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Twenty-Five Years of The European Journal of Finance (EJF)

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Twenty-Five Years of *The European Journal of Finance (EJF)*: A Retrospective Analysis

Abstract

This study commemorates the 25th anniversary of The European Journal of Finance (*EJF*) by providing a detailed retrospective analysis of the journal's output using a range of bibliometric tools. The evidence demonstrates that since its inception the journal has grown consistently in terms of dimension, breadth, quality and reach. The major themes that have come to define the *EJF* over this time include: portfolio management, stock return persistence, risk management, financing decisions, corporate governance, spillover effects, mutual fund performance, volatility measurement and international finance trends. Co-authorship analysis reveals that the journal has fostered a global network of scholars, reflecting the pervasive nature of collaboration that now extends across the world.

Keyword: European Journal of Finance; bibliometric analysis; keyword co-occurrence; co-authorship analysis; VOSviewer; Gephi.

Twenty-Five Years of *The European Journal of Finance (EJF)*: A Retrospective Analysis

1. Introduction

Founded in 1995, *The European Journal of Finance* (*EJF*) marked its 25th anniversary in 2019. The founding and continuing editor, Professor Chris Adcock of the University of London, has overseen the journal's development since its inception to become one of the world's foremost academic outlets in the fields of finance and financial markets. *EJF* has come to be defined by the publication of cutting-edge research studies that examine the world's leading financial markets and, in so doing, acting as a forum for global communication and networking amongst leading finance scholars.

The quantitative data now available to those analysing the progress of academic journals point to the *EJF's* extraordinary and on-going success. According to Scopus, the journal has a CiteScore of 1.20, with papers published in the journal between 2015 through 2017 receiving an average of 1.2 citations in 2018 alone. In addition, the journal's source normalized impact per paper (SNIP) score indicates that in the last three years *EJF* papers have received an average of 1.002 citations from journals within its own subject area. Consistent with these impressive figures, the journal currently has an *h*-index of 33 (which indicates that at least 33 of its articles have received at least 33 citations) and ranks 34th on the Scopus list of journals in the Economics, Econometrics and Finance category. The journal currently has a rating of '3*' in the Chartered Association of Business Schools (CABS) academic journal guide and an 'A' on the Australia Business Deans Council (ABDC) 2019 list. These latter awards are testament to the *EJF's* international reach and consistent standards.

It is not uncommon for journals to celebrate a landmark year by publishing a review or a special issue documenting its journey (Schwert, 2002). Recent examples include the *Journal of Corporate Finance* (Andrikopoulos and Trichas, 2018) and the *Global Finance Journal* (Baker et al. 2019). On the occasion of its 25th anniversary, the present study provides a detailed retrospective account of the *EJF's* success using modern bibliometric analysis. Use of this methodology permits the answering of a number of questions regarding the journal's on-going advancement over the past quarter century. First, what are the key trends and patterns in publication and citation data over the past quarter of a century? Second, who are the most prolific contributors? Third, which studies have been cited most often? Fourth, which journals cite *EJF* studies most frequently - and which journal is cited most often in the *EJF*? Fifth, what are the dominant themes among published articles? Sixth, what is the balance between single-authored and co-authored studies in the journal? The paper is organized as follows. Section 2 provides an overview of the methodology employed while Section 3 presents and discusses the descriptive evidence. Sections 4 through 6 then describe the findings from the bibliometric analysis before Section 7 concludes with a summary of the results and some suggestions relating to the *EJF's* future direction.

2. Methodology

2.1. Rationale for Bibliometric Analysis

This study uses bibliometric analysis to summarise and synthesize data relating to the *EJF*'s between 1995 and 2019. This methodology, now widely adopted in many social scientific disciplines, including management (Zupic and Čater 2015; Ellegaard and Wallin 2015), pertains to the application of statistical tools to interrogate and interpret publication data (Broadus 1987). Bibliometric analyses are traditionally divided in two categories, based on activity yield and the extent of interactions among scholars and subject areas, with

consideration of both types of result critical in developing a broad understanding of the output of research efforts (Ramos-Rodrígue and Ruíz-Navarro, 2004). The quantitative orientation of the technique makes it highly appropriate for summarising and synthesising (as in the present case) large quantities of bibliographic data, with the findings obtained generally free from biases (Ramos-Rodrígue and Ruíz-Navarro 2004). Figure 1 summarises the underlying design employed here to analyse the data relating to *EJF* publications. We now set out the specific manner in which we undertook the steps outlined in the illustration.

[Insert Figure 1 here]

2.2. Data

Details, including full bibliographic data relating to all the articles published in the *EJF* since its launch in 1995, was obtained from Scopus. Scopus was used for this study as it remains the largest database of peer reviewed articles in the social sciences (Norris and Oppenheim, 2007) nearly 60% larger than the Web of Science (Comerio and Strozzi, 2019). A search for *'European Journal of Finance'* in the publisher name field generated a list of 1024 articles, reviews and editorials after removing editorials, introductions, and prefaces. To eliminate potential difficulties arising from inconsistencies in the names of authors and institutions across articles, the resulting data was cross-checked with Scopus ids and then manually cleaned before final processing.

2.3. Methods of Analysis

To develop an overall feel for patterns in the journal's outputs over the years we first analysed publication and citation trends. This process involved collecting data for variables such as total number of publication and citations (Ding et al. 2017) along with citations per paper, *h*-index (Alonso et al. 2009; Hirsch 2005) and most-common contributing authors, institutions and countries. For the purpose of creating thematic clusters we use the modularity function

developed by Newman and Girvan (2004) which assumes that nodes which have stronger relationships belong in the same cluster. In this case, the function was applied to author keywords co-occurrence networking, where the former were grouped in communities based on the strength of links. The link strength for all keyword pairs was defined as the number of times keywords were used together in a study. For the purpose of allotting a node into any cluster, its modularity (Q) is calculated using following function:

$$Q = \frac{1}{2m} \sum \left[A_{ij} - \frac{k_i k_j}{2m} \right] \delta(c_i, c_j)$$

Where:

Q = modularity index

A_{ij} = weight of the edge between i and j;

k_i = sum of weights of nodes attached to i;

c_i = i's community;

$\delta(c_i, c_j)$ i= 1 if $c_i = c_j$ and otherwise 0; and

m = sum of the weight of all the edges.

The node is assigned to the cluster for which it has the highest modularity index. This process is repeated until all nodes attain their highest modularity.

Author keywords in scholarly publication are the specific terms used to express central themes of the document (Zou et al., 2018). These are the words that authors consider to be the most important in the manuscript (Pesta et al., 2018) and are thus assumed to be representative of intent (Comerio and Strozzi 2019). Examination of keyword usage (and relationships among them) can help researchers demarcate boundaries in research spheres (Castriotta et al. 2019) and we therefore employ keyword co-occurrence analysis here to identify the major areas of interest evident throughout the *EJF*'s existence, including development and changes over time.

Similarly, by examining co-authorship trends at country level we are able to describe the status of intellectual collaborations that have been facilitated by the journal. Such collaborations, which often lead to the creation of social networks that in turn help with understanding key characteristics of a scientific field (Crane 1969), are explored here by the co-authorship scrutiny employed.

To undertake the analyses we utilised VOSviewer (van Eck and Waltman, 2010), which creates a similarity matrix of author keywords based on co-occurrences and co-authorships, and uses this to calculate the strength of association between nodes. This data is then employed as an input in a Newman and Girvan modularity function (Newman and Girvan, 2004) resulting in the formation of thematic clusters. We then create graph-based networks using the Fruchterman-Reginold algorithm (Fruchterman and Reingold, 1991) which interprets Gephi (Bastian et al. 2009) depiction to determine the layout of graphs that reflect the repulsive and attractive forces existing among the nodes. The process is based on the notion that minimisation of the sum of the forces enduring between a pair of nodes results in the formation of symmetrical graphs with even distribution of vertices and uniform edge lengths.

3. Descriptive Analysis

3.1. Annual Publication and Citation

Table 1 presents a summary of data relating to citations and publications in the *EJF*. As the table reveals, the journal launched in 1995, with 24 articles appearing, with consistent growth maintained in the following years and an output level of 90 articles reached in 2019. Likewise, citations have also increased in number throughout the journal's life, rising from 3 in 1995 to over 1000 in 2019. Of the 1024 articles published by the journal since its inception, 775 (more than three-quarters of the total) have been cited.

[Insert Table 1 here]

3.2. Contributing Authors, Institutions and Countries

Inspection of Table 2 reveals that the most prolific author for the journal is Christian Dunis, followed by Wenxuan Hou, Jason Laws and Jerry Coakley, . Wenxuan Hou and Christian Dunis both have an *h*-index of 6, whilst Terence C. Mills, John Wilson, Alessandra Guariglia, Barbara Casu, and Wolfang Bessler have received more than 10 citations per paper, pointing to the quality of scholars choosing the *EJF* as an outlet for their work.

[Insert Table 2 here]

As indicated by the data in Table 3, the most prolific institutions in terms of studies published in the journal are United Kingdom-based. Amongst these[i], the Alliance Manchester Business School, Cass Business School, City University of London, University of Glasgow and University of Manchester have proved the most productive, with associated academics generating 28, 26, 24, 20 and 20 publications respectively. City University of London has the highest *h*-index score of 9, followed by Cass Business School (8), the Alliance Manchester Business School (7), University of Manchester (7) and University of Glasgow (7).

[Insert Table 3 here]

According to Table 4, the most prolific countries as regards providing *EJF* publications are the United Kingdom, the United States and Germany. As most of the major contributing institutions are United Kingdom-based it is not surprising that it is the nation from which most outputs have emerged, but both the United States and Germany represent sources of more than 100 publications, with three other countries generating a figure of more than 50. The data also reveal that papers originating in the United Kingdom have the highest *h*-index of 23 and the leading citation number (2784). However, four other countries generate *h*-scores of 10 or more,

whilst articles affiliated to Norway dominate in terms of citations per publication and cited publication.

[Insert Table 4 here]

Table 5 provides information relating to contributing authors, institutions and nations divided across five-year periods. No single author dominates in terms of papers and citations across the journal's lifespan, with different names emerging as top contributors in each period. Adrian Buckley (1995-1999; 5 papers, 7 citations), Terence C. Mills (2000-2004; 2, 18), Stephen Satchell and (2005-2009; 4, 23), Barbara Casu (2010-2014; 4, 55) and Wenxuan Hou (2015-2019; 6, 37) lead in the respective periods when ranked on the primary (secondary) basis of total publications (total citations). As regards institutions, Sheffield University is the leader for the first five-year period (1995-1999), but the University of Cambridge appears at the top of the list for both of the next two (2000-2009). More recently, the University of St Andrews (2010-2014) and Alliance Manchester Business School (2015-2019) rise to the top of the list, with the latter case reflecting the highest total publications score for an institution (of 15) in any of the periods. In contrast to the variability in author and institutional performance, the data in Table 5 point to the dominance at national level of the United Kingdom, with the top placing in each period and total publication figure ranging from 39 (2000-2004) to 181 (2015-2019). The highest publication score generated elsewhere is 46, by the United States in 2015-2019. A similar pattern is evident in the total citation data, with the United Kingdom leading across the full temporal span, although achieving the highest score (of 841) in the earlier 2005-2009 period.

[Insert Table 5 here]

3.3. Most influential articles

Two measures are employed to identify the most influential articles published to date in the *EJF*- the number of citations and the number of downloads. Table 6 details the most commonly-cited articles in the journal. Top of the list is Paul Guest's study "The impact of board size on firm performance: Evidence from the UK" from 2009. The paper, which examines the role of director numbers where the negative impacts of large boards manifest themselves primarily in an advisory rather than a monitoring capacity, had received 170 citations by the end of 2019. One other study, a 2007 publication by H. Semih Yildirim and George Phillippatos: "Efficiency of Banks: Recent evidence from the transition economies of Europe, 1993–2000," which examines the cost and profit efficiency in banks in Central and Eastern Europe from 2007 has been cited on more than 150 occasions. Two other works: Daniel Berg's "Copula goodness-of-fit testing: An overview and power comparison" (2009) and Kjersti Aas and Daniel Berg's "Models for construction of multivariate dependence - a comparison study" (2009) were cited by more than 100 authors. More generally, whilst most of the articles in the table were published between five and fifteen years ago two studies from 1995 - the journal's first publication year - are included, one as high as seventh. This latter evidence points to the quality of manuscripts appearing in the journal from its very early days.

[Insert Table 6 here]

Table 7 provides information regarding the most downloaded articles in the *EJF*,[ii] indicating the highest figure (of 3385) for a 2018 study by Sumon Kumar Bhaumik, Ali Kutan and Sudipa Majumdar entitled: "How successful are banking sector reforms in emerging market economies? Evidence from impact of monetary policy on levels and structures of firm debt in India." Studies by Konstantinos Tolikas ("The lead-lag relation between the stock and the bond markets", published in 2018) and Paul Guest ("The impact of board size on firm performance: evidence from the UK", 2009) also received more than 3000 citations in the period examined. Whilst the lack of data until 2015 limits the potential identification of long-term trends, it is

noticeable that four of the top six most downloaded papers were published in 2018-2019, indicating the level of attention paid to *EJF* outputs by the global academic community immediately following each issue's publication.

[Insert Table 7 here]

3.4. Journals citing and cited by *EJF*

Table 8 presents data regarding the academic outlets that cite *EJF* papers. Other than itself (with a total of 244), studies published in the journal have been cited most commonly in the *International Review of Financial Analysis* (ABS Rating 3; 129 citations) and the *Journal of Banking and Finance* (3; 127). This evidence, combined with the more general preponderance of 3 and 4-rated journals in Table 8, is testament to the consistent quality of the contribution made by the *EJF* over the last quarter of a century. Also of note in the table is the dominance of papers - on the basis of ABS list categories - from the field of "Finance" (16 out of the top 25), but with contributions also being made in "Accounting", "Economics" and "Operations." The broad focus of the outputs is thus consistent with the journal's mission to publish international quality work across the "full range of research into theoretical and empirical topics in finance."

[Insert Table 8 here]

Table 9 presents a list of journals cited most often in the *EJF*. The leading outlets in this context are the *Journal of Finance* (ABS Rating: 4; 1466 citations), the *Journal of Financial Economics* (4; 948), the *Journal of Banking and Finance* (3; 902) and the *Review of Financial Studies* (4; 582). The pedigree of the journal in terms of its published work being contextualised via contributions from the world's leading experts is clear, especially when it is also noted that more than half the journals named in Table 9 are rated as 4 on the ABS list. As with the data relating to studies citing *EJF* papers, the information concerning journals cited in the latter is

consistent in terms of field, with 15 of those listed being part of the ABS's 'Finance' grouping. Finally, the data underpinning Tables 8 and 9 indicate that 55% of journals cited by *EJF* authors in turn cite *EJF*-based studies. This pattern points to the *EJF*'s role as an important intermediary in facilitating the flow of knowledge, with close to half of the journals it draws content from differing in identity from those that draw on *EJF* content.

[Insert Table 9 here]

4. Keyword Co-occurrence Analysis

4.1. Keyword Clusters

Figure 2 depicts the network of keywords in published *EJF* manuscripts. In the diagram clusters are differentiated by colour, with the size of the bubble representing the extent of a keyword's connectedness. Clusters are ordered on the basis of the number of constituent keywords, with ties ordered on the basis of publication year (more recent appearances ranking higher). The related table, Table 10, lists the keywords used most often.

[Insert Table 10 and Figure 2 here]

4.1.1. Cluster #1: Portfolio Management (Represented in purple)

The first thematic cluster in the keyword network relates to portfolio management, with the keywords appearing most often, and acting as the centrepiece for the entire cluster, being "asset pricing" and ''portfolio choice." Within the *EJF*, recent work in this area has focussed on the influence of behavioural factors on portfolio choice (e.g. Dittrich et al., 2005; Holland, 2006; Rubbaniy et al., 2014; Leal et al., 2018), whilst studies examining the impact of home bias (often from a behavioural perspective), mergers / acquisitions and event studies (including their methodological aspects) have also become populous.

4.1.2. Cluster #2: Persistence in Stock Returns (Represented in green)

The second thematic cluster identified centres on issues relating to persistence in stock returns, with the most frequently-appearing keywords in this cluster being "value-at-risk" and "event study." However the most strongly connected keyword in this cluster is "persistence," with *EJF* papers in the area including investigation of the factors affecting stock return persistence for professionally managed funds (e.g. Capocci et al., 2005). The pervasion of event study analyses in both Cluster #1 and Cluster #2 points to the varied nature of the contexts in which *EJF* authors have utilised this methodology. For example, in the first cluster event studies are often used in relation to portfolio composition decisions while in the second, factors affecting persistence in stock returns dominates

4.1.3. Cluster #3: Risk Management (Represented in blue)

The third thematic cluster involves risk management with the most common keywords in this case "risk management" and "implied volatility." Much of the related journal content relates to methods of risk management such as hedging, although the pervasiveness of other terms such as "derivatives", "options" and "futures" point again to the broad scope of research included. Several published studies (including Panaretou, 2014; Brunzell et al., 2011; Bailly et al., 2003; Lechner and Gatzert, 2018) link these issues to hedging as a tool for risk management and value creation. Methodologies such as copula and neural network analysis have also gained substantive attention amongst *EJF* authors in this context, pointing again to the journal's propensity for supporting major methodological developments in the field.

4.1.4. Cluster #4: Stock Markets (represented in black)

The fourth thematic cluster to emerge from the analysis is stock markets. The keywords involved most often in this case are "liquidity" and "forecasting," which act as fulcrums for the entire cluster. The impact of the financial crisis is prevalent in this context, as is exploration of stock market configurations, signified by the presence of the keyword "market microstructures." Amongst the wide range of outputs in this regard are studies of algorithmic trading patterns (Prix et al., 2007), liquidity determination (Daníelsson and Payne, 2012), liquidity premium (Rubio and Tapia, 1998) and other factors relating to price discovery (Dunne et al., 2011; Sebastião, 2010) as well as analyses based on Monte Carlo simulation.

4.1.5. Cluster #5: Financing (represented in orange)

The fifth thematic cluster deals with the issue of financing, with the dominant keywords "real options" and "capital structure" pointing to the journal's publication of work that focusses on both the sourcing and investment of financial capital. The other chief keywords in this cluster include "asymmetric information", "investment" and "venture capital." The *EJF* has published a range of work that brings these areas together, including studies that examine real option applications in practice (e.g. Pimentel et al., 2012; Jaimungal et al., 2013; Avanzi et al., 2013) and the link between financing decisions, transaction costs and investment outcomes (e.g. Wanzenried, 2006; Calice et al., 2013; De Jong and Van Dijk, 2007).

4.1.6. Cluster #6: Corporate Governance (represented in dark pink)

The central focus of the sixth thematic cluster is corporate governance. The most common keyword in this cluster is "corporate governance," followed by "China." The journal's emphasis on and recognition of the global nature of modern capital markets is evidenced by the latter, as well as the prominence of "banks," "mergers and acquisitions" "ownership

structure" and "bank regulation." These patterns reflect the detailed attention given by the *EJF* to corporate governance in banks, primarily - but not exclusively - around the global financial crisis of 2008-2009, as part of its on-going efforts to provide an outlet for work examining real-world urgencies and priorities.

4.1.7. Cluster #7: Mutual Funds (represented in dark green)

The seventh emergent thematic cluster deals with the issue of mutual funds. The most prevalent keyword in this cluster is "mutual fund," followed by "emerging markets," indicative of *EJF* authors' attention to the important role of collective investment in the developing world. Other notable keywords in this cluster include "CAPM/capital asset pricing model," "dividends" and "performance persistence," suggesting the importance of broader issues relating to pricing mechanisms and return to investors. For example, Casarin et al. (2005) examine the sustainability of performance in collective investment schemes in the Italian market.

4.1.8. Cluster #8: Measurement of Volatility (Represented in light orange)

The eighth thematic cluster relates to the role of volatility in market efficiency measurement, with the most prominent keywords reflecting methodologies such as "GARCH/generalized autoregressive conditional heteroscedasticity," "Kalman filters" and "mean reversion." Within *EJF* papers in the area, GARCH has been widely used as a tool for quantifying volatility and its impact on trading strategies (Gallo and Pacini 2000; Fifield et al. 2005), sentiments (Bird and Casavecchia 2007) and market efficiency (Claessen and Mittnik 2002; Borges 2010).

4.1.9. Cluster #9: Spillover (Represented in red)

Thematic cluster #9 involves the relation between volatility and contagion, with these two keywords acting as the centrepiece. The work involved relates to the phenomenon of spillovers in stock markets, reflecting the inter-connectedness of modern capital flows, with volatility in one impacting on others in identifiable ways. Such systemic outcomes were a feature of both the Asian Financial Crisis 1997 and the Global Financial Crisis of 2008-2009 and so the prominence of these issues in outputs published by a leading-edge periodical such as the *EJF* is unsurprising. Within the subject area, methodological advances including quantile regression have emerged in several scholars' work.

4.1.10. Cluster #10: International Finance (Represented in light purple)

The tenth and final thematic cluster that emerged from the investigation of the output data concerns international finance, with "exchange rates" the most commonly-occurring keyword in this case, followed by "skewness," "portfolio selection" and "international asset pricing." This pattern points to the international scope of work published throughout the *EJF*'s life, with significant related interest in exchange rate distributions and their impact on (often non-parametric) returns across currency base.

4.2. Development of Keywords

Table 11 provides an inter-temporal breakdown of dominant keywords used in *EJF* articles over five-year periods (depicted in Figures 3-7) and points to a number of trends and patterns that are linked to the broader clustering of themes noted in the previous section.

[Insert Table 11 here]

4.2.1. Period one (1995-1999)

Figure 3 plots keywords against average publication year of the articles they appear in over the first five years of the *EJF*'s existence. The diagram illustrates that over this period the most

frequently-occurring keywords were "international," "short termism," "investment" and "capital structure" with the closest overall link being to *Cluster #5* as described above. This finding suggests the prominence that articles examining financing decisions received in the first years of the journal's life, although Figure 3 also indicates the importance of concepts related to *Cluster #2* (Stock Returns)*, Cluster #3* (Risk Management) and *Cluster #6* (Corporate Governance). These trends point to the extent to which the *EJF* rapidly established itself as an outlet for work examining the nexus amongst key issues in finance and the implications of these for both firms and investors.

[Insert Figure 3 here]

4.2.2. Period two (2000-2004)

Inspection of Figure 4 reveals that the most conspicuous keywords in the second period are "GARCH", "emerging markets", "event study", "forecasting", "implied volatility" and "market efficiency," thus relating published work at this time most strongly to concepts describing Cluster *#3* (Risk Management)*, Cluster #8* (Market Efficiency) and *Cluster #9* (Volatility and Contagion). Market efficiency, risk management and spill-over studies were particularly common at this stage in the journal's development, receiving significant attention from authors.

[Insert Figure 4 here]

4.2.3. Period three (2005-2009)

The evidence relating to the third period, documented in Figure 5, illustrates the extent to which the journal's scope expanded as it entered its second decade of publication. Keywords relating to several of the aforementioned clusters (*#2, #3, #6, #7, #8* and *#9*) are all prominent over this

period, whilst a focus on emerging topics like Extreme Value Theory and Value-at-Risk is also evident as is renewed focus on corporate governance and market efficiency. Whilst part of this expansion in reach can be attributed to the journal's increase in the annual number of issues from six to eight in 2006, the pervasion across a range of innovative fields reflects the focus on timely real-world issues.

[Insert Figure 5 here]

4.2.4. Period four (2010-2014)

The significant expansion in thematic coverage evident in the third five-year period has continued in recent years. Figure 6 illustrates the emergence of additional keywords associated with *Cluster #1, Cluster #4* and *Cluster #10* in *EJF* output between 2010 and 2014. Further investigation of the role of corporate governance in market processes is a recurrent motif over this period, with links to the notion of "bubbles" in pricing mechanisms. Increasing attention is paid to the role of governance failures in leading financial institutions in facilitating (and deepening) the Global Financial Crisis of 2008-2009, while keywords such as "real options" and "market microstructures" increase in prominence over this period, pointing to the inter-relatedness of work that attempts to explain and interpret investor behaviour in the wake of the crash.

[Insert Figure 6 here]

4.2.5. Period five (2015-2019)

Figure 7 documents the patterns in keywords in *EJF* papers published in the most recent five-year span. Between 2015 and 2019 the journal's on-going growth in terms of the range and coverage of key priorities in the fields of finance and financial markets is reflected in the

emergence of all the thematic clusters identified earlier. Looking at the information depicted in more detail, the sustained prominence give to corporate governance outcomes in the wake of the global crash is evident. The cross-border scope of *EJF* publications is apparent in this regard, but of additional note here is the increased importance in outputs of work relating to China and its constituent markets.

[Insert Figure 7 here]

5. Analysis of Title and Abstract words using Word Cloud

Figure 8 depicts a word cloud based on terms appearing in the titles and abstract of *EJF* articles. It is evident from a first glance at the diagram that the words "market," "trading" and "risk" have been important across the journal's first 25 years of publication, although closer inspection reveals that "information," "portfolio" and "exchange" have also appeared regularly. This pattern, in line with the findings from the analysis of keywords and the importance of *inter-alia* portfolio management, risk management, international finance and stock markets, illustrates that, despite publishing papers across a wide thematic gamut, at the journal's heart are the fundamental issues of stock market performance, risk management and international financial flows.

[Insert Figure 8 here]

6. Co-authorship analysis

Intellectual collaboration among scholars is formally manifested through co-authorship (Acedo et al. 2006) in internationally-renowned refereed outlets, with such joint endeavour leading to scientific output of greater quality and import than would otherwise be the case (Hudson 1996). In this context, Table 12 indicates that the percentage of *EJF* articles with a single author has dropped from 33% of the total articles in the five years after its inception to around 15% in the

most recent period. Coupled with observations from Table 1, it is thus evident that the number of citations received by multi-authored *EJF* articles has risen significantly over time.

[Insert Table 12 here]

As regards the extent to which the co-authorship network reflects international collaboration, inspection of Figure 9 indicates that between 1995 and 1999, the network was concentrated in and around a small number of European nations, with contributions also beginning to emerge from the United States, Canada and Hong Kong. By the second period (2000-2004), South Korea, Saudi Arabia, New Zealand and other nations had joined the network as had a number of European states, but it is in period three (2005-2009) that expansion becomes significant, with Middle Eastern countries and emerging nations from Africa appearing in numbers for the first time. The truly global network of modern *EJF* authorship teams is evident in periods four (2010-2014) and five (2015-2019) with nations from nearly every region of the world now part of the network, including China, Bangladesh, Malaysia and Pakistan. Whilst European nations still form the core of the network their dominance has consistently decreased reflecting the journal's embracing of work that varies not just in terms of methodological and topical issues, but also in terms of global reach.

[Insert Figure 9 here]

7. Conclusion

This study has reviewed the nature of *EJF* content since in its inception in 1995 using a range of bibliometric analyses to identify trends and patterns in the outputs. The results of this investigation indicate the journal's major success in terms of productivity, impact and reach. The number of papers published in the *EJF* has risen from 24 in 1995 to 90 in 2019. A similarly

impressive pattern is evident in citation data, with only 3 *EJF* papers cited in 1995 but more than 1000 in 2019.

Alliance Manchester Business School is the highest contributor followed by Cass Business School and City University of London. The United Kingdom predominates in terms of contributor domain, but with the United States- and Germany-based authors also providing more than 100 articles. On a temporal basis, no author or institution is dominant throughout the first 25 years of *EJF* publication, although at national level the United Kingdom leads consistently.

Keyword co-occurrence analysis was used to identify themes present in the journal. This process revealed that articles published in the journal regularly fit into the broad subject areas of portfolio management, persistence of stock returns, risk management, stock markets, financing, corporate governance, spill-over effects, mutual funds, measurement of volatility and international finance. Word Cloud analysis of titles and abstracts indicates that while authors have pursued an increasingly wide range of themes, the journal's core focus has remained on financial market outcomes and processes. Co-authorship analysis suggests that while the co-authorship network has the United Kingdom and United States at its centre, the network has grown markedly in recent years to encompass dozens of territories and markets reflecting, in part, the journal's increased propensity to publish multi-authored articles.

Whilst the journal has seen many changes over the last quarter of a century, one consistent feature has been the topicality of issues discussed, with leading-edge methodological advances and newly-identified gaps in knowledge constant as defining features. In this context, a few suggestions are now made regarding areas to which the journal could usefully devote attention in both the near and medium-term. *First*, the journal might consider exploring the application of blockchain principles and processes in asset pricing outcomes and market microstructures.

Second, the journal could represent an important outlet for the explorations of financial education and its impact on investment behaviour as embryonic understanding of this association transpires. *Third*, the journal may choose to (continue to) expand the level of attention provided to the evolving body of work in behavioural finance area. The *EJF* has taken a lead in supporting research of this nature and as understanding of its pervasion across markets and global territories develops, the journal is in a strong position to lead in the area as an outlet for important contributions. *Fourth*, the journal could usefully continue to grow in terms of the number of published studies based in emerging economies. As highlighted earlier, the journal has been at the forefront of growth in coverage of Chinese markets and is therefore well placed to serve as an outlet for the flourishing body of high quality work examining asset pricing in India, Brazil, South Africa, Malaysia, Mauritius and both Arabic and sub-Saharan Africa. *Finally,* the *EJF* would be an ideal conduit for additional bibliometric studies that are based solely on issues relating to content or co-authorship. The purview of the present study is deliberately pervasive, as it is intended to provide a broad indication of patterns and trends related to both aspects of the *EJF*'s publication history. Follow-up work examining the nature (and determinants) of directionality in subject matter and authorship teams would fit well with the journal's tradition of publishing work that employs modern analytical tools, a distinguishing feature of most contemporary investigations of publishing trends.

Whilst we would acknowledge that as the analysis is based largely on the Scopus database any errors therein will be reflected here, the study has generated a number of substantive insights regarding the characteristics of the work published by the *EJF* in its first 25 years, providing detailed evidence regarding patterns in magnitude, citations, themes, authorship and co-authorship. What emerges is a picture of a hugely successful academic resource. Since its inception, the European Journal of Finance has provided an outlet for high quality work

examining a range of cutting edge issues in international financial markets. Throughout the quarter of a century of its existence, the journal has grown consistently in terms of size, quality and international reach. In doing so, it has fulfilled its mission and is ideally placed to prosper for many years as one of the world's most important outlets for eminent research that adds to knowledge regarding the increasingly complex global financial system.

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Table 1. Annual publication and citation data for the European Journal of Finance between 1995 and 2019

Year	TP	CTP	TCP	TC	TC/CTP	TC/TCP	h
1995	24	24	3	3	0.13	1.00	1
1996	16	40	5	7	0.18	1.40	1
1997	15	55	4	11	0.20	2.75	2
1998	22	77	9	13	0.17	1.44	2
1999	21	98	7	13	0.13	1.86	2
2000	19	117	9	16	0.14	1.78	2
2001	20	137	8	11	0.08	1.38	2
2002	22	159	14	22	0.14	1.57	2
2003	29	188	15	25	0.13	1.67	3
2004	32	220	25	36	0.16	1.44	2
2005	32	252	41	59	0.23	1.44	3
2006	41	293	52	82	0.28	1.58	3
2007	40	333	62	93	0.28	1.50	3
2008	44	377	91	161	0.43	1.77	4
2009	41	418	120	208	0.50	1.73	5
2010	39	457	126	249	0.54	1.98	6
2011	46	503	151	294	0.58	1.95	5
2012	46	549	192	386	0.70	2.01	7
2013	51	600	215	487	0.81	2.27	7
2014	54	654	241	541	0.83	2.24	7
2015	64	718	276	614	0.86	2.22	8
2016	68	786	307	665	0.85	2.17	8
2017	63	849	326	746	0.88	2.28	9
2018	85	934	370	920	0.98	2.48	10
2019	90	1024	438	1050	1.02	2.40	9
1995-2019		1024	775	6712	6.55	8.66	33

Notes: This table presents the annual trend of publication and citation in the European Journal of Finance between 1995 and 2019. TP = total publication, CTP= cumulative total up to that year, TCP= total cited publications out of CTP in that year, TC = total citations, TC/CTP= cites per publication TC/TCP= cites per cited publication and *h*= h-index.

Table 2. Top 25 most prolific authors in the European Journal of Finance between 1995 and 2019

Author	TP	TCP	TC	TC/TP	TC/TCP	*h*
Dunis, C.L.	13	13	87	6.21	7.46	6
Hou, W.	9	9	83	9.22	9.22	6
Laws, J.	8	8	58	7.25	7.25	5
Coakley, J.	8	4	35	4.38	8.75	3
Satchell, S.E.	7	7	29	4.14	4.14	3
Song, X.	7	5	14	2.00	2.80	2
Tippett, M.	7	5	14	2.00	2.80	2
Wilson, J.O.S.	6	5	85	14.17	17.00	3
Bessler, W.	6	5	62	10.33	12.40	4
Lee, E.	6	6	51	8.50	8.50	4
Cumming, D.	6	6	47	7.83	7.83	5
Armitage, S.	6	4	34	5.67	8.50	4
Wolfe, S.	6	4	28	4.67	7.00	3
McMillan, D.G.	6	5	19	3.17	3.80	3
Mills, T.C.	5	4	118	23.6	29.5	4
Guariglia, A.	5	5	66	13.2	13.2	5
Casu, B.	5	4	62	12.40	15.50	3
Mallin, C.	5	4	40	8.00	10.00	2
Cotter, J.	5	5	38	7.60	7.60	3
Sermpinis, G.	5	5	37	7.40	7.40	4
Wohar, M.E.	5	4	28	5.60	7.00	2
Marshall, A.	5	3	24	4.80	8.00	3
Paxson, D.	5	4	17	3.40	4.25	3
Hua, X.	5	5	13	2.60	2.60	2
ap Gwilym, O.	5	4	6	1.20	1.50	2

Notes: This table provides details regarding the most prolific authors in the European Journal of Finance between 1995 and 2019. *TP* = total publication, TCP= total cited publications out of TP, TC = total citations, TC/TP= cites per publication TC/TCP= cites per cited publication and *h*= h-index.

Table 3. Top 25 most prolific institutions in the European Journal of Finance between 1995 and 2019

Institution	TP	TCP	TC	TC/TP	TC/TCP	*h*
Alliance Manchester Business School	28	22	145	5.18	6.59	7
Cass Business School	26	20	200	7.69	10.00	8
City University of London	24	20	202	8.42	10.10	9
University of Glasgow	20	17	157	7.85	9.24	7
University of Manchester	20	17	145	7.25	8.52	7
University of Edinburgh	19	16	110	5.79	6.87	6
University of Southampton	18	14	68	3.78	4.86	5
University of Birmingham	17	14	112	6.59	8.00	6
University of St Andrews	16	14	231	14.44	16.50	6
Bangor University	16	13	86	5.38	6.62	6
University of London	14	11	148	10.57	13.45	6
University of Essex	13	9	84	6.46	9.33	5
University of Strathclyde	13	9	51	3.92	5.67	4
Cardiff University	13	12	46	3.54	3.83	4
University of East Anglia	13	10	36	2.77	3.60	4
University College Dublin	12	10	71	5.92	7.10	5
University of Cambridge	12	11	63	5.25	5.73	5
Universidad Carlos III de Madrid	12	9	56	4.67	6.22	4
Loughborough University	12	10	49	4.08	4.90	4
The University of Sydney	12	8	23	1.92	2.88	3
University of Reading	11	8	96	8.73	12.00	6
Durham University Business School	11	9	87	7.91	9.67	6
Adam Smith Business School	11	10	81	7.36	8.10	5
Universidade do Minho	11	8	63	5.73	7.88	6
University of Liverpool Management School	11	9	31	2.82	3.44	4

Notes: This table presents details regarding the most prolific institutions in terms of author affiliations in the European Journal of Finance between 1995 and 2019. TP = total publication, TCP= total cited publications out of TP, TC = total citations, TC/TP= cites per publication TC/TCP= cites per cited publication and *h*= h-index.

Table 4. Top 25 most prolific countries in the European Journal of Finance between 1995 and 2019

Country	TP	TCP	TC	TC/TP	TC/TCP	*h*
United Kingdom	431	320	2784	6.45	8.70	23
United States	125	86	1010	8.08	11.74	14
Germany	110	93	660	6.00	7.10	14
Italy	75	64	659	8.79	10.30	14
Spain	69	52	350	5.07	6.73	10
Australia	52	43	399	7.67	9.28	9
China	47	37	193	4.10	5.21	7
Canada	48	42	466	8.87	10.10	9
France	48	32	276	5.75	8.63	9
Portugal	31	23	271	8.74	11.78	8
Switzerland	29	22	230	7.93	10.45	9
Netherlands	29	26	221	7.62	8.50	9
Finland	26	21	215	8.27	10.24	8
Sweden	22	19	82	3.73	4.32	6
Belgium	20	17	208	10.40	12.24	8
Greece	20	18	141	7.05	7.83	7
Ireland	18	15	122	6.78	8.13	6
Norway	15	11	349	23.27	31.73	5
Taiwan	15	9	75	5.00	8.33	4
Hong Kong	14	11	69	4.93	6.27	6
Austria	13	13	98	7.54	7.54	5
Turkey	13	9	56	4.31	6.22	4
New Zealand	12	10	64	5.33	6.40	4
South Korea	12	8	42	3.50	5.25	4
Denmark	11	10	91	8.27	9.10	3

Notes: This table presents the most prolific countries in terms of author affiliations in the European Journal of Finance between 1995 and 2019. TP = total publication, TCP= total cited publications out of TP, TC = total citations, TC/TP= cites per publication TC/TCP= cites per cited publication and *h*= h-index.

Table 5. Temporal contributions by Authors, Institutions and Countries

1995-1999								
Author	**TP**	**TC**	**Institution**	**TP**	**TC**	**Country**	**TP**	**TC**
Buckley A.	5	7	Sheffield University	7	123	United Kingdom	49	267
Mills T.C.	3	100	University Of Warwick	7	2	United States	16	41
Demirag I.S.	3	9	Cranfield School Of Management	5	7	France	9	15
Booth G.G.	3	6	University Of Glasgow	4	14	Canada	6	13
Tang G.Y.N.	2	14	Louisiana State University	4	7	Spain	6	9
Dunis C.	2	10	Universidad Carlos Iii De Madrid	3	6	Netherlands	6	6
Martikainen T.	2	5	City University Business School	3	5	Finland	4	24
Chelley-Steeley P.L.	2	1	University Of Wales	3	1	Switzerland	4	24
Doran P.	2	1	Vrije Universiteit	3	0	Germany	4	0
Ghosh D.K.	2	1	University Of Vaasa	2	24	Hong Kong	3	14
2000-2004								
Author	**TP**	**TC**	**Institution**	**TP**	**TC**	**Country**	**TP**	**TC**
Mills T.C.	2	18	University Of Cambridge	5	9	United Kingdom	39	322
Demirag I.S.	2	11	Åbo Akademi University	4	26	Spain	15	165
Booth G.G.	2	4	Loughborough University	4	26	United States	14	90
Tang G.Y.N.	2	1	University Of Wales	4	16	Italy	10	125
Dunis C.	2	1	Universidad Carlos III De Madrid	3	40	Australia	7	62
Martikainen T.	1	52	Helsinki Sch. Of Econ.	3	35	Germany	7	61
Chelley-Steeley P.L.	1	52	Université Paris	3	32	Netherlands	6	27
Doran P.	1	40	Manchester University	3	26	Finland	5	29
Ghosh D.K.	1	40	University Of Southampton	3	18	France	5	19
Pena J.I.	1	37	University Of London	2	52	Portugal	4	47
2005-2009								
Author	**TP**	**TC**	**Institution**	**TP**	**TC**	**Country**	**TP**	**TC**
Satchell S.E.	4	23	University of Cambridge	6	44	United Kingdom	61	841

Author	TP	TC	Institution	TP	TC	Country	TP	TC
Bessler W.	3	38	Cass Business School	5	74	Germany	27	251
Murinde V.	3	34	City University of London	5	65	United States	25	497
Dunis C.L.	3	21	University of Dundee	4	61	Italy	16	164
Green C.J.	3	7	University of Manchester	4	55	Canada	11	307
Berg D.	2	278	University of Groningen	4	47	Netherlands	11	150
Philippatos G.C.	2	156	Alliance Manchester Business School	4	37	France	10	130
Giot P.	2	54	University of Strathclyde	4	36	Switzerland	9	75
Hwang S.	2	40	Brunel University London	4	26	Portugal	8	91
Espenlaub S.	2	33	University of Edinburgh	4	22	Australia	7	95
2010-2014								
Author	**TP**	**TC**	**Institution**	**TP**	**TC**	**Country**	**TP**	**TC**
Casu B.	4	55	University of St Andrews	11	183	United Kingdom	101	839
Wilson J.O.S.	4	46	Cass Business School	9	83	Germany	28	206
Hou W.	3	45	City University of London	9	83	United States	24	234
Girardone C.	3	28	Alliance Manchester Business School	8	58	Italy	19	205
Dunis C.L.	3	24	University of Manchester	7	51	Spain	15	80
Laws J.	3	24	University of Glasgow	6	61	Australia	11	179
Rodrigues A.	3	17	Hanken School of Economics	6	23	Portugal	11	99
Mcmillan D.G.	3	5	University of Southampton	6	16	China	10	95
Bredin D.	2	47	University of Durham	5	77	Finland	10	78
Chang C.-H.	2	41	University of Essex	5	51	Canada	10	67
2015-2019								
Author	**TP**	**TC**	**Institution**	**TP**	**TC**	**Country**	**TP**	**TC**
Hou W.	6	37	Alliance Manchester Business School	15	40	United Kingdom	181	515
Coakley J.	6	12	Cass Business School	12	45	United States	46	148
Song X.	6	9	University of East Anglia	11	27	Germany	44	141
Tippett M.	6	9	City University of London	10	54	China	36	93
Adcock C.	4	37	The University of Sydney	10	13	Italy	29	164
Guariglia A.	4	28	University of Glasgow	9	69	Spain	28	61

Cumming D.	4	23	Adam Smith Business School	9	69	Australia	27	63
Ding S.	4	15	University of Manchester	9	32	Canada	21	72
Hua X.	4	11	University of Edinburgh	8	43	France	14	77
Huang Y.	3	7	University of Birmingham	8	42	Belgium	9	44

Notes: This table presents the list of most contributing authors, institutions and countries in the European Journal of Finance divided into five-year periods. TP= total publication and TC= total citations.

Table 6. Most cited European Journal of Finance articles between 1995 and 2019

TC	Authors	Title	Year
170	Guest P.M.	The impact of board size on firm performance: Evidence from the UK	2009
151	Yildirim H.S., Philippatos G.C.	Efficiency of banks: Recent evidence from the transition economies of Europe, 1993-2000	2007
141	Berg D.	Copula goodness-of-fit testing: An overview and power comparison	2009
137	Aas K., Berg D.	Models for construction of multivariate dependence - a comparison study	2009
98	Link A.N., Siegel D.S.	Generating science-based growth: An econometric analysis of the impact of organizational incentives on university-industry technology transfer	2005
93	Hoepner A.G.F., Rammal H.G., Rezec M.	Islamic mutual funds' financial performance and international investment style: Evidence from 20 countries	2011
91	Mills T.C., Coutts J. A.	Calendar effects in the London stock exchange FTSE indices	1995
78	Genest C., Gendron M., Bourdeau-Brien M.	The advent of copulas in finance	2009
52	Smith G., Ryoo H.-J.	Variance ratio tests of the random walk hypothesis for European emerging stock markets	2003
51	Giot P.	Market risk models for intraday data	2005
51	Mancinelli L., Ozkan A.	Ownership structure and dividend policy: Evidence from Italian firms	2006
50	Sawicki J.	Corporate governance and dividend policy in Southeast Asia pre- and post-crisis	2009
49	Giannopoulos K.	Estimating the time varying components of international stock markets' risk	1995
47	Mellios C., Paget-Blanc E.	Which factors determine sovereign credit ratings?	2006
47	Bouyé E., Salmon M.	Dynamic copula quantile regressions and tail area dynamic dependence in forex markets	2009
45	Graham M., Nikkinen J.	Co-movement of the Finnish and international stock markets: A wavelet analysis	2011
43	Alexandridis G., Mavrovitis C.F., Travlos N.G.	How have M&As changed? Evidence from the sixth merger wave	2012
42	Borges M.R.	Efficient market hypothesis in European stock markets	2010
42	Liu H., Wilson J.O.S.	Competition and risk in Japanese banking	2013
41	Capocci D., Corhay A., Hübner G.	Hedge fund performance and persistence in bull and bear markets	2005

TC	Authors	Title	Year
40	Bana E Costa C.A., Soares J.O.	A multicriteria model for portfolio management	2004
39	Hwang S., Valls Pereira P.L.	Small sample properties of GARCH estimates and persistence	2006
37	Gallo G.M., Pacini B.	The effects of trading activity on market volatility	2000
37	Bartholdy J., Olson D., Peare P.	Conducting event studies on a small stock exchange	2007
36	Mergner S., Bulla J.	Time-varying beta risk of Pan-European industry portfolios: A comparison of alternative modelling techniques	2008
36	Chiaramonte L., Casu B.	The determinants of bank CDS spreads: Evidence from the financial crisis	2013

Notes: This table details the most cited European Journal of Finance articles between 1995 and 2019. TC= total citations.

Table 7. Most downloaded European Journal of Finance articles (since 2015)

TD	Authors	Title	Year
3385	Bhaumik S.K., Kutan A.M., Majumdar S.	How successful are banking sector reforms in emerging market economies? Evidence from impact of monetary policy on levels and structures of firm debt in India	2018
3249	Tolikas K.	The lead-lag relation between the stock and the bond markets	2018
3007	Guest P.M.	The impact of board size on firm performance: evidence from the UK	2009
2587	Zhang D., Cai J., Liu J., Kutan A.M.	Real estate investments and financial stability: evidence from regional commercial banks in China	2018
2515	Borges M.R.	Efficient market hypothesis in European stock markets	2010
2200	Ding S., Knight J., Zhang X.	Does China overinvest? Evidence from a panel of Chinese firms	2019
1797	Kräussl R., Mirgorodskaya E.	Media, sentiment and market performance in the long run	2017
1665	Alexandridis G., Mavrovitis C.F., Travlos N.G.	How have M&As changed? Evidence from the sixth merger wave	2012
1650	Aussenegg W., Götz L., Jelic R.	European asset swap spreads and the credit crisis	2016
1610	Caporale G.M., Spagnolo F., Spagnolo N.	Macro news and bond yield spreads in the euro area	2018
1450	Altunbaş Y., Kara A., Marques-Ibanez D.	Large debt financing: syndicated loans versus corporate bonds	2010
1403	Andriosopoulos D., Faff R., Paudyal K.	Financial markets, innovation and regulation	2019
1158	Ramiah V., Zhao Y., Moosa I., Graham M.	A behavioural finance approach to working capital management	2016
1112	Bessler W., Opfer H., Wolff D.	Multi-asset portfolio optimization and out-of-sample performance: an evaluation of Black–Litterman, mean-variance, and naïve diversification approaches	2017
1063	Cumming D., Guariglia A., Hou W., Lee E.	Chinese capital markets: institutional reforms and growing global links	2017

TD	Authors	Title	Year
1017	Bartholdy J., Olson D., Peare P.	Conducting Event Studies on a Small Stock Exchange	2007
980	Taffler R.	Emotional finance: investment and the unconscious	2018
969	Cumming D., Guariglia A., Hou W., Wu Z.	Chinese capital markets: challenges to the China model	2019
960	Chronopoulos D.K., Liu H., McMillan F.J., Wilson J.O.S.	The dynamics of US bank profitability	2015
925	Mellios C., Paget-Blanc E.	Which factors determine sovereign credit ratings?	2006
892	Karimalis E.N., Nomikos N.K.	Measuring systemic risk in the European banking sector: a copula CoVaR approach	2017
878	Cable J., Holland K.	Modelling normal returns in event studies: a model-selection approach and pilot study	1999
860	Wojewodzki M., Poon W.P.H., Shen J.	The role of credit ratings on capital structure and its speed of adjustment: an international study	2018
855	Guariglia A., Hou W., Hua X., Huang Y.	Chinese capital markets: the importance of history for modern development	2018
829	Conyon M.J., Peck S.I.	Board size and corporate performance: evidence from European countries	1998

Notes: This table presents details regarding the most downloaded European Journal of Finance articles since 2015. TD= total downloads since 2015

Table 8. Journals citing European Journal of Finance publications most often

Journal	TC	ABS Rating	Subject Area
The European Journal of Finance	244	3	Finance
International Review of Financial Analysis	129	3	Finance
Journal of Banking and Finance	127	3	Finance
Research in International Business and Finance	94	2	Finance
Applied Economics	93	2	Economics
Applied Financial Economics	79	2	Finance
Journal of International Financial Markets Institutions and Money	75	3	Finance
Quantitative Finance	73	3	Finance
Economic Modelling	69	2	Economics
European Journal of Operational Research	69	4	Operations
Emerging Markets Finance and Trade	66	2	Finance
International Review of Economics and Finance	60	2	Economics
Physica A Statistical Mechanics and Its Applications	52	2	Finance
Managerial Finance	42	1	Finance
Pacific Basin Finance Journal	42	2	Finance
Review of Quantitative Finance and Accounting	41	3	Finance
Journal of Business Finance and Accounting	39	3	Accounting
Applied Economics Letters	38	1	Economics
Energy Economics	38	3	Economics
Finance Research Letters	36	2	Finance
North American Journal of Economics and Finance	34	2	Economics
Quarterly Review of Economics and Finance	32	2	Economics
International Journal of Finance and Economics	31	3	Finance
Journal of Empirical Finance	31	3	Finance
Journal of Futures Markets	31	3	Finance

Notes: This table details the journals that have cited European Journal of Finance articles most often. ABS ratings and subject areas are as measured and defined by the Chartered Association of Business Schools. TC = total number of European Journal of Finance articles cited in these journals.

Table 9. Journals with most article citations in the European Journal of Finance between 1995 and 2019

Journal	TC	ABS Rating	Subject Area
Journal of Finance	1466	4*	Finance
Journal of Financial Economics	948	4*	Finance
Journal of Banking and Finance	902	3	Finance
Review of Financial Studies	582	4*	Finance
Journal of Financial and Quantitative Analysis	434	4	Finance
The European Journal of Finance	329	3	Finance
American Economic Review	325	4*	Economics
Journal of Econometrics	243	4	Economics
Journal of Business	233	NR	Economics
Journal of International Money and Finance	218	3	Finance
Financial Analysts Journal	217	3	Finance
Econometrica	202	4*	Economics
Financial Management	177	3	Finance
Applied Financial Economics	176	2	Finance
Journal of Business Finance and Accounting	174	3	Accounting
Journal of Corporate Finance	168	4	Finance
Journal of Empirical Finance	164	3	Finance
Journal of Political Economy	164	4*	Economics
Journal of Portfolio Management	155	2	Finance
European Financial Management	154	3	Finance
Journal of Futures Markets	154	3	Finance
Journal of Accounting and Economics	149	4*	Accounting
Journal of Accounting Research	149	4*	Accounting
Management Science	148	4*	Operations
Quarterly Journal of Economics	148	4*	Economics

Notes: This table details the journals from which papers have received most citations in the European Journal of Finance. ABS ratings and subject areas are as measured and defined by the Chartered Association of Business Schools. TC = total number of times European Journal of Finance articles have been cited...

Table 10. Keywords used most frequently in the European Journal of Finance between 1995 and 2019

Keyword	TO
Corporate Governance	33
Market Efficiency	28
China	26
Liquidity	23
GARCH	21
Forecasting	20
Volatility	19
Asset Pricing	17
Financial Crisis	16
Mutual Funds	15
Real Options	15
Emerging Markets	14
Portfolio Choice	13
Risk Management	13
Implied Volatility	13
Banks	12
Capital Structure	12
Value-at-Risk	12
Hedging	11
Market Microstructure	11
CAPM	11
Credit Risk	11
Exchange Rates	11
Event Study	11
Mergers and Acquisitions	10
Risk	10
Stock Returns	10
Banking	10

Notes: This table lists the keywords used most frequently in the European Journal of Finance. TO = total occurrences.

Table 11. Temporal breakdown of keywords used most frequently in the European Journal of Finance

1995-1999		2000-2004		2005-2009		2010-2014		2015-2019	
Keyword	**TO**	**Keyword**	**TO**	**Keyword**	**TO**	**Keyword**	**TO**	**Keyword**	**TO**
International	5	GARCH	7	Market Efficiency	9	Corporate Governance	10	China	19
Short-Termism	5	Market Efficiency	4	GARCH	7	Real Options	10	Corporate Governance	14
Investment	4	Emerging Markets	4	Mutual Funds	7	Market Microstructure	7	Financial Crisis	12
Capital Asset Pricing Model	3	Implied Volatility	4	Copula	7	China	7	Liquidity	10
Capital Structure	3	Forecasting	4	Volatility	6	Liquidity	6	Market Efficiency	9
Corporate Governance	3	Event Study	4	Corporate Governance	6	Asset Pricing	6	Portfolio Choice	8
Futures	3	Arbitrage	3	Stochastic Volatility	6	Exchange Rates	5	Forecasting	7
Hedging	3	CAPM	3	Liquidity	5	Order Flow	5	Banks	6
Stock	3	Cointegration	3	Forecasting	5	Banks	5	Asset Pricing	6
Stock Returns	3	Term Structure	3	Emerging Markets	5	Price Discovery	4	Investment Decisions	6
Volatility	3	High Frequency Financial Data	2	Value-at-Risk	5	CAPM	4	Contagion	6
Arbitrage	2	Volatility Forecasting	2	Event Studies	4	Credit Risk	4	Mergers	5
Contingent Claim	2	Heterogeneity	2	Kalman Filter	4	Home Bias	4	Mergers and Acquisitions	5
Equity Premium	2	Stock Prices	2	Persistence	4	Market Efficiency	4	Behavioural Finance	5
Event Studies	2	Volatility	2	Risk Management	4	Mutual Funds	4	Executive Compensation	5

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1995-1999		2000-2004		2005-2009		2010-2014		2015-2019	
Keyword	**TO**	**Keyword**	**TO**	**Keyword**	**TO**	**Keyword**	**TO**	**Keyword**	**TO**
Financial Institutions	2	Asset Pricing	2	Skewness	4	Forecasting	3	Volatility	5
Fund Managers	2	Dividends	2	Efficiency	4	Foreign Exchange	3	Capital Structure	5
Implied Volatility	2	Hedging	2	Banking	4	Derivatives	3	Momentum	5
Kurtosis	2	Intra	2	Extreme Value Theory	4	High Frequency Data	3	Value-At-Risk	5
Market Efficiency	2	Variance Decomposition	2	Abnormal Returns	3	Performance	3	Implied Volatility	4
Neural Networks	2	Bank Regulation	2	Conditional Heteroscedasticity	3	Bubble	3	Arbitrage	4
Portfolio Theory	2	Bankruptcy	2	Mergers and Acquisitions	3	Finance	3	Crisis	4
Risk	2	Euro	2	Performance Evaluation	3	GARCH	3	Earnings Management	4
Skewness	2	Liquidity	2	Asymmetric Information	3	Hedging	3	Risk Management	4
Value	2	Time Series	2	Monte Carlo Simulation	3	Risk Management	3	Credit Risk	4
				Portfolio Selection	3	Trading Volume	3	Exchange Rates	4
				Real Options	3	Volatility	3	Financial Constraints	4
				Risk	3				

Notes: This table lists the keywords used most often in the European Journal of Finance across five-year periods. TO= total occurrences

Table 12. Number of authors of European Journal of Finance articles

Period	Number of articles with authors						% with single author
	1	**2**	**3**	**4**	**5**	**6**	
1995-1999	31	43	16	2	1	2	32.63%
2000-2004	38	53	21	11	0	0	30.89%
2005-2009	53	97	44	6	0	0	26.50%
2010-2014	40	97	83	15	1	0	16.95%
2015-2019	56	111	151	46	4	2	15.13%
Grand Total	**218**	**401**	**315**	**80**	**6**	**4**	**21.23%**

Nots: This table details the number of authors associated with European Journal of Finance articles between 1995 to 2019, in total and across five-year sub-periods.
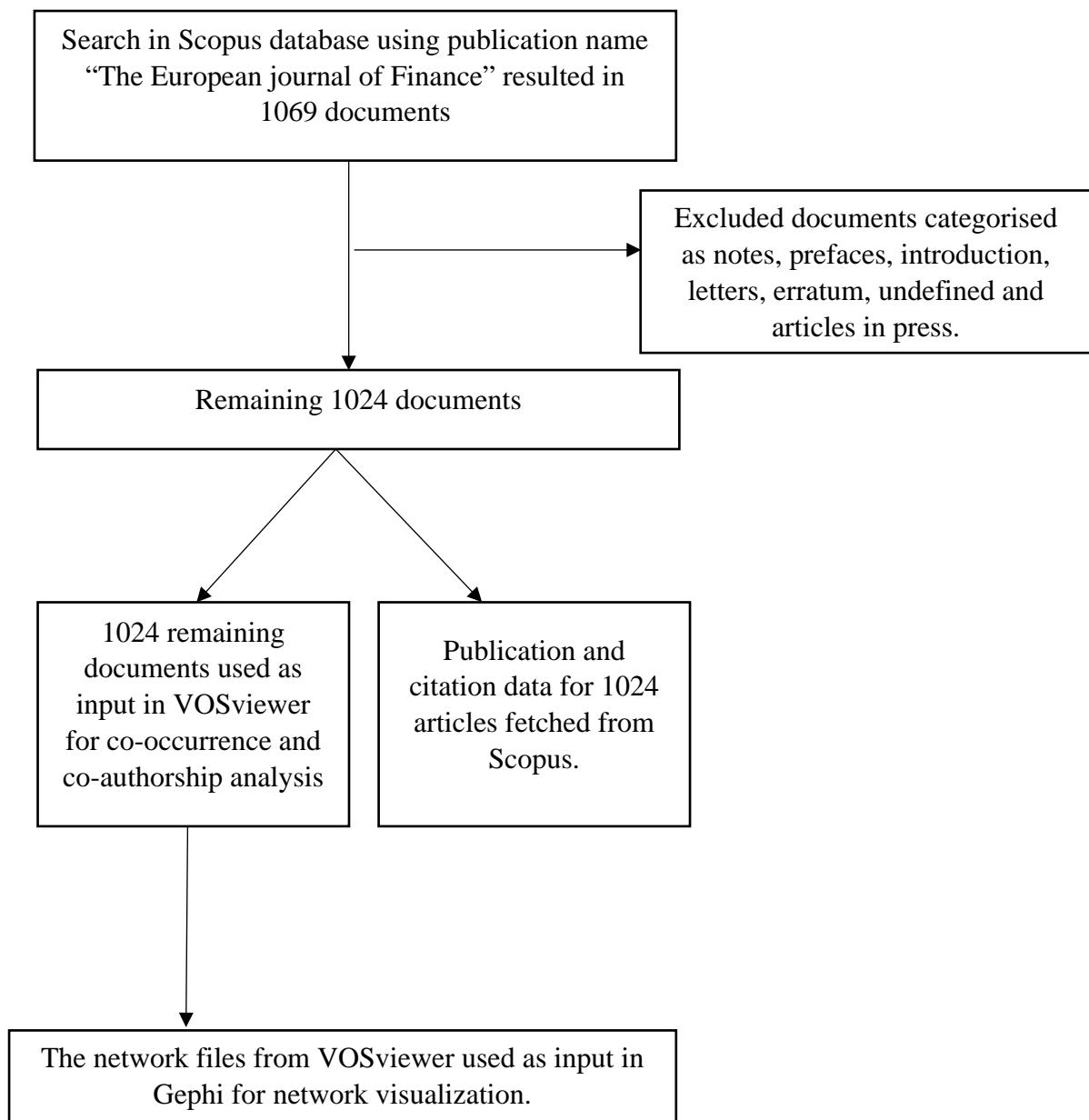
Figure 1. This figure represents the experiment design employed in the study

Figure 2. Keyword co-occurrence network

This figure represents the co-occurrence network of keywords in European Journal of Finance publications between 1995 and 2019, with a minimum of five occurrences.
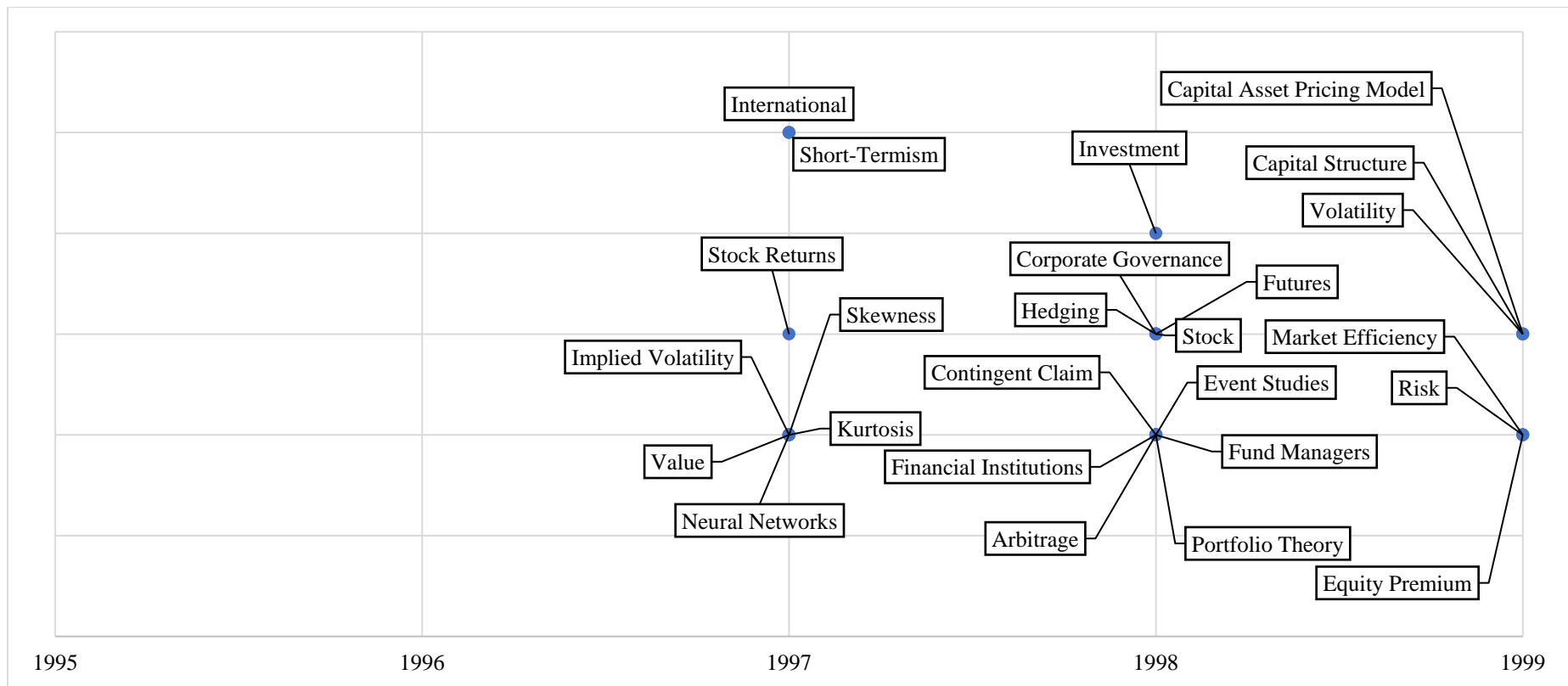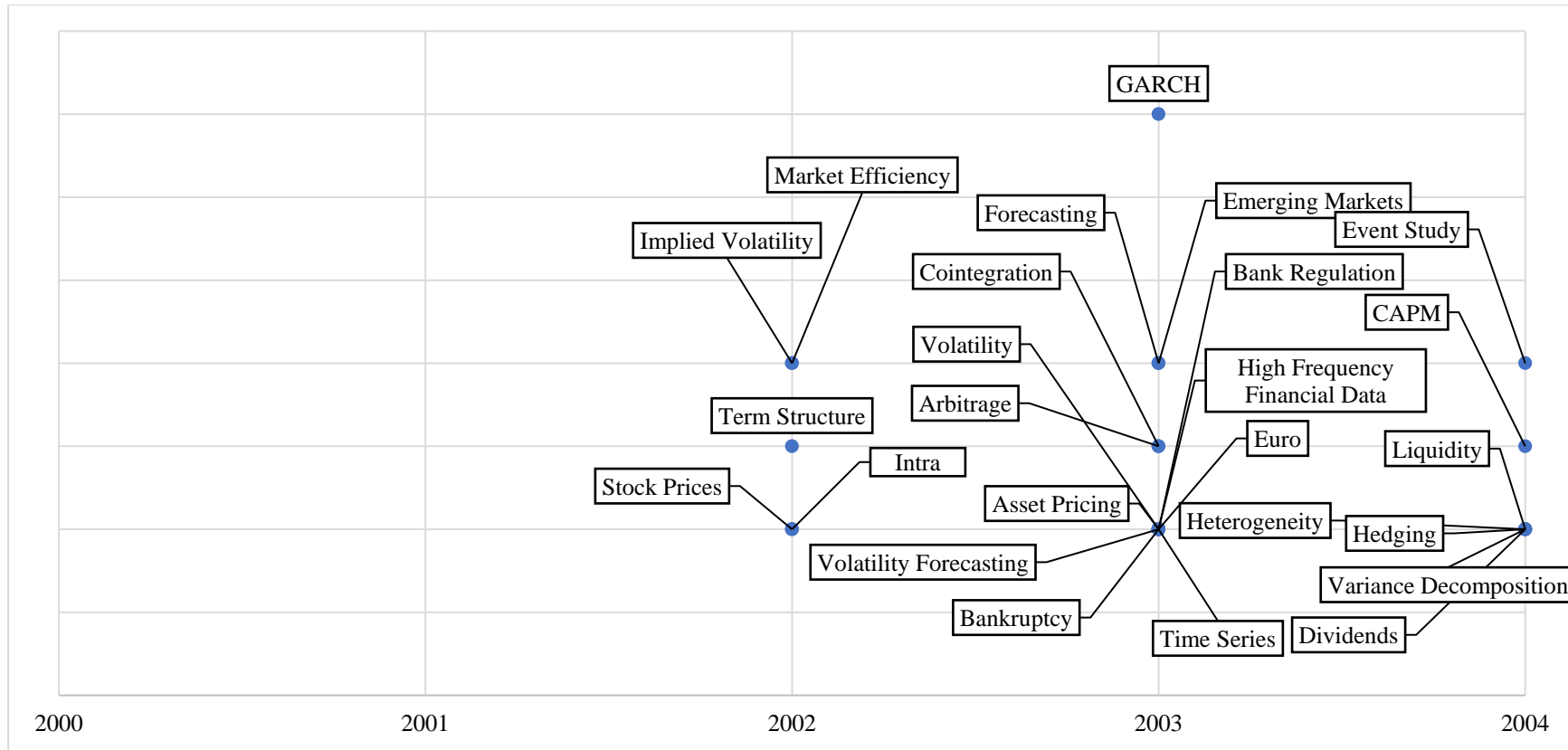
Figure 3. Author Keywords during period one (1995-1999)

In this figure, keywords are plotted against the average publication year of articles in which they appear. Upward movement depicts prominence (i.e. degree of usage) by authors.
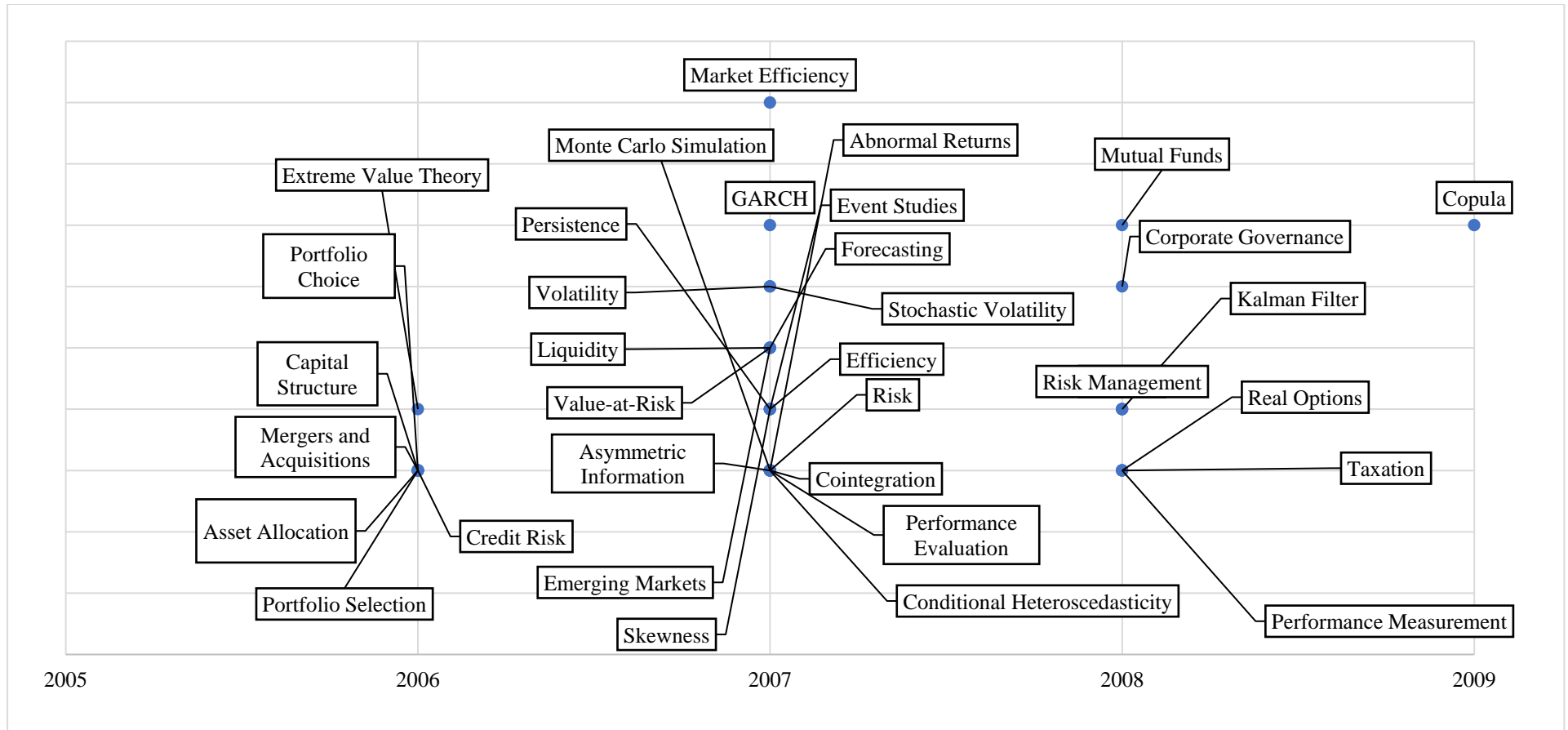
Figure 4. Author Keywords during period two (2000-2004)

In this figure, keywords are plotted against the average publication year of articles in which they appear. Upward movement depicts prominence (i.e. degree of usage) by authors.

Figure 5. Author Keywords during period three (2005-2009)

In this figure, keywords are plotted against the average publication year of articles in which they appear. Upward movement depicts prominence (i.e. degree of usage) by authors.
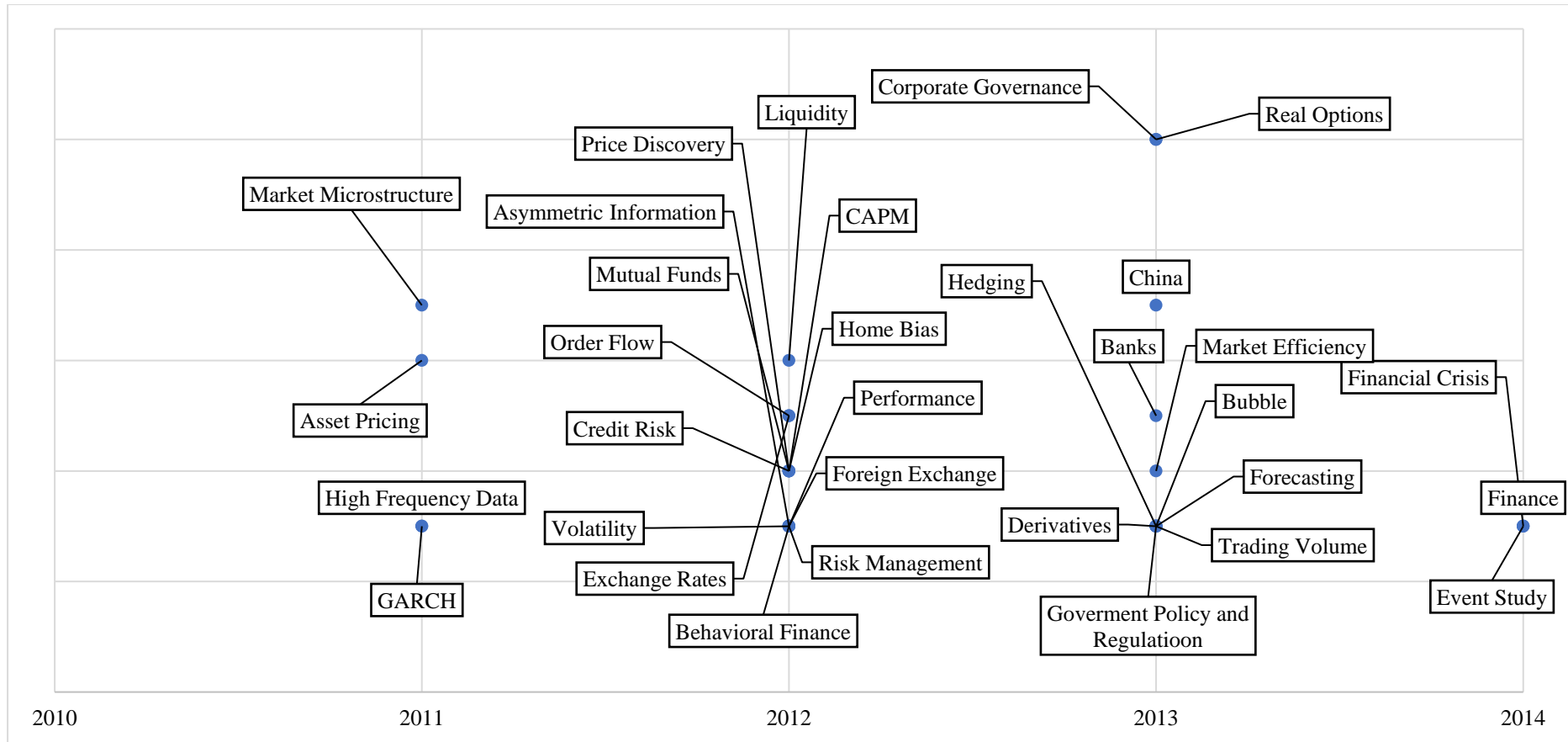
Figure 6. Author keywords during period four (2010-2014)

In this figure, keywords are plotted against the average publication year of articles in which they appear. Upward movement depicts prominence (i.e. degree of usage) by authors.
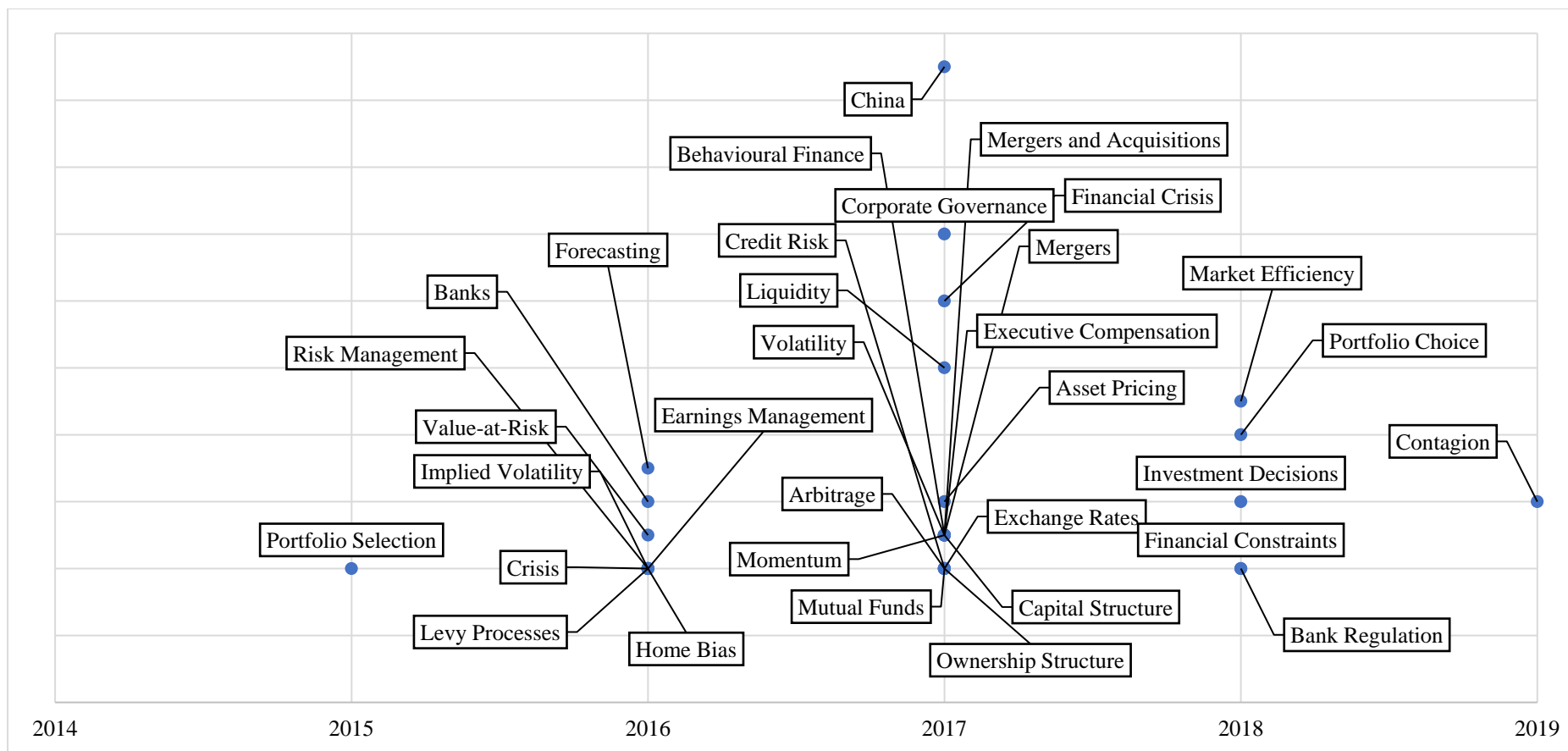
Figure 7. Author keywords during period five (2015-2019)

In this figure, keywords are plotted against the average publication year of articles in which they appear. Upward movement depicts prominence (i.e. degree of usage) by authors.
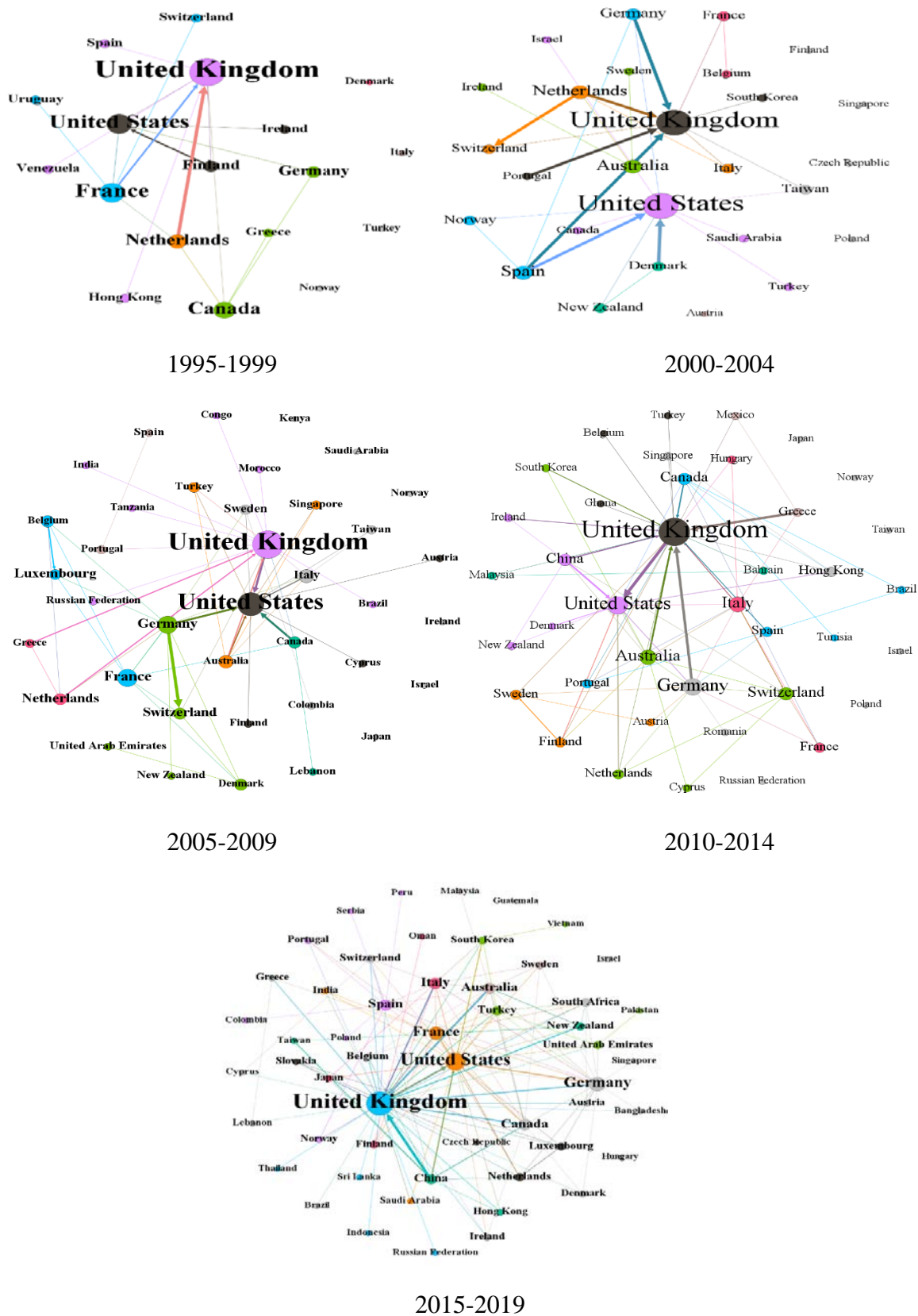
Figure 8. World Cloud based on title and abstract words using r

This table represents the word cloud created using words appearing the titles and abstracts of European Journal of Finance articles published between 1995 and 2019.

1995-1999

2000-2004

2005-2009

2010-2014

2015-2019

Figure 9. Country Network for each of the periods

This figure depicts country co-authorship networks for European Journal of Finance articles in each of five five-year periods.

ENDNOTES

i In Table 3 (and Table 5), the data is based on authors' institution as set out in the published works, hence in some cases (e.g. University of Manchester, City University London) work attributed directly to constituent units (e.g. business schools) is classified on the latter basis.

ii Since 2015, when data became available.