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Defense Contract Announcements (Global; US Returns): Return Analysis

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We study how US-listed equities react to global defense contract announcements. Using TenderAlpha announcements mapped to US-listed equities and FactSet-based close-to-close returns, we measure market-adjusted post-announcement performance over 3- and 5-trading-day windows. The broad response is mildly positive, but the signal concentrates in a few corners: (i) contracts that are large relative to issuer market cap, (ii) Army awards, and (iii) short-duration deals (≤1 year).

Introduction

The defense sector is notoriously opaque, with significant lags often separating the signing of a contract from its public disclosure. Standard datasets, such as those derived from USASpending.gov, typically report awards days or even months after the fact, making them unsuitable for precise event studies. TenderAlpha solves this problem by providing a real-time feed of global government contract announcements with exact timestamps for when each notice becomes public information.

This granularity is the key innovation of our dataset. By distinguishing the exact minute of dissemination, we can isolate the market's reaction with intraday precision—separating news that breaks pre-market (allowing for positioning before the open), intraday (requiring immediate reaction), and after-hours (digested overnight). This allows us to test whether and how quickly equity markets price in the "surprise" component of contract awards, from massive multi-year programs to routine modifications.

In this paper, we leverage this granular data to study the cross-section of returns following defense announcements. We map TenderAlpha announcements to US-listed equities and use FactSet-based daily returns to construct event windows that align with the flow of public information.

We start by summarizing the matched sample and then present return results by contract characteristics and a set of overlapping-portfolio backtests.

Data

We work with contract announcements matched to publicly traded defense contractors. Each announcement falls into one of two categories: awards (brand new contracts) or modifications (changes to existing contracts like expanded scope or adjusted budgets). We also track when each announcement hits the wire relative to trading hours—pre-market (before 9:30 AM ET), intraday (9:30 AM to 4:00 PM), or after-hours (4:00 PM or later).

Contract values are in USD, and we also know the contract duration and how long it took from the award date to when the news was published.

Our sample runs from 2010-01-01 through 2025-05-31. We map TenderAlpha identifiers to US-listed equities using issuer ticker/ISIN fields (including parent vs direct awardee identifiers where available). We then pull close-to-close equity returns and market cap from FactSet-based daily data to compute post-announcement performance. We also carry an internal "investable universe" flag (liquidity screen) as an optional filter; in this draft, it is off by default (toggle in the code). Most contracts are in the tens of millions, though the distribution has a long tail with some very large awards.

Key variables include the announcement timestamp (converted to Eastern time for timing buckets), the contract's notional value in USD, the announcement type (award vs modification), the contracting government's country/name, and the award/end dates (used to compute duration and publication lag). We exclude announcements that cannot be mapped to a US-listed equity or lack the required post-entry return window.

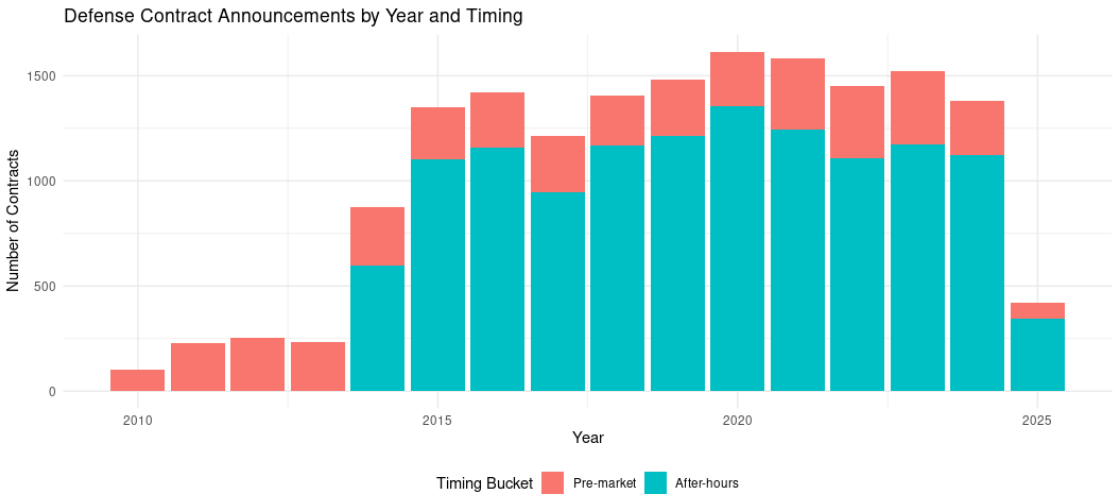
Timing buckets are defined in ET: pre-market (< 09:30), intraday (09:30–16:00), and after-hours (>= 16:00). Entry dates are always chosen on the US trading calendar: pre-market and intraday announcements enter at the same-day close, after-hours announcements enter at the next trading-day close, and announcements that fall on a non-trading day roll forward to the next trading day.

The table below summarizes basic coverage of the matched sample.

Sample coverage of the matched defense contracts dataset.

Unique contracts	number of listed firms	Mean USD value (mm)	Median USD value (mm)
16529	183	286.62	19.14

Figure 1 plots the number of contract announcements per year, split by timing bucket (pre-market, intraday, after-hours).



Announcement volume by year and timing bucket. Most releases occur outside market hours, giving investors time to react before the next trading session.

The stacked bar chart shows that pre-market and after-hours announcements dominate the sample, with relatively few intraday releases. This is consistent with institutional practice: major contract news is typically released outside trading hours to give investors time to digest information before the next session. The overall volume of announcements varies over the sample, reflecting both cyclical defense spending and the growth of TenderAlpha's coverage, but the mix across timing buckets is fairly stable, suggesting a persistent communication protocol.

The most common contractors in the dataset are:

Top 15 contractors by event count (total contract value in millions USD).

ticker	Company	Event count	Total contract value (MM)
LMT	Lockheed Martin Corporation	3162	919302.6
RTX	RTX Corporation	1985	515783.0
BA	Boeing Company	1730	536870.5
GD	General Dynamics Corporation	1642	451296.6
NOC	Northrop Grumman Corp.	1408	325301.1
LHX	L3Harris Technologies Inc	713	191497.6
HII	Huntington Ingalls Industries, Inc.	376	134261.5
LDOS	Leidos Holdings, Inc.	327	249860.1
MDT	Medtronic Plc	295	1019.0
TXT	Textron Inc.	238	68126.3

BAH	Booz Allen Hamilton Holding Corporation Class A	231	263186.3
OSK	Oshkosh Corp	221	23948.1
SAIC	Science Applications International Corp.	219	97155.0
IBM	International Business Machines Corporation	210	27980.8
KBR	KBR, Inc.	185	188405.1

The sample is dominated by a small set of large primes. This concentration is useful context for why value-weighted and equal-weighted results can diverge.

Contract awards are also highly concentrated across a small set of awarding agencies, as shown below.

Top 15 awarding agencies by total contract value (contract values in millions USD).

Awarding Agency	Event count	Total contract value (MM)
AIR FORCE	2510	2238673.3
NAVY	5971	996843.9
ARMY	2495	604195.4
MISSILE DEFENSE AGENCY	263	247565.0
DEFENSE MICROELECTRONICS ACTIVITY	14	148877.0
DEFENSE INTELLIGENCE AGENCY	33	124152.0
DEFENSE LOGISTICS AGENCY	812	91835.0
DEFENSE HEALTH AGENCY	24	61596.5
U.S. SPECIAL OPERATIONS COMMAND	78	27880.0
The Minister for the Cabinet Office acting through Crown Commercial Service	4	27423.0
DEFENSE INFORMATION SYSTEMS AGENCY	61	26216.9
Department of Defence	1764	23030.7
WASHINGTON HEADQUARTERS SERVICES	30	19990.7
U.S. TRANSPORTATION COMMAND	29	18571.2
DEFENSE THREAT REDUCTION AGENCY	19	13630.9

Return Analysis by Contract Characteristics

We look at how stocks perform in the days after contract announcements, focusing on both 3-day and 5-day windows. All returns are market-adjusted (we subtract out the Fama-French market return) to isolate the company-specific reaction to the news.

Conventions used below: returns are reported in basis points (1 bp = 0.01%). VW denotes value-weighted results (weighted by issuer market cap) and EW denotes equal-weighted results (each announcement weighted equally). We form same-day cohorts by entry date and compute averages and t-statistics over the time series of cohort returns; "Days" is the number of cohort days and "N Obs" is the number of announcements. A t-stat around 2 is conventionally considered statistically meaningful. Numbers in parentheses scale the event-window return to an annualized-equivalent percent (252/H) as a magnitude guide.

Return convention: we enter at the close on the first tradable day after the announcement (same-day close for pre-market/intraday; next-day close for after-hours). "Day 1" is the first close-to-close return after entry; 3-day and 5-day returns compound the day-1…day-H legs. Market adjustment subtracts the corresponding daily market return before compounding (a 1:1 notional long/short each day). In the global sample, we conservatively force non-US contracting-entity announcements to enter on the next US trading-day close to reduce any risk of date misalignment across time zones.

For "Top X%" buckets (contract size, relative size, etc.), we use rolling, lookahead-free cutoffs: each month's thresholds are computed from data available up to the prior month.

Because 3-day/5-day event windows overlap across adjacent entry dates, these t-statistics are still approximate and are used mainly for ranking/diagnostics.

All results are gross of transaction costs and implementation frictions.

As a baseline, the tables below pool all matched announcements (no subsetting).

Overall 3-day returns (all announcements). Returns in bps (annualized-equivalent percent in parentheses); t-stats computed over daily cohorts.

Sample	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
All announcements	2972	0.6 (0.5%)	0.18	4 (3.4%)	1.2	16491

Overall 5-day returns (all announcements). Returns in bps (annualized-equivalent percent in parentheses); t-stats computed over daily cohorts.

Sample	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
All announcements	2972	3.4 (1.7%)	0.76	7.5 (3.8%)	1.75	16491

US vs Non-US Contracting Entities

We split announcements by whether the contracting entity is US-based versus non-US, to see whether the effect is driven by US procurement or is more broadly international.

3-day returns: US vs non-US contracting entities. Returns in bps (annualized-equivalent percent in parentheses); t-stats computed over daily cohorts.

Contracting Entity Country	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
US	2442	-0.8 (-0.7%)	-0.2	3.6 (3%)	0.90	12507
Non-US	1629	-6.8 (-5.7%)	-1.3	-6.9 (-5.8%)	-1.35	3916
Unknown	31	62.8 (52.8%)	1.1	63 (52.9%)	1.11	68

5-day returns: US vs non-US contracting entities. Returns in bps (annualized-equivalent percent in parentheses); t-stats computed over daily cohorts.

Contracting Entity Country	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
US	2442	-0.8 (-0.4%)	-0.15	5.5 (2.8%)	1.07	12507
Non-US	1629	0.8 (0.4%)	0.12	0.1 (0.1%)	0.01	3916
Unknown	31	67.9 (34.2%)	1.18	68.4 (34.5%)	1.19	68

Across US vs non-US contracting entities, average returns are small. The "Unknown" bucket reflects missing metadata and has a very small sample, so its estimates are noisy and should not be over-interpreted.

Returns by Contract Size

We sort contracts by their dollar value using historical cutoffs to create three categories: Bottom 50%, Middle 45% (50th-95th), and Top 5%. The tables below report both 3-day and 5-day returns.

3-day returns by contract size (Bottom half, 50th–95th percentile, top 5th percentile; lookahead-free). Returns in bps (annualized-equivalent percent in parentheses); t-stats over daily cohorts.

Contract Size	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
Bottom 50%	2279	-1.1 (-0.9%)	-0.23	0.5 (0.4%)	0.11	6381
50–95%	2559	2.1 (1.8%)	0.50	3.7 (3.1%)	0.90	8870
Top 5%	716	12.5 (10.5%)	1.22	13.6 (11.4%)	1.33	1231

5-day returns by contract size (Bottom half, 50th–95th percentile, top 5th percentile; lookahead-free). Returns in bps (annualized-equivalent percent in parentheses); t-stats over daily cohorts.

Contract Size	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
Bottom 50%	2279	0.2 (0.1%)	0.04	3 (1.5%)	0.50	6381
50–95%	2559	6.7 (3.4%)	1.23	9.5 (4.8%)	1.78	8870
Top 5%	716	13.8 (7%)	1.05	12.8 (6.5%)	0.99	1231

Sorting by absolute contract value shows a mild monotonic pattern (larger contracts tend to have higher post-announcement returns), but the separation is modest and t-stats are generally below conventional thresholds. This is consistent with large awards being partially anticipated and with absolute dollar size failing to capture economic materiality across firms; scaling by firm size (next sections) produces a cleaner split. Comparing 3-day and 5-day windows helps distinguish initial price reactions from any continued drift.

Returns by Contract Size Relative to Market Cap

We also scale contracts by the firm's market cap. A USD 100 million award matters a lot more to a small-cap supplier than to a mega-cap prime. We use the same lookahead-free approach with historical 75th and 95th percentile cutoffs. The tables below show both 3-day and 5-day returns.

3-day returns by contract size relative to market cap (top 5th percentile vs rest; lookahead-free). Returns in bps (annualized-equivalent percent in parentheses); t-stats over daily cohorts.

Relative Size (Mkt Cap)	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
Small relative	2800	-0.8 (-0.7%)	-0.22	1.7 (1.4%)	0.48	11671
Large relative	1821	5.4 (4.5%)	0.86	7.9 (6.6%)	1.30	3814
Top 5% rel	620	30 (25.2%)	2.35	28.3 (23.8%)	2.18	1006

5-day returns by contract size relative to market cap (top 5th percentile vs rest; lookahead-free). Returns in bps (annualized-equivalent percent in parentheses); t-stats over daily cohorts.

Relative Size (Mkt Cap)	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
Small relative	2800	0.1 (0.1%)	0.03	3.4 (1.7%)	0.73	11671
Large relative	1821	11.2 (5.6%)	1.47	15.2 (7.7%)	2.04	3814
Top 5% rel	620	23.1 (11.6%)	1.43	22.5 (11.3%)	1.38	1006

Scaling by market cap produces a much clearer separation than absolute dollar size. The top 5% relative-size bucket shows the strongest post-announcement returns and is statistically significant over the 3-day window; the broader "Large relative" bucket is also positive, especially in equal-weighted results. This pattern supports the idea that markets react more when an award is economically material for a given issuer.

Returns by Contract Size Relative to Assets

We scale contracts by total assets to capture the economic significance relative to firm size. The tables below use a three-category split: Bottom 50%, Middle 45% (50th-95th), and Top 5%.

3-day returns by contract size relative to assets (Bottom half, 50th–95th percentile, top 5th percentile; lookahead-free). Returns in bps (annualized-equivalent percent in parentheses); t-stats over daily cohorts.

Relative Size (Assets)	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
Bottom 50%	2402	-0.7 (-0.6%)	-0.17	2 (1.7%)	0.47	7174
50–95%	2544	2.3 (1.9%)	0.53	3.9 (3.3%)	0.92	8278
Top 5%	635	28.1 (23.6%)	2.24	26 (21.8%)	2.04	1030

5-day returns by contract size relative to assets (Bottom half, 50th–95th percentile, top 5th percentile; lookahead-free). Returns in bps (annualized-equivalent percent in parentheses); t-stats over daily cohorts.

Relative Size (Assets)	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
Bottom 50%	2402	0.7 (0.4%)	0.12	4.5 (2.3%)	0.83	7174
50–95%	2544	6.4 (3.2%)	1.14	9.2 (4.6%)	1.71	8278
Top 5%	635	29 (14.6%)	1.84	27.3 (13.8%)	1.72	1030

Scaling by assets yields a similar pattern: awards that are large relative to the balance sheet have materially higher post-announcement returns, with statistical significance strongest over the 3-day window. The effect remains positive over 5 days but is less precisely estimated, consistent with faster incorporation of information.

Returns by Announcement Type

The next tables break down returns by announcement type. We report both 3-day and 5-day windows.

3-day market-adjusted returns by announcement type. VW/EW returns in bps (annualized-equivalent percent in parentheses); t-stats computed over daily cohorts.

Announcement Type	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
Awarded	2751	-0.3 (-0.3%)	-0.07	0.1 (0.1%)	0.02	9975
Modification	2169	3.8 (3.2%)	0.76	8.2 (6.9%)	1.68	6516

5-day market-adjusted returns by announcement type. VW/EW returns in bps (annualized-equivalent percent in parentheses); t-stats computed over daily cohorts.

Announcement Type	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
Awarded	2751	1.6 (0.8%)	0.33	3.2 (1.6%)	0.67	9975
Modification	2169	5.2 (2.6%)	0.81	12.8 (6.5%)	2.07	6516

In this sample, modifications show stronger post-announcement drift than new awards, particularly in equal-weighted returns.

Returns by Awarding Agency

Different military branches and agencies might generate different market reactions. We break out the Army, Navy, Air Force, DoD/DLA, and "Other" categories, then report both 3-day and 5-day returns.

3-day market-adjusted returns by awarding agency. Returns in bps (annualized-equivalent percent in parentheses); t-stats over daily cohorts.

Awarding Agency	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
Air Force	1311	-1.4 (-1.2%)	-0.20	1.1 (0.9%)	0.16	2503
Army	1298	11.8 (9.9%)	1.71	13.3 (11.2%)	1.97	2485
DoD/DLA	1271	-0.2 (-0.2%)	-0.03	-0.9 (-0.8%)	-0.14	2570
Navy	2094	3.7 (3.1%)	0.71	3.4 (2.9%)	0.66	5960
Other	1490	0 (0%)	0.00	-0.2 (-0.2%)	-0.04	2973

5-day market-adjusted returns by awarding agency. Returns in bps (annualized-equivalent percent in parentheses); t-stats over daily cohorts.

Awarding Agency	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
Air Force	1311	-3.6 (-1.8%)	-0.38	-2.4 (-1.2%)	-0.27	2503
Army	1298	11.4 (5.7%)	1.29	15.8 (8%)	1.82	2485
DoD/DLA	1271	2.5 (1.3%)	0.29	4.4 (2.2%)	0.51	2570
Navy	2094	4 (2%)	0.59	5.3 (2.7%)	0.82	5960
Other	1490	3.4 (1.7%)	0.48	1.1 (0.6%)	0.16	2973

Army awards have the strongest positive mean returns in both VW and EW, while Air Force awards are negative on average; Navy and DoD/DLA are positive but smaller. Most t-stats are below 2, so this split is best treated as suggestive and primarily useful for ranking and hypothesis generation.

Returns by Contract Duration

Longer contract periods may signal sustained revenue streams, while short awards could be one-offs. We split contracts into three buckets by duration: up to 1 year, 1–3 years, and over 3 years, then report 3-day and 5-day returns.

3-day returns by contract duration. Returns in bps (annualized-equivalent percent in parentheses); t-stats over daily cohorts.

Duration	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
Short (<=1y)	1296	8.9 (7.5%)	1.08	11.5 (9.7%)	1.44	2115
Medium (1-3y)	1804	0 (0%)	0.00	0.9 (0.8%)	0.18	3718
Long (>3y)	1661	7.3 (6.1%)	1.23	9.4 (7.9%)	1.60	3272

5-day returns by contract duration. Returns in bps (annualized-equivalent percent in parentheses); t-stats over daily cohorts.

Duration	Days	VW Return (bps)	VW t-stat	EW Return (bps)	EW t-stat	N Obs
Short (<=1y)	1296	28.9 (14.6%)	2.82	28.6 (14.4%)	2.84	2115
Medium (1-3y)	1804	2.6 (1.3%)	0.38	3.9 (2%)	0.58	3718
Long (>3y)	1661	5.3 (2.7%)	0.67	7.2 (3.6%)	0.91	3272

Short-duration (≤1y) contracts show the strongest positive market-adjusted response, especially over the 5-day window. Medium and long durations are positive but smaller and less statistically precise.

Appendix: Overlapping Portfolio P&L Curves

The figures below display cumulative market-adjusted returns for a few robust subsets. We simulate a portfolio that invests in every qualifying announcement and holds it for a fixed horizon (3 or 5 days). The "Value-Weight" line weights each position by issuer market cap, while the "Equal-Weight" line treats every event equally. Sharpe ratios are modest but positive in the stronger subsets (gross of costs).

Implementation detail: on each entry date, we form a cohort portfolio and hold it for H trading days; the daily stacked portfolio return is the average across active cohorts, scaled so that each cohort contributes 1/H notional. As a result, gross exposure ramps up when announcements are frequent and is near zero when there are few (or no) active cohorts.

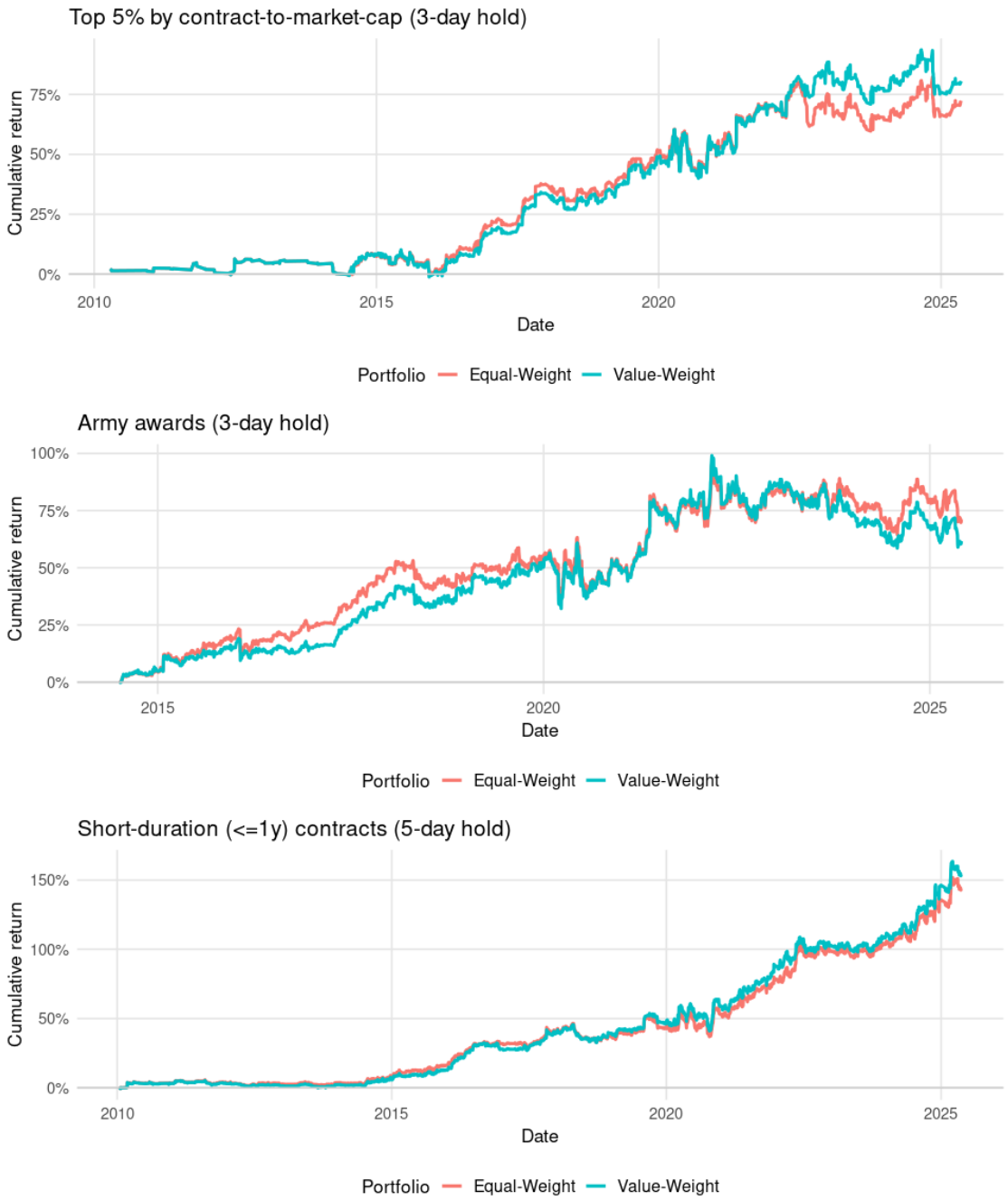
First, we look at contracts that are large relative to the firm's market cap (Top 5%). This signal captures the material impact of major wins for smaller or mid-sized contractors. A steady upward trend would suggest these announcements contain incremental news that the market prices over several days.

Next, we show the performance of Army awards. Among the major services, Army contracts have historically shown a cleaner positive signal, possibly due to the nature of their procurement cycles or the mix of contractors involved.

Finally, we examine short duration (≤1 year) contracts. These awards—often for immediate delivery of goods or services—realize revenue quickly, reducing execution risk. The 5-day horizon captures the full initial reaction as the market digests the immediate cash-flow implications.

Overlapping portfolio summary statistics for the plotted subsets (market-adjusted; gross of costs).

Subset	Portfolio	Ann. return	Ann. vol	Sharpe	Active cohorts (median)
Army awards (3-day hold)	Equal-Weight	7.0%	11.3%	0.62	2
Army awards (3-day hold)	Value-Weight	6.3%	11.4%	0.55	2
Short-duration (<=1y) contracts (5-day hold)	Equal-Weight	7.9%	7.4%	1.07	2
Short-duration (<=1y) contracts (5-day hold)	Value-Weight	8.3%	7.4%	1.13	2
Top 5% by contract-to-market-cap (3-day hold)	Equal-Weight	10.8%	11.8%	0.91	1
Top 5% by contract-to-market-cap (3-day hold)	Value-Weight	11.7%	11.8%	0.99	1



Overlapping portfolio cumulative market-adjusted returns for selected subsets (top: Top 5% contract-to-market-cap; middle: Army awards; bottom: short-duration <=1y).