HOLT® Accounting & Tax

The Value of a Share Repurchase

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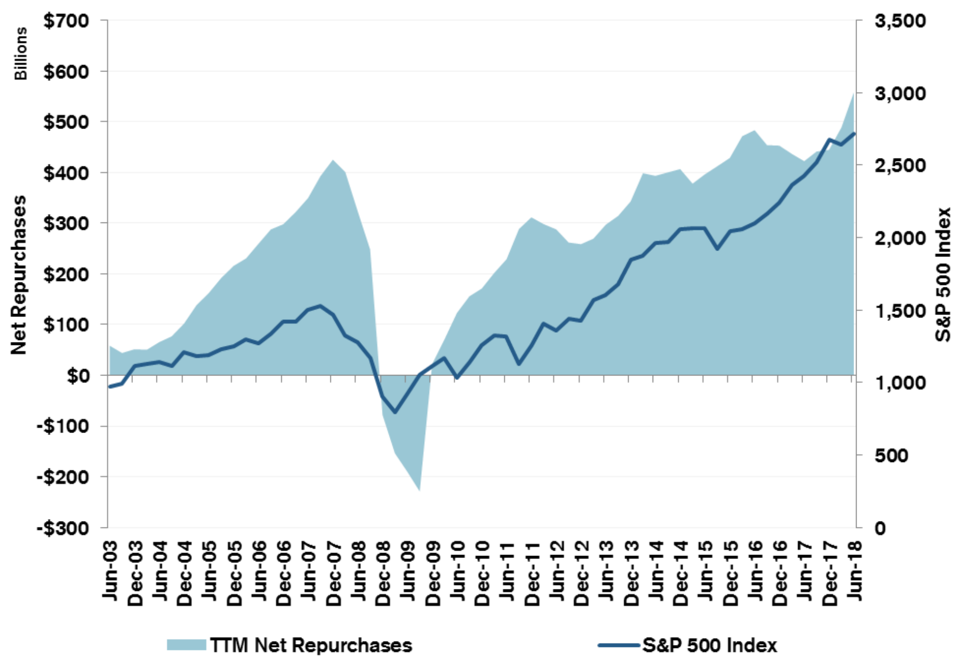
Share Repurchase: What it isn't, is, and could be…

With share buybacks on pace to approach record levels this year (Exhibit 1), a very common investor question is: What's the value of a share repurchase? *Short answer*: Price paid matters. *Long Answer*: A share repurchase generally does not create new value, but it can transfer value between selling/remaining shareholders and have additional impacts (e.g. agency costs, increase to EPS, differences between treasury vs. retired shares) that are sometimes difficult to value.

Exhibit 1: **S&P 500 Share Repurchases…Buying on the Way Up**



Source: HOLT Lens TM and Factset. Universe: S&P 500. Data date: Last calendar quarter as of 9/17/2018.

A share repurchase isn't a value *creating* action for a company…[1]

By value creating, we mean increasing the total value of the company. Let's break it down. The value of company = net present value of all future cash flows. Only a change in the underlying drivers of the business (operating returns, operating assets and growth rates) can increase future cash flows and therefore the value of a firm. New product sales, higher margins, reinvestment are all examples of actions that can increase future cash flows; a share repurchase is not.

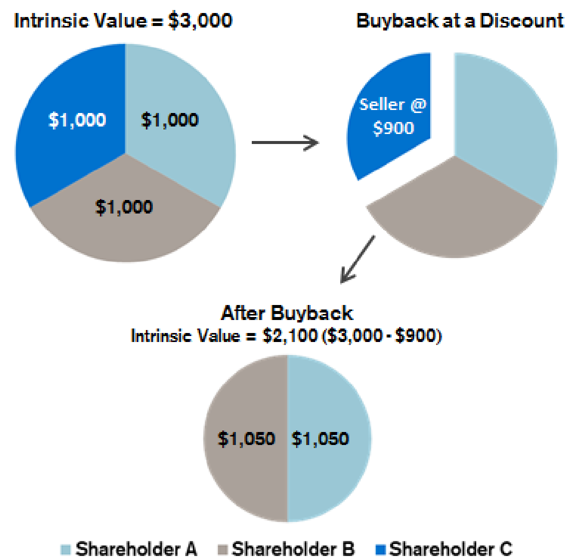
[1] For additional commentary on how to value share repurchases please see: *The Value of a Share Repurchase HOLT (Investor) Viewpoint*. Credit Suisse HOLT. Jim Kee, Ron Graziano, Al Bryant. December 13, 2006.

…but a repurchase of undervalued shares can *transfer* value between remaining shareholders

Even though a share buyback can't create new value, a repurchase can transfer value between shareholders. If the stock is undervalued, then buying back shares is like buying a portion of a net cash receipt stream at a discount, a transfer of wealth from the seller of shares to the buyer (the firm or remaining shareholders). If a firm repurchases overvalued shares, then value is transferred to selling shareholders. Finally, for a repurchase of fairly-valued shares, remaining shareholders' total value in the company is the same before and after. In other words, the price paid matters a lot! Exhibit 2 provides a simple illustration of this dynamic. Please see Appendix I for a more detailed example.

> ***Warren Buffett on Share Repurchases***
>
> *"For continuing shareholders, however, repurchases only make sense if the shares are bought at a price below intrinsic value. When that rule is followed, the remaining shares experience an immediate gain in intrinsic value.*
>
> *Consider a simple analogy: If there are three equal partners in a business worth $3,000 and one is bought out by the partnership for $900, each of the remaining partners realizes an immediate gain of $50. If the exiting partner is paid $1,100, however, the continuing partners each suffer a loss of $50. The same math applies with corporations and their shareholders."*
>
> *Source: Warren Buffett, Shareholder Letter, February 25, 2017*

Exhibit 2: **Share Repurchase (Illustrative Example)**



Source: HOLT Accounting & Tax. Illustrative example. Note, outside of the use of cash, the share repurchase does not change the size of the pie in this example.

Other impacts of a share repurchase

In addition to the above, there are many other impacts from a share repurchase; some are more difficult than others to quantify in terms of the impact on valuation:

Cash Agency Costs and Signals[2]

Up to this point, we addressed share repurchase from a conceptual viewpoint. However, companies do not operate within the parameters of a finance textbook and we have all seen examples where immediately following a share repurchase announcement, stock prices move up and down. So what gives?

To summarize, the use of cash is a choice that must be considered relative to the expected return on all possible projects. The basic idea behind agency costs is that management (the agents of cash) could make the wrong choice (e.g. a bad acquisition) and therefore excess cash on the balance sheet could be valued at a discount. This is particularly important when cash on hand exceeds investment opportunities.

[2] *Cash and the Corporate Life Cycle: A Framework for Understanding Cash and Optimal Cash Usage*. Credit Suisse HOLT. Michael Oliveros, Ron Graziano, Sergei Pliutsinski, Gautam Samarth. September 24, 2010.

Once management makes the choice to return cash in the form a repurchase, it sends multiple signals to the market, including that management believes shares are cheap. In addition, a buyback could reduce the risk of agency costs. Lastly, a repurchase also can alter investors' expected growth rates that drive the company's future cash flows and therefore valuation. The market's expectations for returns and growth and how a share repurchase plan fits within those expectations, largely determines the market's response and potential changes in share price. For more on capital deployment choices and how a share repurchase fits relative to other options, see Appendix II, HOLT's Capital Deployment Decision Tree.

A Share Repurchase Riddle

You and I own 50% of a company with the following characteristics:

Intrinsic Value:	**$10,000**
Net Income:	**$1,000**
Total Shares O/S:	**100**
EPS:	**$10**
Price/Share:	**$100**
P/E:	**10**

Assume I take $1,000 of company cash and repurchase 10 of your shares (@ $100/share). The very next day, I point out to you that post the buyback, EPS is now $11.11 (Net income $1,000/90 shares o/s) and offer to sell you back your shares @ $111/share (P/E of 10 x $11.11 EPS). Would you take the deal assuming no other changes?

For hint, see Appendix I.
If still struggling, please call.

Source: HOLT Accounting & Tax.

EPS Effects

Share repurchases reduce the number of shares outstanding, so the *same* earnings are now distributed across fewer shares, increasing EPS. As shown in Exhibit 3 below, we estimate a median increase in EPS by ~2% over the past year for companies in S&P 500 due to shares repurchases. However, this does not change the underlying cash flows of the firm and hence valuation. Also, keep in mind ~40% of compensation plans are based on EPS and management could get paid out…even while repurchasing overvalued shares.[3]

Exhibit 3: **Share Repurchase Estimated Impact on EPS**

				a	*b*	*c = b - a*
Company	**Ticker**	**Net $ Share Repurchase, LFY**	**% Change Basic Shares O/S**	**% Change in Net Income, LFY**	**% Change Basic EPS GAAP, LFY**	**Est. Impact of Repurchase on EPS**
APPLE INC	AAPL	$34,219	-5%	6%	11%	5%
DISNEY (WALT) CO	DIS	$9,092	-4%	-4%	-1%	4%
BOEING CO	BA	$8,925	-5%	67%	77%	9%
WALMART INC	WMT	$8,296	-3%	-28%	-25%	3%
HOME DEPOT INC	HD	$7,745	-4%	8%	13%	5%
PROCTER & GAMBLE	PG	$7,004	-3%	-4%	-1%	3%
VISA INC	V	$6,742	-3%	9%	13%	4%
COMCAST CORP	CMCSA	$5,435	-2%	161%	167%	6%
INTL BUSINESS MACH	IBM	$4,358	-2%	-52%	-50%	1%
MCDONALD'S CORP	MCD	$4,229	-6%	11%	17%	6%
S&P 500 Median			**-1%**	**8%**	**10%**	**2%**

Source: HOLT Lens, Factset. Universe: S&P 500 ex Financials, REITs and Reg Utils. Data filters: Est. Impact of Repurchases on EPS > 1%. Sorted by Net Share Repurchases, Top 10 companies shown. LFY. Est. Impact of Repurchase on EPS may not recalculate due to rounding. Basic shares O/S represent weighted avg. # of shares used to calculate basic EPS.

Note that these EPS effects can be fast-tracked by an accelerated share repurchase (ASR), which is becoming a more common technique. Put simply, an ASR allows a company to immediately reduce its outstanding shares by buying back its stock directly from an investment bank that had borrowed the shares. Counter, to a normal repurchase, this enable companies to execute multi-billion share repurchases overnight and reap the immediate benefits to EPS.

One final consideration when it comes to share repurchases and EPS is the potential impact of stock based compensation. Outside of the fact that many companies add back stock based compensation as part of Non-GAAP EPS, stock options and restricted shares are forms of compensation that don't cost the company cash; however, they can dilute shareholder ownership/EPS. Share repurchases can help offset that potential dilution, which can make up the majority of repurchases for some

[3] *HOLT: Framework for Quantifying Core ESG Issues*. Credit Suisse HOLT. Tom Hillman. September 7, 2018.

companies. The magnitude, however, depends on the terms of the stock based compensation and price paid for share repurchases used to manage the dilution (did the company buy low?).

Treasury Shares vs Retired Shares

As shown below in Exhibit 4, repurchased shares can be recorded as *Treasury Shares* or *Retired*. Both treasury and retired shares reduce total shares outstanding used to determine EPS, reduce stockholders' equity (boosting ROE), and are not entitled to dividends. However there are some accounting "presentation" differences worth noting. Retired shares are removed as a permanent reduction to equity. Treasury shares hang around and are recorded as a contra account—reduction to equity. Accordingly, treasury shares have sometimes been viewed with skepticism with the thought being they could be more easily reissued (dilution).

However, outside of some state laws that could govern if repurchased shares are reported as treasury or retired, it should not matter from an investor standpoint. Again, it's all about price. Specifically, if a company can repurchase its undervalued shares and then later reissue them at a higher price to new shareholders, they have realized value for the remaining shareholders. Mathematically, the remaining shareholders % ownership would be the same before and after, but now part of a larger pie (realized gain on reissuance).

Exhibit 4: **Treasury Stock or Retired Shares?**

Company	Ticker	Net Share Repurchases, 5 YR	Change in $ Treasury Stock, 5 YR	Change in Diluted Shares O/S, 5 YR
APPLE INC	AAPL	$202,714	Retired	-24%
MICROSOFT CORP	MSFT	$56,554	Retired	-8%
HOME DEPOT INC	HD	$35,207	$36,120	-20%
BOEING CO	BA	$34,707	$32,930	-24%
AMERICAN INTER. GROUP	AIG	$34,571	$34,129	-38%
INTL BUSINESS MACHINES (	IBM	$34,120	$36,127	-17%
DISNEY (WALT) CO	DIS	$32,993	$34,399	-18%
ORACLE CORP	ORCL	$32,092	Retired	-14%
JPMORGAN CHASE & CO	JPM	$31,109	$36,758	-10%
PFIZER INC	PFE	$31,004	$35,948	-16%

Source: HOLT Lens and Factset. Universe: S&P 500. Sorted by Net Share Repurchases, 5YR change as of last fiscal quarter reported. Top 10 companies shown.

Conclusion: There is no magic answer

So what's the right choice when it comes to the use of cash and when does a buyback work? We can backtest and data mine all day, but the real answer is the value of a share repurchase depends on many factors, including: the price of shares; other options for the use of cash; company specific shareholder expectations (lifecycle stage); funding (with debt vs. excess cash); impact on stock based compensation/dilution.

It would be difficult to build a backtest that can accommodate all the variables, so it quickly becomes a company by company exercise. However, to narrow the universe, HOLT's Share Buyback Basket screen (Exhibit 5) provides a good starting point as it filters on 11 specific factors to identify companies that are of high quality, reasonably valued in HOLT, have strong balance sheets, minimal dilution and have a consistent track record of repurchasing undervalued shares.

Exhibit 5: **HOLT's Share Buyback Basket Screen**

		a	b	c	d	e = (b - c) * d	f = e / a
				HOLT Estimate			
Company	**Ticker**	**Market Cap**	**Current Stock Price**	**Average Price Paid**	**# of Shares Repurchased, 7Yrs.**	**Unrealized Gain***	**Unrealized Gain % of Market Cap**
MICROSOFT CORP	MSFT	$860,899	$112	$47	1,366	$89,009	10%
HOME DEPOT INC	HD	$238,618	$208	$97	450	$50,286	21%
MASTERCARD INC	MA	$224,912	$216	$86	246	$32,162	14%
PFIZER INC	PFE	$252,129	$43	$28	1,931	$28,945	11%
CISCO SYSTEMS INC	CSCO	$217,366	$47	$29	1,351	$24,532	11%
ANTHEM INC	ANTM	$70,140	$270	$92	122	$21,711	31%
AETNA INC	AET	$67,042	$205	$72	136	$18,037	27%
INTEL CORP	INTC	$209,432	$45	$31	1,052	$15,538	7%
UNION PACIFIC CORP	UNP	$115,881	$157	$97	258	$15,459	13%
LOCKHEED MARTIN CO	LMT	$96,638	$339	$162	72	$12,840	13%

Source: HOLT Lens and Factset. Universe: S&P 500 ex Financials, REITs and Regulated Utilities. Data filters: Market Cap > $5bn, total net share buybacks TTM > $100mn, share buyback yield > 1%, total net share buybacks trailing 7 years > $700mn, > 15 quarters with share buybacks out of the last 28 quarters, unrealized gain on stock buybacks > 2% of market cap, (cost of exercising options + potential dilution) / total share buyback > -25%, % to best in HOLT > -12% and positive CFROI® trend. Sorted on Unrealized gain which is a HOLT estimate and it may not recalculate due to rounding. Top 10 companies shown. Data date: 9/18/2018

Using HOLT to Assess Cash Deployment

Given the analysis of buybacks ultimately comes down to a company specific exercise where valuation is key, HOLT's Relative Wealth Chart and Capital Deployment reports can help investors quickly assess specific companies as shown below in Exhibit 6.

Microsoft (MSFT)

Using HOLT to assess Valuation, Returns, Growth, and Capital Deployment

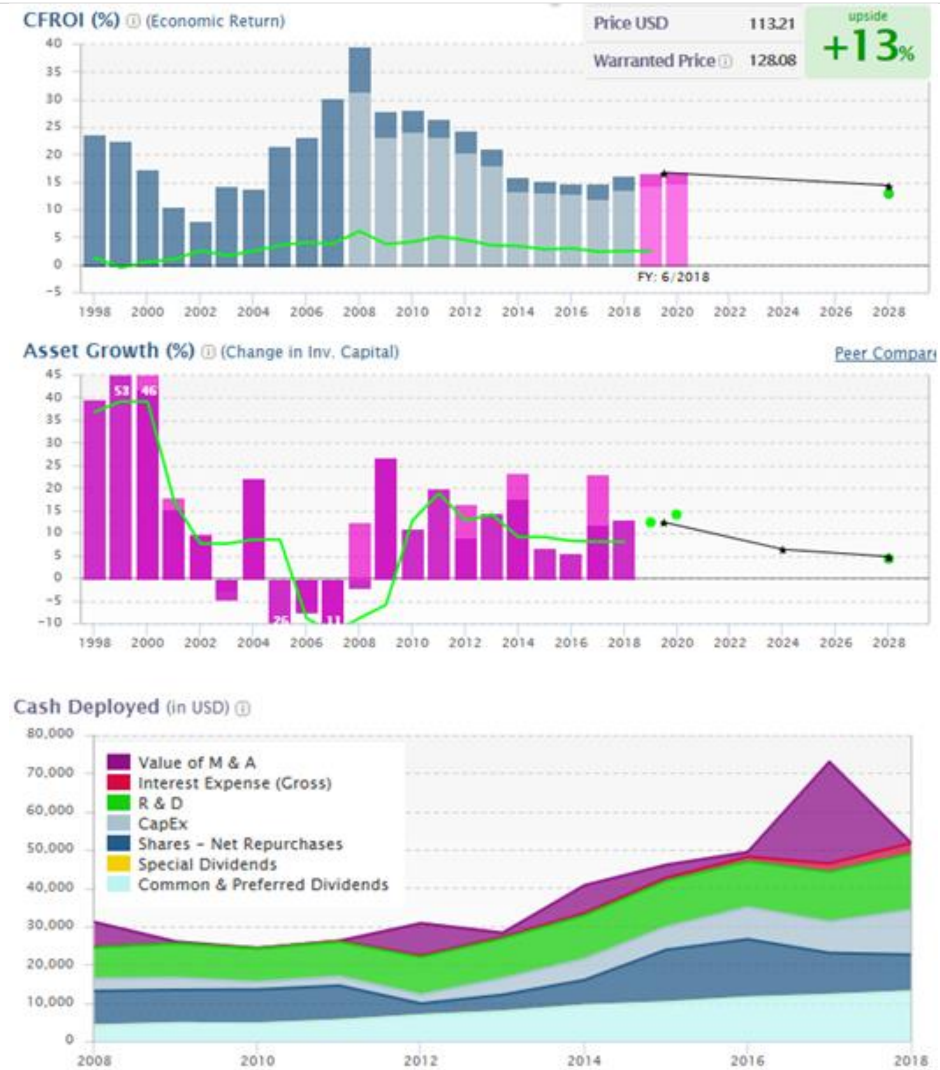
HOLT's Relative Wealth Chart for Microsoft (MSFT) displays the firm's CFROI levels (top panel, blue bars) relative to its cost of capital (top panel, green line). It also shows MSFT's reinvestment (asset growth) rates in the middle panel (purple bars). The green dots show the market expectations for CFROI levels (top panel) and asset growth (middle panel) over the next ten years

HOLT's Cash Deployment company report is shown in the bottom panel and provides a breakdown of investments that have been nicely spread out across M&A, R&D, Capex buyback and dividends.

Based on these charts, we can see that MSFT has consistently reinvested into above average CFROI levels through R&D and Capex while at the same time deploying capital back to shareholders. Given current expectations, more buybacks balanced with growth into above average returns is the perfect set up to create shareholder value.

Click here to MSFT in HOLT Lens

Exhibit 6: **Microsoft in HOLT Lens**



Source: HOLT Lens. Default HOLT scenario as of 9/20/2018. Shown for illustration purposes only.

Appendix I: Buyback Case Example

	Company XYZ	
Cash	$ 300	*A*
PV of future cash flows	700	*B*
Intrinsic value	$ 1,000	*C = A + B*
# of shares outstanding	100	*D*
Intrinsic value per share	$ 10.00	*E = C / D*
Shareholder A		
# of shares owned	10	*F*
Intrinsic value owned	$ 100	*G = F x E*
% owned	10%	*= F / D*

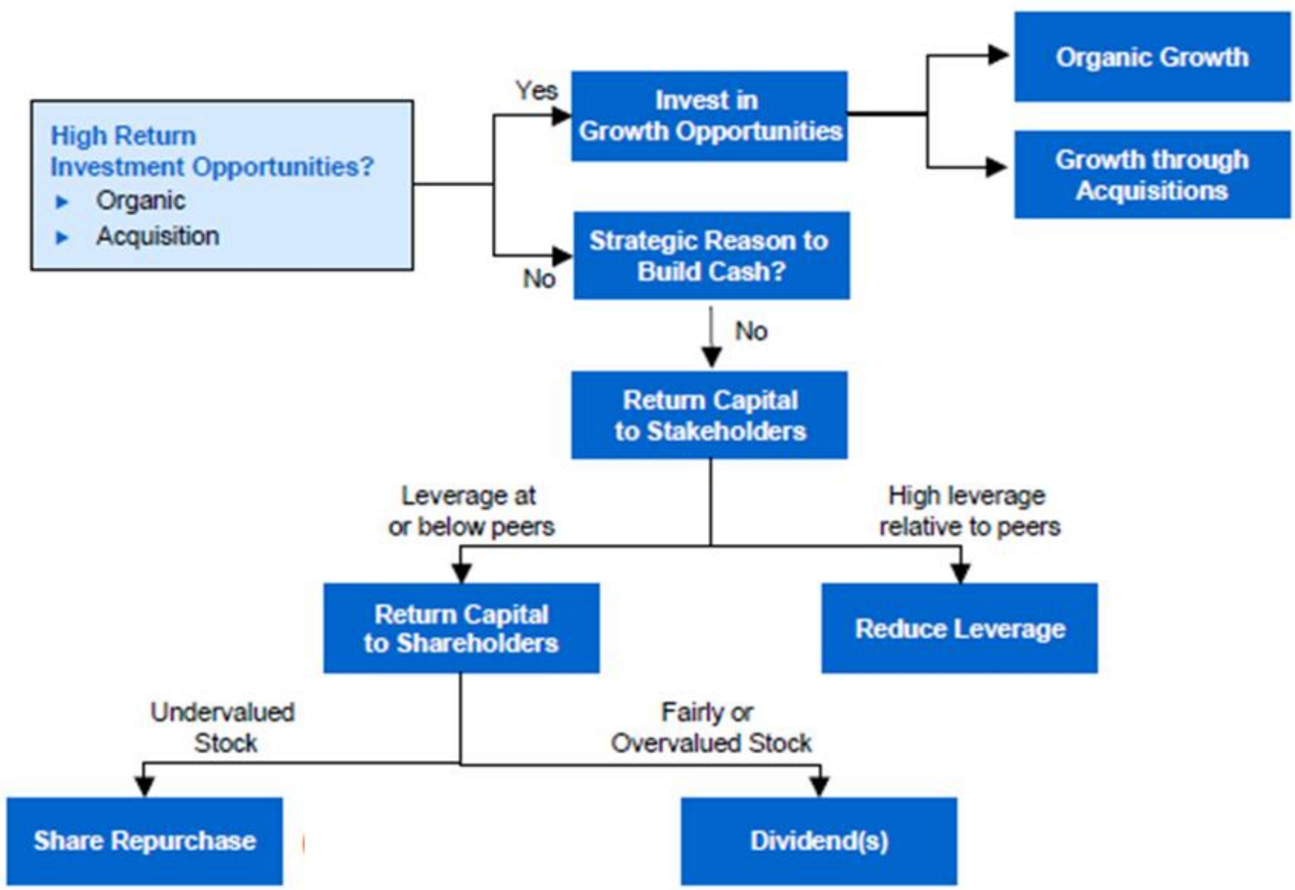
Share Repurchase Scenarios

	Undervalued	At Intrinsic	Overvalued	
Stock price	$ 7.50	$ 10.00	$ 12.50	*H*
Cash used to buyback shares	$ 300	$ 300	$ 300	*I = A*
# of shares bought	40	30	24	*J = I / H*
Remaining # of shares outstanding	60	70	76	*K = D - J*
New intrinsic value	$ 700	$ 700	$ 700	*L = C - I*
New intrinsic value per share	$ 11.67	$ 10.00	$ 9.21	*M = L / K*
Shareholder A (does not sell)				
# of shares owned	10	10	10	*= F*
Intrinsic value owned	$ 117	$ 100	$ 92	*N = F x M*
% owned	16.7%	14.3%	13.2%	*= F / K*
% change in the intrinsic value owned	16.7%	0.0%	(7.9%)	*= N / G - 1*

Source: HOLT Accounting & Tax.

Appendix II: **HOLT's Capital Deployment Decision Tree Chart**

Leveraging HOLT's prior research on capital deployment, reinvesting into above average cost of capital returns will generate the most shareholder value (e.g. increase the size of the pie)[4]. Everything else, (dividends, buybacks and pay down of debt) should be thought of as a wealth distribution event (return of cash) not wealth creation (increase in firm valuation). HOLT's Capital Deployment Decision Tree is shown below as an illustration of the hierarchy to consider when deploying cash.



Source: HOLT Accounting & Tax.

[4] *Cash and the Corporate Life Cycle: A Framework for Understanding Cash and Optimal Cash Usage*. Credit Suisse. HOLT. Michael Oliveros, Ron Graziano, Sergie Pliutsinski, Gautam Samarth. December 13, 2006.

Companies Mentioned *(Price as of 25-Sep-2018)*

Microsoft (MSFT.OQ, $114.67)

Disclosure Appendix

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This research report is authored by:

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