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BTN Thursday Thoughts

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A Plethora of Packaged Goods: Are Consumer Goods Companies Stuffing the Customer Channel?

El Guapo: Jefe, would you say I have a plethora of piñatas?
Jefe: A what?
El Guapo: A plethora.
Jefe: Oh yes, El Guapo. You have a plethora.
El Guapo: Jefe, what is a plethora?
Jefe: …Why, El Guapo?
El Guapo:…I would not like to think that someone would tell someone else he has a plethora, and then find out that person has no idea what it means to have a plethora.
-from *The Three Amigos* (1986)

When it comes to Procter & Gamble (PG), Clorox (CLX), Colgate Palmolive (CL), as well even paper companies like Kimberly Clark (KMB), the investment theme always remains the same: "Who isn't going to wash their hair or brush their teeth every day?"

Wall Street and investors consider these to be the ultimate defensive stocks as they pay dividends, are not very sensitive to interest rates like REITs or utilities, and what they sell is used daily and must be replaced. They generally pay up for these companies too, which is why we noted a few weeks ago, there are probably better bargains and growth potential in the stocks of chemical companies who make the plastic for the bottles, toothbrushes, and razors that the consumer products companies produce.

Every few years, these companies come under pressure for something that starts to go wrong in their business models. Private-label products sold on the same shelf with a similar looking package for 50%-70% of the price was the first pressure. That made it difficult to boost prices regularly to grow. Then it was FX hits from overseas sales as well as overseas companies having a currency edge to sell in the US. We think something that is starting to get notice may become **the next problem – channel stuffing at the consumer level.**

This is essentially conditioning the end-user to buy in bulk and drive up current sales. This can come from making the size of each unit larger – offer a box of 600 cotton swabs instead of 300 or a 64oz bottle of laundry detergent instead of a 48oz bottle. This is often seen as buy two shampoos or laundry detergent bottles and get a third bottle free. Either way, there is more inventory in American homes. People are not suddenly washing their hair 4x per day now. The only way to get customers to buy again is wait until they run out of 3 bottles or offer another sale.

These companies saw this happening after the stock market crash of 2008 and the start of the recession:

> PG – late January 2009 conference call – "Organic volume was 3% below a year ago primarily to reductions in retailer, distribution, and in-home inventories in both developed and developing markets.
>
> CL 3Q 2008 given in November 2008 conference call – "Volume in North America grew slightly. We have witnessed some pantry destocking on the part of the consumer."

The number of large-box retailers that pitch value and low prices is also pushing this type of channel stuffing at the consumer level. It's cheaper to sell a larger quantity per unit this way – the difference between delivering a box of 30 trash bags vs. a box of 50 trash bags is negligible. These chains are becoming a larger part of the customer

base for the consumer products companies. Here is the growth over several years in store count:

	2001	2008	2018
Wal-Mart Supercenters	1,066	2,612	3,561
Wal-Mart Sam's Clubs	500	602	597
Target	977	1,591	1,834
Costco	345	512	746

We first saw this type of channel stuffing with batteries and razors at Gillette, Duracell, and Energizer. In one year, they would offer a package of four for $5. The next year, they would claim they didn't cut prices, but now they were selling a package of eight for $5, then 12 and 16. Use per person was not rising, people simply had more inventory being stored at home. Batteries had an extra bump from hurricanes and winter storms that would drive people to stock up – and then they didn't need more batteries for months. **This became an inherent problem and these companies both broke with the group and traded at much lower valuations.**

When we look at the recent trends in volume vs. pricing for US operations for some of these companies, we think the stocking up by the consumer has been encouraged for the last couple of years. The companies are showing volumes increasing more than pricing (in fact often the pricing trend is negative). We broke these down to be as US-centered as possible. Clorox lists its cleaning and household units as being US-only. Colgate-Palmolive breaks out sales into North America, which includes the US, Canada, and Puerto Rico and the US is about 92% of the total. Procter & Gamble does not break out volume trends by geography. However, North America is about 45% of its sales and it makes comments about developed and developing economies for volume trends.

Clorox gets 26% of its sales from Wal-Mart. It had the following comment in most recent conference call about club stores being a big part of sales:

> *"Second quarter sales grew 1% on top of 5% in the year ago quarter, which includes about 1 point of volume growth and about 0.5 point of pricing, partially offset by over 1 point of unfavorable mix, reflecting strong club channel shipments."*

CLX Cleaning	2013	2014	2015	2016	2017	6mths '18
Volume	3%	-1%	2%	6%	10%	4%
Pricing	2%	1%	1%	-1%	-5%	-1%

CLX Household	2013	2014	2015	2016	2017	6mths 18
Volume	-3%	1%	2%	3%	8%	3%
Pricing	4%	0%	3%	1%	-3%	-2%

*CLX has a 6/30 fiscal year thus 12/31 on the calendar is its 2Q

In the years for 2013 and 2015, Clorox noted that selling more of its professional products helped the pricing in cleaning. We think the trend shows that volume has been rising much faster than sales overall (as well as the economy). We do not know of many retailers that are eager to stock more inventory all the time, so we believe those higher volumes went through discounters into consumer closets. We think the results also show that sales are being driven with lower prices, which can be tough to reverse.

Colgate-Palmolive has more foreign sales but still gets 11% of its sales from Wal-Mart. Its North American sales are showing the same trend as Clorox:

CL North Am.	2013	2014	2015	2016	2017
Volume	3.5%	3.5%	2.0%	2.5%	0.0%
Price	0.0%	-1.0%	0.0%	-1.0%	-2.0%

CEO Ian Cook, in the *WSJ* in January 2017, talked about too much inventory in consumer homes being an issue:

> *"They don't go away from the behavior of brushing their teeth. They will exhaust pantry inventory, which is to say, if people have more than one tube of toothpaste at home they may try and stretch that tube before they reload their own pantry."*

The 4Q17 call showed the same pricing pressure remains for CL:

> *"Now moving to the divisions. We'll start off with North America. In Q4, we saw a sequential improvement versus the third quarter in volume, net sales and organic sales growth in North America. Net sales were up 1% in the*

quarter with organic sales up 1% driven volume growth of 4.5% and pricing of minus 3.5%, while foreign exchange was even with the year ago period. We continue to see significant pricing pressure in the liquid hand soap and hand dish categories."

Procter & Gamble gets 16% of its sales from Wal-Mart and notes that its top-10 customers are 35% of sales. We cannot break out metrics by geography from their filings, but on the surface, PG is also showing volume growth exceeding sales growth:

PG total	2013	2014	2015	2016	2017	6mths 18
Volume	4%	3%	-1% *	-1%	2%	2%
Sales	1%	1%	3%	2%	0%	0%

- PG notes in 2013-15 that developed countries posted low-single-digit volume growth
- PG also has a 6/30 fiscal year

Kimberly Clark gets 14% of its sales from Wal-Mart. We looked at the personal care (diapers and tampons) and consumer tissue (toilet paper, paper towels) for North America, volume here has been exceeding pricing power too:

Personal Care	2013	2014	2015	2016	2017
Volume	1%	- %	4%	4%	- %
Price	-1%	- %	-2%	-2%	- %

Tissue	2013	2014	2015	2016	2017
Volume	- %	2%	6%	1%	-2%
Price	2%	-1%	-2%	-1%	-1%

We think investors must look at several things from these trends. The companies are still facing pricing pressure from private label goods and selling through discounters. The move toward private label seems to be accelerating too according to Stores.org as it gives the retailers more control over products. The article points out that people no longer switch to private label when times are tight and then back to branded products. It also asserts that Millennials are very comfortable with private label products. Trader Joe's pitches private label and has tripled its store base since 2001. This, along with selling through discounters, seems to be conditioning people to buy heavily when retail prices are low. What if commodity costs increase at this point? What if consumers try to simply wait out price increases by living off their stockpiles and buy less? It may hurt sales and margins for these companies.

All these higher volumes that were pushed are out in the countryside. **The improving economy arguably helped drive the volumes even higher and allows the companies to offset weaker pricing.** Channel stuffing eventually ends, often when customers cannot be induced to pre-buy even more. Normally, sales weaken as high inventories are worked down.

We don't want to go crazy here. We doubt these companies will end up cutting dividends over this issue. The original investment theme is also still here – people do brush their teeth every day. That makes channel stuffing here likely less problematic than when it happens at Dell Computer or Harley Davidson – people can hold out on buying a new motorcycle much longer than more shampoo.

However, it is important to realize that these problems are coming during a rising economy, not a recession. **One has to ask, "How do these companies ever overcome the issue of selling high volume at low prices through discounters without losing market share and earnings?"** Does the investment world eventually admit these companies have an inherent difficulty matching previous growth and assign Energizer multiples to them?

In 2013, before Energizer did a sizeable spin-off restructuring, it's stock was essentially $100 per share. Sales growth was negative at -1.1% and the P/E ratio was 14.4x. With the help of annual restructurings, EPS growth was 7% and another 5% growth came from buying back stock to cut the share count. So, the PE/G (P/E ratio divided by Growth) was about 1.2-2.1x.

Look at some of current situations for the other consumer products companies:

	P/E	Sales Growth	EPS Growth	PE/G	Yield
CLX *	21.2	2.4%	3.0%	7.1	2.9%
CL	24.4	1.7%	2.1%	11.6	2.3%
PG	19.1	2.0%	6.2%	3.1	3.4%
KMB	18.1	0.3%	3.3%	5.5	3.6%

* CLX has a big impact from the tax law – we used $6.27 forecasted EPS

We should add that PG has gained 2/3 of its EPS growth from repurchasing stock. These companies can all support their dividends at this time and we do not think the risk is coming in that area. The risk is if the market sees some of these problems as

incurable and decides the P/E ratio for this group should really be 16-17 and the PE/G ratio closer to 4x.

BTN Earnings Quality Reviews

Healthcare Services Group (HCSG)

We were looking at Healthcare Services Group (HCSG) a couple weeks ago because it struck us as odd that a company that operates on contracts of less than a year would be extending credit to customers of more than a year. We noted that for a company that is in a supposed growth industry, its receivable levels as measured by DSOs were at multi-year highs. We questioned the actual quality of these accounts and the level of bad debt reserves. **In the recently filed 10-K, for the first time, HCSG identifies Genesis Healthcare as a significant customer.**

Genesis has a going-concern warning and is threatening bankruptcy unless it gets relief from landlords and creditors as we noted in our Welltower (HCN) report. HCSG has $36.6 million in notes receivable outstanding to customers in financial trouble, up from $19.2 million in 2016 and $17 million in both 2015 and 2014. Compare that $17.4 million increase in one year to pretax earnings of $133 million. If that increase had been written off, earnings would have been lower than 2016.

Let's also look at the history of bad debt reserves and what is written off each year:

	2011	2012	2013	2014	2015	2016	2017
Bad Debt Write off	$2.0	$2.7	$2.0	$2.3	$5.9	$2.3	$1.2
Bad Debt Expense	$2.5	$2.2	$2.0	$4.5	$4.3	$4.6	$6.2
Bad Debt Reserve	$4.5	$4.0	$3.9	$6.1	$4.6	$6.9	$12.0
Total Receivables	$136.7	$146.0	$198.8	$209.4	$222.4	$285.7	$406.2
DSOs	54.3	48.1	61.9	57.4	55.3	65.1	77.1

HCSG can argue that bad debt reserves are at high levels at 3%. However, the age of receivables is rising rapidly, which by the company's own admission means customers are having financial difficulty paying them. Moreover, as receivables are soaring, HCSG only wrote off about $1 million of defaults in 2017 vs. $2-$3 million on much lower levels. A

reasonable case can be made that write-offs should have been higher which would have required more bad debt expense in 2017. An additional $3 million in bad debt expense would have cost the company about 3-cents in EPS. Given the trend in credit, this could quickly become a much larger problem and there is history of that in 2015.

A few other things caught our eye comparing the new 10-K to past editions.

First, HCSG is not adding new customers. Here is the total of the number of facilities it states to be working with in each 10-K for the last several years:

HCSG	2011	2012	2013	2014	2015	2016	2017
# of facilities	2,900	3,000	3,000	3,500	3,500	3,500	3,500

It was operating in 47 states in 2011 and 48 states thereafter. The company has been growing by adding meal service at more existing customers in addition to house cleaning which is done at essentially 100% of customers. There is room to grow here, but it has already made a big jump recently after years of essentially stagnation.

HSCG	2011	2012	2013	2014	2015	2016	2017
# Dietary	600	600	800	900	1,000	1,000	1,500
% of customers	21%	20%	27%	26%	29%	29%	43%

We know that the selling point for HCSG is customers can essentially cap their costs for these services by signing a deal with HCSG, and HSCG will let them slow pay. Thus, in an industry where cash flow is under pressure and many other costs (rents, interest, skilled labor) are increasing, this sounds like a win-win deal. The fact that HSCG went many years at basically 26%-29% of its business in dietary despite having a housecleaning contract with the other 71%-74% of customers and suddenly jumped dietary to 43% is to us an indicator that customers are in more financial trouble. To say it another way, if you've been making the same pitch for a decade with few new takers, what changed for the customer to get so many to suddenly say yes?

The growth in revenues and earnings appears to be fully tied to getting this 43% ratio even higher. HCGS is forecasting mid-teens growth rates for this area and basically inflation-driven growth for housecleaning of 1%-2%.

There Are Some Labor Trends that May Be Tough to Maintain

HCSG works to keep labor costs down. It does this by hiring managers who oversee a large group of hourly workers. Many of these hourly workers qualify for WOTC (Work Opportunity Tax Credits). This law gives employers an incentive to hire people who have had a difficult time getting a job such as people on food stamps, ex-felons, disabled veterans, or long-term unemployment recipients. The employer can receive a tax credit of 25%-40% of wages in the first year with caps based on what category the employee fits into and up to 50% of wages in the second year with a cap as well. For rough numbers, $2400-$4000 for year one is possible and about $3000-$5000 in year two. After that, the employer is not eligible for the WOTC on that worker.

Because WOTC is a short-term program and these are entry-level jobs, it is likely that HCSG sees a decent level of churn and continually has new employees coming into the system. The tighter labor market may accelerate this churn or require a boost in wages from HCSG.

Two things jumped out at us looking at employee stats. HCSG has been cutting managers at the same time the hourly workers have been rising. Also, the level of unionization has been falling with the jump in dietary services:

	2011	2012	2013	2014	2015	2016	2017
Hourly employees	29,400	33,600	33,000	37,100	37,300	43,100	48,300
Unionized Hourly	5,300	6,700	6,300	7,800	8,600	5,400	5,500
% unionized	18%	20%	19%	21%	23%	11%	10%
Managers	6,850	7,000	7,600	8,600	8,600	5,800	6,700
Hourly % Total	81%	83%	81%	81%	81%	88%	88%

Unionization rates have been 20% for years and suddenly they're only 10% even though HSCG is operating in the same facilities? That is likely due to diluting the employee base with more hourly employees very quickly. However, the unions are still there and probably will make a push to add more of these employees. We would not be surprised to see this ratio move closer to 20% again and boost wages.

It is important to remember, HSCG's selling point is capping costs for customers. However, its contracts allow it to pass along wage increases:

"We typically adopt and follow our clients' employee wage structures, including policies of wage rate increases, and pass through to the client any labor cost increases associated with wage rate adjustments." – HCSG 10-K

Also, WOTC only lasts two years for employees who stay that long, and it currently is set to expire next year. So, there may be two forms of wage inflation coming and that may reduce the incentive for customers to switch their dietary operations at the same speed as 2017 with sticker shock.

Let's say 10% of the hourly workers lose $100 of tax credits – that would cost HCSG 4-cents in EPS for every $100 change.

Let's say all hourly employees get a 25-cent per hour raise and work 1000 hours per year – that would cost 11-cents in EPS.

HCSG will point out that they don't have to pay all that – they'll pass it on to customers. Then recall that in 2015 the age of receivables was 55 days, today it's 77 days. So, are the customers really paying it, or is this just future bad debt?

HCSG has also been cutting its managerial staff in the last two years. The long-term figure was about 81% hourly employees and 19% managers. Now suddenly as hourly employees jump, HCSG cuts the number of managers in absolute terms and the ratio is 88%-12%? We think this is even tougher to justify given these are employees who are more entry-level for many jobs and they likely churn more as they acquire skills and seek better wages. Also, the company notes that there is more specialization required on the food side:

"Our labor force is interchangeable with respect to the services within Housekeeping, while the Dietary labor force is specific to Dietary operations. In addition, there are some differences in the expertise of the professional management personnel responsible for the services of the respective segments. We believe that the services of each segment provide opportunities for growth."– HCSG 10-K

If the company needs to add 1,750 new field staff positions for management (basically 0.5 per facility), that would bump the management side to 8,450 and the ratio would fall to only 85%. Even at $35,000 all in cost for those 1,750 – that's over $60 million in expense (54 cents in EPS). The company only earned $133 million pre-tax last year ($1.20 in EPS).

There seems to be some sizeable cost pressure building here which could quickly be a material hit to EPS. Or, higher costs mean higher contract prices to customers, who may not sign up as readily.

Other Accrued Liabilities Have Been Low

This is not the most significant issue, but in prior years HCSG had much higher legal expenses related to labor. Part of this involved overtime and hiring employees already in place at retirement homes and then reducing as they were now outsourced to HCSG to do the same job in the same building. We would argue that if more clients are unable to pay, legal expenses may increase in the future regardless of labor issues.

Accrued liabilities represent expenses booked on the income statement but not yet paid in cash. They generally should move up and down with growth or lost business.

	2011	2012	2013	2014	2015	2016	2017
Accrued Liabilities	$1.7	$3.5	$8.5	$9.0	$13.6	$4.4	$4.6
Pretax Income	$57.8	$70.3	$66.5	$31.7	$89.8	$120.4	$133.0
Accrued %	2.9%	5.0%	12.8%	28.3%	15.1%	3.7%	3.4%

In 2014 and 2015, there were $5.1 million and $10.5 million of accrued liabilities related to legal issues. It does not appear that accrued liabilities of 4%-5% of income would be out of line. In 2017, the rapid jump in dietary operations seems to have diluted the accruals. A 1% change in accruals as a percentage of pretax income would be $1.3 million or about 1.2 cents in EPS.

We don’t consider this a material item unless legal expenses jump significantly again, but are just pointing it out.

Dahanher (DHR)

Our review of Danaher's (DHR) accounting turns up little in the way of concerns. We have the following observations:

- DHR regularly makes large acquisitions, divestitures and spin-offs. Regardless, its restructuring related charges are relatively small.

- Despite incurring ongoing expenses related to productivity improvement and acquisition related activities, the company does not add all of these charges back to adjusted earnings, which we view as conservative.

- Cash flow is growing steadily. Management noted a drain on recent cash flow growth from an increase in working capital which appears to be largely centered in a decrease in accounts payable relative to sales. Payable days is down to 30, which seems very low. We do not view this as a concern and would expect to see payable days increase in the quarters ahead to the benefit of cash flow.

- Capital spending is rising, but is not a concern.

Acquisition Activity

DHR has been in the process of reshaping its business over the last several years through an ongoing series of acquisitions and split offs. This is an overview of the activity over just the last three years:

<u>2017</u>
-Paid $386 million for 10 smaller companies, none of which was material to results.
-Discontinued a molecular diagnostic products line, resulting in a $76 million charge

<u>2016</u>
-Paid $4 billion for Cepheid
-Paid $882 million for 7 smaller businesses
-Separated its Test and Measurement, Industrial Technologies segment through a distribution to shareholders.

2015
-Paid $13.6 billion for Pall
-Paid $670 million for 9 smaller businesses
-Split off the majority of its communication business to shareholders

The company has obviously made some very sizeable acquisitions and divestitures, but we note that despite this, DHR has taken relatively small acquisition-related charges. Interestingly, the company states in its financial results that it "*deems acquisition-related transaction costs incurred in a given period to be significant, (generally relating to the Company's larger acquisitions,) if it determines that such costs exceed the range of acquisition-related transaction costs typical for the Company in a given period*." As a result, the company's adjusted EPS contains relatively little in adjustments for charges despite its recent multi-billion acquisitions. For example, in 2017, the company added back only $76 million in pretax restructuring and impairment charges related to its decision to exit a molecular diagnostic products line which resulted in the write-off of all inventory and tooling it deemed useless. (The inventory does not appear to have been sold.) In addition, the company added back only $84 million in acquisition-related costs, restructuring costs, and inventory and deferred revenue fair value adjustments in 2016 related to its $4 billion acquisition of Cepheid.

Meanwhile, DHR incurred productivity improvement and restructuring related charges approximating $80 million in each of the last three years which it did not add back to adjusted earnings, but rather treated as ongoing costs. In our experience, this is considerably more conservative than most companies undergoing this level of acquisition activity and restructurings.

Cash Flow and Working Capital

DHR has seen its cash from continuing operations steadily rise in recent years:

	12/31/2017	12/31/2016	12/31/2015
Operating Cash Flow	$3,478	$3,088	$2,832
Capex	$620	$590	$513
Free Cash Flow	$2,858	$2,498	$2,319
Dividends	$378	$400	$354

The only negative on cash flow we can cite is a slight increase in working capital. Management stated in the 10-K that operating cash flow was held back by an increased use of working capital:

> "The aggregate of trade accounts receivable, inventories and trade accounts payable used $243 million in operating cash flows during 2017, compared to $96 million of operating cash flows used in 2016. The amount of cash flow generated from or used by the aggregate of trade accounts receivable, inventories and trade accounts payable depends upon how effectively the Company manages the cash conversion cycle, which effectively represents the number of days that elapse from the day it pays for the purchase of raw materials and components to the collection of cash from its customers and can be significantly impacted by the timing of collections and payments in a period."

A closer look at the cash conversion cycle shows that year-over-year increase in days to convert has come mostly from a decrease in accounts payable. Note that days payable (DSPs) are subtracted from days of receivables outstanding (DSO) and days sales of inventory (DSI) to get to a days to convert figure.

	12/31/2017	12/31/2016	12/31/2015
DSO	70.1	68.9	75.5
DSI	82.6	82.7	86.2
DSP	30.1	32.1	35.2
Days to convert	122.6	119.4	126.5

We find it somewhat strange that the company has not been able to stretch its payables more given that its size would seem to give it more leverage over suppliers. Regardless, we view this working capital drain on cash as minor and likely temporary, and will be looking for it to reverse in upcoming quarters.

Rising Capex

On the subject of cash flow, it is worth noting that DHR's capital spending has been rising the last few years, as shown in the above table. Management is forecasting another increase in 2018 to $700 million, or 13% over 2017. With the dividend consuming only about 13% of free cash flow and the company not dependent on a buyback for growth, the company is more than capable of absorbing the increase and we view this as a positive investment in the business.

Illinois Tool Works (ITW)

We see many positives in the recent results ITW's recent results. The company has solid organic growth and rising cash flow despite a $150 million pension contribution in 2017 which moved the plan to overfunded status. Additionally, the company will be increasing its dividend payout ratio to 50% of free cash flow from 43% two years ahead of schedule courtesy of tax reform freeing up overseas cash. Regardless, our review turned up a few red flags that warrant watching in the quarters ahead:

- Accounts receivable DSOs jumped almost three days in the 12/17 quarter versus the year-ago period. This increase could have been a material boost to sales growth.

- Inventory DSIs rose by over three days in the period. Management attributed this to matching increased orders. The fact the buildup was centered in finished goods gives more credence to that explanation.

- ITW utilizes the first-in, -first-out (FIFO) method of inventory accounting for over 75% of its inventories which could artificially benefit profits in an environment of rising raw material and labor costs.

Receivables Trending Higher

ITW's receivables have increased over the year-ago period in each of the last three quarters, as seen in the table below:

	12/31/2017	9/30/2017	6/30/2017	3/31/2017	12/31/2016	9/30/2016
Sales	$3,629	$3,615	$3,599	$3,471	$3,399	$3,495
Accounts Receivable	$2,628	$2,672	$2,629	$2,534	$2,357	$2,496
Sales YOY growth	6.8%	3.4%	4.9%	6.0%	3.8%	4.2%
Accounts Rec. YOY growth	11.5%	7.1%	9.0%	5.8%	7.0%	6.7%
Sales Seq growth	0.4%	0.4%	3.7%	2.1%	-2.7%	1.9%
Accounts Receivable Seq growth	-1.6%	1.6%	3.7%	7.5%	-5.6%	3.4%
Accounts Receivable DSOs	**66.1**	**67.4**	**66.7**	**66.6**	**63.3**	**65.2**

*Note that ITW bought the Engineered Fastener and Components business of ZF TRW on July 1, 2016. However, the above ratios are calculated on quarterly sales, so that would not have impacted any of the year-over-year comparison in the above table.

The typical seasonal pattern calls for a 5-6% sequential decline in receivables in the fourth quarter, but the 12/17 quarter saw only a 1.6% decline. This led to receivable days sales outstanding (DSO) jumping almost three days over the year-ago quarter, which is a larger jump than registered in either of the previous two quarters. Management gave no indication of the reason for the increase in the 10-K, 9/17 10-Q or fourth quarter conference call. Also, not shown in the table is the fact that DSOs for the 12/15 quarter were 61.4, giving more weight to the notion that receivables were unusually high in the 12/17 quarter. We calculate that if DSOs had remained flat with the 12/16 quarter, it could have essentially cut the company's reported sales growth in half. While some of this could simply be due to the timing of receipt of payments from customers or an acceleration of orders at the end of the quarter, the fact that the increase has persisted and worsened gives us a little more cause for concern.

Inventory Also Jumped in the Quarter

The following table shows the calculation of days of sales of inventory (DSI) for the last six quarters:

	12/31/2017	9/30/2017	6/30/2017	3/31/2017	12/31/2016	9/30/2016
COGS	$2,124	$2,094	$2,087	$2,004	$2,006	$2,027
Inventory	$1,220	$1,225	$1,199	$1,158	$1,076	$1,167
COGS YOY growth	5.9%	3.3%	6.1%	5.7%	3.3%	3.8%
Inventory YOY growth	13.4%	5.0%	4.7%	2.1%	-0.9%	1.2%
COGS Seq growth	1.4%	0.3%	4.1%	-0.1%	-1.0%	3.1%
Inventory Seq growth	-0.4%	2.2%	3.5%	7.6%	-7.8%	1.9%
Inventory DSIs	***52.4***	***53.4***	***52.4***	***52.7***	***48.9***	***52.5***

As with DSOs, the year-over-year DSI increase has persisted over the last three quarters and worsened in the 12/17 quarter. Also, like receivables, inventory typically declines 5-6% sequentially in the fourth quarter of the year but were essentially flat in 4Q'17. Unlike the receivables increase, the increase in inventory was addressed in the fourth quarter conference call by management:

> "Now, if you're really picky, if you look at Q4, we did see a slight increase in working capital and that's just to assume, support the higher demand and the increase in backlog that we are seeing in some of our businesses…

> …It [the inventory increase] was pretty broad based, so I think as you would expect the ones with the highest acceleration in Q4 that we just talked about had a little bit more, but overall there is some pretty good momentum across the portfolio here.
>
> …No, no this – we don't as you know most of our businesses are we get the order – today, we shift tomorrow, we've replenished inventory the following day and as demand picks up, we build more inventory. And so that's really what you are seeing. So I think it's nothing to be alarmed about."

Management is essentially contending that the observed jump in 4Q inventory levels was to support rising orders. This is a plausible explanation and further backed up by the following table:

	12/31/2017	9/30/2017	6/30/2017	3/31/2017	12/31/2016	9/30/2016
Raw Materials % of inventory	**38.1%**	37.0%	37.7%	36.9%	**37.8%**	36.8%
In-Progress % of inventory	**11.6%**	12.1%	11.6%	12.0%	**11.7%**	12.4%
Finished Goods % of inventory	**57.6%**	57.9%	57.7%	58.4%	**58.5%**	57.8%
LIFO Reserve % of inventory	-7.3%	-6.9%	-7.0%	-7.3%	-8.0%	-7.0%

As the table shows, finished goods actually fell as a percentage of total inventory while the increase was centered in raw material and work in process. This supports the notion that there is increased activity gearing up for upcoming sales rather than an unexpected buildup of completed products sitting on the shelves.

However, all this brings up another issue with inventory- the company's choice of inventory accounting method. ITW utilizes the last-in, first out (LIFO) method of inventory accounting for approximately 21% of its inventories. However, the rest is accounted for under the first-in, first-out method under which the company expenses the oldest items in inventory against current sales. The FIFO method results in higher profits during times of rising material and labor costs. Input costs are just now starting to rise meaningfully and have likely not worked their way through to finished goods to a large degree. However, it is possible that some of the disproportionate increase in raw material and work-in-progress was actually due to rising costs. This should be monitored going forward, as the more FIFO inventory balances rise during times of rising input costs, the more likely it is a company is artificially (and temporarily) benefitting from running older, lower-cost inventories through cost of sales.

Another item to watch going forward is the LIFO reserve which is shown as a percentage of total inventory in the table above. This represents the adjustment to FIFO inventories

to reflect inventories that were accounted for under LIFO. During times of rising input prices, one would expect to see the LIFO reserve increasing to account for the fact that higher-cost, newer inventories have been expensed against sales and removed from inventory. If the reserve begins to decline on an absolute basis, it could be an indication the company is dipping into the LIFO reserve to artificially boost profits. We see no indication the company is doing this now, but it warrants watching.

Medtronic (MDT)

Last week we noted that Medtronic's days sales of inventory (DSIs) in the 1/18 quarter jumped by seven days over the year-ago period. Management noted in the conference call that currency translation resulted in an increase to inventory balances at the end of the quarter. While this seems plausible, we also would have expected inventories to have declined some given that they were already elevated in the 10/17 quarter from preparation of new product launches and a sensor supply issue.

MDT recently released its 10-Q for the quarter in which is broke out the components of its inventories. The following table shows the percentage composition for the last six quarters:

	1/31/2018	10/31/2017	7/31/2017	4/30/2017	1/31/2017	10/31/2016
Raw Materials % of inventory	20.2%	20.8%	20.4%	20.0%	21.6%	20.6%
In-Progress % of inventory	13.9%	14.2%	13.8%	13.7%	14.4%	14.3%
Finished Goods % of inventory	65.9%	65.1%	65.7%	66.2%	64.0%	65.1%
	100%	100%	100%	100%	100%	100%

We stated in last week's review that we would be less concerned about the inventory increase if it was not focused on finished goods. However, its appears that virtually all the increase in inventories in the 1/18 quarter was in the finished goods component. In addition, the 10-Q's explanation for the increased cash flow drain from inventories for the nine months ended 1/18 was that there was "an increase in cash paid for inventory" which leaves us little to go on.

We do not see this as a huge risk issue yet, but the longer inventories remain elevated, the greater the chance of an upcoming markdown or write-off which could unexpectedly nick profits.

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