FUNDAMENTAL COMPANY VALUATION

MS IN FINANCE CAPSTONE PROJECT

BALÁZS SZEKERES

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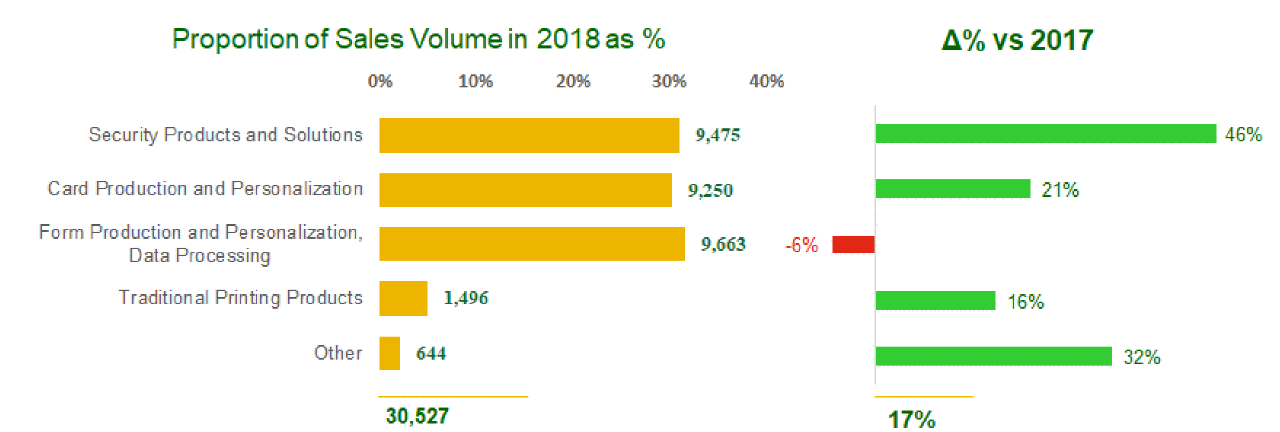
Investment Case

We recommend ANY Security Printing company to a BUY with a price target of 1,511 for the upcoming years. The company is operating largely in Hungary however due to recent years of expansion they have established stern operations in Romania and Bulgaria as well. They are the leading security printing firm in Hungary with broad product portfolio ranging from election form production to eIDs through Mastercard and VISA chips. Revenues from export have intensified the corporation's success as it rose from 30% in 2013 to 36% in 2018. Most successful products, that are generating the largest revenue streams on the export side, are form and card productions. Revenue from the latter one has tripled in the last 5 years and by 2018 it has given 12% of the total export revenue to ANY. **Price target that was identified implied 17 % share price appreciation, on one hand such potential was due to the extreme sell-off that occurred on the markets globally in December, while on the other hand there are other undeniably encouraging firm specific factors that contributed into our base of recommendation**. 1.) Durable revenue base, elastic even in unusual economic cycles; 2.) Well-diversified product portfolio; 3.) Growing expansion, tapping into different European markets, looking for growth opportunities; 4.) Solid EBITDA margins within the range of 10-12 % of revenues; 5.) Experienced and proven management with robust ROIC and cash flow generation capabilities; 6.) Committed to reward shareholders with regular dividend payments, 2018 closing dividend yield was at 6.1%.

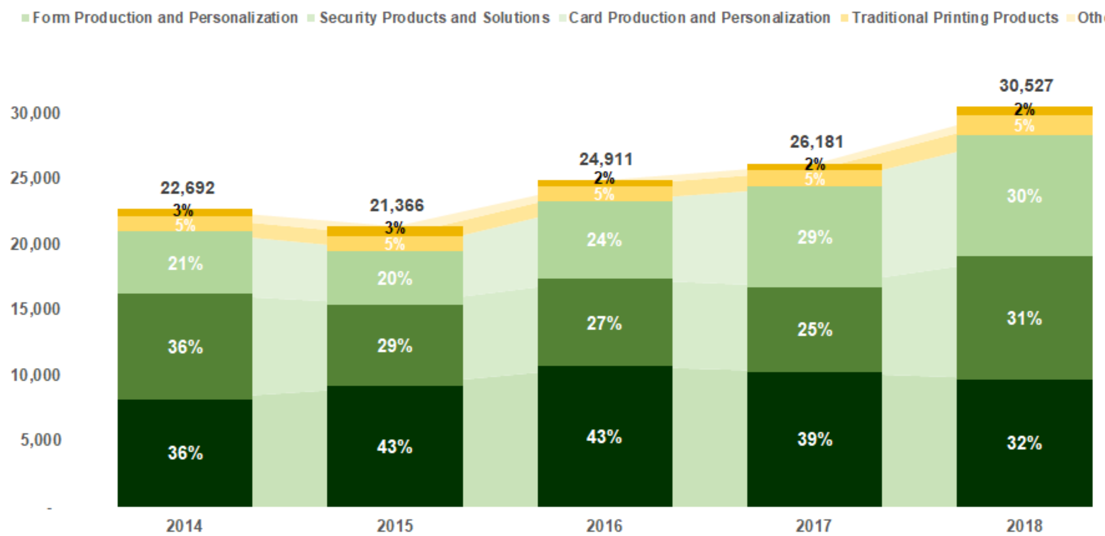
Printing industry is currently undergoing a transformation period due to the appearance of 3D printing and further digitalization advancements. Nevertheless, we do not see it as a large threat to ANY's operation as on one side these technological innovations have not gained large customer base yet, on the other side company is constantly investing into R&D through their Document Security Laboratory, which allows them to keep up with new demands.

ANY's revenue has reached a new record of 30,527B HUF in 2018 and we see it increasing in the future by 5.3%. We believe that revenue spikes are the product of several key items such as strong and reliable customer base, dynamic research and development activities and well-diversified product portfolio. Company is partner of the Hungarian

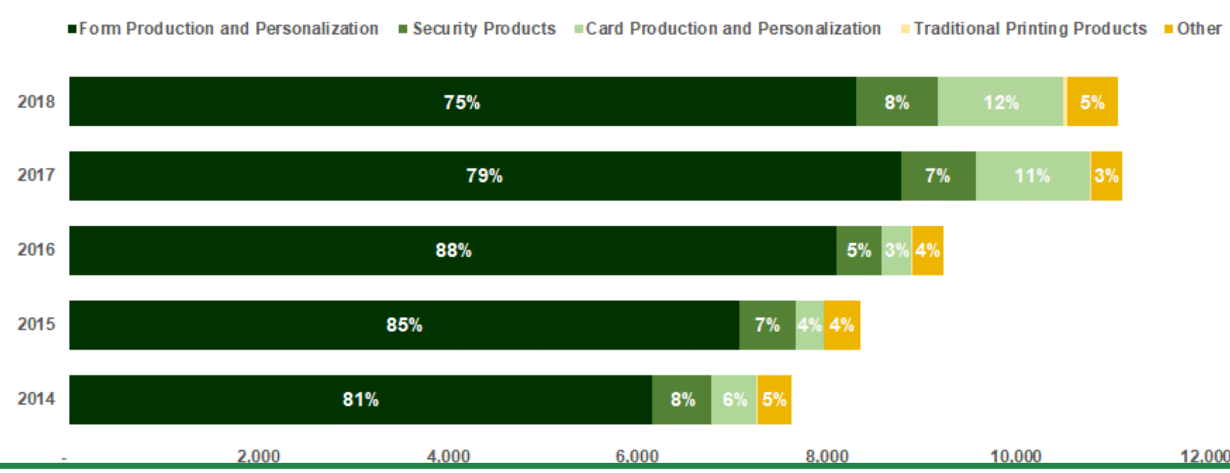


government for several years now, but it also attracts large customers as OTP, MOL, Erste or Sodexo. Our analysis included revenue cyclicality as well, whereby we have revealed that ANY's revenues are quite cyclical with the Hungarian elections. We have witnessed sizeable spikes in election years and fallback in following periods.

Diversified product portfolio supports company's swelling revenue by allowing them to not only provide service for large customers but also support smaller ones. Rising need for card production should also allow the firm to take advantage of the trend in digitalization to some extent. We expect revenue to increase by 5.3% CAGR for the projected 2019-2021E period, while card and security products are expected to drive the growth.

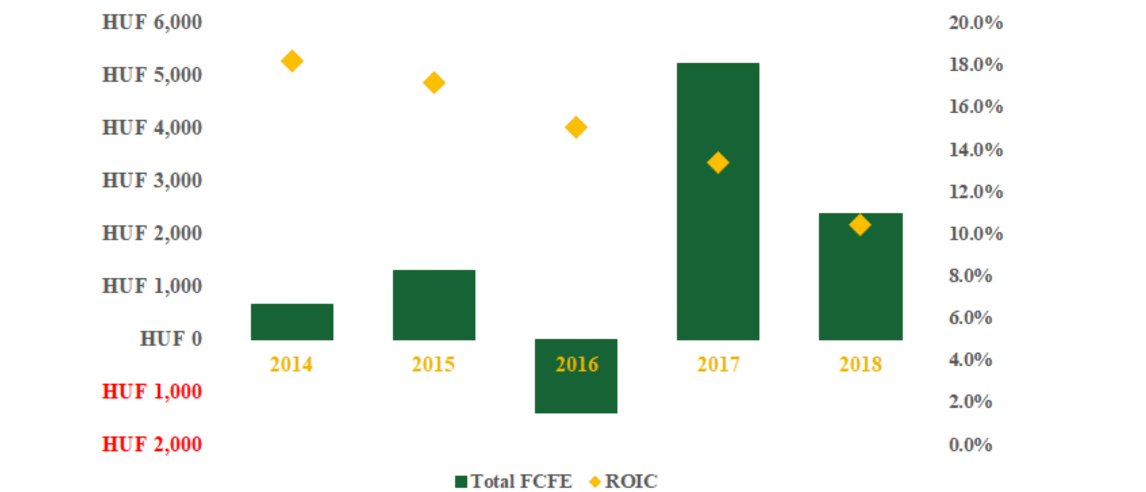


Expansion to outside markets have gone up from 30 to 36 percent and we are on the opinion that it will be continued and projected to reach 45% by 2021. The two most relevant markets are Romania and Bulgaria, however by 2018 ANY had exposures to 23 different countries globally. Export revenues are mainly supported by form production, but we also



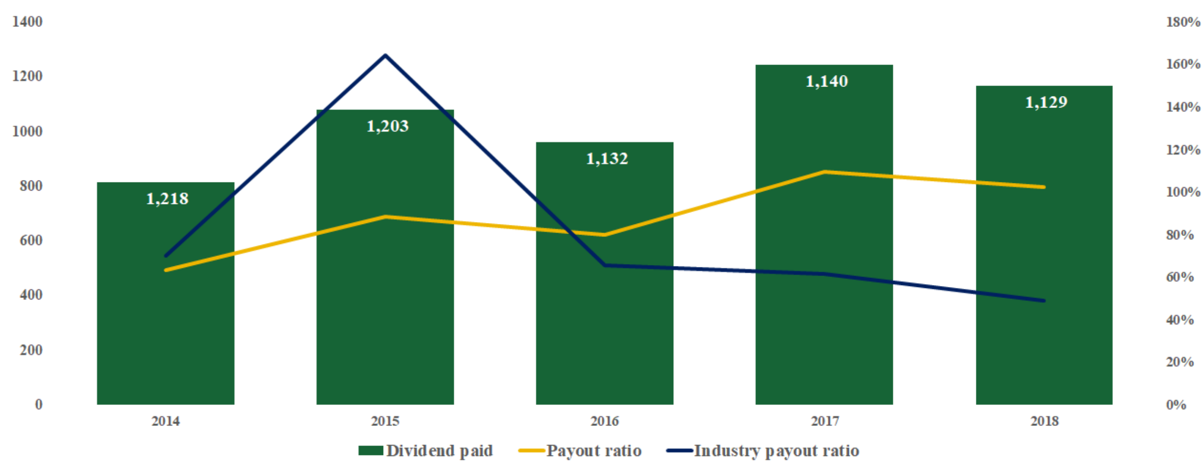
see a strong rising trend in card production and we expect it to increase in the future as more countries adapt to electronic card payments.

Excellent Cash Flow generation capabilities has been another great attribute to ANY's success. Our analysis was also supportive of this hypothesis, **historical FCFE generation fell between 1-6B HUF**, only exception being in 2016 when the company invested large amounts to open up new factory sites. **Nevertheless, part of the cash flow generation arrived from raising the company's debt levels, particularly short-term debt. Currently, debt to equity ratio stands at 32%, which is a considerable increase compared to previous years, however it is in line with our estimation of optimal debt to equity ratio for the firm**.



Along with debt the company has also accumulated sizeable excess cash on the balance sheet, which they preferred to reinvest into their operation. Management was wise to do so, based on the solid return on invested capital numbers, which were constantly higher to their cost of capital and in return it translated into vast economic added value competences.

Impressive dividend paying abilities with a payout average of 90% in the past 5-years, while in some cases payout reached well over 100%. Based on our analysis, we expect the company to continue paying dividends at around 100% ratio. We would also propose to bring the ratio down a bit, closer to the industry's average, in which case ANY could eliminate unnecessary dividend cuts even in adverse market conditions.



Valuation

We have initiated a BUY coverage for ANY as both of the valuation models point to a decent upside potential in terms of capital gains. December sell-off on the market has presented a decent buy-in point for long-term investors, predominantly for those who are looking for a stable, growing, dividend paying company. As far as the 12-month target price we have decided to use DCF valuation's hybrid approach, where Terminal Value was calculated based on historical EV/EBITDA multiple. Eventually, our price target implies a 17 % upside potential, should our assumptions hold.

Valuation Summary	Per share Value
DCF	HUF 1,006
DCF (Hybrid Approach)	HUF 1,511
DDM	HUF 1,558
Current Price (12/31/2018)	HUF 1,295
12 month Price Target	HUF 1,511
Upside	**17%**

Source: Own Research based on data from Capital IQ

Discounted Cash Flow

Current Enterprise Value of **HUF 23,303 B**

Our **Weighted Average Cost of Capital** calculation was based on the following assumptions:

WACC evaluation	
Risk Free rate (31/12/2018)	2%
Market Risk Premium	6%
Country risk Premium	3%
Tax Rate Hungary	9%
Unlevered Beta	0.66
Bottom Up Beta	0.76
Cost of Equity	**10%**
Debt to Firm Ratio	15%
Cost of Debt	4%
WACC	**9.05%**

Source: Own Research based on data from Capital IQ

- Risk-free rate based on 5-year Hungarian bond yield
- Market Risk Premium based on Damodaran's Total Equity Risk Premium for Hungary
- Country Risk Premium is the aggregate of the revenue stream weights multiplied by each country's country risk premium
- Cost of debt is the sum of Hungary's risk-free rate and CDS (1.4%) on Hungary in 2018

Discounted Cash Flow calculation was based on the following assumptions:

- Growth was established for the projected 5-years based on Damodaran's dataset of Europe Paper and Forest products industry's historical revenue growth of **5.8 %.**

- As far terminal growth concerned we have opted for Europe's Paper industries historical EBIT growth of **4.3 %**

- We assumed the **EBIT margin** to remain stable of **7 %** and **Net Capex** margin to follow the European Industry's trend of **2.6%.**

- Our double stage DCF model has yielded a thoughtful downside potential, therefore we have run the simulation by calculating Terminal value with Europe Paper and Forest industry's **EV/EBITDA multiple**.

- Having used the widely accepted Enterprise multiple we have received an intrinsic value of **1,511 HUF**, underlying a **17 %** upside potential.

Industry Revenue Expected Growth	5.8%
European Average	4.3%

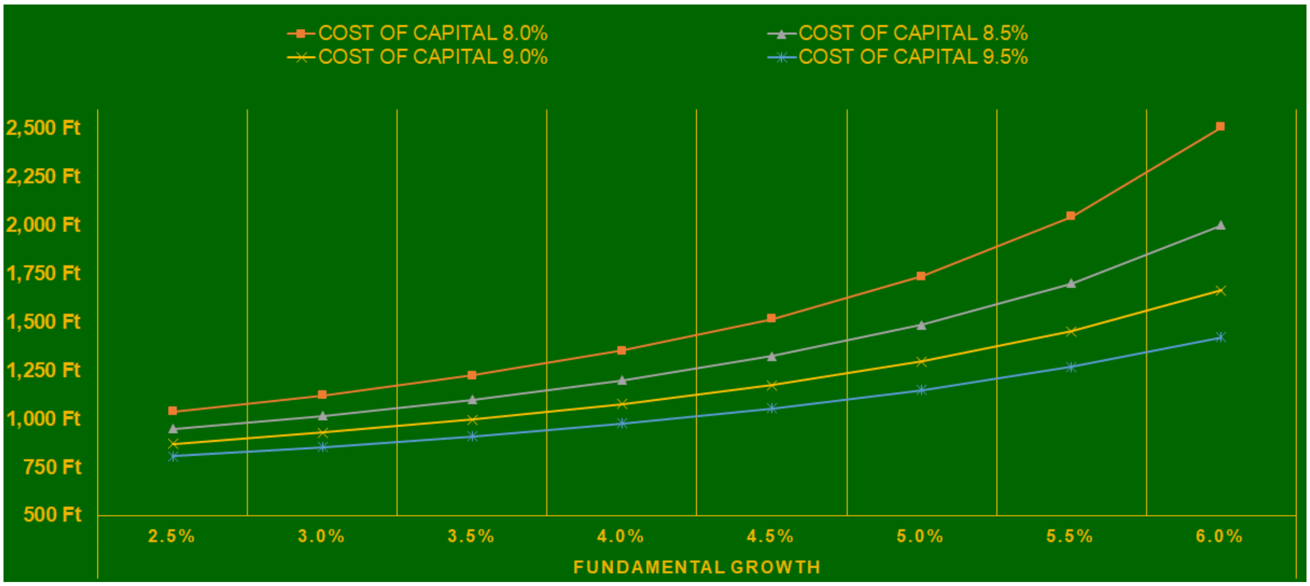
Free cash flows									
	2018	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**Terminal Value**	**Terminal Value (Hybrid Approach)**	
Growth projections		5.8%	5.8%	5.8%	5.8%	5.8%			
Revenues	30,527	32,298	34,171	36,153	38,250	40,468			
EBIT	2,082	2,203	2,331	2,466	2,609	2,760			
EBIT (1-Tax rate)	1,731	1,831	1,938	2,050	2,169	2,295			
Net Capex	785	830	878	929	983	1,040		11%	EBITDA/Revenue ratio
Non cash working Capital	3,913.57	4,140.56	4,380.71	4,634.79	4,903.61	5,188.02		4,332	EBITDA 2023
Change in non cash Working Capital		227	240	254	269	284		7.09	EV/EBITDA Multiple
FCFF		**774**	**819**	**867**	**917**	**970**	**21,427**	**30,784**	**Terminal Value**
PV of FCFF							**16,083**	**23,303**	
Net Debt							**1,697**	**1,697**	
Equity value							**14,386**	**21,606**	
Number of Shares outstanding							**14.3**	**14.3**	
Intrinsic Share Price							**HUF 1,006**	**HUF 1,511**	
Current Share Price							**HUF 1,295**	**HUF 1,295**	
(Downside)/Upside							**(-22%)**	**17%**	

Source: Own Research based on data from Capital IQ

DCF analysis is still one of the supreme ways of identifying mispriced stocks, nevertheless majority of the inputs are based on projections and assumptions of the past trends, therein lies the risk of such models. Therefore, in order to see different scenarios, we have conducted a scenario analysis on Terminal Value calculation of the double stage DCF model. Our results are summarized in the graph below.

- Remaining at the current (**yellow line**) cost of capital one can see that the intrinsic value increases dynamically to **1,400** and **1,500 HUF** price territory at **5.5-6 %** fundamental growth rate.

- On the other way around, remaining at current growth rate (**4.5%**) but improving cost of capital by a single percentage point (**orange line**) one can see that price target could increase above the **1,500 HUF** target.



Source: Own Research based on data from Capital IQ

Dividend Discount Model

Current Price Target **1,558 HUF**

Dividend Discount Model calculation was based on the following assumptions:

- Expected Growth rate was assumed to be in line with the growth rate used for DCF model. As for the terminal value, **2.5 % growth** was used based on the Hungarian National Bank's forecast of 2020.

- Last 5-years average **payout ratio** averaged at **89 %**, however a steeply increasing trend was identified, accordingly, we have assumed payout ratio for State Printing company would average at **98 %** in the upcoming years.

- Overall, DDM builds on ANY's ability to pay dividends, however, **dividend cuts** are part of the company's history, particularly when **market conditions are unfavorable.**

- For terminal value, as the company would grow we assumed **Beta would approach 1**, increasing slightly from 0.76 previously. It had translated into a 1% increase in **cost of equity (11%).**

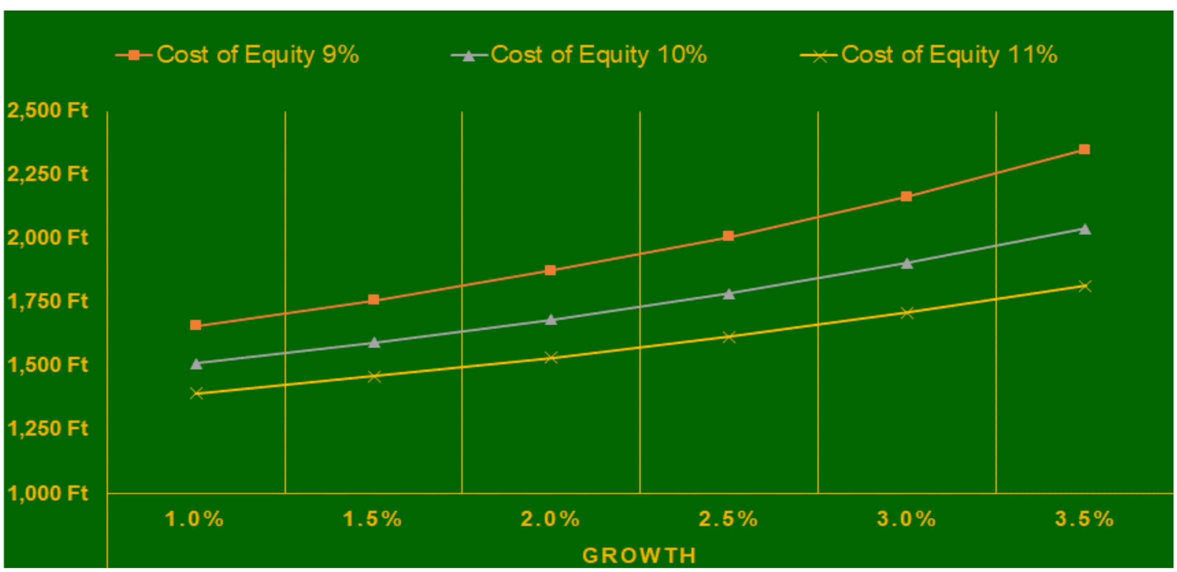
(in M HUF)	2014	2015	2016	2017	2018	2019E	2020E	2021E	2022E	2023E	2024E
Net Income	1,282	1,218	1,203	1,132	1,140	1,129	1,146	1,134	1,202	1,226	
Dividend paid	814	1,080	962	1,243	1,169	1,118	1,157	1,146	1,266	1,291	
Payout ratio	63%	89%	80%	110%	103%	101%	99%	99%	95%	95%	
Expected Growth						5.8%	5.8%	5.8%	5.8%	5.8%	2.5%
EPS					79.44	84.05	88.93	94.04	99.45	105.17	107.80
DPS					79.00	84.89	88.04	93.10	94.48	99.91	105.42
PV of DPS						77.17	72.74	69.92	64.50	62.00	-
Intrinsic Value											**HUF 1,558**
Current Share Price											**HUF 1,295**
Upside											**20%**

Source: Own Research based on data from Capital IQ

Dividend discount model is as sensitive as any valuation models, particularly when companies are still at an early growing stage, their earnings are volatile and in turn they may decide to stop paying dividends. As a matter of fact, this is not the case at Állami Nyomda, yet the model relies on many other essential inputs therefore it is worth to run a scenario analysis. Our results are summarized in the table below.

- Based on our assumptions, the worst-case scenario (low growth and high cost of equity) would result in a **1,396 HUF** target.

- On the other side, should the growth accelerate to **3.5 %,** which is not quite unrealistic, firms stock price may jump to **1,815 HUF.**



Source: Own Research based on data from Capital IQ

Optimal D/E Ratio	30 %
Capital Allocation	Dividends, Internal Projects

Optimal D/E ratio was calculated based on the following assumptions:

- Beta, Cost of Equity and Cost of Debt of the firm was iterated through different D/E levels to arrive at the historically optimal ratio.

- Based on our findings we see firm's optimal ratio of **30 %**, which is **1.2% lower** than their current WACC. Moving to a financially optimal level company could save annually **221M HUF** and in turn it would translate into an enterprise value increase of **2.8B HUF**.

- By progressing solely to the optimal level Állami Nyomda's share price may rise to **1,480 HUF.**

Állami Nyomda's Optimal Cost of Capital

Debt Ratio	Beta	Cost of Equity	Cost of Debt	Cost of Capital
0%	0.66	9.4%	2.9%	9.4%
10%	0.73	9.8%	2.9%	9.1%
20%	0.81	10.3%	2.9%	8.4%
30%	**0.92**	**10.9%**	**2.9%**	**7.9%**
40%	1.06	11.8%	3.1%	8.2%
50%	1.26	13.0%	3.5%	8.2%
60%	1.56	14.8%	3.7%	8.1%
70%	2.06	17.7%	3.7%	7.9%
80%	3.06	23.7%	4.1%	8.0%
90%	6.07	41.6%	10.4%	13.5%

Source: Own Research based on data from Capital IQ

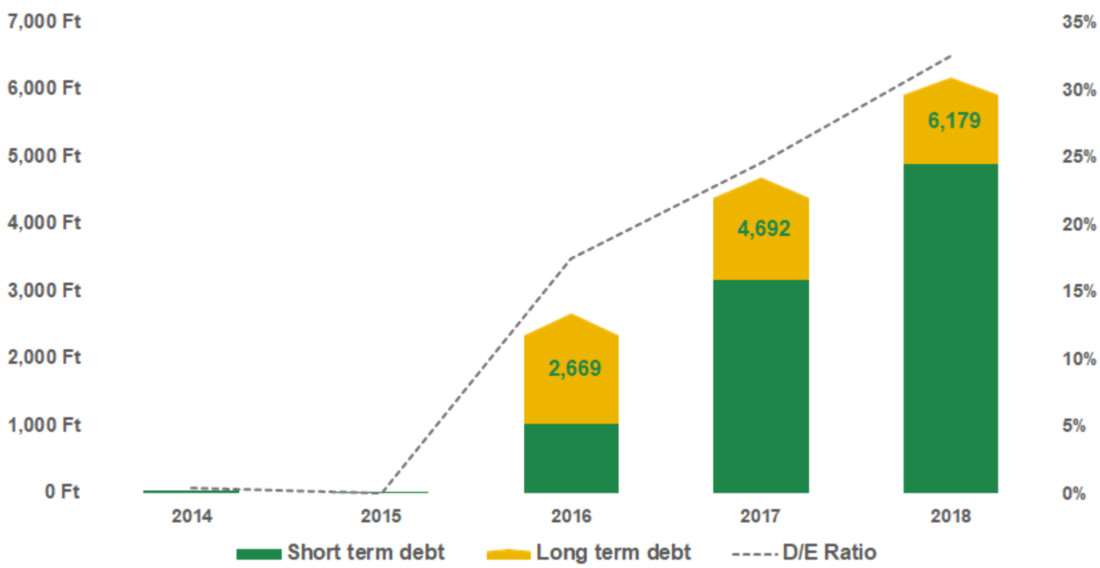
- Cost of capital at 70% equals to the level at 30%, however it would be **incredibly risky move** from the company take up such level of debt, even though current interest rate environment would be supportive of such actions. Yet, economic environments change therefore we would propose to keep **debt to equity level at** around **30-40 percent**.

Current D/E ratio was also established for the State Printing company

- ANY has been operating in the past with near zero level of debt, only until recently. By 2018 they have reached **32% debt to equity** ratio, in line with our estimation, by raising **6.1 B HUF** long and short-term debt.

- Striking to see the weighting of debt on the favor of short-term obligations at the firm, by 2018 **79%** of total debt consisted of **short-term debt.**

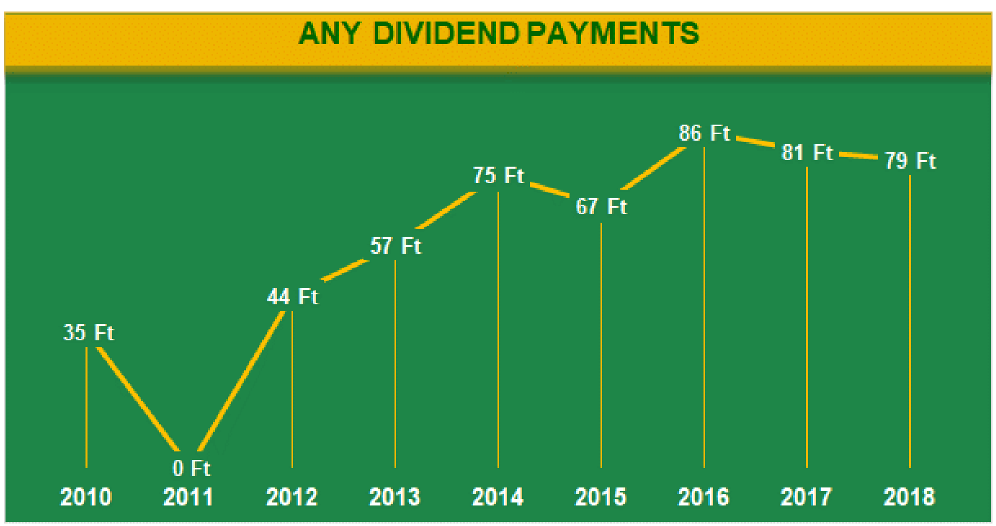
- Állami Nyomda's management has been expanding their operations with the help of debt financing, not only in Hungary but also in Central and Eastern Europe as well as an R&D hub was built to improve their competitive advantage.



Source: Own Research based on data from Capital IQ

Capital Allocation Strategy**:**

1. **Dividend payments** are part of ANY's capital allocation strategy. The company has been paying dividends consistently from 2010, with only one exception being 2011, when they cut dividends entirely.



Source: Own Research based on data from Capital IQ

2. **Share Buybacks** are not part of the capital allocation strategy. State Printing company has 14.3 million shares outstanding and it has not bought back shares in years.

3. **Investing excess cash for internal projects** is another way company invests the capital that was raised, thus rewarding shareholders on the long run. To find out if it is the right way of allocating capital we have looked at FCFE, Excess Cash and ROIC of ANY in the last 5 years.

FCFE has fallen in the negative territory only in 2016, when the company acquired two production plants in Budapest and one in Paszto, due to large investments in capital expenditure. Otherwise, it can be seen that the company has a strong and substantial Free Cash Flow generation capability for equity holders, notwithstanding part of the cash flow generation was due to the billions of loans that were taken in the last few years. It is also shown in the table below, there is an extensive and swelling amount of excess cash on ANY's balance sheet, that they opt not to pay out but rather reinvest through internal projects. Based on the return on capital numbers, management seems to be aware of what projects they are investing firms' money in. Even though, ROIC numbers are fairly compelling yet the increasing excess cash pile may start losing value quickly should the firm fail to identify lucrative investment potentials in the future.

in millions of HUF	2014	2015	2016	2017	2018
Net Income	1,282	1,218	1,203	1,132	1,140
Depreciation & Amort.	849	892	977	1,056	1,121
Capital Expenditure	(1,208)	(1,379)	(4,429)	(1,430)	(2,200)
Change in non-cash working capital	(82)	670	578	1,254	579
Net Borrowings	(173)	(107)	266	3,213	1,742
Total FCFE	**HUF 668**	**HUF 1,294**	**HUF 1,405**	**HUF 5,227**	**HUF 2,381**
Excess Cash					
Cash	1,652	815	865	867	1,020
Accounts Payable	(2,052)	(2,878)	(2,467)	(2,659)	(3,372)
Accrued Expenses	(1,003)	(608)	(834)	(1,191)	(512)
Def. Tax Liab.	(295)	(243)	(302)	(315)	(328)
Curr. Portion of LT Debt	0	0	(198)	(198)	(198)
SUM of CL	(3,350)	(3,730)	(3,801)	(4,361)	(4,409)
Cash-CL	**(1,699)**	**(2,915)**	**(2,936)**	**(3,495)**	**(3,388)**
Total Current Assets	6,900	7,239	7,754	9,724	10,289
Total non-cash Assets	**5,248**	**6,424**	**6,888**	**8,857**	**9,269**
Excess Cash	**HUF 3,549**	**HUF 3,509**	**HUF 3,953**	**HUF 5,363**	**HUF 5,880**
Return on Invested Capital					
Operating Income	1,398	1,357	2,017	1,999	1,788
Effective tax rate	10%	10%	23%	19%	21%
NOPAT	**1,254**	**1,221**	**1,563**	**1,621**	**1,419**
Invested Capital	6,885	7,100	10,361	12,086	13,605
ROIC	**18.2%**	**17.2%**	**15.1%**	**13.4%**	**10.4%**

Source: Own Research based on data from Capital IQ