Financial Analysis Report

GENERAL MOTORS

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Outline

- **Strategic and Economic Assesement**

- **Growth Analysis**

- **Profitability**

- **Illiquidity Risk Analysis : short and long-term ratios**

- **Summary Notes**

General Motors Overview

General Motors Company is an American multinational corporation since 2009, headquartered in Detroit, Michigan that designs, builds and sells cars, trucks, crossovers and automobile parts worldwide through GMNA (North America), GME (Europe), GMIO (International Operations) and GMSA (South America). They also provide automotive financing services through General Motors Financial Company, Inc. (GM Financial).

The key dates of GM's history are shown below :

1916	• Incorporated in the state of Delaware
1930-2007	• Led the automotive sales for 77 years
2008	• The crisis hit GM very hard • 29/05 : GM stock closes at less than $1 a share for the first time since the Great Depression
2009	• GM closed Saturn, Pontiac, and Hummer going under a strict reorganization by US government • June : GM files for chapter 11 bankruptcy and was removed from the Dow Jones Index • July : the new General Motors Company was formed by the US government at 60.8% stake, the federal government of Canada at 11.7%, the Canadian Auto Workers unions at 17.5% and the unsecured bondholders at 10%, and it acquired GM Corporation. • The US Treasury invested a total of $51 billion into the GM bankruptcy • US Government's net cost of $12 billion saved 1.2million jobs and $34.9 billion in tax revenue.
2010	• GM made its initial Public Offering at $33 a share
2013	• 09/12 : UST announces sale of all their shares, recovering 39 billions and ending the bailout • GM announces "the cause of fatalities and crashes is the faulty ignition switch in ~ 3 million cars"
2014	• Mary Barra becomes the first woman to run a major automaker • June : GM recalls 8.4 million vehicles worldwide bringing the total number of recalled vehicles to 27 million in US.
2016-2017	• GM exceeded its estimates in the 1sr 3 quarter of 2016. • Their performance started to decline as of Q4 2017

- GM teams produce cars and trucks in 35 countries, adding a truly global perspective to their designs. GM is proud to deliver:

Baojun **Buick** **Cadillac** **Chevrolet** **Holden** **Jiefang** **OnStar** **Opel** **Vauxhall** **Wuling**

GM's Recent Development

Business

- GM business segments and % of global revenues in 2016

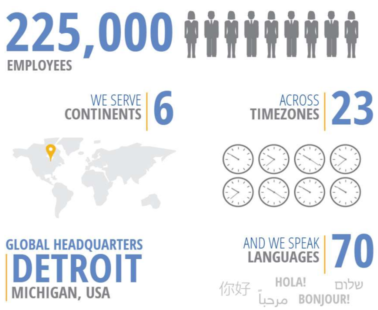
GM Automotive	**94,3%**
GM Financial	**5,7%**

Leased vehicules	62%
Retail finance income	30%
Commercial income	5%
Other income	3%

Market share

- General Motors market share per region in 2016
  - GMNA **16,6%**
  - GME **6%**
  - GMIO **9,7%**
  - GMSA **10,8%**

Operations



Performance

- GM delivered ~10 million vehicles in 2016
- GM is with Volkswagen and Toyota the top 3 automakers worldwide
- Over 19 000 dealers
- Presence in 125 countries
- Expansion plan in China to support 5 million vehicles sales by 2018

Recent business development

- General Motors has been facing costly recall campaigns like the default of the ignition switch in 2014 (800k vehicles) and the Takata airbag problem (4,6 million vehicles). These campaigns had a very bad impact on the financial statements of the company as well as on its image.

- GM Financial division has been putting pressure on GM financial health because of its high level of investment needs in assets as well as an important increase in capital expenditure to repurchase leased vehicles starting from 2015.

- Losing market share to Japanese cars

- Because of its international presence, GM has been exposed to many unfavorable macroeconomic dynamics like currency fluctuations worldwide, Venezuela crisis, and challenges in the European market, adding uncertainty and volatility on revenue expectations.

- Obama administration set very tight regulations for the automotive industry consuming most of the R&D budget instead of expenditure on innovative technology . This happened in parallel with the context of Volkswagen scandal adding doubt to the global automotive business atmosphere.

5 Year Stock Price Evolution

5 Year Stock Price Evolution as Compared to S&P500

5 Year Stock Price Evolution as Compared to that of Ford

Change in Accounting Policies

- For this analysis it is important to consider changes introduced by General Motors in 2016 that affected their financial statements.

- One of the most important changes were made in 2016 with a new classification of the deferred tax assets and liabilities from current to non current which artificially boosted GM non current assets and liabilities. This change had an impact on 2015 and 2016 financial statements.

Recently Adopted Accounting Standards Effective January 1, 2016 we retrospectively adopted Accounting Standards Update (ASU) 2015-17, "Balance Sheet Classification of Deferred Taxes", which requires all deferred tax assets and liabilities to be classified as non-current. As a result current Deferred income taxes and Accrued liabilities decreased by $8.6 billion and $249 million and non-current Deferred income taxes increased by $8.4 billion at December 31, 2015 in our consolidated balance sheets.

Source : GM 2016 Annual Report

Critical Thinking : what are the potential consequences of this change ?

- ❑ *Artificial boost of the capital employed because of the increase in the fixed assets and all the related indicators*
- ❑ *Negative impact on the Net Financial debt*
- ❑ *Decrease in the WCR in 2015 and 2016*
- ❑ *Decrease in the liquidity risk ratios (lower value of current ratio etc.)*

- Our analysis considers the final given numbers in GM financial statements and consequently, will be conservative concerning the Net Financial Debt and liquidity risk ratios

The 2008 Crisis: A Major Game-Changer for GM

2007 Operating Income: **-$1.97B**
2008 Operating Income: **-$24.62B**

2005	• The decrease in auto sales started
2006	• Fortune magazine mentioned GM headed for bankruptcy
2008	• November : CEO Rick Wagoner flew private to Washington to ask for bailout • December : Bush Administration gave GM $17.9B
2009	• February : GM asked for additional $16.6B • March : CEO Wagoner resigned as part of imposed restructuring by Obama Administration • March : COO Fritz Henderson appointed as new CEO • July : New GM was established with US Government being a major shareholder
2010	• Pontiac, Hummer, Saab, and Saturn officially dead • April : GM made its final loan repayment. Government holds a 61% stake in common and preferred stock • November : GM became a public company again. US Treasury reaped 13.5 billion in conjunction with the new company's IPO, reducing its stake to 33% • December : GM repurchased all of Treasury's preferred stock
2012	• December : GM repurchased 200 million shares of common stock from Treasury, which announced it will sell all of its GM shares over up to 15 months on the open market.
2013	• December : US Treasury sold the last portion of its shares

What do we expect to see ?

Since GM is an Internationally operating automotive company, known best for big trucks and fuel guzzlers, it has certain characteristics that we expect will reflect in the financial statements. Before carrying out our assessment, among other things, we expect to see the following:

- Capital intensive operations
- Low margins because of high competition
- Vulnerability to macro-economical changes
- High cost of raw materials
- High relevance of Fixed Assets in the Balance Sheet
- High dependence on oil prices
- High risk of costly recalls because of faulty components

Automotive Industry Overview

Competitive environment

- **A highly competitive <u>oligopoly</u> industry** that minimizes price-based competition and has over **<u>excess manufacturing capacity.</u>**
- Recently the competition has intensified, preferred financing and long-term warranties have helped to lure in customers putting pressure on the profit margins for vehicle sales.

Developments in the industry

- **Difficult situation** for some years, especially for the three big American producers traditionally specialized in larger vehicles because of the increase in oil prices up to mid-2008 (higher material costs, shifting demand to more economic cars etc.)
- **Collapse of car sales in 2008 crisis :** in almost all OECD countries, with an average fall of 20% from Sept. 2008 to Jan. 2009 forcing automakers to adjust their production and **governments to intervene and save big automakers from bankruptcy** (using tools like credit facilities, bonuses for old cars replacement to boost the sales and loan guarantees or subsidies to firms facing difficulties)
- **Diesel scandal in 2015** which raised awareness over the higher levels of pollution being emitted by all vehicles built by a wide range of car makers. **Volkswagen's stock price fell** by **a third** in the days immediately after the news
- **Disruptive trends triggered** by the rise of new technologies and sustainability policies. New business models are revolutionizing the industry. The four main disruptive technology-driven trends are diverse mobility, autonomous driving, electrification, and connectivity.
- Despite a shift toward **shared mobility**, vehicle unit sales will continue to grow, but likely at a lower rate of about **2 percent per year**.

Industry consolidation

- The minimum efficient scale of production has increased over time, **spurring mergers and acquisitions** in order to **gain economies of scale**

Consumer preference

- **Consumer** preferences like vehicle design, price, quality, available options, safety, reliability, fuel economy and functionality, **highly impact** the sales. Market leadership in individual countries varies widely.
- **Shifting demand** towards small and inexpensive cars and changing consumer preference around ownership will make the profitability of the industry suffer.

General characteristics

- A **capital intensive business**, with a high capital-to-labor ratio that increasingly shifted the production from OECD regions to Asia (even if robots are playing a greater role in manufacturing vehicles)
- **<u>Politically sensitive and highly regulated industry</u>** because of respectively its large and regionally concentrated employment as well as its **<u>environmental impact</u> (CO2** emission etc.)
- **Replacement parts and extended services :** parts market is more lucrative than automobiles selling. The cost of all the parts of an 18000$ new car is 300% more. Moreover significant portion of automaker's revenue comes from financing services
- **Saturated markets** in OECD countries but growth is expected in BRIICS
- **Complex** economic **geography** within countries and on a global level.
- **Cyclical nature of business :** sales are cyclical. The market depends on general economic conditions, credit availability and consumer spending.

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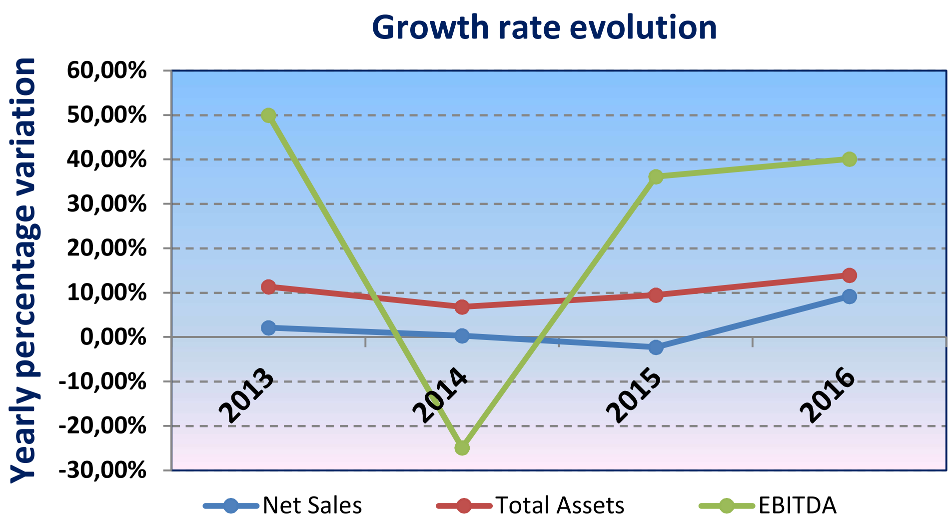
Wealth Creation (1/4)

- Total **Net Sales** decreased substantially in **2015**. A deeper analysis shows that the decrease is being faced **outside the US market. This decrease is mainly driven by a margin decrease and not by the number of cars sold**. The North American market grew considerably but was not able to compensate the decrease of the other regions.

Total Net Sales

	Years Ended December 31, 2015	Years Ended December 31, 2014	Favorable/ (Unfavorable)	%
	(Dollars in millions)			
GMNA	$ 106,622	$ 101,199	$ 5,423	5.4 %
GME	18,704	22,235	(3,531)	(15.9)%
GMIO	12,626	14,392	(1,766)	(12.3)%
GMSA	7,820	13,115	(5,295)	(40.4)%
Corporate and eliminations	150	151	(1)	(0.7)%
Automotive	145,922	151,092	(5,170)	(3.4)%
GM Financial	6,434	4,837	1,597	33.0 %
Total net sales and revenue	$ 152,356	$ 155,929	$ (3,573)	(2.3)%



Decrease in Europe (GM**E**):

- ❖ Decreases across the Russian portfolio and lower demand for the Zafira multipurpose vehicle
- ❖ Unfavorable foreign currency effect due to the weakening of the Euro, British Pound and Russian Ruble against the U.S. ($3.3 billion)
- ❖ Withdrawal of the Chevrolet brand

Growth Analysis

Growth rate	AGGR	2013	2014	2015	2016
Net Sales	2,3%	2,1%	0,3%	-2,3%	9,2%
Total Assets	10,4%	11,3%	6,8%	9,5%	14,0%
EBITDA	25,3%	50,0%	-24,9%	36,1%	40,1%
Net Income	25,7%	-13,6%	-26,1%	145,3%	-2,7%

Decrease in International Operations (GM**IO**)

- ❖ Decreased sales in Korea, India, Southeast Asia and South Africa
- ❖ $1.4 billion due to unfavorable foreign currency effect resulting from the weakening of the Australian Dollar, South Korean Won and South African Rand against the U.S. Dollar

Decrease in South America (GM**SA)**

- ❖ Wholesale volumes decrease and lower demand for the Chevrolet Celta, Onix and Prisma small vehicles and Cobalt sedan in Brazil
- ❖ Decrease in demand caused by difficult economic conditions in Chile and Colombia
- ❖ Unfavorable foreign currency effect due to the weakening of all currencies across the region against U.S. Dollar (except Venezuela & Argentina) => impact of $2.9 billion

Wealth Creation (2/4)

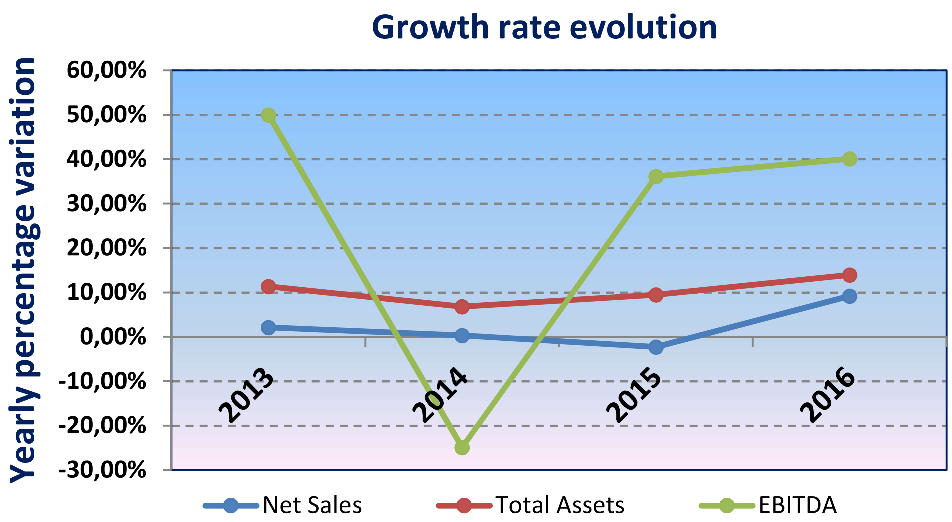
- Total **Net Sales** reached their highest level in **2016**.

Total Net Sales	Years Ended December 31, 2016	2015	Favorable/ (Unfavorable)
GMNA	$ 119,022	$ 106,622	$ 12,400
GME	18,707	18,704	3
GMIO	11,749	12,626	(877)
GMSA	7,223	7,820	(597)
Corporate	148	150	(2)
Automotive	156,849	145,922	10,927
GM Financial	9,531	6,434	3,097
Total net sales and revenue	$ 166,380	$ 152,356	$ 14,024

Improved performance in GMNA :

- ❖ Due primarily to increased net wholesale volumes reflecting the company's strategy decision to reduce daily rental activity
- ❖ Strong retail demand for the Chevrolet Malibu and Spark, full-size trucks and SUVs and the Buick Envision
- ❖ Favorable pricing for Majors of $1.8 billion

Almost constant volume of sales in Europe and a slight decrease in GMIO and GMSA.



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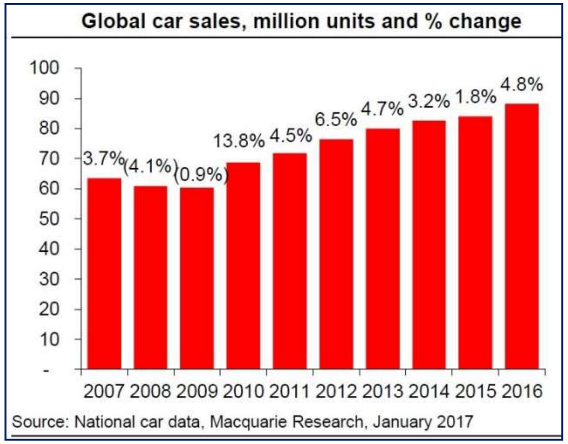
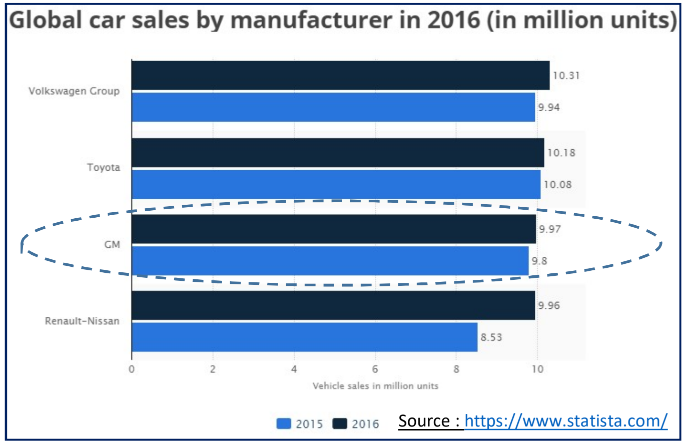
Wealth Creation (3/4)

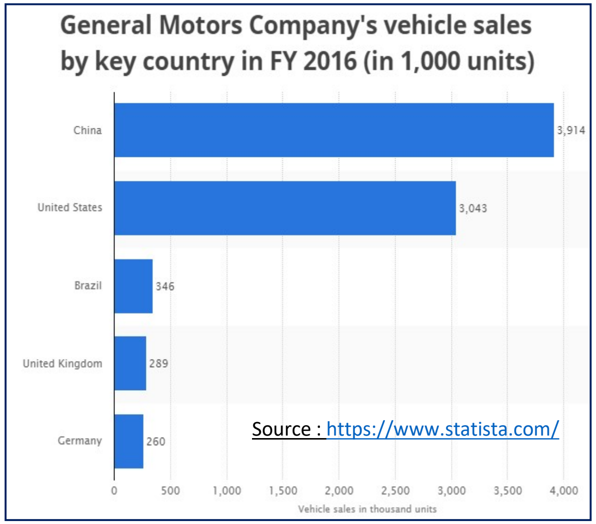




On the global level, 2016 was a record-breaking year for car sales, almost entirely driven by China.

The results show that GM took advantage of the Chinese market growth in terms of **number of cars sold**. However its margin from the US market is much higher. In China GM has a **joint ventures** strategy where it shares ownership and management with one or more parties. Its **revenues** are **shared** with companies involved in these joint ventures (SAIC, SGMS etc.).

The decrease in the Chinese market share between 2015 and 2016 is the result of an aggressive competition from the largest global manufacturers and numerous domestic manufacturers.

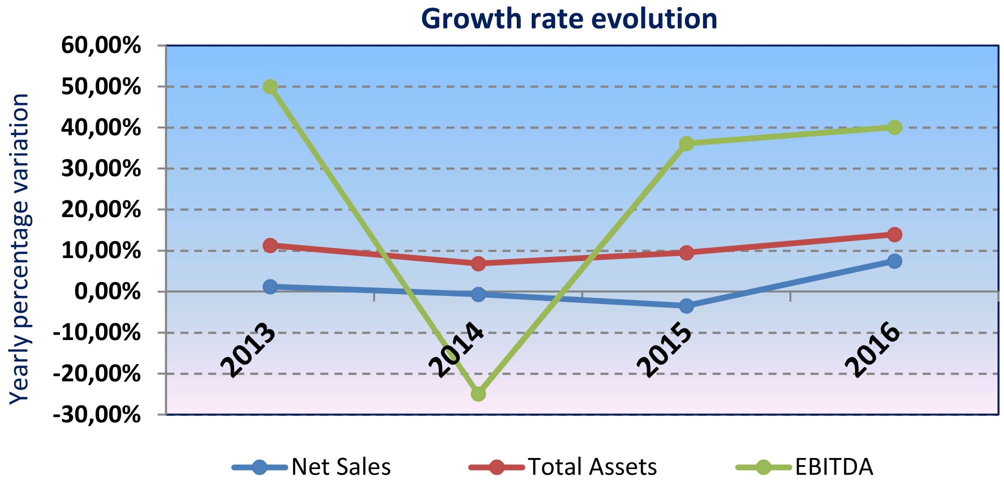


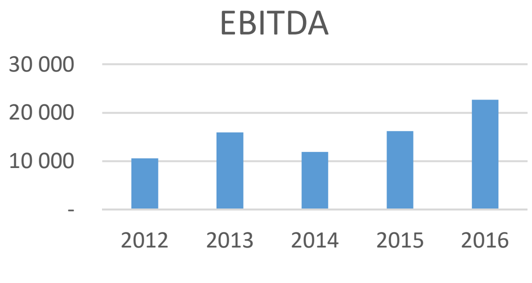
GENERAL MOTORS COMPANY AND SUBSIDIARIES

	Years Ended December 31,								
	2016			2015			2014		
	Industry	GM	Market Share	Industry	GM	Market Share	Industry	GM	Market Share
Asia/Pacific, Middle East and Africa									
China(b)	28,270	3,914	13.8%	25,050	3,730	14.9%	24,035	3,540	14.7%

Wealth Creation (4/4)

- **EBITDA** plunged in 2014 because of an increase in the cost at a higher pace than the sales. The recovery was made in 2015 and 2016. The sharp increase in the cost was due to the following reasons :
  - ❖ Increased recall campaign and courtesy transportation charges, including catch-up adjustments, of $3.5 billion
  - ❖ Increased material and freight cost including new launches of $2.7 billion
  - ❖ Unfavorable effect of $0.7 billion resulting from the reversal of the Korea wage litigation accrual in 2013 in GMIO
  - ❖ Restructuring charges of $0.5 billion related to the Bochum plant closing in GME
  - ❖ Increased depreciation of equipment on operating lease related to daily rental vehicles of $0.3 billion
  - ❖ Charges related to flood damage of $0.1 billion





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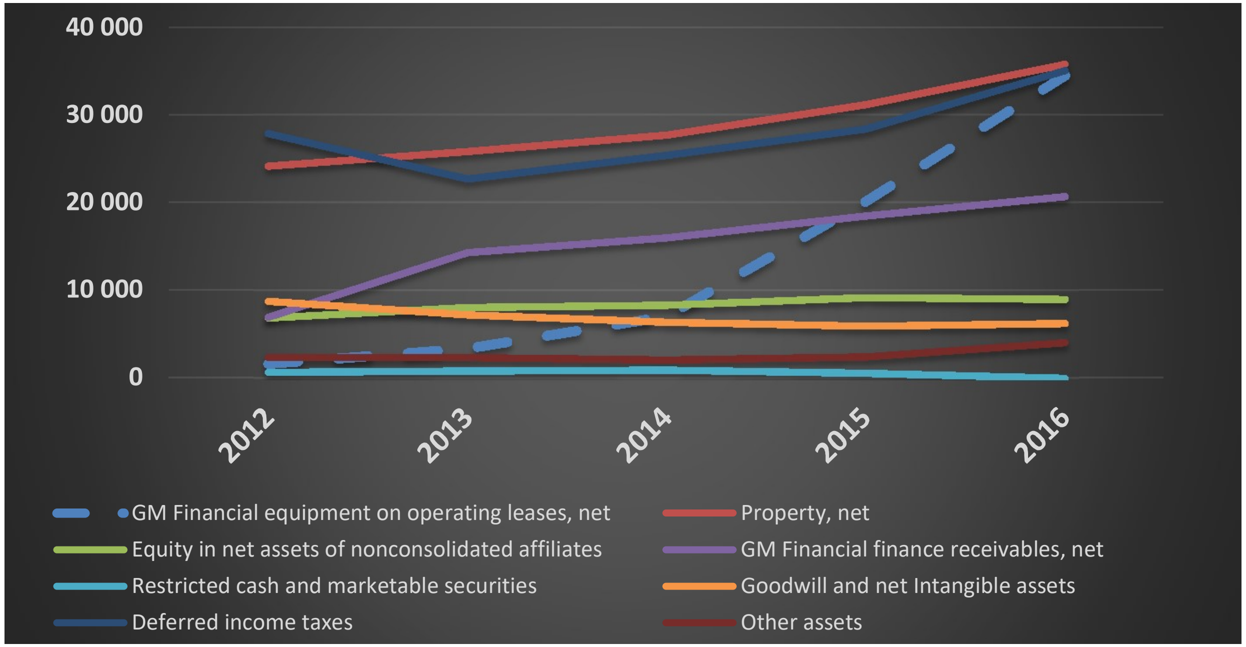
EBITDA increase in 2015 and 2016 reached its highest absolute value over the period. Thanks to the good performance of the core business of GM.

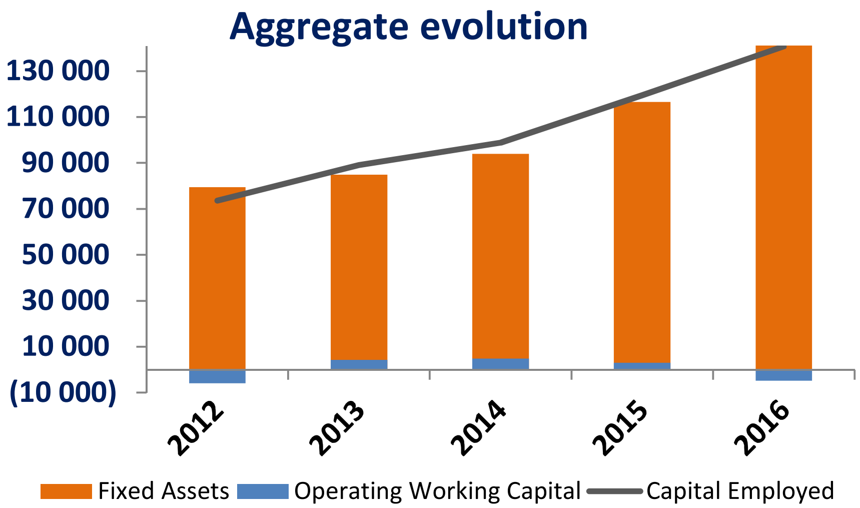
- **Net income** has been extremely volatile over the period.
- **Total Assets** is increasing every year. Thanks to the operating leases activities.

Note : Recalls to repair ignition switches details : under certain circumstances, the ignition switch unintentionally moves from the “run” position to the “accessory” or “off” position with a corresponding loss of power, which could in turn prevent airbags from deploying in the event of a crash.

Investment Policy

- **Capital Employed increased** all over the period with a significant increase in the last two years.
- The **increase** in **Capital Employed** is the result of the **increase** in **Fixed Assets** as well as a **decrease** in the **Operating Working Capital.**
- The significant **increase** of **assets** in 2015 and 2016 was the **consequence** of the **increase** of **GM financial equipment** on operating lease. Equipment on operating lease consists of vehicle sales to daily rental car companies with a guaranteed **repurchase obligation**.
- **GM** is **investing** heavily in the rental activity.





Investments	2012	2013	2014	2015	2016
Fixed Assets / Total Assets	53,16%	51,00%	52,91%	59,90%	65,63%
Inventory / Total Assets	9,8%	8,4%	7,7%	7,1%	6,2%
Accounts Receivable / Total Assets	12,3%	16,9%	18,1%	16,6%	17,0%
Cash & Equivalent / Total Assets	18,3%	17,4%	15,9%	12,0%	11,2%

For the calculation of the WCR, we considered everything that is classified by GM under non-current assets or non-current liabilities as not convertible to cash nor due (respectively), during the next operating cycle. Therefore we did not account for it in the calculation of WCR.

Financial Resources

- The **increase** of the **invested capital** is driven by the **increase** of the **Net** Financial **Debt**.

- **Debt increase** is related to « **GM Financial** ». The debt of the Automotive activity is almost constant over the period.

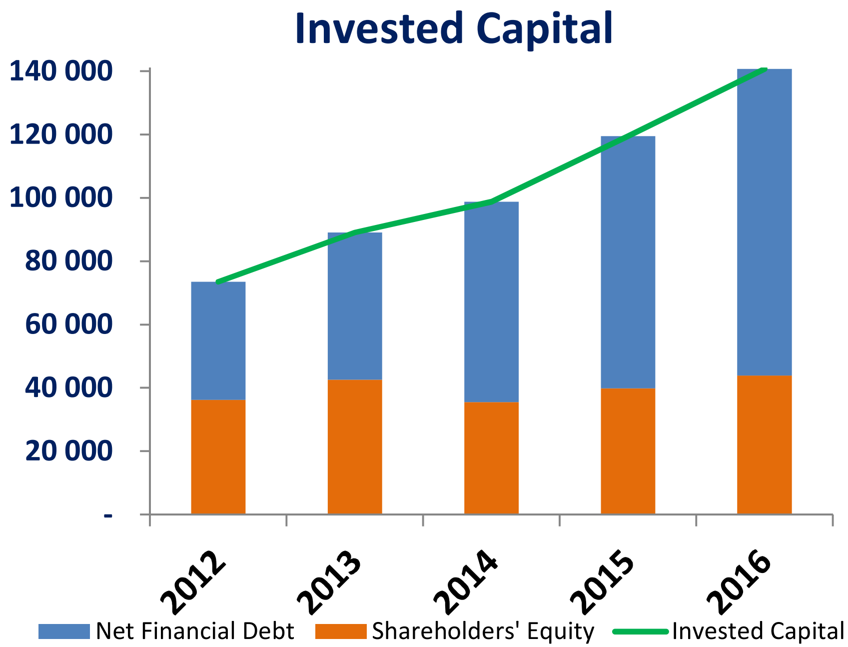
- GM is most probably increasing its debt because of the low interest rates of the FED and in consequence the low cost of debt as well as the increase in the leased vehicles repurchase obligation

Graph American interest rate FED - long-term graph

- The debt to capital ratio increased by ~18 points (50,7%->68,9%) over the period. Net debt is increasing at a higher pace than equity.

- Also notable is that diminishing equity in 2014 when the net sales were on a decrease trend. In 2016 equity reached its highest level over the period attracting investors.

- The increase in the Net Financial Debt is reflected in the Financial Leverage and Debt-to-capital ratio.



Financial Resources	2012	2013	2014	2015	2016
Financial Leverage	102,9%	109,1%	178,6%	199,6%	221,1%
Debt-to-capital ratio	50,7%	52,2%	64,1%	66,6%	68,9%
Long-term debt / Total Liabilities	52,0%	49,3%	53,6%	53,8%	52,0%
Short-term debt / Total Liabilities	4,9%	11,5%	10,6%	12,7%	16,3%
Accounts payable / Total Liabilities	43,1%	39,2%	35,8%	33,5%	31,6%
Shareholders' Equity	36 244	42 607	35 457	39 871	43 836
Net Financial Debt	37 294	46 490	63 331	79 593	96 900
Invested Capital	73 538	89 097	98 788	119 464	140 736

Cash Cycle Analysis

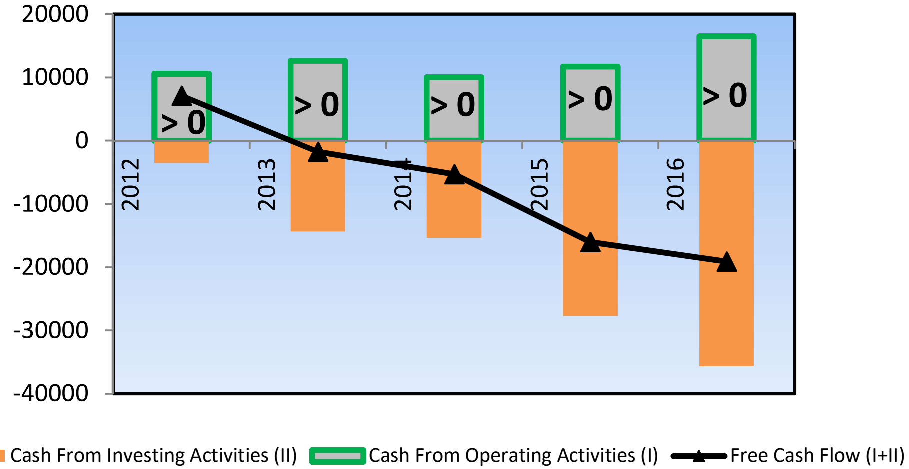
Working Capital Needs in days' worth of sales

	2012	2013	2014	2015	2016
Inventory days	35	33	32	33	30
+ Receivable days	67	90	98	98	83
- Payable Days	116	113	119	124	123
= Operating Working Capital days worth of sales	-14	10	11	7	-10

- The tendency in the **inventory** is to towards continuous **decrease**.
- From 2012 to 2015 GM is less effective in collecting from their clients although the sales are not decreasing. When analyzing specifically the receivables we conclude that this tendency is for GM Financial and retail activities. The tendency changed in 2016 mainly because of the changes in accounting policies mentioned previously.
- GM is getting **more** days to **pay** back their **suppliers**.
- As a global result (inventories, receivables and payables) the operating working capital of GM was on a decrease trend from 2013 to 2016 which is a good indication from a cash perspective. In 2016 WCR became negative which means that GM is able to **collect money** from its clients **before paying** its suppliers. GM has to be careful not to harm its relationship with suppliers by increasing its payables

Cash Analysis

	2012	2013	2014	2015	2016
Cash From Operating Activities (I)	10 605	12 630	10 061	11 691	16 545
Cash From Investing Activities (II)	(3 505)	(14 362)	(15 359)	(27 710)	(35 643)
Free Cash Flow (I+II)	7 100	(1 732)	(5 298)	(16 019)	(19 098)



- Except 2012 FCF was negative in all the years, indicating that GM is not able to cover its investment needs with its cash flow from operations. **This phenomenon can be expected because of the capital intensive nature of GM business.**
- Looking deeper at the cause of increase of the investing cash flow, we can identify that this increase is **mainly driven by the "purchases of leased vehicles" in which GM is investing heavily.**
- The **Cash from operations is positive** in the five years period which is a good indication of the core business performance with a peak value in 2016 (thanks to the increased depreciation and the benefit from deferred taxes).
- **In conclusion the current situation of GM is not sustainable.**

Outline

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Illiquidity Risk Analysis : short and long-term ratios

Summary Notes

Common-Size Income Statement Analysis (1/2)

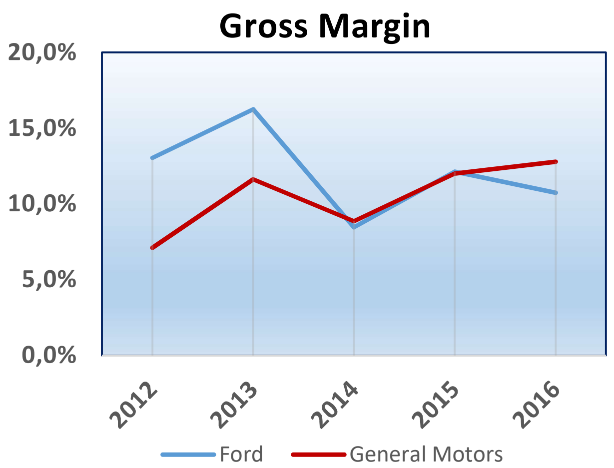
- **Except year 2014, sales** are increasing at **a higher pace** than the **cost of sales**. The most significant element of Automotive cost of sales is **material cost** (approximately two-thirds of the total amount). The remaining portion includes labor costs, depreciation/amortization, engineering, product warranty and recall campaigns. Consequently **Gross Margin,** EBITDA margin, and EBIT margin have been increasing.

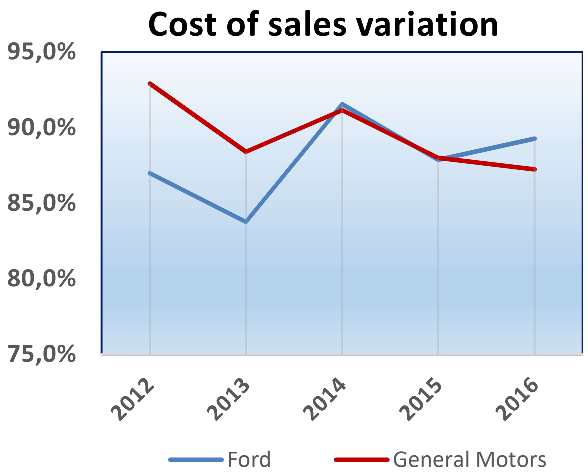
Note that a study done by University of STERN shows that the average **EBITDA Margin** for the **industry** in 2017 is **9.37%**. GM average for the past 5 years was 9.78%. This shows that GM is **slightly above average**.

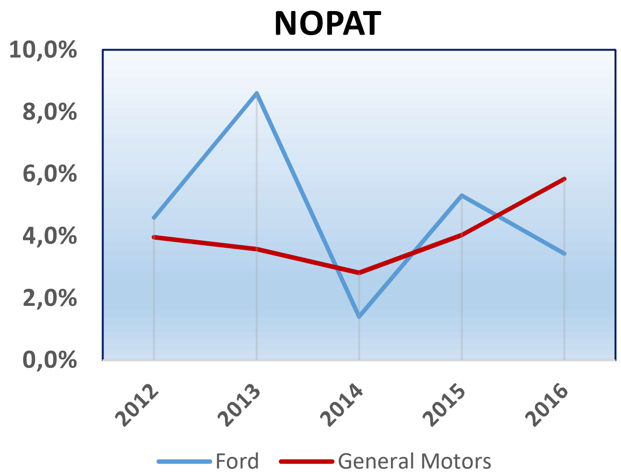
Profitability and return Analysis (GM AUTOMOTIVE and FINANCIAL)					
Margin analysis (Common-size analysis - income statement)					
Profit & expenses % of Net Revenue	**2012**	**2013**	**2014**	**2015**	**2016**
Net Revenue	**100%**	**100%**	**100%**	**100%**	**100%**
Cost of sales	92,9%	88,4%	91,1%	88,0%	87,2%
Gross Margin	**7,1%**	**11,6%**	**8,9%**	**12,0%**	**12,8%**
Operating expenses	27,0%	8,3%	7,9%	8,8%	7,0%
EBITDA Margin	**6,9%**	**10,2%**	**7,6%**	**10,6%**	**13,6%**
Depreciation & amortization	25,5%	5,2%	4,6%	5,3%	6,3%
EBIT Margin	**-18,5%**	**5,0%**	**3,0%**	**5,4%**	**7,4%**
Net financial expenses	-1,1%	-1,5%	-1,7%	-1,9%	-1,3%
Pretax Income	**-18,8%**	**4,8%**	**2,7%**	**5,1%**	**7,0%**
- Corporate income tax	-22,9%	1,4%	0,1%	-1,2%	1,5%
Net Profit Margin	**4,06%**	**3,44%**	**2,53%**	**6,36%**	**5,67%**
NOPAT (Net Operating Profit After Tax)	**4,0%**	**3,6%**	**2,8%**	**4,0%**	**5,8%**

- **The Operating expenses**
  - Represented 27% of the Net Revenue in 2012, a record compared with the other years. This high value is because of the weight of Goodwill impairment charges.
  - Increased in 2015 (from 7,9% to 8,8%) due primarily to charges related to the Ignition Switch Recall of $1.4 billion
  - Reached their lowest value in 2016 mainly because of the net decrease in charges of $1.5 billion for matters related to the ignition switch recall
- **Net financial expenses**
  - GM has higher financial income than expenses. Thanks to its GM financial activities that makes the total net financial expenses negative (a source of income rather than a cost).

Common-Size Income Statement Analysis (2/2)







- The margin rate of GM is increasing because of an increase of their sales **at a higher pace than** the **increase** of the **cost of sales.** Consequently General Motors is improving its Gross Margin over the period whereas Ford is deteriorating it.

- On an international level, domestic manufacturers in lower cost countries, such as China and India, have the intention to export their products to established markets as a low cost alternative to established entry-level automobiles. In addition, foreign governments might implement tax and other policies that favor their domestic manufacturers at the expense of international manufacturers, including GM and its joint venture partners. **These actions** have and are expected to continue to have, a **significant negative effect** on **GM** pricing and **operating results**, and present a significant risk on GM revenue per vehicle.

- The trend of cost of sales as a percentage of Net revenues is decreasing for GM and continuously increasing for Ford (at higher pace than the sales). In 2016 Ford percentage cost of sales became even higher than General Motors

- **Ford cost management** seems **poor** when **compared to General Motors**. Starting from 2012, Ford adopted one manufacturing system to reduce its production cost. The figures show that this strategy is questionable. Moreover Ford loses money on many automobile lines especially in the United States.

- Ford's NOPAT has been very volatile driven by the volatility of their cost of sales. Starting from 2014, the slope of the curve of **GM's Nopat** became positive and **succeeded** in **exceeding** Ford's curve in 2016.

- **General Motors** emergence from bankruptcy is allowing them to have a significant **cost advantage vs. Ford**.

Return on Invested Capital and EVA

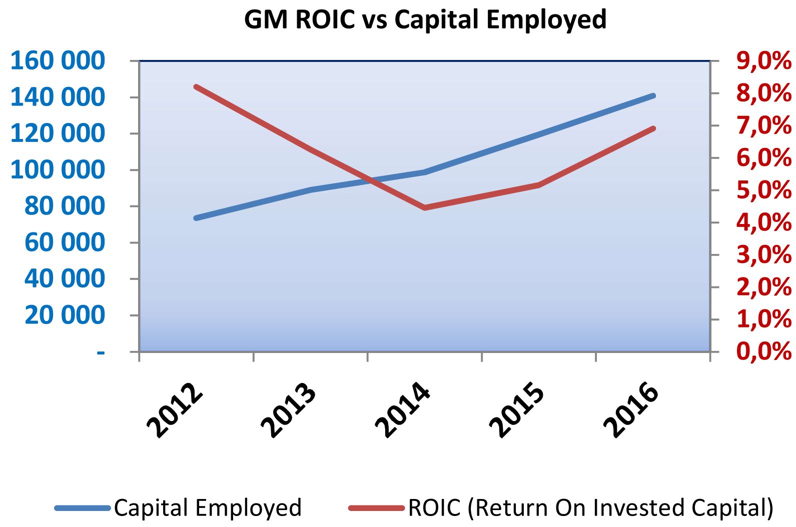
- **ROIC** has been decreasing from 2012 till 2014 driven by a simultaneous decrease in the NOPAT margin and in the Turnover of capital employed. The investments in fixed assets were not able to generate sufficient returns. Starting from 2015 GM ROIC and capital employed followed a similar upward trend.

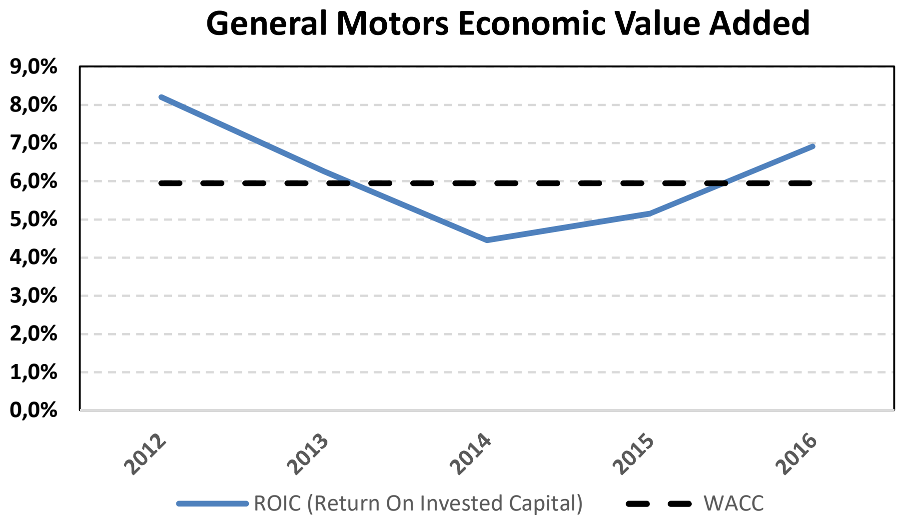
- The **turnover rate of capital employed** is continuously decreasing because of the increasing **investments** in **fixed assets** which is expected because of the **capital intensive** nature of the **business.**

- GM ROIC has been higher than the WACC except in 2014 and 2015 (where it destroyed value for its shareholders). It will be interesting to see if GM will succeed in maintaining its ROIC higher than the WACC for the coming years.

Return Analysis
ROIC (Return On Invested Capital)

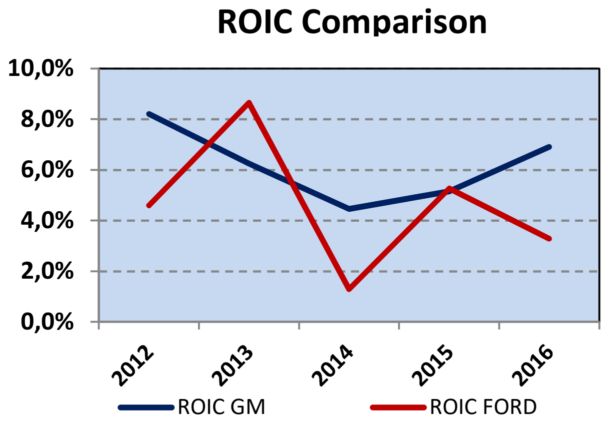
	2012	2013	2014	2015	2016
NOPAT Margin	4,0%	3,6%	2,8%	4,0%	5,8%
* Turnover rate of Capital employed	2,07	1,74	1,58	1,28	1,18
ROIC (Return On Invested Capital)	**8,2%**	**6,3%**	**4,5%**	**5,2%**	**6,9%**

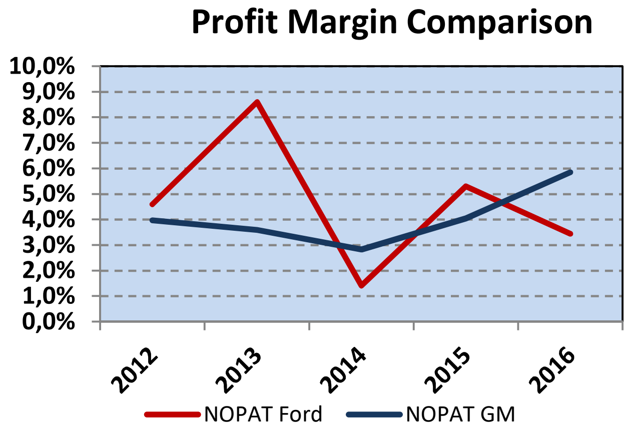


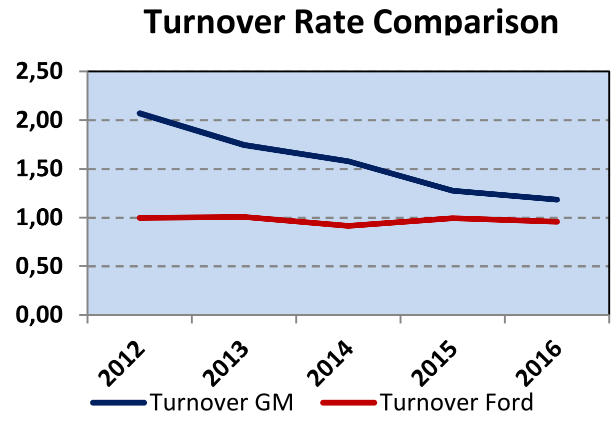


Note : ROIC has been calculated considering **GM Automotive and GM Financial**. In General Motors annual report we can find a calculated ROIC for the **Automotive part only**, considering an EBIT adjusted value. Please refer to Appendix 1 for further details. The WACC value of 2016 (5,95%) has been considered for the period. (Source : https://www.gurufocus.com/term/wacc/GM/WACC/General+Motors+Co)

Peer comparison with General Motors







- **GM ROIC** is usually **higher** than **Ford**.
- Ford outperformed GM only in 2013

- The comparison shows that the **NOPAT margin** evolution **mirrors** the **ROIC** of each company. The NOPAT margin of GM started increasing clearly from 2015 and overtook Ford in 2016. On the other hand, Ford NOPAT margin has been volatile with a declining trend. The NOPAT indicator helps us compare the performance of the two companies without being clouded by the financial expenses.
- On the **turnover** rate level, **General Motors** has **always outperformed Ford** over the period but GM trend is declining whereas the one of Ford remained constant. **General Motors** is **investing** heavily in its **fixed assets** at a higher pace than the evolution of its sales (even if the WCR was decreasing during the last 4 years) .
- Ford is having as well a highly ambitious investment strategy in its fixed assets starting from 2015. However at the same time they seem to have a clear strategy of decreasing their operating working capital which compensated for the fixed assets increase and kept the turnover rate constant. The big decrease in Ford's operating working capital is made through a better collection of money and at the same time a delay in their payables.

Ford WC Needs in days' worth of sales					
	2012	**2013**	**2014**	**2015**	**2016**
Inventory days	20	19	20	20	21
+ Receivable days	224	217	235	144	146
- Payable Days	53	49	51	96	98
= Operating Working Capital days worth of sales	191	188	204	68	70

Ford capital employed					
	2012	**2013**	**2014**	**2015**	**2016**
Fixed Assets	64 232	70 594	76 776	122 338	129 490
Operating Working Capital	69 923	75 486	80 654	28 050	29 022
Capital Employed	134 155	146 080	157 430	150 388	158 512

Return on Equity and Financial Leverage

- GM's ROE decreased from 2012 till 2014 but improved substantially in the last two years. The level of ROE in 2015 and 2016 indicates that there is no structural flaws in the company. The decrease of ROE in 2016 vs. 2015 is highly influenced by the decrease in the effect of taxes. The calculation of ROE without the income tax expense of 2016 is 27% instead of 21,5% (2,7 points higher than 2015). We should be aware that the debt profile evolved upward in the last two years and won't be a problem as long as the cost of debt remains very low. However if the cost of debt increases, it will have a big impact on the global financial performance.

- The financial leverage effect has been increasing from 2012 till 2015 to stabilize around 19,1% in 2016.

- **ROIC minus net cost of debt** after tax has been **positive** for all years which is an indication that the company's investments have been generating a **sufficient return**.

- Given the high increase of the financial leverage from 102,9% to 221%, **GM** should **watch out** not to let the **cost** of **debt** become a **burden** and outweigh it's ROIC because otherwise the financial leverage effect will drastically swing in the opposite direction**.**

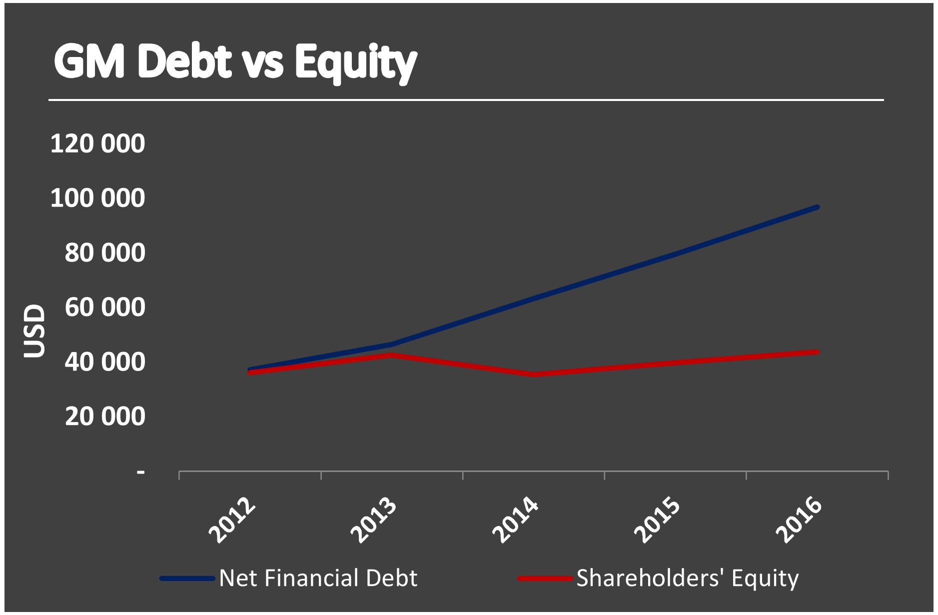
Note: *our debt analysis is conservative since pension and post retirement benefits were included in the total net debt. This approach overestimates the financial leverage effect because pension liabilities are not interest-bearing debt.*

Return On Equity

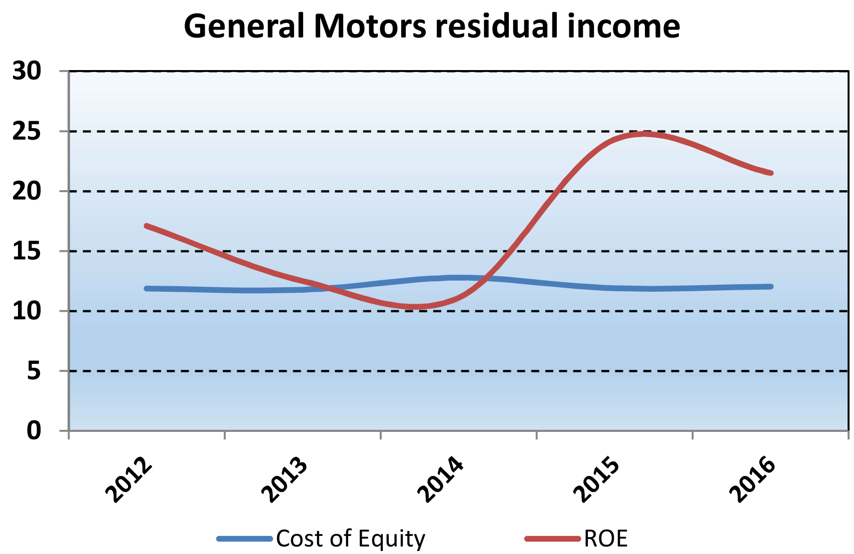
	2012	2013	2014	2015	2016
ROE (Return On Equity)	17,1%	12,5%	11,1%	24,3%	21,5%

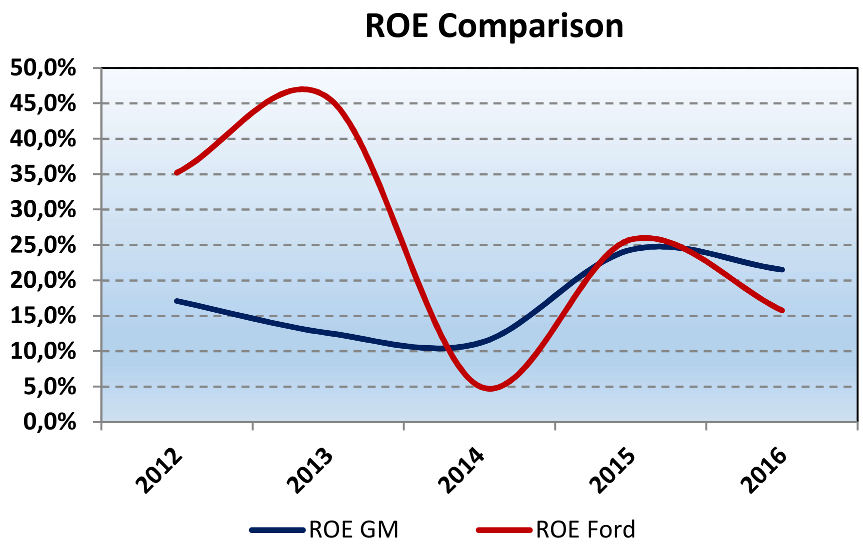
The Financial Leverage Effect

	2012	2013	2014	2015	2016
ROIC (Return On Invested Capital)	8,2%	6,3%	4,5%	5,2%	6,9%
Net cost of debt (after tax)	1,0%	-3,6%	-4,1%	-4,4%	-1,8%
ROIC - Net cost of debt	7,2%	9,8%	8,5%	9,6%	8,7%
* Financial Leverage	102,9%	109,1%	178,6%	199,6%	221,1%
= The Financial Leverage Effect	**7,5%**	**10,7%**	**15,2%**	**19,1%**	**19,1%**



Residual Income Analysis and Peer Comparison





- GM is creating value for its shareholders except in 2014. The highest value creation was made in 2015. 2016 is also a good year even if it is less than 2015.

- GM value creation is made through a sensible increase in debt which increases the risk of the company.

Note : *The cost of equity has been calculated using the formula below considering the current beta of GM (1,65) and a market risk premium of 6%. The source of risk free rate used is investopedia.com (please refer to Appendix 2 for further details)*

$$r_E = r_f + \beta * \text{Market risk premium}$$

- Ford ROE has been volatile and declined substantially over the period. Even if GM ROE was usually lower it, had an upward trend contradicting the continuous decrease of the curve of Ford.

- GM overtook Ford in 2016 with a lower financial leverage. Thanks to its higher return on its invested capital.

- The tax payment is having a big impact on Ford Net Income and consequently on its ROE.

- GM is still taking advantage from tax facilities from the US government after the bailout and tax benefit from the release of GME's valuation allowances of $3.9 billion

Outline

- **Strategic and Economic Assesement**

- **Growth Analysis**

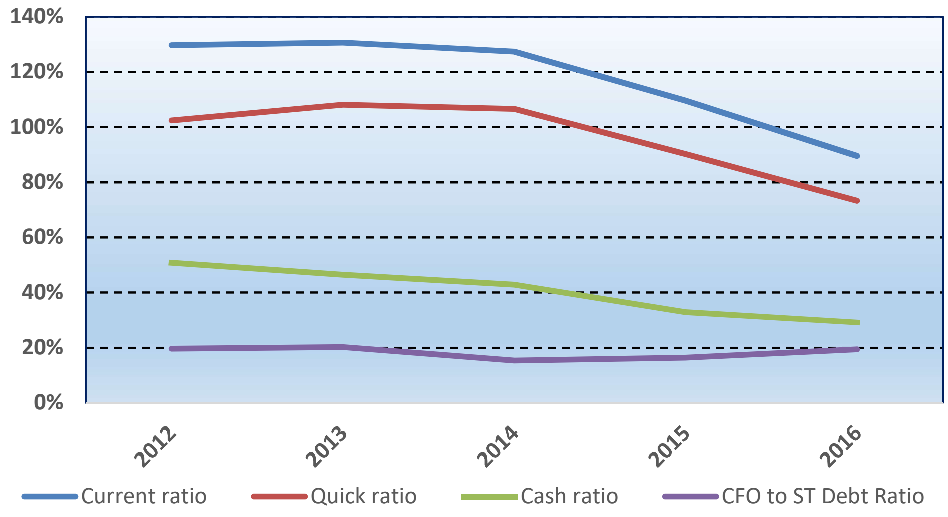
- **Profitability**

- **Illiquidity Risk Analysis : short and long-term ratios**

- **Summary Notes**

Short-term Liquidity Risk

- The **short term liquidity** position of General Motors has been **deteriorating** over the period. However current and quick **ratios** remain **relatively high** considering the nature of its business. (the current assets can cover 89% of current liabilities).
- Example of investment having impact on cash : acquisition of all of the outstanding capital stock of Cruise, an autonomous vehicle technology company, to further accelerate the development of GM in autonomous vehicles. The deal consideration at closing was $581 million, of which $291 million was paid in cash and the remaining part was paid through the issuance of new common stock.
- The decrease in the short term liquidity is mainly affected by the new accounting policy mentioned previously.
- The CFO to ST debt ratio decreased slightly in 2014 and 2015 but cached up back in 2016 where the cash from operations was high enough to cover the increase of the short term debt.
- The cash ratio is on a continuous decrease tendency. The main cash uses of General Motors are :
  - ❖ Posting cash as collateral as part of certain agreements
  - ❖ Dividend payments to shareholders
  - ❖ Annual capital expenditure
  - ❖ Payments associated with vehicle recalls
  - ❖ Financial expenses
  - ❖ Buyback operations
  - ❖ Opportunistic payments to reduce long-term obligations
  - ❖ Investments with joint ventures

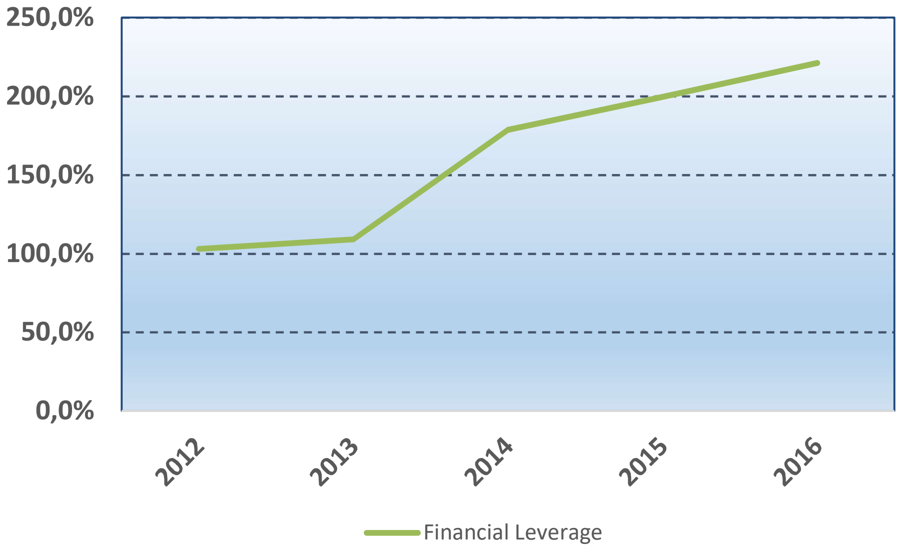


Liquidity Risk Analysis
Short-term liquidity risk

	2012	2013	2014	2015	2016
Current ratio	130%	131%	127%	110%	89%
Quick ratio	102%	108%	107%	90%	73%
Cash ratio	51%	46%	43%	33%	29%
Cash burn ratio	-97,18%	372,09%	606,07%	286,74%	202,36%
CFO to ST Debt Ratio	19,64%	20,24%	15,31%	16,42%	19,42%

GM Board strategy is to maintain a strong investment grade balance sheet with a 20 billion target cash. However because of the business exposure to external uncertainties and the risks mentioned previously, **GM should target a higher cash ratio (than the one of 2016) in order to go out of the short term liquidity risk situation**

Long-term Liquidity Risk (1/2)



- As seen previously, the financial leverage increased sharply starting from 2014.
- Long term and short term debt increased at a higher pace than the total liabilities.
- Solvency ratio is negatively affected by the increase of the debt at a higher pace than the increase of Equity, but it seems to resist well and remain around 20% over the last three years.

Long-term liquidity risk					
	2012	**2013**	**2014**	**2015**	**2016**
Long-term debt / Total Liabilities	9,4%	17,9%	22,5%	28,3%	31,3%
Short-term debt / Total Liabilities	4,9%	11,5%	10,6%	12,7%	16,3%
Financial Leverage	102,9%	109,1%	178,6%	199,6%	221,1%
Solvency ratio	24,4%	25,7%	20,0%	20,6%	19,8%

Long-term Liquidity Risk (2/2)

- The Debt to EBITDA ratio reached its peak in 2014 and remained higher than 4 after. This is not a good signal that GM is sending to the market even if the automotive business is capital intensive. In 2016 GM needed 4,3 years to reimburse all its debt (considering the same level of debt and earnings over time)

- From a rating perspective, Moody's agency changed the outlook of the company from positive to stable. One of the metrics that could support Moody's rating upgrade is a Debt to EBITDA ratio lower than 1,75%. An improvement in the outlook is important for GM because of the significant benefits that would accrue to its captive finance operation, GM Financial, as well as the attraction of investors.

Solvency risk	2012	2013	2014	2015	2016
Interest Coverage ratio	-16,9	3,3	1,7	2,9	5,7
Interest Coverage ratio (Cash)	6	5	4	4	8
Debt to EBITDA	3,5	2,9	5,3	4,9	4,3
Debt to Cash flow from operations ratio	3,52	3,68	6,29	6,81	5,86

Rating Agencies		
	Rating	Outlook
Moody's investor service	Baa2	Stable
Standard & Poor's	BBB	Positive

- General motors had a recent experience with the consequences of a world economic crisis. It is an additional requirement for them to watch over their debt ratio and try maintaining it as low as possible. The difficulty will be to know where to put the cursor between investments and debt position, in order not to be exposed to loss of business opportunities and in worst case scenarios, bankruptcy.

Outline

- Strategic and Economic Assesement

- Growth Analysis

- Profitability

- Illiquidity Risk Analysis : short and long-term ratios

- Summary Notes

Financial SWOT Analysis

Strengths

- A highly profitable company with sales increasing at a higher pace than cost of sales.
- GM Financial important contribution to sales increase
- A negative operating working capital for the last year (2016) which is good from a cash perspective if maintained over time
- Upward trend of EBITDA curve over the last 5 years
- Positive Cash Flow from Operations and big improvement in 2016
- Strong investment strategy with a good level of return on the short and long term perspective
- Sales and number of cars sold improving over the last years
- Extensive cash reserves (more than 20 billion of cash available)
- A stock price performing better than its main competitor Ford
- Leader in US market share
- High level of Current Ratio (~89% in 2016)
- Positive Free Cash Flow when considering only the automotive business part.

Opportunities

- Fixed costs reduction
- Increased sales volume in China
- Acquisition of Cruise and the potential development in autonomous vehicles.
- New growth drivers to improve profitability
    - Car sharing business
    - E-bike concept
- Exclusive mixed-metal manufacturing techniques that can attract more customers and increase sales

Weaknesses

- Negative Free Cash Flow for 4 consecutive years which is not a sustainable situation.
- Decreasing EBITDA to Debt ratio over the period
- Current stock price almost the same as 7-year-old IPO price
- High proportion of fixed costs, both due to significant investment in property, plant, and equipment as well as requirements of collective bargaining agreements, which limit GM's flexibility to adjust personnel costs to changes in products demand
- GM profitability is highly dependent on full-size pick-up trucks and SUVs on which the highest profit margins are made.
- Costly recalls campaigns affecting the profitability and the reputation of the company

Threats

- Shift in consumer preferences toward smaller and more fuel efficient vehicles (whether as a result of increase in the price of oil or as a result of global political instability) could weaken the demand for GM higher margin full-size pick-up trucks and SUVs.
- GM business is highly dependent upon global automobile market sales volume, which can be volatile.
- High impact of US exchange rate versus other currencies on the financial results in countries outside GMNA region
- Aggressive competition in China leading to reduced margins and inability to gain or hold market share.
- Shared revenues with joint ventures in China
- Increasing interest rates which will impact the cost of debt

Strategic SWOT Analysis

Strengths

- Joint Ventures with local Chinese automotive companies
- Strong position in the U.S. automotive market
- Sustainability and environmental policies
- Safe and eco-friendly vehicles
- Strong brand portfolio
- OnStar all-in-one assistant
- Global network of suppliers and customers
- Economies of scale and scope
- Technological know-how for SUVs
- Only company which has invested in all five alternative fuel technologies
- Acquisition of Cruise, an automated driving startup.

Opportunities

- Low fuel prices are increasing the demand for pickup trucks and SUVs
- Timing and frequency of the new model releases
- Demand for autonomous vehicles
- Increasing demand for smaller cars and CUVs
- Trump administration likely to ease emission and fuel economy regulations in the US
- Diversification of the business

Weaknesses

- Dependence on U.S. to generate most of the revenue
- Reliance on pickup trucks and SUVs for sales growth
- Unionized labor force
- Poor corporate reputation for green technology
- Inadequate experience in smaller vehicle production

Threats

- Increased competition
- The riding U.S. dollar exchange rate
- Increasing regulations on CO_2 emissions and recyclable parts
- U.S. automotive market is poised to slow down or even decline
- Decreasing demand in SUVs
- Rise in commodity prices
- Disruptive trends in the automotive industry (car sharing etc.)

Recommendations

GM appears to be doing a reasonable job generating net income for stockholders at its current revenue level, but it will need to

- Reverse urgently the **downward and unsustainable** performance trend of **GM Financial division**. Over the last five years, the asset base owned by this division has grown five fold, while revenue has grown less than that term. The growth in asset base has been driven by the significant increase in **capital expenditure on purchasing leased vehicles from dealerships**. Consequently the global Free Cash Flow of the company decreased dangerously. GM should find a way to reverse this trend in the near future.

- **Increase** total **sales** by relying on their competitive advantage in US and promoting for the **top high margin sales models**.

- Make **continuous** efforts to **optimize costs** to improve **ROE** and **net income**. This could drive the stock prices uphill (knowing that after 7 years from the IPO, the stock price has not made any significant gains). Cost reduction can even imply closing the production of a certain number of car product lines that have poor performance.

- **Better collection** of **money** in **GM Financial** business which will reduce the pressure on cash and liquidity risk

- **Reduce** globally the net financial **debt** which is becoming heavier the latest years.

- Define a strategy to **move** from **CSR to CSV** for the next decade because of its huge impact on the profitability of the business and on the environment

- Tap in the **market** of **connected** and fully **autonomous cars** through extensive R&D. The global market for autonomous driving hardware components is expected to grow from 400 million U.S. dollars in 2015 to 40 billion U.S. dollars in 2030.

- **Diversify** their **electrical cars** before Tesla increases the gap between them. The Chevy bolt is GM's flagship electrical car and it has a promising future. However, **betting** on the future with **Bolt only** will **not** be a **good idea**.

Appendix 0: Company – Ford Motor Co.

Ford Motor Company was selected as the most appropriate choice for our peer analysis for the following reasons:

- Both GM and Ford derive virtually all of their profits from US operations. The market for larger vehicles, including cross-overs has been expanding as the combination of cheap gas and a preference of larger vehicles among Americans.

	F	GM
US Mkt Share	14.8%	17.3%
- Cars	4.0%	5.1%
- Truck	10.9%	12.3%
- Share of Truck	18.3%	20.7%
Mkt Share- Change	-0.1%	-0.3%
- Cars	-0.6%	-0.2%
- Truck	0.6%	0.0%
- Share of Truck	-0.1%	-1.4%
	2015	2016
Truck - US Share	55.8%	59.5%

- Ford gained market share as a percentage of total vehicles sold. The F150 (truck from Ford) is due for a mid-cycle refresh in 2018 while the next generation of GM trucks is expected in 2019.

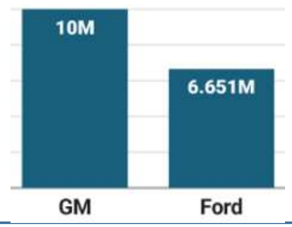
- Both firms are struggling in the shrinking car segment, though GM is doing better and actually has a bright spot in it Malibu. The new Bolt, on the other hand, will not make money but it will serve as a technological halo for the company.

k€	2012	2013	2014	2015	2016
Net Revenue (Sales)	133,559	146,917	144,077	149,558	151,800
EBIT (Operating Profit)	8,386	15,200	2,031	11,025	7,690
Effective corporate tax rate	26.40%	16.87%	0.32%	28.10%	32.21%
Total Shareholders' Equity	15,947	26,112	24,438	28,642	29,170
NOPAT (Net Operating Profit After Tax)	6,172	12,635	2,024	7,927	5,213
NOPAT Margin	4.62%	8.60%	1.41%	5.30%	3.43%
Capital Employed	134,155	146,080	157,430	150,388	158,512
Turnover rate of Capital employed	1.00	1.01	0.92	0.99	0.96
ROIC (Return On Invested Capital)	4.60%	8.65%	1.29%	5.27%	3.29%
WACC	4.67%	4.42%	2.92%	3.28%	3.04%
ROIC - WACC	-0.07%	4.23%	-1.63%	1.99%	0.25%
ROE (Return On Equity)	35.42%	45.78%	5.04%	25.74%	15.76%
Cost of Equity	10.31%	10.31%	10.31%	10.31%	10.31%
ROE-Cost of Equity	25.11%	35.47%	-5.27%	15.43%	5.45%

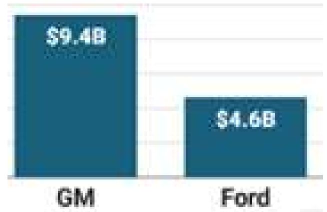
Note: We have considered the Cost of Equity of this 2016 for all the previous years because of lack of information

Market Cap as of 10 April, 2017

Vehicle Deliveries in 2016



Net Income in 2016



Appendix 1: GM Annual Report ROIC

- We noticed a big difference between our calculation of ROIC and GM calculation. We found the explanation in the annual report (please refer to the extract below).

Non-GAAP Measures Our non-GAAP measures include earnings before interest and taxes (EBIT)-adjusted presented net of noncontrolling interests, EPS-diluted-adjusted, return on invested capital-adjusted (ROIC-adjusted) and adjusted automotive free cash flow. Our calculation of these non-GAAP measures may not be comparable to similarly titled measures of other companies due to potential differences between companies in the method of calculation. As a result, the use of these non-GAAP measures has limitations and should not be considered superior to, in isolation from, or as a substitute for, related U.S. GAAP measures.

These non-GAAP measures allow management and investors to view operating trends, perform analytical comparisons and benchmark performance between periods and among geographic regions to understand operating performance without regard to items we do not consider a component of our core operating performance. Furthermore, these non-GAAP measures allow investors the opportunity to measure and monitor our performance against our externally communicated targets and evaluate the investment decisions being made by management to improve ROIC-adjusted. Management uses these measures in its financial, investment and operational decision-making processes, for internal reporting and as part of its forecasting and budgeting processes. Further, our Board of Directors uses these and other measures as key metrics to determine management performance under our performance-based compensation plans. For these reasons we believe these non-GAAP measures are useful for our investors.

ROIC-adjusted is used by management and can be used by investors to review our investment and capital allocation decisions. We define ROIC-adjusted as EBIT-adjusted for the trailing four quarters divided by average net assets, which is considered to be the average equity balances adjusted for average automotive debt and interest liabilities, exclusive of capital leases; average automotive net pension and other postretirement benefits (OPEB) liabilities; and average automotive net income tax assets during the same period.

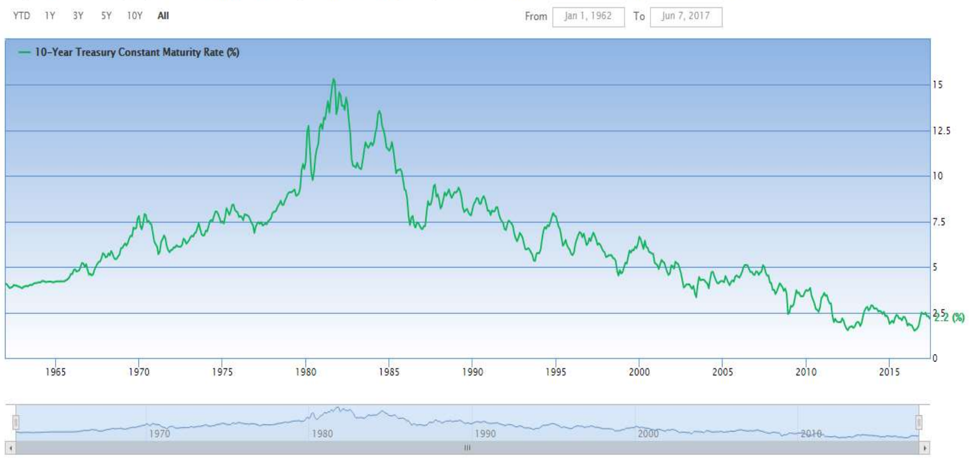
	Years Ended December 31,		
	2016	2015	2014
EBIT-adjusted(a)	$ 12.5	$ 10.8	$ 6.5
Average equity	$ 43.6	$ 37.0	$ 41.3
Add: Average automotive debt and interest liabilities (excluding capital leases)	10.0	8.1	6.8
Add: Average automotive net pension & OPEB liability	24.5	28.3	26.5
Less: Average automotive net income tax asset	(34.8)	(33.6)	(32.4)
ROIC-adjusted average net assets	$ 43.3	$ 39.8	$ 42.2
ROIC-adjusted	28.9%	27.2%	15.4%

- Through this method of computation, GM management are looking for showing the performance of GM **core business** and reassuring their investors to continue investing in the company since the ROIC – WACC is much higher than when considering the consolidated balance sheet (that include GM Financial results).

Appendix 2: GM cost of equity calculation and assumptions

10-Year Treasury Constant Maturity Rate

Daily and non-seasonally adjusted rate of return on Treasury securities maturing in 10 years. Used as the risk-free rate in the GuruFocus CAPM model



Source : Board of Governors of the Federal Reserve System

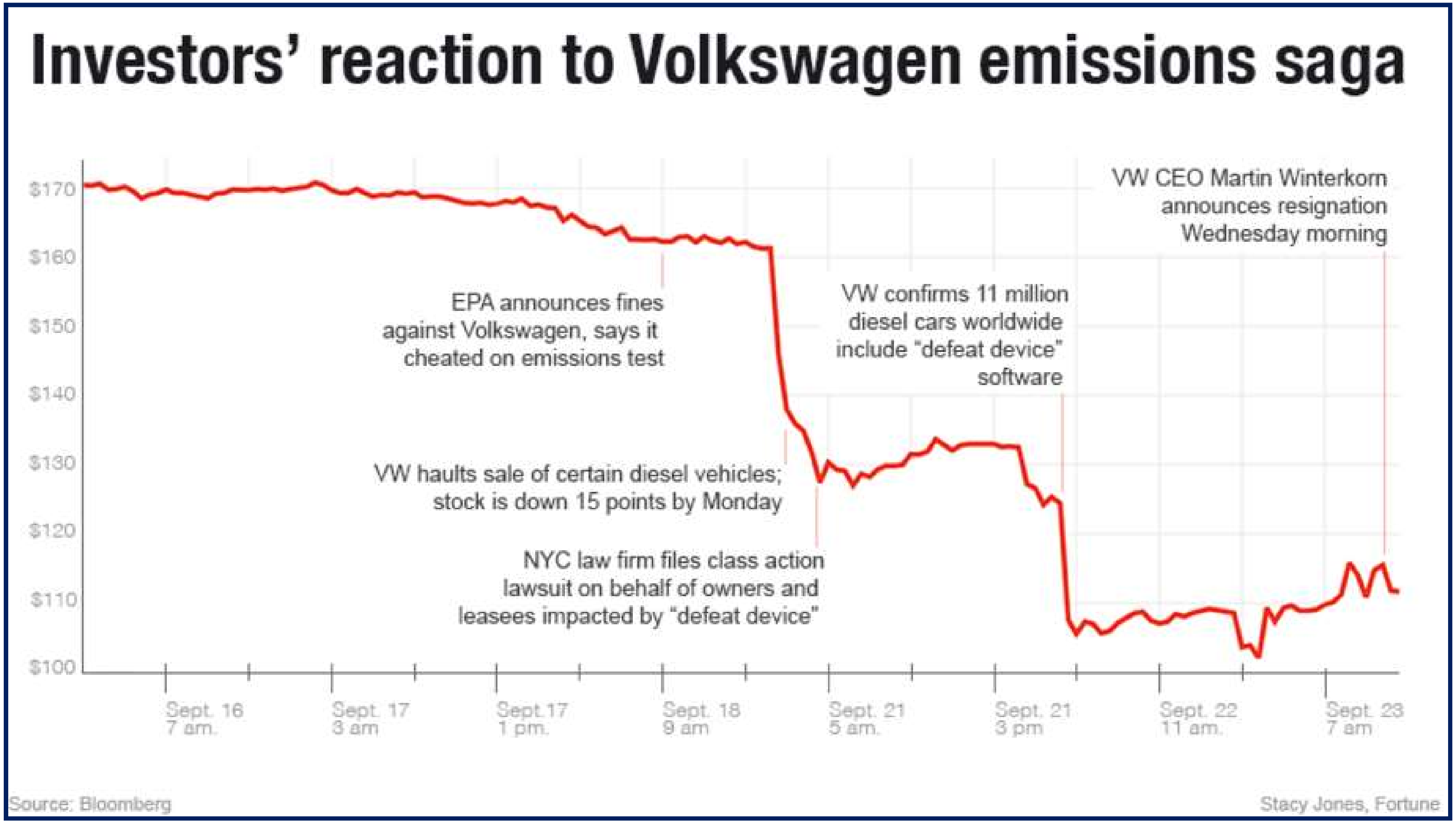
Source : www.gurufocus.com	Risk Free Rate	Average	Market Premium	Beta	Cost of Equity
	2,04				
	2,13	2,14			12,04
janv-16	2,26				
	1,84				
	1,96	1,99			11,89
janv-15	2,17				
	2,8				
	2,87	2,88	6,00	1,65	12,78
janv-14	2,99				
	1,87				
janv-13	1,89	1,87			11,77
	1,86				
	1,95				
janv-12	1,97	1,96			11,86
	1,98				
	1,95				

- A market premium of 6% has been considered (value of 2016) for all the period.
- An average value of the risk free rate (January values) of each year : source of values : www.gurufocus.com
- Beta of 1,65 (actual value) has been considered for all the years because of lack of precise information on the exact beta values before 2016.
- The cost of equity has been calculated using the formula below :

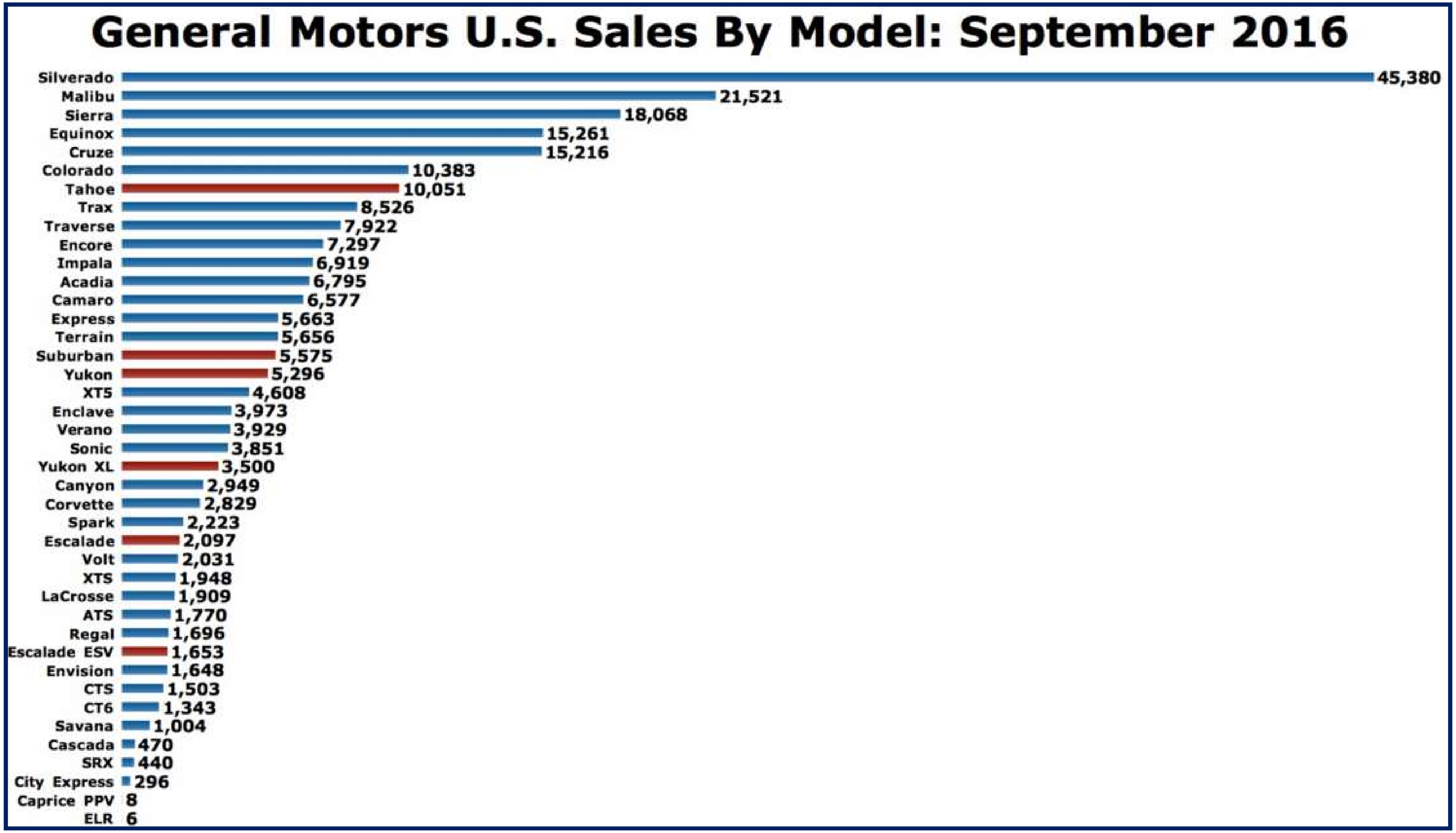
$$r_E = r_f + \beta * \text{Market risk premium}$$

Appendix 3: Volkswagen stock price evolution

- Impact of the Volkswagen scandal on the stock price



Appendix 4: GM sales by model in US



Appendix 5: The Global Picture of the Automotive Industry

Potential entrants threat is low because of the high cost of automotive start-ups maintaining and expanding new firms within an industry that is highly qualified with the significant entry barriers. These barriers weaken the introduction of new firms on the market.

Potential Entrants Low

Threat of new entrants

The automobile supply business is fragmented into many supplier firms which make the supplier power low. It is relatively easy for a manufacturing car company to switch suppliers as they are extremely dependent on the demands and the specifications and thus they hold fewer power and lower control

Suppliers Low

Bargaining power of suppliers

A highly competitive industry with most firms generating low margins because of the high level of cost of competition. Fierce competition between firms in the stream of innovation and marketing. Oligopolistic structure of the market minimizing the price-based competition. The competition is present over the extensive rebates and warranties which put pressure on profits generated from vehicules sales

Industry competitors

Rivalry among existing firms High

Bargaining power of buyers

Buyers power is low because they never purchase huge volume of cars. Usually there is low switching costs for buyers to move from automakers to another at no important extra cost. Thus the bargaining power of automakers is unchallenged.

Buyers Low

Threat of substitute Product or service

Low level of threat of substitute because of the possibility for the customer to shift from automotive to other transportation modes like public transportation, bicycles. Gasoline price can constitute a deterrent from customers' decisions to buy vehicules. Thus it depends on customer preferences, affordability etc.

Substitutes Low

Porter's Five Forces in the automotive industry