





FINANCIAL DUE DILIGENCE: A CASE STUDY ON BAYER ACQUISITION OF MONSANTO





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Bayer AG

- Listed at german stock exchange (DAX)
- Founded in 1863
- Located in Leverkusen, Germany
- CEO: Werner Baumann (Since 2016)
- Employers: 103.824 (in 2019)
- Net Sales in 2019: 43.545 billion €
- 392 Consolidated Companies in 187 countries
- Producer of pharmaceuticals, agricultural products and chemicals



Consumer Crop Science Health

Pharmaceuticals

- Prescription medicine for diseases
- over-the-counter medications
- nutritional supplements
- dermatology products
- selfcare products

- Crop Protection
- Seeds
- Digital Farming
- Environmental Science

Bayer Share Perfomance



- Bayer has lost several litigations in the past with very high penalties and litigations will follow in the next months
- since the merger of Monsanto is fulfilled the trend of Bayer's share is going down
- Animal Health was sold in 2019 (7.6 bilion USD but the transaction is not already fulfilled) to reduce liabilities

Source: 1) Bayer AG - company profile (2020) 2) Bayer AG - share price (2020) 3) Bayer AG - annual report 2019 (2020)









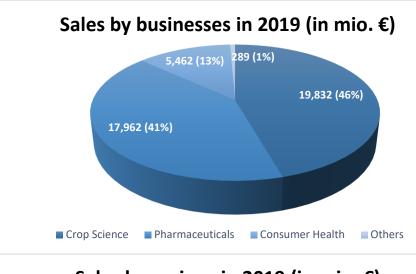
1.1 Bayer AG

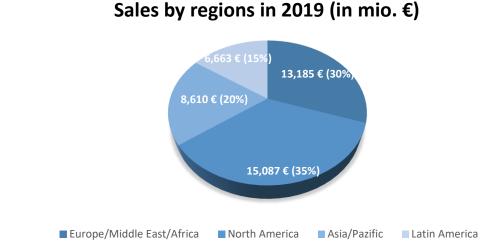


| | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------|----------|---------|---------|----------|---------|
| Sales | 46.324 € | 46.769€ | 35.015€ | 39.586 € | 43.545€ |
| EBITDA | 9.573 € | 8.801€ | 8.563€ | 9.695€ | 9.554€ |
| EBIT | 6.241 € | 5.738€ | 5.903€ | 3.454€ | 4.189€ |
| Net income | 4.110 € | 4.531€ | 7.336€ | 1.695€ | 4.091€ |
| Free Cash Flow | 3.827 € | 5.806€ | 5.202€ | 4.652€ | 4.214 € |
| Net financial debt | 17.449€ | 11.778€ | 3.595€ | 35.679€ | 34.068€ |
| Earnings per share | 4,97 € | 5,44€ | 8,29€ | 1,80€ | 4,17€ |
| Dividend per share | 2,50€ | 2,70€ | 2,80€ | 2,80€ | 2,80€ |



- Net income and earnings per share decreased in 2018
- Net financial debt increased in 2018
- Crop Science is the business with highest sales in 2019 (46%)





Source: 1) Bayer AG - annual report 2019 (2020)





Unprecedented vote of no confidence for Bayer CEO Baumann April 27, 2019



- Only just under 44.5 percent of Bayer shareholders express the discharge to Werner Baumann's board of directors for his work in the past year. Anything less than 90 percent counts as "punishment by the shareholders".
- It was the first annual general meeting since Bayer took over the US seed producer Monsanto. Hardly any takeover has ever been so criticized.
- The supervisory board, on the other hand, expresses its trust in the Bayer executive board.

The chronicle of a disaster May 14, 2019



The purchase of Monsanto and the associated risks weigh heavily on Bayer. How could it possibly come this far? The story of a decline in value.

Bayer share after 40 percent price drop The riskiest value in the DAX – and the most tempting April 29, 2019



The Monsanto takeover and the glyphosate problem have already caused chemical giant Bayer's share to slide down by around 40 percent. Because the Group's business is still going well, experts recommend buying - but the risks are enormous..

Source: 1) Süddeutsche Zeitung (2019) 2) Süddeutsche Zeitung (2019) 3) Manager Magazin (2019)



Monsanto₁

- Founded in 1901
- Located in St. Louis, Missouri, USA
- CEO: Hugh Grant
- Employers: 20.800 (in 2016)
- Net Sales: 13.502 billion USD (2016)
- The company is a agrichemical and agricultural biotechnology corporation which produced seeds, herbizides and is a major producer of genetically engineered crops

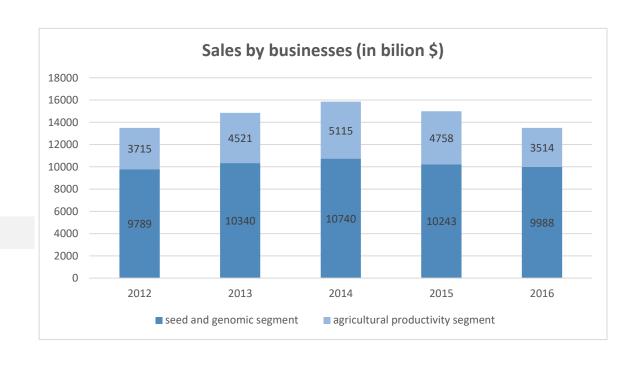


- Corn seed and traits
- Soybean seed and traits
- Cotton seed and traits
- Vegetable seeds
- Other seed and traits

Agricultural Productivity

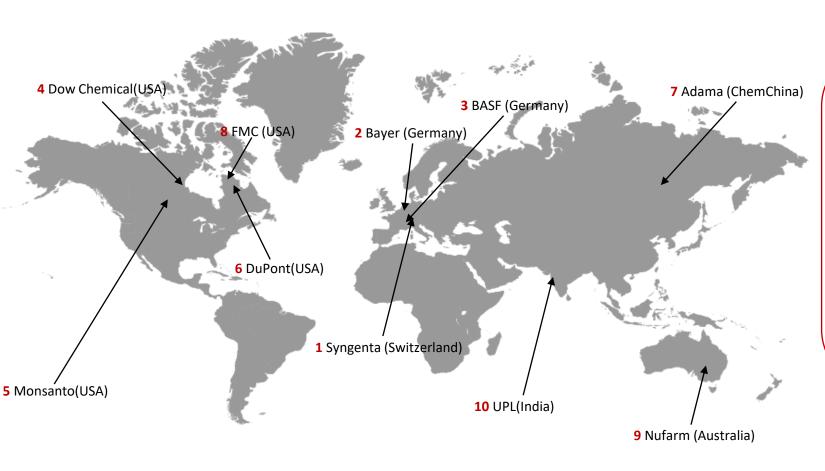
MONSANTO

Herbicides



Source: 1) Monsanto company - annual report 2016 (2016)

TOP 10 IN AGROCHEMICALS (2015)



- ✓ Bayer wants to buy Monsanto and become the world's largest producer of seeds and agrochemicals
- ✓ Bayer expects the global turnover of seeds and pesticides to increase from US\$85bn in 2015 to US\$ 120bn in 2025
- ✓ The new Bayer Monsanto would be the world's largest agricultural corporation, holding one-third of the global market for commercial seeds and a quarter of the market for pesticides

Source: Heinrich-Boell-Foundation (2017) – Agrifood Atlas 2017, p. 20

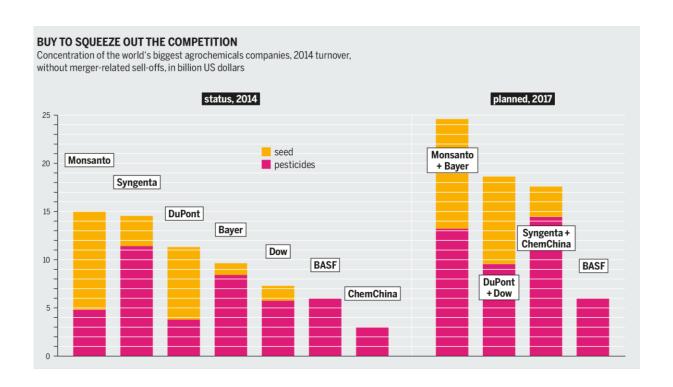
2. OVERVIEW OF THE CASE



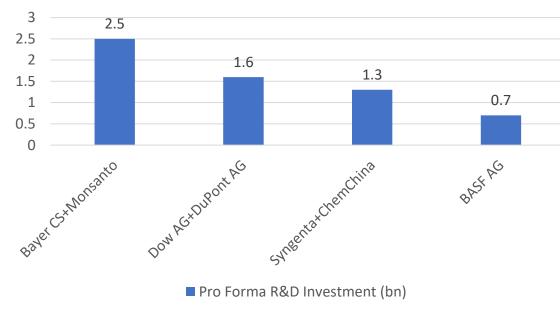




2.1 Strategy and Reason for Merger ©







Source: Heinrich-Boell-Foundation (2017) – Agrifood Atlas 2017, p. 20

Source: Investor Conference call Presentation (2016) pg.18







Crop Science

- Consumer do not buy Bayer's products or selling will be forbidden
- Consolidation process in agriculture business
- Economic or environmental factors
- Regulations and laws

Acquisition of Monsanto

Requirements for closing

reverse break fee of \$2 bn if the necessary antitrust approvals are not granted by June 14, 2018

Objectives may not be met

Assumptions and estimates including earnings, cost structure, synergies or future growth of Monsanto

Change in risk profile

Additional risk as a consequence of acquiring and integrating Monsanto's business

Risk from the financing process

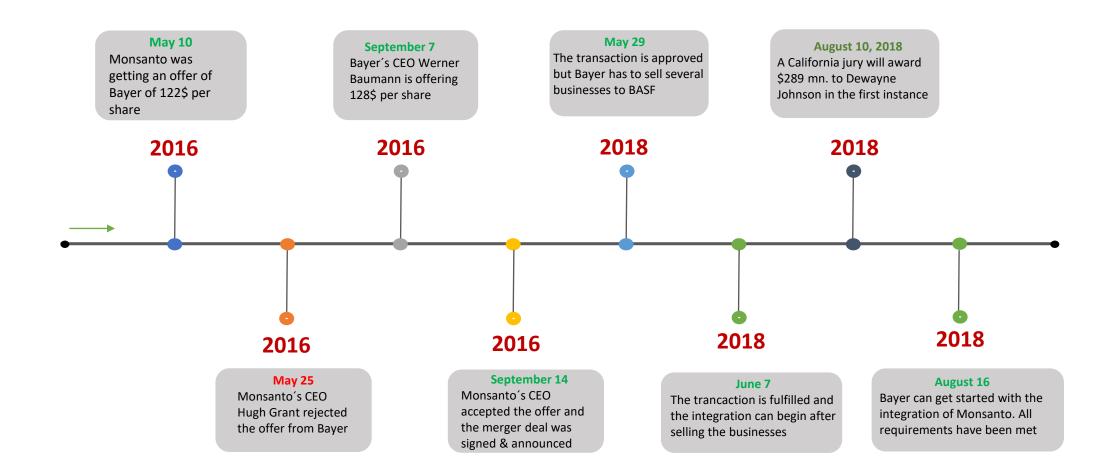
Increasing debt, credit rating, changes of exchange and interest rate

Source: 1) Bayer AG – annual report 2016 (2017), p. 172 and 178

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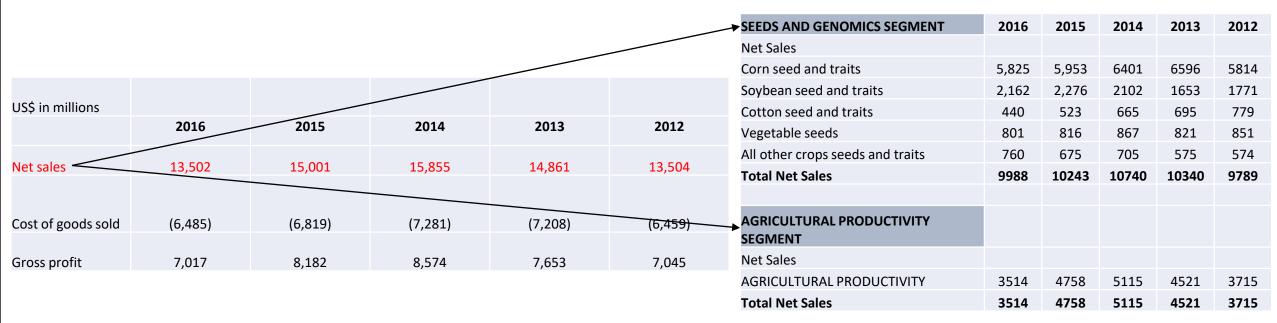
Source: 1) Sueddeutsche Zeitung (2019)

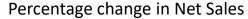
Income Statement > Sales Pe

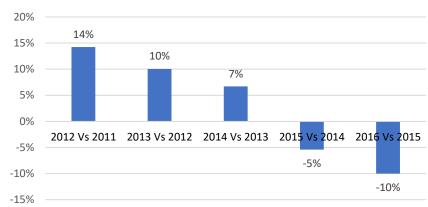
Sales Performance











- Net Sales decrease of \$128mn in corn seed and traits was primarily driven by unfavourable currency impact and decreased average selling price
- High discounting to counter competitive offers in United States resulted in low revenue

Interest expense

Interest income

income taxes

Income tax provision

Other income (expense), net

Income from continuing operations before



Inc

| Income Statement | > I | > Profit Margin Perform | | | |
|--------------------|---------|-------------------------|---------|---------|--|
| US\$ in millions | | | | | |
| | 2016 | 2015 | 2014 | 2013 | |
| Net sales | 13,502 | 15,001 | 15,855 | 14,861 | |
| Cost of goods sold | (6,485) | (6,819) | (7,281) | (7,208) | |
| | | | | | |

13,504 Cos (6,459)Gross profit 7,017 8,182 8,574 7,653 7,045 Selling, general and administrative expenses (2,833)(2,686)(2,774)(2,550)(2,390)Research and development expenses (1,512)(1,580)(1,725)(1,533)(1,517)(297)(393)10 Restructuring charges Pending Bayer transaction related costs (4,659)Operating expenses (4,642)(4,499)(4,083)(3,897)Income from operations 2,375 3,523 4,075 3,570 3,148

(172) (191)(436)(433)(248)74 105 102 92 77 (22) (46) (34)(102)(61)3,161 3,827 3,429 2,988 1,991

(1,078)

Income from continuing operations including 2,297 2,514 portion attributable to noncontrolling interest 1,296 2,749 2,087 Income on discontinued operations 17 28 13 11 6 2,093 Net income 1,313 2,325 2,762 2,525 Net (income) loss attributable to noncontrolling

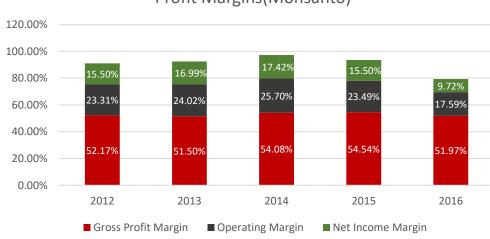
(864)

(695)

23 (11)(22)(43)(48)interest Net income attributable to Monsanto Company 1,336 2,314 2,740 2,482 2,045

Source: Own Calculations based on Annual Report Monsanto (2012-2016)

Profit Margins(Monsanto)



(915)

2012

(901)

Income Statement



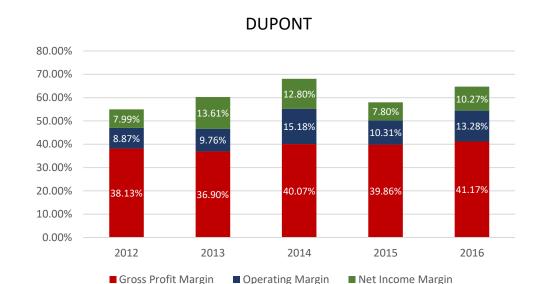






SYNGENTA 90.00% 80.00% 13.03% 70.00% 9.23% 10.02% 11.23% 10.72% 60.00% 15.89% 12.88% 13.73% 14.20% 13.91% 50.00% 40.00% 30.00% 49.12% 49.14% 47.49% 45.63% 45.87% 20.00% 10.00% 0.00% 2012 2013 2014 2015 2016 ■ Gross Profit Margin ■ Operating Margin ■ Net Income Margin

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Source: Own Calculations based on Annual Report Syngenta & DuPont(2012-2016)

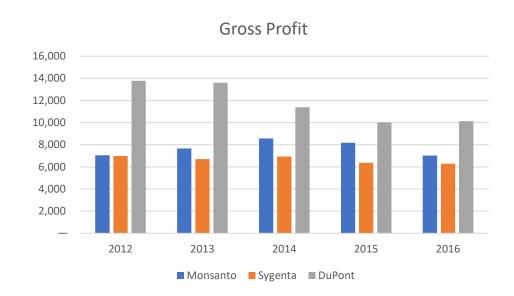
Income Statement

Profit Performance

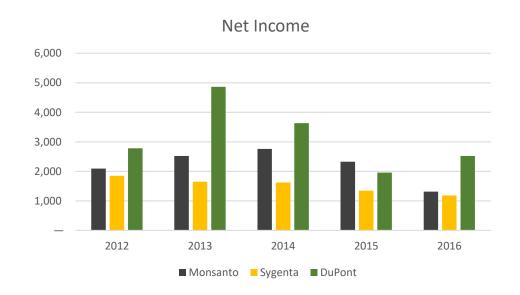








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Source: Own Calculations based on Annual Report ,Syngenta & DuPont(2012-2016)

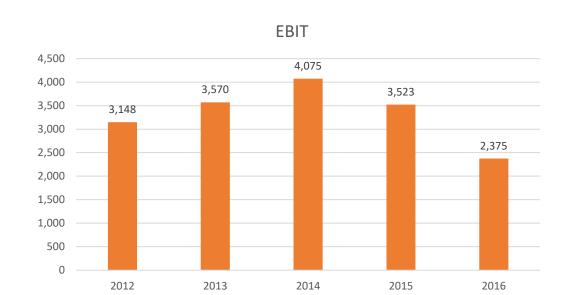
Income Statement

Profitability Measures

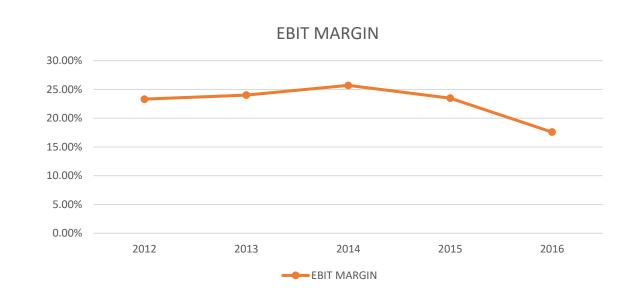








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FINANCIAL STATEMENTS

MONSANTO

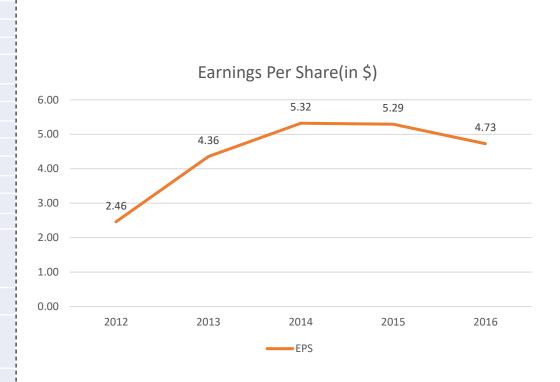




Income Statement



| | 2016 | 2015 | 2014 | 2013 | 2012 |
|---|---------|---------|---------|---------|---------|
| Net sales | 13,502 | 15,001 | 15,855 | 14,861 | 13,504 |
| Cost of goods sold | (6,485) | (6,819) | (7,281) | (7,208) | (6,459) |
| Gross profit | 7,017 | 8,182 | 8,574 | 7,653 | 7,045 |
| Selling, general and administrative expenses | (2,833) | (2,686) | (2,774) | (2,550) | (2,390 |
| Research and development expenses | (1,512) | (1,580) | (1,725) | (1,533) | (1,517 |
| Restructuring charges | (297) | (393) | _ | _ | 10 |
| Pending Bayer transaction related costs | _ | _ | _ | _ | _ |
| Operating expenses | (4,642) | (4,659) | (4,499) | (4,083) | (3,897 |
| Income from operations | 2,375 | 3,523 | 4,075 | 3,570 | 3,148 |
| nterest expense | (436) | (433) | (248) | (172) | (191) |
| nterest income | 74 | 105 | 102 | 92 | 77 |
| Other income (expense), net | (22) | (34) | (102) | (61) | (46) |
| Income from continuing operations before income taxes | 1,991 | 3,161 | 3,827 | 3,429 | 2,988 |
| ncome tax provision | (695) | (864) | (1,078) | (915) | (901) |
| Income from continuing operations including portion attributable to noncontrolling interest | 1,296 | 2,297 | 2,749 | 2,514 | 2,087 |
| ncome on discontinued operations | 17 | 28 | 13 | 11 | 6 |
| Net income | 1,313 | 2,325 | 2,762 | 2,525 | 2,093 |
| Net (income) loss attributable to noncontrolling nterest | 23 | (11) | (22) | (43) | (48) |
| Net income attributable to Monsanto Company | 1,336 | 2,314 | 2,740 | 2,482 | 2,045 |



Comprehensive Income Statement

Performance





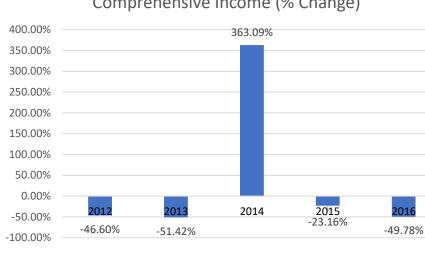




| Statements of Consolidated Comprehensive Income | | | | | |
|--|------|------|------|-------|------|
| (Dollars in millions | 2012 | 2013 | 2014 | 2015 | 2016 |
| Comprehensive Income Attributable to Monsanto Company | | | | | |
| Net Income Attributable to Monsanto Company | 2045 | 2482 | 2740 | 2314 | 1336 |
| Other Comprehensive (Loss) Income, Net of Tax: | | | | | |
| Foreign currency translation, net of tax of \$2, \$(18) and \$(33), respectively | -872 | -229 | 100 | -1596 | 35 |
| Postretirement benefit plan activity, net of tax of \$(35), \$(39) and \$76, respectively | -19 | 128 | 119 | -65 | -54 |
| Unrealized net losses on investment holdings, net of tax of \$(1), \$0 and \$0, respectively | _ | 9 | _ | _ | -2 |
| Realized net losses (gains) on investment holdings, net of tax of $$1, (1) and $$(2)$, respectively | 5 | -6 | -3 | -3 | 1 |
| Unrealized net derivative losses, net of tax of \$(26), \$(46) and \$(42), respectively | 16 | -78 | -69 | -54 | -42 |
| Realized net derivative losses, net of tax of \$44, \$23 and \$9, respectively | -50 | -66 | 17 | 31 | 55 |
| Total Other Comprehensive (Loss) Income, Net of T | -920 | -242 | 164 | -1687 | -7 |
| Comprehensive Income Attributable to Monsanto Company | 1125 | 2240 | 2904 | 627 | 1329 |
| Comprehensive Income Attributable to Noncontrolling Interests | | | | | |
| | | | | | |
| Net (Loss) Income Attributable to Noncontrolling Interests | 48 | 43 | 22 | 11 | -23 |
| Other Comprehensive (Loss) Income: | | | | | |
| | | | | | |
| Foreign currency translation | -40 | -27 | 10 | -4 | -1 |
| Total Other Comprehensive (Loss) Income | -40 | -27 | 10 | -4 | -1 |
| Comprehensive (Loss) Income Attributable to Noncontrolling Interests | 8 | 16 | 32 | 7 | -24 |
| Total Comprehensive Income | 1133 | 2256 | 2936 | 634 | 1305 |

Source: Own Calculations based on Annual Report Monsanto (2012-2016)

Comprehensive Income (% Change)



ssets

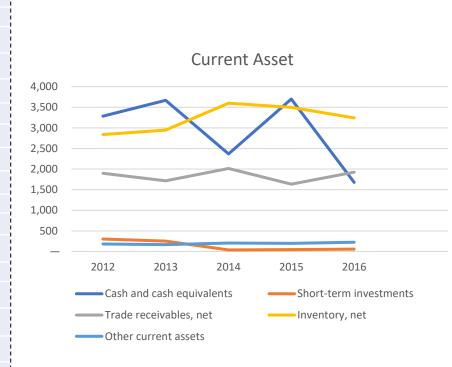






| Balance Sheet | > | Current As |
|---------------|---|------------|
|---------------|---|------------|

| US\$ in millions | | | | | |
|------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Assets | Aug 31, 2016 | Aug 31, 2015 | Aug 31, 2014 | Aug 31, 2013 | Aug 31, 2012 |
| Cash and cash equivalents | 1,676 | 3,701 | 2,367 | 3,668 | 3,283 |
| Short-term investments | 60 | 47 | 40 | 254 | 302 |
| Trade receivables, net | 1,926 | 1,636 | 2,014 | 1,715 | 1,897 |
| Miscellaneous receivables | 755 | 803 | 817 | 748 | 620 |
| Deferred tax assets | _ | 743 | 635 | 579 | 534 |
| Inventory, net | 3,241 | 3,496 | 3,597 | 2,947 | 2,839 |
| Assets held for sale | 272 | _ | _ | _ | _ |
| Other current assets | 227 | 199 | 205 | 166 | 183 |
| Current assets | 8,157 | 10,625 | 9,675 | 10,077 | 9,658 |
| Property, plant and equipment, net | 5,231 | 4,973 | 5,082 | 4,654 | 4,365 |
| Goodwill | 4,020 | 4,061 | 4,319 | 3,520 | 3,435 |
| Other intangible assets, net | 1,125 | 1,332 | 1,554 | 1,226 | 1,237 |
| Noncurrent deferred tax assets | 613 | 277 | 450 | 454 | 551 |
| Long-term receivables, net | 101 | 42 | 92 | 237 | 376 |
| Other assets | 489 | 610 | 809 | 496 | 602 |
| Noncurrent assets | 11,579 | 11,295 | 12,306 | 10,587 | 10,566 |
| Total assets | 19,736 | 21,920 | 21,981 | 20,664 | 20,224 |



Balance Sheet

Share Holders Equity



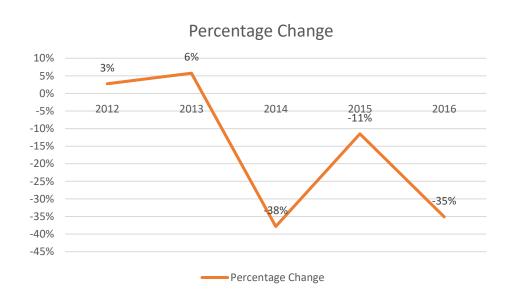






Share Holders Equity ■ Share Holders Equity

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Balance Sheet > Fixed As

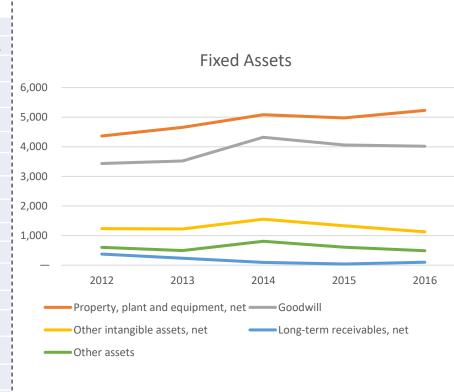
Fixed Assets







| US\$ in millions | | | | | |
|------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Assets | Aug 31, 2016 | Aug 31, 2015 | Aug 31, 2014 | Aug 31, 2013 | Aug 31, 2012 |
| Cash and cash equivalents | 1,676 | 3,701 | 2,367 | 3,668 | 3,283 |
| Short-term investments | 60 | 47 | 40 | 254 | 302 |
| Trade receivables, net | 1,926 | 1,636 | 2,014 | 1,715 | 1,897 |
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Balance Sheet >

Liabilities



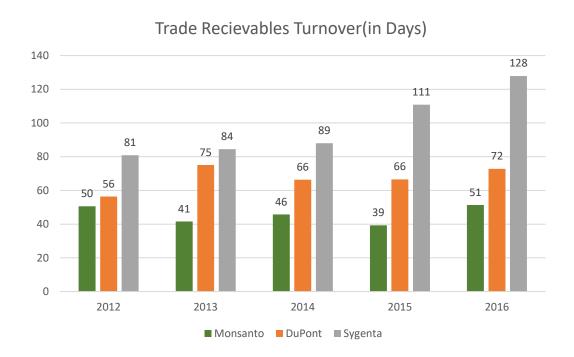


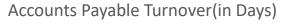


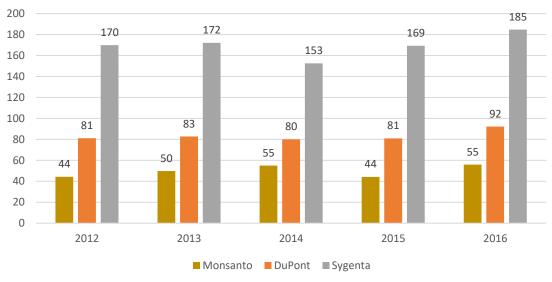
| Current liabilities | 2016 | 2015 | 2014 | 2013 | 2012 |
|---|-----------|-----------|----------|----------|----------|
| Short-term debt, including current portion of long-term | | | | | |
| debt | 1,587 | 615 | 233 | 51 | 36 |
| Accounts payable | 1,006 | 836 | 1,111 | 995 | 794 |
| Income taxes payable | 41 | 234 | 99 | 91 | 75 |
| Accrued compensation and benefits | 239 | 304 | 500 | 492 | 546 |
| Accrued marketing programs | 1,650 | 1,492 | 1,394 | 1,078 | 1,281 |
| Deferred revenues | 568 | 370 | 438 | 517 | 396 |
| Grower production accruals | 47 | 39 | 54 | 60 | 194 |
| Dividends payable | 237 | 254 | 239 | 228 | 200 |
| Customer payable | 123 | 72 | 82 | 12 | 14 |
| Restructuring reserves | 227 | 170 | 0 | 0 | 0 |
| Miscellaneous short-term accruals | 1,004 | 791 | 962 | 812 | 685 |
| | 6,729 | 5,177 | 5,112 | 4,336 | 4,221 |
| Noncurrent liabilities | | | | | |
| Long-Term Debt | 7,453 | 8,429 | 7,528 | 2,061 | 2,038 |
| Postretirement Liabilities | 371 | 336 | 345 | 357 | 543 |
| Long-Term Deferred Revenue | 35 | 47 | 47 | 138 | 245 |
| Noncurrent Deferred Tax Liabilities | 68 | 340 | 509 | 469 | 313 |
| | | | | | |
| Long-Term Portion of Environmental and Litigation | | | | | |
| Liabilities Long-Term Restructuring Reserve | 200 17 | 194 47 | 184 0 | 193 0 | 213 0 |
| Other Liabilities | 318 | 345 | 342 | 382 | 615 |
| Other Liabilities | 8,462 | 9,738 | 8,955 | 3,600 | 3,967 |











Source: Own Calculations based on Annual Report Monsanto, Syngenta & DuPont (2012-2016)

FINANCIAL STATEMENTS

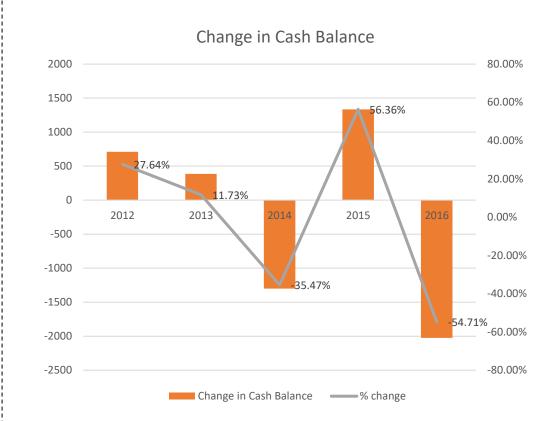
Cash Flow Statement







| Year | 2016 | 2015 | 2014 | 2013 | 2012 |
|--|---------|-------|---------|-------|-------|
| | | | | | |
| Cash and Cash Equivalents at Beginning of Period | 3,701 | 2,367 | 3,668 | 3,283 | 2,572 |
| Cash and Cash Equivalents at End of Period | 1,676 | 3,701 | 2,367 | 3,668 | 3,283 |
| Change in Cash Flow(Ending Balance Vs Beginning | | | | | |
| Balance) | (2,025) | 1,334 | (1,301) | 385 | 711 |



Cash Flow Statement

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Operating Activities

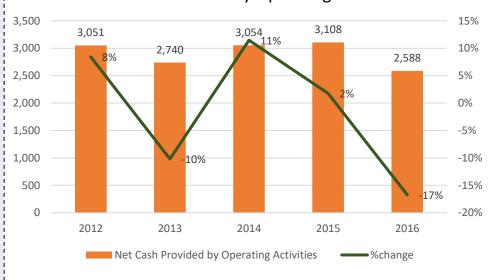






| | 2016 | 2015 | 2014 | 2013 | 2012 |
|---|---------------|---------------|---------------|---------------|---------------|
| | in million \$ |
| Operating Activities: | | | | | |
| Net Income | 1,313 | 2,325 | 2,762 | 2,525 | 2,093 |
| Adjustments to reconcile cash provided by operating activities: | | | | | |
| Items that did not require (provide) cash: | | | | | |
| Depreciation and amortization | 727 | 716 | 691 | 615 | 622 |
| Bad-debt expense | 152 | 45 | 41 | 27 | 3 |
| Stock-based compensation expense | 111 | 111 | 120 | 100 | 128 |
| Excess tax benefits from stock-based compensation | -16 | -44 | -72 | -79 | -50 |
| Deferred income taxes | 97 | -271 | 12 | 176 | 242 |
| Restructuring charges, net | 147 | 276 | 0 | 0 | -10 |
| Equity affiliate income, net | 15 | 7 | 4 | -17 | -19 |
| Net gain on sales of a business or other assets | -181 | -2 | -11 | -17 | -4 |
| Other items | 181 | 118 | 139 | -77 | 158 |
| Changes in assets and liabilities that provided (required) cash, net of acquisitions: | | | | | |
| Trade receivables, net | -498 | 68 | -172 | 222 | 89 |
| Inventory, net | 181 | -425 | -650 | -192 | -422 |
| Deferred revenues | 189 | 32 | -163 | 50 | -43 |
| Accounts payable and other accrued liabilities | 176 | 235 | 709 | -104 | 430 |
| Restructuring cash payments | 25 | 217 | 0 | 0 | -12 |
| Pension contributions | -78 | -27 | -64 | -75 | -83 |
| Net investment hedge settlement | 0 | 0 | 0 | 0 | 0 |
| Other items | 47 | -273 | -292 | -414 | -71 |
| Net Cash Provided by Operating Activities | 2,588 | 3,108 | 3,054 | 2,740 | 3,051 |

Net Cash Provided by Operating Activities



Cash Flow Statement

Technology and other investments

Net Cash Required by Investing Activities

Other investments and property disposal proceeds

Investing Activities

-69

145

-864



-403

33

-2,095

-88

169

-777

-77

11

-1,034



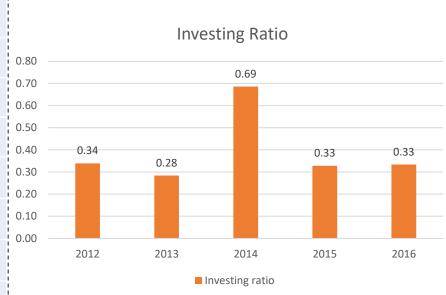


| Cash Flows Provided (Required) by Investing Activities: | 2016 | 2015 | 2014 | 2013 | 2012 | |
|---|------|------|--------|------|------|------------|
| Purchases of short-term investments | -50 | -63 | -145 | -716 | -746 | |
| Maturities of short-term investments | 35 | 56 | 359 | 764 | 746 | 0.8 |
| Capital expenditures | -923 | -967 | -1,005 | -741 | -646 | 0.7 0.6 |
| Acquisition of businesses, net of cash acquired | -2 | -8 | -922 | -165 | -322 | 0.5 |
| Purchases of long-term debt and equity securities | 0 | -30 | -12 | 0 | 0 | 0.3 |
| | | | - | | | 0.2 |

-48

41

-1,019



Cash Flow Statement

Financing Activities









| Cash Flows Provided (Required) by Financing Activities: | 2016 | 2015 | 2014 | 2013 | 2012 |
|--|--------|-------|--------|--------|--------|
| Net change in financing with less than 90-day maturities | 676 | 45 | 38 | 104 | -116 |
| Short-term debt proceeds | 49 | 57 | 50 | 22 | 30 |
| Short-term debt reductions | -272 | -36 | -24 | -29 | -42 |
| Long-term debt proceeds | 9 | 1,279 | 5,479 | 32 | 499 |
| Long-term debt reductions | (306) | (107) | (7) | (2) | (629) |
| Payments on other financing | 0 | 0 | -39 | 0 | 0 |
| Debt issuance costs | 0 | -12 | -53 | 0 | -5 |
| Treasury stock purchases | -3,001 | -835 | -7,082 | -1,095 | -432 |
| Stock option exercises | 81 | 137 | 248 | 257 | 117 |
| Excess tax benefits from stock-based compensation | 16 | 44 | 72 | 79 | 50 |
| Tax withholding on restricted stock and restricted stock units | -24 | -36 | -9 | -10 | -19 |
| Dividend payments | -964 | -938 | -904 | -802 | -642 |
| Proceeds from noncontrolling interest | 0 | 0 | 0 | 133 | 101 |
| Dividend payments to noncontrolling interests | -6 | -28 | -28 | -174 | -77 |
| Net Cash Required by Financing Activities | -3,742 | -430 | -2,259 | -1,485 | -1,165 |
| | | | | | |

Percentage Change in Cash Required by Financing Activity



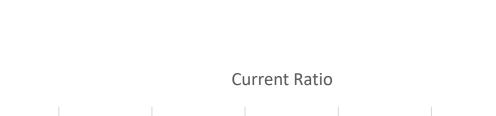
Financial Ratio Analysis

Liquidity Analysis

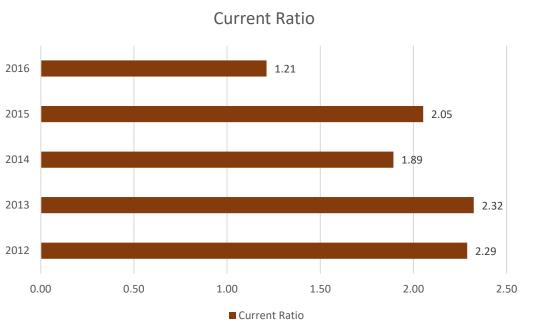


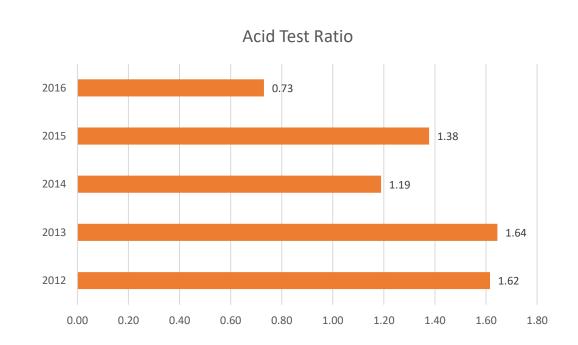






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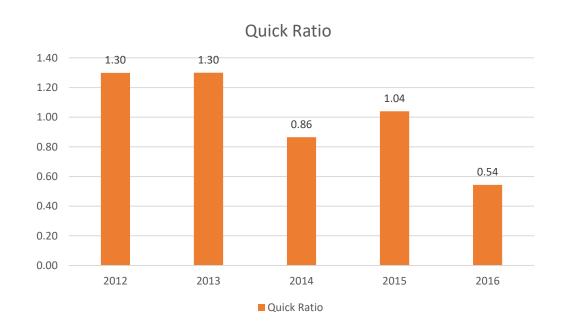












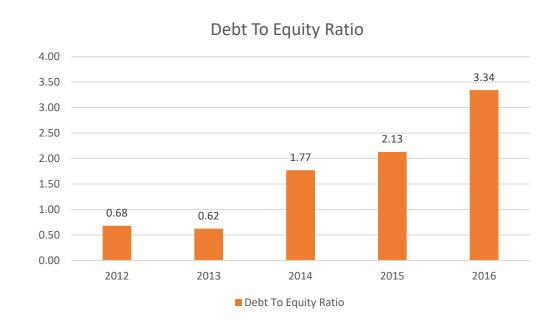






Financial Ratio Analysis











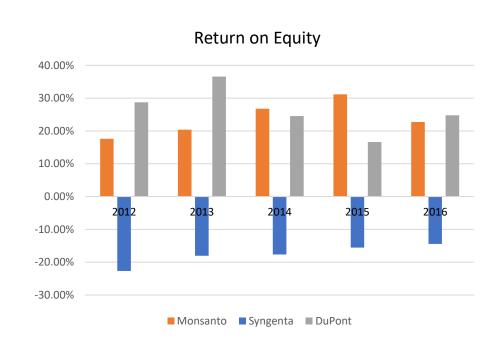


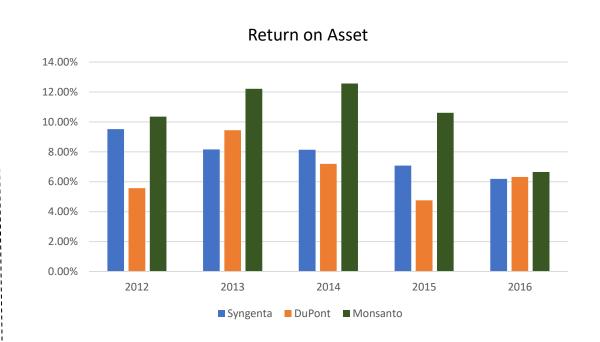


Financial Ratio Analysis



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Source: Own Calculations based on Annual Report Monsanto, Syngenta & Dupont (2012-2016)

Financial Ratio Analysis >

Turn Over ratio Analysis







Inventory turn over ratio 3.00 2.49 2.38 2.50 2.23 1.92 1.93 2.00 1.50 1.00 0.50 0.00 2012 2013 2014 2015 2016 ■ Inventory turn over ratio

Asset Turn Over Ratio 0.7300 0.7192 0.7213 0.7000 0.7000 0.6900 0.6800 0.6600 0.6500

2014

■ Asset Turn Over Ratio

2015

Source: Own Calculations based on Annual Report Monsanto (2012-2016)

2016

0.6400

2012

2013







| Key Figures | 2012 | 2013 | 2014 | 2015 | 2016 | 2017E | 2018E | 2019 E | Trend |
|---------------------|---------|---------|---------|---------|---------|--------------|--------------|---------------|-------------|
| Revenue | 13504 | 14861 | 15855 | 15001 | 13502 | 14132 | 14791 | 15481 | <u></u> |
| Gross profit | 7045 | 7653 | 8574 | 8181 | 7017 | 7602 | 7957 | 8328 | <u>~~</u> |
| EBIT | 3148 | 3570 | 4075 | 3523 | 2375 | 3358 | 3515 | 3679 | <u>سر</u> ا |
| Net Income | 2093 | 2525 | 2762 | 2325 | 1313 | 1510 | 1737 | 1998 | <u>سر</u> ا |
| Net Working Capital | 4,642 | 4,658 | 4,499 | 4,083 | 3,897 | 4369 | 4572 | 4786 | <u>~~</u> |
| Free Cash Flow | 1889.75 | 1594.38 | 4278.14 | 1370.05 | 1250.96 | 1574.25 | 1647.67 | 1724.52 | <u></u> |







| | | Past | | | | | | | | | | Actual | Future | | | | |
|--------------------------|---------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| | | | | | | | | | | | | | | | | | Average 5 |
| FY | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017e | 2018e | 2019e | 2020e | years |
| Revenue | 6294.00 | 7344.00 | 8563.00 | 11365.00 | 11724.00 | 10483.00 | 11822.00 | 13504.00 | 14861.00 | 15855.00 | 15001.00 | 13502.00 | 14131.73 | 14790.84 | 15480.69 | 16202.71 | |
| Growth | | 1050.00 | 1219.00 | 2802.00 | 359.00 | -1241.00 | 1339.00 | 1682.00 | 1357.00 | 994.00 | -854.00 | -1499.00 | 629.73 | 659.11 | 689.85 | 722.02 | |
| Growth (%) | | 16.68% | 16.60% | 32.72% | 3.16% | -10.59% | 12.77% | 14.23% | 10.05% | 6.69% | -5.39% | -9.99% | 4.66% | 4.66% | 4.66% | 4.66% | |
| Average 11-15 | | | | | | | | | | | | | 3.12% | 3.12% | 3.12% | 3.12% | 3.12% |
| Median 06-15 | | | | | | | | | | | | | | | | | |
| Average 06-15 | | | | | | | | | | | | | | | | | |
| CoGS | 3290.00 | 3796.00 | 4277.00 | 5188.00 | 4962.00 | 5416.00 | 5743.00 | 6459.00 | 7208.00 | 7281.00 | 6819.00 | 6485.00 | 6529.64 | 6834.18 | 7152.93 | 7486.54 | |
| CoGS (%) | 52.27% | 51.69% | 49.95% | 45.65% | 42.32% | 51.66% | 48.58% | 47.83% | 48.50% | 45.92% | 45.46% | 48.03% | 46.21% | 46.21% | 46.21% | 46.21% | |
| Average 11-15 | | | | | | | | | | | | | 47.15% | 47.15% | 47.15% | 47.15% | 47.15% |
| Median 06-15 | | | | | | | | | | | | | | | | | |
| Average 06-15 | | | | | | | | | | | | | | | | | |
| Gross Profit | 3004.00 | 3548.00 | 4286.00 | 6177.00 | 6762.00 | 5067.00 | 6079.00 | 7045.00 | 7653.00 | 8574.00 | 8182.00 | 7017.00 | 7602.10 | 7956.66 | 8327.76 | 8716.16 | |
| Total Operating Expenses | 2262.00 | 2371.00 | 2868.00 | 3456.00 | 3659.00 | 3464.00 | 3577.00 | 3897.00 | 4083.00 | 4499.00 | 4659.00 | 4642.00 | 4243.66 | 4441.59 | 4648.75 | 4865.56 | |
| Total Operating Expenses | 25.040/ | 22 200/ | 22.400/ | 20.440/ | 24 240/ | 22.040/ | 20.26% | 20.059/ | 27 470/ | 20.200/ | 24.000/ | 24.200/ | 20.020/ | 20.020/ | 20.020/ | 20.020/ | |
| in % | 35.94% | 32.28% | 33.49% | 30.41% | 31.21% | 33.04% | 30.26% | 28.86% | 27.47% | 28.38% | 31.06% | 34.38% | 30.03% | 30.03% | 30.03% | 30.03% | |
| Average 11-15 | | | | | | | | | | | | | 30.03% | 30.03% | 30.03% | 30.03% | 30.03% |
| Median 06-15 | | | | | | | | | | | | | | | | | |
| Average 06-15 | | | | | | | | | | | | | | | | | |
| EBIT = OP | 742.00 | 1177.00 | 1418.00 | 2721.00 | 3103.00 | 1603.00 | 2502.00 | 3148.00 | 3570.00 | 4075.00 | 3523.00 | 2375.00 | 3358.43 | 3515.07 | 3679.01 | 3850.60 | |



| WACC | 4.11% |
|----------------------|--------|
| ß | 0.09 |
| Debt Interest Rate | 2.87% |
| Equity Interest Rate | 6.93% |
| Risk Free Rate | 1.58% |
| Market Interest Rate | 6.15% |
| Market Risk Premium | 4.57% |
| Tax Rate | 34.91% |
| Debt Ratio | 24.37% |
| Equity Ratio | 75.63% |

| | As of 31 Aug 2016 | |
|------------------------------|-------------------|---------|
| | | |
| Debt | 15,191.00 | 24.37% |
| Share Price Monsanto | 106.50 | |
| Shares Outstanding | 442.70 | |
| Equity | 47,147.55 | 75.63% |
| | | |
| Total Liabilities and Equity | 62,338.55 | 100.00% |

Source:1) Own Calculations based on Annual Report Monsanto(2005-2016)
2) https://www.investing.com/equities/monsanto-historical-data







| | | | | | Actual | Forecast | | | |
|-------------------------------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|----------|
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| EBIT | 3148.00 | 3570.00 | 4075.00 | 3523.00 | 2375.00 | 3358.43 | 3515.07 | 3679.01 | 3850.60 |
| Tax | 30% | 27% | 28% | 27% | 35% | 29% | 29% | 29% | 29% |
| NOPAT | 2198.75 | 2617.38 | 2927.14 | 2560.05 | 1545.96 | 2369.40 | 2479.90 | 2595.57 | 2716.62 |
| (+)depreciation | 622 | 615 | 691 | 716 | 727 | 657 | 688 | 720 | 754 |
| depreciation in % | 4.61% | 4.14% | 4.36% | 4.77% | 5.38% | 4.65% | 4.65% | 4.65% | 4.65% |
| (-) CapEx | -646 | -741 | -1,005 | -967 | -923 | -830.69 | -869.43 | -909.98 | -952.43 |
| CapEx in % | -4.78% | -4.99% | -6.34% | -6.45% | -6.84% | -5.88% | -5.88% | -5.88% | -5.88% |
| Delta NWC | -763 | 134 | -1,531 | -592 | -493 | -621.87 | -650.87 | -681.23 | -713.00 |
| NWC in % | -5.65% | 0.90% | -9.66% | -3.95% | -3.65% | -4.40% | -4.40% | -4.40% | -4.40% |
| (-) increase/(+) decrease NWC | 285 | 897 | -1,665 | 939 | 99 | | | | |
| FCF | 1889.75 | 1594.38 | 4278.14 | 1370.05 | 1250.96 | 1574.25 | 1647.67 | 1724.52 | 1804.95 |
| Period | | | | | | 1 | 2 | 3 | 4 |
| discounted fcf 2016 | | | | | | 1520.98 | 1538.06 | 1555.32 | 46482.34 |
| EV DCF | | | | | 51,096.70 | 51,311.92 | 51,461.24 | 51,538.96 | 51538.96 |







| Book Value Per Share Calculation | |
|----------------------------------|-----------|
| Interest bearing liabilities | 8462 |
| Equity value | 42,634.70 |
| Shares outstanding | 442.7 |
| BVPS | 96.31 |

Source:1) Own Calculations based on Annual Report Monsanto(2005-2016)
2) https://www.investing.com/equities/monsanto-historical-data







■ The purchase price of US\$63 billion included Monsanto's net debt of approximately US\$6 billion (which equals US\$128 per share). Therefore Bayer secured bridge financing from a consortium of 26 banks for the remaining amount of US\$57 billion which was drawn on June 7, and reduced in 2018 by several measures:

January April May June August

- Bayer sold 10.4% of Covestro shares at a price of €86.25 per share, resulting in total proceeds of €1.8 billion
- The Republic of Singapore subscribed to 31 million new Bayer shares through a subsidiary. This corresponded around 3.6% of the increased capital stock and generated total gross proceeds of €3 billion.
- A further 14.2% of Covestro shares were sold at a price of €75.50 per share. The volume of this transaction amounted to €2.2 billion.
- Bayer raised around €6.0 billion in net proceeds from a capital increase against cash contributions with subscription rights for existing Bayer stockholders. Approximately 74.6 million new registered (no-par value) shares were issued.
- Bayer also issued bonds of US\$20 billion by several subsidiaries. All the bonds are guaranteed by Bayer AG.
- concluded Bayer an agreement with BASF SE concerning the sale of Bayer's global vegetable business, certain seed treatments and its digital farming activities and other businesses (for example the global glufosinate business). The final purchase price provisionally amounted to approximately €7.4 billion.

Source: 1) Bayer AG – annual report 2018 (2019), p. 87







Synergy Breakdown (Net EBITDA Impact)

| Total Cost Synergy | ∽\$1.2bn |
|----------------------|----------|
| Total cost sylicing, | 71.2011 |

Total Sales Synergy \$0.3bn

Total Synergy

∽S1.5bn

Cost Synergy Breakdown

- 70% stemming from SG&A savings
- Integration of country platforms / IT landscape
- Public company expenses
- Overlapping marketing & sales functions while maintaining exceptional global footprint for future growth
- R&D synergies
- COGS synergies







INTEGRATION WORKSTREAM



✓ Functional Integration Planning



Country Integration Planning



Organisation & Systems



Communication & Culture

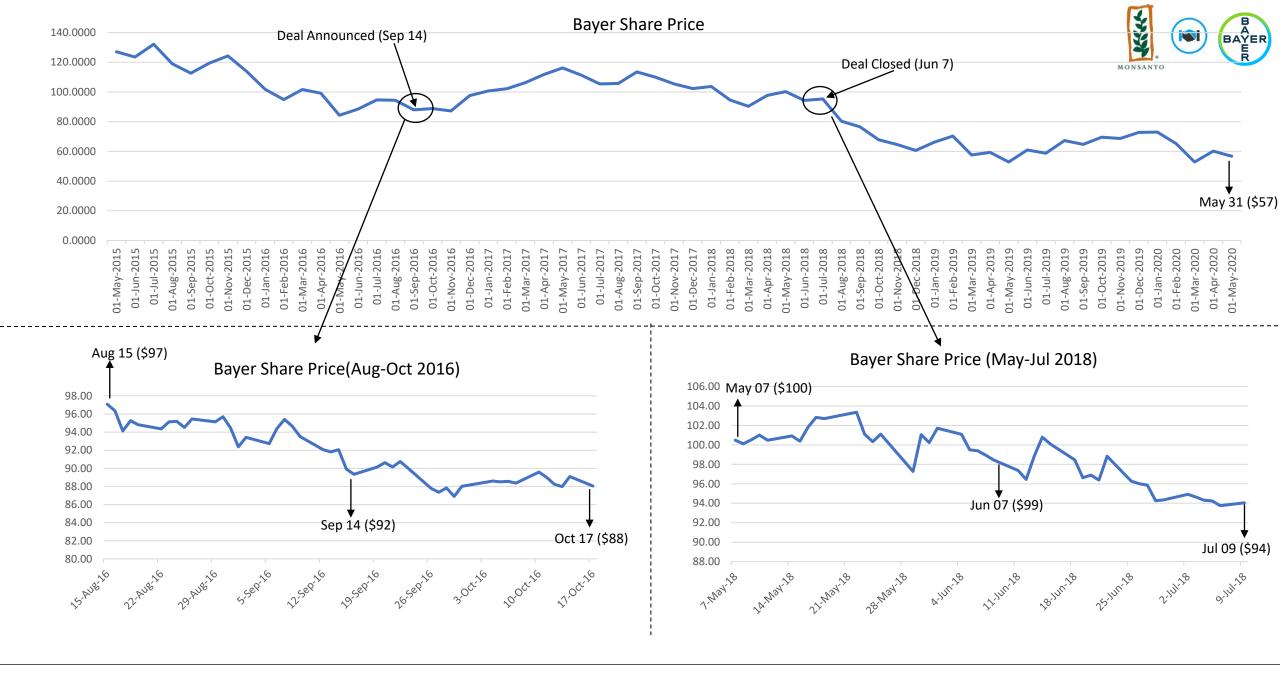


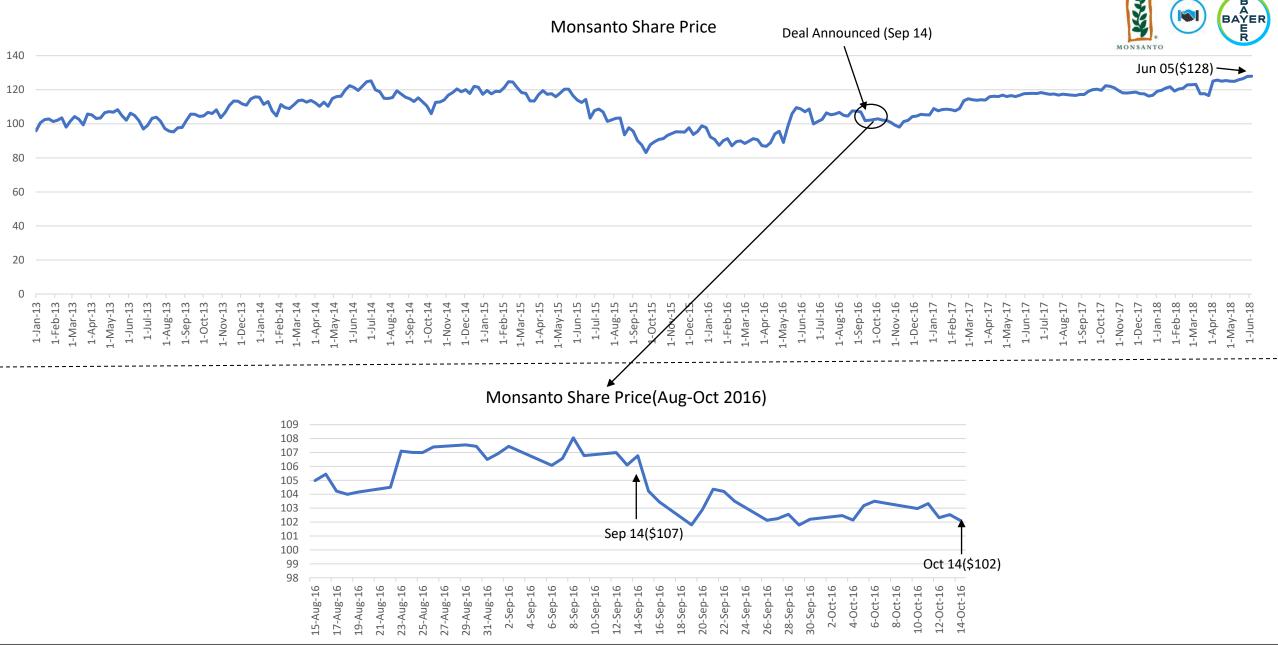
Synergies & Financial Readiness

The merger will only be successfull if Bayer ...

- is able to integrate and consolidate functions and business processes (IT, Accounting, HR for example)
- will quickly generate its synergies (especially cost synergies to reduce debt)
- will create market share in its growth markets
- is acting in a consequent way to implement its measures
- is able to resist against decreasing demand
- enhances the reputation of Monsanto and risks will be reduced (especially legal risks)

Quelle: 1) Bayer AG (2018) – Investor Presentation 2018, p. 23







Acquisition was aimed to boost agriculture research and innovation for doubling world's food supply

Largest Overseas deal by German company

As per our valuation price paid by Bayer to acquire Monsanto is high

Real Price paid by Bayer - \$128 per share

To justify the offer price Bayer needs to achieve the following:

- ✓ Successful adapting to the demands and overcoming the competition
- ✓ Careful monitoring of investment budget

SOURCE

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