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ABSTRACT

Five Facts on Non-Compete and Related Clauses in OECD Countries

Restraints clauses that prevent workers from joining (or starting) a competing firm (non-compete clauses), the disclosure of confidential information or the poaching of former co-workers or clients are traditionally justified to protect legitimate business interests (e.g. trade secrets, investments in training). Yet, there are increasing concerns that such clauses may be deployed to suppress job mobility and competition. This paper reviews the international evidence base and finds that non-compete clauses are more prevalent than anticipated, with up to one-quarter of employees subject to such clauses in some countries. These clauses extend beyond highly paid professionals to include low-wage and elementary workers, often bundled with other restrictions, further diminishing workers' bargaining power. The balance of evidence suggests that non-compete clauses suppress job mobility, firm entry, innovation, wages and productivity, which more than offset any gains from enhanced incentives for firm-specific investment. Regulatory efforts to limit non-compete clauses are gaining traction in some countries but comprehensive empirical evidence remains scarce outside the United States, underscoring the need for more research.

JEL Classification: J31, J41, J42, L40

Keywords: non-compete clauses, monopsony, earnings, knowledge diffusion, mobility

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1. Introduction

Over the past 20 years, the productivity slowdown – underpinned by lower rates of job mobility, firm entry and knowledge diffusion – has been accompanied by rising concerns over wage bargaining power in many OECD countries. One factor that could help explain these headwinds is the rising use of post-employment restraint clauses, which prevent workers from joining (or starting) a competing firm (non-compete clauses); the disclosure of confidential information; or the poaching of former co-workers or clients. While the use of such restraints has traditionally been justified on the basis that they protect legitimate business interests (e.g. trade secrets), there are increasing concerns that they are being deployed to stifle job mobility and competition (OECD, 2019[1]). Indeed, the balance of evidence – mostly from the United States – suggests that non-compete clauses suppress job mobility, firm entry, innovation, wages and productivity, which more than offset any gains from enhanced incentives to invest in worker training.

Although the debate between these two opposing views has gained prominence in recent years thanks to a multitude of initiatives taken in the United States to restrict the use of non-compete clauses or to ban them altogether, it is a discussion that dates back to the Middle Ages (see Box 1 for a brief history of non-compete clauses). The first known case of a non-compete clause took place in England in 1414, when a young apprentice, John Dyer, who had promised to refrain from practising his trade for six months in the town where he was being trained, was taken to court by his master. Although the non-compete clause was struck down in that first case, such clauses began to be upheld in the XVII century. Since then, legislation and case law have oscillated between a more lenient approach, in line with the traditional view, and a stricter one, more in line with concerns about their negative effects. However, the recent evidence base on their prevalence and use in the United States is tipping the balance, with policymakers becoming more concerned about excessive and inappropriate restrictions on workers' freedom.

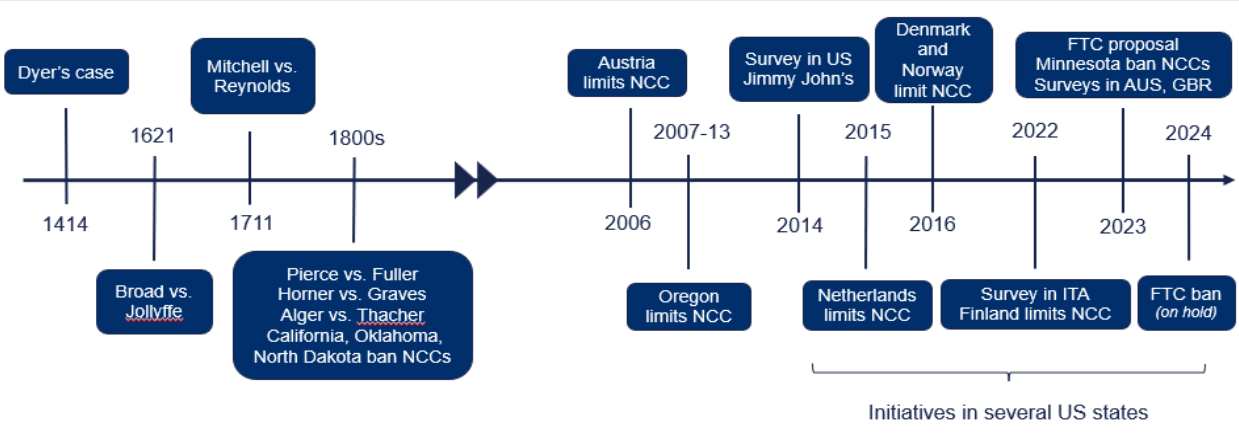
Beyond the United States, the evidence available for a limited number of other OECD countries is not necessarily comparable, but it suggests that the prevalence of non-compete and related clauses is surprisingly high and have spread to low wage occupations (e.g. fast-food workers, hairdressers, childcare workers) that are difficult to reconcile with the traditional view. These patterns hold in labour markets that are typically more flexible (e.g. Australia and the United Kingdom) as well as those that are more regulated (e.g. Austria and Italy). And non-compete and related clauses do not have to be tested in court to have an economic impact, since many workers report turning down a job offer from a competing firm, even though they work in jurisdictions where non-competes are unenforceable. But for most OECD countries, empirical evidence on the prevalence of non-compete and related clauses and their economic consequences remains scarce.

This paper provides an overview of the existing evidence base, ahead of a new OECD initiative that aims to provide harmonised cross-country empirical evidence on the prevalence of restraint clauses in selected OECD countries. Without attempting to provide a comprehensive summary of the literature, it identifies five common themes relating to the prevalence of such clauses, their distribution across the economy, the way in which they tend to be bundled together, their economic impact and recent policy interventions to limit their use. The paper is structured as follows. Section 2 discusses the main economics arguments in favour and against the use of contractual clauses regulating post-employment activity. Section 3 reviews the empirical evidence on non-compete and related clauses in OECD countries and summarises the common themes from this literature in the form of five key facts. Section 4 concludes and highlights some areas for further work.

Box 1. The debate on the regulation of non-compete clauses goes back to the middle-ages

The topic of non-compete and related clauses gained prominence in the recent years because of the many initiatives in the United States at the state and federal level. However, it is an issue that has been debated since the Middle Ages. Figure 1 provides a brief summary of the main cases and policy initiatives.

Figure 1. A brief history of non-compete clauses



Source: Secretariat elaboration.

The first known case involved a young apprentice in England, John Dyer, who was taken to court for breaching an agreement not to work in the same town where he had been trained. The judge held that the clause was contrary to common law. The tide began to turn in 1621 when another case in England (*Broad v Jollyffe*) upheld a non-compete clause. The principle was finally confirmed in the case of *Mitchel v Reynolds* in 1711, where the court for the first time assessed the reasonableness of the clause (declaring general restraints void while upholding more limited restraints), influencing the approach of many courts around the world to this day. Over the course of the nineteenth century, a number of other cases developed and clarified the principle of reasonableness, and US states began to regulate the use of non-compete clauses, with three states prohibiting them: California since 1872, North Dakota since 1865 (before North Dakota was even a state) and Oklahoma since 1890.

While the debate has evolved over time, several OECD countries and US states began to introduce some restrictions again in the 2000s (e.g. Austria in 2006, Oregon in 2007 while in 2009 proposals were tabled in Massachusetts and Georgia). The US debate accelerated significantly in 2014 when it was revealed that the fast food company Jimmy John's required its employees to sign a non-compete agreement, and a study by Starr, Prescott and Bishara (2021[2]) showed that non-compete clauses were much more common than previously thought. As more states began to restrict or ban non-compete agreements (in the United States, but also in Europe) and the available evidence accumulated, a number of federal policy initiatives began to be discussed. Finally, in 2024, the US Federal Trade Commission (FTC) decided to ban non-compete agreements throughout the country. At the time of writing, the ban has not gone into effect, as a local court has struck it down and the FTC has appealed.

Note: The discussion in this box builds on and extends "A Brief History of Noncompete Regulation" in https://faircompetitionlaw.com/, 11 October 2021.

2. The economics of post-employment restraints

Non-compete and related clauses are contract clauses (or stand-alone agreements) which restrict employees' activity after they leave their current job, for instance preventing them from working for a competitor or starting a competing enterprise after they separate from their employer, or to hire ("poach") clients or colleagues from the former employer. Such clauses can be part of the initial employment contract, or they can be added at a later stage, and they typically specify the time and geographic boundaries within which they apply. Box 2 outlines the main types of clauses.

Box 2. Contractual clauses regulating post-employment activity

The literature on worker restraints typically distinguishes between four clauses:

- **Non-compete clause** (NCC, also known as non-compete agreement or non-compete covenant): contract clause (or stand-alone agreements) which prevents employees from working for a competitor or starting a competing enterprise after they separate from their employer.
- **Non-disclosure agreement** (NDA, also known as confidentiality agreements): a contract or clause that establishes that the sensitive information an employee may obtain during the employment relationship will not be made available to any other employer. A non-disclosure agreement between an employer and an employee can be valid for the duration of the employment contract but also after its termination.
- **Non-poaching of co-workers or non-recruitment/non-solicitation of colleagues** (NRA): a contract or clause that prevents employees from reaching back to their former colleagues and recruit them in their new business.
- **Non-solicitation of clients** (NSA): a contract in which an employee agrees not to solicit or otherwise attempt to establish any business relationship with the company's clients or customers after leaving the company.

More recently, two additional types of clauses have received scrutiny:

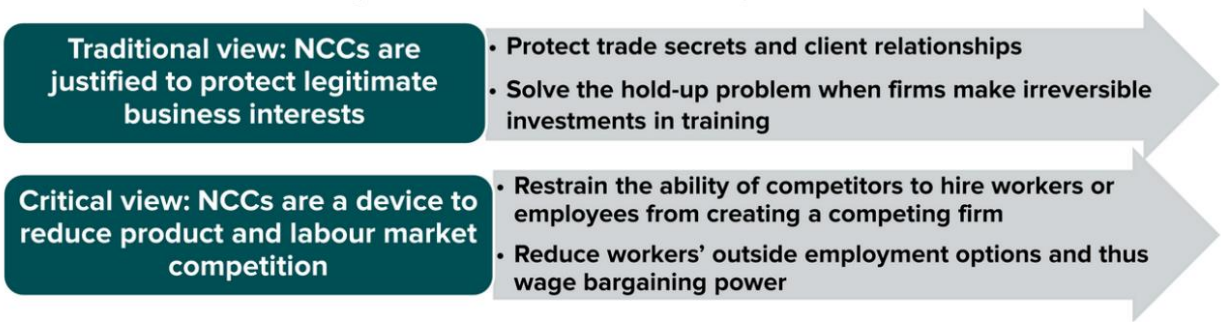
- **Repayment of training costs clause** (RTC): a contract or clause which provides for the employee to repay the costs associated with attending training courses – that the employer has paid for – if the employee ceases employment within a certain period of time.
- **Repayment of benefits and bonuses clause** (RBB): a contract or clause which provides for the employee to repay certain benefits and bonuses (for instance, a signing bonus) if the employee ceases employment within a certain period of time.

In most countries, post-employment restraints are allowed and regulated by law or case law and, according to a "traditional" view (Figure 2), they are justified by the need to protect legitimate employer interests such as trade secrets, client information or specific investment in the employment relationship such as training (Starr, Prescott and Bishara, 2021[2]). By protecting these interests, post-employment restraints would help solve a "hold-up problem", which can arise in the context of costly and irreversible investments made by firms, such as specialised worker training. In this instance, there is a risk that employees can "hold up" the employer – for instance by threatening to leave – hence spoiling the value of the entire investment.

On the other hand, post-employment restraints can also be used as an instrument to reduce competition in the product market – by restraining the ability of competitors to hire workers or deterring departing employees from creating a new competing company – and competition in the labour market by limiting workers' outside options. The latter may reduce employee bargaining power to the extent that job-to-job

moves are major drivers of wage growth (Moscarini and Postel-Vinay, 2016[3]), not just for "movers" but also for "stayers" as employers respond to other firms' poaching by increasing the wages of their own workers in order to retain them. Beyond reducing workers' bargaining power, non-compete and related clauses may also affect productivity growth by impeding job mobility, business entry and knowledge diffusion. Indeed, the continuous churning of firms and jobs is a prerequisite for a well-functioning market economy to support the emergence of innovative new firms, reallocate scarce resources to their most productive use and improve the quality of job-matches for workers (Davis and Haltiwanger, 2014[4]).

Figure 2. Two views on non-compete clauses (NCCs)



Source: Andrews and Jarvis (2023[5])

If protection of trade secrets or investment in training were the main explanations for post-employment restraints, they should be found only among employees in occupations which involve trade secrets, access to client lists or that require or benefit from occupation- or industry-specific training. In this instance, post-employment restraints should be the result of a negotiation between the employer and employee aimed at making both parties better off: an employee would sign a non-compete agreement only in exchange of an *ad hoc* compensation or through higher wage growth over time. Finally, if post-employment restraints solve a "hold-up problem", then employees with such clauses should have higher access to confidential information and receive more training as well as earning higher wages.

If, on the other hand, post-employment restraints are deployed (also) to restrain workers' market power, then they can be much more pervasive, and they may be found also among low skilled workers or employees with no particular access to trade secrets and even in cases when they would not stand in court but still be useful to "scare" the worker. Moreover, in this case, such clauses may come in exchange for little or no compensation and not be the result of a negotiation with the employer.

To understand the role that non-compete and related clauses play in OECD countries, it is therefore not enough to look at how they are regulated in the national legislations. Instead, it is important to also measure the actual use of restraint clauses as well as the characteristics of the workers who are bound by them and the conditions in which they have been signed.

3. Existing evidence in OECD countries

Most of the existing empirical evidence on non-compete and related clauses comes from the United States, where *ad hoc* surveys have been developed over the last decade and cross-state differences in enforcement and reforms have been exploited to identify the economic consequences of non-compete clauses (NCCs). Starr (2024[6]) provides a comprehensive summary of the available evidence to date. More recently, surveys to gauge the prevalence of NCCs and related clauses – comparable to those run in the United States – have emerged in Australia, Italy, Japan and the United Kingdom. For most other

OECD countries, evidence is currently either not available or based on more limited surveys (either targeted at specific occupations or sectors or covering only non-compete clauses).

Against this backdrop, Table 1 summarises the existing evidence on the prevalence of NCCs across OECD countries. The resulting prevalence estimates are not strictly comparable across countries due to methodological and sample differences. But a number of common themes can be distilled from these studies, which we summarise below in the form of five key facts.

Table 1. Existing evidence on the incidence of non-compete and related clauses in OECD countries

Country	Year	Type of survey	Sample	Incidence of NCC	Other clauses covered	Source
Australia	2023	Worker-level	Only employees who changed jobs in the past 12 months	22% of workers	NDA (26%) NSA (16%) NRA (7%)	Andrews and Jarvis (2023[5]) – Think tank
Australia	2023	Firm-level	Public and private sectors, except defence forces, enterprises in agriculture, forestry and fishing, private households employing staff and foreign embassies.	21% of workers	NDA (58%) NSA (29%) NRA (23%)	Australian Bureau of Statistics (2024[7]) – Statistical institute
Austria	2006	Worker-level	Private-sector employees	~33% low-wage workers (<EUR 1,000)	none	Klein and Leutner (2006[8]) - Trade union
Austria	2013	Worker-level	Private-sector employees	33.7% of workers	RTC (35.5%)	Vevera (2013[9]), trade union
Canada	2023	Worker-level	18+ year-old Canadians	27% ever subject	none	Angus Reid Institute (2023[10]) – opinion research foundation
Denmark	2012	Worker-level	Business Danmark members - Sales and Marketing employees	~20% of workers	none	Dahl and Stamhus (2013[11]) – Trade union
Denmark	2012	Worker-level	HK/Privat members - clerical workers, workers in retail, and in related industries	11% of workers	none	Dahl and Stamhus (2013[11]) – Trade union
Denmark	2012	Worker-level	IDA members – engineers	14% of workers	none	Dahl and Stamhus (2013[11]) – Trade union
Denmark	2004	Worker-level	LO members – public and private sector	~6.6% of workers	none	Dahl and Stamhus (2013[11]) – Trade union
Denmark	2016	Firm-level	Private sector companies in 14 selected manufacturing and service sectors	22% of companies	NSA (24% of companies)	Beskæftigelsesministeriet (2016[12])
Denmark	2023	Worker-level	IDA members – engineers	13% of workers	NRA (4%)	Excerpt from IDA salary statistics
Finland	2017	Worker-level	Professional and managerial staff	45% of workers	none	Akava (2017[13]) – Professional organisation
Italy	2022	Worker-level	Private-sector employees	16% of workers	NDA (39%) NSA (11%) NRA (8%) RTC (7%) RBB (10%)	Boeri, Garnero and Luisetto (2024[14]) – Academic research
Japan	2019	Worker-level	Private-sector employees	22.9% of workers	none	Government (Cabinet Office, 2019[15])

Japan	2023	Firm-level	Private-sector companies	34% of workers	none	Kodama, Kambayashi and Izumi (2025[16]) – academic research
Netherlands	2015	Worker-level	Only employees who changed jobs in the past 12 months	18.9% of workers	none	Streefkerk, Elshout and Cuelenaere (2015[17])
Netherlands	2021	Firm-level	Private-sector companies	36% of firms	none	Bartsch, Grijpstra and Houweling (2021[18]) – Consultancy
Norway	2021	Firm-level	Private-sector companies	19% of firms	none	Menon Economics and Hjort (2016[19]) -Consultancy
Norway	2023	Firm-level	Private-sector companies	22% of firms	none	Menon Economics and Hjort (2023[20]) -Consultancy
Norway	2023	Firm-level	31 private-sector firms	42% of firms	none	Torgnes (2023[21]) - PhD thesis
Sweden	2021	Worker-level	Akavia members – lawyers, academics, scientists, HR, managers	19% of workers	none	Akavia (2021[22])
United Kingdom	2023	Worker-level	Private-sector employees	26% of workers	none	Alves et al. (2024[23]) – Academic research
United States	2014	Worker-level	Private-sector employees	18% of workers	none	Prescott, Bishara and Starr (2016[24]) – Academic research
United States	2017	Firm-level	Private-sector companies	49.4% of establishments and 27.8%-46.5% of workers	none	Colvin and Shierholz (2019[25]) – Think tank
United States	2017	Worker and firm-level	Private sector	22% of workers 29.5% of firms all employees 37% of firms some employees	NDA (57%- 70%) NSA (28%-40%) NRA (24%-32%)	Balasubramanian, Starr and Yamaguchi (2024[26]) – Academic research
United States	2017/18	Worker-level	Nationally representative sample of 8,984 people born in the years 1980 to 1984 NLSY97	18% of workers	none	US BLS – Rothstein and Star (2022[27]) – Statistical institute

Note: NCC: non-compete clauses; NDA: non-disclosure agreement; NSA: non-solicitation of clients; NRA: non-recruiting of colleagues; RTC: repayment of training costs; RBB: Repayment of benefits and bonuses.

Fact 1: The prevalence of NCCs is high and potentially rising

The first fact documents the surprisingly high prevalence of NCCs in those OECD countries for which data exists. While the estimates in Table 1 vary, it is not uncommon to find that roughly one-sixth to one-quarter of the workforce are subject to NCCs. This is particularly the case for worker-side surveys in Australia, Italy, Japan, Netherlands, United Kingdom and the United States.

Surveys targeted at firms can yield higher – albeit less precise – estimates of prevalence. A survey of establishments in the United States in 2017 (Colvin and Shierholz, 2019[25]) found that roughly half, 49.4%, of establishments have at least some employees with a non-compete with nearly one-third indicating that *all* employees in their establishment have such a clause, implying that between 27.8% and 46.5% of private sector workers in the US could be subject to a non-compete.[1] This compares to the ad hoc online poll of individuals in 2014 (Starr, Prescott and Bishara, 2021[2]; Prescott, Bishara and Starr, 2016[24]), which

[1] Colvin and Shierholz (2019[25]) attribute the (sizeable) difference to the 3 years' time lag between the surveys (and hence to a potential increase in the use of non-competes) and especially to the fact that while firms know whether their workers are subject to non-competes, workers may not know or remember.

found that 18% of US private sector and public healthcare workers are covered by a non-compete, while 38% have agreed to one at least once in the past.

Scattered evidence suggests that the prevalence of NCCs has risen over time:

- First, the use of non-competes amongst professional and managerial staff in Finland rose from 14% of contracts signed before 2000 to 45% of contracts signed by 2015 (Akava, 2017[13]).
- Second, recent evidence from Australia (Andrews, Brennan and Buckley, 2024[28]) shows that 11% of firms currently using NCCs had increased their use in the past 5 years, compared to only 2.3% who decreased their use. Absent policy changes, these trends are likely to continue: 1-in-5 firms who do not currently use NCCs say that they will likely do so in the future, compared to only 1-in-10 firms who currently use NCCs who say they are unlikely to do so in the future.

Before proceeding, two methodological points are worth emphasising, which will be incorporated into the approach proposed by the OECD project (see next section):

- First, ad hoc surveys can deliver a reliable gauge of prevalence when compared to the subsequent results from official surveys conducted by national statistical offices. In the United States, the initial estimate of NCC prevalence based on 2014 online poll of 11,000 US workers (Starr, Prescott and Bishara, 2021[2]) was subsequently replicated by a Bureau of Labor Statistics survey in 2017 (Rothstein and Starr, 2022[27]).The same is true in Australia, where the official ABS survey of employers (Australian Bureau of Statistics, 2024[7]) returned an identical estimate of prevalence to the initial online poll of 3,000 workers (Andrews and Jarvis, 2023[5]).
- Second, the most credible measurement approaches attempt to gauge prevalence from both the worker and firm perspective. While an employee-level survey can estimate the precise workforce prevalence of post-employment restrictions and how it varies with workforce characteristics, its main drawback is that employees may not remember/know that they are bound by a clause. On the other hand, an enterprise survey has the advantage that enterprises are more aware of the clauses they use but typically only returns an estimate range for workforce prevalence.

Fact 2: NCCs have spread to many parts of the economy

The second fact goes to the breadth that which NCCs have diffused through the economy. Unsurprisingly, NCCs are most prevalent in knowledge-intensive activities where firms may have greater need to deploy NCCs to protect “legitimate business interests” – a finding consistent with the “traditional” view. For the United States, Starr et al. (2021[2]) show that workers in the who report access to trade secrets are more likely to be bound by a non-compete and receive more training, while Colvin and Shierholz (2019[25]) find that they are more common in establishments with high pay or high levels of education. In Australia, NCCs are most common amongst managers (Andrews and Jarvis, 2023[5]), while firms deploy such clauses most intensively in finance, real estate, professional services and the steadily growing health sector (Andrews, Brennan and Buckley, 2024[28]). Similar patterns are also observed in Italy and other European countries.

More specifically, US studies have measured the incidence among groups of employees ranging from executives (Schwab and Thomas, 2006[29]; Garmaise, 2009[30]; Thomas, Bishara and Martin, 2015[31]) to electrical and electronics engineers (Marx, 2011[32]), physicians (Lavetti, Simon and White, 2019[33]) and hair stylists (Johnson and Lipsitz, 2020[34]). In these studies, the share of workers bound by a non-compete is much higher than that found in the economy-wide surveys mentioned above: spanning 70–80% among executives, 45% among physicians, 43% among electrical engineers, and 30% among hair stylists.

However, NCCs have also spread to a range of activities – where access to trade secrets or company tacit knowledge is highly unlikely – that are difficult to reconcile with the traditional view:

- In the United States, non-compete clauses have been found among entry-level workers at fast food restaurants (O'Connor, 2014[35]) and only less than half of all workers with a non-compete clause declare having access to trade secrets (Starr, Prescott and Bishara, 2021[2]).
- In Australia, a significant share of low wage workers that typically lack bargaining power are also bound by such clauses (e.g. 26% of community and personal service workers, 14% of clerical and administrative workers) – Andrews and Jarvis (2023[5]). NCCs now apply to many outward facing customer roles, including childcare workers, yoga instructors and IVF specialists.
- The same is true in Italy, where non-competes are frequently observed amongst workers employed in manual and elementary occupations and low-educated and lower-earning ones, even without access to any type of confidential information (Boeri, Garnero and Luisetto, 2024[14]).
- And in Austria, one-third of low-wage workers had a non-compete in their employment contract before a reform restricting their use was enacted (see Fact 5), according to a survey by the trade union confederation – see Klein and Leutner (2006[8]) reported in Young (2021[36]).

The breadth with which restraint clauses have spread to lower wage activities has underpinned concerns that they are being deployed indiscriminately and are generally not negotiated between an employee and the employer:

- Evidence from the United States and Australia shows that, while larger firms are much more likely to use such restraints than small firms, they do so in a more targeted way (Colvin and Shierholz, 2019[25]; Andrews, Brennan and Buckley, 2024[28]). When smaller firms use such restraints, they apply them to a much higher share of their workforce than larger firms. This may reflect "boilerplate" type agreements where small firms lacking well-resourced HR departments issue the same contract to all workers – irrespective of their task – noting that NCCs are now a drop-down box in many employment contracts (Andrews and Jarvis, 2023[5]).
- In the Netherlands, Bartsch, Grijpstra and Houweling (2021[18]) find that about one-third of employers use a non-competition clause, almost always as a standard clause in the employment contract, even with workers who do not have access to knowledge and relationships that could harm the employer's competitive position.
- Finally, NCCs are rarely a bargained outcome. In the United States, less than 10% of workers negotiate higher pay over a NCC while one-third of workers are first asked to sign a NCC after already accepting the job (US Treasury, 2016[37]) . Similar patterns emerged in Italy (Boeri, Garnero and Luisetto, 2024[14]) and Sweden (Akavia, 2021[22]).

Fact 3: NCCs often are bundled with other restraints

The third fact relates to various tools firms have to protect their business interests and the ways in which they combine them. Since firms' trade secrets and tacit knowledge are accessible to, and often are embedded in, their workforce, there has been much focus on clauses that directly restrict worker mobility, such as NCCs. But firms can deploy other contract terms to achieve similar goals, including non-disclosure agreements (NDAs), which prohibit workers from disclosing confidential information, and non-solicitation (NSAs) and non-recruitment agreements (NRAs), which prohibit departing workers from soliciting/recruiting former clients and co-workers – see Box 2. For example:

- In 2024, the Australian Bureau of Statistics (2024[7]) published the results of a large employer survey (about 5,000 establishments): 21% of the Australian workforce is bound by a non-compete clause, 58% by a non-disclosure agreement, 29% by a non-solicitation of clients agreement and 23% a non-solicitation of co-workers agreement.
- In Italy, Boeri, Garnero and Luisetto (2024[38]) show that 16% of private sector employees in Italy are bound by a non-compete clause, 39% by a non-disclosure agreement, 11% by a non-

solicitation of clients agreement and 8% a non-recruitment of co-workers agreement, 7% by a repayment of training costs clause and 10% by a repayment of bonus clause.

- In the United States, Balasubramanian, Starr and Yamaguchi (2024[26]) show that 57% of employees are bound by a non-disclosure agreement, 28% by a non-solicitation of clients one, 24% by a non-rescruitment of co-workers agreement and 22% by a non-compete clause with similar pattern emerging when interviewing companies.[2]

Crucially, firms differ in their use of restraint clauses, with some employing no clauses, other deploying NDAs only while some firms tend to bundle or combine various restraint clauses. For example:

- In Australia, amongst the 47% of firms that employed at least one type of restraint clause, 18% employed a non-disclosure agreement only while 14% of firms combined non-disclosure agreements with non-compete clauses and agreements restricting the solicitation of former clients and recruitment of co-workers.[3]
- In Italy, out of the 45% workers covered by at least one clause, 23% are covered by one clause only (typically a non-disclosure agreement) while 22% are covered by more than one clause (1% are bound by a non-compete only, 19% by a non-disclosure agreement only, 13% by both a non-compete and at least a non-disclosure agreement and the remaining 12% have other combinations of clauses).
- In the United States, firms that adopt post-employment restrictions tend to adopt either all four restrictions or only a non-disclosure agreement.[4]

Firms thus employ a range of tools to protect legitimate business interests, which can vary in their economic impacts. As discussed below, while clauses that prohibit disclosure of confidential information (NDAs) are typically viewed as more benign than NCCs, since they are less distortive of job mobility and competition, even if NDAs – when written broadly – can potentially act as *de facto* NCCs (Hrdy and Seaman, 2024[39]).

Fact 4: NCCs have economic consequences

The fourth fact is that NCCs can carry economic consequences, through their impacts on firms and workers decisions. Broadly speaking, the evidence suggests that NCC have adverse effects on job mobility, wages and innovation – see Starr (2024[6]) for a comprehensive and up-to-date review – but it is important to note two things. First, empirical evidence on this issue outside of the United States is scarce. Second, credible research needs to distinguish the economic consequences of NCC use from the factors that lead firms to deploy them or workers to be exposed to such clauses. While descriptive evidence shows that NCC usage is positively associated with wages – for instance, see Starr, Prescott and Bishara (2021[2]) –, this typically reflects differences in worker characteristics (e.g. education) or the fact that firms may be more likely to deploy NCCs if they have something to valuable to protect (selection bias). The extant empirical literature has sought to confront these identification challenges in two main ways.

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[2] 70.9% of firms use NDAs with all of their employees, while another 17.3% use them with some but not all of their employees. 40.9% of firms use NSAs with all employees and 28.5% report using them with some employees, while NRAs cover all employees at 32.6% of firms and some employees at 24.2% of firms.

[3] A further 13% of firms combined an NDA with one or two other clauses.

[4] If a worker has, or a firm uses, a non-compete clause, then there is a 70-75% chance that also non-disclosure, non-solicitation and non-recruitment agreements are present. That probability is only 30% for NDAs, and between 58% and 67% for NSAs and NRAs in both datasets. In contrast, if a worker has an NDA, then there is only a 38-50% chance of having an NCA, NRA, or an NSA

First, studies have exploited differences in outcomes between firms that use different types of clauses, for instance firms that only employ NDAs with firms that employ NDAs and other restraints such as NCCs. This provides a more reliable comparison if it effectively nets out selection into the use of any restrictions: if firms have some valuable to protect (e.g. trade secrets, IP), then their first response will be to deploy some form of restraint, but that they may well be neutral to the exact instrument or combination of instruments. Evidence from Australia and the United States shows that firms that combine NDAs with other restraints (such as NCCs) tend to pay wages that are 3-7% lower than similar firms that only employ NDAs (Balasubramanian, Starr and Yamaguchi, 2024[26]; Buckley, Rankin and Andrews, 2024[40]). One conclusion is that NCCs may reduce worker bargaining power by distorting labour market competition. This finding is particularly significant in light of US evidence which suggests that a combination of NDAs and NCCs does not protect trade secrets any more than NDAs alone (Cowgill, Freiberg and Starr, forthcoming[41]).

Second, a larger body of research has exploited variation in the enforcement of NCCs across and within US states, generally concluding that NCCs are associated with significantly lower wages and job mobility (Garmaise, 2009[30]; Marx, Strumsky and Fleming, 2009[42]; Starr, Prescott and Bishara, 2021[2]; US Treasury, 2016[37]; US Treasury, 2022[43]). In 1985, for example, Michigan "inadvertently" repealed the 1905 statute prohibiting non-competes as part of the antitrust reform. In 2008 Oregon banned non-compete agreements for low-wage workers, while in 2015, Hawaii banned NCCs for high-tech workers. Researchers examining these policy changes as well as others that have been introduced in the recent years in the United States found that banning NCCs increases wages by 3-4 percent, both for low-wage workers and high-tech workers, and increases their mobility by 11-17 percent (Starr, 2024, p. 10[6]). Beyond the United States, Young (2021[36]) examines the 2006 reform in Austria (see next Fact) and shows that banning non-competes for low wage workers increased mobility to better paying jobs while Bartelsman et al. (2024[44]) examine the 2025 reform in the Netherlands which led to higher wages and worker mobility, especially for workers in intangible-intensive firms.

It is important to note that studies that exploit variability of NCC enforcement may potentially underestimate the economic impacts of NCCs to the extent that firms still appear to introduce NCCs into individual contracts even in environments where they are unenforceable. This raises the prospect that the *in terrorem* effects of the contract may still block workers, giving rise to the so-called "chilling effect" of NCCs. In this regard:

- In the United States, 40% of workers turned down a job offer from a competitor because of a NCC, even though they worked in US states where NCC were non-enforceable (Starr, Prescott and Bishara, 2020[45]; Prescott and Starr, 2021[46]).
- In Italy, although about two-thirds of non-compete clauses appear to be unenforceable, the share of workers reporting the non-compete as an obstacle is basically the same among workers with a potentially enforceable clause than among workers with a likely unenforceable one (Boeri, Garnero and Luisetto, 2024[14]).
- In Sweden, 47% of employees in the legal sector who are members of the trade union Akavia would reject an offer because of an NCC, even though it is against the sector's code of conduct to include such clauses in employment contracts (Akavia, 2021[22]).

Finally, one recent study (Cowgill, Freiberg and Starr, 2024[47]) ran a large field experiment with 14,000 job offers in the United States and found that non-compete clauses, even when salient, do not lead to compensating differentials, as employees often do not notice non-compete clauses, but they do reduce future earnings and mobility, with no additional protection for trade secrets compared to NDAs.

More broadly, NCCs might also generate negative externalities in the labor market and have potential aggregate effects for the whole economy. By restricting mobility, non-competes may stifle knowledge spillovers – that is, the diffusion of skills and ideas (US Treasury, 2016[37]; Galindo-Rueda, 2012[48]) – and reduce labor market dynamism and limit competition, with a negative effect on innovation and ultimately

growth (Belenzon and Schankerman, 2013[49]; Marx, Singh and Fleming, 2015[50]; Drexel University et al., 2021[51]; Shi, 2023[52]). More specifically, NCCs may generate a socially costly misallocation of labour due to the harm to other firms, workers and consumers who are not at the table when the NCC is being negotiated (Shi, 2023[52]). Finally, the evidence on their ability to solve a "hold-up" problem is far from conclusive (OECD, 2019[1]). In fact, the latest evidence suggests, that even if non-competes give incentives for firms to invest[5], the net effect is a reduction in overall innovation, the misallocation of inventive talent across firms (Johnson, Lipsitz and Pei, 2023[53]; Baslandze, 2022[54]), and negative effects on consumers (Lipsitz and Tremblay, 2024[55]).

Fact 5: Some countries have taken policy action to restrict NCCs

The fifth fact is that the emergence of empirical evidence documenting the prevalence and impacts of NCCs has prompted some governments to restrict the use of such clauses over the last 20 years:

- In Austria, non-competes were made unenforceable for employees who had signed their contract after March 2006 and whose earnings were below 2,100 euros per month (about around the median at the time). In 2015, the regulation of non-competes was made even stricter, limiting their use to high earners (i.e. workers in the top 25% of the wage distribution).
- In Denmark, the use of non-compete and non-solicitation clauses has been significantly restricted since 1 January 2016. Both clauses can only be enforced after six months of employment for a maximum of 12 months, and a minimum compensation has been introduced (40% of remuneration for clauses up to six months, 60% for longer clauses). In addition, for non-compete clauses, the employee must be in a position of high importance to the company and the company must describe in the clause why such clause is necessary. Non-solicitation of customers clauses, on the other hand, can only apply to customers with whom the employee has had direct contact in the previous 12 months. If an employee is covered by both a non-compete and a non-solicitation clause, the duration of the clause cannot exceed six months, the compensation must be at least 60% and all the conditions for both clauses must be met for the combined clause to be valid.
- In Finland, the use of non-compete clauses was restricted in 2022 introducing a mandatory compensation of 40% (or 60% if the non-compete is longer than six months). The new regulation also laid down the time of payment and the employer's right to terminate a non-competition agreement and the period of notice to be observed in such cases.
- In the Netherlands, the government banned the use of non-compete agreements for workers with a temporary contract in 2015, after evidence emerged suggesting that NCCs were often more prevalent in temporary contracts (24%) than in permanent ones (19%) (Streefkerk M., Elshout S. and Cuelenaere B., 2015[17]).The Government proposed further limitations in 2023 in response to findings that that about a third of employers use NCCs, almost always as a standard clause in the employment contract, even with workers who do not have access to knowledge and relationships that could harm the employer's competitive position (Bartsch, Grijpstra and Houweling, 2021[18]).
- In Norway, the government introduced a new legislation in 2016 to clarify and limit the use of non-compete clauses introducing some requirements in terms of notification, compensation and duration. The reform appears to have had somewhat limited effects: according to two independent reports (Menon Economics and Hjort, 2016[19]; Menon Economics and Hjort, 2023[20]), the scope of agreements remains similar to the pre-reform period. More employees are compensated than before, but still close to two thirds of the businesses state that, contrary to the new regulation, no compensation is given. Furthermore, close to a third of the businesses state that they have no time limit in their clauses or that the clauses have a duration beyond the statutory limit of one year.

[5] The evidence on whether non-compete agreements are associated with more training is currently mixed.

- In the United States, empirical evidence was highly influential in decisions of several states (e.g. Washington D.C., Oregon, Nevada, Illinois) to enact new legislation restricting or banning the use of non-competes (Hermansen, 2020[56]). In addition, in 2024, the Federal Trade Commission (FTC) banned the use of these clauses in the entire federal territory, although a number of regional courts have questioned the validity of the FTC's order recently.[6] In its accompanying statement in April 2024, the FTC said that it had found that noncompete clauses tend to "*negatively affect competitive conditions in labour markets by inhibiting efficient matching between workers and employers*" (Federal Trade Commission, 2024, p. 132[57]). The Commission also found that non-compete agreements "*tend to negatively affect competitive conditions in product and service markets, inhibiting new business formation and innovation*" (Federal Trade Commission, 2024, p. 196[57]). The FTC had also found evidence that non-competes lead to increased market concentration and higher prices for consumers.

More broadly, competition authorities in some European countries have also taken action against other types of restraint clauses. In Hungary, Lithuania, Slovakia, Spain and Portugal, competition authorities have acted against unlawful no-poach agreements[7] which were found to contravene competition law. For instance, in 2022 the Portuguese competition authority fined the Portuguese Professional Football League and 31 football clubs EUR 11.3 million while in 2025 it fined a multinational technology consulting group for a no-poach agreement (Autoridade da Concorrencia, 2025[58]). Guidance papers and reports on the role of antitrust in the labour market have been published by competition authorities at EU level (Aresu, Erharter and Renner-Loquenz, 2024[59]), in the Nordic countries (Joint Nordic Reports, 2024[60]), in Portugal (Autoridade da Concorrência, 2021[61]) and in the United Kingdom (CMA, 2024[62]).

Proposals to restrict the use of non-compete clauses have recently emerged in other countries:

- In Australia, the Federal Government announced in March 2025 a ban on non-compete clauses for employees earning less than the high-income threshold, currently AUD 175,000 per year, to take effect from 2027. The decision follows a review into competition policy settings – including "non-compete and related clauses that restrict workers from shifting to a better-paying job" (Treasury, 2024[63]) – launched just two months after the release of the seminal Australian evidence documenting the spread of NCCs (Andrews and Jarvis, 2023[5]).
- In Canada, in the 2024 Fall Economic Statement the federal government announced the intention to substantially restrict the use of non-compete agreements. This follows a reform in Ontario in 2021 that prohibited the use of non-compete clauses except for chief executive positions.
- In the United Kingdom, the Government in 2023 proposed to limit the duration of non-competes to three months.
- In the European Union, the 2024 Draghi report on EU competitiveness notes that there are increasing concerns that non-compete clauses are being deployed to stifle job mobility and competition (Draghi, 2024[64]). The report recommends that, in the short/medium-term, competition policy should also address practices that limit labour mobility between companies such as non-compete and no-poach agreements.

[6] The FTC's decision was overturned by a Texas judge in August 2024 (although it had previously been upheld by another judge). Pending an appeal by the FTC, the ban did not go into effect on 4 September 2024 as originally planned.

[7] While no-poach agreements happen between employers and are not a clause in an employment contract between an employer and an employee, they represent another instrument to limit mobility and suppress worker's market power.

4. Conclusions

The increasing number of recent initiatives that have been taken in the United States to limit or ban the use of non-compete clauses have contributed to kick-start a global discussion on the regulation of non-compete clauses and other post-employment restraints. While empirical evidence on the prevalence and use of such clauses outside the United States remains extremely limited and partial, this paper has identified five themes that appear to be common across OECD countries.

First, the prevalence of such clauses is high, or at least higher than most would have thought, and may be rising. Second, post-employment restrictions have spread to many parts of the economy, well beyond the relatively narrow group of highly paid managers and professionals. Moreover, such clauses appear to be included in employment contracts even where they are legally unenforceable, simply to deter workers. Third, non-compete clauses are most often bundled with other clauses, typically a non-disclosure agreement. This helps to further suppress workers' bargaining power without necessarily protecting trade secrets any more than a non-disclosure agreement alone. Fourth, even when unenforceable, non-compete clauses have economic consequences in terms of reduced job mobility, wages, knowledge spillovers and market dynamism. Finally, apart from the United States, other OECD countries have introduced limitations on the use of such clauses in the last decade, and a few others are currently discussing possible restrictions.

In order to better inform the growing global debate on non-compete and related clauses, there is a need to go beyond the scattered evidence reviewed in this paper and develop a set of stylised facts that are comparable across a larger number of OECD countries. Accordingly, the OECD is undertaking a new initiative that aims to collect harmonised cross-country empirical evidence on the prevalence of restraint clauses in selected OECD countries. This would allow to understand the real relevance of the phenomenon and to begin to consider which regulatory frameworks seem to work better to ensure that post-employment restraints are used to protect trade secrets and firms' investments in a fashion that does not unduly restrict job mobility and, more broadly, productivity and real wage growth.

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