International Journal of
Language & Law

Frese & Mones, JLL 13 (2024): 71–96
www.languageandlaw.eu

Path Dependency or Dynamic Consistency in EU Anti-Discrimination Law?

*Amalie Frese and Enys Mones**

Abstract
Has EU anti-discrimination law developed in a straight line through the case law of the Court of Justice of the European Union (CJEU)? According to studies relying on path dependency theories, the answer would be yes. Studies relying on path dependence build on the premise that jurisprudence continues in a line of reasoning from the earliest to the latest judgments, and in different areas of the law, as a result of a lock-in process of analogical reasoning. In this article we show why the theoretical framework of path dependency cannot account for court driven legal development, specifically in the area of EU anti-discrimination law, and how difficult it is to empirically substantiate the argument of path dependency. We conduct an empirical test of the path dependency theory in CJEU's case law within the area of anti-discrimination law. In order to do so, we build a case law citation network from where we can detect precedents as the most cited paragraphs of the cases. We explore the ways in which these precedents travel through the entire jurisprudence in flows of information and on this basis test for path dependency as similarity between citing and cited paragraphs. We find no signs of path dependency. The objective of this paper is to supplement the scholarship on path dependency by pointing to its limitations and methodological constraints. On the basis of our study, we propose to adjust the theory of case law development away from that of path dependency and towards what we choose to call case law which is dynamically consistent.

Keywords
path dependency, EU anti-discrimination law, CJEU, precedent, empirical test, dynamic consistency

Published online: 15 July 2024

* *Frese:* University of Copenhagen, amalie.frese@jur.ku.dk; *Mones:* DTU Compute, Technical University of Denmark, enys.mones@gmail.com. The authors would like to thank Ioannis Panagis and Urška Šadl as well as anonymous reviewers, whose comments helped improve the article significantly. Research for the article has been kindly supported by iCourts, Centre of Excellence for International Courts.

1. Introduction

Has EU anti-discrimination law developed in a straight line through the case law of the Court of Justice of the European Union (CJEU)? According to studies applying a theoretical framework of path dependence, the case law can be characterized as following one path from the earliest sex discrimination cases of *Defrenne* to *Barber* and so forth (Linos, 2010). Studies relying on path dependence build on the premise that jurisprudence continues a line of reasoning from the earliest judgments to judgments delivered much later and in different areas of the law as a result of a lock-in process whereby the court relies on precedents and analogical reasoning across legal areas.

In this article, we show why this theoretical framework is problematic for accounting for court driven legal development, specifically in the area of anti-discrimination law, and how difficult it is to empirically substantiate the argument of path dependency. We conduct an empirical test of the case law within the area of antidiscrimination law and find no signs of path dependency in this area of the CJEU's case law.

Path dependence theory is used across social science disciplines, e.g., in policy studies, decision-making and most prominently in economic history, to describe why and how a sequence of past events determines the distinct outcomes of later events. Classic path dependency theory is a phenomenon whereby previous events constrain future events through feedback mechanisms, meaning that what happens next is determined by what has occurred before (Pierson, 2000: 251–267). The theory accounts for stability in decision-making processes, however, its main criticism is that it does not allow for understanding legal change (Kay, 2005; Rixen & Viola, 2009).

Examining the jurisprudence of the CJEU, we find that there are several factors which make it unlikely that areas of the Court's case law develop in a path dependent manner. These include the fact that, as the supreme interpreter of EU law, the CJEU adjudicates questions on the interpretation of the legal basis, and cases that reach the court are rarely the same. Moreover, its system of precedent citation is more complicated than a *stare decisis* system, where the return to a particular case precedent determines the decision in a later case. In addition, the nature of EU law is that legislative frameworks in certain fields have changed over the years, which can complicate the choosing of appropriate past cases for citation.

Hence, the aim of this paper is to supplement the scholarship on path dependence by pointing to the limitations of the theory and its methodological constraints. Our proposal is that the path dependency thesis is too strong and radical and that to better account for the characteristics of the jurisprudence of the CJEU, both the anti-discrimination case law and beyond, we ought to adjust the thesis and conceptualizations away from that of path dependency and towards what we choose to call case law which is dynamically consistent.

The paper proceeds as follows: in Section 2 we outline the existing legal scholarship on path dependency and our empirical approach to testing the path dependency thesis.

In Section 3 we account for the important changes in the EU anti-discrimination legislative framework that are relevant to our thesis that the path dependency argument is too strong. In Section 4 we build a case law citation network, and in 4.2. we select seven focus cases and particularize our citation network into a paragraph-to-paragraph network from where we can detect the most cited precedents in the specific paragraphs of the cases. In Section 4.3. we explore the ways in which the precedents travel through the entire jurisprudence in flows of information and on this basis, we test for path dependency in Section 5 as similarity between citing and cited paragraphs. In Section 6 we present our conclusions.

2. The Path Dependency Hypothesis in Existing Scholarship

As the theory of path dependency developed throughout economic history and specifically in relation to the development of technology, its punch line is that a sequence of choices is the determining factor by which technology survives and becomes the greatest (David & Greenstein, 1990). Hence, the central thesis of path dependency is that events early in a process of development, for example in decision-making of a judicial institution, stimulate further steps in the same direction. Agents gain incentive to continue a line of reasoning and decision-making due to what is termed 'increasing returns' or positive feedback in the form of a relative benefit tied to the current decision-making or activity, as opposed to switching to an alternative, which will be perceived as imposing more costs (Pierson, 2000). The agents of decision-making thus continue treading a specific path, in accordance with how past judgments were decided. Increasing returns also involves a notion of probability; with each step in a particular direction, the probability of the next step following this same direction rises (Kay, 2005; Rixen & Viola, 2009). Over time, there will be a decreasing number of alternative cases to refer to in a situation of precedent citation because path dependency means the probability rises of the next step following the same direction. Hence, the alternatives are fewer because an earlier event forms the obvious choice; steps of judicial decision-making stimulate steps in the same direction and, importantly for the definition of path dependence, a lock-in mechanism is in place. In the field of law, this means that cases will become more similar and, in the end, the law will become clearer and more consistent (see further: Suk, 2008; Linos, 2010).

Highly formalized institutions, such as courts, encompassing many formal rules, procedural rules and rules for information administering, such as precedent citation,

DOI: 10.14762/jll.2024.071

have the tendency to exhibit increasing returns[1] and will tend to develop as path dependent institutions (David, 1994: 205–220). In existing scholarship path dependency theory has been applied to law in general and EU law in a number of studies.

At the more general level, Stone Sweet has suggested that path dependence is a useful theoretical framework for characterizing legal institutions. Stone Sweet finds that courts are typical examples of an organization that will develop path dependency as it regulates behaviour based on rules of law and whose core task therefore is to reduce uncertainty about what the law is (Stone Sweet, 2002). Moreover, the proposal of Stone Sweet is that a system of precedent which courts operate within, of one kind or another, is prone to a path dependent development of legal argumentation, as precedent-based reasoning entails consulting past cases and employing these as justification for the decision in later judgments.

Among studies that specifically explore anti-discrimination jurisprudence is the work by Katherina Linos who has explored the US Supreme Court's anti-discrimination case law compared to the CJEU's anti-discrimination case law (Linos, 2010: 138). Linos argues in accordance with path dependency theory, that the *sequence* in which courts adjudicate is key to how doctrines develop, and she identifies two critical junctures, i.e., short intervals during which the court faced an unusually broad range of options and from where the sequence and a path starts. She identifies one crucial juncture in EU anti-discrimination law as the point when plaintiffs questioned the evidence necessary to prove indirect discrimination. The CJEU established that it sufficed to show statistical disparities between men and women in the context of an employment practice, but it was not necessary to prove a causal relation between a specific practice of an employer and this statistical disparity in order to prove indirect discrimination (David, 1994). Contrarily, the US Supreme Court insisted on a causal link between a practice and the disparate impact. The second critical juncture has been when the Courts were faced with classifications based on traits closely and causally linked to a protected ground, e.g., pregnancy as linked to gender. The CJEU found in *Dekker* that since only women could be pregnant, classifications on the basis of pregnancy were not neutral. Again, contrarily the US Supreme Court found that since not all women were pregnant, it does not perfectly correlate with gender and is not a prohibited ground in itself. Linos argues that these cases formed junctures from where the case law of the two courts each followed their own path.

Susanne Schmidt's work on the development of nationality discrimination and free movement of persons involves similar observations and arguments (Schmidt, 2012). Schmidt identifies the legal domain of free movement of goods as having created a path for the interpretation of other fundamental rights. The increasing return mechanism is considered to be the litigation in which the arguments concerning the free movement of

[1] See *Supra* note 2. It is increasingly common for social scientists to describe political processes as path dependent, yet the concept, however, is often employed without careful elaboration.

goods are applied to other legal issues, e.g., free movement of persons. Supporting this hypothesis is the argument that there would have been a number of other possible alternatives and directions in which to interpret the case law on the other freedoms of EU law, but that the concern of the Court for consistency in the case law has resulted in a transfer of logic from one legal domain to the other and ultimately a path dependent case law which has become more uniform across legal areas (Suk, 2008; Linos, 2010).

It is our argument in this paper that the scholarship is using the concept of path dependency in a broad way which in fact is synonymous to 'consistent' case law rather than complying with the definition of path dependent case law. The scholarship shows examples of developments in the case law where junctures for such developments are identified, or transplantations of legal logics from one legal domain to another are described as paths. While this scholarship in different ways shows the existence of trajectories or paths in the jurisprudence with which they are concerned, we argue that what the authors observe is not equal to path dependent case law because path dependency is defined by a very particular process in which a lock-in mechanism occurs, as proposed by Pierson (2000). In other words, we argue that in the scholarship, path dependency in the case law of the CJEU is used in an imprecise way, when in fact consistency would be a better suited term for this legal development. The motivation for an accurate conceptualization of the case law also rests on the implications of the path dependency theory, namely the critique which has been raised several times regarding the theory's inability to account for legal change. There is however no shortage of scholarly discussion of legal change in CJEU's case law (Howard, 2018). Thus, we show that the case law is not path dependent by testing it in the only possible way to empirically test for path dependency, namely the development of a lock-in effect.

In the following sections, we support these arguments by pointing to legal decision-making factors as well as institutional aspects of the CJEU, which do not provide the conditions under which path dependency would be expected to develop.

The first decision-making challenge to the development of path dependent case law is related to causality. The CJEU does not employ a *stare decisis* system of precedent constituting a syllogistic argument, and judgments often refer to or cite many past cases. How then, do we know that it is in fact the decision relating to specific events in earlier cases that causes the later decisions, and not simply that a topic, irrelevant to the decision made in the earlier cases, becomes salient later? Even where the cases draw on previous ones, it is extremely difficult to prove the core aspects of the path dependency theory, namely that the first event causes the outcome of later events and that over time a lock-in effect is established which makes it costly to deviate from the path.

Second, some institutional aspects of the CJEU speak against the jurisprudence developing in a path dependent manner: first, new cases are constantly being decided and no two are the same. Due to the preliminary reference procedure, the CJEU only adjudicates principled cases where the questions for interpretation of EU law have not been dealt with before (Broberg & Fenger, 2014). The Court rules on law rather than on facts

as opposed to national courts. This means that judicial decision-making is different from both of the other decision-making contexts, for example those on which the theory of path dependency has been developed and national legal systems in which almost identical situations, e.g., criminal cases that are very similar, are brought to the courts and require a judicial decision (Hathaway, 2001). It also means that although for the cases before the CJEU there can be inspiration and guidance gained from a return to certain precedents, there are necessarily different elements of each case, which means that the final judgment deviates from the former and path dependence is unlikely to develop as such. Moreover, the precedent system is not a *stare decisis* system, where a precedent is the reason for the outcome of the decision in a later case (Derlén & Lindholm, 2017; 2015). Instead, many cases are referred to and cited by later cases. This incorporation of several precedents also speaks against one clear path forming in the jurisprudence. Thirdly and importantly for our claim that the path dependency thesis in relation to jurisprudence is too strong, it is an important dimension of EU law that the legal sources are manifold and specifically the anti-discrimination framework has been amended several times. Such plurality of sources and the consecutive amendments may imply that some of the past cases become redundant or replaced as precedents. This would entail a breaking point in already formed paths. I will return to the changes in the legal framework of EU anti-discrimination law in the following section.

Based on these objections, we conduct a test of whether there can be traced path dependency in the case law of CJEU in the remaining sections of this paper. We suggest that if the case law were path dependent, then it would manifest as a high degree of similarity between precedents that are cited and the citing cases, and test whether this appears in the case law. We take similarity to mean linguistic similarity, in the sense that we hypothesize the occurrence of a high degree of similarity between judgments that are precedents and the cases citing them, if there were path dependency in the case law. To concretely measure similarity between the citing and the cited judgments' paragraphs we used the paragraphs' text. Hence, it is not the increasing returns mechanism, which is the object of the empirical test in this paper, but rather the consequence, namely the lock-in mechanism, which creates the path dependency.

We conducted the test in several steps. First, we built a case law citation network and selected seven precedents, i.e., focus cases which concern anti-discrimination issues substantively, and are frequently cited as well as being delivered at different points in time by the CJEU. Then we built a paragraph-to-paragraph network by zooming in on the cited and citing paragraphs of the seven focus cases. In order to explore which of these precedents flow further into the case law and could be either the starting points or connectors in a larger path, we made search terms of the most cited paragraphs based on the Boolean search connectors and ran these through the entire case law citation network, which allowed us to gain so-called flows. On the basis of these flows, we were then able to test for the level of similarity between cited and citing cases, and thus whether a path dependency exists.

Finally, it should be noted that the analysis rests on the assumption that the language of the case law has a sufficiently high level of standardization. There is no doubt that CJEU's case law is multilingual. Although the working language of the Court is French and special attention is usually paid to the *de facto* original French judgment, there is no 'one' original text – all language texts are equally authentic (C-283/81 CILFIT 1982). As Elina Paunio describes, drafts are redrafted and retranslated several times and ultimately there is not one original text in light of which all the EU legal concepts should be understood and translated (Case C-81/19: para. 33; Paunio, 2021: 131; McAuliffe & Trklja, 2018). This can lead to some divergence between the linguistic versions of a judgment (Baaij, 2012). On the other hand, and important to the present study, it is well established in scholarship that *within* the language versions, there is a high degree of stability and standardization. Such standardization is to a large extent due to a formulaic approach of the CJEU where standard formulations in past judgments are returned to and repeated in later case law (Derlén & Lindholm, 2015; Frese, 2022; Jacob, 2014; Komárek, 2013; McAuliffe & Trklja, 2018). Hence, the practice of precedent citations at the CJEU entails that within, e.g., the English language version of the case law, it is reasonable to assume a certain level of standardization and uniformity across the jurisprudence in English.

3. EU Anti-Discrimination Legislation Before and After the Amsterdam Treaty

In the first phase of EU anti-discrimination law, the only anti-discrimination provision concerned equality of pay between the sexes, and it was not a prohibition from the outset, but merely a requirement that Member States implemented the principle of equal pay, which the majority of Member States had failed to do within the first period till 1962 (Cichowski, 2013). The Equal Treatment Directive (76/207) and Equal Pay Directive (75/115) – now both repealed by the Recast Directive (2006/64) – were then adopted around the same time as the sex discrimination case law from the CJEU kicks off with the *Defrenne II* judgment (Case 43/75). What characterizes the sex discrimination case law onwards has been the CJEU's progressive approach and teleological interpretation establishing general formal equality rights in the 1970s, with subsequent expansion of these rights and the situations in which they were guaranteed in EU law (Cichowski, 2013).

It was not until the Amsterdam Treaty, which added Article 13 EC to the Treaty, that there was an actual basis for adopting legislation to combat discrimination based on grounds other than sex. The inclusion of Art. 13 EC and the directives adopted very soon after were turning points for EU anti-discrimination law as this entailed EU law covering new grounds of discrimination through Art. 13. The two directives adopted almost instantly on the basis of Art. 13 EC were the Race Directive (2000/43) and the Framework

Equality Directive (2000/78). In the early 2000s, the Recast Directive followed, which as the name suggests recasts several of the existing directives. The two pieces of legislation are at once broader and narrower than each other; the Race Directive (2000/43) only prohibits discrimination on the basis of race and ethnic origin, but in a wide scope of contexts such as employment, vocational training, housing and social protection. The Framework Directive (2000/78), on the other hand, covers several discrimination grounds, religion or belief, disability, age or sexual orientation, but only in the context of employment.

However, while the CJEU's anti-discrimination case law may have evolved along a more or less consistent path since the 1970s, the case law appeared to change around the 2000s, when the Article 13 directives were adopted. The number of cases based on the Article 13 directives was not increasing much, and an overview of the proportion of cases shows that of all the anti-discrimination cases, less than a quarter concern grounds other than sex.

The diagram below is based on all anti-discrimination cases concerning the grounds mentioned in Art. 19 TFEU (sex/gender, racial or ethnic origin, religion or belief, disability, age or sexual orientation) from 1970 to 2018.

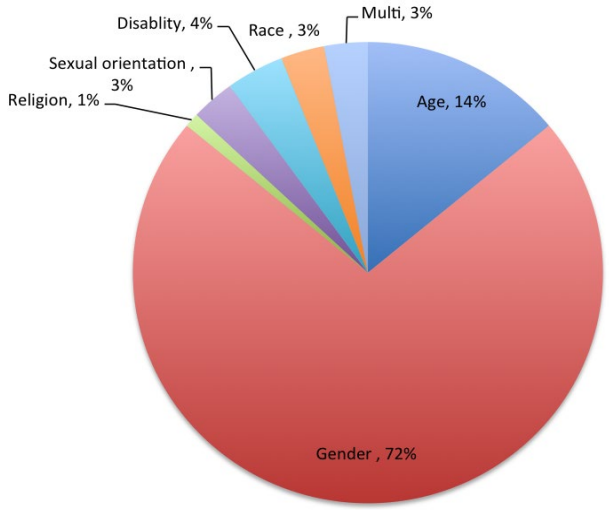

Figure 1: Distribution of discrimination grounds in anti-discrimination cases from 1970 to 2018[2]

This distribution raises the following question: Why did cases involving other discrimination grounds not integrate into the existing sex discrimination path if the CJEU's anti-discrimination case law was truly path dependent?

While some scholarship emphasizes the consistency and even path dependency in the anti-discrimination case law before 2000, other parts of scholarship have emphasized and explored the changes that occurred after the directives took effect in the Member States when the number of cases went down. Grainne de Búrca has discussed whether

[2] The data for this graph stems from the project 'Equality Law in Europe: A New Generation CJEU Database' at the European University Institute and their database of EU equality law, which can be found at equalitylaw.eui.eu/ (accessed 28 March 2024).

there was a decline in EU anti-discrimination law, and Erica Howard has discussed the so-called hierarchy in anti-discrimination grounds, which suggests that it is less than a consistent corpus of case law (de Búrca, 2016; Howard, 2006). These studies also support the suspicion that the path dependency thesis is too far-reaching a characterization of EU anti-discrimination law.

4. Empirically Testing the Path Dependency Thesis

How is it possible to identify paths in jurisprudence in order to test for path dependence? We suggest that it is possible to do so through identifying the most judicially authoritative cases in the case law of the CJEU and subsequently the cases that attribute these cases' authority. We suggest to use a case law citation network analysis for this purpose.

Network analysis has been introduced into legal scholarship through a number of articles by James Fowler; he wrote two articles applying the approach to studies of precedent in the US Supreme Court (Fowler et al., 2007; Fowler & Jeon, 2008). Also, Yonatan Lupu and Erik Voeten (2012) used network analysis to study case citations and precedent in the case law of the European Court of Human Rights. In the context of the CJEU, Mattias Derlén and Johan Lindholm have been using network analysis and similar methods to conduct research on the characteristics of the CJEU's precedent system and its comparison with the US Supreme Court (Derlén & Lindholm, 2017; 2015; 2014). Similar research has been carried out at the Danish National Research Foundation's Centre of Excellence for International Courts (iCourts) at the University of Copenhagen, where researchers have employed network analysis for studies of the structure of jurisprudence and the Court's development of legal principles in EU law, and of the European Court of Human Rights (Frese, 2022; Panagis & Šadl, 2015; Frese & Palmer, 2019).

These examples from scholarship illustrate the use of case law citation networks to measure the importance of individual judgements and thereby gain an empirical basis for, by way of example, analyses of legal developments as path dependence.

Citations and references to past cases is a common legal decision-making tool. While the use of past situations for decision-making is far from exclusive to the judicial context, the role of past cases as precedents has a special standing and meaning; citations and references are used by a court to draw from past cases that are relevant for the present case. It may be that a past case is referred to for a number of purposes: it represents a similar legal issue concerning similar factual circumstances and so justifies a similar ruling, or it is similar in certain aspects but differs in others and thus justifies a ruling that departs from that in the previous case. Nonetheless, a reference to, or citation of, a past case reflects some kind of authority in a broad sense, which does not necessarily

imply complete endorsement of the past case, but a recognition of some element of relevance. To put it bluntly, a court does not refer to a past case that is completely irrelevant and unimportant to the present case of adjudication.

All network studies are essentially charting links or relationships between entities (here, legal cases). This network analysis therefore revolves around nodes that are judgments, and links constituted by citations and references. Hence, beyond simply mapping the connections between the entities in the network, a network analysis will also entail measures of authority. This level of a network analysis, as a 'case-to-case citation network' where the judgments are linked together through references and citations, displays mathematical authorities. The authorities are mathematical in the sense that they are calculated on the basis of their ingoing citations and references.

For a network of communication, which a case law citation network essentially constitutes, a metric of centrality is necessary for measuring authority. In this study, degree-centrality is used as a metric for case authority. Degree-centrality illustrates the number of citations received by a certain judgment by counting the total number of citations received by all other judgments in the networks. The question is whether some judgments obtain a large number of citations, and the simplest metric for measuring authority in a network is degree-centrality. Other metrics are authority score, page rank and eigenvector, which are all variations of measures of importance of a case based on its embeddedness in the network through its relations to other highly cited cases. Thus, when I use the term indegree-score in the following sections, I refer to the number of ingoing citations a case receives. I use a basic network analysis approach; however, I enrich the analysis by selecting a smaller sample of cases, connecting their cited *paragraphs* in a paragraph-to-paragraph network, which allows me to explore the content of the most cited cases and the paths which the citations and references to the content may constitute.

This method provides an empirical basis for studies of case law importance, which is one of the benefits of network approaches to legal analysis. Nonetheless, the approach carries limitations; some are related to the concept of authority, which the network approach captures, and other limitations involve what is practically possible to examine in a network.

Firstly, the most significant limitation to a network approach to caselaw and judicial authority is what may be termed 'tacit precedents' – courts may use past cases without directly referring or citing them and such practices cannot be captured by a citation network. This could be because courts may follow concepts from past decisions without saying so to avoid criticism and conflict (Alter, 1998). On the other hand, it is evident from the case-law that explicit references and citations are an established practice at the CJEU. So, while the explicit citations and references may not be the full story of the use of case-law by a court, the explicit references constitute an established practice at the CJEU (Derlén & Lindholm, 2015).

Secondly, the challenge from tacit precedents ties to a general challenge for network approaches to case law at the quantitative level, which is namely that it is not possible to see exactly what the citations, or the ties in the network, are directed at. A citation in a network simply refers to a past case in its entirety and does not reveal the content of the past case to which the citation refers, such as the facts of the case, the conclusion, or a specific argument. As a result, quantitative network analysis must be supplemented with content analyses of the relevant ties in the network (as discussed in greater detail below). Thirdly, temporal changes may occur in a case law citation network over time. A case law citation network shows the total calculated citations over the entire period e.g., from the establishment of the CJEU to 2014. Hence, the citations appear cumulatively, which means that a case may appear as a great authority in the network, but in fact it was cited intensively in the first years after its delivery and not in the last twenty years. So, to obtain an accurate image of the construction of authorities in case-law, it is necessary to introduce temporality as an aspect of analysis. This will be demonstrated in the subsequent analysis of anti-discrimination cases, revealing important and potentially useful nuances in citation patterns.

4.1. Building a Case Law Citation Network

For the citation network analysis, a judgment-to-judgment network was built with judgments given by the CJEU (see figure 2). The network consists of all judgments from the first judgments in 1954, up to and including 2013. The network comprises 9,647 judgments and 42,057 citations. The documents in the network include only judgments from the Court of Justice of the European Union (and not opinions, etc.). The networks' data has been extracted from the Court's digital database, EUR-lex. The network excludes non-citing judgments. This means that the number of judgments which are passive, in the sense that they neither cite nor receive citations, are removed from the network. The non-active judgments, which are not citing and thus not contributing to the construction of authority, are not part of the web of relations. Based on all the active judgments, the centrality and connectivity measures are computed in the network. The network structure of the jurisprudence of the CJEU can be illustrated by the graph below. The graph exemplifies the judgments as nodes in the network and their ties as citations or references between them. Authority is represented by the size of the node, which means that the larger the node, the more references the judgment represented by the node receives.

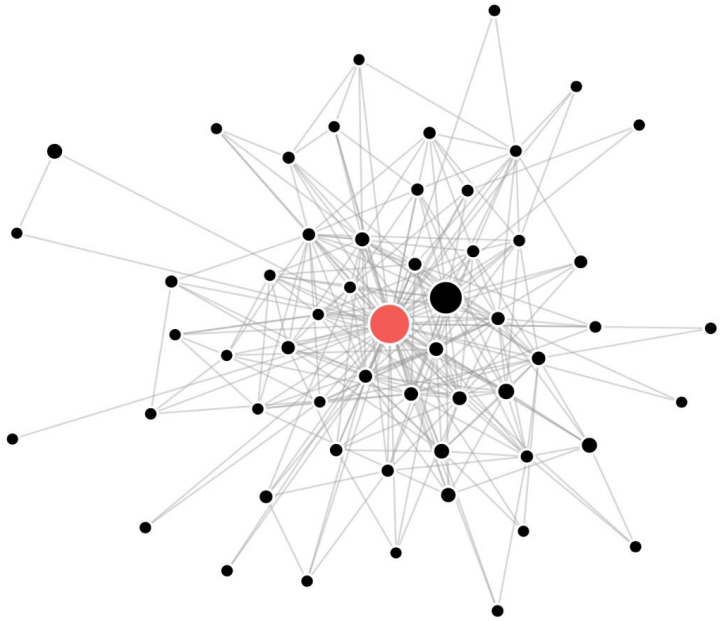

Figure 2: Illustration of case law citation network

A selection of a smaller number of cases is necessary to turn from a merely quantitative study of case law citation networks to an exploration of the role of authorities in the jurisprudence. In other words, some focus cases are required to gain insight into what the references and citations are constituted by. For this purpose, seven focus cases were chosen. The cases are displayed in the table:

Table 1: List of the seven focus cases

Year	Title	In cit.	Out cit.	Authority	ID
1971	Case 80-70 Defrenne I	19	0	0.01085	61970CJ0080
1976	Case 43-75 Defrenne II	48	0	0.03766	61975CJ0043
1978	Case 149/77 Defrenne III	13	4	0.00496	61977CJ0149
1986	Case 152/84 M. H. Marshall	54	3	0.03993	61984CJ0152
1990	Case 262/88 Barber	55	7	0.02607	61988CJ0262
1998	Case 85/96 Martínez Sala	36	0	0.04216	61996CJ0085
2001	Case 184/99 Grzelczyk	36	9	0.09716	61999CJ0184

Each of the focus cases is a node in legal networks of judgments of the CJEU. They were selected on the basis of three parameters.

Firstly, they are authoritative or important cases in the sense that among all cases, these judgments receive a high number of ingoing citations in the overall network. Ingoing citations, or in-degree score and authority score, are correlating in the sense that a judgment which has a high in-degree score in the two case law citation networks also has a high authority score (a citation network does not provide this correlation since it is possible that case A, for example, receives numerous citations from judgements that

do not cite other widely cited cases, and therefore case A has a high in-degree score but a low authority). Their ingoing and outgoing citations appear in the table. The most cited CJEU judgment is the *Barber* judgment from 1990 and the average number of ingoing citations for the focus judgments is 35.

A second parameter for the selection of focus judgments was the frequency of occurrence of the word *discrimination* (and *article 14* for ECtHR judgments) in the content of the judgments. When conducting a subject-matter search in the database (EUR-LEX) for judgments related to *discrimination*,[3] a very high number of cases is listed. However, when reading a sample of these cases, in fact many of them do not concern discrimination as the subject-matter of the case. Rather, the case may merely mention the term once, or the Registry of the Court has assigned the case the label *discrimination* without the case directly ruling on the matter. Therefore, to ensure that the focus judgments, being the outset for detecting the development of legal principles of discrimination, did in fact adjudicate on the matter, they were chosen among the judgments with the highest in-degree score and authority score in the overall network (on the basis of having the highest frequency of the word *discrimination* in their text content).

Thirdly, the focus judgments were chosen for their time of delivery. Several judgments met the first and second criterion; yet besides centrality in the citation network and actual subject-matter relevance, the judgments must also have been delivered at different times to detect paths over time. The age of a case will very likely impact the number of ingoing citations it has. An older case which has existed in the jurisprudence for a longer period, compared to a judgment which has only been delivered last year, will statistically have more chances of receiving more citations. Hence, the focus judgments were delivered over a period of approximately 40 years, from the 1960s to 2010.

This case law citation network provides a quantitative overview of which cases are more important in the eyes of the Court and which cases have been referred to or cited most frequently by the CJEU in its adjudication. We thus rely on citations and references as a proxy for importance and authority of the cases. On the basis of this network, the selection of seven of the most authoritative cases allows for an investigation of what it is they are cited for and what structure these citations create: is it path dependency in the sense in which it has been used in the scholarship?

4.2. Paragraph to Paragraph Network, Search Terms and Flows

The purpose of building the case law citation network is to detect how the most cited precedents create justificatory paths in the corpus of jurisprudence and, eventually, whether they create a consistency in the jurisprudence, which can equal path dependency.

[3] The subject-matter search is done differently in the two databases and the pre-coded search terms differ. They can be *discrimination*, *anti-discrimination*, *non-discrimination* etc. The point above is valid for all possible search entries in both databases.

The seven focus cases above were selected due to their high number of ingoing references to the judgment as a whole. However, the real interest is the content, which receives the most references and citations – in other words the content, which constitutes precedents. In order to gain insight into what content in the seven focus cases receives the most citations, i.e., which parts function as precedents for later cases, as a second step in the study, paragraph-to-paragraph networks were constructed by reading the cited paragraph and the citing paragraphs together. This way we obtained an overview of the most cited content in the cases. The figure below shows the cited content of the focus cases:

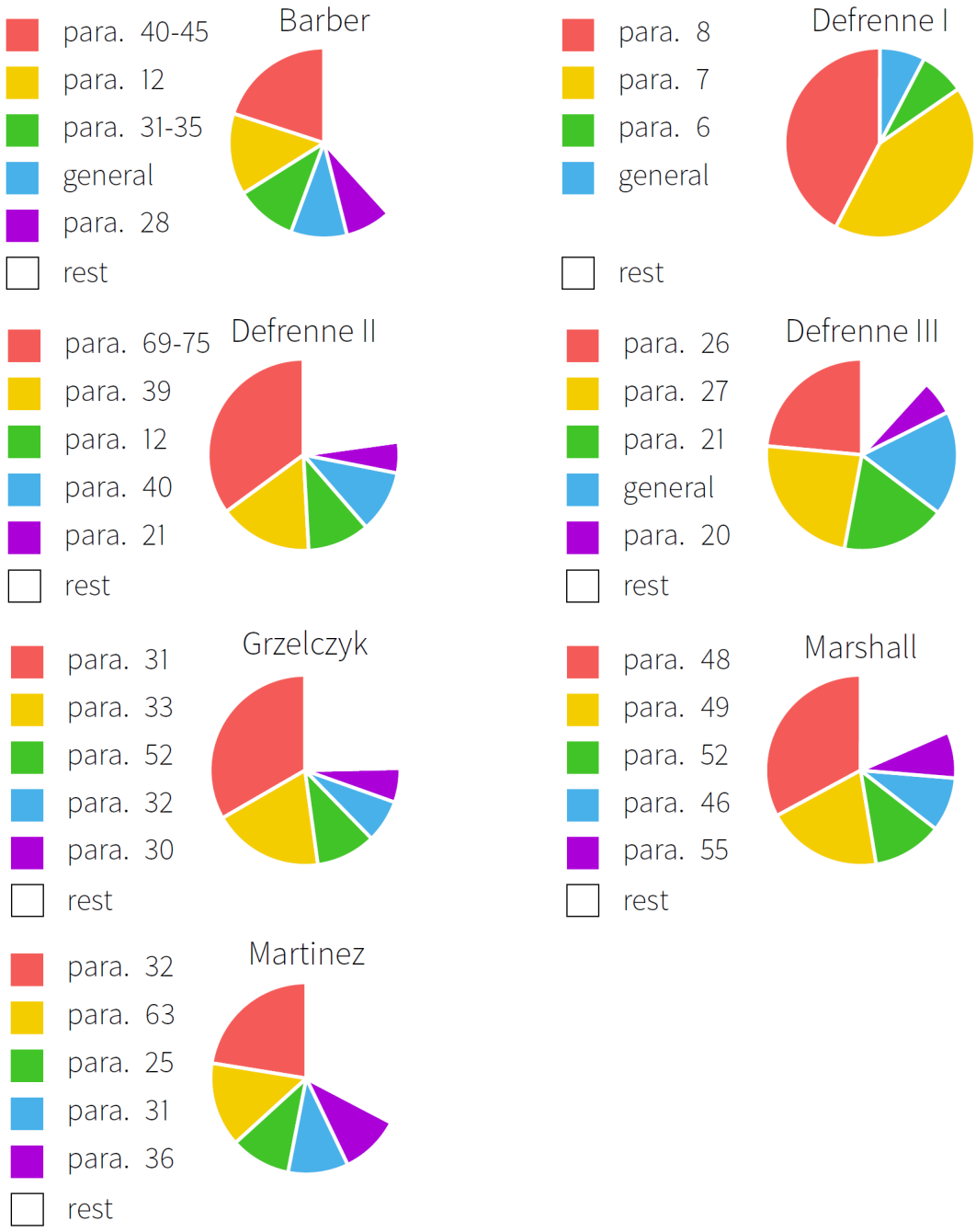

Figure 3: distribution of ingoing citation on paragraphs in the seven focus cases.

As seen from the diagrams above, most of the cases receive a large part of their ingoing citations to one paragraph in the judgment in particular. The actual content of the paragraphs is displayed in the table below:

Table 2: List of cited paragraphs

Case	Level
Grzelczyk	Union citizenship is destined to be the fundamental status of nationals of the Member States, enabling those who find themselves in the same situation to enjoy the same treatment in law irrespective of their nationality. Those situations (in which citizens of the union can rely of Article 6) include those involving the exercise of the fundamental freedoms guaranteed by the Treaty and those involving the exercise of the right to move and reside freely in another Member State. Article 6 must be read in conjunction with the provisions of the Treaty concerning citizenship of the Union in order to determine its sphere of application. Articles 6 and 8 of the Treaty preclude entitlement to a non-contributory social benefit, such as the minimex, from being made conditional […] on their falling within the scope of Regulation No 1612/68 when no such condition applies to nationals of the host Member State.
Barber	Article 119 EEC prohibits any discrimination with regard to pay as between men and women, whatever the system that gives rise to such inequality. Even if the private occupational scheme in question is set up as a trust and administered by trustees it still falls under Article 119 EEC. A pension paid under a contracted-out scheme constitutes consideration paid by the employer to the worker in respect of his employment and consequently falls within the scope of Article 119 of the Treaty. That interpretation of Article 119 is not affected by the fact that the private occupational scheme in question has been set up in the form of a trust and is administered by trustees. It is contrary to Article 119 of the Treaty for a man made compulsorily redundant to be entitled to claim only a deferred pension payable at the normal pensionable age when a woman in the same position is entitled to an immediate retirement pension as a result of the application of an age condition that varies according to sex.
Marshall	Directive 76/207 is unconditional and sufficiently precise to be relied upon by an individual as against the State. In any part of the implementation of the principle of equal treatment for men and women as regards access to employment, vocational training and promotion, and working conditions, as Directive 76/207 covers, it is not within the power of the Member States to delimit the principle of equal treatment. A policy, which allows a dismissal of a woman merely because she has reached the qualifying age for a State pension, is a discriminatory policy on grounds of sex.
Defrenne I	There cannot be brought within this concept, as defined in Article 119, social security schemes or benefits, in particular retirement pensions, directly governed by legislation without any element of agreement within the undertaking or the occupational branch concerned, which are obligatorily applicable to general categories of workers. The second paragraph of Article 119 EEC "extends the concept of pay to any other consideration, whether in cash or in kind, whether immediate or future, provided that the worker receives it, albeit indirectly, in respect of his employment from his employer".

Defrenne II	This double aim of Article 119 EEC which is at once economic and social, shows that the principle of equal pay is part of the foundations of the Community. The prohibition against discrimination between men and women applies not only to the action of public authorities, but also extends to all agreements which are intended to regulate paid labour collectively, as well as to contracts between individuals. Article 119 may be relied upon before the national courts and that these courts have a duty to ensure the protection of the rights which this provision vests in individuals. The objection that the terms of this article (Article 119 EEC) may be observed in other ways than by raising the lowest salaries may be set aside. A distinction must be drawn within the whole area of application of Article 119 between, first, direct and overt discrimination […] [and], indirect and disguised discrimination. Those types of direct discrimination, which are rooted in legislative provisions, i.e. legislation with an inherent discriminatory aspect, must be counted as direct discrimination as they are identifiable solely on the basis of reference to the criteria laid down in Article 119 EEC. Among the forms of direct discrimination must in particular be counted those "where men and women receive unequal pay for equal work carried out in the same establishment".
Defrenne III	Respect for fundamental personal human rights is one of the general principles of Community law, the observance of which it has a duty to ensure. Article 119 EEC is a 'special rule'. It is impossible to extend the scope of that article to elements of the employment relationship other than those expressly referred to. Despite economic effects, installing an age limit for certain conditions of employment is not sufficient for such conditions to fall under Article 119 EEC for the reason that this provision is based on the connection between the nature of the service provided and the remuneration. The touchstone which forms the basis of Article 119 that is, the comparable nature of the services provided by workers of either sex.
Martínez	A citizen of the European Union, such as the appellant in the main proceedings, lawfully resident in the territory of the host Member State, can rely on Article 6 of the Treaty in all situations which fall within the scope ratione materiae of Community law. Article 8(2) of the Treaty attaches to the status of citizen of the Union the rights and duties laid down by the Treaty, including the right, laid down in Article 6 of the Treaty, not to suffer discrimination on grounds of nationality within the scope of application ratione materiae of the Treaty.

For practically detecting how the cited precedents travel via paths through the case law, search terms were created on the basis of the distilled paragraphs and the precedents. The content, which appeared to be the core of the cited content, i.e., the precedents, was then translated into standard search terms based on Lexis Nexis' Boolean search connectors. Subsequently, we pre-tested the search terms on the entire corpus of judgments to ensure that they provided results, which were as exhaustive and relevant as possible. The search terms thus looked like the following example:

Table 3: Example of search term on the basis of paragraph in judgment

Defrenne III	**Level**
§19 In contrast to the provisions of Articles 117 and 118, which are essentially in the nature of a programme, Article 119, which is limited to the question of pay discrimination between men and women workers, constitutes a special rule, whose application is linked to precise factors.	(Article 119 OR Article 141 OR Article 157) AND special AND rule

The search terms were run through the entire corpus of cases providing a flow for each precedent, which the search terms are built on. In other words, the flow denotes the presence of the precedent in the entire corpus of jurisprudence.

An example of such flow-network is illustrated below. The temporality of the graph is from the top down: the red nodes at the top are the judgments in which the precedent temporally appears first, followed by the purple nodes and finally at the bottom of the figure the blue nodes.

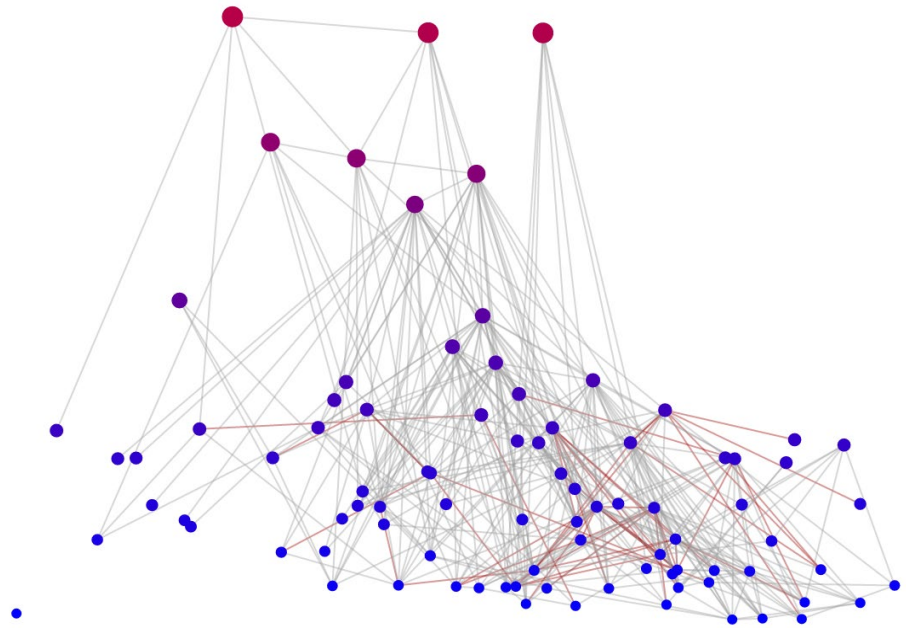

Figure 4: Example of a flow network

4.3. Strong and Weak Paths

Our interest in the flows is the paths through which the precedents travel. There are three different ways in which the precedents, whose presence in the jurisprudence we are exploring, are connected in a path to other judgments in the flow. A-links are the strongest, C-links the weakest.

> **A-links**: between citing judgment X and cited judgment Y, which *both contain the precedent (i.e., the content originally articulated in the focus cases) and the reference to Y (i.e., the name of the case, e.g., "C-262/88 Barber") is in the same paragraph of X where the precedent is stated*. It is therefore likely that X has inherited the precedent from Y. A-links are represented by a thicker red link in figure 7.

B-links: between citing judgment X and cited judgment Y. Judgments X and Y contain the precedent but *reference to Y is not found in the same paragraph of X where the precedent is*. The judgments may have influenced each other – but we cannot trace a direct citation between paragraphs. Therefore, it is unlikely that the referring case has inherited the principle from the referred case since the reference and the principle appears in different parts of the citing judgment. B-links are represented by a thin grey link in figure 7.

C-links: contains no reference or citation. Judgments X and Y both contain the principle, *but there is no citation or reference between them or other judgments that contain the precedent*. There is therefore no indication that judgment X has inherited the principle or other precedents from Y. C-links are represented in Figure 7 by the absence of a link, but indicated by a detached node, representing a judgment, in the periphery of the flow network.

There are by far the most B-links in figure 7 above (grey links). This means that the precedent (i.e., the content originally articulated in the focus cases) and the reference to the cases (e.g., "C-262/88 Barber") do not appear in the same paragraph. On this basis, we cannot conclude that the referring judgment inherits the precedent from the cited judgment. However, some of the judgments represented as blue nodes at the bottom of the flow are tied together by the stronger A-links (red lines). This means that the citation and precedent are in the same paragraph of the citing case. For these cases, there is a strong likelihood that the citing judgment inherits the precedent from the cited judgment.

A number of questions now arise. How do the precedents make paths? Are there some precedents that display a clear path in the jurisprudence? Do the principles flow through the jurisprudence in similar ways or are there big differences? Naturally, more recent cases do not flow for as many years as the older ones. However, the older cases may become redundant or be replaced (which of these we cannot tell on the basis of this study) at some point before the network expires.

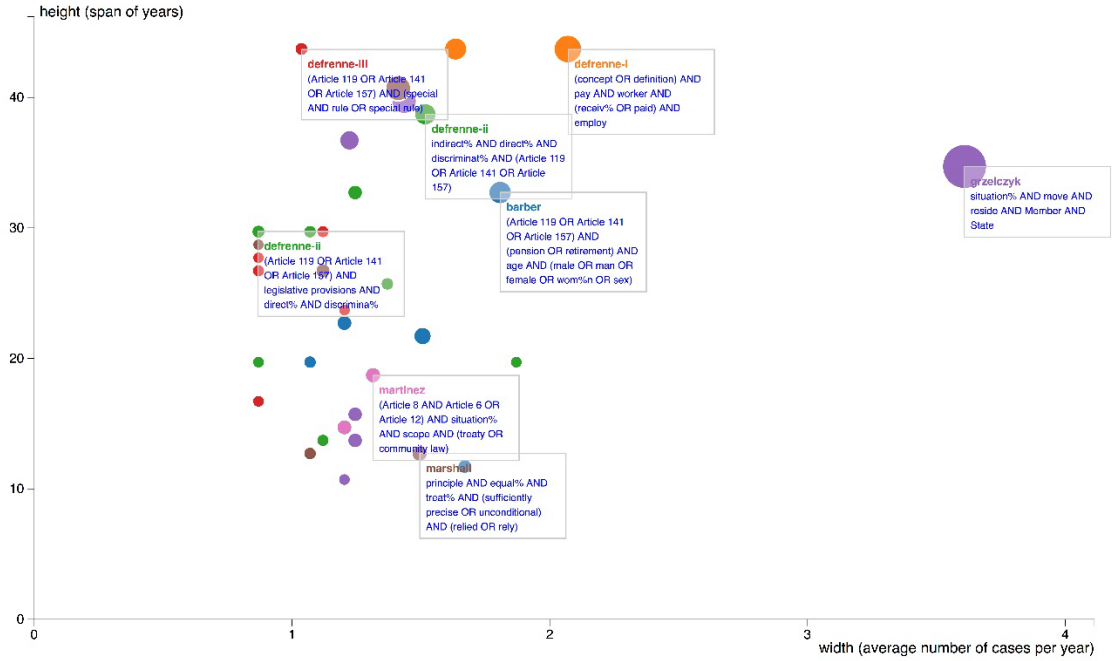

Figure 5: Flow size chart of precedents

Figure 5 displays the size of each flow. The nodes each represent a principle and the size of a node indicates its flow size. The flow size is also indicated by the position of the node. As the *x*-axis is the width of a case, i.e., the average number of cases containing the precedent per year, and the *y*-axis is the number of years across which the precedent flows, the largest precedent flow networks score the most on both axes and are situated to the top-right of the chart.

Figure 5 shows that there are big differences between some principles that give rise to large flows, containing many cases which flow across many years, as opposed to other precedents which appear to not flow much beyond the citations they have received in the focus judgments. The largest flows as seen from the chart are:

Table 4: List of largest flows of principles

Case	Largest flow
Defrenne I	The concept of pay in Article 119 EEC means any consideration, whether in cash or in kind, whether immediate or future, provided that the worker receives it, albeit indirectly, in respect of his employment from his employer. Although consideration in the nature of social security benefits is not therefore in principle alien to the concept of pay, there cannot be brought within this concept, as defined in Article 119, social security schemes or benefits, in particular retirement pensions, directly governed by legislation without any element of agreement within the undertaking or the occupational branch concerned, which are obligatorily applicable to general categories of workers.
Defrenne II	A distinction must be drawn within the whole area of application of Article 119 EEC between, first, direct and overt discrimination […] and indirect and disguised discrimination.
Marshall	Article 5 of Directive No 76/207 does not confer on the Member States the right to limit the application of the principle of equality of treatment in its field of operation.
Barber	The answer to the third and fifth questions submitted by the Court of Appeal must therefore be that it is contrary to Article 119 of the Treaty for a man made compulsorily redundant to be entitled to claim only a deferred pension payable at the normal pensionable age when a woman in the same position is entitled to an immediate retirement pension as a result of the application of an age condition that varies according to sex in the same way as is provided for by the national statutory pension scheme.
Grzelczyk	Those situations include those involving the exercise of the fundamental freedoms guaranteed by the Treaty and those involving the exercise of the right to move and reside freely in another Member State. It follows from the foregoing that Articles 6 and 8 of the Treaty preclude entitlement to a non-contributory social benefit, such as the minimex, from being made conditional, in the case of nationals of Member States other than the host State where they are legally resident, on their falling within the scope of Regulation No 1612/68 when no such condition applies to nationals of the host Member State.

There are fewer significantly large flow networks. The two precedents with the longest and widest flow both stem from *Defrenne I* regarding the concept of pay and demarcating its scope concretely by excluding social security benefits.

Another of the most used precedents is from paragraph 18 in *Defrenne II*. This precedent states that a distinction should be drawn, within the area of equal pay between men and women in Article 119 EEC, between direct and indirect discrimination. Again, this precedent shows a discernment of the legal basis and thus an interpretation of what discrimination means. Similarly, principles of the *Marshall* judgment and *Barber* cause large flows.

The final precedent, which is seen to cause a significantly large flow, is curiously from the recent judgment in the case of *Grzelczyk* from 2001 and states that the situations in which citizens of the Union can rely on Article 6 involve the right to move and reside freely in another Member State as conferred by Article 8a of the Treaty. The common denominators between these precedents are that they convey central information about the scope of the legal basis or how it is to be applied to cases.

Moreover, the largest flows tend to be from the earliest judgments, *Defrenne I* and *II*, as there is a high degree of overlap between the authorities, most cited paragraphs, and the largest flows. However, some of the most recent judgments, such as *Grzelczyk*, are used far beyond their original context, which can be explained by the fact that the content for which *Grzelczyk* is cited actually appeared in a much earlier judgment, and *Grzelczyk* has merely been attributed authority for it.

The largest flows are of interest here because they indicate that the precedent present in the jurisprudence they represent is used widely, i.e., they contain many cases and flow across many years. This constitutes a basis for testing path dependence, since path dependence involves a lock-in effect whereby cases tend to cite or refer to the same precedents. This will be explored in more detail in the following section.

5. Testing for Path Dependence

The largest flow-networks above will serve as the basis for testing for path dependence. Path dependence as defined by Pierson in the application to legal studies (Pierson, 2000; Kay, 2005; Rixen & Viola, 2009) involves an element of citation predictability in the sense that as decision-making develops through increasing steps in the same direction, judgments tend to increasingly cite the same cases. Hence, if the judgments make use of the same precedents, the cases should become more alike over time and the case law more homogenous.

Our hypothesis is that this is not the case at least in the jurisprudence of an international court like the CJEU, because of some fundamental aspects of the Court's role and function, most notably its preliminary reference procedure whereby the Court receives questions about the interpretation of EU law and where the precondition for the Court engaging with these questions is that it has not answered these questions before (Schmidt, 2012). As the supreme interpreter of EU law, the CJEU answers principled questions on the interpretation of EU legal provisions and the compatibility of national

laws with these acts, and these questions have, by definition, not been answered by the Court before. This essentially means that the case law of such a court evolves and develops. No two cases are the same and concern identical legal issues, which we claim precludes a lock-in effect and sets a natural limit to the increasing returns to the same precedents as the facts of the cases, which the Court is meant to apply the precedents to, always changes.

For the purpose of testing for path dependence in the flows of precedents, we therefore use 'similarity between the cases that cite each other' as a proxy for path dependence. As accounted for above, the suggested consequence of path dependency is that the cases become more similar to each other over time. We interpret this process of path dependency and the lock-in mechanism which it creates, as resulting in a high degree of similarity between judgments that are precedents and the cases citing them. To concretely measure similarity between the citing and the cited judgments' paragraphs we used the paragraphs' text, i.e., the actual textual material of the precedents and their citing paragraphs were employed. Next, this linguistic material was cleaned in the sense of removing all case references, numbers, marks, parentheses, stop words, etc., they were put in lowercase and converted into a 'bag of words'. The resulting textual set was compared by using the *Jaccard* similarity coefficient (see, for example: Bag et al., 2019: 53–64), which is used for comparing sameness and difference between samples. The *Jaccard* index is the number of co-occurring words (those present in both textual sets) divided by the total number of words in the two sets together. In this context it is thus the overlap between relevant paragraph parts among cases in the network flows.

The cases were grouped in years and in each set of cases in a given year, three similarity measures for each of the largest flow precedents were calculated using the *Jaccard* method. To do this, we firstly calculated the similarity between the citing cases' paragraphs and the cited cases' paragraphs in each year (as an example *Barber* and *Kowalska* from 1990). When there are two cases, A and B, where A cites B, the similarity between A and B is measured by the *Jaccard* method and is termed 'reference similarity' as it denotes the similarity between judgments citing each other. If the path dependency claim should be confirmed, cases citing each other should tend to be more similar to each other than to other cases in the network. The reference similarity is represented by the red line in the graphs below.

Secondly, the similarity between paragraphs in all cases and the paragraphs in the focus cases was calculated. This is the 'focus case similarity' and an example is the similarity between *Defrenne II* and all other cases in the flow network. The focus case similarity is represented by the yellow curve in the graphs.

Thirdly, similarity of paragraphs in all judgments in the same year is also calculated. This means that for all cases in year Y, their similarity is calculated and compared with all other cases in Year Y–1. This similarity is termed year-similarity and is represented by the green curve.

Thus, our method for testing whether there is path dependency in the flow-networks and ultimately in the anti-discrimination case law of the CJEU consists in comparing 1) judgments to their citing judgments, 2) the seven focus cases to all other cases in the flow network and (3) all judgments to judgments in the previous year.

If the hypothesis that the jurisprudence of the CJEU is path dependent should be confirmed, a high red curve (or increasing one) with a low (or decreasing) yellow and green curve should show in the graphs. This would mean that cases that are connected through the reference to a precedent tend to be more similar (more well-defined), while they diverge from the original case (our selected authority case) as well as from other contemporary cases. The similarly between cited and the citing paragraphs (reference similarity) is a proxy for the path dependence argument that sequence becomes the determining factor for later decisions. The results are illustrated in figure 6 below.

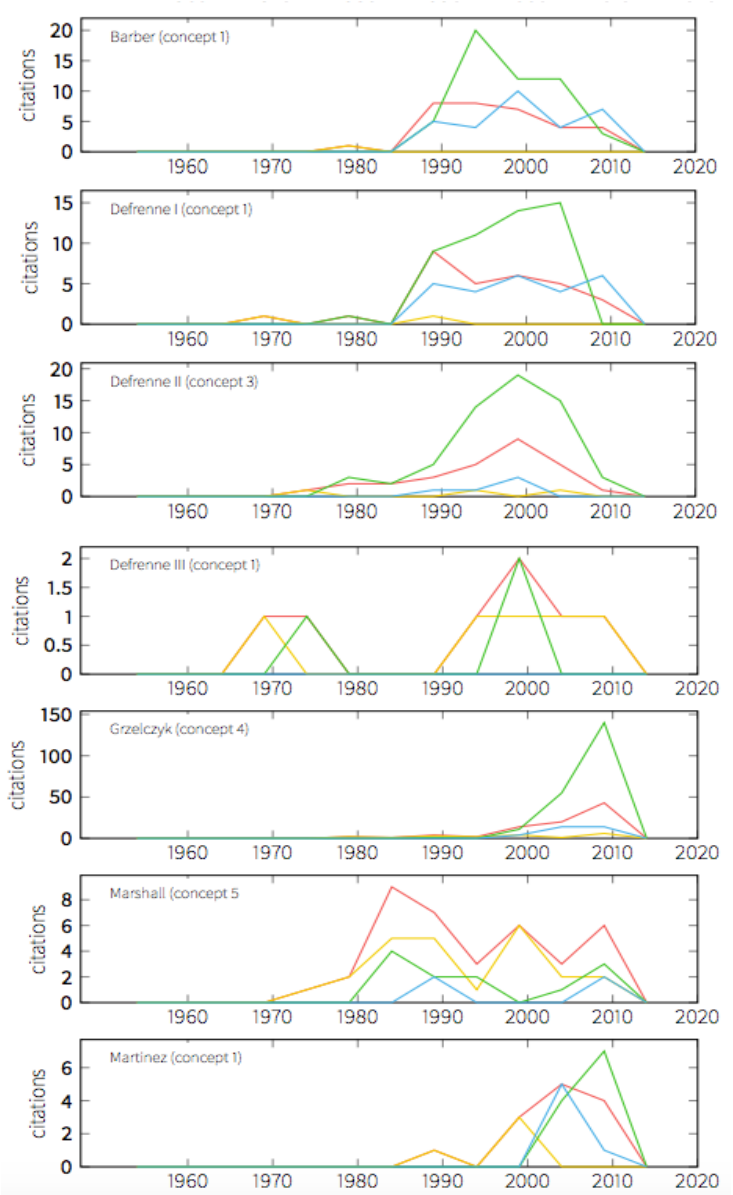

Figure 6: Path dependence measure as three types of similarities

The graphs do not show a clear high or increasing red curve relative to the green and yellow curves. On the contrary, what characterizes the curves in figure 10 is that the three curves tend to be aligned (except for *Marshall*, but this appears only in the early 1990s, and given the trends for *Marshall* in other periods and all the other cases, we cannot infer path dependency). This means that there is not more similarity between cases that are citing each other than between a case and the focus case or between a case and other cases in previous years. Even if there are fluctuations between the reference similarity (red curve), and the focus-case similarity (yellow curve), and the similarity between all cases in the year (green curve), the pattern does not show a significant difference between the levels of similarity, and it particularly does not show a significantly higher level of reference similarity, i.e., similarity among cases citing each other.

What can explain this absence of path dependency? Diversification of cases might be the best explanation, in the sense that cases that set a precedent, even if used widely and cited extensively, are applied across diverse legal cases and contexts. Our study shows that the jurisprudence forms paths, but these paths are not distinct; the cases on these paths are not more alike than they are to other cases. Another implication follows; if the precedent citations in the flow networks do not exhibit path dependency characteristics defined as similarity between citing cases, the jurisprudence does not become more well-defined over time. In other words, there is no lock-in mechanism that results in very similar decisions between precedents and their citing cases. "Well-defined" referred to a stronger similarity between the cases that are linked through a precedent citation or reference, thereby inducing further steps in the same direction, which consequently creates a higher level of norm determinacy supporting the path dependency argument. Again, the diversity of the cases before the CJEU can explain the lack of well-definition: because the preliminary reference procedure requires that cases sent to the CJEU are sufficiently different in the facts of the cases and that no two cases ask the same question about the same circumstances, the cases refer to one another by finding precedents that provide guidance in more general principles, but the rest of the paragraphs in the judgments remain sufficiently different for the jurisprudential paths to intertwine and become more well-defined over time.

This study showed that there was not a kind of path dependency that can be translated and measured in terms of similarity between cases over time. We therefore propose to adjust the theory of path dependency, which may be too radical a characterization of the real jurisprudence of the CJEU. Instead, we propose to describe the case law as dynamically consistent.

If visualizing the jurisprudence where dynamic consistency is the *modus operandi* of decision-making in an area of case law like anti-discrimination, we could picture a tree structure with entangled branches (or paths). These branches grow due to the diversity of legal issues adjudicated at the CJEU – and possibly a cognitive bias and memory of legal agents (judges and law clerks) who drafted a similar judgment and may exhibit a tendency to cite their own decisions rather than the ones they only vaguely remember.

DOI: 10.14762/jll.2024.071

By saying "dynamic consistency" we refer to a jurisprudence, which is dynamic in the sense of changing due to diversification of cases and consistent because there is, after all, often a return to certain principles in the precedent citation. Yet, the dynamic and consistent case law is not showing an overall lock-in effect, whereby the case law within whole areas becomes more well-defined.

6. Conclusion: Dynamic Consistency not Path Dependent

In this paper, our starting point was a critique of the use of the concept of path dependency in legal scholarship and a hypothesis that it was not an accurate conceptualization of the development of the case law in the area of anti-discrimination case law of the CJEU and not capable of being confirmed against an empirical test of the latter. In our study we found that there was no path dependency when the theory is empirically tested as similarity of language between precedents cited and their citing paragraphs. We therefore suggest to adjust the theory of path dependency and characterization of the case law. In this regard, it is important to stress that such corrective measures still recognize that there is indeed a system of precedent at play in the adjudication of the CJEU, which is an important factor in creating coherence in the case law, and that the correction is aimed at the use of path dependency as a concept with a specific meaning and implications. The observations in the scholarship may well be in line with a more general feature in judicial decision-making as 'sequence matters'. Here it is left open how much sequence and precedent matters. It seems timely to revisit why it is important to consider path dependency a distinct process which should not be confounded with other kinds of legal development processes. At the beginning of this paper, we pointed to criticisms of path dependency which in particular stress the theory's incapacity to account for legal change. Path dependency is defined as a causal process and the existence of a lock-in mechanism, which creates a continuously more well-defined case-law. This is not a trend that can be identified when looking at the CJEU's case law, because case law is developed based on what is presented to it by Member State courts using the Article 267 reference for a preliminary ruling procedure. Because the preliminary reference procedure is designed in such a way that national courts ask the CJEU for interpretations of EU law that have not previously been provided, and since the CJEU uses past cases as a system of precedent that guides but does not bind subsequent decisions, we constantly see new courses of legal interpretation and development. Even if the CJEU is fundamentally concerned with ensuring a consistent case law, it is a very different matter from a path dependent case law, where there is little or no room for legal change.

DOI: 10.14762/jll.2024.071

References

Alter, Karen J. (1998). Who Are the "Masters of the Treaty"? European Governments and the European Court of Justice. *International Organization*, *52*(1), 121–147.

Baaij, Cornelis J. W. (2012). Fifty Years of Multilingual Interpretation in the European Union. In Solan & Tiersma (Eds.), *The Oxford Handbook of Language and Law* (pp. 217–234). New York: Oxford University Press.

Bag, Sujoy, Kumar, Sri Krishna, Tiwari, Manoj Kumar (2019). An Efficient Recommendation Generation Using Relevant Jaccard Similarity. *Information Sciences*, *483*, 53–64. DOI: 10.1016/j.ins.2019.01.023.

Broberg, Morten & Fenger, Niels (2014). *Preliminary References to the European Court of Justice*. Oxford: University Press.

Cichowski, Rachel A. (2013). Legal Mobilization, Transnational Activism, and Gender Equality in the EU. *Canadian Journal of Law and Society/La Revue Canadienne Droit et Société*, *28*(2), 209–227. DOI: 10.1017/cls.2013.22.

David, Paul A. (1994). Why Are Institutions the 'Carriers of History'? Path Dependence and the Evolution of Conventions, Organizations and Institutions. *Structural Change and Economic Dynamics*, *5*(2), 205–220. DOI: 10.1016/0954-349X(94)90002-7.

David, Paul A. & Greenstein, Shane (1990). The Economics of Compatibility Standards: An Introduction to Recent Research. *Economics of Innovation and New Technology*, *1*(1/2), 3–41. DOI: 10.1080/10438599000000002.

de Búrca, Gráinne (2016). *The Decline of the EU Anti-Discrimination Law?* Available at: law.nyu.edu/sites/default/files/upload_documents/The%20Decline%20of%20the%20EU%20Anti-Discrimination%20Law.pdf (accessed 4 March 2024).

Derlén, Mattias & Lindholm, Johan (2015). Characteristics of Precedent: The Case law of the European Court of Justice in three dimensions. *German Law Journal*, *16*(5), 1073–1098. DOI: 10.1017/S2071832200021040.

Derlén, Mattias & Lindholm, Johan (2014). Goodbye van Gend en Loos, Hello Bosman? Using Network Analysis to Measure the Importance of Individual CJEU Judgments. *European Law Journal*, *20*(5), 667–687.

Derlén, Mattias & Lindholm, Johan (2017). Peek-A-Boo, It's a Case Law System! Comparing the European Court of Justice and the United States Supreme Court from a Network Perspective. *German Law Journal*, *18*(3), 647–686. DOI: 10.1017/S2071832200022100.

Fowler, James H., Johnson, Timothy R., Spriggs II, James F., Jeon, Sangick & Wahlbeck, Paul J. (2007). Network Analysis and the Law: Measuring the Legal Importance of Precedents at the US Supreme Court. *Political Analysis*, *15*(3), 324–346.

Fowler, James H. & Jeon, Sangick (2008). The Authority of Supreme Court Precedent. *Social Networks*, *30*(1), 16–30. DOI: 10.1016/j.socnet.2007.05.001.

Frese, Amalie (2022). How to Nail Down a Cloud: CJEU's Construction of Jurisprudential Authority from a Network Perspective. In Madsen, Nicola & Vauchez (Eds.), *Researching the European Court of Justice: Methodological Shifts and Law's Embeddedness* (pp. 49–81). Cambridge: University Press. DOI: 10.1017/9781009049818.004.

Frese, Amalie & Palmer Olsen, Henrik (2019). Citing Case Law: A Comparative Study of Legal Textbooks on European Human Rights Law. *European Journal of Legal Studies*, *11*, 91–131. DOI: 10.1017/9781009049818.004.

Hathaway, Oona A. (2001). Path Dependence in the Law: The Course and Pattern of Legal Change in a Common Law System. *Iowa Law Review*, *86*(2), 601–666.

Howard, Erica (2018). EU Anti-discrimination Law: Has the CJEU Stopped Moving Forward? *International Journal of Discrimination and the Law*, *18*(2/3), 60–81.

Howard, Erica (2006). The Case for a Considered Hierarchy of Discrimination Grounds in EU Law. *Maastricht Journal of European and Comparative Law, 13*(4), 445–470.

Jacob, Marc (2014). Precedent Application by the ECJ. In Jacob (Ed.), *Precedents and Case-Based Reasoning in the European Court of Justice: Unfinished Business* (pp. 87–126). Cambridge: University Press.

Kay, Adrian (2005). A Critique of the Use of Path Dependency in Policy Studies. *Public Administration, 83*(3), 553–571. DOI: 10.1111/j.0033-3298.2005.00462.x.

Komárek, Jan (2013). Reasoning with Previous Decisions: Beyond the Doctrine of Precedent. *The American Journal of Comparative Law, 61*(1), 149–172. DOI: 10.5131/AJCL.2012.0013.

Linos, Katerina (2010). Path Dependence in Discrimination Law: Employment Cases in the United States and the European Union. *The Yale Journal of International Law, 35*(1), 115–169.

Lupu, Yonatan & Voeten, Erik (2012). Precedent in International Courts: A Network Analysis of Case Citations by the European Court of Human Rights. *British Journal of Political Science, 42*(2), 413–439. DOI: 10.1017/S0007123411000433.

McAuliffe, Karen & Trklja, Aleksandar (2018). Superdiversity and the Relationship Between Law, Language and Translation in a Supranational Legal Order. In Creese & Blackledge (Eds.), *The Routledge Handbook of Language and Superdiversity* (pp. 426–441). London: Routledge.

Panagis, Yannis & Šadl, Urska (2015). The Force of EU Case Law: A Multi-Dimensional Study of Case Citations. In Rotolo (Ed.), *Legal Knowledge and Information Systems* (pp. 71–80). Frontiers in Artificial Intelligence and Applications, 279. Amsterdam: IOS Press.

Paunio, Elina (2021). Reasoning with Past Cases at the CJEU: Linguistic, Institutional and Systemic Constraints. In Frese & Schumann (Eds.), *Precedents as Rules and Practice: New Approaches and Methodologies in Studies of Legal Precedents* (pp. 129–155). Baden-Baden: Nomos.

Pierson, Paul (2000). Increasing Returns, Path Dependence, and the Study of Politics. *American Political Science Review, 94*(2), 251–267, DOI: 10.2307/2586011.

Rixen, Thomas & Viola, Lora A. (2009). *Uses and Abuses of the Concept of Path Dependence: Notes Toward a Clearer Theory of Institutional Change*. Available at: wiwiss.fu-berlin.de/forschung/pfadkolleg/downloads/summer_school_2009/Paper_Rixen_Viola.pdf (accessed 04 March 2024).

Schmidt, Susanne K. (2012). Who Cares about Nationality? The Path-dependent Case Law of the ECJ from Goods to Citizens. *Journal of European Public Policy, 19*(1), 8–24. DOI: 10.1080/13501763.2012.632122.

Suk, Julie C. (2008). Procedural Path Dependence: Discrimination and the Civil-Criminal Divide. *Washington University Law Review, 85*(6), 1315–1371. DOI: 10.2139/ssrn.1006759.

Stone Sweet, Alec (2002). Path Dependence, Precedent and Judicial Power. In Shapiro & Stone Sweet (Eds.), *On Law, Politics, and Judicialization* (pp. 112–135). Oxford: University Press.