests”, *Canadian Broadcasting Corporation*, [93]
<https://www.cbc.ca/news/business/automation-job-brookfield-1.3636253>.
- CCPC (2022), *CCPC Annual Report: 2021*, <https://www.ccpc.ie/business/wp-content/uploads/sites/3/2022/07/2022.07.25-CCPC-Annual-Report-2021-Final.pdf>. [76]
- CNMC (2023), *Técnico Competent ingeniero de Minas - Instalación Eléctrica Baja Tensión Ciusas Real*, <https://www.cnmc.es/sites/default/files/5034283.pdf>. [118]

- COFECE (2016), "Miscelánea de Obstáculos Regulatorios a la Competencia", *Análisis de la Normativa Estatal*, [69]
https://www.cofece.mx/cofece/images/promocion/miscelanea_estatal_210916.pdf.
- Competition and Markets Authority (2020), *Review of the legal services market study in England and Wales*, [80]
https://assets.publishing.service.gov.uk/media/5fd9e53cd3bf7f40ccb335e1/Legal_Services_Review_-_Final_report.pdf.
- Competition Bureau (2016), *Advertising Restrictions: a Report*, [77]
<https://ised-isde.canada.ca/site/competition-bureau-canada/en/how-we-foster-competition/education-and-outreach/publications/advertising-restrictions#summary>.
- Costa Rica (2023), *Annual Report on Competition Policy Developments in Costa Rica: 2022*, [75]
[https://one.oecd.org/document/DAF/COMP/AR\(2023\)7/en/pdf](https://one.oecd.org/document/DAF/COMP/AR(2023)7/en/pdf).
- Costa Rica (2022), *Annual Report on Competition Policy Developments in Costa Rica: 2021*, [74]
[https://one.oecd.org/document/DAF/COMP/AR\(2022\)7/en/pdf](https://one.oecd.org/document/DAF/COMP/AR(2022)7/en/pdf).
- Coughlan, S. (2023), "Harvard plans to boldly go with 'Spocs'", *BBC News*, [105]
<https://www.bbc.com/news/business-24166247>.
- Croatia (2023), *Annual Report on Competition Policy Developments in Croatia: 2022*, [68]
[https://one.oecd.org/document/DAF/COMP/AR\(2023\)43/en/pdf](https://one.oecd.org/document/DAF/COMP/AR(2023)43/en/pdf).
- Croatia (2019), *Annual Report on Competition Policy Developments in Croatia: 2018*, [119]
[https://one.oecd.org/document/DAF/COMP/AR\(2019\)43/en/pdf](https://one.oecd.org/document/DAF/COMP/AR(2019)43/en/pdf).
- Decker, C. (2021), *Reform and 'modernisation' of legal services in England and Wales: motivations, impacts and insights for the PMR indicators*, [70]
<https://www.oecd.org/economy/reform/Reform-and-modernisation-of%20legal-services-in-England-and-Wales.pdf> (accessed on 15 April 2024).
- Ellingrud, K. et al. (2023), "Generative AI and the future of work in America", *McKinsey Center for Government*, [94]
<https://www.mckinsey.com/mgi/our-research/generative-ai-and-the-future-of-work-in-america#/>.
- European Commission (2022), *Guidance on the Assessment of Proportionality Pursuant to Directive 2018/958 on a Proportionality Test Before the Adoption of New Regulation of Professions*, [59]
<https://data.europa.eu/doi/10.2873/825625>.
- European Commission (2021), *Communication on taking stock of and updating the reform recommendations for regulation in professional services of 2017*, [16]
<https://ec.europa.eu/docsroom/documents/46053>.
- European Commission Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (2021), *The impact of regulatory environment on digital automation in professional services*, EU Publications Office, Brussels, [2]
<https://data.europa.eu/doi/10.2873/529784>.
- Farronato, C. et al. (2023), *Consumer Protection in an Online World: An Analysis of Occupational Licensing*. [40]

- Furman, J. (2015), "Occupational Licensing and Economic Rents", *Remarks at the Brookings Institution*, https://obamawhitehouse.archives.gov/sites/default/files/page/files/20151102_occupational_licensing_and_economic_rents.pdf. [19]
- Gittleman, M., M. Klee and M. Kleiner (2017), "Analyzing the Labor Market Outcomes of Occupational Licensing", *Industrial Relations: A Journal of Economy and Society*, Vol. 57/1, pp. 57-100, <https://doi.org/10.1111/irel.12200>. [34]
- Glasner, J. (2024), "AI Will Be Doing More Accounting If Startup Investors Have Their Way", *CrunchBase News*, <https://news.crunchbase.com/ai/accounting-startup-investors-datasnipper/>. [87]
- Goldin, C. and L. Katz (2016), "A Most Egalitarian Profession: Pharmacy and the Evolution of a Family-Friendly Occupation", *Journal of Labor Economics*, Vol. 34/3, pp. 705-746, <https://doi.org/10.1086/685505>. [54]
- Goldstein, J. and D. Kestenbaum (2015), "Spreadsheets! - Planet Money Episode 606", *National Public Radion, New York*, <https://www.npr.org/sections/money/2015/02/25/389027988/episode-606-spreadsheets>. [113]
- Government of South Australia (2016), *Attorney-General's Department Annual Report 2015-16*, <https://www.agd.sa.gov.au/documents/annual-reports/2015-16-agd-annual-report.pdf>. [62]
- Guan, Z. et al. (2023), "Artificial intelligence in diabetes management: Advancements, opportunities, and challenges", *Cell Reports on Medicine*, Vol. 4/10, <https://doi.org/10.1016%2Fj.xcrm.2023.101213>. [89]
- Hadfield, G. (2022), "Legal Markets", *Journal of Economic Literature*, Vol. 60/4, pp. 1264-1315, <https://doi.org/10.1257/jel.20201330>. [44]
- Hartford, T. (2019), "50 Things That Made The Modern Economy – The Spreadsheet", *BBC Radio*, <https://www.bbc.com/news/business-47802280>. [112]
- Hermansen, M. (2019), "Occupational licensing and job mobility in the United States", *OECD Economics Department Working Papers*, No. 1585, OECD Publishing, Paris, <https://doi.org/10.1787/4cc19056-en>. [39]
- Hotz, V. and M. Xiao (2011), "The Impact of Regulations on the Supply and Quality of Care in Child Care Markets", *American Economic Review*, Vol. 101/5, pp. 1775-1805, <https://doi.org/10.1257/aer.101.5.1775>. [55]
- International Telecommunications Union (2023), *Measuring Digital Development – Facts and Figures 2023*, <https://www.itu.int/itu-d/reports/statistics/facts-figures-2023>. [109]
- Johnson, J. and M. Kleiner (2020), "Is Occupational Licensing a Barrier to Interstate Migration?", *American Economic Journal: Economic Policy*, Vol. 12/3, pp. 347-373, <https://doi.org/10.1257/pol.20170704>. [47]
- KFTC (2023), *Announcement of results of improvement of anti-competitive regulations in 2023*, http://www.ftc.go.kr/www/selectReportUserView.do?key=10&rptype=1&report_data_no=10328. [65]

- KFTC (2020), *Promoting measures to improve restrictive competition regulations in 2020*, [66]
https://www.ftc.go.kr/www/selectReportUserView.do?key=10&rpttype=1&report_data_no=8892.
- Kleiner, M. (2017), "The influence of occupational licensing and regulation", *IZA World of Labor*, [24]
 Vol. 392, <https://doi.org/10.1585/izawol.392>.
- Kleiner, M. (2015), "Reforming Occupational Licensing Policies", *Retrieved from the University of Minnesota Digital Conservancy*, [56]
<https://hdl.handle.net/11299/190817>.
- Kleiner, M. (2006), *Licensing Occupations: Ensuring Quality or Restricting Competition?*, W.E. [95]
 Upjohn Institute, <https://doi.org/10.17848/9781429454865>.
- Kleiner, M. (2000), "Occupational Licensing", *Journal of Economic Perspectives*, Vol. 14/4, [102]
 pp. 189-202, <https://doi.org/10.1257/jep.14.4.189>.
- Kleiner, M. and A. Krueger (2013), "Analyzing the Extent and Influence of Occupational [18]
 Licensing on the Labor Market", *Journal of Labor Economics*, Vol. 31/S1, pp. S173-S202,
<https://doi.org/10.1086/669060>.
- Kleiner, M. and R. Kudrle (2000), "Does Regulation Affect Economic Outcomes? the Case of [37]
 Dentistry", *The Journal of Law and Economics*, Vol. 43/2, pp. 547-582,
<https://doi.org/10.1086/467465>.
- Kleiner, M. et al. (2016), "Relaxing Occupational Licensing Requirements: Analyzing Wages and [38]
 Prices for a Medical Service", *The Journal of Law and Economics*, Vol. 59/2, pp. 261-291,
<https://doi.org/10.1086/688093>.
- Kleiner, M. and E. Soltas (2023), "A Welfare Analysis of Occupational Licensing in U.S. States", [26]
Review of Economic Studies, Vol. 90/5, pp. 2481-2516,
<https://doi.org/10.1093/restud/rdad015>.
- Kleiner, M. and E. Vortnikov (2017), "Analyzing occupational licensing among the states", [23]
Journal of Regulatory Economics, Vol. 52/2, pp. 132-158, <https://doi.org/10.1007/s11149-017-9333-y>.
- Koumenta, M. and M. Pagliero (2019), "Occupational Regulation in the European Union: [35]
 Coverage and Wage Effects", *British Journal of Industrial Relations*, Vol. 57/4, pp. 818-849,
<https://doi.org/10.1111/bjir.12441>.
- Koumenta, M. and M. Pagliero (2016), "Measuring Prevalence and Labour Market Impacts of [20]
 Occupational Regulation in the EU", *European Commission, Directorate-General for Internal
 Market, Industry*, Vol. Invitation to Tender no. 483/PP/GRP/IMA/15/15121,
<https://ec.europa.eu/docsroom/documents/20362/>.
- Koumenta, M., M. Pagliero and D. Rostam-Afschar (2018), "Effects of regulation on service [42]
 quality – Evidence from six European cases", *European Commission, Directorate-General for
 Internal Market, Industry, Entrepreneurship and SMEs*,
<https://data.europa.eu/doi/10.2873/910094>.
- Lanz, R. and A. Maurer (2015), *Services and Global Value Chains — Some evidence on [17]
 Servicification of Manufacturing and Services Networks*, World Trade Organisation, Geneva,
https://www.wto.org/english/res_e/reser_e/ersd201503_e.htm.

- Larsen, B. et al. (2020), "The effect of occupational licensing stringency on the teacher quality distribution", *NBER Working Paper 28158*, <http://www.nber.org/papers/w28158>. [45]
- Law, M. and M. Marks (2009), "Effects of Occupational Licensing Laws on Minorities: Evidence from the Progressive Era", *The Journal of Law and Economics*, Vol. 52/2, pp. 351-366, <https://doi.org/10.1086/596714>. [53]
- Legal Geek (2023), *The Legal Geek Startup Map*, <https://www.legalgeek.co/startup-map/>. [86]
- Lithuanian Competition Authority (2021), "Regulatory barriers to competition in professional services", *Note by the Lithuanian Competition Authority*, <https://www.oecd.org/economy/reform/Regulatory-barriers-to-competition-in-professional-services.pdf>. [78]
- Love, J. and F. Stephen (1996), "Advertising, Price and Quality in Self-Regulating Professions: A Survey", *International Journal of the Economics of Business*, Vol. 3, pp. 227-247. [32]
- Miller, C. and C. Cox (2023), "In Reversal Because of AI, Office Jobs Are Now More at Risk", *The New York Times*, <https://nytimes.com/2023/08/24/upshot/artificial-intelligence-jobs.html>. [92]
- Milmo, D. (2023), "ChatGPT reaches 100 million users two months after launch", *The Guardian*, <https://theguardian.com/technology/2023/feb/02/chatgpt-100-million-users-open-ai-fastest-growing-app>. [85]
- Mocetti, S., G. Roma and E. Rubolino (2020), "Knocking on Parents' Doors", *Journal of Human Resources*, Vol. 57/2, pp. 525-554, <https://doi.org/10.3368/jhr.57.2.0219-10074r2>. [51]
- Monteagudo, J., A. Rutkowski and D. Lorenzoni (2012), "The economic impact of the Services Directive: A first assessment following implementation", *Economic Papers 456*, https://ec.europa.eu/economy_finance/publications/economic_paper/2012/pdf/ecp_456_en.pdf. [57]
- Morikawa, M. (2018), "Occupational licenses and labor market outcomes in Japan", *Japan and the World Economy*, Vol. 48, pp. 45-56, <https://doi.org/10.1016/j.japwor.2018.07.002>. [96]
- Morrissey, J. (2023), "Using Technology to Tailor Lessons to Each Student", *The New York Times*, <https://www.nytimes.com/2020/09/29/education/schools-technology-future-pandemic.html>. [111]
- New South Wales Productivity Commission (2021), *Productivity Commission White Paper: Rebooting the Economy*, <https://www.productivity.nsw.gov.au/sites/default/files/2022-04/Productivity-Commission-White-Paper-2021.pdf>. [63]
- OECD (2023), "Communication by Competition Authorities: Objectives and Tools", *OECD Competition Policy Roundtable Background Note*, <https://www.oecd.org/daf/competition/communication-by-competition-authorities-objectives-and-tools-2023.pdf>. [81]
- OECD (2023), "Competition and Innovation: A Theoretical Perspective", *OECD Competition Policy Roundtable Background Note*, <https://www.oecd.org/daf/competition/competition-and-innovation-a-theoretical-perspective-2023.pdf>. [82]
- OECD (2023), *OECD Competition Assessment Reviews: Tunisia 2023*, OECD Competition Assessment Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/a80cda01-en>. [11]

- OECD (2023), "The Role of Innovation in Competition Enforcement", *OECD Competition Policy Roundtable Background Note*, <https://www.oecd.org/daf/competition/the-role-of-innovation-in-competition-enforcement-2023.pdf>. [83]
- OECD (2021), "Methodologies to Measure Market Competition", *OECD Competition Policy Background Note*, <https://www.oecd.org/daf/competition/methodologies-to-measure-market-competition-2021.pdf>. [99]
- OECD (2021), *OECD Competition Assessment Reviews: Logistics Sector in ASEAN*, OECD Competition Assessment Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/2dcba34b-en>. [12]
- OECD (2021), "Trade policy implications of global value chains: Preliminary observations from the 2021 TiVA database", *OECD Trade Policy Brief*, <https://www.oecd.org/trade/topics/global-value-chains-and-trade/documents/trade-in-value-added-2021.pdf>. [14]
- OECD (2020), *OECD Competition Assessment Reviews: Iceland*, OECD Competition Assessment Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/84785d3a-en>. [13]
- OECD (2019), "Barriers to Exit", *OECD Competition Policy Roundtable Background Note*, [https://one.oecd.org/document/DAF/COMP\(2019\)15/en/pdf](https://one.oecd.org/document/DAF/COMP(2019)15/en/pdf). [98]
- OECD (2019), *Competition Assessment Toolkit: Volume 3. Operational Manual*, <http://www.oecd.org/competition/toolkit>. [58]
- OECD (2019), *OECD Competition Assessment Reviews: Tunisia*, <http://www.oecd.org/daf/competition/competition-assessment-reviews-tunisia.htm>. [67]
- OECD (2018), *OECD Competition Assessment Reviews: Portugal: Volume II - Self-Regulated Professions*, OECD Competition Assessment Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/9789264300606-en>. [9]
- OECD (2018), "Taxi, ride-sourcing and ride-sharing services", *OECD Competition Policy Background Note*, [https://one.oecd.org/document/DAF/COMP/WP2\(2018\)1/en/pdf](https://one.oecd.org/document/DAF/COMP/WP2(2018)1/en/pdf). [8]
- OECD (2017), *OECD Competition Assessment Reviews: Greece 2017*, OECD Competition Assessment Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/9789264088276-en>. [115]
- OECD (2016), *OECD Competition Assessment Reviews: Romania*, OECD Competition Assessment Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/9789264257450-en>. [61]
- OECD (2016), "Protecting and Promoting Competition in Response to "Disruptive" Innovations in Legal Services", *OECD Competition Policy Background Note*, [https://one.oecd.org/document/DAF/COMP/WP2\(2016\)1/en/pdf](https://one.oecd.org/document/DAF/COMP/WP2(2016)1/en/pdf). [7]
- OECD (2014), "Doctors' consultations 2014/1", *Health: Key Tables from OECD*, <https://doi.org/10.1787/doctorconsult-table-2014-1-en>. [114]
- OECD (2014), *OECD Competition Assessment Reviews: Greece*, OECD Competition Assessment Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/9789264206090-en>. [10]
- OECD (2013), "Role and measurement of quality in competition analysis", *OECD Competition Policy Background Note*, <https://www.oecd.org/daf/competition/Quality-in-competition-analysis-2013.pdf>. [43]

- OECD (2009), "Competition and Regulation in Auditing and Related Professions", *OECD Competition Policy Background Note*, <https://www.oecd.org/daf/competition/44762253.pdf>. [4]
- OECD (2007), "Competitive Restrictions in Legal Professions", *OECD Competition Policy Background Note*, <https://www.oecd.org/daf/competition/40080343.pdf>. [5]
- OECD (2004), "Enhancing Beneficial Competition in the Health", *OECD Competition Policy Background Note*, <https://www.oecd.org/daf/competition/35910986.pdf>. [6]
- OECD (2000), "Competition in Professional Services", *OECD Competition Policy Background Note*, <https://www.oecd.org/daf/competition/1920231.pdf>. [29]
- Pindyck, R. and D. Rubinfeld (1998), *Microeconomics, 4th Edition*, Prentice-Hall, London. [30]
- Posner, R. (1974), "Theories of Economic Regulation", *Bell Journal of Economics and Management Science*, Vol. 5, pp. 335-58. [31]
- Productivity Commission (2023), "5-year Productivity Inquiry: A more productive labour market", *Inquiry report no. 100*, <https://www.pc.gov.au/inquiries/completed/productivity/report/productivity-volume7-labour-market.pdf>. [21]
- Ramseyer, J. and E. Rasmusen (2010), "Comparative Litigation Rates", *The Harvard John M. Olin Discussion Paper Series, Discussion Paper No 681*, http://www.law.harvard.edu/programs/olin_center/papers/pdf/Ramseyer_681.pdf. [107]
- Rojek, M. and M. Masior (2016), "The Effects of Reforms Liberalising Professional Requirements in Poland", *Report for the European Commission*, <http://ec.europa.eu/DocsRoom/documents/20883/attachments/1/translations/en/renditions/native>. [49]
- Roose, K. (2023), "How ChatGPT Kicked Off an A.I. Arms Race", *The New York Times*, <https://www.nytimes.com/2023/02/03/technology/chatgpt-openai-artificial-intelligence.html>. [110]
- Rostam-Afschar, D. (2013), "Entry regulation and entrepreneurship: a natural experiment in German craftsmanship", *Empirical Economics*, Vol. 47/3, pp. 1067-1101, <https://doi.org/10.1007/s00181-013-0773-7>. [101]
- Runst, P. et al. (2018), "A replication of 'Entry regulation and entrepreneurship: a natural experiment in German craftsmanship'", *Empirical Economics*, Vol. 56/6, pp. 2225-2252, <https://doi.org/10.1007/s00181-018-1457-0>. [100]
- Schön, D. (1988), *Educating the Reflective Practitioner*, Jossey-Bass Press, San Francisco. [104]
- Stolfi, F. and N. Papamakariou (2021), "Border clashes: the distributive politics of professional liberalisation in Greece, 2010–2018", *Journal of Public Policy*, Vol. 41, pp. 90-110. [33]
- Stylianou, N. et al. (2015), "Will a robot take your job?", *BBC News*, <https://bbc.com/news/technology-34066941>. [91]
- Susskind, R. and D. Susskind (2022), *The Future of the Professions (Updated Edition)*, Oxford University Press. [3]

- Thum-Thysen, A. and E. Canton (2017), “Estimating mark-ups and the effect of product market regulations in selected professional services: a firm-level analysis”, *Discussion Paper 047*, <https://doi.org/10.2765/672172>. [50]
- Thum-Thysen, A. and E. Canton (2015), “Estimation of service sector mark-ups determined by structural reform indicators”, *European Economy Economic Papers No. 547*, <http://https://data.europa.eu/doi/10.2765/575573>. [122]
- UNCTAD (2017), *The Servicification of Global Value Chains: Evidence and Policy Implications*, https://unctad.org/system/files/non-official-document/c1mem5_2017_124_S3_Miroudot_2.pdf. [15]
- United Kingdom Civil Justice Council (2015), “Online Dispute Resolution for Low Value Civil Claims”, *Online Dispute Resolution Advisory Group*, <https://www.judiciary.uk/related-offices-and-bodies/advisory-bodies/cjc/previous-work/disputeresolution/online-dispute-resolution/odr-report-february-2015/>. [108]
- US Office of Information and Regulatory Affairs (2023), *Guidance on Accounting for Competition Effects when Developing and Analyzing Regulatory Actions*, <https://www.whitehouse.gov/wp-content/uploads/2023/10/RegulatoryCompetitionGuidance.pdf>. [60]
- Vitale, C. et al. (2020), *The 2018 edition of the OECD PMR indicators and database: Methodological improvements and policy insights*, <https://doi.org/10.1787/18151973>. [27]
- von Rueden, C. and I. Bambalaite (2020), “Measuring occupational entry regulations: A new OECD approach”, *OECD Economics Department Working Papers*, No. 1606, OECD Publishing, Paris, <https://doi.org/10.1787/296dae6b-en>. [25]
- WebMD (2015), *WebMD Announces Fourth Quarter and Year End Financial Results*, <https://www.webmd.com/corporate/press/20150224/webmd-announces-fourth-quarter-and-year-end-financial-results-2>. [106]
- White House (2015), *Occupational Licensing: A Framework for Policymakers*, https://obamawhitehouse.archives.gov/sites/default/files/docs/licensing_report_final_nonembargo.pdf. [48]
- Wolters Kluwer (2024), “TeamMate Analytics for Audit”, *Wolters Kluwer*, <https://www.wolterskluwer.com/en/solutions/teammate/teammate-analytics>. [90]
- Y Combinator (2024), *Medical Diagnostics Startups funded by Y Combinator 2024*, <https://www.ycombinator.com/companies/industry/diagnostics>. [88]