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# LEM

## WORKING PAPER SERIES

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**2025/33**

**October 2025**

**ISSN(ONLINE): 2284-0400**  
**DOI: 10.57838/sssa/5jy6-wc56**

# Financial capitalism and warfare: asset managers' ownership in the military industry

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## Abstract

This paper presents new compelling evidence on the company-level ownership structure of military firms detained by asset managers. Employing a unique firm-level interlinked dataset, connecting publicly listed firms in the aerospace and defense industry, and their corresponding structure of ownership, we give account of the tremendous increase of *(i)* the market capitalization of the industry, which represents the one achieving the highest variation during the period 2021-2025; *(ii)* the increasing penetration of asset managers, particularly of the so-called *Big Four*, in the ownership structure of the military complex. Notably, we find evidence of common ownership dynamics driven by asset managers' holdings in both the aerospace and defense sectors, as well as a temporal co-movement between alternative proxies for corporate performance and the ownership shares held by portfolio managers in the military industry. Our evidence supports the progressive shift of financial capitalism, largely US-based, toward opportunity of profitability in global conflicts, via their ownership of leading international military firms.

**Keywords:** Financialization, Monopoly capitalism, Financial imperialism

**JEL classification:** F54, G23, N40

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# 1 Introduction

Wars and conflicts, it has long been claimed, do not go hand in hand with capitalism. Markets, it is argued, require peace and stability, and economic cooperation and trade interdependence are preferable to any explicit conflictual stance to foster profitability. Trade itself, and specifically free trade, would foster interdependence and reduce the probability of wars. This line of reasoning is a predominant one in the mainstream view delinking liberalism and wars. Critics of such a positive relation between free-trade and peace contest the approach (Barbieri and Schneider, 1999), highlighting that economic interdependence is not *per se* a deterrent against conflicts. However, what both views share is that wars and conflicts are largely conducted by nation states (Hirschman, 1980).

Recently, the role of state power, and particularly the role of decision-making state power in pressing toward a new phase of rearmament and warfare has been, at least, accompanied, if not superseded, by another important private actor, that is, global financial companies, mostly represented by asset management firms. These private financial institutions, unlike regulated banks, are legal fiduciary entities that, through investment funds, manage and invest pools of capital on behalf of third parties—particularly institutional investors, governments, and high net-worth individuals (Christophers, 2024). As capitalist financial enterprises, asset managers are profit-making institutions; yet, the source of their profits differs fundamentally from that of traditional banks. Far from being money lenders, they do not profit from debts, but rather from valorization of assets and portfolio management of international corporations. In particular, whereas commercial banks earn revenues from the interest rate spread between assets and liabilities, asset managers rely on fee-based income, typically derived from fixed management fees or performance-based fees, both of which are tied to the value of the assets they manage. Their profitability thus depends primarily on expanding the overall volume of assets under management by attracting as much capital as possible (*scale effect*), and ensuring the long-term appreciation of the broad constellation of assets they manage (*price effect*). Notably, their peculiar attribute is that they enter the ownership structure, potentially altering the stakes of the corporations they control. The reason lies in the fact that, even if the economic interests resulting from the management of the pools of capital they control ultimately belong to the clients, legal duties—such as the exercise of voting rights in corporate assemblies—are formally in their hands (Braun et al., 2021).

Certainly, economic ends are not the only motives behind conflicts, and reducing wars to only economic motives would imply falling into a reductionist trap (Cramer, 2002). However, they play a relevant role in activating conflicts and influencing their intensity and direction. Who gains economically from the current conflicts? What are the private economic motives behind the progressive rearmament stance that is taking place in Europe and in the United States?

This contribution presents and discusses new fine-grained empirical evidence on the rising penetration of global financial capitalism, represented by asset managers, in the military complex.<sup>1</sup> Drawing on a newly developed dataset, linking the ownership structure of asset managers in publicly listed firms, belonging to the

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<sup>1</sup>Recently, an independent UN rapporteur, Francesca Albanese, has delivered a report on the “economics of genocide”, highlighting the relevance of the profit-motive behind the Israeli military occupation of Gaza. See <https://docs.un.org/en/A/HRC/59/23>.

aerospace and defense industry, we show the increasing profitability of playing the “war game”.

Our findings follow. First, at the national level, we give account of the rearmament appetites that are exploding in Europe, with particular reference to the share of military expenditure in the total of government expenditure in the northern and eastern areas; this evidence ascertains the warfare regime in which Europe is entering without much political debate on it. Second, at the industry level, we show the non-linear increase in market capitalization for military listed firms, essentially reaching 2500 billions of USD after 2021, documenting the profitability of the new warfare regime. Such dynamics are essentially driven by US corporations, starting already in 2021 to capitalize gains from the Ukraine-Russia conflict, and skyrocketed for EU companies since 2023. Notably, Chinese companies show a quite different trend in their market capitalization behavior, without any acceleration. Due to the interlinked nature of our company-level dataset, we can neatly assess the ownership structure of the military complex. The penetration of asset managers in military firms is testified by the impressive growth of ownerships specifically detained by the so-called *Big Four* (BlackRock, Vanguard Group, Fidelity Investments and State Street Corporation). The increase in ownership shares has been substantial and has sometimes even surpassed the symbolic threshold of 10%—a threshold after which forms of direct control are explicit. In addition, we find evidence of common ownership dynamics for both aerospace and defense subsectors, a mark of rising ownership concentration. Finally, one observes a co-movement between ownership shares by asset managers and both the rising market capitalization and sales of military corporations. This profitable “tandem” dynamics clearly highlights who appropriates the economic gains of the warfare regimes.

To sum up, our evidence describes a rearticulation of global financial capitalism, largely US based, toward the militarization of the economy. The cost of this rearticulation is largely shared at the societal level, imposing a new priority agenda for nation states diverting their public expenditure toward projects like the ReArm EU plan and the 5% expenditure objective imposed by the US on NATO members. The costs of militarization are suffered by the society as a whole without any democratic decision about it, yielding a clash on decision-making authority and legitimacy. Why should societies adhere to a new model of financial valorization, manufacturing production, research and development, and science, oriented toward the annihilation of human beings?

In this contribution, we show some compelling evidence that helps explain why the acceptability of the new warfare is not questioned. Notably, asset managers are not only becoming owners of military corporations, but are progressively becoming the owners and controllers of entire nation states, via their participation in strategic public-private companies. This new phase of global financial imperialism ([Hiferding, 2019](#)) calls for a deep reconsideration of the current institutional settings of state powers. The evidence we present supports the view on rentified capitalism ([Dosi et al., 2024](#)) and the dissolution of the social pact between the western organization of the social fabric and democracy ([Dosi, 2025](#)). We also contribute to the emerging literature on the “asset manager society” ([Christophers, 2024](#)) and on “asset manager capitalism” ([Braun, 2016](#); [Braun et al., 2021](#); [Braun and Christophers, 2024](#)) by showing how the rise of asset management firms has reshaped the scope and channels of influence within contemporary capitalism and redefined international hegemony in the contemporary economic order. Finally, we contribute to the literature on the rise of monopoly capitalism in a phase of a structural crisis of accumulation, where financial investments become the natural choice to

accumulate surplus profits and rents (Magdoff and Sweezy, 1987; Sweezy, 1994; Foster, 2015).

The remainder of the paper is structured as follows: Section 2 discusses the data construction and methodology, Section 3 presents country-level evidence on military spending, while Section 4 presents sector- and firm-level evidence looking at market capitalization, sales, profits and ownership structures, with a focus on Israeli firms in Section 5. Our discussion and conclusions are in Section 6.

## **2 A new company level dataset on asset managers ownership in the military complex**

This section outlines the construction of our dataset, developed to systematically map the nexus between military firms and asset managers. This newly compiled firm-level dataset is structured around three main components: asset managers, publicly listed firms in the aerospace and defense sector, and the ownership structures of these firms in relation to the asset management industry. The time span under consideration goes from 2013 to 2025 (as of June 30). In addition, data from the SIPRI Military Expenditure Database (Stockholm International Peace Research Institute) are used to capture country-level dynamics in defense spending. In what follows, we discuss the construction of our main dataset.

### **2.1 Asset managers**

To collect data on the asset management industry, we rely on two main sources: the TAI/P&I annual top 500 asset manager reports and the corporate dataset provided by Thomson/Refinitiv. On the one hand, the Thinking Ahead Institute (TAI), a non-profit investment research network, together with Pensions & Investments (P&I), an institutional investment media group, publish annually a joint report, which ranks the world’s largest asset managers by assets under management (AUM). The study provides data and insights on global AUM trends, regional shifts, active vs. passive management, and industry concentration. On the other hand, Thomson/Refinitiv (now part of LSEG Data & Analytics) is a global provider of financial data and market infrastructure. Through its corporate data, integrated into advanced digital workflows (e.g., Refinitiv Workspace/Eikon), it offers comprehensive information on public and private companies, including financial statements, detailed ownership structures, and related corporate data.

Since there is no single, clearly defined category for asset managers—who may operate as independent firms, but also as banks or insurance companies—we adopt the following approach. We begin by collecting the Top 500 asset managers rankings published annually by the Thinking Ahead Institute (TAI) jointly with Pensions & Investments (P&I) from 2013 to 2023. For each unique asset manager appearing in any year’s Top 500, we then retrieve the complete tree structures from Thomson/Refinitiv, which include information about the parent company, subsidiaries, affiliated companies, and joint ventures. This allows us to identify the asset manager’s Permanent ID Code and fully map their corporate structure. Based on this procedure, we are able to obtain from Thomson/Refinitiv complete tree structures for 401 unique asset managers listed in all the Top

500 rankings from 2013 to 2023.<sup>2</sup> In addition to these, we include 25 other relevant asset managers that are not present in the Top 500 lists such as Apollo Management, Bank of America, China Life Insurance Group Co. and SoftBank Group Corp.<sup>3</sup> In the end, our sample comprises 426 unique asset managers spanning all regions of the world and accounting for over 90% of the total assets under management (AUM) in the global asset management industry. In particular, 128 asset managers are based in the United States, 36 in China, 31 in the United Kingdom, 24 in Japan, 22 in Canada, 18 in Germany and Switzerland, 16 in Italy, 16 in Australia, 15 in France, 14 in South Korea, 10 in India and 9 in Brazil. The remaining managers are spread across the rest of Europe, the Middle East, Africa, and other countries in Southeast Asia, South and Central America.

## 2.2 Publicly listed firms

Regarding the universe of publicly listed companies in the aerospace and defense sector, we collect annual data from 2013 to 2025 (as of December of each calendar year, except for 2025, for which data are retrieved as of June 30, 2025) using the corporate dataset provided by Thomson/Refinitiv. For each firm, we collect information such as RIC identifier, market capitalization, company name, country of headquarters, ICB Sector and Subsector, and the Parent Company ID. In the end, the universe of aerospace and defense listed firms under analysis accounts for 176 companies in 2013 to 303 in 2025.<sup>4</sup>

## 2.3 Ownership structures

For ownership structures, we gather from Thomson/Refinitiv, for each year from 2013 to 2025, data on shareholder structures for our universe of listed aerospace and defense companies, focusing only on equity shares held by our 426 asset managers.

Given the absence of a universally defined category for asset managers—who may take the form of various institutional types—we first apply a broader filter, looking at entities classified under shareholder types such as banks and trusts, endowments, finance companies, foundations, hedge funds, investment advisors, insurance companies, pension funds, private equity firms, venture capital, and holding companies, among others. We consider only ownership stakes equal to or greater than 0.01%, and all data are reported at the consolidated

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<sup>2</sup>The top 500 rankings do not account for sovereign wealth funds. While they do actually function as asset managers, they differ fundamentally from traditional asset manager firms for two key reasons. First, they typically do not serve multiple private institutional clients but instead manage capital on behalf of a single client—namely the government. Second, the growth in the value of their assets under management (AUM)—which represents the core objective of any asset management firm—is not mainly the result of competitive efforts to attract capital by lowering management fees. Instead, it is largely driven by direct government liquidity injections and by macroeconomic factors such as inflation and commodity-based revenue fluctuations. Their focus is generally on preserving and generating *real* returns over the long term.

<sup>3</sup>These firms are typically excluded from the TAI/P&I rankings because they do not meet the standard classification criteria for assets under management (AUM). This may be due to their nature as hedge funds or venture capital firms, or because they are large financial conglomerates involved in a broad range of activities beyond traditional asset management.

<sup>4</sup>It is important to note that our dataset includes for specific cases not only listed parent companies, but also cases of publicly listed subsidiaries. Take, for example, Leonardo SpA. Leonardo SpA is listed on the Italian stock exchange under the ticker LDOF.MI, but it also has a directly controlled subsidiary, Leonardo DRS, which is independently listed on the U.S. stock market under the ticker DRS.N. From the perspective of global, geographic, industry, or sector-level analyses, the presence of both parent companies and their listed subsidiaries does not lead to double counting. Using Leonardo as an example, Leonardo SpA and Leonardo DRS are two distinct entities, with their own market capitalizations, their own prices, governance structures, shareholder bases, and financial reporting. As such, they operate independently in capital markets, and any analysis based on market data rightly treats them as individual firms. This, of course, changes when the analysis focuses on the ownership structure of a single group or conglomerate. In such cases, the parent company and its listed subsidiary must be treated as a single entity, and the analysis should focus solely on the parent to avoid double counting.

holdings level (i.e., includes subsidiaries). We retain only those records that contain at least one non-missing value for either the investor name or the investor’s Permanent ID Code.

To consolidate ownership at the parent company level and avoid double counting, we match the shareholder Permanent ID Codes from the corporate ownership dataset in Thomson/Refinitiv with those from the tree structures of our 426 asset managers. In the tree structures, we consider only Permanent ID Codes for parent companies and subsidiaries. This allows us to aggregate ownership at the asset manager’s parent company level.<sup>5</sup> What remains unmatched after this step can be attributed to four cases: either the investor is not an asset manager; it is a very small asset manager not appearing in the Top 500 rankings between 2013 and 2023; it is a subsidiary of an asset manager in our sample for which no ID code match is found; or it is a joint ventures between two asset managers. The last two cases represent a challenge.

To address this, we follow a three-step procedure. First, we compile a list of the 25 most important asset management’s joint ventures worldwide. The list of joint ventures is provided in the Data Appendix Table 6. It is worth noting that the majority of these joint ventures involve European and US asset managers partnering with Asian institutions to gain access to, and operate within, Asian markets (in particular, China, India, Japan and South Korea). By contrast, the reverse pattern—Asian asset managers entering European and US markets through joint ventures—remains relatively rare, reflecting both the asymmetric global expansion strategies of asset managers and the institutional, regulatory, and market barriers that limit the penetration of Asian firms into Europe and, especially, the United States. For each of these joint ventures, we investigate ownership information using both Thomson/Refinitiv and web sources to identify the parent companies and their respective ownership shares. When these joint ventures appear among the shareholders of our military firms, we proportionally attribute their holdings to the parent asset managers based on their ownership stakes in the joint venture.

Second, we built a keyword-based dictionary to associate the remaining asset-manager subsidiaries—i.e., those not matched through the Thomson/Refinitiv company tree-structures—with their respective parent companies.

Third and finally, we clean the data to correct potential inconsistencies in Thomson/Refinitiv, particularly cases where reported ownership percentages exceed 100%, or where the reported dollar value of a shareholding and the corresponding percentage do not align with the stock market capitalization stated in Thomson/Refinitiv corporate dataset.

For the first case—which represents only a few dozen instances per year—we rescale all ownership shares proportionally so that their total equals 100%.<sup>6</sup> Correspondingly, we adjust the reported dollar values held, ensuring that each ownership percentage is associated with a monetary value in USD such that the sum across all shareholders matches the company’s total market capitalization. For the second case, some inconsistencies and timing mismatches may arise from discrepancies between the reporting dates of ownership percentages and

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<sup>5</sup>For example, if a publicly listed company has four subsidiaries of BlackRock among its shareholders, their ownership stakes are aggregated and attributed to a single entity, namely BlackRock Inc.

<sup>6</sup>It is important to emphasize that, for each listed firm, our analysis focuses only on the share held by asset managers, rather than the full ownership structure. A 100% ownership share in our dataset thus represents a specific—and relatively rare—scenario in which a listed company is entirely owned by the asset management industry.

those of the firm’s market capitalization. To ensure consistency, we retain the reported ownership percentages and the market valuation of the aerospace and defense firms, adjusting the reported dollar values of the holdings upward or downward as needed to align with these reference points.<sup>7</sup>

In the end, we gather information on the ownership structure held by asset management firms for 102 military companies in 2013, 115 in 2014, 123 in 2015, 119 in 2016, 126 in 2017, 139 in 2018, 148 in 2019, 164 in 2020, 186 in 2021, 200 in 2022, 213 in 2023, 226 in 2024, and 230 as of June 2025.

Figures 1 and 2 provide two examples of the dataset’s network structure for 2025. In particular, Figure 1 shows the bipartite network as of June 30, 2025, between the *Big Four* asset managers (BlackRock, Vanguard Group, Fidelity Investments and State Street Corporation) and the ten largest companies in the Aerospace subsector by market capitalization, while Figure 2 illustrates the corresponding network for the Defense subsector. A link exists between an asset manager and a company if the manager holds a stake in that company. The size of the company nodes reflects their stock market capitalization as of June 30 2025, and the edges are weighted by the shareholding percentage—the thicker the link, the greater the ownership stake.

### 3 Country-level evidence of the warfare regime

We start by presenting country-level evidence of a progressive shift toward the new warfare regime. Although documented by companion research (Lühmann, 2011; Trebesch et al., 2023; D’Aprile et al., 2025), this section helps position the relevance of the phenomenon and the recent abrupt shift.

Figure 3 shows military expenditure as a percentage of general government expenditure for selected groups of countries from 2013 to 2024. The top row charts display data for three countries involved in major global conflicts: Israel, Russia, and Ukraine. As widely expected, the share of national defense and security spending has skyrocketed in all of them. It is interesting to note that, according to SIPRI data, prior to 2022 Ukraine’s military spending consistently accounted for close to 10% of total public expenditure—one of the highest levels in Europe, surpassed only by Russia, Belarus, Armenia, and Azerbaijan. This reflects a sustained increase following the 2014 annexation of Crimea and the outbreak of conflict in the Donetsk and Luhansk regions. Between 2007 and 2013, Ukraine’s military spending averaged around 5.5% of total public spending, compared to a post-2015 average of 8.89%. As such, the militarization of the country was already taking place well before 2022, a decade-long accumulation of resources for warfare. Notably, the path of Russia and Israel instead is not comparable to the Ukraine one, with the pre-2021 period showing declining trends. However, this pattern could be attributed not necessarily to a reduction in military expenditure in absolute terms, but rather to a relative increase in public spending in other activities other than security and defense.

The charts displayed in the lower row show the median share of NATO countries excluding the United

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<sup>7</sup>It is important to keep in mind that Thomson/Refinitiv is a corporate dataset that provides one of the most detailed and comprehensive sources of information on the ownership structures of publicly listed companies. However, coverage is never fully complete. Thomson/Refinitiv primarily gathers ownership data through sources such as 13F filings, insider filings, macroeconomic estimates, and institutional ownership aggregations compiled or estimated by Refinitiv itself. As a result, some information may be missing, especially for firms based in macro-regions that do not adhere to the same transparency and disclosure standards typically found in Europe and North America. This implies that, if our results are affected by such limitations, they should be interpreted as conservative estimates without the risk of any upward bias.

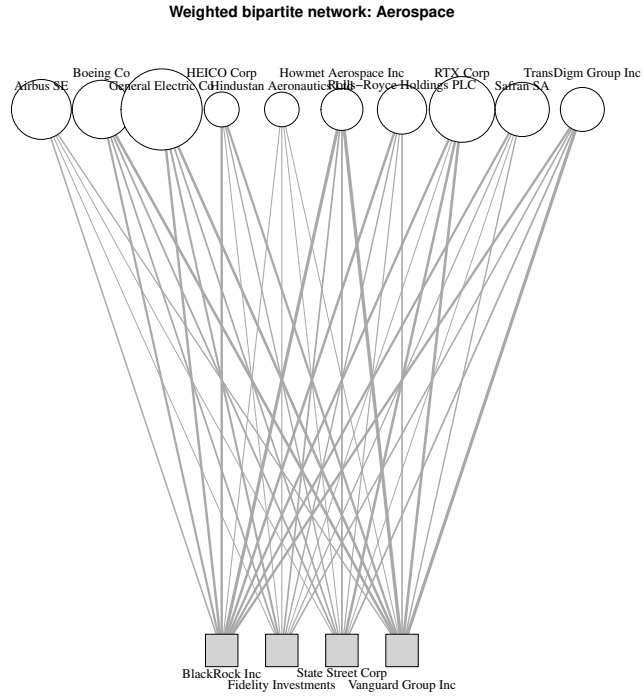


Figure 1: Dataset's network structure: Big Four and Top-cap firms in Aerospace, 2025

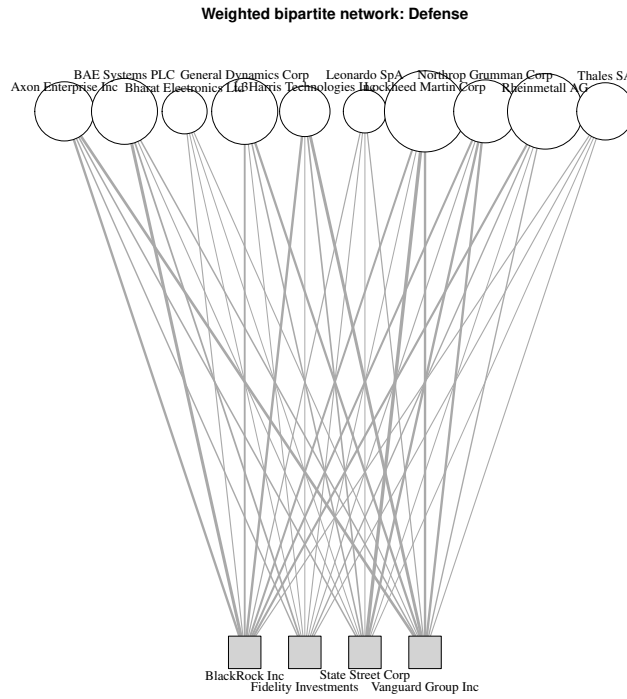
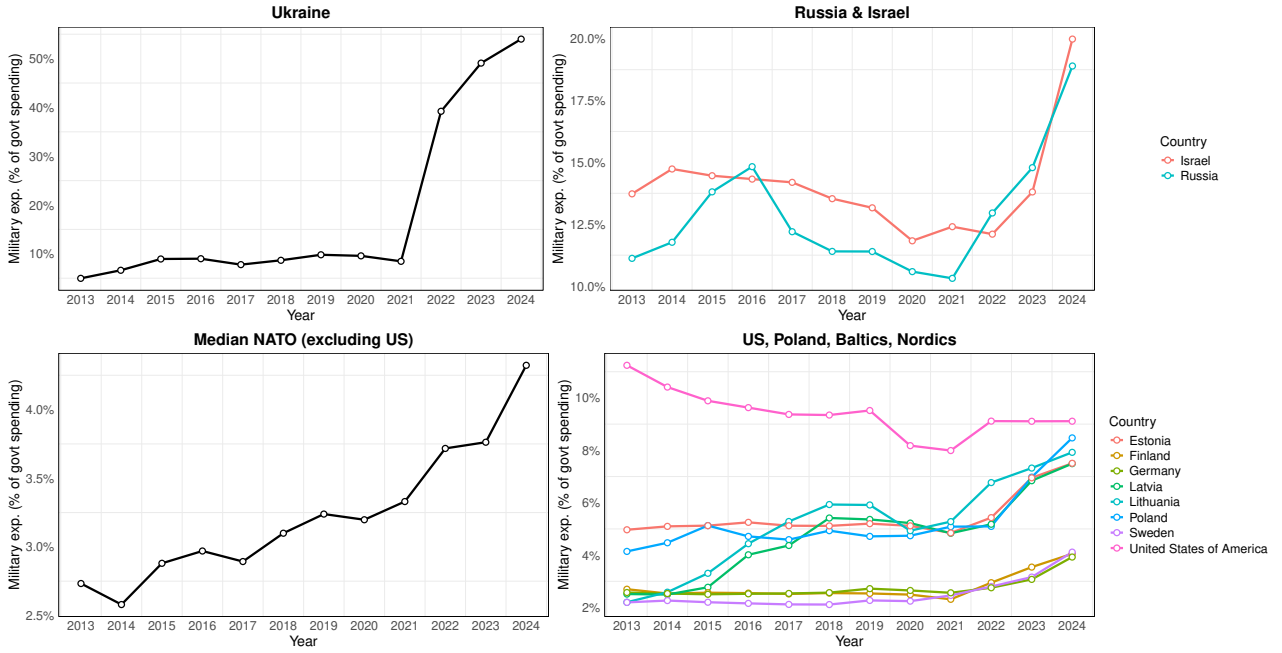


Figure 2: Dataset's network structure: Big Four and Top-cap firms in Defense, 2025

Figure 3: *Military expenditure as a share of government expenditure (2013-2024)*



*Notes:* Data sourced from the SIPRI Military Expenditure Database. It is noted that NATO has 32 member countries at June 2025. In the bottom-left chart, the NATO median (excluding the United States) is computed based on 29 member countries, as data for Iceland and Turkey are not available for the reported time span.

States, the share of the United States, Germany, and the six countries within NATO that have experienced the most significant growth in the share of military expenditure over total public expenditure: Estonia, Finland, Latvia, Lithuania, Poland and Sweden. They all belong to the Baltic area or to the Nordics, countries whose history is closely linked with Russia. As we can observe, defense and security spending in the Baltic area accounts on average for more than 7% of the region's total public expenditure. Furthermore, the NATO median has gradually increased, from 2.7% in 2013 to approximately 4.3% in 2024. This median, however, conceals significant heterogeneity across NATO member states. Between 2013 and 2024, the share of military expenditure in total public spending in the United States has fluctuated between 10% and 8%, with a slight decline during the COVID-19 period, stabilizing today at around the pre-COVID 19 trend of 9%. In contrast, four NATO countries—Estonia, Latvia, Lithuania, and Poland—have experienced a sharp surge in military spending, especially after 2022. Unsurprisingly, these are four Eastern European countries that share borders with Russia. As of December 2024, Poland's share of military spending relative to total public expenditure is close to that of the United States. Although smaller, a nonetheless substantial rise after 2022—nearly doubling military expenditure in less than four years—was also recorded in Germany (from 2.76% to 3.93%), Finland (from 2.95% to 4.05%), and also Sweden (from 2.80% to 4.11%), which recently became a NATO member country. The evidence certainly suggests that the recent European rearmament pressure, and the re-orientation of industrial strategy toward the military sector, is influenced by the rupture in welfare transfers toward warfare ones (Dosi et al., 2025).

## 4 When the military complex increases valorization

### 4.1 Financial and economic profitability of the military complex

We now turn to the industry- and firm-level evidence of the military complex. The top-left chart in Figure 4 displays the universe of publicly listed companies worldwide operating in the aerospace and defense sector, categorized by market capitalization, from 2013 to 2025.<sup>8</sup> As we can observe, our sample grows over time. This increase may be driven by two factors: either a genuine rise in the number of listed aerospace and defense firms, or missing data for some companies in earlier years, as Thomson/Refinitiv does not always provide market capitalization figures. The number of listed defense-related firms in our study rises from 176 in 2013 to 303 in 2025, almost doubling its size. Looking at the five market cap categories (mega, big, medium, small, and micro cap), the number of micro- and medium-cap companies remains relatively stable, while there is notable growth in the number of small and big-cap firms. This trend suggests an overall expansion of the publicly listed aerospace and defense sector. The relative stability of micro and medium-cap firms, combined with the rise in small and big caps, could indicate not only that big defense companies are getting bigger, but also a general shift toward more mature, better-capitalized companies. The increase of small companies signal instead the overall sectoral profitability expected by small entrants.<sup>9</sup>

The top-right chart in Figure 4 shows the combined market capitalization from 2013 to 2025 (for 2025, as of June 30) of all publicly listed companies in the aerospace and defense sector worldwide. As we can observe, the market capitalization of firms in the aerospace and defense sector has experienced a significant surge, particularly from 2022 onward. While the period from 2013 to 2022 saw only modest growth—from just under USD 1 trillion to approximately USD 1.25 trillion—the overall market capitalization has more than doubled since then, surpassing USD 2.5 trillion as of June 2025. The first half of 2025 experienced exponential double-digit growth. This expansion clearly reflects both the evolving geopolitical context and the growing investor interest in a sector that, appears to have significant room for expansion in the short- to medium-term. Certainly, such an impressive rising trend, although not comparable to the market valorization of big-tech companies, signal the military industry as new upcoming sector for financial valorization.<sup>10</sup>

In the two bottom charts, we distinguish the evolution of market capitalization between aerospace and defense companies. Broadly speaking, the former (aerospace) are characterized by a mix of defense and commercial revenues, meaning they are not overly reliant on either military contracts or commercial airline demand, but work for both scopes. The latter (defense) include instead firms exclusively focused on military-related activities, with no exposure to civilian business lines.<sup>11</sup> As shown in both charts, the growth of the overall aerospace and defense sector is not driven by one particular segment, but by both. However, it is interesting to observe that while the combined stock market capitalization of defense companies has been steadily rising since 2013—with

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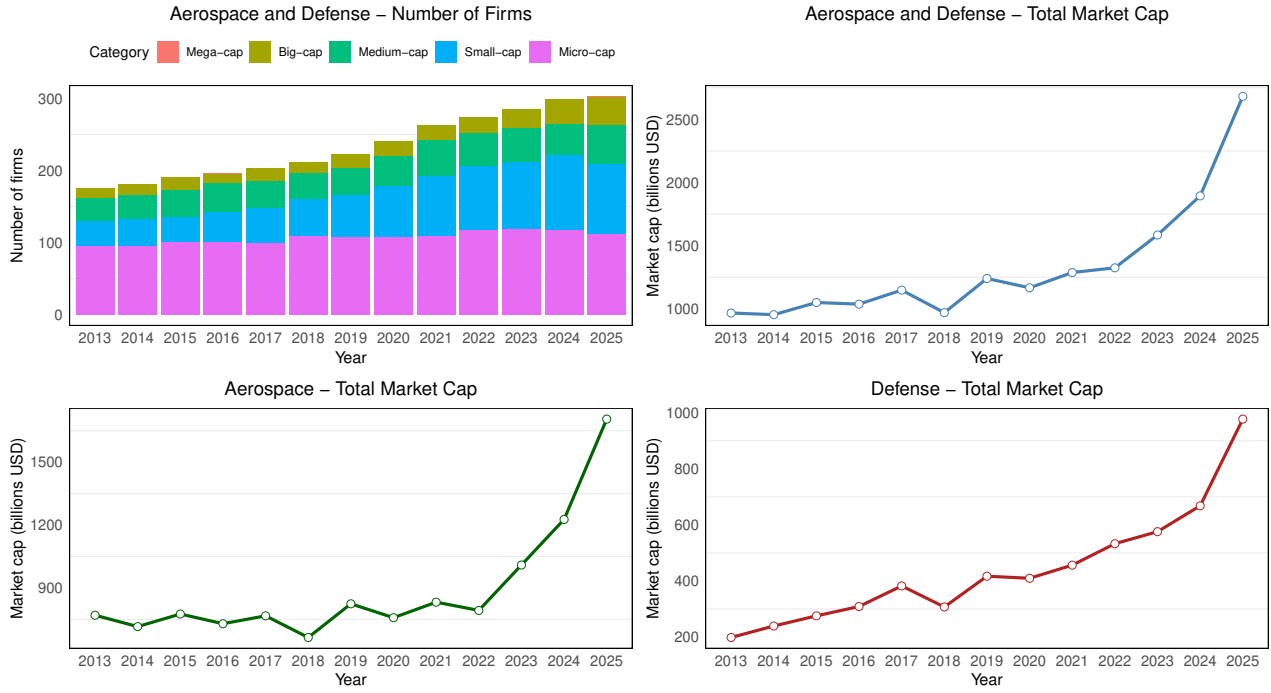
<sup>8</sup>We use the ICB (Industry Classification Benchmark), a standard four-tier industry taxonomy—comprising Industry, Supersector, Sector, and Subsector—which classifies aerospace and defense companies under the ICB Sector 'Aerospace and Defense'.

<sup>9</sup>As of 2025 (June 30), only General Electric qualifies as a mega-cap company in this sector.

<sup>10</sup>Nevertheless, it is important to note that despite this impressive growth, big tech companies such as NVIDIA, Microsoft, and Apple each maintain market capitalizations larger than that of the entire aerospace and defense sector.

<sup>11</sup>Examples of companies classified under aerospace include Boeing, General Electric, and Airbus, while those falling under defense include Lockheed Martin, Rheinmetall, and Leonardo.

Figure 4: *Universe of military listed firms and total stock market capitalization*



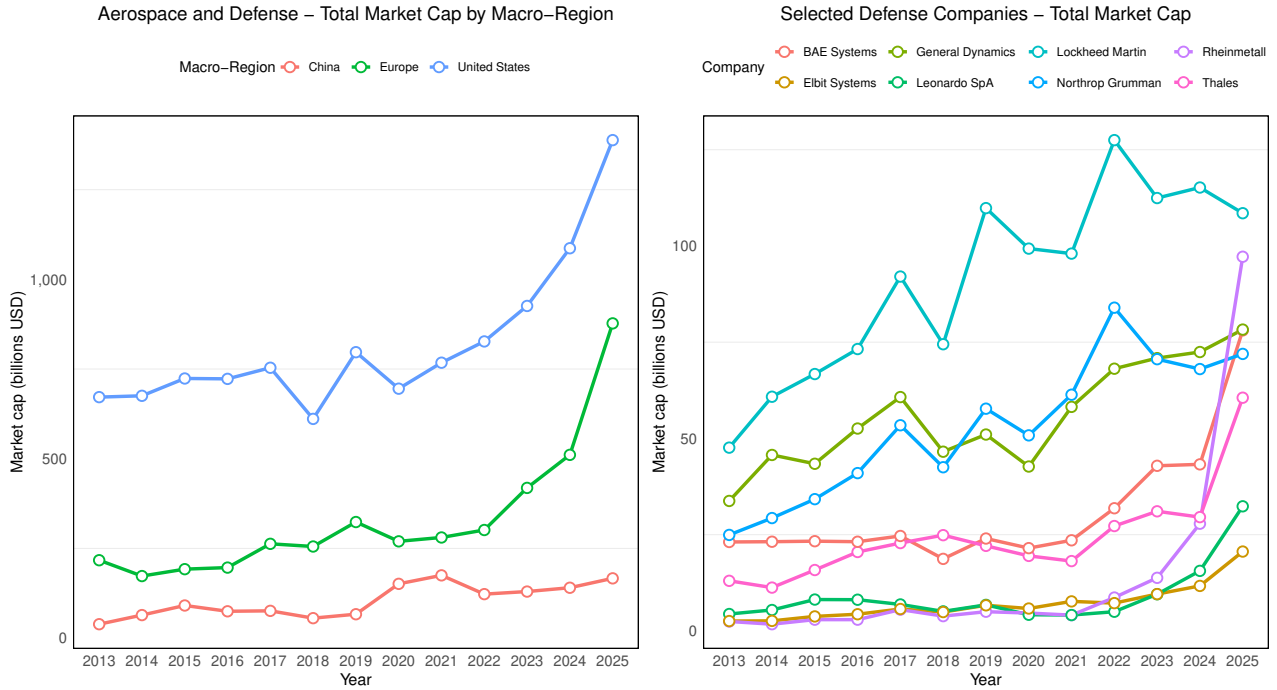
*Notes:* Market capitalization categories are defined as follows: micro-cap (under USD 250 million), small-cap (USD 250 million to 2 billion), medium-cap (USD 2 billion to 10 billion), big-cap (USD 10 billion to 200 billion), and mega-cap (above USD 200 billion).

double-digit growth observed in the first half of 2025—aerospace companies showed a flat trend between 2013 and 2022, followed by a sharp surge beginning in 2023. This type of dynamics certainly signals the increasing orientation of companies providing dual use products and services, to direct their production to specific military scope, given that their abrupt market capitalization rise coincides with the new warfare phase.

The pattern, however, is not common to all macro geographical areas. In fact, we now turn to the variation in stock market capitalization at the macro-geographic level. The left chart in Figure 5 shows the combined market capitalization from 2013 to 2025 (for 2025, as of June 30) of all companies in the Aerospace and Defense sector, broken down into three macro-regions based on the country of headquarters of each publicly listed firm: China, Europe, and the United States.

As we can observe, US- and European-based aerospace and defense companies experienced steady but modest growth in market capitalization up until December 2022. After that point, their combined valuations more than doubled, with double-digit growth in the first semester of 2025. As a conjugation of the new European political stance and the interest of military corporations, the exponential growth in market capitalization of European aerospace and defense companies coincides with the presentation of the ReArm Europe Plan (Readiness 2030) by the European Commission in March 2025, which proposes to mobilize over EU 800 billion in defense spending through national fiscal flexibility, EU 150 billion through loan instruments for joint procurement, with at the same time the potential redirection of cohesion funds, and expanded support from the European Investment

Figure 5: *Stock market capitalization, by macro-region and selected defense companies*



Notes: Macro-region Europe accounts for: Austria, Cyprus, Czech Republic, Denmark, France, Germany, Guernsey, Italy, Netherlands, Poland, Romania, Russia, Spain, Sweden, Switzerland, United Kingdom.

Bank.<sup>12</sup> In contrast, Chinese defense firms continue to show stagnant market capitalization dynamics, with little to no significant growth over the same time-span.

Looking at specific defense companies, the right-hand chart in Figure 5 shows the market capitalization trends of eight key firms that play a central role in the global military business: the three most important US defense contractors (General Dynamics, Lockheed Martin and Northrop Grumman), four major European companies (BAE Systems for UK, Leonardo SpA for Italy, Rheinmetall for Germany and Thales for France), and Israel's leading weapons manufacturer (Elbit Systems). While the US contractors have historically maintained higher market capitalizations, we observe a catching-up trend among the European players—most notably Rheinmetall, which shows exponential growth, particularly in the first half of 2025, with its market capitalization rising from USD 27 billion to nearly USD 100 billion in just six months.

This exponential surge in Rheinmetall's valuation coincides with the proposal by Chancellor Friedrich Merz of Germany's massive defense spending plan.<sup>13</sup> This also follows the initial EU 100 billion special defense fund introduced by former Chancellor Olaf Scholz after Russia's invasion of Ukraine, marking a continued and escalating commitment by Germany to strengthen its military capabilities.<sup>14</sup>

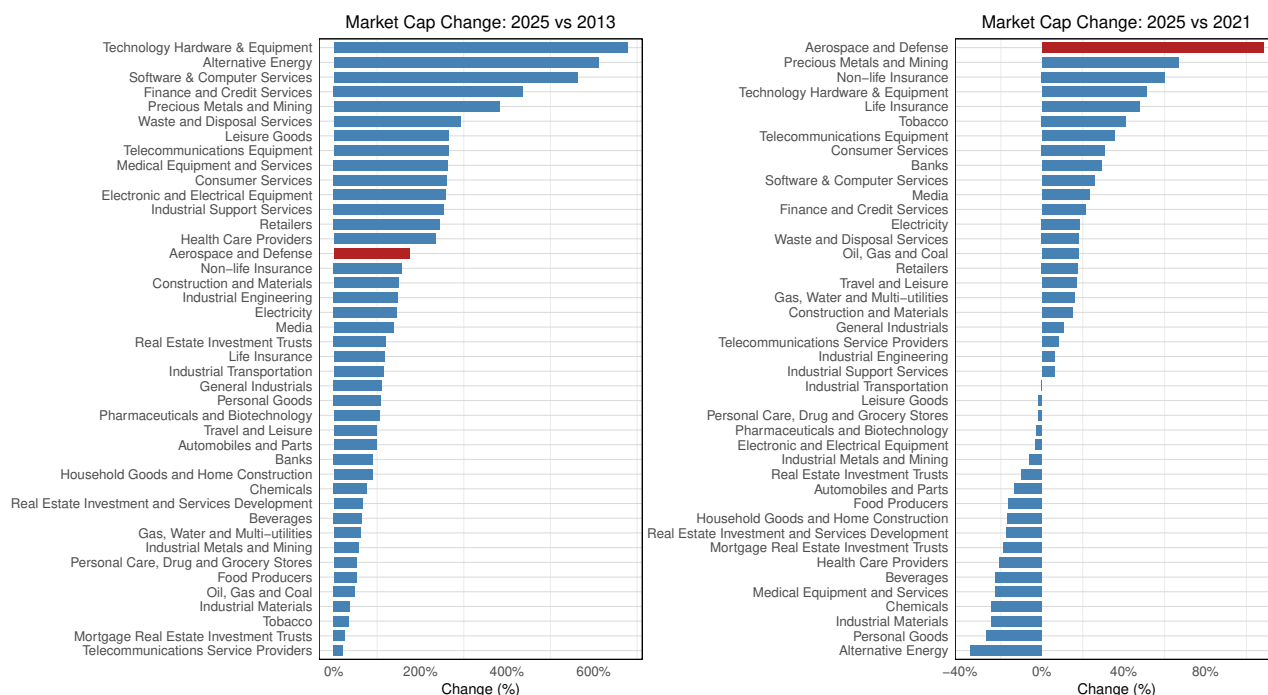
To have a comparative picture, Figure 6 shows the percentage variation in stock market capitalization across 42 different sectors worldwide for two time spans: 2013-2025 and 2021-2025. The sectors are ranked from top to bottom based on market capitalization change, from highest to lowest, according to Thomson/Refinitiv data.

<sup>12</sup>See for more [European Parliament Briefing](#) and [European Commission White Paper - Defense Industry and Space](#).

<sup>13</sup>See for more [Defense News](#), [BBC News](#), [Courthouse News Service](#) and [Politico](#).

<sup>14</sup>See [Bundesregierung](#).

Figure 6: *Stock market capitalization, variation by sector*



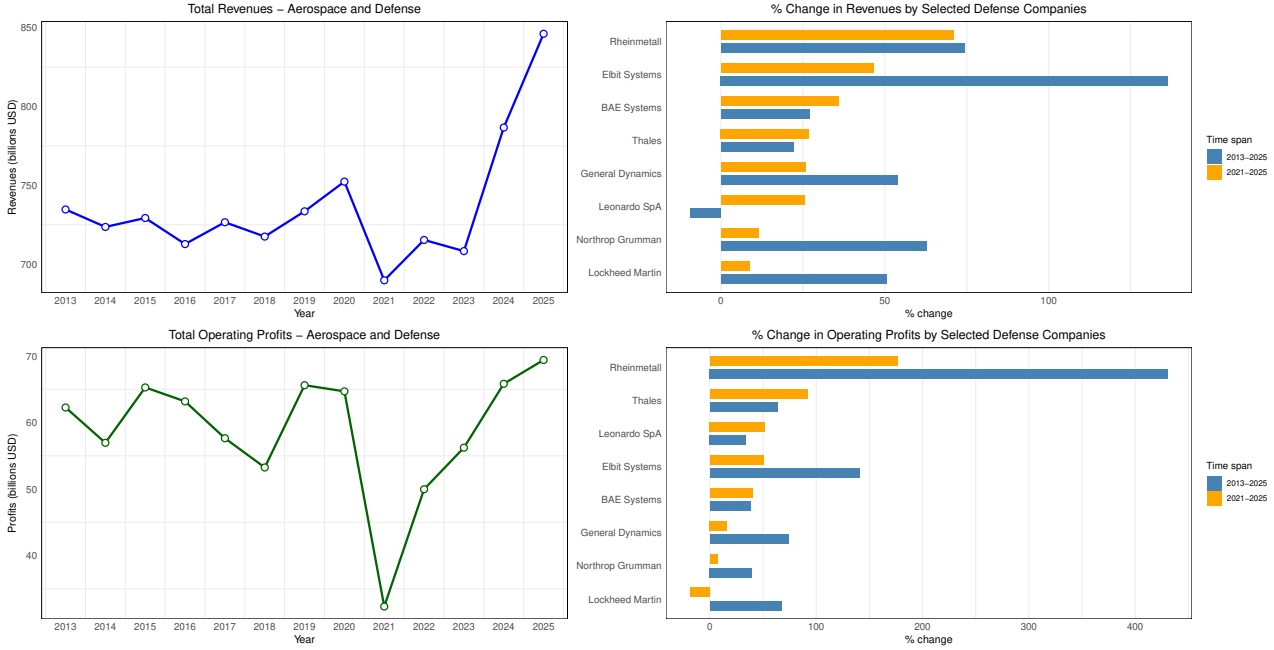
Notes: We classify companies based on the ICB - Industry Classification Benchmark.

The Aerospace and Defense sector is highlighted in red. As we can observe, over the 2013–2025 time span, the Aerospace and Defense sector ranks 15th out of 42 in terms of stock market capitalization growth, with an increase slightly above 200%. This is huge, even if it is significantly lower than the growth observed in the Technology sector—particularly in the Technology Hardware & Equipment and Software & Computer Services sectors—as well as in the Alternative Energy sector, all of which recorded increases exceeding 500%. However, when we narrow the focus to the period 2021–2025, the establishment of the warfare regime phase, the Aerospace and Defense sector stands out as the fastest-growing sector worldwide in terms of percentage increase in market capitalization, nearly doubling the growth rate of the rare earth elements’ (REEs) sector.

Let us now turn to economic profitability, looking at sales and profits using data from Thomson/Refinitiv. The proxy for sales is the “Revenues from Business Activities” variable, which refers to the total revenue generated from a company’s core operations. The proxy for profits is the “Operating Profit” variable, which captures earnings derived from those same core business activities, excluding non-operational income or expenses. Figure 7 presents evidence on both metrics for the aerospace and defense sector: the top row displays total revenues from business activities, while the bottom row shows data on operating profits.

Looking at total sales, the top-left chart shows that the aerospace and defense sector’s revenues remained broadly stable between 2013 and 2023, at roughly USD 750 billion in total, with a significant contraction during the 2020 COVID-19 pandemic. However, in just a year and a half—from December 2023 to June 2025—the sector experienced a sharp acceleration, as total sales increased by nearly USD 150 billion, from about USD 708 billion to USD 846 billion. In the top-right chart, we report the sales evolution for the eight key defense

Figure 7: *Sales and profits*



*Notes:* Total revenues and total operating profits are expressed in USD.

companies discussed before, ranked top to bottom by their revenue growth over the 2021–2025 period. Over the full time span from 2013 to 2025, all firms show substantial sales growth, with the exception of Leonardo SpA. Rheinmetall and Elbit Systems stand out, having recorded the highest growth in the group. Focusing on the 2021–2025 period, Rheinmetall and Elbit again top the ranking, with Rheinmetall in particular appearing to have realized most of its sales growth between 2021 and 2025 (78% growth). We recall that such increasing sales correspond to the rise in public military expenditure documented in Section 3, with the state as buyer of the private military productions and signing contracts. More broadly, we observe that non-US defense companies have recorded larger absolute increases in revenues than the three leading US defense contractors, despite the latter starting from already high revenue levels. This pattern further illustrates a catching-up trend, especially among European defense firms.

The bottom panel of Figure 7 presents the same analysis, but for operating profits. Overall profits in the aerospace and defense sector had been relatively stable over time but dropped sharply during the 2020 pandemic, falling to nearly half their previous levels. Subsequently, they began to rise exponentially, reaching their highest value by June 2025—almost USD 70 billion in net operating profits. Rheinmetall continues to be the crown jewel of the global defense sector, and when we focus on the 2013–2025 period, it is by far the most profitable company, with an increase in operating profits exceeding 400%. More generally, all companies in the sample recorded double-digit profit growth over the 2013–2025 period, underscoring a broad-based improvement in profitability across the sector. We also recall that Rheinmetall has a civilian branch in the automotive sector, the latter sector experiencing a large collapse in the same years of the valorization of the defense industry, as also shown in the contraction of its market capitalization in the 2021–2025 period (right panel of Figure 6, –15%

for Automobiles and Parts). The case is particularly emblematic of the reorientation of many large players (particularly German ones) in the automotive sector toward military production. Notably, the reconversion of civilian automotive toward military production is a clear sign of the need to valorize the invested capital infrastructure and equipment.

## 4.2 Ownership - Asset managers

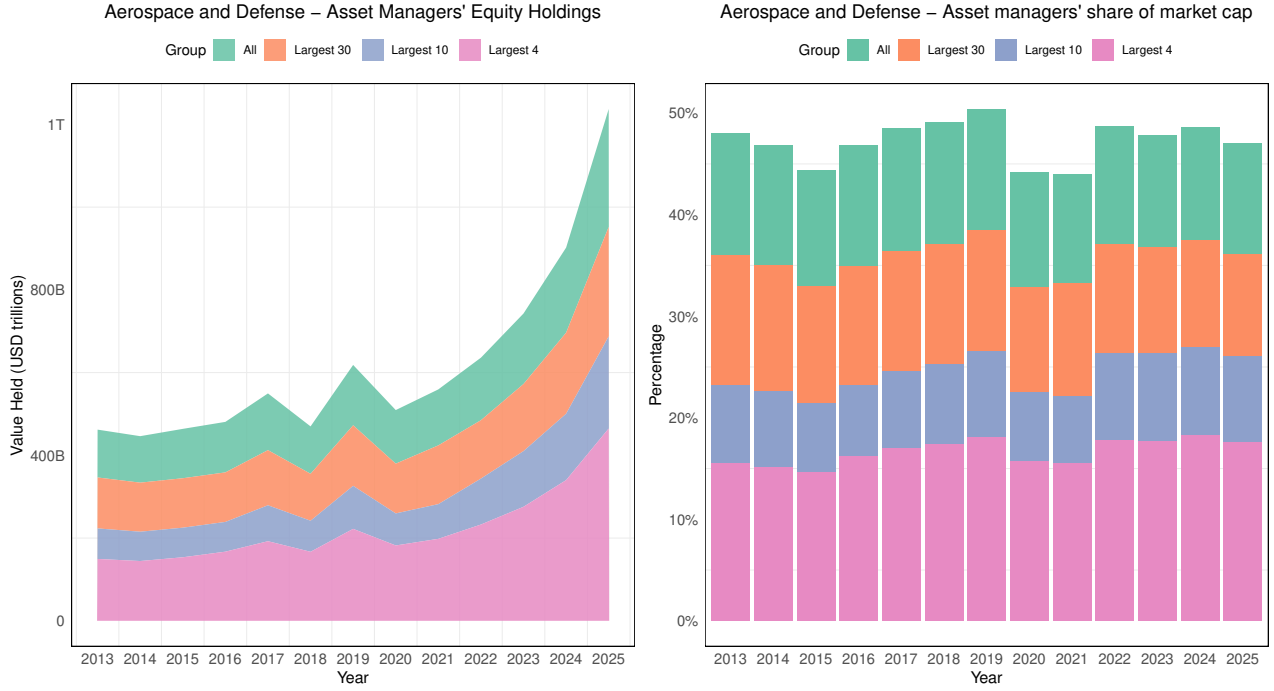
We documented so far upward trends in both military spending—at the level of individual countries and country groups—and in the market value, sales and profits of firms operating in the aerospace and defense sector. The aim of this section is to analyze who benefits from this growth. In particular, we focus on the temporal evolution of ownership stakes held by the world’s largest asset management companies in all aerospace and defense firms worldwide.

In relation to the listed companies in the aerospace and defense sector, this implies that, while the economic returns of these companies—such as dividends or capital gains—accrue to the manager’s clients, the warfare regime directly influences the valuation of defense firms and, at the same time, attracts new capital inflows. This, in turn, inflates asset managers’ profitability through volume and scale effects, as rising valuations and capital concentration increase the fees charged on assets under management.

Figure 8 presents, respectively, the total dollar value of equity holdings and the corresponding share of total market capitalization held by our sample of 426 asset managers in the global aerospace and defense sector. Looking at the left panel, the total holdings of the 426 largest asset managers in listed aerospace and defense companies more than doubled in absolute terms between 2013 and June 2025, rising from just over USD 400 billion to more than USD 1 trillion. The four largest asset managers alone (BlackRock, Vanguard Group, Fidelity Investments and State Street Corporation) increased their holdings in publicly listed military firms from just over USD 150 billion in 2013 to more than USD 400 billion by June 2025, equivalent to around 17% of the total market capitalization of the aerospace and defense sector at June 2025 (right-hand panel). Looking at the right-hand panel, which displays asset managers’ share of total market capitalization in the global aerospace and defense sector, we observe that the asset management industry as a whole holds nearly half of the sector globally. This is a striking figure, considering that this share is concentrated in only 426 firms, whereas the remaining half is potentially distributed among tens of thousands of other entities—including non-asset management financial institutions, non-financial corporations, public-sector actors, and individual investors.

Focusing on the 30 largest asset managers worldwide by assets under management (according to the 2024 P&I/TAI top 500), they account for just over one-third of the entire sector’s market capitalization. Such numbers not only show the progressive financialization of the ownership structure of the military complex, but in addition provide evidence of the opportunity of financial profitability deriving from the warfare regime, and directly accruing to the largest managers. In addition, the non-negligible shares detained, a part from being a direct acquisition of military ownership, do also represent opportunity to exert control in the companies strategies, in terms of business paths, commercial agreements, relations with governments. The degree of

Figure 8: *Asset management and Aerospace & Defense: A global view*



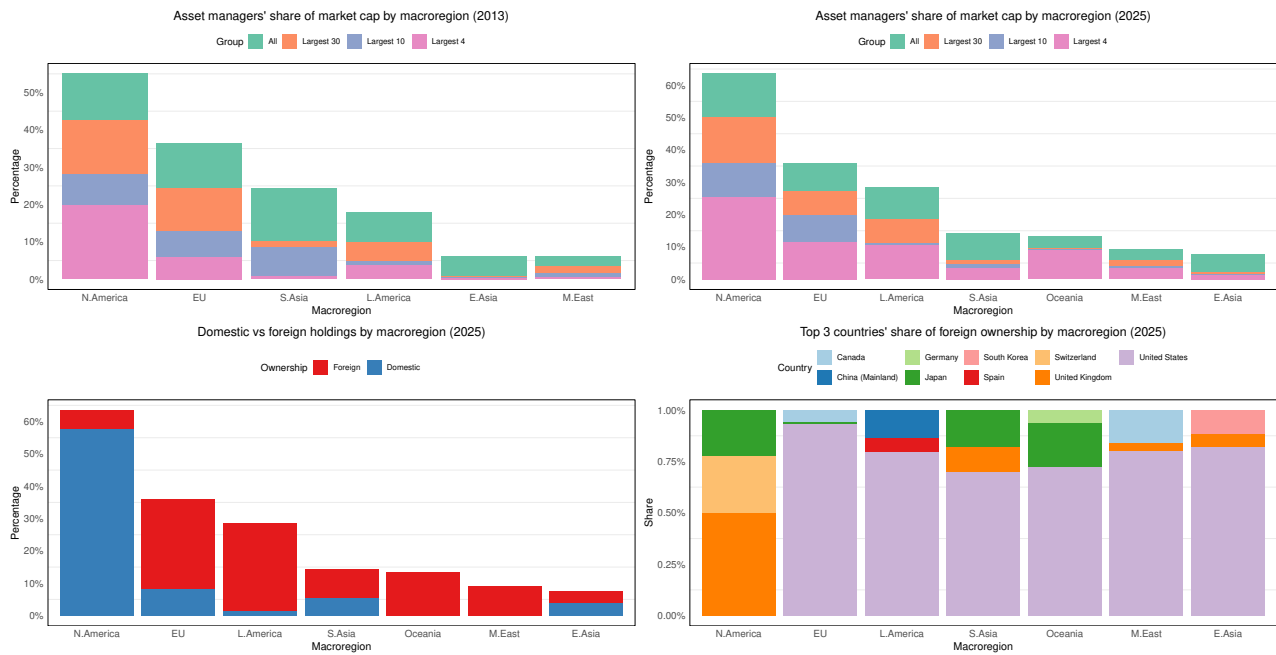
*Notes:* The P&I/TAI Largest 10 asset managers at December 2023 are: BlackRock, Vanguard Group, Fidelity Investments, State Street Corporation, JP Morgan, Goldman Sachs Group, UBS, Capital Group, Allianz Group and Amundi SA.

concentration of the ownership shares in the top-four is the *n*th alarming evidence of a pattern of circular and cumulative penetration between military corporations and top-worldwide asset managers.

Now we show that the geographical origin of such financial penetration is a landmark of the new face of the US financial accumulation regime after the Great Recession. The top two panels of Figure 9 illustrate the presence of asset managers in the equity of aerospace and defense companies across macro-regions, comparing the snapshots from 2013 and June 2025. A high degree of heterogeneity arises across regions. The left panel shows that North American and European aerospace and defense firms have historically had the highest levels of asset manager ownership concentration. In North America, the share of asset managers rose from approximately 55% in 2013 to nearly 65% in 2025, while in Europe it remained stable around 35% over the same period. Latin American firms experienced the strongest increase, with asset manager ownership growing from around 17% to over 25%. In contrast, East Asia and the Middle East remain the least concentrated regions. South Asia, notably, saw a 10 percentage point decline, driven primarily by a substantial reduction in holdings by asset managers ranked 5–10 globally. Such geographical heterogeneity shows that the financial valorization regime that we are experiencing in Europe is not the only possible configuration, and in fact East Asia has a different trajectory.

Looking at asset manager groups, the top four asset managers expanded their presence in nearly every macro-region. By 2025, they collectively held 25% of North American aerospace and defense equities, just over 10% in both Europe and South America, and substantial positions in the Middle East and Oceania.

Figure 9: *Asset management and Aerospace & Defense: Macro-regions and domestic/foreign ownership*

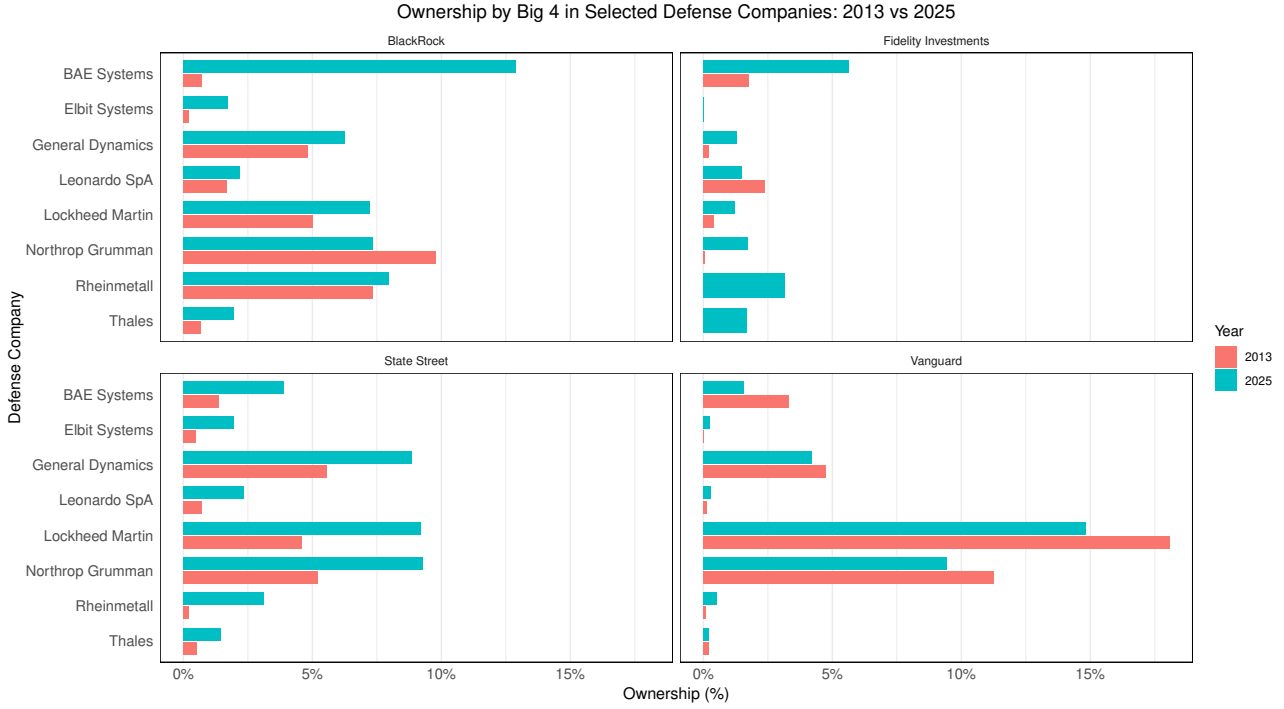


The bottom panels of Figure 9 examine domestic versus foreign ownership. The bottom-left panel shows that, in North America, the aerospace and defense equity held by the asset management industry is predominantly in the hands of US or Canadian asset managers, whereas in all other macro-regions the bulk of ownership is foreign. The bottom-right panel further disentangles this pattern. For North American aerospace and defense firms, the three largest foreign asset managers come from the United Kingdom, Switzerland, and Japan. By contrast, in every other macro-region, US asset managers dominate as the leading foreign investors in domestic military companies. It is also interesting to observe a notable presence of Chinese asset managers in South American defense firms, Japanese asset managers in Oceania and Southeast Asia, and Canadian asset managers in the Middle East.

Figure 10 shows the variation between 2013 and June 2025 in the equity held by the four largest (and US-based) global asset managers (BlackRock, Vanguard Group, Fidelity Investments, and State Street Corporation) in the eight most important companies in the global defense sector. As we can observe, over time, State Street has increased its holdings in each of the eight defense companies. This is particularly notable looking at the top 3 US contractors, where by 2025 it holds around 8% of each. BlackRock has also increased its share in all companies except Northrop Grumman, where it still maintains a stake of nearly 7.5%. Noteworthy is the increase in its stake in the British company BAE Systems, in which, as of June 2025, it holds approximately 13% of the capital. Vanguard is the only one among the Big Four to have seen more reductions than increases in its holdings, although it still holds about 15% of Lockheed Martin and around 9% of Northrop Grumman. Instead, Fidelity Investments has increased its presence in all the companies in which it was already invested (except Leonardo) and has gradually entered the capital of Thales, Rheinmetall, and Elbit Systems.

Building on this evidence, we extend the analysis to the top 50 firms by stock market capitalization within

Figure 10: *Big 4 and selected defense companies*



*Notes:* Northrop Grumman, Lockheed Martin, and General Dynamics are among the most influential US defense contractors, capturing the lion's share of Pentagon arms contracts. Instead, Elbit, Leonardo, Rheinmetall, and Thales are respectively the leading national defense champions of Israel, Italy, Germany, and France.

the aerospace and defense subsectors. In particular, we examine patterns of overlapping ownership, that is, the extent to which the ownership structures of major aerospace and defense corporations are interconnected through shared asset managers. This approach allows us to visualize and quantify how the equity holdings of large asset managers create dense networks of financial linkages among leading military producers. The resulting ownership networks in Figures 11 and 12 highlight the emergence of a highly integrated financial architecture, where a limited number of global portfolio managers simultaneously hold significant stakes in multiple military firms, effectively binding together the strategic core of the global defense industry.

Figures 11 and 12 should be interpreted as follows. The nodes correspond to military companies and node size reflects firm value. Nodes are arranged in counterclockwise order: blue nodes represent firms that rank among the top 50 by market capitalization in both years, while red nodes denote firms that appear in the top 50 in only one of the two snapshots. Instead, the edges capture the common ownership ties that connect pairs of firms through asset management holdings. Following [Banal-Estañol et al. \(2021\)](#), an edge is drawn between two firms if they share at least one common manager holding more than 5% in both firms. The edge weight equals the number of such overlapping managers shared by the two firms. The networks thus highlights the potential role of large blockholders in creating ownership ties and exerting individual influence.

Figure 11 looks at the aerospace subsector. In 2013, the ownership network among the top 50 firms consisted of 142 links with an average weight of 1.37, whereas by 2025 it expanded to 232 links with an average weight of 1.60. This evolution indicates a substantial intensification of cross-ownership ties within the global

aerospace subsector driven by asset manager holdings. Over time, not only has the number of inter-firm connections increased, but also the density and depth of financial interlinkages have grown—meaning that the average number of common asset managers connecting two firms has risen. The increase in network connectivity and density has been particularly pronounced among the top 10 firms by market capitalization within the subsector. For instance, General Electric, which was and remains nowadays the company with the highest market value, increased its ownership connections from 14 to 23, while its average link weight doubled from 1.00 to 2.04. Accordingly, the total number of common investors holding more than 5%—considering duplications across different links—rose from 14 to 47. A similar dynamic is observed for Boeing, whose number of connections grew from 8 to 22, with the average link weight rising from 1.00 to 2.00, and the total number of common major shareholders increasing from 8 to 44. These figures illustrate a marked intensification of financial interconnections, reflecting a growing penetration power of asset managers across the leading firms in aerospace.

Figure 12 reports shared ownership in the top-caps firms for the defense subsector. In 2013, the network counts 108 links with an average weight of 1.24, whereas in 2025 it reaches 121 links with an average weight of 1.74. This means that not only have the top 50 firms in the defense subsector become more interconnected through their ownership structures, but also that, on average, the number of overlapping ownership ties linking them has increased. In other words, the average connection among these firms has grown from approximately one shared asset manager in 2013 to nearly two in 2025. Looking at the selected companies already discussed in Figure 10, three examples stand out. Lockheed Martin, for instance, had ownership connections with 14 other firms within the top 50 in 2013, with an average link weight of 1.21; by 2025, the number of overlapping holdings had doubled to 2.07 on average. This implies that, on average, Lockheed Martin is now linked to other defense companies through two major common managers instead of one. Moreover, the total number of common investors holding more than 5%—considering duplications across different links—increased from 17 to 29. A similar trend is observed for Northrop Grumman and General Dynamics, which respectively increased their connections from 14 to 17 and from 10 to 14, while their average link weight rose from 1.50 to 2.06 for Northrop Grumman and from 1.00 to 1.79 for General Dynamics. Finally, Leonardo SpA shows a remarkable evolution: while in 2013 it had no shared ownership connections within the global defense sector, by 2025 it exhibits linkages with six other defense companies (including Northrop Grumman).

The central question then becomes who is actually driving these cross-ownership dynamics. When considering both the degree of diffusion and the weight of their equity positions, a clear hierarchy of control begins to emerge. In the aerospace subsector, 11 out of 17 leading asset managers in 2025 are based in the United States. Similarly, within the defense subsector, among the top ten portfolio managers ranked by nationality, eight are US-based, with only one from Sweden and one from the United Kingdom. Such patterns of financial penetration clearly substantiate the literature on financial imperialism and a new mode of accumulation regime via financial ownership and control. Notably, this is a new phase vis-à-vis the one of multinational corporations, in which the US, although maintaining persistent advantages, has never represented the only emperor. The distribution of ownership structure at the worldwide level sees a clear hierarchal geographical ordering, and defines US-based asset managers as indisputable leaders.

Figure 11: *Overlapping ownership: Top 50 firms in Aerospace (2013 vs 2025)*

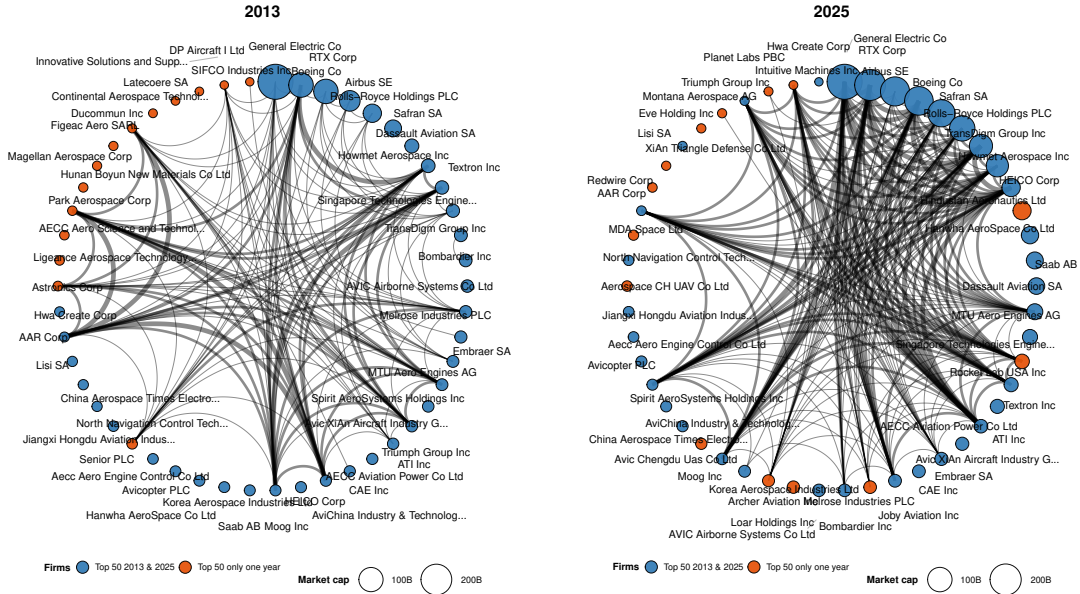
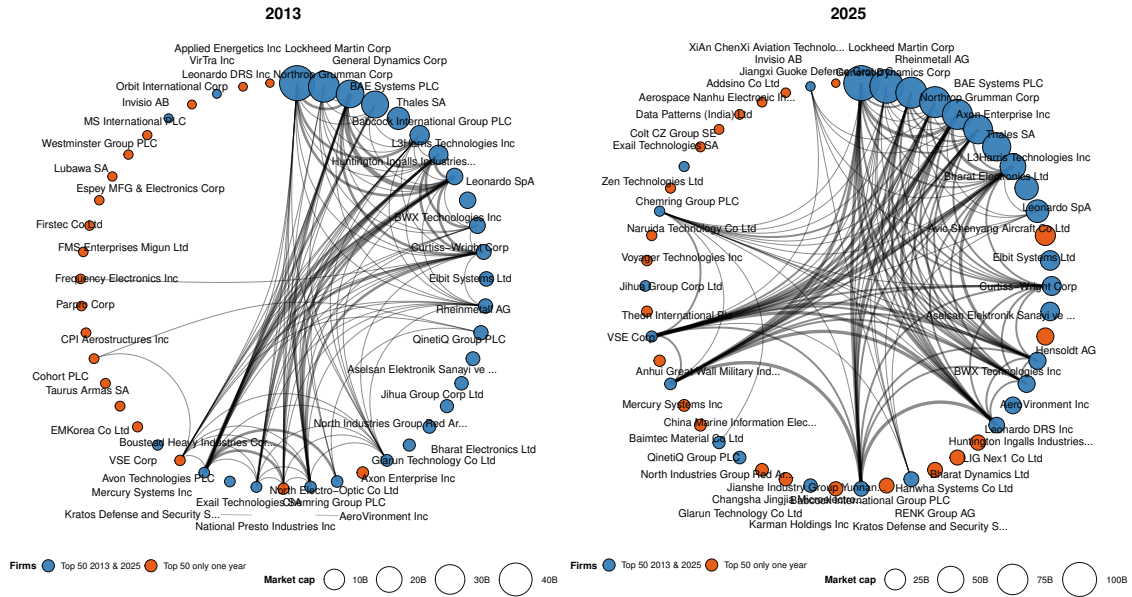


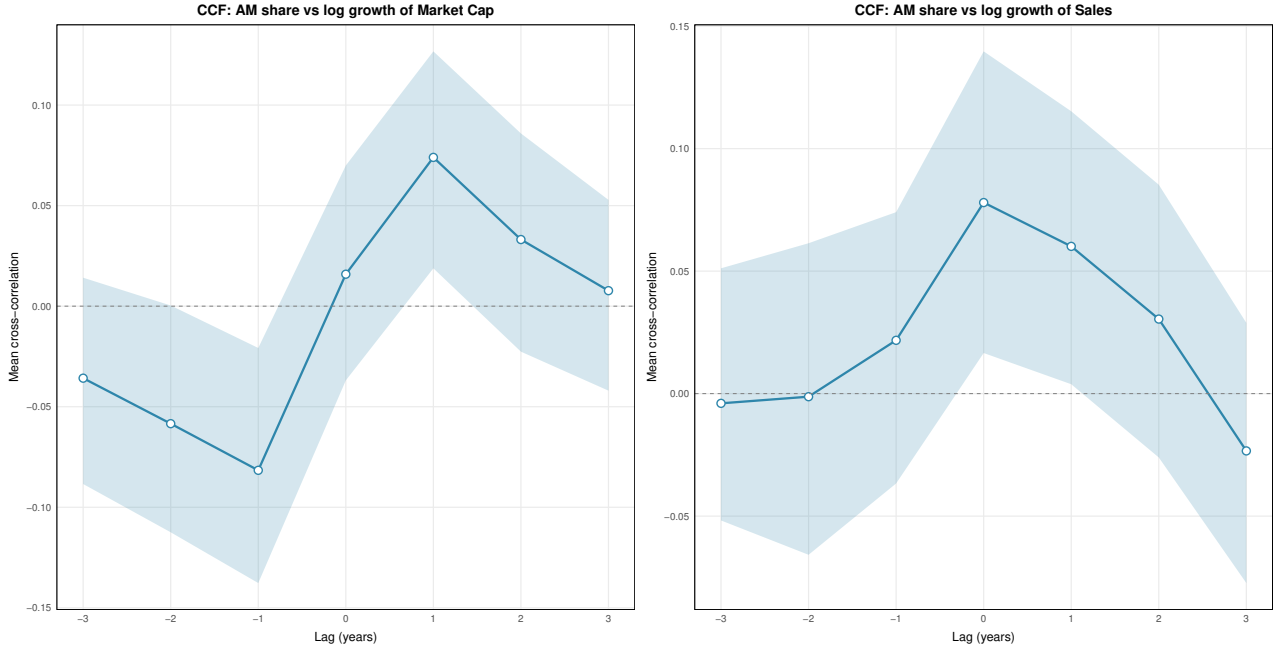
Figure 12: *Overlapping ownership: Top 50 firms in Defense (2013 vs 2025)*



As a final exercise to account for the vicious cycle of financial profitability for the military complex and asset managers that we have discussed so far, we present in Figure 13 a cross-correlation analysis between shares detained by asset managers and two measures of performance for the military complex, namely the annual growth of market capitalization and the annual growth of revenues from business activities.

Cross-correlations are calculated by selecting only those aerospace and defense firms with complete data

Figure 13: *Average cross-correlations*



*Notes:* The cross-correlation analysis is based on a balanced panel of 91 aerospace and defense firms with complete data coverage for the asset managers' ownership share and the one-year log growth of market capitalization, and 88 firms with complete data for ownership and the one-year log growth of sales, over the period 2014–2025.

coverage for each year from 2014 to 2025, thereby constructing a balanced panel. For each firm, we compute two separate cross-correlations between the total ownership share held by asset managers and, respectively, (i) the one-year growth rate of market capitalization and (ii) the one-year growth rate of sales, both expressed as log differences.

In the charts, we report the average cross-correlation between the shareholdings of asset managers and, respectively, the one-year log growth of market capitalization (left panel) and sales (right panel) for all aerospace and defense firms with complete data coverage over the 2014–2025 period. The cross-correlations are computed for each firm individually, using lags from  $-3$  to  $+3$  years, and then averaged across the sample. The shaded bands represent 95% confidence intervals, calculated using a nonparametric bootstrap procedure with 1,000 resamples at the firm level. These intervals capture the sampling uncertainty around the mean correlation at each lag.

The results show that the correlations between the asset managers' ownership share and the log growth of market capitalization is negative and statistically significant at lag  $-1$ , but positive and statistically significant at lag  $+1$ . The negative and statistically significant correlation at lag  $-1$  should not be interpreted as evidence of divestment or profit-taking behavior. It is important to recall that asset managers do not hold direct economic interests in the form of capital gains, as they primarily earn management fees based on the value of the assets under management. Rather, it likely reflects passive portfolio re-balancing dynamics typical of large asset managers. Following an increase in market valuations within the aerospace and defense sector,

asset managers—who generally pursue benchmark-tracking and diversification strategies—may rebalance their portfolios by reallocating capital toward other sectors or asset classes in order to maintain their benchmark alignment. In this context, the negative lag captures a mechanical adjustment process rather than a strategic response, whereas the positive and significant correlation at lag +1 points to a forward-looking effect, whereby increases in asset managers’ ownership stakes tend to anticipate subsequent and persistent growth in firm market value by roughly one year. In contrast, for sales growth, the correlation with asset managers’ ownership is positive and statistically significant both at lag 0 and +1, implying a more immediate and persistent association between manager ownership and firms’ revenues.

One may ask why. Asset managers are becoming the controllers of a large set of listed corporations and are able to create forms of financial interdependence across firms, inducing cross-investments. The increasing penetration of their ownership into a specific firm renders the firm more reliable for other investors, signalling higher opportunities of profitability, and induces collateral demand of its equity from other controlled firms by the same asset managers, who manage the assets of the controlled firms. Such circular causation creates a feedback loop of profitability, which in the recent years has not seen any sign of weakness as a business model. Differently from the share buy-back approach, it is the presence of a third intermediate, the asset manager, that creates opportunity of joint profitability for controlled and investing firms. Since this third-party actors operate in a regime of almost monopolistic competition and collusion (as shown in Figures 11 and 12), they create a barrier against external attacks. In so doing, they not only prevent firms from market devaluation, but can also exert credible threat on the firm in itself, to alter the path of valorization, via for example voice.<sup>15</sup>

## 5 A glimpse into the Israeli military complex

As a specific case of analysis, we focus on the connection between asset management and the Israeli military industry, with particular attention to Elbit Systems, Israel’s largest arms and defense company. This international military corporation maintains a structural relationship with the Israeli security apparatus, for which it develops and supplies a wide range of services, technologies, equipment, and platforms used across multiple military domains. Elbit Systems plays a central role in Israel’s war machine, particularly in the ongoing genocidal campaign against the Palestinian population in Gaza.<sup>16</sup> From an economic and financial perspective, Elbit Systems stands as the dominant actor within Israel’s military-industrial complex. In fact, among all publicly traded Israeli defense companies, Elbit Systems’ market capitalization exceeds the combined value of all its domestic competitors in the sector.

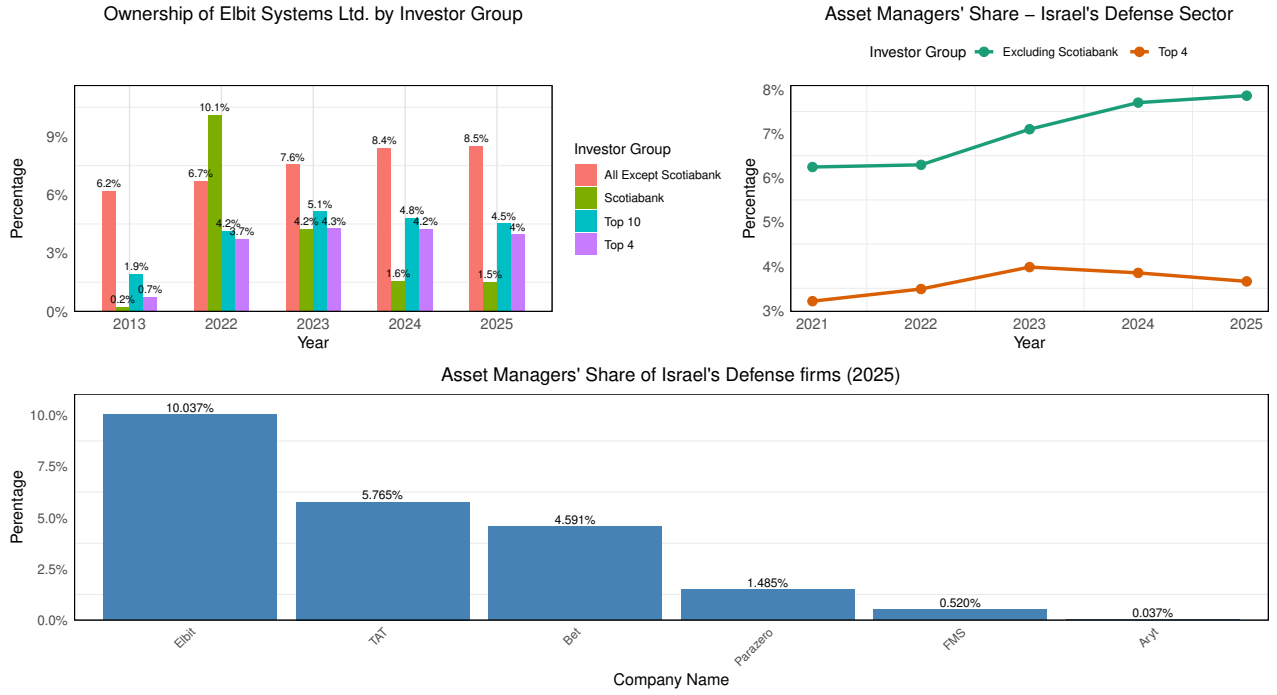
The company’s financial growth over the past decade has been massive. According to Thomson/Refinitiv data, revenues from business activities increased from USD 2.89 billion in December 2013 to USD 5.51 billion in December 2023, reaching USD 6.83 billion by June 2025. Operating profits followed a similar trajectory, rising from USD 203 million in December 2013 to USD 489 million in June 2025, including an increase of over USD

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<sup>15</sup>Instead, the threat of exit—for example, by reducing massively their equity holdings—is less plausible (Braun et al., 2021). This is because asset managers often hold large stakes, which effectively make them long-term shareholders. As a result, the “threat of exit” loses credibility as a disciplinary mechanism in the age of asset management.

<sup>16</sup>[Who Profits](#)

Figure 14: *Asset management and Israel's defense apparatus*



120 million during the period January-June 2025.

In terms of asset management penetration, the top-left chart of Figure 14 shows the asset manager holdings in Elbit Systems. As of June 2025, around 10% of Elbit's capital is held by asset management companies, with the *Big Four* (BlackRock, Vanguard Group, Fidelity Investments, and State Street) collectively owning approximately 4%. Over time, asset manager presence in Elbit's capital has steadily increased. A notable case is that of Scotiabank, a Canadian asset manager that significantly reduced its holdings in Elbit Systems following a public mobilization in Canada aimed at boycotting the bank for its involvement in the Palestinian genocide.<sup>17</sup> Indeed, Scotiabank's stake in Elbit has declined by nearly 90% in recent years, although the firm still holds shares worth over 300 million USD as of 2025.<sup>18</sup>

In the top-right chart, we display the overall share of the Israeli defense industry held by asset managers. As of June 2025, approximately 8% of the Israeli military industry is under the control of asset management firms. This share has increased during the Gaza genocide. And not surprisingly, the shares are largely detained by private US-based asset managers (see Table 1).

In the bottom plot of Figure 14, we show asset manager holdings broken down by individual Israeli defense company at June 2025. Our dataset includes six Israeli companies in the defense sector: Aryt Industries Ltd, TAT Technologies Ltd, Elbit Systms, FMS Enterprises Migun Ltd, Bet Shemesh Engines Holdings and Parazero Technologies Ltd. What we observe is that in TAT Technologies and Bet Shemesh, asset management as a whole holds shares of 5.7% and 4.6%, respectively, while in the others the holdings are below 2%. In the case of TAT, from Table 2 we can also see that 9 out of the 10 main asset managers are based in the United States.

<sup>17</sup>See for more [Action Network](#).

<sup>18</sup>See for more [Scotiabank Funds Genocide](#) and [Mondoweiss](#)

Table 1: Top 10 asset managers in Elbit Systems (as of June 2025)

| <b>Asset Manager</b>            | <b>Share (%)</b> | <b>Value (USD)</b> | <b>Country</b> |
|---------------------------------|------------------|--------------------|----------------|
| Vanguard Group Inc              | 1.9443%          | \$400,925,983.10   | United States  |
| BlackRock Inc                   | 1.7414%          | \$359,086,821.40   | United States  |
| Bank of Nova Scotia             | 1.5109%          | \$311,556,379.10   | Canada         |
| Arrowstreet Capital Holding LLC | 0.8001%          | \$164,985,279.60   | United States  |
| Invesco Ltd                     | 0.7086%          | \$146,117,446.70   | United States  |
| Morgan Stanley                  | 0.3307%          | \$68,192,265.91    | United States  |
| Goldman Sachs Group Inc         | 0.2871%          | \$59,201,691.99    | United States  |
| Legal & General Group PLC       | 0.2731%          | \$56,314,810.46    | United Kingdom |
| State Street Corp               | 0.2602%          | \$53,654,755.33    | United States  |
| Deutsche Bank AG                | 0.2444%          | \$50,396,703.32    | Germany        |

Table 2: Top 10 asset managers in TAT Technologies (as of June 2025)

| <b>Asset Manager</b>            | <b>Share (%)</b> | <b>Value (USD)</b> | <b>Country</b> |
|---------------------------------|------------------|--------------------|----------------|
| Wasatch Advisors LP             | 2.5098%          | \$9,819,458.78     | United States  |
| Renaissance Technologies LLC    | 1.3567%          | \$5,308,016.47     | United States  |
| Calamos Family Partners Inc     | 0.3681%          | \$1,440,171.64     | United States  |
| Arrowstreet Capital Holding LLC | 0.3425%          | \$1,340,013.00     | United States  |
| Morgan Stanley                  | 0.2611%          | \$1,021,539.84     | United States  |
| Dimensional Fund Advisors LP    | 0.2120%          | \$829,438.71       | United States  |
| UBS Group AG                    | 0.1847%          | \$722,628.91       | Switzerland    |
| Citadel Advisors LLC            | 0.1344%          | \$525,832.84       | United States  |
| JPMorgan Chase & Co             | 0.0953%          | \$372,856.17       | United States  |
| Millennium Management LLC       | 0.0824%          | \$322,385.61       | United States  |

## 6 Implications and Conclusions

Why should asset managers invest in the military industry? And why should the military industry, among the top core areas of national interests and security, be inclined to be acquired by asset managers? In this contribution, we have provided new evidence of the increasing interlinkages between asset managers interests in the management of military companies' shares. Benefits are mutual: the military complex increases its market capitalization, from the one hand, and asset managers obtain increasing profits from the valorization of their assets. In addition, they are able to exert influence and decision making stance on the corporate decisions.

Although asset managers are usually told and conceived as external actors not directly intervening in the inner corporate choices, the increasing penetration, beyond 10% shares in some cases, without doubt gives evidence of their growing interest in the defense industry. Such increases of interlinkages do not happen by chance, but coexist with a new regime in which warfare represents one of the major opportunities of growth for business firms. The rise in market capitalization of many of these firms occurs contextually with the ReArm Europe plan, the massive investment plan of Germany, and the rise of military expenditure of the Baltic and Northern areas of Europe. Context and policy-dependent factors are extremely important in explaining the new turn of global financial capitalism. However, rather than simply co-occurrent events, there might be the case of explicit directionality toward the militarization of the economy pushed by the appetite of both asset managers and the military complex.

One might ask how different the military sector is vis-à-vis the technology complex, the pharmaceutical, or the energy industry in the regime of financialization, on the one hand, and in the forms of concentration of ownership structure, on the other. There are forms of continuity and parallelism across strategic sectors toward progressive monopolization. There are, however, specific patterns of the military complex, mostly related to its historical link with national security, and in clear discontinuity with the previous historical disarmament of the economies, until the pandemic crisis.

Crises, rather than events that reduce wealth, are becoming profitability opportunities for new actors. It is the case of the new face of international global finance dominated by asset managers. The latter are becoming carriers of international concentration. As such, their global penetration today leads to a new form of financial imperialism, a category supposed to be surpassed in the phase of globalization and multilateralism. Globalization has been argued to foster mutual benefits; however, it has increasingly shown to be a force of geopolitical hegemony, bringing subordinated and dependent relationships. The end of the dream of prosperity for all is revealed by the renewed imperialist appetite of the US, lagging behind China in terms of manufacturing growth and technology, but trying to keep dominance on the financial sphere.

In such a new geopolitical order, conflicts and wars are becoming a profitable opportunity to value financial assets, and, as we show in this paper, their recent surge has been preceded and coexists with a financial valorization of military corporations. As such, our findings question the legitimacy of the new warfare regime. Certainly, very scant political discussion has been done so far on the financialization of the military complex and its symbiotic relation with asset managers as a threat to national security and autonomous decision-making

of nation states.

New lines of research will specifically assess the degree of financialization of strategic economic sectors for nation states and their implications in terms of specific political decisions and policies. A striking example in this respect is the abrupt jump of the European policy objective from a just transition plan to a rearmament plan.

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# Data Appendix

## Financial capitalism and warfare: asset managers' ownership in the military industry

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Table 3: All the 426 asset managers in our sample: 1-200 (continue)

| Manager                                                        | Country                    | Manager                                              | Country                    |
|----------------------------------------------------------------|----------------------------|------------------------------------------------------|----------------------------|
| AB Holdings LLC - Beacon Advisors                              | United States of America   | Aberdeen Group PLC                                   | United Kingdom             |
| Acadian Asset Management Inc                                   | United States of America   | Achmea BV                                            | Netherlands                |
| Adams Street Associates LP                                     | United States              | Aegon Ltd                                            | Netherlands                |
| Affiliated Managers Group Inc                                  | United States of America   | Agricultural Bank of China Ltd                       | China (Mainland)           |
| AIA Group Ltd                                                  | Hong Kong                  | Alexander Forbes Group Holdings Ltd                  | South Africa               |
| Allan Gray Proprietary Ltd                                     | South Africa               | Allianz SE                                           | Germany                    |
| Allspring Group Holdings LLC                                   | United States of America   | Alte Leipziger Group                                 | Germany                    |
| Ameriprise Financial Inc                                       | United States of America   | Ameritas Mutual Holding Co                           | United States of America   |
| AMP Ltd                                                        | Australia                  | Amundi SA                                            | France                     |
| Angel Oak Companies LP                                         | United States              | Anima Holding SpA                                    | Italy                      |
| ANZ Group Holdings Ltd                                         | Australia                  | Aon Plc                                              | Ireland                    |
| Apollo Management Inc                                          | United States of America   | Ares Management Corp                                 | United States of America   |
| Argos Holding SA - Banque Syz SA                               | Switzerland                | Ariel Investments LLC                                | United States of America   |
| Aristotle Capital Management LLC                               | United States of America   | Arrowstreet Capital Holding LLC                      | United States of America   |
| Artisan Partners Asset Management Inc                          | United States of America   | Asahi Mutual Life Insurance Co                       | Japan                      |
| Ashmore Group Plc                                              | United Kingdom             | ASR Nederland NV                                     | Netherlands                |
| Assicurazioni Generali SpA                                     | Italy                      | Aviva Plc                                            | United Kingdom             |
| AXA SA                                                         | France                     | Azimut Holding SpA                                   | Italy                      |
| Baillie Gifford & Co                                           | United Kingdom             | Baird Financial Group Inc                            | United States of America   |
| Baloise Holding AG                                             | Switzerland                | Banca Carige SpA                                     | Italy                      |
| Banca Mediolanum SpA                                           | Italy                      | Banca Sella Holding SpA                              | Italy                      |
| Banco BPM SpA                                                  | Italy                      | Banco Bradesco SA                                    | Brazil                     |
| Banco de Sabadell SA                                           | Spain                      | Banco do Brasil SA                                   | Brazil                     |
| Banco Safra SA                                                 | Brazil                     | Banco Santander                                      | Spain                      |
| Bandhan Bank Ltd                                               | India                      | Bank of America Corp                                 | United States of America   |
| Bank of China Ltd                                              | China (Mainland)           | Bank of Communications Co Ltd                        | China (Mainland)           |
| Bank of Montreal                                               | Canada                     | Bank of Nanjing                                      | China (Mainland)           |
| Bank of New York Mellon Corp                                   | United States of America   | Bank of Nova Scotia                                  | Canada                     |
| Banque Cantonale Vaudoise                                      | Switzerland                | Banque Degroof Petercam SA                           | Belgium                    |
| Bantleon AG                                                    | Switzerland                | Bayerische Landesbank                                | Germany                    |
| BBVA                                                           | Spain                      | Beach Point Capital Management LP                    | United States of America   |
| Birla Sun Life AMC Ltd                                         | India                      | BlackRock Inc                                        | United States of America   |
| Blackstone Inc                                                 | United States of America   | BNP Paribas SA                                       | France                     |
| Bosera Asset Management Co Ltd                                 | China (Mainland)           | BPER Banca SpA                                       | Italy                      |
| Breckinridge Capital Advisors                                  | United States of America   | Bridgewater Associates Holdings LLC                  | United States of America   |
| Brookfield Corp                                                | Canada                     | Brown Advisory Group LLC                             | United States of America   |
| Brown Brothers Harriman & Co                                   | United States of America   | BTG Pactual G7 Holding SA                            | Brazil                     |
| Caixa Economica Federal                                        | Brazil                     | Caixa Geral de Depositos SA                          | Portugal                   |
| CaixaBank SA                                                   | Spain                      | Caja Laboral Popular Coop de Credito - Laboral Kutxa | Spain                      |
| Calamos Family Partners Inc                                    | United States of America   | Canadian Imperial Bank of Commerce                   | Canada                     |
| Canso Investment Counsel Ltd                                   | Canada                     | Capital Dynamics Holding AG                          | Switzerland                |
| Capital Group Companies Inc                                    | United States of America   | Cathay Financial Holding Co Ltd                      | Taiwan                     |
| CBRE Group Inc                                                 | United States of America   | Challenger Ltd                                       | Australia                  |
| Champlain Investment LP                                        | United States of America   | Changjiang Securities Co Ltd                         | China (Mainland)           |
| Charles Schwab Corp                                            | United States of America   | Charter Hall Ltd                                     | Australia                  |
| China Construction Bank Corp                                   | China (Mainland)           | China Everbright Group Ltd                           | China (Mainland)           |
| China Galaxy Financial Holdings Ltd                            | China (Mainland)           | China Life Insurance Group Co                        | China (Mainland)           |
| China Merchants Bank Co Ltd                                    | China (Mainland)           | China Minsheng Banking Corp Ltd                      | China (Mainland)           |
| China Southern Asset Management Co Ltd                         | China (Mainland)           | China Universal Asset Management Co Ltd              | China (Mainland)           |
| China Zhesang Bank Co Ltd                                      | China (Mainland)           | CI Financial Corp                                    | Canada                     |
| Citadel Advisors LLC                                           | United States of America   | CITIC Ltd                                            | China (Mainland)           |
| Close Brothers Group PLC                                       | United Kingdom             | Co-operators Group Ltd                               | Canada                     |
| Cohen & Steers Inc                                             | United States of America   | Colliers International Group                         | Canada                     |
| Comgest SA                                                     | France                     | Commerzbank AG                                       | Germany                    |
| Commonfund Inc                                                 | United States of America   | Commonwealth Bank of Australia                       | Australia                  |
| Connor, Clark & Lunn Financial Group Ltd                       | Canada                     | Cooperatieve Rabobank UA                             | Netherlands                |
| Coronation Fund Managers Ltd                                   | South Africa               | Covea SGAM                                           | France                     |
| Cramer Rosenthal McGlynn                                       | United States of America   | Credit Mutuel                                        | France                     |
| Credito Emiliano Holding SpA                                   | Italy                      | CTBC Financial Holding Co Ltd                        | Taiwan                     |
| CVC Capital Partners PLC                                       | Jersey                     | D.E. Shaw & Co LP                                    | United States of America   |
| Dacheng Fund Management Co Ltd                                 | China (Mainland)           | Dai-ichi Life Holdings Inc                           | Japan                      |
| Daiwa Securities Group Inc                                     | Japan                      | Danske Bank AS                                       | Denmark                    |
| DekaBank Deutsche Girozentrale                                 | Germany                    | Deutsche Bank AG                                     | Germany                    |
| Dexus                                                          | Australia                  | Diamond Hill Capital Management Inc                  | United States of America   |
| Dierickx Leys                                                  | Belgium                    | Dimensional Fund Advisors LP                         | United States of America   |
| DMFCO                                                          | Netherlands                | Dodge & Cox                                          | United States of America   |
| Dongbu Insurance Co Ltd                                        | Korea; Republic (S. Korea) | Dragon Capital Group Ltd                             | Vietnam                    |
| DuPont Capital Inc                                             | United States of America   | DZ Bank                                              | Germany                    |
| E Fund Management                                              | China (Mainland)           | Eagle Capital Management LLC                         | United States of America   |
| EARNEST Partners LLC                                           | United States of America   | Edelweiss Financial Services Ltd                     | India                      |
| EFG International AG                                           | Switzerland                | Elliot Capital Advisors LP                           | United States of America   |
| EQT AB                                                         | Sweden                     | Equitable Holding Inc - Alliance Bernstein           | United States of America   |
| Erste Bank Group AG                                            | Austria                    | Federated Hermes Inc                                 | United States of America   |
| Federation Des Caisses Desjardins Du Quebec - Desjardins Group | Canada                     | Fidelity International Ltd                           | Bermuda                    |
| Fidelity Investments                                           | United States of America   | Fiera Capital Corp                                   | Canada                     |
| Fifth Third Bancorp                                            | United States of America   | Financiere Idat - ODDO BHF                           | France                     |
| First Eagle Holdings Inc                                       | United States of America   | First Pacific Advisors LP                            | United States of America   |
| First Trust Advisors LP                                        | United States of America   | Fisher Investments Inc                               | United States of America   |
| Folksam                                                        | Sweden                     | Franklin Resources Inc                               | United States of America   |
| Fubon Financial Holding Co Ltd                                 | Taiwan                     | Fukoku Mutual Life Insurance Co                      | Japan                      |
| Fullgoal Fund Management Co Ltd                                | China (Mainland)           | GAM Holding AG                                       | Switzerland                |
| Garcia Hamilton & Associates LP                                | United States of America   | GCM Grosvenor Inc                                    | United States of America   |
| Geode Capital Holdings LLC                                     | United States of America   | GF Securities Co Ltd                                 | China (Mainland)           |
| Goldman Sachs Group Inc                                        | United States of America   | Goodman Group                                        | Australia                  |
| Gothaer Versicherungsbank Vvag                                 | Germany                    | GQG Partners Inc                                     | United States of America   |
| Great Wall Fund Management Ltd                                 | China (Mainland)           | Groupama                                             | France                     |
| Guardian Capital Group Ltd                                     | Canada                     | Guggenheim Capital LLC                               | United States of America   |
| Gulf International Bank BSC                                    | Bahrain                    | Guotai Haitong Securities Co Ltd                     | China (Mainland)           |
| Haitong Securities co Ltd                                      | China (Mainland)           | Hamilton Lane Inc                                    | United States of America   |
| Hanwha Corp                                                    | Korea; Republic (S. Korea) | Hartford Financial Management Inc                    | United States of America   |
| Harvest Fund Management Co Ltd                                 | China (Mainland)           | HDFC Bank Ltd                                        | India                      |
| Heitman LLC                                                    | United States of America   | Heungkuk Life Insurance Co Ltd                       | Korea; Republic (S. Korea) |
| Hines Interests LP                                             | United States of America   | Hotchkis & Wiley Capital Management LLC              | United States of America   |
| HSBC Holdings PLC                                              | United Kingdom             | HT Holding LLC                                       | United States              |
| HuaAn Securities Ltd                                           | China (Mainland)           | Huatai Securities Co Ltd                             | China (Mainland)           |
| Hwabao WP Fund Management                                      | China (Mainland)           | iA Financial Corporation Inc                         | Canada                     |
| Ibercaja Banco SA                                              | Spain                      | Iccrea Banca SpA                                     | Italy                      |
| ICIIC Bank Ltd                                                 | India                      | IFM Investors Pty Ltd                                | Australia                  |
| Impax Asset Management Group PLC                               | United Kingdom             | Income Research & Management                         | United States of America   |
| Index Ventures SA                                              | Switzerland                | Industrial and Commercial Bank of China Ltd          | China (Mainland)           |

Table 4: Asset managers: 201-400 (continue)

| Manager                                                                       | Country                    | Manager                                                  | Country                    |
|-------------------------------------------------------------------------------|----------------------------|----------------------------------------------------------|----------------------------|
| Industrial Bank of Korea                                                      | Korea; Republic (S. Korea) | ING Groep NV                                             | Netherlands                |
| Insignia Financial Ltd                                                        | Australia                  | Intermediate Capital Group PLC                           | United Kingdom             |
| Intesa Sanpaolo SpA                                                           | Italy                      | Invesco Ltd                                              | United States of America   |
| Iupar Itau Unibanco Participacoes SA                                          | Brazil                     | Jackson Financial Inc                                    | United States of America   |
| Janus Henderson Group Plc                                                     | United Kingdom             | JPMorgan Chase & Co                                      | United States of America   |
| Jupiter Fund Management PLC                                                   | United Kingdom             | KB Financial Group Inc                                   | Korea; Republic (S. Korea) |
| KBC Groep NV                                                                  | Belgium                    | KGAL                                                     | Germany                    |
| Kiwoom Securities Co Ltd                                                      | Korea; Republic (S. Korea) | KKR & Co Inc                                             | United States of America   |
| Knight of Columbus                                                            | United States of America   | Korea Investment Holdings Co Ltd                         | Korea; Republic (S. Korea) |
| Kotak Mahindra Bank Ltd                                                       | India                      | Kyobo Life Insurance Co Ltd                              | Korea; Republic (S. Korea) |
| La Poste SA                                                                   | France                     | Landesbank Baden-Wuerttemberg                            | Germany                    |
| LandesBank Hessen-Thueringen Girozentrale                                     | Germany                    | Lazard Inc                                               | United States of America   |
| Legal & General Group PLC                                                     | United Kingdom             | Life Insurance Corporation of India                      | India                      |
| Lindsell Train PLC                                                            | United Kingdom             | Lion Fund Management Co Ltd                              | China (Mainland)           |
| Lloyds Banking Group PLC                                                      | United Kingdom             | Lombard Odier SCMA CIE                                   | Switzerland                |
| Longfellow Investment Management Co LLC                                       | United States of America   | Lord, Abbott & Co. LLC                                   | United States of America   |
| Los Angeles Capital Management LLC                                            | United States of America   | Lupus Alpha Asset Management AG                          | Germany                    |
| Luther King Capital Management Corp                                           | United States of America   | M&T Bank Corp                                            | United States of America   |
| Macquarie Group Ltd                                                           | Australia                  | Magellan Financial Group Ltd                             | Australia                  |
| Man Group Plc                                                                 | United Kingdom             | Manulife Financial Corp                                  | Canada                     |
| Mapfre SA                                                                     | Spain                      | Marathon Asset Management Ltd                            | United Kingdom             |
| MassMutual Life Insurance Co                                                  | United States of America   | Matthews International Capital Management LLC            | United States of America   |
| Mawer Investment Management Ltd                                               | Canada                     | Mediobanca SpA                                           | Italy                      |
| Meiji Yasuda Life Insurance Co                                                | Japan                      | Mercer International Inc                                 | Canada                     |
| Mesirow Financial Holdings Inc                                                | United States of America   | MetLife Inc                                              | United States of America   |
| Midas Asset Management Co Ltd                                                 | Korea; Republic (S. Korea) | Millennium Management LLC                                | United States of America   |
| Minnesota Mutual Companies Inc                                                | United States of America   | Mirae Asset Securities Co Ltd                            | Korea; Republic (S. Korea) |
| Mitsubishi Estate Co Ltd                                                      | Japan                      | Mitsubishi UFJ Financial Group Inc                       | Japan                      |
| Mitsui Fudosan Co Ltd                                                         | Japan                      | Mizuho Financial Group - Asset Management One            | Japan                      |
| MN Services NV                                                                | Netherlands                | Mondrian Investment Partners Ltd                         | United Kingdom             |
| Monte dei Paschi di Siena SpA                                                 | Italy                      | Montepio Geral Associacao Mutualista                     | Portugal                   |
| Morgan Stanley                                                                | United States of America   | Muenchener Rueckversicherungs-Gesellschaft inMuenchen AG | Germany                    |
| Mingulghwa Trust Co Ltd - Hyundai Asset Management Co Ltd                     | Korea; Republic (S. Korea) | Mutual of America Life Insurance Co                      | United States of America   |
| Nan Shan Life Insurance Co Ltd                                                | Taiwan                     | National Bank of Canada                                  | Canada                     |
| National Mutual Insurance Federation of Agricultural Cooperatives (Zenkyoren) | Japan                      | Nationwide Mutual Insurance Co                           | United States of America   |
| Natixis Investment Managers SA                                                | France                     | Natwest Group Plc - Royal Bank of Scotland               | United Kingdom             |
| Navigator Global Investments Ltd                                              | Australia                  | NBSH Acquisition LLC - Neuberger Berman                  | United States of America   |
| New England Asset Management Inc                                              | United States of America   | New York Life Insurance Co                               | United States of America   |
| NFU Mutual Ltd                                                                | United Kingdom             | Ninety One PLC                                           | United Kingdom             |
| Nippon Life Insurance Co                                                      | Japan                      | Nisa LLC                                                 | United States of America   |
| NN Group NV                                                                   | Netherlands                | Nomura Holdings Inc                                      | Japan                      |
| Nomura Real Estate Holdings Inc                                               | Japan                      | Nordea Bank ABP                                          | Finland                    |
| Northern Trust Corp                                                           | United States of America   | Novo Banco SA                                            | Portugal                   |
| Nuerenberger Beteiligungs AG                                                  | Germany                    | Nykredit AS                                              | Denmark                    |
| OFI AM                                                                        | France                     | Old Mutual Ltd                                           | South Africa               |
| Old National Bancorp                                                          | United States of America   | OP Financial Group                                       | Finland                    |
| Opportunity Ltda                                                              | Brazil                     | Orbis Holdings Ltd                                       | Bermuda                    |
| ORIX Corp                                                                     | Japan                      | Partners Group Holding AG                                | Switzerland                |
| Payden & Rygel                                                                | United States of America   | PCGI Holdings Ltd                                        | Cayman Islands             |
| Penghua Fund Management Co Ltd                                                | China (Mainland)           | Penn Mutual Life Insurance Co                            | United States of America   |
| Perpetual Ltd                                                                 | Australia                  | PGGM                                                     | Netherlands                |
| Phoenix Group Holdings Plc - Standard Life Assurance                          | United Kingdom             | PICC Asset Management Co                                 | China (Mainland)           |
| Pietet & Partners                                                             | Switzerland                | Ping An Insurance Co of China Ltd                        | China (Mainland)           |
| PNC Financial Services Group Inc                                              | United States of America   | Polen Capital Holdings LP                                | United States              |
| Postal Savings Bank of China Co Ltd                                           | China (Mainland)           | Poste Italiane SpA                                       | Italy                      |
| Power Corporation of Canada                                                   | Canada                     | Primecap Management Co                                   | United States of America   |
| Principal Financial Group Inc                                                 | United States of America   | Prologis Inc                                             | United States of America   |
| Providence Equity Partners LLC                                                | United States of America   | Prudential Financial Inc                                 | United States of America   |
| Prudential PLC                                                                | United Kingdom             | PSG Group Ltd                                            | South Africa               |
| Pzena Investment Management LLC                                               | United States of America   | Quaestio Capital Management SpA                          | Italy                      |
| Raiffeisen Bank International AG                                              | Austria                    | Raymond James Financial Inc                              | United States of America   |
| Record PLC                                                                    | United Kingdom             | Rede d'Or Sao Luiz SA - SulAmerica Investimentos         | Brazil                     |
| Regions Financial Corp                                                        | United States of America   | Renaissance Technologies LLC                             | United States of America   |
| Renta 4 Banco SA                                                              | Spain                      | Resona Holdings Inc                                      | Japan                      |
| RhumbLine Advisers LP                                                         | United States of America   | River Global PLC                                         | United Kingdom             |
| Rockpoint Group LLC                                                           | United States of America   | Rothschild & Co SCA                                      | France                     |
| Royal Bank of Canada                                                          | Canada                     | Royal London Mutual Insurance Society Ltd                | United Kingdom             |
| Ruffer LLP                                                                    | United Kingdom             | Russell Investments Group Ltd                            | Cayman Islands             |
| Sage Advisory Services Ltd Co                                                 | United States of America   | Samsung Group                                            | Korea; Republic (S. Korea) |
| Sanders Capital LLC                                                           | United States of America   | Sanlam Ltd                                               | South Africa               |
| SBI Holdings Inc - Shinsei Bank                                               | Japan                      | Schroders Plc                                            | United Kingdom             |
| SCOR SE                                                                       | France                     | SEB Group                                                | Sweden                     |
| SECOR Asset Management LP                                                     | United States of America   | SEI Investments Co                                       | United States of America   |
| Sequoia Capital Partners                                                      | United States of America   | Shinkin Central Bank                                     | Japan                      |
| Shinyoung Securities Co Ltd                                                   | Korea; Republic (S. Korea) | Signal Iduna Group                                       | Germany                    |
| Silchester Partners Ltd                                                       | United Kingdom             | SIT Investment Associates Inc                            | United States of America   |
| Societe Generale SA                                                           | France                     | SoftBank Group Corp                                      | Japan                      |
| Sompo Holdings Inc                                                            | Japan                      | SpareBank 1 Gruppen AS                                   | Norway                     |
| Sparx Group Co Ltd                                                            | Japan                      | Sprucegrove Investment Management Ltd                    | Canada                     |
| ST James's Place PLC                                                          | United Kingdom             | Starwood Capital Group LLC                               | United States of America   |
| State Bank of India                                                           | India                      | State Street Corp                                        | United States of America   |
| StepStone Group Inc                                                           | United States of America   | Stifel Financial Corp                                    | United States of America   |
| Stonehage Fleming Ltd                                                         | United Kingdom             | Storebrand ASA                                           | Norway                     |
| Sumitomo Life Insurance Co                                                    | Japan                      | Sumitomo Mitsui Financial Group Inc                      | Japan                      |
| Sumitomo Mitsui Trust Group Inc                                               | Japan                      | Sun Life Financial Inc                                   | Canada                     |
| Susquehanna International Group LLP                                           | United States of America   | Svenska Handelsbanken AB                                 | Sweden                     |
| Swedbank AB                                                                   | Sweden                     | Swiss Life Holding AG                                    | Switzerland                |
| Swiss RE AG                                                                   | Switzerland                | T Rowe Price Group Inc                                   | United States of America   |
| Tactical Global Ltd                                                           | Australia                  | Talanx AG                                                | Germany                    |
| Tata Capital Ltd                                                              | India                      | TCI Fund Management Ltd                                  | United Kingdom             |
| TCW Group                                                                     | United States of America   | Thornburg Investment Inc                                 | United States of America   |
| TIAA-Nuveen                                                                   | United States of America   | Tianhong Asset Management Co Ltd                         | China (Mainland)           |
| Tikehau Capital Advisors SAS                                                  | France                     | TISCO Financial Group Plc                                | Thailand                   |
| Tokio Marine Holdings Inc                                                     | Japan                      | Toronto-Dominion Bank                                    | Canada                     |
| Triodos Bank NV                                                               | Netherlands                | UBP SA                                                   | Switzerland                |
| UBS Group AG                                                                  | Switzerland                | Unicaja Banco SA                                         | Spain                      |
| Unicredit SpA                                                                 | Italy                      | Uniqa Insurance Group AG                                 | Austria                    |
| US Bancorp                                                                    | United States of America   | UTI Asset Management Company Ltd                         | India                      |
| Value Partners Group Ltd                                                      | Hong Kong                  | Van Eck Associates Corp                                  | United States of America   |
| Van Lanschot Kempen NV                                                        | Netherlands                | Vanguard Group Inc                                       | United States of America   |

Table 5: Asset managers: 401-426

| <b>Manager</b>                   | <b>Country</b>             | <b>Manager</b>                       | <b>Country</b>           |
|----------------------------------|----------------------------|--------------------------------------|--------------------------|
| VBG Group                        | Germany                    | Victory Capital Holdings Inc         | United States of America |
| Vienna Insurance Group           | Austria                    | Vinci Partners Investments Ltd       | Brazil                   |
| Vinva Investment Management Ltd  | Australia                  | Virtus Investment Partners Inc       | United States of America |
| Vista Equity Partners LLC        | United States of America   | Vontobel Holding AG                  | Switzerland              |
| Voya Financial Inc               | United States of America   | Walton Street Capital LLC            | United States of America |
| Warburg & Co                     | Germany                    | Wasatch Advisors LP                  | United States of America |
| WBC Holdings LP                  | United States of America   | Wellington Management Group LLP      | United States of America |
| Wells Fargo & Co                 | United States of America   | Western & Southern Mutual Holding Co | United States of America |
| Westpac Banking Corp             | Australia                  | Willis Towers Watson PLC             | United Kingdom           |
| Woori Financial Group Inc        | Korea; Republic (S. Korea) | XP inc                               | Cayman Islands           |
| Yinhua Fund Management Co Ltd    | China (Mainland)           | Yuanta Financial Holding Co Ltd      | Taiwan                   |
| Zhong Ou Asset Management Co Ltd | China (Mainland)           | Ziraat Bankasi AS                    | Turkey                   |
| Zuercher Kantonalbank            | Switzerland                | Zurich Insurance Group AG            | Switzerland              |

Table 6: List of joint ventures

| <b>Joint ventures</b>                   | <b>Joint Ventures</b>                 |
|-----------------------------------------|---------------------------------------|
| Kyobo AXA Investment Managers Co.       | AXA-SPDB Investment Managers Co.      |
| Krungthai-AXA Life Insurance PCL        | Huatai-PineBridge Fund Management     |
| ICBC Credit Suisse Asset Management     | SBI Funds Management Pvt. Ltd.        |
| CITIC Prudential Fund Management Co.    | ICICI Prudential Asset Management Co. |
| ICICI Prudential Life Insurance Company | HSBC JinTrust Fund Management Co.     |
| Everbright Pramerica Asset Management   | UBS SDIC Fund Management Co., Ltd.    |
| UBS Hana Asset Management Company       | NH-Amundi Asset Management Co., Ltd.  |
| Huaxin Investment Management Co., Ltd.  | SWS MU Fund                           |
| Franklin Templeton Sealand Fund Ltd     | Minsheng Royal Fund Management        |
| Aegon-Industrial Fund Management        | Axis Asset Management Company Ltd     |
| Tata AIA Life Insurance Company Ltd.    | Mahindra Manulife Investment          |
| Accel-KKR LLC                           | SDIC China Merchants Investment       |
| BSCOM Cathay Asset Management Co.       |                                       |

*Notes:* The table shows all the joint-ventures used to refine asset management holdings.