CORPORATE FINANCE FOR LONG-TERM VALUE

Chapter 18: Mergers and acquisitions

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The BIG Picture

- M&As are very large investments in which a company takes over another company

Discussion

- Value creation is more likely if there are synergies between the companies involved
  - There are many dubious motives for M&As
- Financial sanity of M&A activity can be assessed with the NPV method
- Large numbers and big stakes in M&A make behavioural issues more problematic
- If not properly understood and considered, E and S issues can reduce the company's financial value
- An integrated perspective on M&A valuation is needed -> **integrated value method**

Mergers and acquisitions

- In a *takeover* or *acquisition*, one company buys another company and it is typically quite clear who is the buyer and who is the seller
- In a *merger*, it is supposed that companies of roughly equal size together decide to continue as one company, without a clear buyer or seller
  - Sometimes a deal may be called a merger for political reasons, whereas it is quite clear who is the senior party and who the junior
- The *buyer* is called the bidder during the bidding process and called the *acquirer* if the deal happens
- The company that is sold, is called the *target* during bidding and becomes the acquired company once the deal is done

Bidding process

- A bidding process takes months and is preceded by screening activities aimed at identifying the most suitable targets and doing initial valuations
- Due diligence is carried out in which the bidder scrutinises the target’s accounts under strict non-disclosure agreements
- Bids can be *friendly* (with consent of target management) or *hostile* (lacking consent)
- A deal can be stopped by regulators if it is deemed to be anti-competitive or contrary to national interests
  - Example: in August 2020, the UK government blocked the takeover of electronic design company Pulsic by a Hong Kong rival over national security concern

M&A types

- The market's assessment of a potential M&A transaction is expressed in the stock price reactions of the target and the bidder, which reflects:
  - The value creation for shareholders
  - The likelihood that the transaction will happen

- M&As can be classified in terms of business activity:
  - **Horizontal** – same line of business
  - **Vertical** – different parts of the same value chain
  - **Conglomerate** – unrelated business

Motives for M&A

- M&A deals can be done for several reasons, some deemed more valid than others
  - The search for synergies is typically deemed a valid reason
  - Cheap funding and increased earnings per share (EPS) are seen as poor reasons
- *Synergies* mean that the cooperation of two organisations provides better results than the sum of their parts
- There are several sources of synergies:
  - **Economies of scale:** as production volumes go up, costs tend to fall
  - **Economies of scope:** combining similar products could lead to spill-over effects
  - **Vertical integration:** acquiring other parts of the value chain can improve streamlining
  - **Industry consolidation:** reducing competition means a larger part of consumer surplus is taken
  - **Transition:** acquiring companies with advanced E and/or S capabilities can accelerate transition

Poor reasons for M&A deals

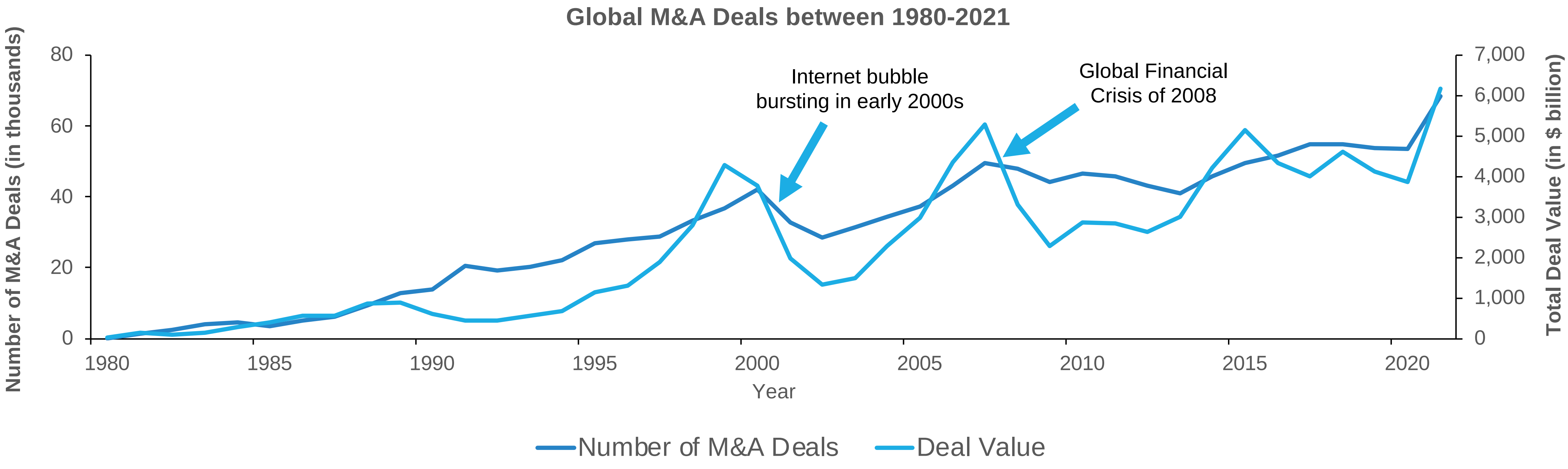
- Poor reasons for M&A deals can be behaviourally driven:
  - **Escalation of commitment:** if much time and efforts has already been invested, it often becomes difficult to stop a process
  - **When operating in the domain of losses:** negative results may lead to overvaluation of takeovers
  - **Overoptimistic managers:** overconfident CEOs overestimate their ability to generate returns, thereby overpaying for target companies and undertaking value-destroying mergers
  - **Serial acquisition:** some companies are serial acquirers and acquire multiple companies per year, with performance declining deal by deal

M&A advisory

- During an M&A process, both the bidder (acquirer) and the seller (target) hire advisory partners, also known as buy-side and sell-side mandates
- Typically, an investment bank acts as the primary contact person for the sellers and bidders throughout the entire process
  - Each selling or bidding company hires its own investment bank advisor
- Various specialists are hired to conduct a due diligence of the target
  - Financial experts normalise and evaluate the target’s earnings and financial statement
  - Operational specialists evaluate the different value drivers of the target
  - Lawyers review critical company contracts and prepare non-disclosure agreements and purchase agreement

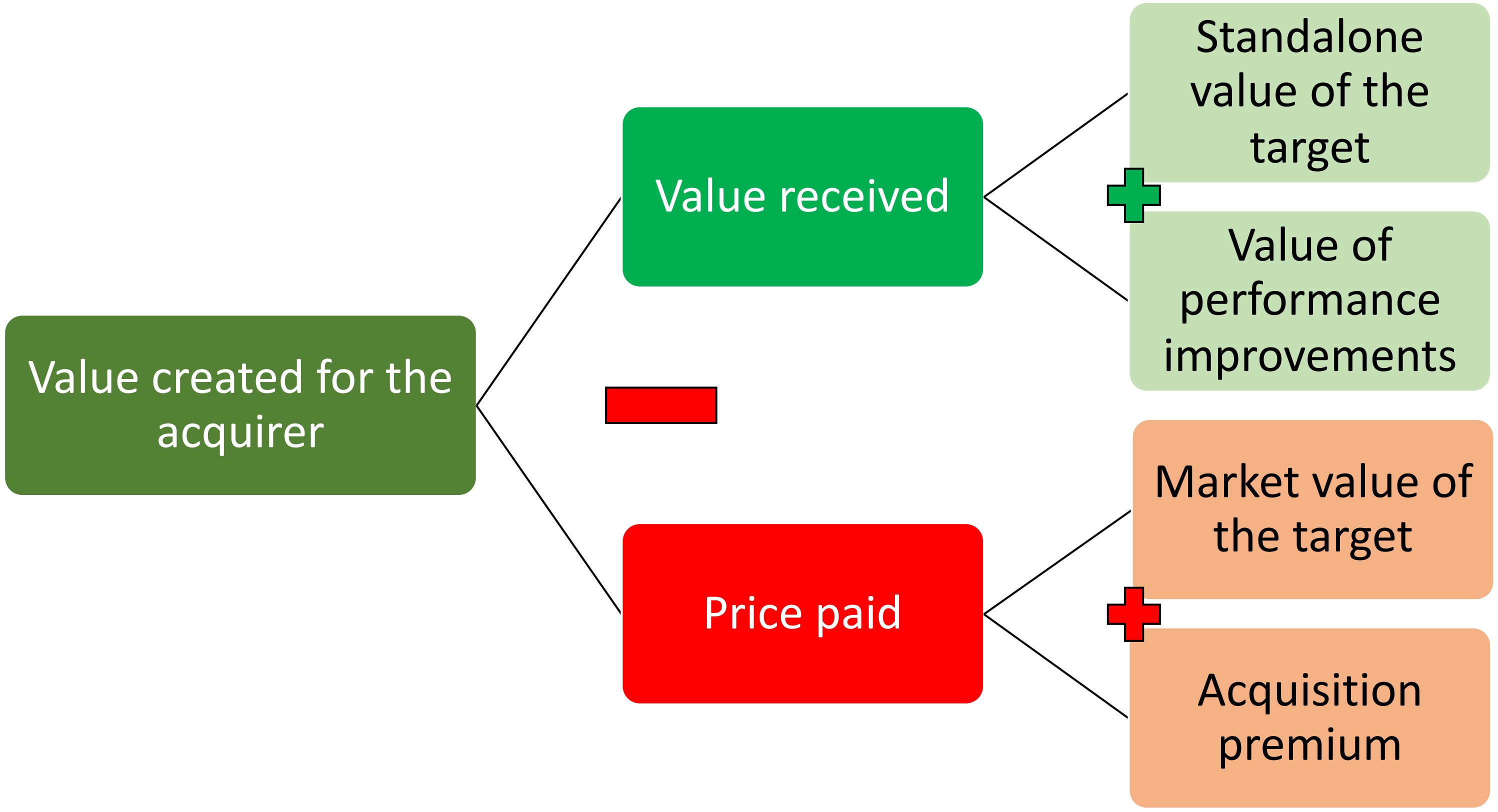
M&A waves

- M&A activity comes in waves and are linked to the state of the economy
  - During an upswing, M&A activity increases
  - During a downturn, M&A activity declines



M&A valuation

Koller, Goedhart and Wessels (2020) define the M&A value creation as follows:



Manager's assessment
(does not need to equal market value)

The measures that acquirer intends to take
(i.e. cost-cutting, using new market channels)

Price paid by acquirer on top of market value of target (driven by expectations and behaviour)

M&A valuation example

Value component	Value, $ millions at <u>20%</u> takeover premium	Value, $ millions at <u>30%</u> takeover premium	
Standalone intrinsic value of the target	650	650	
+ Value of performance improvements	97.5	97.5	Synergies are estimated at 15% of intrinsic value
= Value received (1)	**747.5**	**747.5**	
Market value of the target	585	585	10% undervaluation of company's intrinsic value
+ Acquisition premium	117	175.5	Seller demands 20% premium (left) or 30% premium (right) on top of target's market value
= Price paid (2)	**702**	**760.5**	
Value created for acquirer (1) - (2)	**45.5**	**-13**	Value is created for acquirer with 20% premium Value is destroyed for acquirer with 30% premium

Financing M&A deals

- The acquiring company can pay price for target company in cash, in stock or both

  price paid = market value of the target + acquisition premium

- Cash financed M&A deal: acquirer offers original share price plus acquisition premium to target's shareholders
- Many deals are (partly) paid in acquirer's stock, with stockholders receiving a fraction x of combined companies:

$$x = \frac{new\ shares}{new\ +\ old\ shares}$$

- In a stock offer, effective price of merger or takeover is affected by M&A gains or losses
- Payment in stock mitigates undervaluation and overvaluation of both companies
  - In overvaluation, target and acquirer stockholders share in the losses
  - In undervaluation, target and acquirer stockholders share in the gains

Behavioural issues in M&A valuation

- Behavioural issues can be internal or external errors

- Internal errors: managers overvalue their own company, the target or the synergies
  - Before companies make their bid, they can overestimate synergies or underestimate risks
  - In a bidding context, management can succumb to the winner's curse: winning by overpaying

- External errors: the market overvalues the target or the bidder
  - Shleifer and Vishny (2003) assume that acquirers are overvalued and the motive of acquisitions is to preserve some overvaluation for long-runs shareholders
  - Market-level mispricing proxies and merger volume are positively correlated

Hedge fund activism

- Activist hedge funds specialise in hostile M&A activity, and have a highly concentrated portfolio of holdings in companies that they want to shake up
- Boyson, Gantchev and Shivdasani (2017) find that shareholder value creation from hedge fund activism occurs primarily by influencing takeover outcomes for targeted firms
- Even failed bids lead to improvements in operating performance, financial policy, and positive long-term abnormal returns at targets of activism, which suggests that activism enhances value
- Brav, Jiang, Ma and Tian (2018) find that companies targeted by activists improve their innovation efficiency over the five-year period following hedge fund intervention

E and S effects on M&A before valuation

- Managers can see E and S issues as drivers of risks and opportunities in their product markets
  - Risks: certain assets can be considered too risky operationally or to be bringing reputation risks
  - Opportunities: driving strategic preferences (i.e. sustainability skills, renewable energy assets)

- Companies can become targets because of their sustainability skills
  - Companies with higher CSR scores are more likely to be acquisition targets
  - High CSR acquirers take less time to complete and are less likely to fail than mergers by low CSR acquirers

- Stronger CSR profile of the bidder means higher probability of closing the deal
  - High carbon emitting acquirers are more likely to buy firms in countries with low GDP

E and S effects on M&A valuation

- E and S can affect the value drivers and hence the attractiveness of M&A deals
  - Also important to do E and S due diligence (see Monsanto take-over below)
- Research finds a positive link between targets' overall CSR (and environmental) performance and acquisition premiums
- High CSR acquirers realise higher merger announcement returns, compared with low CSR acquirers
- E and S can also have impact on post-deal performance:
  - Compared with low CSR acquirers, high CSR acquirers realise larger increases in post-merger long-term operating performance

Monsanto takeover

- The underestimation of E and S effects can be extremely costly ← **importance of E and S due diligence**
- Bayer, the German pharma and biotechnology company, announced the takeover of the agrichemical company Monsanto in 2016
  - The final cash offer amounted to $63 billion
- Soon after finishing the deal, the first lawsuits on Monsanto's Roundup weed killer started, internalising the negative health issues
  - A chemical ingredient of Roundup is glyphosate, which was shown by a 2015 WHO report to cause cancer in animals as well as damaging effects on human cells
  - Monsanto has settled over 100,000 Roundup lawsuits worth over $10 billion; over 30,000 lawsuits are still pending
  - Bayer cut its dividend to zero in 2021 after litigation on health issues hit 2020 cash flows and profits

E and S driven M&A activism

- The past years have seen the emergence of sustainability-driven activism by hedge funds
  - Jana Partners pressured Apple to address the potential negative effects of iPhone use on children
  - Trian Partners has pushed companies to promote workplace diversity, adopt supplier codes of conduct, and reduce emissions and waste

- Some hedge funds went further, and put companies under pressure to do E and S driven M&A deals
  - Bluebell asked Glencore to separate its coal mines
  - Third Point called for a breakup of Shell

- DesJardine and Durand (2020) found that hedge fund activism between 2000-2016 yielded benefits that were:
  - Shareholder-centric and short-lived
  - With immediate increases in market value and profitability
  - Coming at a mid- to long-term cost to other stakeholders
  - Captured by decreases in operating cash flow, investment spending, and social performance

E and S valuation of M&A

- Market power is becoming an important source of value, reducing consumer surplus
- Incumbent firms may acquire innovative targets solely to discontinue the target's innovation projects and pre-empt future competition (called "*killer acquisitions*")
  - Acquired drug projects are less likely to be developed when they overlap with the acquirer's existing product portfolio
- To determine the E and S valuation effects of M&A, one needs to calculate:
  - The pre-deal EV and SV of the target and the bidder
  - EV and SV of the resulting combination

E and S valuation of M&A

- In this example, SV^+, SV^-, and EV^- deteriorate as a result of the deal
  - Likely because the bidder imposes its exploitative business model and lower standards on the target

- The loss of SV and EV in synergies is substantial:
  - **-15** on SV (top table)
  - **-7** on EV (bottom table)

SV valuation in M&A

	Bidder, pre-deal	Target, pre-deal	Synergies	Total
SV^+	14	23	-3	34
SV^-	-27	-3	-12	-42
SV	-13	20	**-15**	-8

EV valuation in M&A

	Bidder, pre-deal	Target, pre-deal	Synergies	Total
EV^+	0	0	0	0
EV^-	-52	-18	-7	-77
EV	-52	-18	**-7**	-77

Integrated M&A valuation

- Top table shows the IV for a low-quality bidder
  - The financial synergies (7) are offset by the negative social (-15) and environmental (-7) synergies, resulting in overall negative synergies (-15)
- Bottom table shows the IV for a high-quality bidder
  - Financial synergies are lower (3), but the high E&S quality bidder also realises positive social (5) and environmental (7) synergies
  - The high-quality bidder manages to improve the overall value creation profile of the combined company by 15

	Bidder	Target	Synergies	Total
FV	126	38	**7**	171
SV^{+}	14	23	**-3**	34
SV^{-}	-27	-3	**-12**	-42
EV^{-}	-52	-18	**-7**	-77
IV	61	40	**-15**	86

	Bidder	Target	Synergies	Total
FV	108	38	**3**	149
SV^{+}	79	23	**4**	106
SV^{-}	-5	-3	**1**	-7
EV^{-}	-25	-18	**7**	-36
IV	157	40	**15**	212

Kraft Heinz – Unilever case

- Kraft Heinz attempted a takeover of Unilever in 2017
  - Kraft Heinz's strategy was to maximise shareholder value, measured by EPS (earnings per share)
  - Using EPS multiples, Kraft Heinz estimated the financial value of the synergies to be **€46 billion** (left column)
- An IPV analysis of the synergies based on a DCF model showed a *value destruction* of **€63 billion** (right column)
- Conclusion: the estimated synergies depend very much on how the valuation analysis is conducted
- Two main reasons for the differences:
  - IPV analysis includes not just financial value but all three value dimensions
  - Financial analysis was based on EPS maximisation strategy (achieving sales growth while cutting costs) while IPV analysis was based on DCF valuation (long-term fundamental value)

Financial analysis based on EPS		IPV analysis based on DCF	
Value	**Synergies**	**Value**	**Synergies**
FV	46	FV	-11
		SV	-38
		EV	-13
FV	**46**	**IPV**	**-63**

IPV criterion

- As long as $NPV\ of\ FV > 0$ is the main criterion to judge the soundness of an M&A deal, the change in SV and EV is more likely to be negative than positive

- Applying the IPV criterion (below) to M&A deals can improve the value profile of the company across the three value dimensions

$$IPV = FV + b \cdot SV + c \cdot EV > 0$$

- The incidence of M&A deals that do improve SV and/or EV is likely to increase with:
  - SV and EV being measured or at least seen
  - Lower discount rates on SV and EV
  - Higher values for the parameters *b* and *c* to weight SV and EV

Integrated takeover test

- The aftermath of the aborted takeover of Unilever by Kraft Heinz generated a debate on the ‘protection’ of companies steering on integrated value
- Without protection, financial considerations (F) would always dominate social and environmental considerations (S+E)
- De Adelhart Toorop, De Groot Ruiz and Schoenmaker (2017) propose a *integrated value test* for takeovers:
  - It is the responsibility of the management of both the acquiring and target company to conduct this test to obtain the integrated value of the joint companies
  - An independent advisor would give a fairness opinion on the outcome of the integrated takeover test

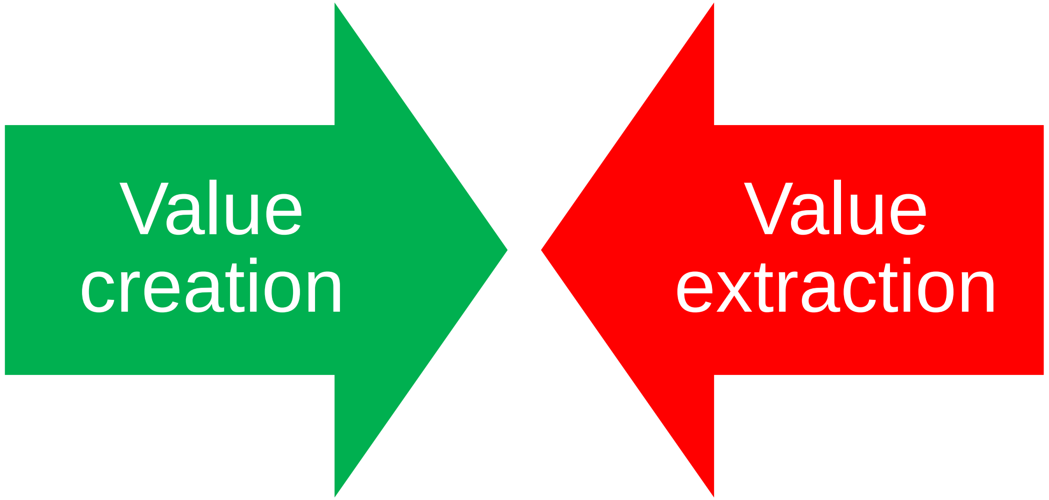
DSM’s transition through M&As

- When the coal mines were closed in the 1970s, the Dutch government helped the transformation of DSM (Dutch State Mines) into a base chemicals company
- Since the 1990s, DSM has transformed itself again, becoming a global science-based company for nutrition and health through a string of M&A deals
- The DSM – Firmenich merger combines the health and nutrition divisions of DSM and the taste and perfume divisions of Firmenich
  - This merger completed the transition of DSM into a global leader in nutrition, beauty and wellbeing

Integrated view on M&A activism

- M&A activism is typically justified by claims of value creation, but the key question is whether that value creation benefits all stakeholders (FV, SV and EV all rise)
- It would be helpful if this distinction would already be made by managers, analysts, regulators, and reporters

Improving FV, SV, and/or EV without hurting the other



Taking a share of value at the expense of FV, SV, and/or EV

Conclusions

- M&A are very large investments in which a company absorbs another company, which can dramatically change the profile of a company’s assets
- Value creation is often more likely if there are synergies between the companies involved
- Large numbers and big stakes in M&A make behavioural issues more problematic
- If not properly understood and considered, E and S issues can reduce the company’s financial value (illustrated by Bayer’s acquisition of Monsanto)
- An integrated perspective on M&A valuation is needed
  - For large M&A deals, an integrated value test should be required