



How US defense companies can escape the market downdraft

Applying the lessons of the past to drive value creation

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Contents

How US defense companies can manage through the market downdraft and create economic value

Lessons learned from the previous cycle	2
The new strategic agenda	4
Affordability	4
Growth	6
Portfolio management	7

How US defense companies can manage through the market downdraft and create economic value

As over a decade of war nears an end and the Budget of the United States confronts acute fiscal challenges, the Department of Defense faces curtailed investments in the development and procurement of modernized capabilities. In fact, a market down cycle is well under way, though its depth and length is uncertain. Yet the defense industry has seen, and engaged in, similar downturns before. The challenges are great, but opportunities exist as well. Taking decisive action that capitalizes on the realities, rather than merely hunkering down, will be rewarded in both the near and long term, as the cycle inevitably will reverse and a wave of new programs and investments will emerge. Adopting a position that enables much more affordable mission solutions, identifying emerging growth opportunities, and decisively managing corporate portfolios are principal strategies in the face of a down cycle. Industry competitors that move thoughtfully and with conviction will deliver superior returns to shareholders, now and in the future.

Since World War II, the United States has been the world's largest market for defense spending by far. US conflicts in Iraq and Afghanistan in the past decade accelerated spending, driving it to historical heights and increasing America's global share of a \$1.55 trillion market to 44 percent—more than six times the share of China, the second-leading spender.¹

However, winding down two wars and acute pressure to reduce the national debt burden after the country's largest financial shock since the Great Depression has cast a long shadow over the US defense market. Despite an acutely important need to modernize the full spectrum of defense capabilities, the Department of Defense (DOD) has submitted budget plans that reduce spending by around \$487 billion over the next decade. The specter of an additional \$500 billion in reductions, mandated by the Budget Control Act (BCA), could drive the total to approximately \$1 trillion, or about \$100 billion per year less than had been planned just two years ago.

In fact, the down cycle is already well under way: since the fiscal year 2008 peak, DOD's investment accounts (procurement and research, development, test, and evaluation, or RDT&E) have declined 25 percent. With the end

of two wars and a revised national security strategy that will reduce force structure and postpone defense modernization—despite new capability needs, including those required to operate in sophisticated anti-access and area-denial threat environments—the industry is facing a protracted budget trough. Although many uncertainties remain, preparing for a 40 to 50 percent reduction in DOD investment account spending is prudent, even if the sharp effects of BCA and “sequestration” can be mitigated (Exhibit 1).

The budget contraction is increasingly visible. Since 2008, the government has canceled several major defense programs and restructured many others, including the Future Combat System (FCS), Combat Search and Rescue Helicopter (CSAR-X), Expeditionary Fighting Vehicle (EFV), Presidential Helicopter (VH-71), Next-Generation Cruiser (CG-X), Armed Reconnaissance Helicopter (ARH), and Global Hawk Block-30, to name just a few.

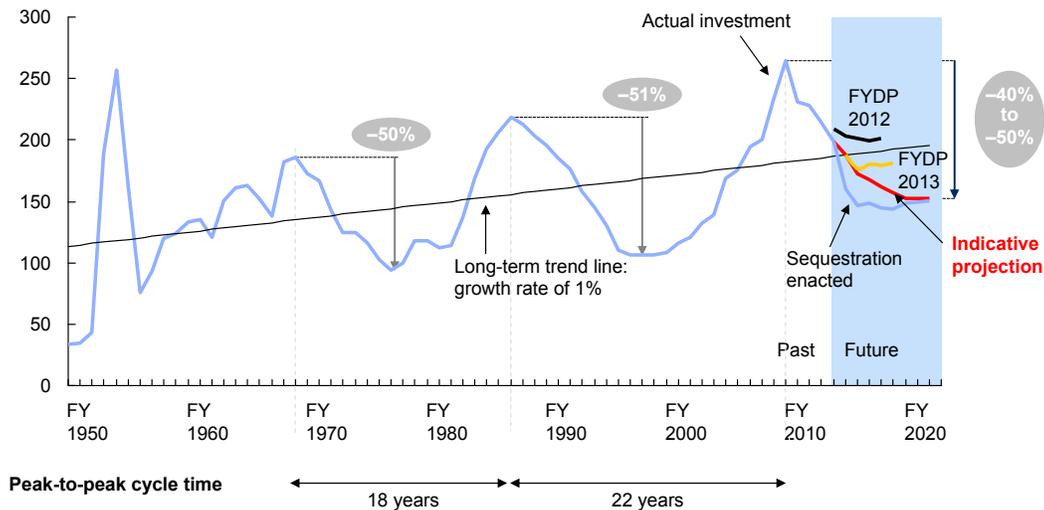
To curb cost growth and reduce material schedule delays, the government has enacted legislation and policies that shift risk to the industry. This puts the sector's comparatively modest profit margins at even greater risk.

¹ Data on share of global defense spending are provided by Stockholm International Peace Research Institute.

Exhibit 1 The industry must prepare for a protracted budget trough.

Department of Defense investment (RDT&E¹ and procurement)

\$ billion, in constant 2013 dollars



¹ Research, development, test, and evaluation.

Both top-line and bottom-line pressures naturally affect returns to shareholders. Multiple compressions for pure-play defense equities commenced in 2006—well before the financial crisis hit. The sector now trades at the lowest multiples in 20 years, significantly below equities with commercial exposure (Exhibit 2).

The pressure on industry leaders is enormous, as it was in the previous down cycle. What can top management do in the face of extraordinary external pressures? An assessment of the strategies of the defense companies that emerged the strongest from the post-Cold War market decline revealed that three actions are fundamental: closing the gap in affordability to the government, carefully identifying growth opportunities to shore up the core business, and promptly restructuring the business portfolio. Defense companies that executed these strategies generated much higher returns on invested capital and total shareholder returns than companies that waited for the defense market to bounce back.

Defense companies must begin taking decisive action now to avoid falling behind—and watching revenue decline faster than anticipated in the turnaround plan. This, of course, will

not be a surprise for those that maintained relatively high margins amid prior industry downturns. This paper lays out our insights on the strategies that can generate superior performance through the down cycle and help position companies advantageously for an up cycle. We explain the complexities of today's market downdraft, focusing on those that will force defense companies to be even bolder about pursuing strategies that have proved successful in the past.

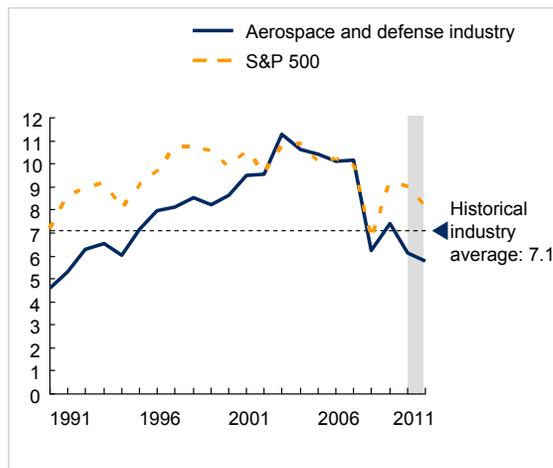
Lessons learned from the previous cycle

Defense companies that took decisive cost and portfolio actions early on and simultaneously strengthened their core business delivered superior performance in the last down cycle.

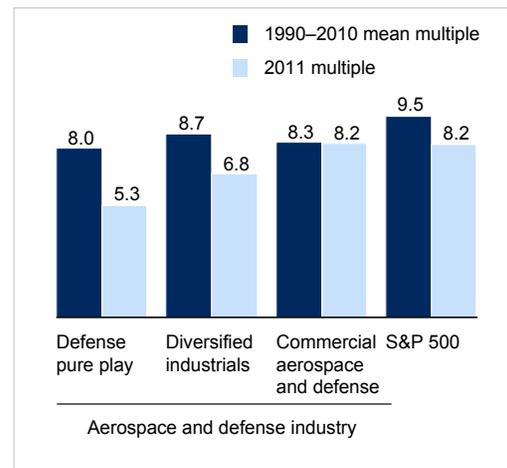
Between 1985 and 1998, defense companies faced DOD spending reductions similar to the ones they confront today. DOD investment fell 52 percent from peak (1985) to trough (1995), and it did not start to recover until the late 1990s. In general, we observed three strategies in play:

Exhibit 2 Multiples for aerospace and defense players are at a 20-year low.**NEV/EBITDA¹ multiples**

Median multiple, 1990–2011

**Change in multiples, NEV/EBITDA**

1990–2010 mean vs 2011



¹ NEV: net economic value; EBITDA: earnings before interest, taxes, depreciation, and amortization.

- **Pursuing comprehensive business repositioning.**

These companies aggressively restructured their portfolio of businesses (while also improving the core). They moved early and decisively to build advantage—and at scale—in new businesses (often through acquisitions), as well as in businesses they retained, and some exited other businesses. In a transformation led by their corporate centers, these companies redefined what businesses they were in.

- **Optimizing the core franchise.** These companies largely maintained their corporate strategy (making fewer acquisitions and divestitures) and ignored the question of the businesses they should be in. They improved their core businesses by consolidating and rationalizing excess industry capacity. When the defense market began to grow again, they still had to optimize their portfolio of businesses under less-than-optimal conditions; some had to make acquisitions at higher valuations, while others had to sell underperforming businesses at low prices. This

is in contrast to competitors that acted earlier to reposition themselves and generated superior financial performance.

- **Weathering the storm.** These companies did not consolidate operations or overhaul their portfolio of businesses. Instead, they focused on overcoming profitability problems and turning around troubled programs, as well as winning pivotal—but relatively scarce—large new programs. Their success and survival depended heavily on winning major programs and waiting for the down cycle to reverse.

While program performance improvement and cost reduction were table stakes, companies that took early and aggressive action to reposition the portfolio and restructure the business generated the best performance in previous downturns. And they were better positioned to take advantage of the increase in defense spending in the buildup following September 11, 2001.

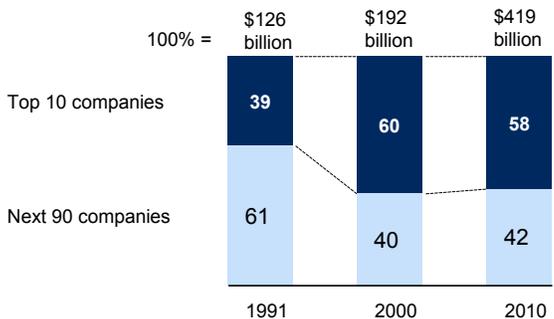
While much can be learned from the last down cycle, there are four notable differences between today and the early 1990s:

- Pressure from the troublesome fiscal environment—caused by the mounting federal deficit and complicated by persistent growth in mandatory entitlements—will likely prolong the reductions in defense spending.
- New defense-program starts will be few and infrequent.
- Primary demand growth will be outside the United States and largely concentrated in the developing world.
- The potential for consolidation and industry rationalization is much more limited than it was in the previous down cycle because the US defense industry is highly concentrated today. The 10 largest companies command 58 percent of the total revenue of the top 100 players, compared with 39 percent in 1991 (Exhibit 3). Additionally, the number of players in major defense systems is much smaller today—in missiles, for example, there are 3 at-scale competitors today, in contrast to 13 in 1990.

To deal with these complications, defense companies must take a different tack.

Exhibit 3 The potential for further consolidation in the industry is limited.

Share of revenue from top 100 defense companies
%



	1991	2000	2010
Number of primes	16	6	6
Top 100 companies that still existed in 2010	19%	46%	100%

Source: Defense News 100; US budget GDP deflator; US Department of Defense

The new strategic agenda

To continue to drive shareholder value through the downturn, companies should pursue interconnected strategies in three areas: affordability, growth, and portfolio management. Doing so can help them prevent precipitous early drops in financial performance like those experienced in the early 1990s. It can also position them for competitive advantage in advance of the next up cycle.

Affordability

Defense companies must move proactively to make their products much more affordable, basing costs on what the customer can actually afford to pay and with a great deal of certainty. The US Air Force’s Long-Range Strike Bomber (LRS-B) provides both a good example and a potential opportunity: Air Force leadership has stated clearly that program success requires an average procurement unit cost (APUC) of no more than \$550 million.² To achieve what is arguably an aggressive target, the industry must first fully commit to the “must cost” nature of the APUC, then develop both an organizational cost structure and technical approach that enables success with surety. Actually doing so not only increases the probability of winning, it also improves the probability that the program will “go” and be fully funded. Moreover, it positions the organization for competitive advantage.

Achieving a true affordability-based advantage entails two steps, one shorter term and the other longer term. The first step is dramatically reducing structural costs to match target costs and realistic business volumes to an affordable cost structure. In the second step, companies must “break the cost curve” by keeping nonrecurring development costs and recurring production costs in line with budgets. Removing the root causes of spiraling program expenses in this way will help companies create a longer-term cost advantage.

Attaining short- and long-term cost reductions requires defense companies to transform their business models, including business processes and practices in product development, production systems, and talent management (Exhibit 4). For example, companies must alter their approach to product development, moving away from protracted efforts with

² The Pentagon’s fiscal year 2013 budget sent to Congress in February 2012 called for 80 to 100 aircraft.

Exhibit 4 Reducing costs will require defense companies to transform themselves.

	From (today)	To (future)
Product development	<ul style="list-style-type: none"> ▪ Protracted, ambitious development with uncontrolled scope ▪ “Generational leaps” in technology 	<ul style="list-style-type: none"> ▪ Rapid, time-bounded development ▪ Incremental, product-line approach to technology ▪ Life-cycle-requirements outlook
Supplier chain	<ul style="list-style-type: none"> ▪ Optimized around capability ▪ Fixed supplier base ▪ Reactive supplier-management approach 	<ul style="list-style-type: none"> ▪ Optimized for cost, flexibility, speed ▪ Agile, global supplier strategy ▪ Collaborative supplier relationships
Production and manufacturing	<ul style="list-style-type: none"> ▪ Designed around optimistically high volumes ▪ Long production runs 	<ul style="list-style-type: none"> ▪ Flexible, but optimized around lower volumes ▪ Agile production cycles
Program and risk management	<ul style="list-style-type: none"> ▪ Ineffectual program management at burgeoning costs ▪ Focus on technical risk mitigation 	<ul style="list-style-type: none"> ▪ Efficient and effective program management that drives better performance ▪ Comprehensive view of enterprise risk
Business support and organization	<ul style="list-style-type: none"> ▪ Organization shaped around large platforms ▪ Heavy infrastructure and allocated support absorbed by business unit 	<ul style="list-style-type: none"> ▪ Lean infrastructure and support driven by business requirements and affordability ▪ Talent management to develop leaders and maintain critical skills

ambitious goals and uncontrolled scope and toward a rapid, evolutionary process with strict deadlines. Production systems designed around optimistic volume projections and long production runs must be shelved in favor of low-volume (and thus more realistic), flexible manufacturing with shorter production cycles.

Such changes in product development and manufacturing will force defense companies to revamp their relationships with suppliers. In the past, vendors were selected largely for meeting mission requirements independent of costs; in the future, they should be selected for their ability to meet cost targets and deadlines, as well as their flexibility to rapidly accommodate changes in programs, in addition to meeting mission requirements. The need for suppliers to accommodate more frequent changes means supplier relationships should become more collaborative, so that suppliers can better anticipate requests for changes. Many traditional defense suppliers likely will not be up to the task. Defense companies will have to establish a global—not a fixed—base of suppliers.

Stronger management of both internal and external groups will require program managers to raise their game. With so many programs plagued with burgeoning costs and hidden risks to the enterprise, program management must reduce overhead and get better at identifying and mitigating a comprehensive set of project risks.

The organizational model that supports this too must change. Today’s defense-company business models are optimized around “exquisite” major defense acquisition programs on traditional “cost plus” economic terms and possess an infrastructure and a cost structure that go with that construct. Yet, to perform and win over the next ten years, defense companies need a lean infrastructure. In the down cycle, critical technical and leadership skills can erode rapidly. Even in a challenging environment, defense companies must improve the way they attract, nurture, and retain technical staff and future program leaders.

Defense companies that compete on affordability need to position themselves differently. In the past, they could present

themselves as “exquisite providers” that engineered the best possible solution at any cost. In the coming decade, they must position themselves as agile, cost-efficient providers that deliver good-enough solutions quickly, with less risk, and with more certain outcomes. Most important, companies need to do so at costs no greater than those of the programs they replace.

While these changes will take several years and may seem overwhelming, companies that succeed will be able to outcompete all others during and after the defense-spending downturn. They will be far more likely to deliver solutions that meet customers’ needs and spending limitations.

Growth

With the US defense budget declining and fewer new franchise programs cropping up, many companies must sharpen their ability to identify growth opportunities. Our observations revealed three places to look: core markets, adjacent segments, and noncore emerging countries.

Despite contracting demand, there are numerous ways for defense companies to gain share. A good lens for seeing these opportunities is the value chain by which defense products come to market: R&D, the creation of subsystems, systems integration, and life-cycle sustainment (managing products in the field). This includes the following elements:

- **Product diversification.** Defense companies can leverage their product and technology knowledge in R&D to move into new products and subsystems.
- **Vertical integration.** This is about reintegrating selected subsystems to keep critical elements and knowledge of the systems, product architecture, and production in-house. Although parceling out the development and manufacturing of subsystems has been an industry trend for 20 years, we’re starting to see companies bring subsystems back into the fold. This can be a more defensible and sustainable competitive position because it gives companies more control over product architecture and critical technology product and process know-how.
- **Program extension.** Here companies leverage existing customer relationships, knowledge of their requirements, and program-management capabilities to expand their current programs. The goal is to create affordable and

innovative alternatives for customers to unseat program incumbents.

- **Value-chain expansion.** This is about helping customers manage their defense programs after purchase—so-called life-cycle sustainment. In the current down cycle, this can help a defense company increase its share of still-growing DOD operations and maintenance spending. In addition, it can help companies increase program-renewal cycles and participate in program upgrades.

Certain near-adjacent sectors can offer growth opportunities as well. Although almost all defense sectors will shrink, companies should scour the landscape for the relatively high-growth segments that remain. They should seek those that are suitable for investment and provide opportunities to build an advantaged position at scale. Cybersecurity markets, for example, including information assurance and information operations, will continue to grow rapidly.

New markets, outside of government-centric defense and security, can also be a part of a comprehensive growth strategy. There are a number of conditions for success:

- establishing at-scale competitive positions in attractive markets, typically through M&A
- compelling leverage of existing enterprise-level competencies and hard assets in order to create value through ownership and control
- utilizing an appropriate, ideally advantaged, business model, largely independent of the “defense business”
- understanding and accepting the differences in economics between defense and commercial enterprises

In unique cases, truly distinctive technology emerges within defense companies that have the potential to enable disruptive innovation in commercial markets. Although potentially exciting and lucrative, they typically require commercial partners and considerable focus. In general, the value at stake must be very large to warrant material investment of both time and money. But when the opportunity presents itself (as it did for Hughes with DirecTV), aerospace and defense companies should fully engage and capture the new growth platform.

DOD has prioritized a number of missions and capabilities. In a shift of national-security focus and an associated budget reallocation—most notably the “pivot to the Pacific” emphasized in recent revisions to the National Military Strategy—certain investment capabilities and force-structure levels were prioritized over others. DOD is prioritizing intelligence, surveillance, and reconnaissance systems; undersea and surface-ship capabilities; long-range strike aircraft; strike missiles; missile defense; electronic warfare; and other capabilities over those more suited to supporting deployed ground forces. If these policies continue, they will set the stage for a wave of new development programs and the opportunity for substantial growth in the upturn.

Growth opportunities in the value chain include international markets, especially emerging ones, many of which were unscathed by the financial crisis and benefit from growing economies and intrinsic defense investment capacity (Exhibit 5). This is an unambiguous, if intensely competitive, growth opportunity.

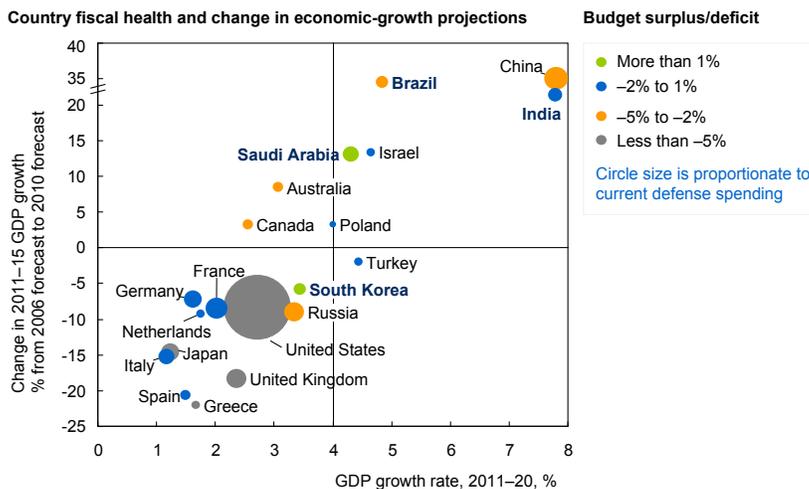
However, the challenge of international defense markets is often underestimated. Offset requirements, national politics,

complications with local partners, and significant differences in US trade law relative to international competitors add complexity. Perhaps most important, there are often four or more competitors bidding on the most lucrative opportunities rather than the two or three customarily involved in DOD procurement. By striking partnerships with international competitors that are already doing business with these defense agencies, US defense companies have a much better chance of gaining a foothold in these markets and increasing market share on attractive economic terms.

Portfolio management

US defense-company equity multiples are at generational lows—and they could dip even lower still. Institutional investors have shortened defense positions, given DOD’s declining investment accounts, especially in the context of the looming fiscal crisis in the United States. While the low multiples no doubt produce sleepless nights for CEOs, the flip side is that companies have an opportunity to acquire other defense assets now at what may be seen as bargain prices by the end of the decade.

Exhibit 5 The financial crisis inhibited growth in the developed world—yet emerging markets have emerged relatively unscathed.



Source: CIA Factbook; Global Insight; Stockholm International Peace Research Institute; US Department of Defense; McKinsey analysis

This, too, is a scenario with plenty of precedent. Active portfolio management was arguably the single most important strategy of defense companies in the last down cycle. Aggressive sellers, in concert with equally aggressive buyers, facilitated the industry's extraordinary consolidation. Defense companies that managed their portfolios systematically to divest assets generated tremendous surplus cash, rapid stock appreciation, and extraordinary dividends, which resulted in the highest total returns to shareholders. Buyers positioned themselves for competitive advantage in the next up cycle, rationalizing industry structure and excess capacity while acquiring distinctive capabilities.

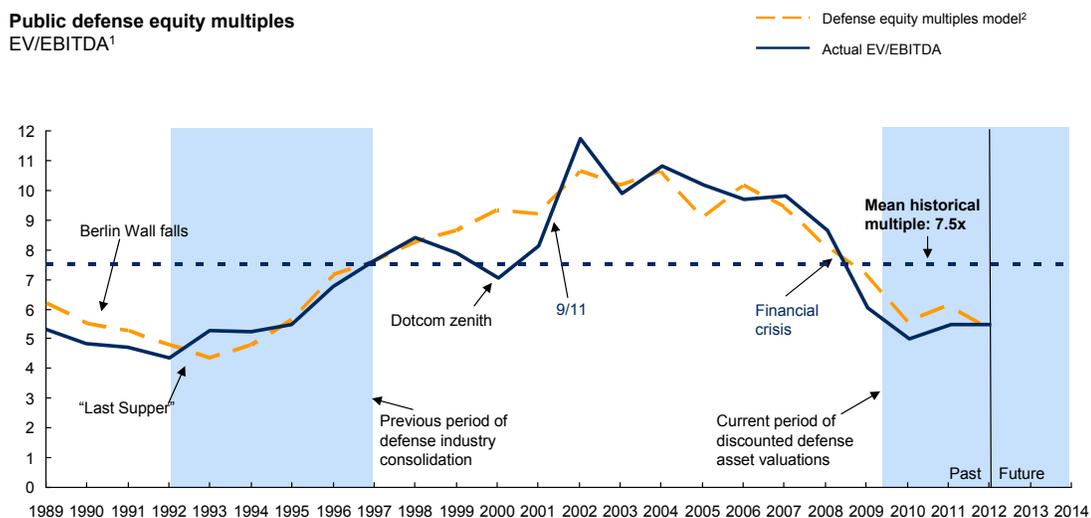
Investors, recognizing certain companies to be particularly focused on shareholder value, rewarded such active portfolio management. Many investors maintained a longer-term perspective and believed that the defense market would rebound; they also believed that consolidation would provide economic benefits to all stakeholders by reducing excess capacity and lowering fixed costs.

By 1997 (two years after the trough), most of the major available defense-company assets had been acquired, and government support for additional major mergers effectively ended. Yet, by then, defense equity multiples had expanded fully 50 percent (Exhibit 6)—well before the up cycle was fully under way.

Today's industry competitors should return to actively managing their defense portfolios. Now is the time to examine existing businesses and decide which should serve as a focus for future capabilities. A sober examination of the competitive landscape, market dynamics, and the future environment is essential. Nothing should be off the table, and long-held assumptions should be challenged; management and the board should consider acquiring and divesting assets large and small.

However, dabbling and acquiring a subscale position is unlikely to yield significant results. Rather, a company's portfolio strategy should focus on at-scale positions that establish competitive advantage. While it is almost impossible for defense companies to time acquisitions and divestitures perfectly, those that are well prepared and ready to deal will likely benefit most.

Exhibit 6 Active portfolio management is important.



¹ EV: economic value; EBITDA: earnings before interest, taxes, depreciation, and amortization.

² The defense equity multiples model was developed based on regression analysis of US Department of Defense investment accounts vs defense equity multiples; $r^2 = 82\%$ (r^2 is the proportion or percentage of variance explained by a regression).



As an engineering-driven sector, the US defense industry has done an extraordinary job in the last half-century of creating the world's most advanced weapon systems, technologies, aircraft, and vehicles. Today, the leaders of these companies must apply to their own organizations the very ingenuity that has kept America's military dominant.

We are confident that the US defense market will bounce back. The last 60 years inarguably show that the defense budget always goes back up after a down cycle. The question is not whether the industry will rebound, but rather how quickly it will. The developing world's rapid advancement of economic and military capabilities is expected to be a longer-term driver of increased defense expenditures. And in the near term, unanticipated global-security events could easily elevate investment in new capabilities.

History also shows that the time for US defense companies to act aggressively is in the depths of the downturn. Adhering to business as usual, dabbling unsuccessfully in different strategies, or retreating in hopes of riding out the storm have not worked well. In contrast, executing bold strategies focused on affordability, growth, and portfolio repositioning leads to greater success.

Despite the rapidly receding budget tide, it is important to approach the market environment as an opportunity as much as a challenge. Capitalizing on the trough means improving business and economic performance, positioning the company for future opportunities, and delivering outsize returns to shareholders. It has been done before and will be done again—the only question is which defense companies will emerge as winners, better positioned to respond to today's environment. Those that do will shape the bold new contours of an industry that needs them.

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