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## Networks, Dialogue or One-Way Traffic? An Empirical Analysis of Cross-Citations Between Ten of Europe's Highest Courts

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### 1. Introduction

Courts play a decisive role in most legal systems. Thus, it is interesting to explore empirically how courts work and how their judgments are drafted. In the present article we analyse a particular question of court-reasoning, namely: do highest courts from different countries interact with each other, for instance, by way of reading and citing each other's case law?<sup>1</sup>

Previous research often found that courts rarely look abroad.<sup>2</sup> However, in a globalising world, even in law, which has traditionally been a prerogative of the sovereign nation-state, some cross-border interaction seems likely. For instance, Anne Marie Slaughter contemplates that nowadays:

'judges see each other not only as servants and representatives of a particular polity, but also as fellow professionals in an endeavour that transcends national borders.'<sup>3</sup>

This statement was made in the context of transnational litigation, but it may also be a reflection of a more general trend. At the most basic level, the development of a 'one-way traffic' situation is conceivable, when a court of a relatively small jurisdiction closely follows the jurisprudence of a larger one. With the development of a more intense interaction, this may become a dialogue if the latter jurisdiction begins to

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1 A different question is whether cross-citations are desirable. For a summary of the main arguments see C. McCrudden, 'Judicial Comparativism and Human Rights', in E. Özüncü & D. Nelken (eds.), *Comparative Law: A Handbook*, 2007, p. 371 at pp. 387-391.

2 See, e.g., B. Markesinis & J. Fedtke (eds.), *Judicial Recourse to Foreign Law*, 2006; B. Markesinis & J. Fedtke, 'The Judge as Comparatist', 2005 *Tulane Law Review* 80, pp. 11-167; G. Canivet et al. (eds.), *Comparative Law Before the Courts*, 2004; G. Canivet, 'The Practice of Comparative Law by the Supreme Courts: Brief Reflections on the Dialogue Between the Judges in French and European Experience', 2006 *Tulane Law Review* 80, pp. 1377-1400; U. Drobnig & S. Van Erp (eds.), *The Use of Comparative Law by Courts*, 1999.

3 A.M. Slaughter, 'A Global Community of Courts', 2003 *Harvard International Law Journal* 44, pp. 191-221 at p. 193. See also K.G. Young, 'The World, through the Judge's Eye', 2009 *Australian Yearbook of International Law* 28, pp. 27-84 at p. 38 ('idea that a new, global, demos has challenged the territorial boundaries in which the basic unit of democracy can be understood.').

take some interest in the case law of the former country.<sup>4</sup> Going further, if countries belong to the same group of countries (for instance, the EU or the same legal family), it may be the case that the communication between highest courts forms part of a formal or informal network.<sup>5</sup>

Such interaction may take place in various forms. There is some direct transnational collaboration and communication between highest court judges,<sup>6</sup> but in this article we focus on cross-citations as a form of influence. Of course, the citation of a foreign court does not necessarily mean that foreign ideas were really a decisive consideration for the outcome of a case. Nonetheless, cross-citations can show to what extent courts use foreign law as a justification for a judicial decision, be it a positive or negative example. In the project from which this article derives,<sup>7</sup> we have collected data on how often and in which circumstances ten European highest courts cite each other. We managed to get access to the full text of almost all decisions of these highest courts for the period between 2000 and 2007. In total we have considered 636,172 decisions and we have found 1,430 cross-citations.

The remainder of this article is structured as follows: Section 2 summarises the data considered and the search methodology used. Section 3 presents bar charts on cross-citations. Network presentations of the data follow in Section 4. In Section 5 we distinguish between outgoing and incoming citations. Section 6 concludes.

## 2. Population and search methodology

Table 1 presents the list of countries and courts examined, the databases used, and the subject matter jurisdiction of the ten highest courts. It also indicates how many decisions the highest courts have published between 2000 and 2007 and how this translates into the number of decisions per 1,000 inhabitants.

*Table 1 Countries and courts*

<i>Country</i>	<i>Population 2004<sup>A</sup></i>	<i>Name of highest court</i>	<i>Database used</i>	<i>Subject matter jurisdiction of court</i>	<i>Total number of reported decisions 2000-2007</i>	<i>Decisions per 1,000 inhabitants</i>
<b><i>Austria</i></b>	8,174,762	Oberster Gerichtshof	RIS <sup>B</sup>	Civil law (including employment and social law), criminal law	28,868	3.53
<b><i>Belgium</i></b>	10,348,276	Cour de cassation, Hof van Cassatie	Court website <sup>C</sup>	Civil law (including employment, law), criminal law	24,053	2.42
<b><i>England and Wales</i></b>	53,057,000	Court of Appeal	Westlaw <sup>D</sup>	All areas of law	25,855	0.49
<b><i>France</i></b>	60,424,213	Cour de cassation	Legifrance <sup>E</sup> and court website <sup>F</sup>	Civil law (including employment, law), criminal law	107,396	1.78
<b><i>Germany</i></b>	82,424,609	Bundesgerichtshof	Beck Online <sup>G</sup>	Civil law (excluding employment and social security law), and criminal law	22,950	0.28

4 C. L'Heureux-Dubé, 'The Importance of Dialogue: Globalization and the Impact of the Rehnquist Court', 1998 *Tulsa Law Journal* 34, pp. 15-40 at p. 17 (change from reception to dialogue). See also G.S. Goodwin-Gill & H. Lambert (eds.), *The Limits of Transnational Law: Refugee Law, Policy Harmonization and Judicial Dialogue in the European Union*, 2010.

5 For details on the concept of networks in different disciplines see the paper by Claes & de Visser in this volume (M. Claes & M. de Visser, 'Are You Networked Yet? On Dialogues in European Judicial Networks', 2012 *Utrecht Law Review* 8, no. 2, pp. 100-114).

6 See e.g., the Network of the Presidents of the Supreme Judicial Courts of the EU <<http://www.network-presidents.eu>> (last visited 2 January 2012). See also Claes & de Visser, *supra* note 5.

7 See also Section 2, *infra*.

Country	Population 2004 <sup>A</sup>	Name of highest court	Database used	Subject matter jurisdiction of court	Total number of reported decisions 2000-2007	Decisions per 1,000 inhabitants
<b>Ireland</b>	3,969,558	High Court	Bailii <sup>H</sup> and Court website <sup>I</sup>	All areas of law (but not criminal appeals)	2,357	0.59
<b>Italy</b>	58,057,477	Corte di cassazione, Corte Suprema di Cassazione	De Jure <sup>J</sup>	All areas of law (with the exception of constitutional matters)	196,876	3.39
<b>Netherlands</b>	16,318,199	Hoge Raad	Court website <sup>K</sup>	Civil (including employment law), criminal and tax law	9,073 [36,020] <sup>L</sup>	0.56 [2.20]
<b>Spain</b>	40,280,780	Tribunal Supremo	Court website <sup>M</sup>	All areas of law (with the exception of constitutional matters)	190,174	4.72
<b>Switzerland</b>	7,450,867	Bundesgericht	Court website <sup>N</sup>	All areas of law	27,570	3.70

A Sources: CIA Factbook, 2004 data available at <[http://www.nationmaster.com/graph/peo\\_pop\\_cia\\_fac-people-population-cia-factbook&date=2004](http://www.nationmaster.com/graph/peo_pop_cia_fac-people-population-cia-factbook&date=2004)> (last visited 2 January 2012). For England and Wales: National Statistics website, available at <<http://www.statistics.gov.uk/STATBASE/ssdataset.asp?vlnk=9544>> (last visited 2 January 2012).

B <<http://www.ris.bka.gv.at>> (last visited 2 January 2012) (public law database of the Federal Chancellery).

C <<http://jure.juridat.just.fgov.be/?lang=fr>> (last visited 2 January 2012). Source for the number of decisions: Rapport Annuel 2007, available at <[http://www.cass.be/cass/cass\\_fr/p6.htm](http://www.cass.be/cass/cass_fr/p6.htm)> (last visited 2 January 2012), at pp. 220-221.

D <<http://www.westlaw.co.uk>> (last visited 2 January 2012) (Law Reports and Official Transcripts).

E <<http://www.legifrance.gouv.fr>> (last visited 2 January 2012).

F <<http://www.courdecassation.fr/>> (last visited 2 January 2012) (for selected opinions of the avocat general).

G <<http://www.beck-online.de>> (last visited 2 January 2012).

H <<http://www.bailii.org/ie/cases/IEHC/>> (last visited 2 January 2012).

I <<http://www.courts.ie/Judgments.nsf/advancedsearch?openform&l=en>> (last visited 2 January 2012).

J <<http://dejure.giuffre.it/>> (last visited 2 January 2012) (commercial database used with University of Bologna subscription).

K <[http://zoeken.rechtspraak.nl/default.aspx?searchtype=kenmerken&instantie\\_uz=Hoge%20Raad](http://zoeken.rechtspraak.nl/default.aspx?searchtype=kenmerken&instantie_uz=Hoge%20Raad)> (last visited 2 January 2012). This database reports the most important decisions; see <<http://www.rechtspraak.nl/Over+deze+site/>> (last visited 2 January 2012).

L Number of decisions according to the annual reports; see *Jaarverslagen*, available at <<http://www.rechtspraak.nl/Gerechten/HogeRaad/Over+de+Hoge+Raad/Publicaties/>> (last visited 2 January 2012) (number civil law decisions 2000-2007: 478, 489, 488, 490, 466, 452, 463, 475; criminal law: 2,901, 3,066, 3,271, 3,003, 2,870, 3,447, 3,137, 3,076; tax law: 797, 797, 789, 1,058, 1,083, 1,084, 978, 863).

M <<http://www.poderjudicial.es/jurisprudencia/>> (last visited 2 January 2012).

N <<http://www.bger.ch/index/jurisdiction/jurisdiction-inherit-template/jurisdiction-recht/juris-dic-tion-recht-urteile2000.htm>> (last visited 2 January 2012) and <<http://www.polyreg.ch/d/informationen/bge.html>> (last visited 2 January 2012).

In an associated article we describe the choice of countries and courts in detail.<sup>8</sup> In this article we also make it clear that our project does not aim to examine why, according to Table 1, not only the absolute number of cases but also the decisions per capita are very disparate. It would be the topic of a separate empirical study to explore this question. For instance, it possibly matters that there are differences in subject matter jurisdiction. Moreover, many further factors may influence the number of highest court decisions, such as appeal requirements and procedures, as well as ease of access to lower courts, availability of self-help and out-of-court settlement, differences in substantive law, legal culture etc.<sup>9</sup>

The actual data used in our project are the cross-citations between these ten courts. We managed to get access to the full text of (almost) all decisions of these highest courts for the period between 2000 and 2007.<sup>10</sup> In order to locate citations to foreign courts covered by our study, we compiled an extensive list of search terms.<sup>11</sup> Then, in all countries, we first looked at the actual decisions. Where they were available,

8 M. Gelter & M. Siems, 'Language, Legal Origins, and Culture before the Courts: Cross-Citations between Supreme Courts in Europe', Fordham University Law School Working Paper 2010, available at <<http://ssrn.com/abstract=1719183>> (last visited 2 January 2012), to be published in 2013 *Supreme Court Economic Review*.

9 Ibid.

10 Exception: the Netherlands (see Table 1).

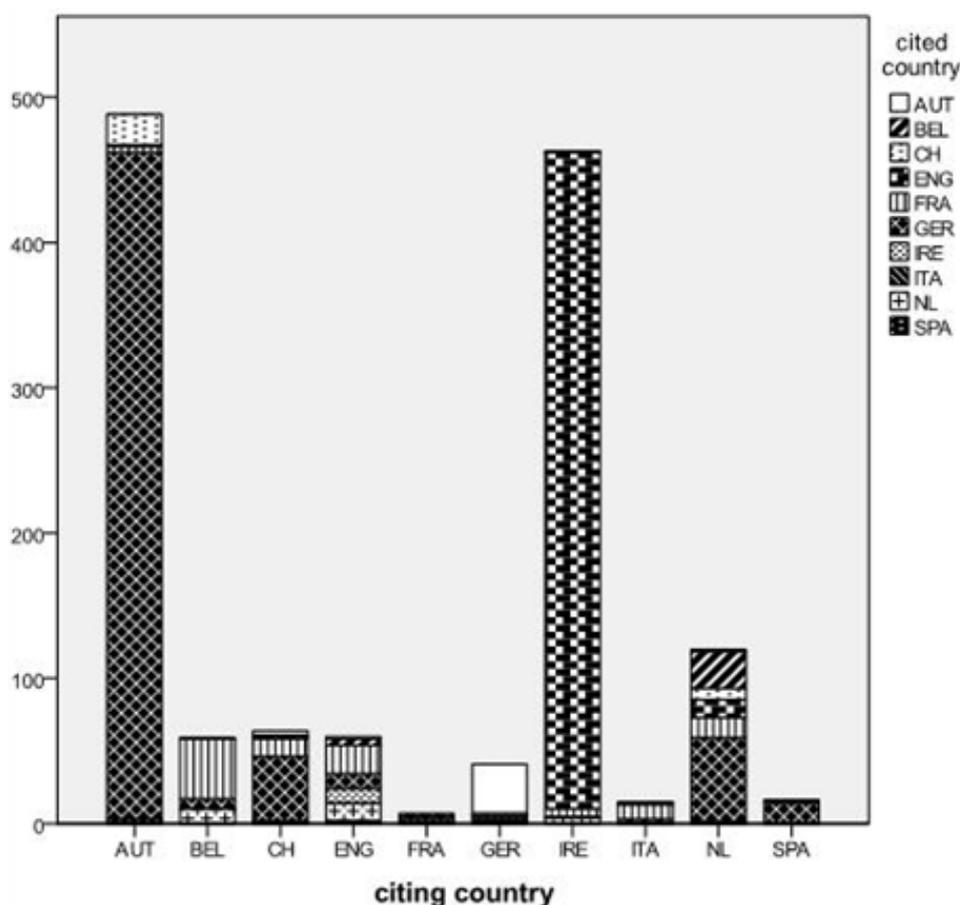
11 Usually, this was straightforward. However, for the citations of the High Court of Ireland to the Court of Appeal of England and Wales we

we also included opinions by the reporting judge or the advocate general.<sup>12</sup> Inclusion of these documents was necessary because in some countries the legal justification of a decision that in other systems would be found in the decisions themselves, will appear only in the opinions of the reporting judge or advocate general.<sup>13</sup>

We checked all citations and classified them according to the reason why foreign courts had been cited: (a) case history and jurisdictional issues; (b) an underlying European or international legal basis; and (c) purely comparative reasons.<sup>14</sup> Citations of type (a) are the ones which a court usually cannot avoid. This type of citation is not exactly what we were looking for because such citations have no bearing on a possible transnational dialogue between the courts, or the influence of foreign legal arguments. Therefore, the following sections only report the total number of citations in categories (b) and (c), which have in common that judges have freedom of choice as to which foreign court (if any) to cite.<sup>15</sup>

### 3. Bar charts of cross-citations

Figure 1 Absolute number of cross-citations



had to rely on a random sample of decisions because citations to English courts do not always reveal whether the cited court is really the Court of Appeal (for details see Gelter & Siems, *supra* note 8).

12 Opinions of the advocates general were included for Belgium and the Netherlands. For France we only got access to selected opinions of the advocate general and the reporting judge.

13 For further details see Gelter & Siems, *supra* note 8.

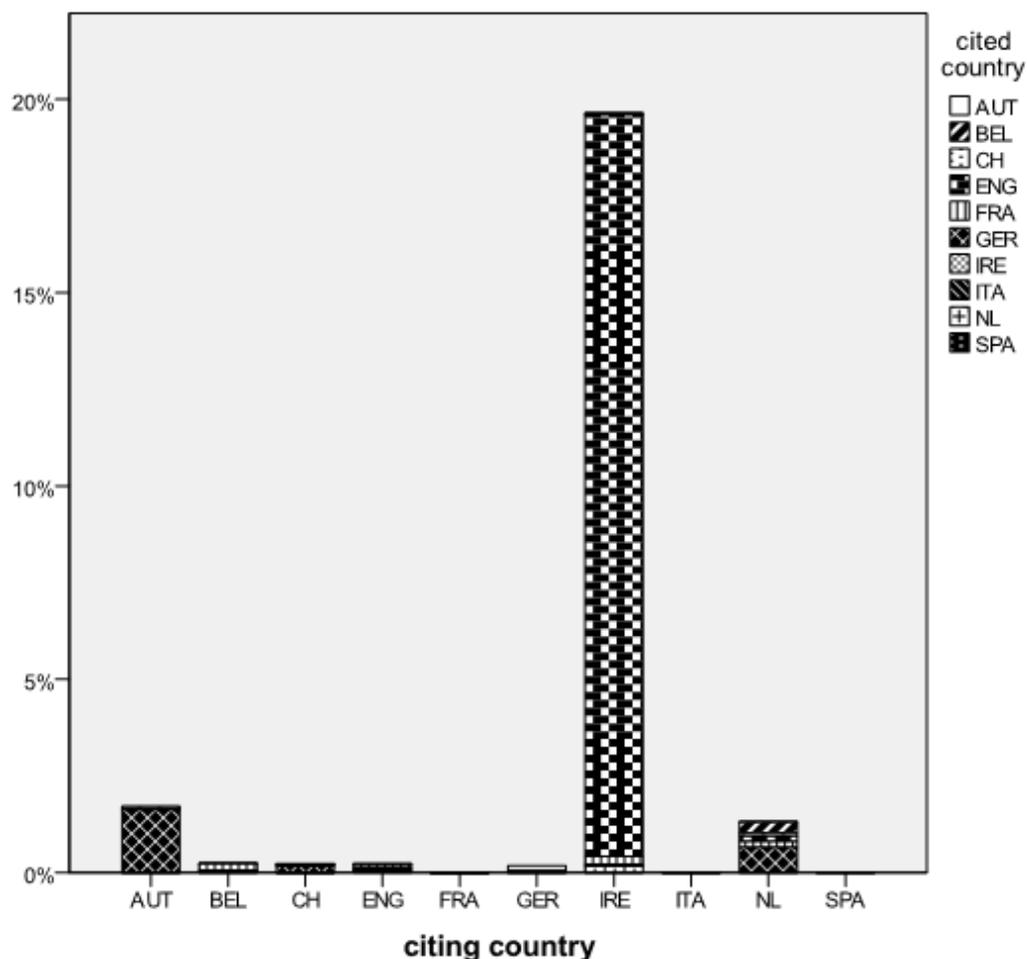
14 For similar classifications see J.M. Smits, 'Comparative Law and Its Influence on National Legal Systems', in M. Reimann & R. Zimmermann (eds.), *The Oxford Handbook of Comparative Law*, 2006, pp. 513-538; E. Örucü, 'Comparative Law in Practice: The Courts and the Legislator', in E. Örucü & D Nelken (eds.), *Comparative Law: A Handbook*, 2007, pp. 411-433; M. Siems, 'Citation Patterns of the German Federal Supreme Court and of the Court of Appeal of England and Wales', 2010 *King's Law Journal* 21, pp. 152-171.

15 For this point see also Gelter & Siems, *supra* note 8.

There are different ways in which our data can be displayed. In this section we present bar charts that show how often the ten 'citing courts' have made reference to the ten 'cited courts'. Figure 1 is based on the absolute number of cross-citations. Figure 2 shows the cross-citations per all decisions of a particular court and Figure 3 the cross-citations per all of its cross-citations.<sup>16</sup>

It can be observed that the citations from Austria to Germany and from Ireland to England (and Wales)<sup>17</sup> dominate the picture: Austria has cited Germany 459 times, and Ireland has cited England 456 times. The other relationships trail behind these two by one order of magnitude: 58 and 45 citations from the Netherlands and Switzerland to Germany, 41 citations from Belgium to France, and 34 citations from Germany to Austria.

Figure 2 Cross-citations per all decisions of a particular court



A problem with Figure 1 is that it does not consider that the total number of highest court decisions varies widely between the ten countries (see Table 1, above). Figure 2 tries to rectify this problem but without much success since the distribution of the ten bars in Figure 2 is even more unequal than in Figure 1. The High Court of Ireland has cited the Court of Appeal of England and Wales in about 19% of all of its decisions, well ahead of the next relationships – Austria and Netherlands to Germany in 1.6% and 0.6% respectively of all of the decisions of these courts. This could make sense because of differences between common law and civil law countries: when common law countries cite each other, this is not seen as an 'import' of foreign law, but as a way to identify the common legal rules and principles (the 'common law

16 Abbreviations: AUT = Austria; BEL = Belgium; CH = Switzerland; ENG = England and Wales; FRA = France; GER = Germany; IRE = Republic of Ireland; ITA = Italy; NL = Netherlands; SPA = Spain.

17 In the following, the term 'England' is always to be read as referring to 'England and Wales'.

is a whole<sup>18</sup>). The fact that England does not cite Ireland very frequently may be regarded as a rare exception since it can be shown empirically that the Court of Appeal of England and Wales frequently cites courts from Australia, Canada and New Zealand.<sup>19</sup> However, a closer view has to lead to the conclusion that Figure 2 is not the most helpful presentation of our data. It is not clear to what extent the number of cross-citations is affected by the total number of decisions. One might suspect that cross-citations typically occur in the most important cases, in which there will be an appeal to the respective highest court in every country. Thus, theoretically, the total number of decisions need not affect the number of cross-citations.

Moreover, there are many factors other than the total number of decisions that may determine whether and how often foreign courts are cited. On a general level, it possibly matters who the highest court judges (and advocates general) are: for instance, how in each country judges are trained, appointed and promoted,<sup>20</sup> and what ‘judicial mentality’ they have.<sup>21</sup> It also matters how (and for which audience)<sup>22</sup> judgments are drafted: while, for example, common law judges or the courts in German-speaking countries often write comparatively long opinions, French decisions tend to be short and written in an idiosyncratic formulaic style.<sup>23</sup> Furthermore, a low number of citations may simply reflect differences in citation style between the ten courts: in some countries it may be completely acceptable (or even expected) for judges or advocates general to look for inspiration from other countries and to indicate such findings in their opinions, whereas in other countries there may be social or legal restrictions on citing foreign law.<sup>24</sup>

Thus, in order to control for such unobserved differences between citing courts, Figure 3 is based on the citations per all cross-citations of the particular court. In contrast to Figures 1 and 2, this figure cannot be used in order to compare the differences in the total number of cross-citations (by definition, this is always 100%). Yet, Figure 3 is the most informative way of showing which of the cited courts each of the citing courts prefers to cite.

It can be seen that seven out of the ten courts have a favourite court accounting for more than 50% of its foreign citations. These are the Irish citations to England (98%), the Austrians to Germany (94%), the Spanish to Germany (88%), the Germans to Austria (83%), the Belgians to France (70%), the Swiss to Germany (70%) and the Italians to France (67%). In contrast to this, the citations of the English, French and Dutch highest courts are more evenly split. In an associated paper we have used regression analysis in order to determine which factors account for these differences in cross-citations. We found that language skills, membership of the same legal family, cultural, political and economic indicators, and the population size of the cited country all matter for which countries are cited. The most important of these factors are language skills, with the possible policy implication that countries should provide English translations of their highest court decisions.<sup>25</sup>

18 Örucü, *supra* note 14, p. 415. A possible caveat may be that this mainly concerns the relationships between Commonwealth countries since US law has diverged from many traditional common law rules. See Siems, *supra* note 14, pp. 164-165.

19 *Ibid.* (Siems).

20 See J. Bell, *Judiciaries within Europe: A Comparative Review*, 2006, pp. 13-24; C. Guarnieri & P. Pederzoli, *The Power of Judges: A Comparative Study of Courts and Democracy*, 2001, pp. 18-44.

21 B. Markesinis, ‘Judicial Mentality: Mental Disposition or Outlook as a Factor. Impeding Recourse to Foreign Law’, 2006 *Tulane Law Review* 80, pp. 1325-1375.

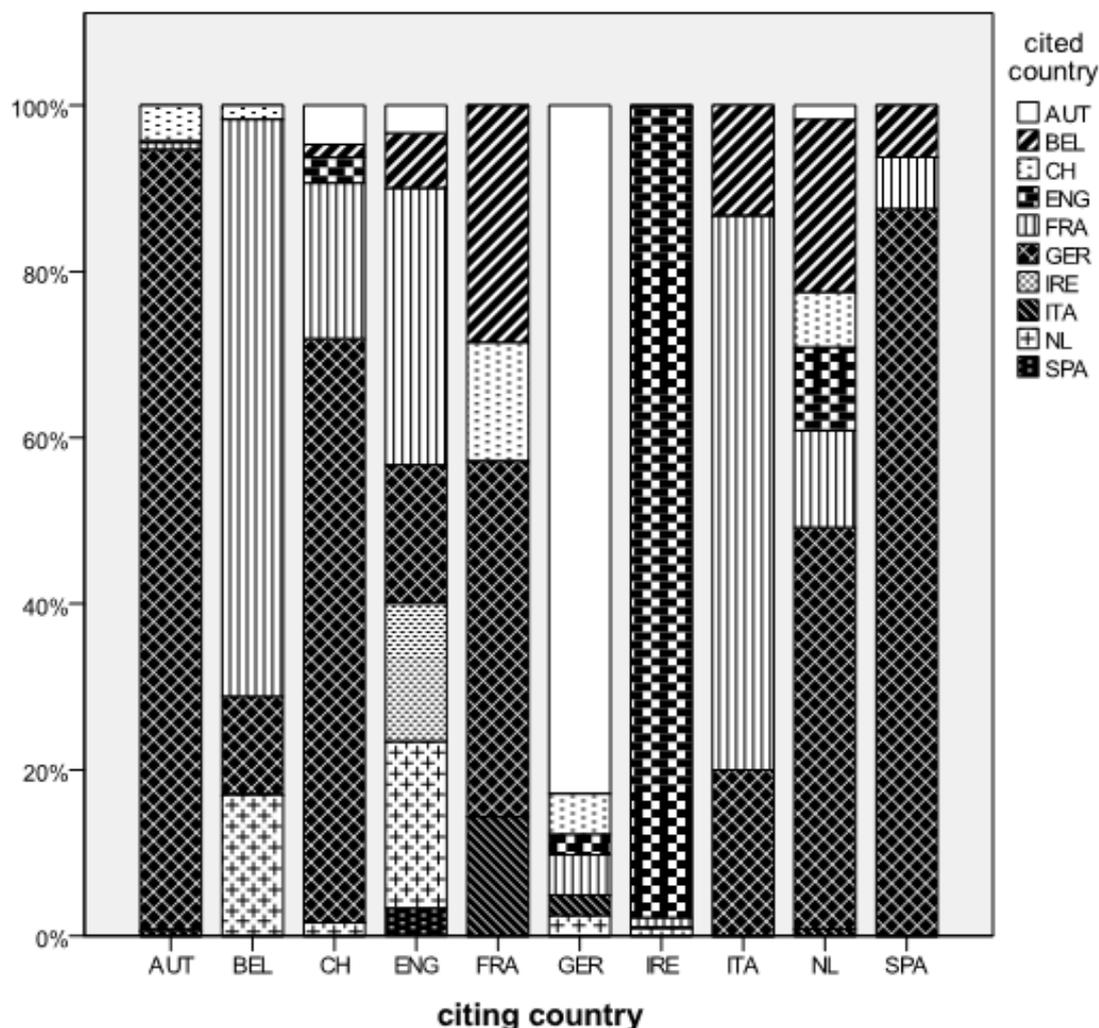
22 N. Garoupa & T. Ginsburg, ‘Judicial Audiences and Reputation: Perspectives from Comparative Law’, 2009 *Columbia Journal of Transnational Law* 47, pp. 451-490.

23 See also Bell, *supra* note 20, p. 75.

24 This seems to be the case particularly in France and Italy. See G. Alpa, *Tradition and Europeanization in Italian Law*, 2005, p. 102; Markesinis & Fedtke, *supra* note 2, pp. 26-30. For the more general debate about the legitimacy of foreign citations see, e.g., A.M. Hol, ‘Internationalisation and Legitimacy of Decisions by the Highest Courts’, in S. Muller & M. Loth (eds.), *Highest Courts and the Internationalisation of Law: Challenges and Changes*, 2009, pp. 77-86.

25 See Gelter & Siems, *supra* note 8.

Figure 3 Cross-citations per all cross-citations of a particular court



#### 4. Network presentation of cross-citations

Network analysis has become increasingly popular in the last three decades.<sup>26</sup> It started in sociology but it has also been used in politics, economics, business, psychology, anthropology and, more recently, law.<sup>27</sup> The main interest of social network analysis is to identify, visualise, compare and analyse the relationships between individuals or entities. In the terminology of network analysis the individuals are called 'nodes' and the relationships are called 'ties' or 'edges'.

In the present case the 'nodes' are the 10 countries and the 'ties' are the cross-citations between them. In Figure 4 all ties with more than five cross-citations (one way) are displayed. The strength of the ties, the size of the arrow heads and the closeness of the countries in the chart<sup>28</sup> is determined by the logarithm of the absolute number of cross-citations. We have used the logarithm of the citations since a network presentation with the absolute numbers would not have been very revealing: Austria and Germany, and Ireland and England would have merged to one dot each, whereas the other pairs of countries would only

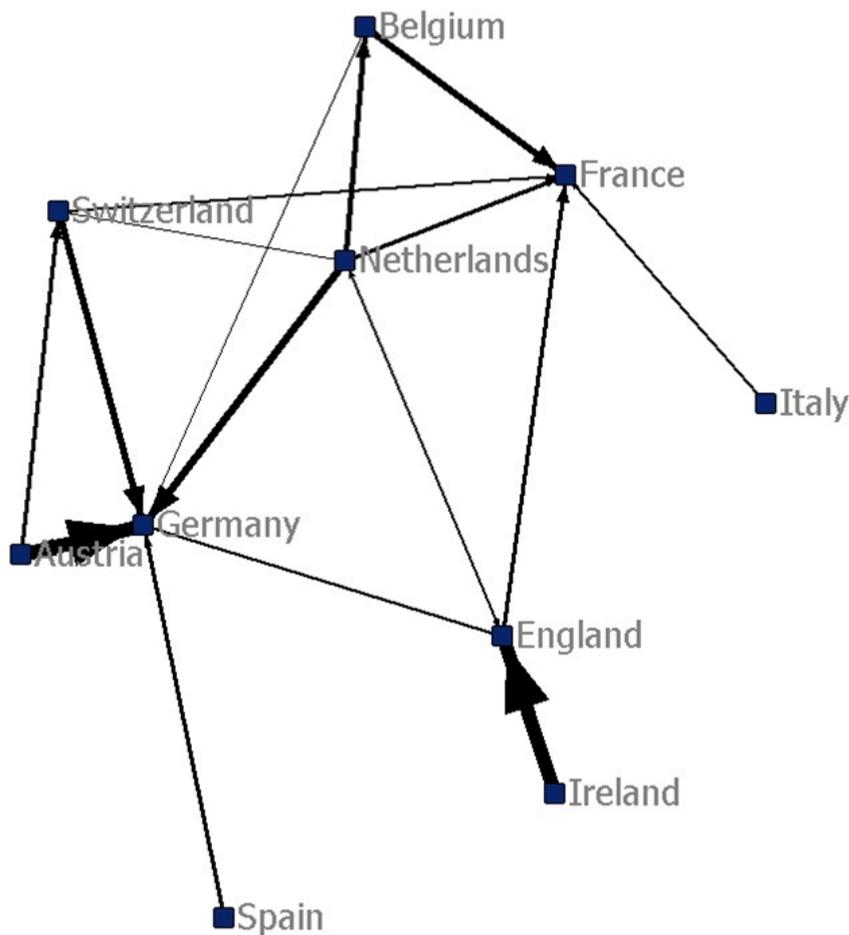
26 For general introduction see R.A. Hanneman & M. Riddle, *Introduction to Social Network Methods*, 2005; D. Knoke & S. Yang, *Social Network Analysis*, 2008; J. Scott, *Social Network Analysis: A Handbook*, 2000.

27 For the last-mentioned see, e.g., T.A. Smith, 'The Web of Law', 2007 *San Diego Law Review* 44, pp. 309-354; R. Dibadj, 'Networks of Heightened Scrutiny in Corporate Law', 2009 *San Diego Law Review* 46, pp. 1-26; R. Dibadj, 'Networks of Fairness Review in Corporate Law', 2008 *San Diego Law Review* 45, pp. 1-32; M.M. Siems, 'The Web of Creditor and Shareholder Protection: A Comparative Legal Network Analysis', 2010 *Arizona Journal of International and Comparative Law* 27, pp. 747-784.

28 To be precise, this uses a technique called 'multi-dimensional scaling (adjust to the nearest Euclidean)', available in the network programme Ucinet.

have been connected by very thin lines. The logarithmic transformation has the advantage that it reduces the high numbers more than the lower ones, making the range of values more manageable.

Figure 4 Network based on logarithm of absolute number of cross-citations



The first point to observe from Figure 4 is that we have no unconnected parts. In particular, it is worth noting that common and civil law countries, and Francophone, Germanophone and Anglophone countries are not completely unconnected. Two countries, the Netherlands and Germany, are in the centre of the network since they are connected with five other countries. More isolated are Italy, Ireland and Spain which are just connected with one of the other countries.

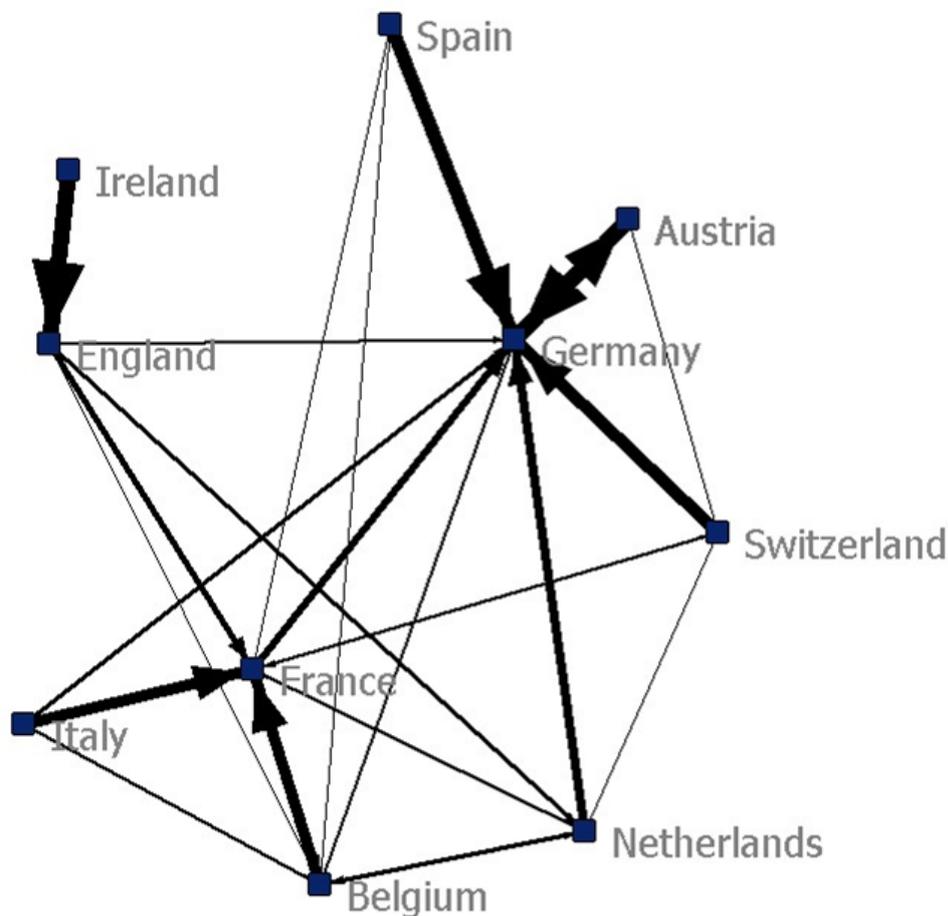
Almost all the arrow heads of Figure 4 show in one direction only (an exception is, for instance, the tie between the Netherlands and England). Thus, in terms of the direction of cross-citations (see Section 1 above), there seems to be mainly ‘one-way traffic’. However, as noted already (see Section 3 above), the problem is that many unobserved factors influence the decision as to whether a particular highest court cites foreign courts at all. As in Section 3, it is therefore preferable to consider the citations per the total number of cross-citations of this court.

Figure 5 displays all ties which denote more than 4% of all cross-citations of this court. Ireland is again relatively isolated. Germany and France are in the centre since they are cited by many other countries, confirming that big countries are cited more often than smaller ones (see Section 3 above). It is also interesting to see that there are triangles between Italy, France and Belgium on the hand, and Austria, Germany and Switzerland on the other, indicating the relevance of common languages and legal cultures (see also Section 3 above).<sup>29</sup> Finally, Austria and Germany are connected by a clear, dual-headed tie

<sup>29</sup> For a similar observation see D. Barak-Erez, ‘The Institutional Aspects of Comparative Law’, 2009 *Columbia Journal of European Law* 15, pp. 477-494 at p. 487 (‘Courts find it easier to learn from precedents which have been formulated within their so-called “legal family” (...)

because both courts are the favourite cited courts of each other.<sup>30</sup> This seems to be different for the other relationships. Thus, again, we do not appear to find evidence of a judicial dialogue. However, this should not be our final word on this issue because the following section will provide a more sophisticated treatment of the association between outgoing and incoming citations.

*Figure 5 Network based on citations per all cross-citations of a particular court*



## 5. Outgoing and incoming citations

Table 2 reports the correlation between the nine outgoing and incoming citations of each of the ten courts, as well as the correlation between all ninety outgoing and incoming citations. The correlation coefficients of the absolute data (1) are problematic since unobserved factors influence the decision of the highest courts as to whether they cite any foreign court at all (see Sections 3 and 4 above). Thus, the option which uses the cross-citations per all cross-citations of the court in question (2) is again preferable.

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or their legal culture understood in the broad sense.’).

<sup>30</sup> Of course, this is different from the absolute numbers (see Figure 1, above) because there are 459 citations from the Austrian supreme court to the German one, but only 34 citations from the German to the Austrian one.

Table 2 Correlation between outgoing and incoming citations

	(1) Basis: absolute number of cross-citations	(2) Basis: cross-citations per all cross-citations of a particular court
<i>Austria</i>	0.995**	0.999**
<i>Belgium</i>	0.113	0.790*
<i>England</i>	0.191	0.210
<i>France</i>	0.231	0.310
<i>Germany</i>	0.992**	0.570
<i>Ireland</i>	0.999**	0.999**
<i>Italy</i>	-0.167	0.970**
<i>Netherlands</i>	0.130	0.224
<i>Spain</i>	-0.145	-0.145
<i>Switzerland</i>	-0.060	0.328
<i>All countries</i>	0.054	0.367**

\*\* significant at the 0.01 level (two tailed)

\* significant at the 0.1 level (two tailed)

It follows from Table 2, model (2), that, overall, courts do ‘return the favour’ because there is a statistically significant positive relationship between incoming and outgoing citations. Austria, Ireland and Italy have very high correlation coefficients which can be explained by the fact that Austria almost only cites and is cited by Germany, Ireland almost only cites and is cited by England, and Italy almost only cites and is cited by France. With the exception of Spain, however, the other countries too have positive correlation coefficients.

Of course, the previous sections have also shown that some countries are more ‘popular’ (in terms of citations) than others, and that there are also differences in the frequency of citing foreign courts. So, despite positive correlation coefficients in Table 2, outgoing and incoming citations are not perfectly symmetrical with each other. Again, network analysis comes to our help, because it enables us to identify the core outgoing and incoming countries. This is done by way of a core-periphery model.<sup>31</sup> Such a model presupposes that, in terms of the present study, some countries are more popular outgoing countries and others are more popular incoming countries. Consequently, we cannot use the percentage form of our dataset (see Figures 3 and 5, above) since, here, by definition, all outgoing citations of each court add up to 100%. Thus, despite its previously mentioned problems, Table 3 is based on the absolute numbers of cross-citations (similar to Figure 1, above). The ‘\*’, ‘\*\*’, and ‘\*\*\*’ denote whether there are single-, double- or triple-digit citations between two courts. The core cited and citing courts are in the shaded field.

It follows from Table 3 that England, France and Germany are the core incoming countries, and that the Netherlands, Belgium and Switzerland are the core outgoing ones. This is an interesting result. England, France and Germany are often regarded as the three ‘origin countries’ whose legal systems have heavily influenced legal systems all around the world.<sup>32</sup> Thus, it is not unexpected that these countries are most important in terms of incoming citations, with France and Germany being slightly ahead of England, possibly, because six out of seven of the remaining countries are civil law jurisdictions. The main explanation for the core outgoing countries seems to be linguistic diversity: Belgium and Switzerland are multilingual countries, and the Dutch advocates general frequently cite English, French, German and Dutch materials in their original languages. Thus, these judges and advocates general may be more cosmopolitan than the ones of the other countries, as reflected in a high number of citations to different foreign courts.

31 For a technical definition see Hannemann & Riddle, *supra* note 26, Ch. 17.

32 See, e.g., E. Glaeser & A. Shleifer, ‘Legal Origins’, 2002 *The Quarterly Journal of Economics* 117, pp. 1193-1230; S. Djankov et al., ‘The New Comparative Economics’, 2003 *Journal of Comparative Economics* 31, pp. 595-613 at pp. 605-606. For a critical summary see M. Siems, ‘Shareholder Protection Around the World (Leximetric II)’, 2008 *Delaware Journal of Corporate Law* 33, pp. 111-147 at pp. 138-139.

**Table 3** Blocked adjacency matrix of 2-mode categorical core-periphery model

		Cited courts									
		ENG	FRA	GER	BEL	AUT	IRE	ITA	NL	SPA	CH
Citing courts	NL	**	**	**	**	*		*			
	BEL		**	*					**		*
	CH	*	**	**	*	*					
	FRA			*	*			*			*
	AUT	*	*	***				*			**
	IRE	***	*	*	*				*		
	ITA		**	*	*						
	ENG		**	**	*	*	**		**	*	
	SPA		*	**	*						
	GER	*	*			**		*	*		

## 6. Caveats and conclusions

There is a general trend to use quantitative methods in order to compare court proceedings and judgments across countries.<sup>33</sup> For instance, the World Bank's Doing Business Report employs various indicators in order to measure 'the efficiency of the judicial system in resolving a commercial dispute'.<sup>34</sup> The European Commission for the Efficiency of Justice (CEPEJ) 'has undertaken a regular process for evaluating judicial systems of the Council of Europe's member states'.<sup>35</sup> The Netherlands Council for the Judiciary has assigned a study to 'design and implement a method to periodically compare the judiciary system of the Netherlands with that in other countries'.<sup>36</sup> And, at universities, a recent project of the University of Oxford has collected data on the costs and funding of civil litigation in various jurisdictions,<sup>37</sup> and a handbook of three Dutch universities has developed a methodology for measuring access to justice.<sup>38</sup>

It is clear that such quantitative research can always be challenged as being a rather simplistic way of comparing how courts actually work.<sup>39</sup> Thus, in this article we not only reported our results but also indicated where and to what extent the counting, in our case the counting of cross-citations between ten highest courts, has its limitations.

Overall, we observe some one-way traffic, some dialogue and some networks. We were also able to identify why there is no mutual interaction between all of these highest courts: courts are more likely to cite each other when they are from the same legal tradition and the same language group. Furthermore, we found that larger jurisdictions are cited more frequently than smaller ones. Given these constraints, we would not expect legal systems to freely pick and choose 'the most efficient solution' (however defined), as had been suggested by Ugo Mattei.<sup>40</sup>

33 Starting with Blankenburg and Bruinsma in the 1980s. For a summary of their research see E. Blankenburg, 'Civil Litigation Rates as Indicators for Legal Culture', in D. Nelken (ed.), *Comparing Legal Cultures*, 1997, pp. 41-68.

34 See <<http://www.doingbusiness.org/MethodologySurveys/EnforcingContracts.aspx>> (last visited 2 January 2012). This derives from S. Djankov et al., 'Courts', 2003 *Quarterly Journal of Economics* 118, pp. 453-517.

35 <[http://www.coe.int/t/dghl/cooperation/cepej/evaluation/default\\_en.asp](http://www.coe.int/t/dghl/cooperation/cepej/evaluation/default_en.asp)> (last visited 2 January 2012). The most recent version is published as European Commission for the Efficiency of Justice (CEPEJ), *European judicial systems, Edition 2008 (data 2006): Efficiency and quality of justice*, 2008

36 J. Blank et al., *Benchmarking in an International Perspective: An International Comparison of the Mechanisms and Performance of the Judiciary System*, 2004, at <<http://siteresources.worldbank.org/INTLAWJUSTINST/Resources/Benchmarking.pdf>> (last visited 2 January 2012), at p. 7.

37 C. Hodges et al. (eds.), *The Costs and Funding of Civil Litigation: A Comparative Perspective*, 2010.

38 See <<http://www.measuringaccesstojustice.com/>> (last visited 2 January 2012).

39 See, e.g., C. Kern, *Justice between Simplification and Formalism*, 2007. More generally see M. Siems, 'Numerical Comparative Law – Do We Need Statistical Evidence in Order to Reduce Complexity?', 2005 *Cardozo Journal of International and Comparative Law* 13, pp. 521-540. See also the qualitative empirical work by E. Mak, 'Why Do Dutch and UK Judges Cite Foreign Law?', 2011 *Cambridge Law Journal* 70, pp. 420-450 and the surveys by B. Flanagan & S. Ahern, 'Judicial Decision-Making and Transnational Law: A Survey of Common-Law Supreme Court Judges', 2011 *International and Comparative Law Quarterly* 60, pp. 1-28.

40 U. Mattei, 'Efficiency in Legal Transplants: An Essay in Comparative Law and Economics', 1994 *International Review of Law and*

Cross-citations are important because they show to what extent courts use foreign law as a justification for a judicial decision. We do not argue that these citations have actually resulted in legal transplants. Indeed, a comparative analysis may also be used to explain the differences and reinforce national solutions rather than leading to uniformity.<sup>41</sup> Nevertheless, frequent cross-citations are evidence of some diffusion of ideas.<sup>42</sup> In this respect, our data may be seen as an empirical confirmation of Daphne Barak-Erez's observation that 'learning from other legal systems has always been a major technique in the development of law'.<sup>43</sup>

There can also be dialogue between highest courts that is not reflected in cross-citations. Highest court judges are increasingly involved in transnational networks with the aim of fostering collaboration and communication.<sup>44</sup> It may also be the case that in Europe ideas are often exchanged through intermediaries such as, say, the ECJ, its advocates general and the ECHR,<sup>45</sup> or with references to European 'model laws' such as the forthcoming instrument on European contract law.<sup>46</sup> A further caveat is that we do not know how much foreign case law may matter behind the scenes all the while that judges or advocates general do not mention it explicitly in their opinions.<sup>47</sup>

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*Economics* 14, pp. 3-19. Similarly, M. Andenas & D. Fairgrieve, 'There is A World Elsewhere – Lord Bingham and Comparative Law', in M. Andenas & D. Fairgrieve (eds.), *Tom Bingham and the Transformation of the Law: A Liber Amicorum*, 2009 ('international market place for judgements').

41 Canivet (2006), supra note 2, p. 1395.

42 See generally W. Twining, 'Social Science and Diffusion of Law', 2005 *Journal of Law and Society* 32, pp. 203-240.

43 See Barak-Erez, supra note 29, p. 478.

44 See note 6, supra.

45 See also J.M. Smits, 'European private law and the comparative method', in C. Twigg-Flesner (ed.), *The Cambridge Companion to Union Private Law*, 2010, pp. 33-43 at pp. 39-40.

46 See M.W. Hesselink, 'A Toolbox for European Judges', 2011 *European Law Journal* 17, pp. 441-469.

47 For criticism see Canivet (2006), supra note 2, p. 1398 ('Because the methods of courts ought in all circumstances to be transparent, it is obvious that the comparative analysis which the judge intends to include among the elements under examination ought to be (...) explicit').