# Disproportional Ownership Devices: Reviewing the Last 25 Years of Research

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#### **Abstract**

The paper aims to systematize the literature on disproportional ownership devices by reviewing and classifying 148 articles published in international academic journals over the last 25 years. The findings show that the scholarly attention on disproportional ownership devices has grown over time. Most papers adopt the agency framework and examine the mechanisms for leveraging voting power and to lock-in control, especially in civil law countries. Corporate governance journals prevail as leading outlets, despite the lack of publications specialized on the topic. Finally, the literature systematization highlights a research taxonomy based on outcomes and drivers of disproportional ownership devices. The article has both theoretical and practical implications. First, it develops a literature framework that systematically outlines the main research streams on the topic and identifies under-explored issues so as to guide future scholarly efforts. Second, it highlights the implications of disproportional ownership devices for company outcomes and reporting. Thereby, on the one hand, it supports managers in selecting the appropriate combination of these mechanisms so as to attract and retain investors. On the other hand, it emphasizes the importance of proper policy making interventions to improve transparency, openness and competitiveness of financial markets.

Keywords: corporate governance, disproportional ownership devices, literature review

# 1. Introduction

Over the last few decades, scholars and policy-makers have been strongly committed in advancing the knowledge on ownership structures in terms of implications for corporate governance, firm performance and investment decisions (Cuomo, Zattoni, & Valentini, 2012; Genetay, 1999; Institutional Shareholder Services, 2007; Shleifer & Vishny, 1997).

In this respect, one of the most recently debated issues is the use of disproportional ownership devices. These tools are legal mechanisms to deviate from the proportionality principle ("one share-one vote" or OSOV rule) between cash-flow rights and voting rights (Adams & Ferreira, 2008; Burkart & Lee, 2008; Deminor Rating, 2005), fostering dominant shareholders to enhance their power over the firm. In particular, literature highlights that, when disproportional ownership devices are in place, blockholders control the company by a relatively small ownership share (Cuomo et al., 2012; Faccio, Lang, & Young, 2010; Morck, Wolfenzon, & Yeung, 2005).

The anecdotal and empirical evidence suggests that this result is achieved through a number of modes. Indeed, some devices are responsible for enhancing blockholder control by leveraging voting power (e.g. pyramidal structures), or functioning as coordination devices (voting trusts). Others lock-in the company control (e.g. priority shares, depository certificates, voting rights ceilings, ownership ceilings, supermajority provisions). Still others separate ownership and control through the legal structure of the firm (e.g. partnerships limited by shares), or taking advantage of privatization processes (golden shares) (Burkart & Lee, 2008; Institutional Shareholder Services, 2007).

In the last two decades, these ownership devices have become widespread in many countries (Claessens, Djankov, & Lang, 2000; Du & Dai, 2005; Faccio & Lang, 2002). In Europe for example, about 45% of companies adopted disproportional ownership mechanisms at the end of 2000s. Pyramidal structures and multiple voting right shares represented more than 50% of all the mechanisms employed, and most companies

used more than 3 types of devices simultaneously (Institutional Shareholder Services, 2007).

Notwithstanding the growing diffusion of these tools, research and policy makers have often questioned their governance feasibility since they hamper the market for corporate control and exacerbate the divergence of interests between blockholders and minority shareholders (Almeida & Wolfenzon, 2006b; Cuomo et al., 2012; OECD Steering Group on Corporate Governance, 2007). Indeed, firms ruled by disproportional ownership devices present high agency costs due to the conflicts between controlling (principals) and minority investors (agents) as they compromise the fair and efficient allocation of shareholder rights (Fama & Jensen, 1983; Jensen & Meckling, 1976; La Porta, Lopez-De-Silanes, & Shleifer, 1999). In many countries, these phenomena have resulted in a notable demand for protection of minority investors, placing disproportional ownership devices at the centre of the corporate governance debate (Cuomo et al., 2012; La Porta, Lopez de Silanes, Shleifer, & Vishny, 1998).

As a consequence, the scholarly interest in these mechanisms has increased. Nevertheless, there is still a lack of literature systematization on the topic. Our paper aims to fill this gap by identifying the most relevant research streams and tendencies through a qualitative systematization of the studies on disproportional ownership devices published into peer-reviewed scientific journals over the last 25 years.

Our research provides contributions for both scholars and practitioners. First, it sheds light into the last 25 years of research and systematizes the studies on the topic proposing their taxonomy. Moreover, it develops a literature framework that details and integrates existing studies by identifying the main research streams and the related sub-themes. Indeed, it highlights under-explored issues providing a useful map to guide future efforts of both scholars and practitioners. In this sense, it calls attention of managers and policy makers to the drivers and outcomes of disproportional ownership devices and their implications for company management.

The reminder of the paper unfolds as follows. Section 2 presents the review method. Section 3 describes the results. Section 4 discusses the lessons learned from the studies on disproportional ownership devices and illustrates the literature systematization. Section 5 presents the map of the literature and concludes by providing contributions and implications.

# 2. Review Method

Our research design is based on some consecutive phases.

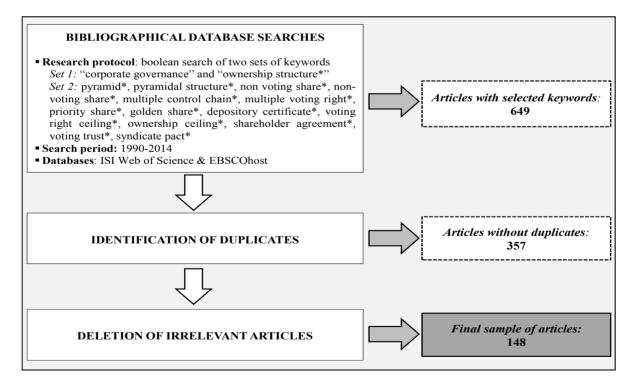


Figure 1. Review protocol

At first, we created our library database of published academic articles. Following a funded practice in literature reviews, we selected the papers of our collection through a bottom—up and explorative approach due to the lack of a priori set of outlets devoted to disproportional ownership devices. In particular, we extracted all relevant double-blind reviewed articles published in international English-language journals from multiple sources: the ISI Web of Science database — SSCI Social Sciences Citation Index (SSCI) - and the EBSCOhost search engine (Catuogno, Saggese, Sarto, & Viganò, 2015; Rashman, Withers, & Hartley, 2009; Torchia, Calabrò, & Morner, 2015). We retrieved the documents through Boolean searches based on two sets of keywords (Dawson & Mussolino, 2014). The former were related to corporate governance and ownership structure (see Figure 1). The latter comprised search strings referred to the disproportional ownership devices classified by the Institutional Shareholder Services (2007, p. 10), and were used without quotation marks to capture all coherent articles.

Following a standard practice, we searched for all double-blind reviewed articles between 1990 and 2014 whose title, publication, abstract, keywords and research area, presented at least one of the selected search strings for disproportional ownership devices (Catuogno et al., 2015; Dawson & Mussolino, 2014).

Our choices ensured academic quality and rigor (Lockett, Moon, & Visser, 2006). Indeed, the selection of peer-reviewed journals guarantees high disciplinary standing since they are considered validated knowledge. Moreover, the time-frame was consistent with the study focus for two main reasons. On the one hand, prior research suggests that the beginning of 1990s witnessed a growing interest towards ownership structures (Durisin & Puzone, 2009). On the other hand, literature stresses the importance of providing an updated assessment of the research field after 20 years since it achieves its full development (Short, 2009).

At the end of this phase, we retrieved 649 keyword hits (356 from SSCI and 293 from EBSCO search engines), originating from 357 disjoint articles.

Starting from this list of papers, two researchers selected all publications focused on disproportional ownership devices by reviewing title, keywords and abstract of each article. In case of uncertainty, they read the full text of each paper and were also supported by a third scholar who carried out a separate analysis to reach consensus. The researchers removed the articles that did not focus on disproportional ownership devices (i.e. 209), leading to a final list of 148 articles published in 72 journals.

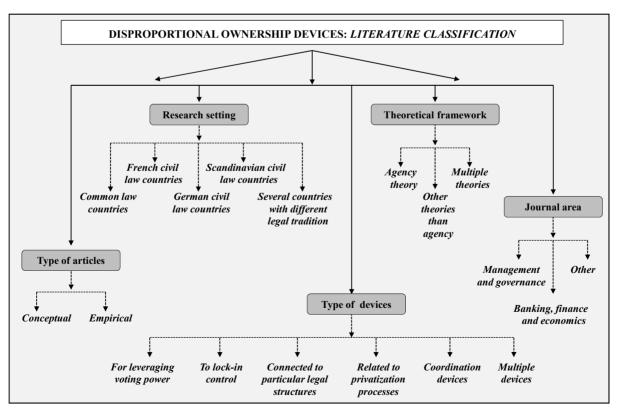


Figure 2. Literature classification scheme

Following prior literature (Catuogno et al., 2015; Chenhall & Smith, 2011), two researchers classified the collected papers by type of articles (conceptual or empirical), type of devices (for leveraging voting power; to lock-in control; connected to particular legal structures; related to privatization processes; coordination devices; and multiple devices) (Burkart & Lee, 2008; Institutional Shareholder Services, 2007), theoretical framework (agency theory; other theories than agency; and multiple theories), and research setting (common law countries; French civil law countries; German civil law countries; Scandinavian civil law countries; and several countries with different legal tradition) (La Porta et al., 1998, 1999; Saggese, 2013). In addition, the researchers categorized the 72 journals by research area (management and governance; banking, finance and economics; other) (see Figure 2). The scholars identified all the classification items through a pre-test of 12 articles. However, following a standard practice in literature studies, a governance professor separately categorized the papers to support the discussion of the researchers' disagreements and to reach consensus (Dawson & Mussolino, 2014; Pugliese et al., 2009).

In the last step of our methodology, we reviewed the selected articles in order to provide an inclusive picture on disproportional ownership devices and to identify central themes and research streams in the literature. In particular, we identified the clusters of articles that foster critical reflections on how the debate on the topic might be moved forward.

#### 3. Descriptive Results

Despite our observation window covers the last 25 years (1990-2014), the first paper of our collection was published in 1996. Figure 3 illustrates the distribution of articles in three sub-periods. Indeed, following Ramos-Rodríguez & Ruíz-Navarro (2004), we chose to divide the time-frame between the first year of publication (1996) and the last one (2014) into three almost equal and consecutive observation windows (1996-2001, 2002-2007 and 2008-2014) to investigate the changes that occurred over time. The figure shows that the proportion of articles increases from 8,11% in 1996-2001 to 55,41% in 2008-2014. While in the first and second sub-periods studies are irregularly published, the attention to the topic considerably boosts in the following years especially after the publication of the Deminor Rating survey (2005) and the report on the proportionality principle in the European Union (Institutional Shareholder Services, 2007).

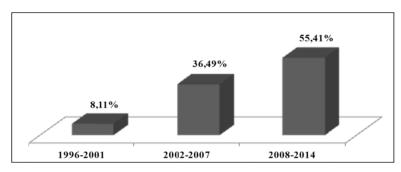


Figure 3. Distribution of articles

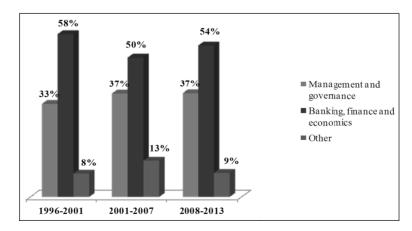


Figure 4. Distribution of papers per journal area and year

Articles are published in 72 journals and their proportion by research area is provided in Figure 4. The findings report that "banking, finance and economics" journals prevail in each sub-period, despite the number of studies published in "management and governance" outlets increases over time. This is also confirmed by the circumstance that most papers appear in *Corporate Governance-An International Review* that is specialized in corporate governance.

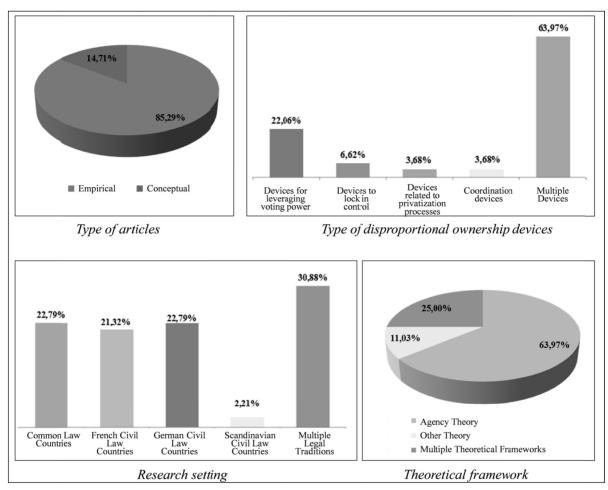


Figure 5. Classification of articles

Figure 5 provides the classification of the papers in our collection. Concerning the type of articles, our findings enlighten that papers are overwhelming empirical (85,29%). Most articles contribute to the debate on the mechanisms for leveraging voting power (22,06%) (Becht, 1999; Bianco & Casavola, 1999) and to lock-in control (6,62%) (Nicodano, 1998; Robinson, Rumsey, & White, 1996). Conversely, few studies analyze other disproportional ownership tools including coordination devices (3,68%) (Gianfrate, 2007) and mechanisms related to privatization processes (3,68%) (Borisova, Brockman, Salas, & Zagorchev, 2012). Moreover, in our time-frame no study focuses on the devices connected to particular legal structures, and papers predominantly focus on the use of multiple mechanisms (Sacristán-Navarro & Gómez-Ansón, 2007; Villalonga & Amit, 2009). Overall, articles mainly explore the devices under investigation in civil law countries (46,32%) and in multiple contexts (30,88%) (Faccio & Lang, 2002). As for the theoretical framework, the most illustrative lens to interpret disproportional ownership devices is the agency theory (63,97%). However, it is worth noting that this finding reflects the application of an alternative specification of the classic framework since articles refer to the second type agency theory.

# 4. Literature Systematization: The Research Taxonomy

To provide a detailed overview of the debate on disproportional ownership mechanisms and suggest directions for future efforts of scholars and practitioners, in this section we provide a summary and critical reflection on the

research streams emerged from our review. More specifically, our analysis suggests that the mainstream literature can be grouped in two main "building blocks". The former focuses on the outcomes of disproportional ownership devices. The latter examines their drivers.

# 4.1 Outcomes of Disproportional Ownership Devices

Papers belonging to this strand analyze the consequences of disproportional ownership (Adams & Ferreira, 2008; Chernykh, 2008; Morck et al., 2005) for both investors (entrenchment and tunnelling) and firms (market and operational performance).

Most studies emphasize that disproportional ownership mechanisms encourage the conflict between majority and minority shareholders and describe the owner-owner conflict through the second-type agency theory (La Porta et al., 1999). For this theoretical approach, a relevant concern is the entrenchment of controlling blockholders (Acero Fraile & Alcalde Fradejas, 2014). Indeed, the OSOV rule deviation may maximize their private benefits and provide incentives to the minorities' expropriation. This is also due to the circumstance that disproportional ownership devices may mitigate the effectiveness of the market for corporate control (Manne, 1965) and the partial ownership concentration (Shleifer & Vishny, 1997). An illustrative example of the phenomena is provided by Bhaumik and Gregoriou (2010). Indeed, the authors describe the case of the Ericsson group and suggest that the disproportion between ownership (1%) and control rights (40%) owned by the Wallenberg family reduces their incentive to distribute the company's free cash-flows to shareholders since blockholders receive a small proportion of these resources.

The research in this stream shows that the minority expropriation occurs in a number of ways. In pyramidal structures, for example, it takes the form of tunnelling and involves the expropriation of assets and equity, self-dealing activities and transactions or collusion with management (Atanasov, Black, & Ciccotello, 2008; Bhaumik & Gregoriou, 2010; Cheung, Rau, & Stouraitis, 2006). In this regard, scholars suggest that tunnelling often refers to a transfer of resources from a lower-level to a higher-level company in the pyramidal chain (Almeida & Wolfenzon, 2006b; Friedman, Johnson, & Mitton, 2003) and involves controlling owners (Chapelle & Szafarz, 2005). In particular, academic research documents that, in the presence of disproportional ownership, blockholders transfer a significant proportion of free cash-flows from companies where they have small ownership rights and large control rights into companies in which their former rights are larger (Friedman et al., 2003; Johnson, La Porta, Lopez-de-Silanes, & Shleifer, 2000; Riyanto & Toolsema, 2008). The same effect occurs through dealings with related parties. Cheung et al. (2006), for example, report that in Hong Kong listed companies with disproportional ownership devices the minority expropriation occurs through transactions among connected parties. Similarly, Morck et al. (2005) argue that blockholders in pyramidal structures can tunnel wealth through related transactions with artificial prices. The consequence is the inefficient resource allocation at firm level that affects company performance.

Moreover, disproportional ownership mechanisms are associated with low earnings quality as controlling owners are perceived to report accounting information for self-interested purposes (Bona-Sánchez, Pérez-Alemán, & Santana-Martín, 2014; Yang, Kweh, & Lin, 2014). Chen, Elder, and Hung (2010), for example, find that firms with a strong disproportional ownership are more likely to engage in earnings management. Fan and Wong (2002) also show that in pyramidal and cross-holding structures, majority shareholders manage earnings to conceal their rent-seeking activities. The same conclusions are yield by Haw, Ho, and Li (2011) who find that managers opportunistically manage earnings through misclassification of core expenses to mask firm performance in the presence of disproportional ownership.

However, it is important to note that, for literature in this cluster, performance is a pivotal tool to examine the overall implications of disproportional ownership mechanisms. Indeed, there is a meaningful debate on the relationship between these devices and performance.

In this respect, some scholars highlight that the divergence between cash-flow and control rights caused by disproportional ownership devices fosters decisions that are not designed to enhance performance. This is the case, for instance, of suboptimal choices aimed at increasing blockholder socio-political influence through overinvestment (Johnson et al., 2000; Wei & Zhang, 2008), or the market reaction to the opacity of governance structures with disproportional ownership (Cheung et al., 2006; Roosenboom & Schramade, 2006). Indeed, the academic research suggests that investment decisions can be inefficient and destroy firm value when disproportional ownership devices are in place (Bae, Kang, & Kim, 2002; Bebchuk, Kraakman, & Triantis, 2000). As a result, the empirical evidence reports the negative impact of the separation between ownership and control on firm performance. Claessens, Djankov, Fan, and Lang (2002), for example, document that in East-Asian public companies, firm value falls as the voting rights of dominant shareholders exceed cash-flow

rights. In China, Chung and Chan (2012), and Liu and Sun (2005), report that pyramidal structures are negatively related to company performance. In Europe, Bianco and Casavola (1999) provide similar results and find that the risk of expropriation due to disproportional ownership devices limits the overall performance of Italian companies characterized by these mechanisms. Consistent findings are shown by Orbay and Yurtoglu (2006) who report significantly better investment performance for companies that do not deviate from the proportionality principle in Turkish listed companies. In Canada, King and Santor (2008) also show that family firms with dual class shares have 17% lower market valuations than their counterparts. Similarly, Villalonga and Amit (2009) document that these disproportional ownership mechanisms are negatively associated with firm performance in US.

Different conclusions are drawn by a competing strand of literature. In this regard, some authors suggest that disproportional ownership devices do not always result in low firm performance (Jog. Zhu, & Dutta, 2010) as they can lead to some beneficial company outcomes. Indeed, Carvalhal (2012) reports that shareholder agreements positively affect firm value in Brazilian listed companies as they are not used to expropriate value from non-controlling investors and mitigate shareholder conflicts. Similarly, González, Guzmán, Pombo, and Trujillo (2012) document a positive effect of pyramidal structures on financial performance of Colombian family firms, suggesting that the supervision of controlling owners reduces the agency conflicts between managers and shareholders. The same conclusions are drawn by Hanousek, Kočenda, and Svejnar (2007) who report that golden shares have a positive effect on company performance in the Czech Republic. Indeed, these devices enable the state to exert a degree of influence over firm options as they provide government with enough ownership stake right to veto managerial decisions. In the same vein, Almeida and Wolfenzon (2006b) add that pyramids can improve economic efficiency. In this sense, their internal capital markets allocate resources among their companies more efficiently than the underdeveloped external capital market does. At the same time, Bena and Ortiz-Molina (2013) argue that pyramids provide a financing advantage in setting up new firms when they cannot raise enough external financing. In this sense, disproportional ownership devices are regarded as the engine of economic growth in many countries since they support business growth through capital widening (Becker-Ritterspach & Bruche, 2012; Lin, 2012; Saggese, 2013).

# 4.2 Drivers of Disproportional Ownership Devices

Beside literature exploring the outcomes of disproportional ownership devices, some articles switch the focus of the discussion towards the determinants of these tools. As emerged by the studies in this cluster, the most common reason shaping the use of disproportional ownership devices is the maximization of the majority shareholder's control, given the level of direct share investment (Kim, Lim, & Sung, 2007). However, there are a number of additional factors that research identifies to explain the adoption of these tools. They refer to industry and business characteristics, investor protection, accounting and tax regulations, and financial market features.

When looking at industry and business characteristics, scholars suggest that some disproportional ownership devices recur in given sectors. Lim and Kim (2005), for example, observe that pyramidal structures are more likely to be used in manufacturing industries than in service sectors. On the one side, the difficulty to measure the input productivity in the latter contexts discourages controlling owners to use pyramidal structures as they limit direct supervision. On the other side, the higher competition in the former industries requires the strong involvement and attention of owners that disproportional ownership can guarantee. Additional interesting insights come from the studies of Buzzacchi and Colombo (1996) who argue that, in industries where there are considerable economies of scale and risks, disproportional ownership mechanisms are more likely to be employed to achieve large size and foster risk sharing. In this sense, such devices are effective in both raising the necessary funds and maintaining corporate control (Lim & Kim, 2005). In line with these conclusions, other studies discuss the economic function of the mechanisms under investigation and interpret the optimal capital allocation (Attig, Guedhami, & Mishra, 2008; Harvey, Lins, & Roper, 2004; Morck et al., 2005), the transaction costs and the risks sharing (Mishra, 2011; Watanabe, 2002) as additional business determinants behind their settlement.

Beside industry and business motivations, the institutional context is also deemed one of the main determinants of disproportional ownership devices. In particular, according to the law and finance approach, regulation framework and degree of investor protection matter for these tools (Craninckx & Huyghebaert, 2015; Venezze, 2014). Stemming from this view, La Porta et al. (1998; 1999) observe that weak shareholder protection is related to high ownership concentration and presence of disproportional ownership devices. In particular, they argue that Continental Europe and East Asia offer less protection to minority shareholders compared to Anglo-American settings, and experience stronger use of disproportional ownership mechanisms. Indeed, the empirical evidence offered by the research in the cluster shows that, in these countries, the poor shareholder protection results in a

larger deviation from the proportionality principle since private benefits of control are higher (Faccio et al., 2010). In this sense, scholars agree that one share should imply the right to exercise one vote, so that the connection between risk faced and investor rights promotes efficiency in allocating resources (Adams & Ferreira, 2008; Burkart & Lee, 2008; Institutional Shareholder Services, 2007). In line with these conclusions, Almeida and Wolfenzon (2006a), for example, claim that pyramids are common in countries with poor investor protection because they foster controlling shareholders to start up new firms without fully sharing the benefits of a new venture with minorities. Symmetrically, Cuomo et al. (2012) highlight that the features of European ownership structures are underpinned by a regulatory framework encouraging investments by shareholders with a small percentage of company equity. Indeed, the empirical evidence provided by this study shows that, in Europe, the increasing investor protection reflects in a lower separation between control and cash-flow rights and a lower use of disproportional ownership devices. Similar conclusions are drawn by Enriques and Volpin (2007) who claim that the disappearance of some disproportional ownership mechanisms in UK has occurred after the introduction of the mandatory takeover bid regulation (1968).

In the attempt to move the debate forward, some studies in this cluster have expanded the above mentioned regulatory perspective suggesting that accounting and tax regulations also matter for disproportional ownership devices. Hong (2013), for example, claims that the mandatory adoption of International Financial Reporting Standards (IFRS) for firms with dual-class share structure decreases the adopters' voting premiums in countries with strong legal enforcement. In this sense, it improves the accounting information transparency as effective mechanism to constrain the blockholders' opportunism to the benefit of minority shareholders. Similar conclusions are drawn when looking at taxation rules as the choice of using disproportional ownership devices is affected by tax regulation (Jung & Kim, 2009). For example, Morck and Yeung (2005) argue that, in US, the fiscal restrictive regulation on intercompany dividends (1935) has led to the disappearance of some disproportional ownership devices (e.g. pyramids). More recently, Langlois (2013) interprets the spread of these mechanisms as the consequence of new government policies on corporate taxation and securities regulation.

Additional interesting insights are offered by the studies proposing that the use of disproportional devices is driven by characteristics and quality of financial markets. In this perspective, scholars argue that the inadequacies in arm's-length markets, and the limited availability of capital, affect the employment of the tools under examination (Langlois, 2013). Pyramidal structures, for example, are deemed useful ownership schemes to obtain the capital needed for expansion (Lim & Kim, 2005). Accordingly, as noted by Masulis, Pham, and Zein (2011), disproportional ownership structures emerge not only to perpetuate control but also to alleviate financing constraints.

## 5. Discussion and Conclusions

Stemming from the aim to harmonize the financial market regulation in Europe, policy-makers and scholars have increased their attention towards disproportional ownership mechanisms. As reported by our findings, the studies on the topic have significantly grown over time. In particular, the number of articles per year has moved from 1 in 1996 to 12 in 2014, even if the majority of them has been issued after 2002-2007. Indeed, in this observation window, the report on "takeover bid" (Winter et al., 2002), the study on the application of OSOV rule (Deminor Rating, 2005), and the two researches on the proportionality principle undertaken by the Institutional Shareholder Services (2007) and the OECD Steering Group on Corporate Governance (2007), have fueled the noteworthy commitment in understanding disproportional ownership devices. Therefore, our results witness that the academic interest has been driven by exogenous and pragmatic needs of policy-makers and practitioners. This is especially true in Europe where the legal framework of civil law countries has fostered the spread of these tools (Cuomo et al., 2012; Faccio & Lang, 2002). Therefore, as reported by our review, such settings have turned out to be predominant when exploring the topic. Differently, in a "law and finance" perspective, the limited scholarly attention to common law countries stems from the scant diffusion of disproportional ownership devices in these settings as effect of their fiscal and market regulations (La Porta et al., 1998; Morck & Yeung, 2005; Morck, 2005).

The regulatory framework has also influenced the array of ownership solutions across countries (La Porta et al., 1999). Indeed, the predominant focus of papers on multiple mechanisms is the consequence of the combined adoption of several devices to strengthen their effect (Cuomo et al., 2012; Villalonga & Amit, 2009). However, since most studies have mainly examined the mechanisms for leveraging voting power and to lock-in control, the limited proportion of articles focused on the remaining devices highlights a literature gap.

Additional interesting insights are provided by the findings on the leading journals for the development of the field. Indeed, while earliest articles have appeared in finance outlets, the following studies have been gradually

issued also in management journals. This result reflects the early influence of the finance approach to the analysis of the financial market implications of disproportional ownership. However, the recent scholarly attention towards the effectiveness of company activity has been followed by a stronger interest towards the connection of the tools under investigation with management and governance.

As for the theoretical framework, our analysis highlights that the research on disproportional ownership devices is rooted in the dominant agency paradigm. In particular, literature emphasizes the risk of minority investor expropriation in firms ruled by these mechanisms, and conceptualizes the owner-owner conflict by the second type agency theory (La Porta et al., 1999; Saggese, 2013).

Overall, empirical studies prevail. This circumstance reflects the aim to provide evidence on origin and effects of disproportional ownership devices, and to test theoretical predictions on deviations from the proportionality rule (Bennedsen & Nielsen, 2010).

In line with this finding, our literature review emphasizes that two complementary research streams have emerged with a number of sub-themes. The former focuses on the outcomes of disproportional ownership devices. The latter explores their drivers. Studies on the outcomes have investigated the consequences of the mechanisms under investigation in terms of entrenchment effect, tunnelling, accounting quality, and performance. Differently, research on the drivers has mainly focused on investor protection, industry and business characteristics, accounting and tax regulation, and financial market features.

Bringing together these strands, Figure 6 illustrates our proposed literature framework to integrate the manifold line of research and provide the basis for advancing both theory and practice. As shown in the figure, the main research streams are separated. Nevertheless, their internal sub-themes are strongly interrelated since a number of papers span across them. For instance, as highlighted by the arrows, entrenchment, tunnelling and accounting quality outcomes are interconnected. Indeed, literature suggests that entrenched controlling owners use tunnelling to expropriate minority shareholders. At the same time, blockholders expropriating investors through tunnelling can manipulate accounting information to extract their private control benefits (Bhaumik & Gregoriou, 2010; Chen et al., 2010; Yang et al., 2014). These phenomena can influence performance as the market penalizes companies providing poor accounting quality information (Chung & Chan, 2012; King & Santor, 2008; Orbay & Yurtoglu, 2006). As for the drivers, scholarly research highlights that, despite the use of disproportional ownership devices depends on industry and business characteristics, their impact is affected by financial market features (Lim & Kim, 2005; Masulis et al., 2011). Beside these factors, academics emphasize that investor protection also influences the mechanisms under investigation. Indeed, in a "law and finance" perspective, the regulatory framework encourages/discourages the OSOV rule diversion through unrestrictive/restrictive accounting and tax regulations (Hong, 2013; Jung et al., 2009; Morck, 2005).

Our paper adds value to both theory and practice. First, it reviews and systematizes the last 25 years of research on disproportional ownership devices by offering a taxonomy and comprehensive classification of the studies on the topic. In addition, our proposed literature framework systematically outlines the main research streams and identifies the under-explored areas, providing suggestions for future efforts of both scholars and practitioners. In this sense, our results enlighten that academics have mainly explored the influence of institutional setting and investor protection on disproportional devices. However, additional efforts are still needed to understand the role of accounting, tax and financial reforms for these tools. Thereby, future research should address these issues by developing longitudinal and event studies. Moreover, our paper suggests to further investigate the interplay of determinants and consequences affecting disproportional ownership devices. In this sense, future studies are also encouraged to assess whether each driver is substitute or complementary antecedent of disproportional ownership. Finally, our literature framework highlights that these tools present manifold implications for company outcomes and reporting. In this sense, on the one hand, our paper supports the managerial evaluation of their benefits and drawbacks to guide the selection of their appropriate combinations so as to attract and retain investors. On the other hand, it emphasizes the importance of proper policy making interventions to improve transparency, openness and competitiveness of financial markets.

Beside these contributions, our paper presents some limitations. First, the study analyzes only peer review scientific articles in English. Despite this is a standard practice in literature reviews (Fernandez-Alles & Ramos-Rodríguez, 2009; Pugliese et al., 2009), other types of academic publications, such as books, letters from editors, research theses and proceedings, can have also advanced the research field. In this sense, future articles could explore the role of these publications for the literature on disproportional ownership devices. Second, the study's search strategy is tailored on disproportional ownership structures. This exploratory approach limits the risk of missing important papers that do not claim to be in the domain explicitly and/or refer to the topic directly.

Nevertheless, by this strategy one risks neglecting the relationship between this topic and all the studies on ownership structures. In our opinion, this limitation should not be overrated as our analysis is only focused on the mechanisms that deviate from the proportionality principle. Future papers could expand our results by mapping structure and evolution of the literature on ownership structures, and describing its connection with disproportional ownership devices.

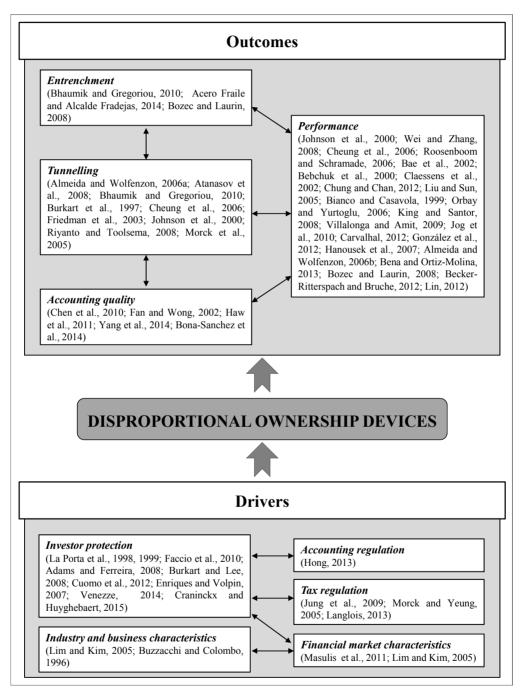


Figure 6. Synthesis of literature

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