#### UBS Global Media & Communications Conference New York City December 4, 2018 Remarks by Timothy J. O'Shaughnessy President and Chief Executive Officer



# UBS Global Media & Communications Conference December 4, 2018

The presentation at this meeting contains certain forward-looking statements that are based largely on the Company's current expectations. Forward-looking statements are subject to certain risks and uncertainties that could cause actual results and achievements to differ materially from those expressed in the forward-looking statements. For more information about these forward-looking statements and related risks, please refer to the section titled "Forward-Looking Statements" in Part 1 of the Company's Annual Report on Form 10-K and the section titled "Corporate Governance/Risk Factors" under "Investor Relations" on the Company's website, www.ghco.com and as updated in our Form 10-Q for the first quarter and our Form 8-K filed May 21, 2018.

2018 has been a very good year for Graham Holdings. Our operating income grew meaningfully, we completed several bolt-on acquisitions to our existing businesses that we expect will increase their long-term durability, we refinanced \$400 million of corporate debt at a lower rate, and reduced our outstanding shares by roughly 4% in the last twelve months.

It's not just the recent quantitative results that provide us with optimism about the future.

Qualitatively, over the course of the last several years, the Company has shifted from one that is trying to tackle yesterday's challenges to one that is seizing tomorrow's opportunities. Eliminating our direct reliance on Title IV funding at a key business unit,

Kaplan, has both changed the risk profile of our Company and changed the associated complexities. This has unleashed a "thought" dividend, where the leadership at Graham Holdings and Kaplan has altered the types of conversations we have, the possibilities we consider, and the opportunities we pursue.

As we leave 2018, Graham Holdings remains well capitalized, with a diversified earnings stream, and an increased capacity to pursue opportunities creating future value.

## Major Highlights Since December 2017

- Kaplan University transaction completed
  - Unique deal positions Higher Education service business for the future
- Several attractive bolt-on acquisitions completed in the Education and Manufacturing sectors as well as at SocialCode
- Completed a refinancing of our \$400 MM unsecured notes in May
  - Lowered fixed-rate interest rate by 1.5%, or \$6 MM, per annum
  - Increased our revolving credit capacity by \$100 MM to \$300 MM
- Repurchased 213,975 shares over the past four quarters
  - Weighted average price per share of ~\$590, or \$126.2 MM
- · U.S. tax code changes improving cash flow profile of our business
  - 35% federal rate vs. 21% federal rate



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Now, let's cover the highlights since we last met in December of 2017.

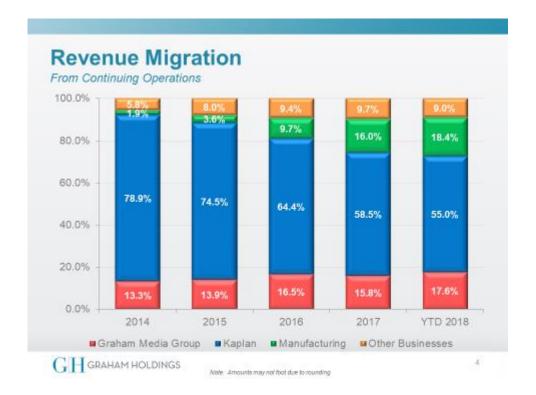
- In late March, the sale of Kaplan University to Purdue University was completed and we entered into a 30-year Transition and Operations Support Agreement with Purdue Global.
- We completed several "bolt-on" transactions at Kaplan, Dekko and SocialCode.
- We refinanced \$400 million of unsecured notes in May. The resulting 1.5% reduction in fixed interest rate will save \$6 million annually.
- Contemporaneously, we increased our revolving credit capacity from \$200 million to \$300 million.
- Over the past four quarters we repurchased approximately 4% of the Company at an average price of \$590 per share.
- The federal tax rate reduction to 21% meaningfully improved the cash flow profile of the business. We have historically been a full taxpayer, so the decrease in the corporate tax rate fell largely to our net income line.

\$ millions)	Firet 0 M	First 9 Months	
Total Revenues	2018	2017	% Change
Education	\$1,104.1	\$1,136.2	(3%)
Television Broadcasting	352.9	298.9	18%
Manufacturing	369.9	298.2	24%
Healthcare	111.3	115.6	(4%)
SocialCode	41.9	41.9	0%
Other Businesses	26.9	25.3	6%
Corporate office and other	_	-	-
Total Revenues	\$2,006.9	\$1,916.0	5%
	First 9 M	onths	
Adjusted Operating Income (Loss)*	2018	2017	% Change
Education	\$88.0	\$60.4	46%
Television Broadcasting	141.3	102.7	38%
Manufacturing	40.7	31.3	30%
Healthcare	4.1	6.1	(32%)
SocialCode	0.4	(7.9)	-
Other Businesses	(22.2)	(24.0)	8%
Corporate office	(39.6)	(43.8)	10%
Adjusted Operating Income	\$212.7	\$124.8	71%

2018 is on track to provide the second consecutive year of revenue growth for Graham Holdings after several years of decline.

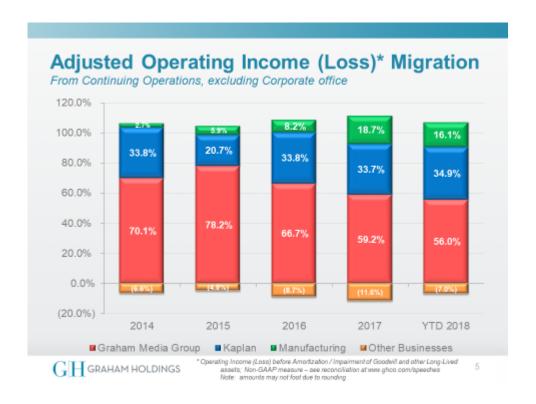
Revenue increased 5% for the first nine months of 2018 due to the growth in our manufacturing businesses and increased political and retransmission revenue at the broadcasting division, which was partially offset by the sale of Kaplan University at Kaplan.

Operating income before amortization and impairments increased in the first nine months of the year to \$212.7 million, an increase of 71% from 2017. The increase occurred across all three major sectors and was also helped by decreased expenses at the corporate office. While this rate of growth is not sustainable, we are pleased with the improvements in operating income we have seen thus far this year.

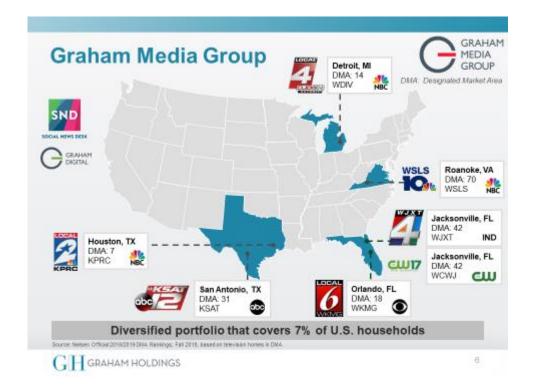


It is sometimes useful to track trends at the Company over a longer period of time. I'd like to spend just a moment walking through the revenue and operating income migration we have seen over the last 5 years, when adjusted pro forma for the CableOne spinoff.

In 2014, the revenue at the Company was driven primarily by Kaplan, with 79% of the revenue coming from Kaplan. In 2018, Kaplan's contribution has fallen by nearly one-third and year-to-date stands at 55%. Graham Media Group has grown modestly from 13% of revenue to 18% year-to-date. All other businesses collectively made up 8% of revenue in 2014, whereas year-to-date they make up 27%, two-thirds of which comes from our industrial sector.



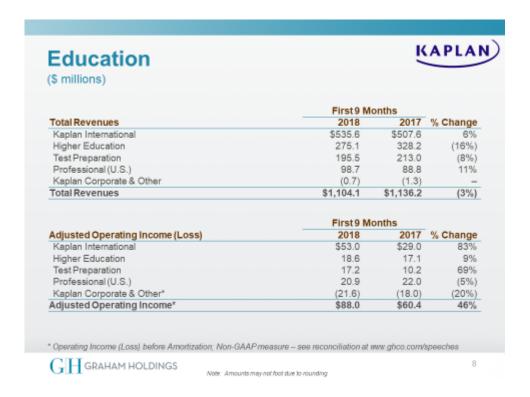
The operating income data shows a similar pattern of migration, albeit with different sectors occupying different spots. Graham Media Group continues to represent the majority of the adjusted operating income, although reduced to 56% year-to-date in 2018. Kaplan makes up about 35% of the adjusted operating income picture year-to-date, while manufacturing has grown from 3% in 2014 to 16% in 2018.



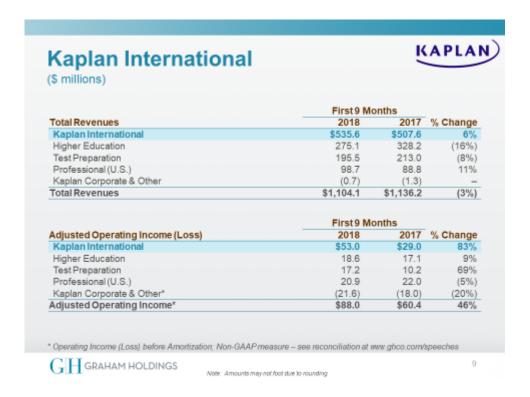
Graham Media Group's footprint remains small but mighty. We continue to own a group of stations in largely top 50 DMA markets that are well-run and typically hold #1 or #2 rankings in terms of overall ratings and revenue share.

\$ millions)			
First 9 Moi		onths	
	2018	2017	% Change
Revenue	\$352.9	\$298.9	18%
Adjusted Operating Income*	\$141.3	\$102.7	38%
Adjusted Operating Income Margin*	40%	34%	

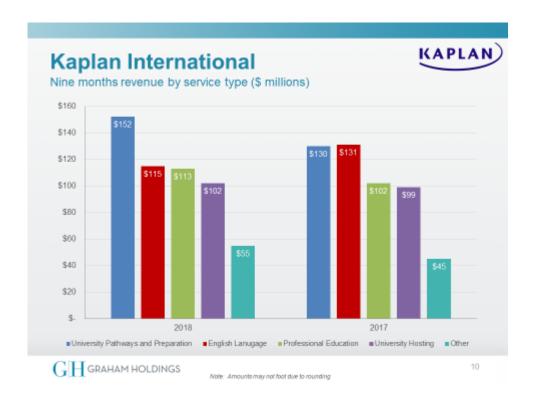
Graham Media Group revenue increased 18% in the first nine months of the year to \$353 million. Adjusted operating income increased 38% to \$141 million, which translates to a 40% adjusted operating margin year-to-date. During the year we rode the tailwinds of an exceptionally strong political season, increased net retransmission rates and strong local sales including Olympics revenue from our NBC stations. In many of our markets, a larger share of our advertising comes from local versus national ad sales. As such, some of the weakness in national spending, particularly from the auto industry, has been felt at Graham Media Group, but the impact has been lessened due to our over-indexing towards local ad sales.



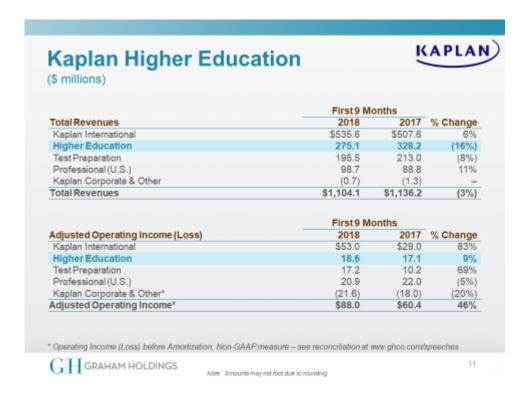
Kaplan continues to work towards a cleaner, simpler business. Revenue for the first nine months of 2018 was down by 3% due to the sale of Kaplan University while adjusted operating income increased by 46% to \$88 million.



The improved results were led by Kaplan International, which increased operating income by 83% through the first nine months of the year.



Kaplan International is comprised of a set of businesses that leverage our unique ability to recruit highly qualified students from more than one hundred countries throughout the world, and facilitate or provide a top-notch educational experience. Our Pathways business has been a key contributor to Kaplan International's improved performance, as was a reduction in the cost base in our English Language business. As the rising global middle class throughout the world increasingly looks for educational solutions, we believe that those who can help connect these students to the great educational systems in the UK, US and Australia will be very well positioned. This belief is the backbone of the Kaplan International strategy and should provide ample runway for the businesses contained within the segment.



Our Kaplan Higher Education division is comprised of our Higher Education Services business, which today supports Purdue Global.

## Kaplan University Transaction Review

- Kaplan contributed Kaplan University institutional assets to Purdue to form a new public university, Purdue University Global ("PG")
  - Effective date March 22, 2018
- Kaplan provides operations support for an initial term of 30 years, subject to a buy-out option after six years
  - Support services include technology, help-desk, HR, admissions, financial aid, marketing and advertising, and other back office services
- Kaplan is entitled to a 12.5% fee of annual PG net revenue, after:
  - Reimbursement of PG's academic costs
  - Purdue's priority payment of \$10 million per year for five years
  - Reimbursement of Kaplan's support costs
- Kaplan has recorded service fees of ~\$19 MM from PG through the third guarter of 2018 based on an assessment of its collectability



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As a reminder, Purdue Global launched seven months ago after careful arm-in-arm coordination between the Kaplan and Purdue teams. We provide operational support to Purdue Global for a term of 30 years, with a buyout option after 6 years. Our support services include technology, help-desk, HR, admissions, financial aid, marketing and advertising, and other back office services. We are entitled to a fee of 12.5% of revenue, payable out of available cash after a reimbursement of Purdue Global's academic costs, a priority payment of \$10 million to Purdue annually for 5 years, and the reimbursement of Kaplan's support costs.

This organization has transitioned effectively to its new operating structure since the close of the Kaplan University transaction and we are pleased with Greg Marino and the efforts of his team, who continue to work closely and collaboratively with Purdue.

As planned, we are investing to build awareness of this new institution -- Purdue Global Online. Early stage progress is encouraging, but we have a distance to travel before Purdue Global is well known. The affiliation with the Purdue brand has certainly expedited the process.

Through Q3, we have booked about \$19 million of our fee associated with the agreement. We believe that looking at our fee accruals, over an extended period of time, is the best way to judge the performance of our Kaplan Higher Education division and Purdue Global.

Total Revenues	First 9 M 2018	onths 2017	% Change
Kaplan International	\$535.6	\$507.6	6%
Higher Education	275.1	328.2	(16%)
Test Preparation	195.5	213.0	(8%)
Professional (U.S.)	98.7	88.8	11%
Kaplan Corporate & Other	(0.7)	(1.3)	_
Total Revenues	\$1,104.1	\$1,136.2	(3%)
	First 9 Months		
Adjusted Operating Income (Loss)	2018	2017	% Change
Kaplan International	\$53.0	\$29.0	83%
Higher Education	18.6	17.1	9%
Test Preparation	17.2	10.2	69%
Professional (U.S.)	20.9	22.0	(5%)
Kaplan Corporate & Other*	(21.6)	(18.0)	(20%)
Adjusted Operating Income*	\$88.0	\$60.4	46%

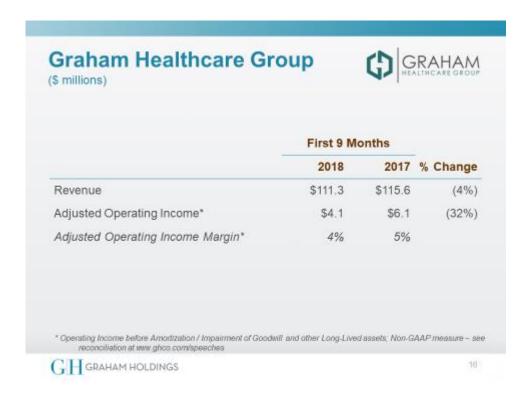
Kaplan Test Prep had improved operating income results on reduced revenue through nine months of 2018. This trend is unlikely to continue into 2019. Students are increasingly shifting to preparing for tests online (often at lower prices) rather than in bricks and mortar centers. That has been a boon to our online business, which has been growing sharply for the last several years. Our center-based business, on the other hand, is drifting downward. We've been leading the pack in both channels, but over time we expect online to be the dominant medium. Our strategy will have to align with these trends.

First 0 M	First 9 Months		
2018	2017	% Change	
\$535.6	\$507.6	6%	
275.1	328.2	(16%)	
195.5	213.0	(8%)	
98.7	88.8	11%	
(0.7)	(1.3)	-	
\$1,104.1	\$1,136.2	(3%)	
1 11 0 1 0 111		% Change	
		% Change 83%	
+	<b>+</b>	9%	
		69%	
		(5%)	
		(20%)	
	(10.0)	(20.10)	
	2018 \$535.6 275.1 195.6 98.7 (0.7) \$1,104.1	\$535.6 \$507.6 275.1 328.2 195.5 213.0 98.7 88.8 (0.7) (1.3) \$1,104.1 \$1,136.2 First 9 Months 2018 2017 \$53.0 \$29.0 18.6 17.1 17.2 10.2 20.9 22.0	

Kaplan's US Professional business has seen an 11% growth in revenue and a modest decline in operating income through the first nine months of the year, largely due to a timing difference around the release of official materials for one its major exams. The professional business completed two acquisitions this summer: The College for Financial Planning and Professional Publications, Inc. Both of these businesses fit our criteria for "bolt-on" acquisitions. Kaplan Professional has become a great home for businesses in adjacent fields that want to sell for a fair price. We are most interested in well-run businesses with strong management and a real commitment to student and client results — and a desire to grow their businesses significantly as part of one of the world's leaders in professional training. We suspect more often than not we will also be able to improve margins in these businesses.

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\$369.9	\$298.2	24%
\$40.7	\$31.3	30%
11%	11%	
If and other Long-Live	d assets; Non-G	AAP measure – see
	First 9 May 2018 \$369.9 \$40.7 11%	First 9 Months  2018 2017  \$369.9 \$298.2 \$40.7 \$31.3

Our manufacturing businesses continued their growth trajectory in 2018, primarily due to a full year of Hoover results and organic growth. Through the first nine months of the year, revenue increased 24% and adjusted operating income before amortization and impairments increased 30% to \$40.7 million. We suspect these businesses will grow more years than not, and we will opportunistically look for additional businesses within this category as well as bolt-ons to our existing properties.



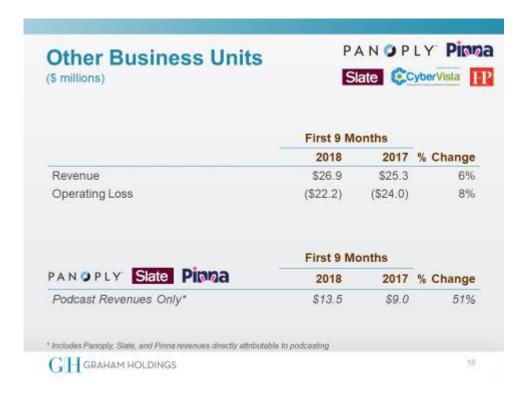
Graham Healthcare Group had a challenging first nine months of 2018. Revenue decreased by 4% and adjusted operating income declined by 32%. We are not satisfied with these results and have been making significant changes in the business to improve the results we will see in the future. In 2018 we undertook leadership changes, renegotiated key partner agreements and underwent a restructuring. We believe Q4 will begin to show improvements in our results and also believe there is no structural reason we should operate at anything other than industry margin norms.



SocialCode has seen flat revenue in the first nine months of 2018 with improved operating income numbers, largely tied to reduced compensation in the Company's phantom equity plans. After undergoing several years of shifting market dynamics, SocialCode ends 2018 in the best position for future growth in several years.

- SocialCode has shifted its client base to being directly managed as opposed to
  working as a vendor to a larger agency. Currently more than 70% of clients are via
  direct relationships. Three years ago, only 35% of clients were via direct
  relationships.
- It has introduced a new technology product in 2018 called Audience Intelligence
   Platform and additional services that are showing very strong underlying growth.
- It acquired Marketplace Strategy to accelerate our presence as a leading partner helping brands grow their sales on Amazon and other digital marketplaces.

Collectively, we think the above points position us well to see a reacceleration of SocialCode's business as we head into 2019.



Our collection of other businesses grew revenue 6%, while operating losses declined by 8% in the first nine months of the year. This group is made up of a collection of investment stage businesses that we track closely throughout the year to determine if they merit additional investment. It is worth spending a moment on a subset of these businesses that are entirely or significantly focused on on-demand audio and podcasting.

In addition to our investment in Gimlet Media, which is a minority investment so it does not show up in operating results, we have three businesses where we have been investing in audio as a growth strategy:

- Panoply: a software and ad tech provider for publishers, is a wholly-owned business
  that has emerged as a leader in providing the infrastructure for the podcast and ondemand audio space
- Pinna: a pre-revenue business that will launch in early 2019 which will provide an ad-free experience of high quality, original audio programming for kids in a subscription-based business model

Slate: While Slate has been around for over 20 years and is the original "digital magazine", the last few years have seen a drastic business model transformation, as Slate has increased its audio business to become one of the premier audio publishers in the industry. Slate's audio business is now the leading provider of revenue to Slate.

Collectively, our wholly-owned businesses have increased revenue tied to audio by 51% in the first nine months of 2018, from \$9 million to \$13.5 million. We cannot guarantee success, but believe we are carving out leadership positions in a fast growing industry.

We expect all of these businesses will grow, improve margins and achieve profitability. We monitor the capital we put into these businesses very closely and will exit and course correct as necessary.

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Net Cash and Investments, September 30, 2017	\$443 *
Net Cash Provided by Operating Activities	239
Appreciation of Marketable Securities	69
Net Proceeds (Payments) from Asset Sales	(13)
	738
Capital Expenditures	(75)
Investments in Businesses	(178)
Repurchases of Common Shares	(126)
Dividends Paid	(29)
Other, Net	(15)
Net Cash and Investments, September 30, 2018	\$315 *

Our net cash and investments remain in a strong position, although down modestly from a year ago. The two primary uses of cash have been bolt-on acquisitions and share repurchases.

\$ millions)			
	9/30/2018	12/31/2017	% Change
Cash and restricted cash	\$277	\$408	(32%)
Marketable equity securities and other investments	518	557	(7%)
Other current assets	741	771	(4%)
Net property, plant and equipment	272	259	5%
Net goodwill and intangibles	1,685	1,640	3%
Prepaid pension cost	1,106	1,057	5%
Other assets	275	246	12%
Total Assets	\$4,874	\$4,938	(1%)
Current liabilities (excluding current portion of LTD)	\$798	\$872	(8%)
Total Debt	480	493	(3%)
Other long-term liabilities	621	658	(6%)
Shareholders' Equity	2,975	2,915	2%
Total Liabilities and Equity	\$4,874	\$4,938	(1%)

The balance sheet continues to be in a net cash and securities position with ample room for leverage if the right investment were to come along. If attractive opportunities arise, we're able to move and move quickly.

## **Management Approach**

#### Long-Term Orientation

"Management does not focus at all on quarterly results; if you do, you shouldn't own our stock. We'll willingly take actions that produce poor published results in a quarter, a year or several years if those actions will build a more valuable company for our shareholders."

- Don Graham letter to shareholders

#### Decentralization

While sharing common goals and values, each of the company's business units has its own identity, and culture. Each unit is responsible for their own operations.

#### Quality

We are committed to providing the highest standards of customer satisfaction in serving all who purchase our company's products and services.

## Acquisition Strategy

- · Well-run, profitable businesses in fields we can understand
- · Strong management with an interest and dedication to continuing to run the business
- Businesses we believe have at least ten years of stable or growing earnings ahead
- Reinvestment opportunities that are apparent within the business



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I'd like to close as I usually do: with a review of our Company philosophy and acquisition strategy. If you are a current or prospective shareholder, it's important to understand that Graham Holdings operates by a set of principles as opposed to a set of sectors.

Don Graham has a quote that I think sums up our philosophy well: "Management does not focus at all on quarterly results; if you do, you shouldn't own our stock. We'll willingly take actions that produce poorly published results in a quarter, a year, or several years if those actions will build a more valuable company for our shareholders."

We are diversified in our sectors and decentralized in our approach. If we think prices are too high in a sector where we have existing operations, we will focus our capital allocation efforts elsewhere. We chase good business opportunities, not sectors and rely on the operators at our businesses to seize those opportunities.

We think quality matters. If we are committed and focused on providing the highest standards of customer satisfaction in serving all who purchase our Company's products and services, we will have success for years to come.

When not pursuing bolt-on acquisitions to existing businesses, our acquisition strategy is to:

- acquire well-run, profitable businesses in fields we can understand
- have strong management at the helm that has an interest in continuing to run the business
- acquire businesses that we believe have at least ten years of stable or growing earnings ahead of them
- prioritize businesses where reinvestment opportunities are readily apparent within the business.

I'll finish where I started today. 2018 has been a good year at Graham Holdings. However, we know that's just a snapshot in time for our business. We remain excited about the future, but realistic about the work required to achieve it. I thank you for your time and would like to spend the rest of the session answering any questions you may have.

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