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A study on the perception of Continental Europe's conglomerates by financial analysts: Understanding the discount rationale

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Abstract

There is no mystery sell-side financial analysts – also referred to as "brokers" – wield much influence over stock markets. Their recommendations and regular updates on most listed companies are indeed of particular significance to investors, who often pay close attention to the analysts' latest opinions when designing their investment strategies or rearranging their security portfolios. For all their extensive research and in-depth knowledge of the companies they cover, financial analysts also resort to personal judgment when issuing a recommendation on a particular stock. This is especially true when valuing a conglomerate, as analysts often apply a so-called "conglomerate discount" to the group's fundamental value to derive their target price for the stock. However, this "conglomerate markdown" appears to be very typical of the Continental European analysts only, who seem to remain stuck to the traditional negative perception of the conglomerate status.

The purpose of my study will thus be to investigate the conglomerate landscape in Continental Europe as perceived by brokers, and in particular the patterns of the discount they often apply to conglomerates. Though some consistent characteristics can be drawn from a macro analysis, a closer look at the discounts leads to think the conglomerate discount picture is not so black and white: business diversification is not systematically blamed for by brokers. Indeed, analysts seem not only to be sensitive to purely measurable criteria (number of business units, …) but also to less quantifiable patterns such as corporate governance practice and clear communication from the conglomerate's management. This should leave room for Continental Europe's conglomerates to maintain a high degree of diversification without undermining their stock prices.

Acknowledgment

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Outline

Introduction

The sentiment of (sell-side) financial analysts (sometimes referred to as "brokers") toward conglomerates has remarkably reversed in the last quarter of the twentieth century. Once considered the epitome of the emerging then successful capitalism, the conglomerate business model first drew much criticism in the United States (US) following the stagflation period in the 1970s and the subsequent questioning of the Anglo-Saxon corporate model. Such a distaste for corporate diversification resulted in a significant shake-up of the whole conglomerate landscape in the Anglo-Saxon world through the dismantling of most diversified business structures like Hanson in the UK and ITT in the US. Financial analysts' distaste for conglomerates was reflected in the application of a so-called "conglomerate discount", which they applied on a given company's fundamental value to show the extent of value destruction that was attributable to the diversified business structure.

Having somewhat purged all conglomerate "lame ducks", the Anglo-Saxon analysts are now more positive when evaluating these type of corporations. In Continental Europe, however, the conglomerate discount question is still wide open. Most financial analysts still apply a sometimes heavy discount to their valuations so as to derive the conglomerates' "fair" values. As the French economic newspaper *La Tribune* puts it, *"The American financial analysts have understood since a long time ago that conglomerates are less bound to underperform the market as before. Since at least 2000, and unlike their European counterparts, none of them apply a discount to any conglomerate."* [1] A recent study from The Boston Consulting Group further points to the Europe-specific conglomerate discount issue: *"There is strong support [from investors] for diversified companies, not only in the United States but also in Asia. But in Europe, there is significant pressure on diversified firms to focus on fewer businesses […] Only in Europe are conglomerates under pressure to focus"*.[2] To which extent are financial analysts so mistrustful of diversified corporate structures in Continental Europe? Given the "market makers" status of financial analysts, answering this question seems key to better understand why Continental European conglomerates[3] usually trade at a discount to their fundamental value.

First, we will have a look at the historical evolution of the conglomerate business model in Continental Europe, and the resulting "conglomerate landscape" as it is now in this part of the

[1] Bénédicte de Péretti, La Tribune, "Siemens recentre son portefeuille d'activités"
[2] "Managing for Value, How the World's Top Diversified Companies Produce Superior Shareholder Returns" – The Boston Consulting Group, December 2006
[3] The scope of the study comprises of all developed European countries (incl. non-members of the European Union like Switzerland and Norway) except Great Britain, where analysts - like in the US, as mentioned above – completely differ in the way they treat conglomerates.

world. Second, we will specifically focus on the market sentiment (as represented by brokers' views) about this type of business structure through an empirical study of the conglomerate discount since 2002, which brokers apply to most conglomerates in Continental Europe. Last, we will try to assess which conditions should be met to improve the market perception of conglomerates in Europe, on the basis of numerous examples of either success or failure to remove the analysts' discounts. An interview with a practitioner[4] will conclude this more qualitative part of the overall study.

In this study, it is assumed the "community" of financial analysts as a whole weighs much influence over market valuations: they are so-called "market makers". Throughout the paper, conglomerates will thus be seen through the brokers' perspective, which has been done through an extensive collection of most brokers' notes related to conglomerates in Continental Europe. This focus on brokers' perspective underpins two important aspects regarding the methodology followed throughout the study. First, a company is called a "conglomerate" provided it is referred to as such by at least two distinct brokers from the Thomson Research database. Second, the conglomerate discount will be considered from the brokers' point of view, as the subjective and sometimes arbitrary discount they apply to their valuation. The purpose of the study is thus not to consider the *observed* conglomerate discount[5], which is anyway also subjective since requiring an evaluation of the conglomerate's fundamental value.

[4] Robert Rozemulder, Manager at the investment bank Rothschild & Cie

[5] (Fundamental value – Market value) of any given conglomerate

I) The conglomerate landscape in Continental Europe

1) Historical perspective

a. 1870s – 1939: The early stage of company diversification in Continental Europe

European conglomerates really boomed during the Second Industrial Revolution, which gave rise to a new kind of diversified companies whose patterns would still be of great importance by the end of the twentieth century. However, the rise of company diversification at the end of the nineteenth century much resulted from some earlier trends that had been affecting the European company landscape since the turn of the century, leading to the emergence of numerous big industrial groups in Europe:

- The rise of family companies: the family structure played a great role in the early constitution of big European businesses. Such a structure enabled to develop long-run projects from one generation to another, to raise funds within the family, and the whole decision-making was especially eased as all the management process happened "in-house", within the family network. Powerful families like the Schneider, Wendel, Schlumberger and De Dietrich families started to shape the early stage of Europe's "Big Business". Families strongly supported some high degree of diversification within their groups in order to spread risk and protect their wealth from single-sector cycles;
- Some innovations pertaining to the First Industrial Revolution also hugely contributed to easing the growing integration of business activities under a single banner. Railroad was undoubtedly the most significant of these technological changes, because its rise required huge financial needs that fostered the development of large-scale financing activities within banks and conferred increasing importance to capital markets. Moreover, railroad permitted companies to vertically integrate, notably in heavy industries like steel. Stinnes, for instance, had wholly integrated the steel value chain by the end of the nineteenth century. From coal mining to steel distribution, the Stinnes company epitomized how crucial some quick means of conveyance had been to create a wholly integrated steel company;
- Last, change in the trade law gave further incentives to create large corporations by dissociating equity capital ownership from business management and limiting personal

responsibilities of investors (the French "Société Anonyme", the German "Aktiengesellshaft", the Italian "Societa per Azioni", …).

By the end of the nineteenth century, some new factors specifically contributed to the rise of company diversification in Europe. A few companies started not only to expand their activities, but they also tried to cover the whole value chain of their business sectors. Three factors were of particular importance to company diversification:

- Technical progress: increasingly sophisticated and costly machinery, the search for productivity gains via large R&D programs, led companies to look for economies of scale in constituting large-size groups;
- Credit restriction from banks: European banks remained quite conservative in their funding activities and favoured the creation of large groups so as to spread risks;
- Economic cycles of the late nineteenth century and notably the Great Depression also raised awareness among industrialists and bankers that large groups were key to economic stability.

Company concentration and subsequent diversification were especially true in Germany and France, by far the two leading economies of Continental Europe at the turn of the twentieth century.

- German companies can be considered as pioneers of the diversification model in Continental Europe. This can be seen through the emergence of large concentrated corporations whose operations were largely diversified. This early concentration mostly stemmed from macroeconomic factors affecting the German economy in the 1870s: economic recession, price decreases, a limited home market and the lack of colonies all required German companies to grow stronger and develop some diversified activities. This translated into the development of *Konzern*, both horizontally and vertically integrated corporations especially active in capital-intensive industries like electricity, mining and steel. Krupp, Thyssen and Stinnes, for instance, were all such highly concentrated and diversified *Konzern*, operating mining along with banking, transport and steel processing businesses. Such consolidation of the German industries was supported by the German State, which considered it part of the development of a Great Germany. Big state companies comprised of VEBA, a conglomerate created in 1929 when the State of Prussia consolidated state-owned coal mining and energy interests. Last but not least, the specific German banking system of *universalen Banken* was key to the creation of the first industrial conglomerates, through the development of company cross-ownership (rise of the holding structure). The First World War gave a further boost to the constitution of broadly diversified *Konzern* in Germany, German companies being too weak to face the consequences (high inflation, huge reconstruction needs, …) of war. Increasingly powerful American banks also took ownership of some German companies and further contributed to creating large groups such as IG Farben in 1923 and die Vereinigte Stahlwerke in 1926;

- Even if occurring at a lower scale than in Germany, the diversification process also significantly reshaped the French economic landscape in the early twentieth century. Firms like Saint Gobain, Schneider, Péchiney and Kuhlmann considerably expanded in the 1890s all the more so since the 1870s war and subsequent reconstruction phase had created some huge needs for equipment and reconstruction materials. Some companies such as Péchiney (which expanded its operations from chemistry to aluminium and electrometallurgy) had already developed a pretty well diversified portfolio of activities by the mid 1880s. As in Germany, diversification intensified in the 1920s thanks to war profits these large groups had made and subsidies from the French government that were designed to relieve some sectors that had been deeply affected by the war. By the mid 1930s, a range of French companies had developed a conglomerate structure.

Overall, the concept of business diversification grew increasingly popular in the 1930s under the influence of nationalistic European States, which saw conglomerates as very powerful economic assets. For instance, the diversification process of FIAT was triggered by Mussolini's wish to create a single heavy industry group that would gather building and construction activities as well as aeronautical and railroad operations for the whole Italy. Protectionism and home-focused economic policies were also key to this business expansion, as large corporations tried to find new growth opportunities to compensate for the difficulty to expand abroad. The decade preceding the Second World War thus saw company diversification as a substitute to international expansion.

b. *1945 – 1970s: the heyday of European conglomerates*

Post-war economic reconstruction and prosperity spurred companies on developing some highly diversified activities. Governments once again played a major role in the development of conglomerates, as they were supposed to ease the State control of the economy via the gathering of various activities and subsidiaries under the same banner. This was particularly obvious in Italy, where most of the industry was gathered under the State holding IRI that grouped together about 1,000 firms by the end 1970s! Under IRI, companies were encouraged to pool resources and co-develop their activities even if unrelated. The French government's ambition to create "National Champions", one for each sector, contributed to creating firms that operated along the whole value chain of some given sectors, leading to "single-sector multi-businesses" companies. Typical examples of such firms include the SNIAS in aeronautics, CGE in electricity and Saint-Gobain PAM in building materials.

Encouraged by national governments and financially supported by the US (notably through the Marshall Plan), some European entrepreneurs sought to profit from the economic boom (like the "Trente Glorieuses" in France) through diversification. From the aftermaths of war to the 1970s, the economic cycle was particularly favourable in Europe and most companies did not want to miss out on any growth opportunity. For example, FIAT kept diversifying after the war, the goal being also to grow on a strong enough foundation to confront with international competition. Such rationale can be illustrated through Denmark's AP Moller: through diversification in the airline and retail industry, this firm got strong enough to successfully expand abroad its core logistics business in the 1970s.

In addition to the favourable political environment surrounding the creation and consolidation of large conglomerates across Continental Europe, most of the economic literature and financial analysts were at that time supportive of the conglomerate model. The main pros of the conglomerate structure could be summarized as such:

- The creation of a so-called "internal capital market" within the group ought to optimize the investment process, thriving sectors being allocated more funds while at the same time generating the strong cash-flows needed to compensate losses from businesses experiencing a temporary decline. This should be bound to ensure stable earnings growth over the long run. This creation of an "internal capital market" was really key to the highly positive view most analysts had on conglomerates, as it was seen as a good substitute to the still highly risk-averse thus credit-restrictive banking system;

- Diversification should immunize companies against a single-sector downturn; the more unrelated the businesses, the less risk exposure the conglomerate bears;
- Developing a large asset base is key to achieve economies of scale;
- It is also very helpful in lowering borrowing costs, a large asset base being associated with good solvency and stable cash flows;
- The "too big to fail" argument is more pervasive: a conglomerate's influence on a country's economy is such that the State would not let it go bankrupt.

This liberalization trend in Continental Europe was epitomized by numerous privatizations that enabled large companies to find new levers of growth away from their traditional core businesses. In France, Bouygues took the opportunity to develop a media branch in addition to its building and construction businesses when it took over TF1 in 1987 that was sold by the French government.

c. 1980-1990s : The shake-up of the European conglomerate landscape

The economic crisis of the end 1970s and early 1980s significantly changed the way conglomerates were perceived. The lack of responsiveness and acuity of the crisis in Continental Europe indeed highlighted how pervasive the conglomerate model could be when facing adverse conditions. Moreover, rising international competition from Japan and increasingly refocused American companies spurred most European conglomerates on giving priority to their core business activities. Growing more focused was indeed bound to help build up forces (i.e. human, financial and industrial capital) on a field of company's expertise, rather than weakening the whole group by being stretched too thin. Last, the cons of the "internal capital market" attracted increasing attention, as banks' deregulation occurring throughout Continental Europe was paving the way for much greater bank financing, thus making the internal capital market concept more and more irrelevant.

Economic literature has been displaying growing criticism of diversification since the 1980s. The website www.vernimmen.com summarizes the main disadvantages of the conglomerate structure as described by economic research:

- Heavier structural costs;
- A lack of clarity as regards the stock's underlying sector, thus leading to much uncertainty when it comes to analysts' coverage;
- Inefficient investment process, with loss-making divisions being funded by profitable activities, which therefore suffer from some insufficient resource allocation. Conglomerates are prone to seek business expansion as the top priority (in some cases to become "too big to fail", for instance) regardless of any profit-oriented consideration;
- A conglomerate is also bound to be subject to sharp power struggles between the different units, which further prevents any optimal resource allocation policy from being successfully implemented.

A good example of the refocusing trend that affected the conglomerate landscape in Continental Europe is the huge shake-up that occurred in the chemical and pharmaceutical industries during the 1990s. After several decades of growth, the European chemical industry faced many challenges in the 2000s: competition from emerging countries, impending patent expiries, production overcapacity and lower barrier to entries forced many chemical companies to focus on their most promising high growth segments, which they did in two phases:

- Conglomerates which typically had activities in pharmaceuticals, agrochemicals and chemicals started splitting into companies specialising in either one or two of these businesses;
- Some resulting life-science companies (grouping together pharmaceuticals and agrochemicals) separated from their agrochemical divisions to entirely focus on pharmaceuticals, such as Novartis and AstraZeneca, which merged their agrochemical divisions to create Syngenta.

Refocusing trend in the chemical business since 1993 (incl. non-European)[6]

1993	1995	1997	1998	1999	2000	2005e	2006e
Eastman Chemical (Eastman Kodak)	Clariant (Sandoz)	Ciba SC (Novartis)	Rhodia (Rhône-Poulenc)	Celanese (Hoechst)	Syngenta (Novartis/ Astra Zeneca)	Lanxess (Bayer)	Arkema (Total)
Zeneca (ICI)		Solutia (Monsanto)		Avecia (Zeneca)	DMC² (Degussa-Hüls)		
Cytec (American Cyanamid)				Lonza (Algroup)	Vantico (Ciba SC)		
				Cognis (Henkel)	Shell Epoxies (Shell)		
					Givaudan Roure (Roche)		

Source Metzler Equity Research, Arthur D. Little

This trend toward greater focus seems to have paid off, as shown by the strong performances of Zeneca (demerged from ICI), Novartis (created from the merger of the pharma divisions of Ciba and Sandoz) and Aventis (created from the merger of the pharma divisions of Rhône-Poulenc and Höchst).

We will come back on a detailed analysis of the problems raised by the conglomerate structure in a latter section (II.2.a).

Still, the questioning of the conglomerate model did not mean the end of company diversification. The liberalization of capital markets that occurred in all Continental European economies in the 1980s gave considerable leeway to companies regarding their desired degree of diversification. Added to that, governments started to privatize their former "national champions" which from then on had to do business on a more competitive basis. Bouygues, a French building and construction company, seized the opportunity to develop in the promising yet fledgling media business by taking a majority share in TF1 following the sale of the TV channel by the French government in 1987. In Italy, the government intended to unite the whole high tech industry under one single state-owned holding with private status: the "Great Finmeccanica". Such a project was aimed at giving Italy a leading edge on the international markets for state-of-the-art technologies across the whole industry. The ambition was to become an international leader in the space, robotics, defence and micro-electronic industries by merging together formerly scattered companies that would perfectly combine complementary industrial know-how and assets while more efficiently allocating resources to

[6] Spun-off companies are shown in brackets

every activity (i.e. without overlaps). The burden of indebtedness forced the Italian government into an IPO of Finmeccanica, but this did not stop the company from pursuing a diversification strategy. Instead, public ownership gave it more power to invest in whichever sector would be judged relevant to the company strategy. In 1994, the Italian conglomerate acquired various aeronautical and defence firms, and it expanded to mobile telecommunications in 2002 through the purchase of Marconi Mobile.

Last, there has also been some “natural” company diversification starting in the 1980s. Big companies that throve during the economic boom of the 1950-1960s thought about diversification as they had to face adverse economic conditions in the 1970s and maturity on their core markets. Such diversification can be considered “natural” since resulting from a search for new value creation levers as traditional businesses start staggering at some point in time. A good example lies in Saint-Gobain’s diversification away from its core business of building materials manufacturing. In the 1990s, Saint-Gobain indeed entered two growth markets that had no clear link to its traditional business, namely high performance materials and building materials distribution through the acquisition of Point P and Lapeyre in 1996.

2) Today’s conglomerates in Continental Europe: Differentiating criteria

All subsequent descriptions and analysis are based on a conglomerate list that has been elaborated via Thomson One Banker, an extensive database comprising of more than 16,000 listed companies in the world, or about 98% of the overall value of the world’s exchanges. To be considered a conglomerate, a company had to meet two criteria:

- An average market capitalization equalling at least 1.5 billion euros;
- At least two brokers giving it the “conglomerate” status over the 2007 year.

Searching the Thomson database with this “conglomerate filter”, I ended up with a list of 49 companies that could be seen as an extensive representation of Continental Europe’s conglomerates. Details on the list are available in Appendix.

Of course, conglomerates all display different patterns as regards size, shareholding structure and core business sectors. Breaking down the list by such criteria should help us gain a better understanding of today’s conglomerates in Continental Europe.

a. *Size*

Not surprisingly, conglomerates include some heavy weights among other European companies. It is worth noting most conglomerates are all European or world leaders in their sectors, thus contradicting the traditional criticism that diversification would be synonymous with a stretched-too-thin structure. Instead, a diversified portfolio of activities might be helpful in the strengthening of core business activities, even if unrelated. Combining diversity with market dominance seems to have been achieved by the development of a kind of "single-sector multi-business" structure, as all conglomerates have on average one dominant (i.e. accounting for more than 50% of sales) area of business.

Nonetheless, the range of about € 100bn for both market capitalization and sales leaves much room to size diversity within the list, from industrial heavyweights like Daimler and Siemens, a large powerhouse (E.ON) and Europe's second biggest retailer (Metro) to less

	Country	2007 Sales (€ bn)
1. **Allianz**	Germany	102.6
2. **Daimler**	Germany	99.4
3. **Siemens**	Germany	76.5
4. **E.ON**	Germany	68.7
5. **Metro**	Germany	64.3
6. **Deutsche Post**	Germany	63.5
7. **FIAT**	Italy	58.5
8. **BASF**	Germany	58.0
9. **Telefonica**	Spain	56.4
10. **Thyssenkrupp**	Germany	55.2
…	…	…
48. **Wacker Chemie**	Germany	3.8
49. **Richemont**	Switzerland	2.5
50. **Altana**	Germany	1.4

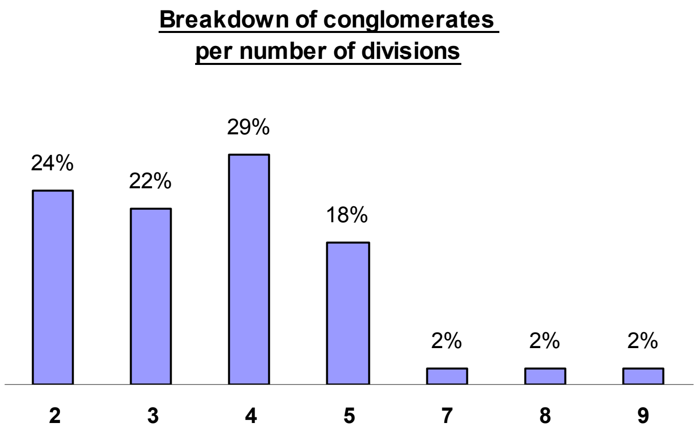
Source Datastream

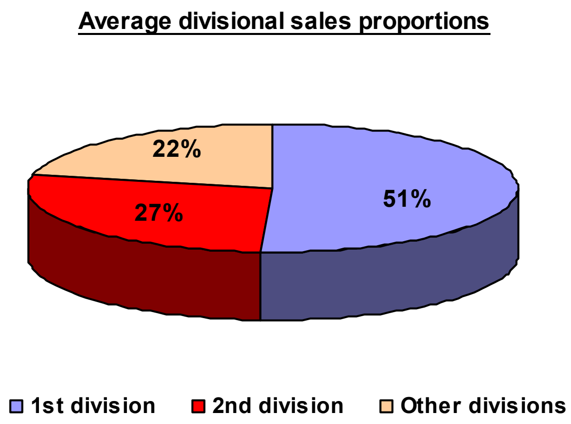
	Country	Market cap. (€ bn)[1]
1. **Telefonica**	Spain	106.1
2. **E.ON**	Germany	100.8
3. **Siemens**	Germany	99.1
4. **Novartis**	Switzerland	98.3
5. **Roche**	Switzerland	83.0
6. **Daimler**	Germany	69.5
7. **BNP Paribas**	France	67.2
8. **Allianz**	Germany	66.7
9. **UBS**	Switzerland	65.6
10. **BASF**	Germany	49.7
…	…	…
48. **Altana**	Germany	2.3
49. **Rheinmetall**	Germany	2.0
50. **Bilfinger Berger**	Germany	1.9

[1] : As of 31/12/2007

known yet powerful groups like Richemont in luxury and Bilfinger Berger in building and construction (Germany's third biggest building group).

A very striking point lies in the overwhelming presence of German groups among the biggest conglomerates in Continental Europe. The six largest conglomerates in terms of sales come from Germany and eight out of the ten largest are from this country. Even if this dominance of German firms gets a bit more mixed when looking at market capitalization (five out of the ten largest), such a gap in size between German companies and the others underlines the role German *Konzerns* and then conglomerates have played in Germany's economy, not to mention Europe's. German conglomerates' large size is also undoubtedly inherited from the protectionism that prevailed for a long time in Germany. Yet, the dominance of Germany among Europe's largest conglomerates was to be expected somewhat, given the huge proportion of German groups among the overall conglomerate picture in Europe.



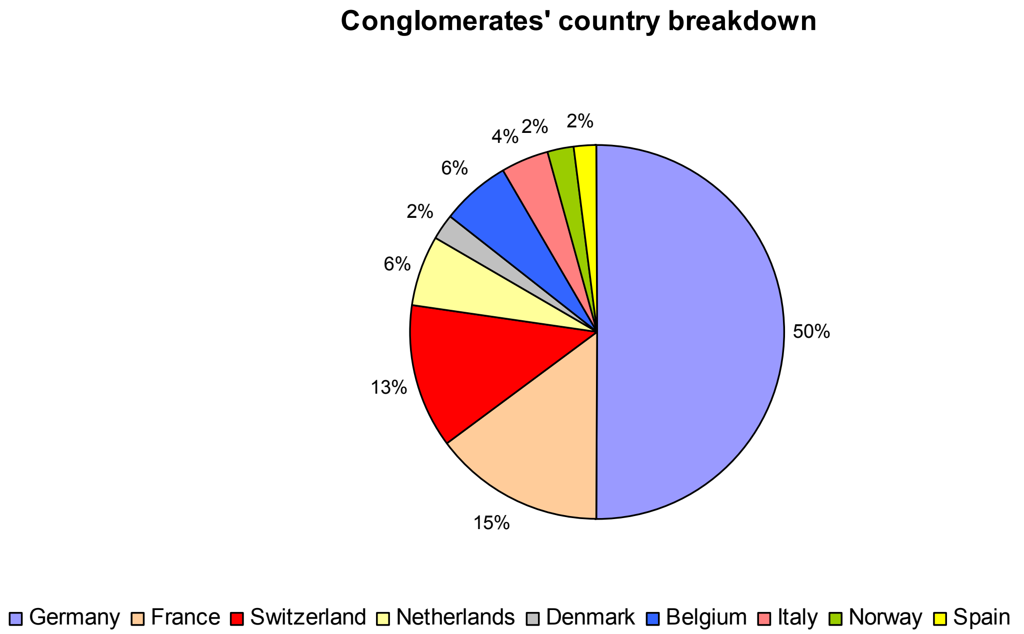


Source Annual Reports

Moreover, most conglomerates actually have a fairly limited degree of diversification as far as the number of divisions is concerned. 75% of all European conglomerates operate in at most four distinct divisions. A tiny proportion has widely diversified activities: only 6% of conglomerates, namely Fiat, Finmeccanica and Siemens, have more than seven different areas of business.

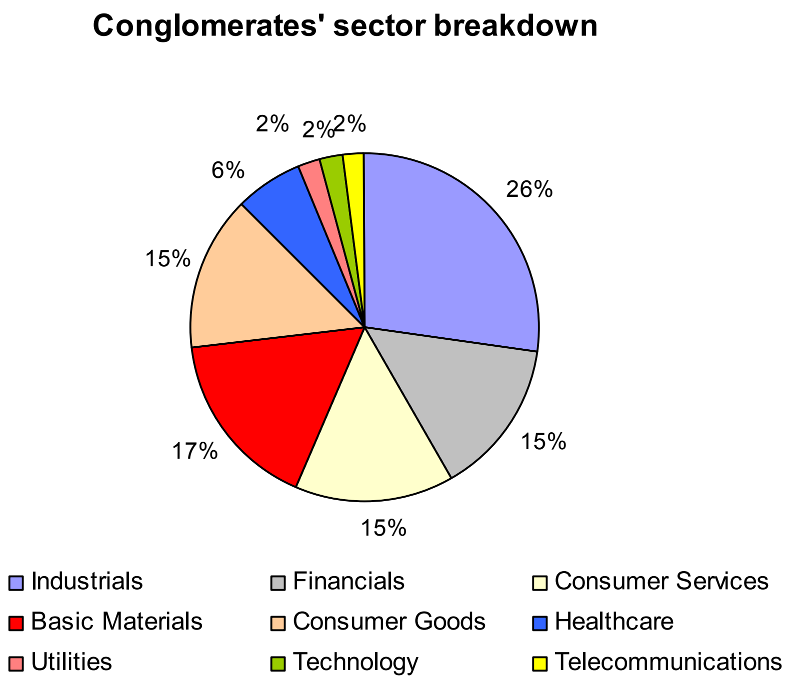
b. Country of origin

A significant majority of Continental Europe's conglomerates comes from Germany, which was to be expected given the historical reasons that were detailed in the first part. France ranks second at a much lower proportion (15%), while Switzerland ranks third with 13% of Europe's conglomerates. This fairly high proportion of Swiss groups relative to the size of the economy (compared to Italy for example) is probably mostly due to the same



reasons that shaped the German conglomerate landscape, notably the role of banks, which was key to the Swiss business life over the twentieth century.

c. *Business activities*



About one third of all European conglomerates are predominantly active in industrial activities. It seems conglomerates mainly come from traditional sectors, like industrials, basic materials and consumer goods (totalling 58% of all conglomerates), whereas more innovative and R&D-intensive sectors like high technology, healthcare and telecommunications do not have much weight in the overall conglomerate landscape (these three sectors together account for only 10% of conglomerates).

Looking closer at the above pie chart, one could notice that conglomerates are particularly active in the capital-intensive sectors (Industrials and Basic Materials account for almost 50% of all conglomerates). Most of these businesses are indeed cyclical, which prompts companies to diversify so as to reduce sensitivity to the business cycle. Such a consideration was key to Bouygues' strategy back in the 1980s, as it tried to reduce the volatility of its earnings through diversification into the media business. The high proportion of chemical companies among the conglomerate list can also be explained by such diversification considerations. The chemical industry indeed depends heavily on the automobile, manufacturing and housing businesses that are all highly cyclical, which has led most chemical companies to rebalance their portfolio toward more stable businesses. For example, Bayer, Solvay and BASF can be seen as "hybrid" chemical-pharmaceutical companies.

Still, the main finding from this chart is that the conglomerate landscape in Europe is actually quite scattered and cannot be reduced to one particular type of activities. The share of pure-service conglomerates is indeed quite significant. Consumer services and financial groups together account for 30% of all European conglomerates, thus questioning the traditional view of solely old-style "industrial" conglomerates. The diversification into less cyclical businesses has not been restricted to capital goods and equipment. Hedging against the up and down movements of the business cycle has for instance been key to the broad development of an integrated model among European banks such as UBS and BNP Paribas, whose activities comprise of both cyclical (investment banking and trading activities) and stable (retail banking) businesses.

d. Share ownership

As described in the first section, Nation States played a great role in the rise of conglomerates in Continental Europe. During the first half of the twentieth century, most conglomerates were indeed seen as a way to assert one country's leadership in times of political trouble, whereas the second half of the century saw the rise of conglomerates as efficient reconstruction and economic "tools" through the gathering of all key activities under the same administrative structure. This historical influence can be seen through some state-owned equity stakes, which are especially common in Germany and Italy, which used to be ruled by very nationalistic governments in the first half of the twentieth century. This State influence is particularly significant in conglomerates with "strategic" operations like defence and transport. Typical examples include Finmeccanica in Italy, Deutsche Post in Germany and Alstom in France. However, it appears that the vast majority of conglomerates are now free of State influence, which almost never interferes in groups' strategic decisions.

As regards share ownership, it should also be of interest to see whether founding families still have as much clout in the conglomerate landscape as they used to. Aiming at reducing their risk exposure to some single-sector cycles, families were indeed key to the diversification process that occurred within some groups in the turn of the twentieth century. Unlike declining state-owned stakes, family stakes are still common in Continental Europe's conglomerate landscape. No country seems to escape this family influence on conglomerate ownership. Not surprisingly, families are more present in traditional businesses like building materials and industrial manufacturing than in more recent sectors like telecommunications or high performance and specialty materials. The largest European family conglomerates include Henkel (50% family ownership) in chemicals, Bouygues (18%) in building and construction and A.P. Moller (65%) in logistics.

II) Understanding brokers' conglomerate discounts: Empirical analysis

1) Definitions – Introduction to the key concepts

a. The Sum-of-the-Parts valuation approach

When valuing a conglomerate, brokers all use the Sum-of-the-Parts (SoP) method. This approach consists in evaluating the fundamental value of all distinct divisions of the conglomerate, then adding them to find the conglomerate's theoretical "true" value. The individual parts of the conglomerate are valued according to their individual structures and prospects. Alternative approaches would be the Discounted Cash Flows (DCF) or trading multiples methods, but the SoP approach almost always seems the best alternative valuation method:

- The "hybrid" nature of conglomerates prevents the analyst to use a single-sector multiple as a valuation proxy. Enabling the analyst to use separate valuation methods and benchmarks for each "part" of the conglomerate, the SoP is supposed to give a more accurate picture of the group's value;
- Assets under management within the conglomerate are constantly changing, which requires much flexibility in the valuation process so as to keep the conglomerate's structure up to date; by definition, the SoP thus appears to be the most appropriate valuation methodology;
- By presenting all assets separately, this approach is most appropriate to a break-up analysis: it correctly accounts for the value of each stake owned by the conglomerate, even if some are minority stakes. The DCF approach for instance would not take the value from minority stakes as accurately as the SoP approach, which allows for periodic updates of the stakes' values through marking-to-market, thus better aligning the valuation to the market "fair" perception of the conglomerate's shareholdings;
- Making an SoP requires a lot of transparency from the analyst, which has to display and justify the value of all business units within the conglomerate. The prospects and outlook of each segment are thus directly included in the valuation.

b. *The conglomerate discount*

The phrase "conglomerate discount" refers to the reduction in value that is usually applied by brokers at the end of their SoP valuation. It consists in a removal of some part of the fundamental value the analyst has come up with by adding all the conglomerate's divisions together. Therefore a conglomerate discount arises when a company would be worth more if it were split up and its separate business units independently sold than it is currently valued by the stock market in its existing form. Another kind of discount sometimes adds up to the overall discount that is applied to the group's enterprise value. Individual parts can indeed be marked down if they develop worse than peers (focused companies with a comparable business to that of the given part), and if the risk of negative deviations from expectations is stronger than in the case of companies with stronger focus. For instance, brokers may apply a discount to some minority investments held by a conglomerate, because they consider capital would be more efficiently used in selling these minority stakes in order to invest more in the core business of the conglomerate. Lagardère's minority stake in EADS is thus often separately discounted by brokers due to the conglomerate's inability to influence the EADS strategy, which makes this stake a suboptimal use of its capital resources, thus justifying a value markdown.

An example: Sum-of-the-Parts valuation of Lagardère by Bear Stearns

Division	Stake	Activity	EV (€'m)	Per Share (€)	Valuation Methodology	'04 EV/EBITDA
Media						
Hachette Fillipachi Media (HFM)	**100%**	**Magazines**	**2,814**	**20.19**	Unlevered DCF - 7.1% WACC, 3% terminal growth	**10.0x**
Hachette Livre (HL)	**100%**	**Books**	**1,910**	**13.70**	Unlevered DCF - 7.2% WACC, 3.0% terminal growth	**9.6x**
- Lagardère			1,165			
- VUP			745		Assuming retention of 60% of VUP assets	
Hachette Distribution Services (HDS)	**100%**	**Retail & Distribution**	**887**	**6.36**	Unlevered DCF - 7.3% WACC, 2.5% terminal growth	**6.5x**
Lagardère Active	**100%**		**797**	**5.72**		**6.2x**
- Radio		Europe 1, Europe 2, RFM	470	3.37	Unlevered DCF - 7.4% WACC, 3% terminal growth	11.4x
- Other Broadcast		Audiovisual	237	1.70	Unlevered DCF - 7.2% WACC, 3% terminal growth	3.1x
- Broadband		Theme channels & Broadband	90	0.64	Unlevered DCF - 7.3% WACC, 3% terminal growth	9.0x
Total Media 100% owned			**6,408**	**45.98**		**8.6x**
Other Media - Minority stakes						
Marie Claire	42%	Magazine	188	1.35	EV/EBITDA multiple	9.9x
CanalSatellite	34%	Pay-TV platform	620	4.45	DCF	N/M
Multithematiques	27.4%	TV theme channel production	169	1.21	Discounted transaction value	N/M
Total Other Media			**976**	**7.00**		
Total Media Assets			**7,384**	**52.98**		
Non-Media						
T-Online	6%	Internet platform	488	3.50	Market Value net of tax	N/M
EADS			1,570	11.27	Market Value net of tax	N/M
Other non-core assets			107	0.77		
Total non-core assets			**2,165**	**15.55**		
Total Group Net Asset Value (NAV)			**9,550**	**68.53**		
Net debt			(1,728)	(12.40)	Excluding T-Online and EADS cash, adj for subordinate debt & assuming on sale of 40% of VUP assets at original price	
Equity Value			**7,822**	**56.13**		
SOTP discounts:						
Traditional Conglomerate - 10%		Apply to equity	(782)	(5.61)		
Group Strategy& Transparency- 5%		Applied to NAV	(478)	(3.43)		
Corporate Governance - 5%		Applied to NAV	(478)	(3.43)		
Adjusted Equity Value			**6,085**	**43.64**		

Source Bear Stearns Equity Research, 18th September 2003

When valuing Bouygues, CDC Ixis has decided not to apply an overall discount as is usually done for the French conglomerate. Instead, the brokerage house prefers to discount each asset under Bouygues' management separately: *"In our view, the application of a classic holding discount is not really appropriate to value Bouygues. Bouygues' substantial stake in each of its subsidiaries gives it the power to decide on management and strategy. That said, we are applying a discount directly to the assets. We thus point to the risk of weakening competitiveness at some activities such as Saur, Bouygues Construction and Bouygues Real Estate. The limited finances invested in these businesses reduce acquisition possibilities, accentuating the risk of losing positions on important markets."* [7] Such a methodology enables CDC Ixis to differentiate the discounts for each asset, Bouygues Telecom being applied a 10% discount unlike other subsidiaries, which are discounted at 20%.

[7] CDC Ixis Securities, 9th December 2002 – "Bouygues: Searching for an identity"

Technically, applying a discount to the fundamental value of a company to derive its fair value is synonymous with assigning to the firm's enterprise value a particular percentage value destruction attributable to the conglomerate structure. According to research analysts, such value destruction is due to costs that are typical of a diversified firm. Deutsche Bank defines these costs as follows:

- Management costs: if synergy gains between distinct units are outweighed by the costs of managing them under the same umbrella. Two major kinds of management costs should be distinguished:
  - Operational interference: each branch is likely to be less focused within a conglomerate structure than if it were managed on a stand-alone basis due to the blocking of key decisions by central management, or an overwhelming head office's bureaucracy imposed on each division. To this problem one could add another one that is central management's lack of focus on each business activity (central management runs the risk of being stretched too thin), which many financial analysts see as a cause for long-term value destruction;
  - Information costs: high diversification is typically associated to decreased transparency. Investors have more trouble understanding individual branches' businesses and financial performance. Such information costs materialize through the conservative valuation assumptions brokers usually make when unsure about a company's business mix. This undermining state of uncertainty surrounded BASF in the early 2000s. As Deutsche Bank put it *"BASF is not a true hybrid, nor a pure-pay chemical company – who are BASF's peers for valuation?"* Such uncertainty on the business structure is bound to lead analysts to misestimate the conglomerate value, for fear that they might have been too aggressive on their valuation. Hence Deutsche Bank: *"We have valued each separate distinct business on a conservative basis relative to its peers".* [8]
- Technical costs: investors would rather build their own portfolio than have someone else (i.e. the conglomerate) do it for them. For instance, the German construction and service group Hochtief is discounted by Deutsche Bank on the grounds that its conglomerate structure adds too much complexity to its major investment (the

[8] Deutsche Bank, 20th April 2001 – "BASF: The Four Drivers of Value"

Australian company Leighton Holdings). Deutsche Bank implies investors would rather put their money in a pure Leighton stock: *"Buying Hochtief's shares is seen as buying "Leighton + X", with the "X" being highly complex and – for certain divisions – rather invisible (e.g. concessions valuation). We therefore decided to apply a conglomerate discount of 10%"*. [9]

- Minority costs: these costs typically arise when a company is controlled by an entity (a family, the State, …) that uses the stock market to pursue its own interests. This is notably the case in family conglomerates, when the founding family floats part of its ownership so as to maximise its stake in the company, thus leaving minority with very limited influence over the shares' up and down moves.

The area of focus in the paper is the conglomerate discount as applied by financial analysts, which should thus be distinguished from any other additional discount that is sometimes also applied by brokers. Such discounts typically include the illiquidity discount and the governance discount. The illiquidity discount is usually applied to some of the conglomerate's assets by brokers that consider a "break-up" value rather than an "intrinsic" value in their valuation of the conglomerate. Such a break-up value indeed implies the broker puts himself in an acquirer's shoes, who is likely to demand to pay a lower price than the fair value to account for some potential trouble he will have when attempting to resell the acquired business after a few years. Some conglomerates are subject to a governance discount due to their shareholding structure (family ownership with low free float) and lack of transparency at the headquarter level. In early 2004, Lagardère conducted a survey among buy-side investors whose results showed about 55% of the group's discount relative to fundamental value stemmed from its conglomerate discount, while 35% could be attributed to the group's low margins and 10% to governance issues. The case of Lagardère is especially interesting as the company is often applied a very firm-specific discount due to its particular limited partnership structure ("Société en Commandite par Actions" in French) that prevents the group from being unfriendly taken over. In the above example, Bear Stearns clearly states its overall 20% discount is made up of a "traditional" conglomerate discount (10%), a discount attributable to the group's unclear strategy (5%) and a discount that results from the corporate governance issue raised by the particular structure of the group. Like Bear Stearns, some brokers clearly state which share of their overall discount should be specifically attributed to the

[9] Deutsche Bank, 20th December 2007 – "Hochtief: It's all about Leighton; target raised"

conglomerate structure. In this case, I have not considered the other types of discounts (if any).

Last, it is important to make a distinction between what is referred to as a "holding discount" and the "conglomerate" discount. The holding discount is usually applied by brokers to a company that mainly owns some minority stakes, thus being more of an "investment" company than a conglomerate, whose asset base is more stable over time and which controls most of its assets and subsidiaries. Holding are usually more heavily discounted by brokers than conglomerates owing to their poor control over some of their stakes' strategies and cash flows. The French investment company Wendel has thus not been included in the study, because its changing asset base and minority stakes qualify it as a holding rather than a conglomerate. On the contrary, Bouygues is commonly referred to as a conglomerate even if owning minority stakes in both Alstom and TF1, because its acquisitions are made on the basis of either synergetic potential with existing assets (Alstom with Bouygues Construction) or long-term development of the acquired activity (TF1). Exit multiples and IRR considerations for each of its stakes individually considered is not as key to its overall development strategy as it is for an investment company. This is well summarized by the CDC Ixis analysts. In their opinion, the discount applied to Bouygues falls into the industrial company discount category: *"The company has strategic, financial and operating control over all its subsidiaries. Even though the sector diversification of assets may be similar to that of a portfolio holding company, low asset rotation in the group points to a certain industrial logic. Bouygues' weight in the shareholder structure of its subsidiaries (generally over 50% except for TF1, as the law does not permit it) underpins this vision."* [10] Bouygues' management decision not to enter the toll road market following the privatization of the French motorways, despite surprising to many people, further illustrates the industrial perspective embraced by the conglomerate, which justified its decision on the grounds the toll motorway business did not fit in its industrial scope and was too far away from its historical know-how in the building and construction activities. Last, it seems Bouygues manages its various businesses with a long-term view, and that its asset allocation choices reflect a consistent industrial approach rather than a short-term value maximization approach that is typical of a pure investment holding. For instance, it has kept its telecommunication business ("Bouygues Telecom") throughout the whole 1999-2000 high-tech "bubble" despite market pressure to sell it so as to realize a significant capital gain.

[10] CDC Ixis Securities, 9th December 2002 – "Bouygues: Searching for an identity"

2) Description of the conglomerate discount in Continental Europe

a. Presentation of the results

Average discounts applied by brokers to European conglomerates since 2002

	2007	2006	2005	2004	2003	2002
Ahold	7.5%	-	8.0%	-	15.0%	30.0%
Akzo Nobel	10.0%	9.0%	16.7%	12.5%	20.0%	-
Alstom	-	0.0%	15.0%	15.0%	25.0%	-
Altana	-	-	10.0%	0.0%	5.0%	15.0%
AP Moller - Mærsk	6.7%	7.0%	12.0%	17.5%	11.7%	12.5%
BASF	5.0%	5.0%	2.5%	10.0%	3.3%	11.0%
Bayer	11.0%	11.4%	11.0%	11.7%	12.2%	12.7%
Bilfinger Berger	0.0%	-	-	10.0%	10.0%	-
BNP Paribas	10.0%	-	-	-	-	-
Bouygues	10.0%	10.8%	11.0%	11.7%	13.1%	13.3%
Credit Suisse	10.0%	-	-	-	-	-
DaimlerChrysler	10.0%	10.0%	10.0%	-	-	20.0%
Delhaize	5.0%	5.0%	-	-	-	-
Deutsche Post	15.0%	-	-	15.0%	25.0%	-
E.ON	-	-	2.5%	0.0%	2.5%	5.0%
FIAT	13.3%	30.0%	-	15.0%	12.5%	30.0%
Finmeccanica	5.0%	5.0%	12.5%	27.5%	30.0%	28.3%
GEA Group	7.5%	6.7%	5.0%	5.0%	13.6%	17.5%
Henkel	7.5%	10.0%	11.8%	16.3%	15.0%	16.7%
Hochtief	5.0%	10.0%	-	20.0%	20.0%	-
Lagardère	3.5%	5.3%	8.5%	16.7%	16.4%	8.3%
Lanxess	20.0%	20.0%	27.5%	-	-	-
Man	3.0%	8.0%	10.8%	12.0%	10.0%	14.0%
Merck	-	1.7%	5.0%	9.0%	18.8%	15.0%
Metro	-	0.0%	4.5%	12.5%	-	10.0%
Novartis	5.0%	15.0%	-	-	-	-
Orkla	7.5%	-	15.0%	20.0%	-	19.0%
Philips	10.0%	12.3%	13.8%	17.8%	16.3%	17.8%
PPR	5.0%	6.7%	10.0%	10.0%	13.3%	15.0%
Rheinmetall	-	-	-	-	15.0%	-
Richemont	-	-	-	10.0%	10.8%	7.5%
Saint Gobain	-	8.3%	10.0%	10.0%	12.5%	-
Salzgitter	5.0%	-	-	-	-	-
Schindler	-	-	10.0%	-	-	-
Siemens AG	3.3%	8.8%	11.4%	10.0%	12.5%	14.8%
Solvay	-	10.0%	10.0%	10.0%	11.0%	15.5%
Telefonica	-	-	-	-	5.0%	-
Thyssenkrupp	12.1%	10.0%	7.5%	6.0%	8.4%	5.0%
TUI	-	-	10.0%	10.0%	8.0%	8.3%
UBS AG	8.7%	-	-	-	-	-
Vivendi	9.4%	10.0%	13.8%	12.1%	16.4%	26.9%
Wacker Chemie	7.5%	-	-	-	-	-
Average discount	**8.0%**	**9.1%**	**10.6%**	**12.2%**	**13.6%**	**15.6%**

Source Brokers' notes from Thomson Research

The above table has been prepared from the Thomson Research database. For each conglomerate, brokers' notes were selected if they displayed the keyword "conglomerate discount". "Holding" discounts were thus excluded from the analysis, owing to the reasons explained in the previous part. For a given company, all brokers' discounts as of a given year were then plugged into the model and averaged, so as to get a representative consensus of the discounts applied to each conglomerate. For a given year, the "-" sign means no discount could be found among all the brokers' notes for a given company. A reasonable hypothesis would be to assume the conglomerate discount for this year is equal to zero. However, no "0% discount" was plugged into the model, unless at least one broker had clearly stated it used such a discount.

b. *Key findings*

Several interesting points can be drawn from the above table:

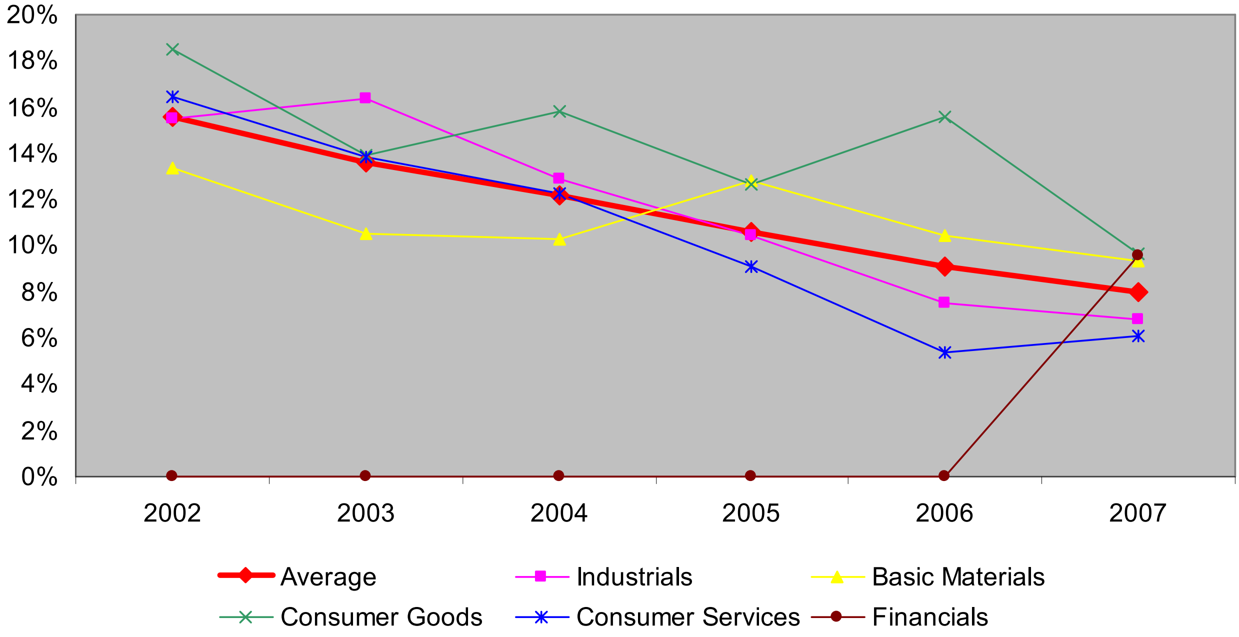
- First, conglomerate discounts are not constant through time for a given company. A given company's applied discount evolves through time. Studying the drivers behind such discount evolution is the main purpose of this paper and will be analyzed in Part III;
- Second, on a "macro" level, the discounts have been experiencing a clear declining trend since 2002. Six conglomerates were more than 25% discounted in either 2002 or 2003, whereas only one conglomerate underwent such a heavy discount in 2006 (Fiat) and none is more than 20% discounted in 2007. In fact, only one of the whole conglomerate list suffers from a 20% discount in 2007 (Lanxess)! Overall, the average conglomerate discount as applied by brokers in Continental Europe has significantly decreased since 2002, going down from 15.6% in 2002 to 8.0% in 2007. The conglomerate discount has therefore been almost divided by two over the last five years, which we will try to explain in the third part;
- Third, on a "micro" level, average year-over-year (y/y) volatility of the discount is pretty weak, showing some degree of consistency in the way brokers apply discounts to a given company. However, it also appears companies are not immune to strong variations in the discounts from one year to another. This is well exemplified by brokers' changing behaviour toward Finmeccanica, whose average discount changes from 15.0% to 28.3% from in 2001 and goes down from 27.5% to 12.5% in 2005. It is interesting to notice such high variations are more likely to occur when the State or

founding family is a major shareholder of the conglomerate. Alstom and Finmeccanica, both under State's influence, display the highest y/y volatility, which might imply brokers' discounts are highly sensitive to signals from the State that it might increase/decrease its influence over the conglomerate governance. The discount variations at Lagardère (in 2003 and 2005) and Fiat (in 2003 and 2007) also show some evidence of a potential connection between the existence of a major shareholder and the discount evolution through time;

- Fourth, and in connection to the previous point, variations from one year to another are sometimes clearly related to the economic cycle, which questions the idea of an "intrinsic" firm-specific conglomerate discount. It is indeed commonly believed conglomerates should be applied a discount regardless of their environment, due to their conglomerate status only. Deutsche Bank's approach supports such a view. It indeed applies a uniform discount to same-sector conglomerates, as in the case of financial groups: *"We apply a 10% discount to conglomerate banks, across the DB European banks coverage universe".* [11] Nevertheless, it seems most brokers modify their discounts depending on the economic cycle. Such a pattern is illustrated on the below table as the "financials" discount suddenly rises in 2007, while all other branches still experience the overall declining trend. This sudden increase is most probably due to the very adverse conditions European banks have been facing since mid 2007 (cf. the subprime crisis). BNP Paribas, Credit Suisse and UBS have all been applied a c.10% discount in 2007, the first time in six years! We may assume brokers might in some cases use the conglomerate discount as an adjustment factor to be applied when adverse economic conditions lower share prices and thus increase the gap between the fair value they come up with and the (depressed) market price. ABN AMRO made it even clearer in its 2007 valuation upgrade of AP Moller-Maersk: *"We have decided to abandon the 10% conglomerate discount that was employed with our last valuation of the company, in part due to its arbitrary nature but also in recognition that in an upward phase of the container cycle (where we are now) discounts that appear during downward cycles (where we were last year) tend to be eroded."* [12]

[11] Deutsche Bank, 1st November 2007 – "Credit Suisse Group: Q3 results review: Buy but rating capped"
[12] ABN AMRO, 21st August 2007 – "A.P. Moller-Maersk: Ride the rebound"

Evolution of the brokers' discounts for European conglomerates since 2002



As previously detailed in this paper, business diversification seems to be badly considered among the vast majority of Continental Europe's financial analysts (i.e. brokers). According to the traditional economic literature, an overspread scope of operations should be penalized due to the lack of management focus, increased complexity and a suboptimal capital resource allocation process. Such negative correlation between the conglomerate discount and degree of diversification is widely observed in practice, i.e. when looking at the brokers' notes. The following comment from M.M. Warburg epitomizes well the analysts' distaste for business diversification: *"In view of the surprising diversification efforts by Salzgitter, we now believe that a valuation discount is appropriate again. We initially set this at 5%. In the event of further takeovers of companies not ascribable to the core business we would view a higher conglomerate discount as appropriate."* [13] Still, can we really assume a "mechanical" relation between diversification and the discount applied by European brokers? To answer this question as thoroughly as possible, I have performed several correlation and regression analysis, whose details are available in the Appendix section.

Four parameters have been tested as explanatory factors of the conglomerate discount. Due to the restricted time period of the analysis, no time series analysis would have been

[13] M.M. Warburg, 9th March 2007 – Salzgitter Update

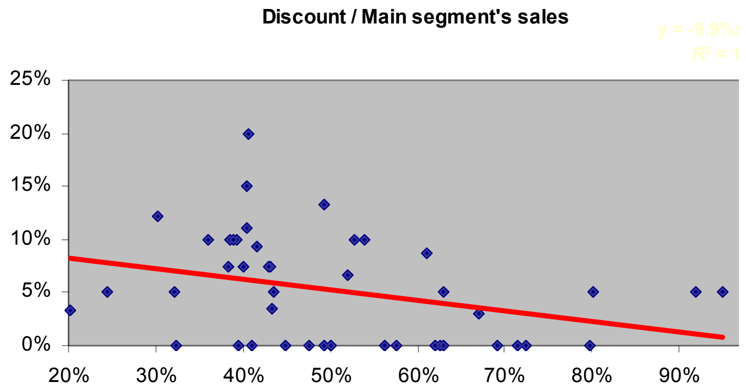
statistically relevant. All the below analysis is therefore cross-sectional only: statistical analysis is performed on the basis of inter-company comparisons for 2007.

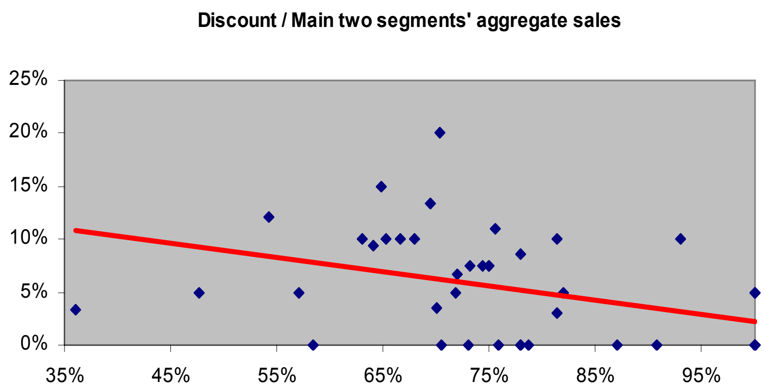
Explanatory parameters are the following: number of units within the conglomerate, proportion of sales that are realized by the largest division, proportion of sales that are realized by the first and second largest divisions together, and free float. The first three parameters seemed logical measures of diversification (for the first one) and concentration degree (for the second and third ones). The last parameter (free float) should enable us to figure out whether some strong statistical rule can be drawn from a conglomerate's shareholding structure or whether we should instead consider shareholding structure's influence on the discount on a case-by-case basis only, as we previously did regarding y/y discount variations for companies where either the State or the founding family were holding a significant share of equity capital.

3) Quantitative analysis

a. Correlation analysis

As expected, there is some pretty high correlation between the conglomerate discount and aggregate sales proportion of first and second biggest divisions in terms of revenues. The negative coefficient of -0.42 testifies the trend among European brokers to apply lower discounts to the most concentrated conglomerates. Though weaker (-0.32), the correlation coefficient between the discount and the sales proportion of the biggest segment also shows how appreciated "focused" conglomerates seems to be by brokers in Continental Europe. Perhaps more surprisingly, the correlation between the discount and the number of branches within conglomerates is pretty low compared to the other two previous parameters, the coefficient being 0.26. Brokers might not penalize the diversified conglomerates as strongly as they favour the more focused ones. Finally, there is no statistically significant relationship between free float and the conglomerate discount (coefficient of -0.12). Nevertheless, this significantly low yet negative coefficient testifies a high free float tends to be associated with a lower discount than a less "open" shareholding structure.





b. Regression analysis

The previous correlation analysis gave us some clue about the explanatory power one could expect from the tested parameters. Let us check this explanatory power through a regression analysis, whose R^2 coefficient should give us an accurate indication as regards the incidence of the parameters over the conglomerate discount.

Conglomerate discount regressed against …	**R^2**
… Number of units (one parameter)	6.6%
… Number of units & % sales main segment (two parameters)	10.9%
… Number of units & % sales main segment & % sales largest two segments (three parameters)	20.8%
… Number of units & % sales main segment & % sales largest two segments & free float (four parameters)	20.9%

The R^2 coefficient is a mathematical measure of the percentage of the dependent variable's variance that is explained by the explanatory parameter variance(s). The R^2 coefficient is therefore a very good measure of the explanatory power of one or more variables used as explanatory parameters for a given dependent variable (the conglomerate discount in this case). From the above regression results, we can see that the number of units, even when added to the sales proportion of the largest segment, is not sufficient to accurately explain the conglomerate discount's variation across the study sample that consists in Continental Europe's conglomerates. Adding the sales proportion of the aggregate first and second largest segments to the number of units and sales proportion of the largest segment enables to gain considerable explanatory power compared to the previous regression (two parameters). The three parameters indeed account for about 21% of the conglomerate discount's variance across the sample, which is two times as big as the explanatory power of the two-parameter regression. As guessed from the previous correlation analysis, free float brings no significant additional explanatory power to the other parameters.

It seems we can draw two main conclusions from our short statistical analysis:

- First, the sales proportion that is realized by the two largest segments within a conglomerate has some significant impact on the brokers' views regarding the discount to be applied to this conglomerate. This could suggest brokers distinguish between some kind of "focused" conglomerates and broadly diversified conglomerates, if we make the reasonable assumptions the focused conglomerates have a high degree of concentration (as measured by the sales proportion from the two largest segments);
- Second, there is still 79% of the brokers' conglomerate discounts left to be explained! The regression analysis has not enabled us to get more statistical explanations than 21%, which may leave us with some other less/non-quantifiable parameters to consider. Brokers' rationale when choosing a conglomerate discount might be subject to considerations, which, though explainable, are not easily captured by statistical analysis.

III) A not so black-and-white picture: Why European conglomerates should still hope for brokers' appraisal

1) Portfolio shake-ups, or achieving a "lean-and-mean" structure

a. *Demergers*

A complete demerger consists in the break-up of a given group's branches between different entities on both legal and equity levels. Demergers are traditionally considered to have three main advantages, which often justify a reduction of (or even an end to) the conglomerate discount.

- Separating two distinct businesses enables to pursue different, independent objectives with different management teams and strategies which are without any doubt independent from any external or non-core business considerations;
- The new stand-alone company that is created can instantaneously be valued by the equity market. Indeed, the newly created company is now fairly valued by the market, which unleashes any "hidden" value that was previously hampered by the conglomerate structure. This fair valuation can help management with the pursuit of some strategic initiatives, in making it easier to acquire other companies or negotiate the terms of joint ventures or merger of equals agreements on a more favourable basis (due to an accurately higher valuation);
- Potential inefficiencies in the capital allocation process under the multi-segments group structure are avoided thanks to the legal separation of the divisions, thus resulting in a "ring-fencing" of cash flows.

It is indeed interesting to notice no "full" (i.e. with distinct legal entities and shareholding structures) conglomerate break-up has ever occurred in Continental Europe, whereas numerous examples of such corporate shake-ups can be drawn from the Anglo-Saxon world, the most famous ones being ITT in the US and Hanson in the UK. Bayer provides with a good example of such a "real" legal separation of divisions yet incomplete break-up of a conglomerate in Continental Europe. In 2003, Bayer made a very big and long-awaited move away from its "4-pillar" strategy, spinning out some of its Chemicals and Polymers divisions grouped under a new company called Lanxess, and legally separating the remaining businesses units into three distinct commercial partnerships: Bayer CropScience AG, Bayer

HealthCare AG and Bayer MaterialScience AG. This legal separation was meant to remove all operating efficiencies from the previous structure, while all divisions could still enjoy a more attractive cost of capital than in the case of separate listing due to the conglomerate's balance sheet strength. A quick look at the discount summary table on page 23 shows how insufficient such a restructuring has been judged by European financial analysts. The average conglomerate discount applied by brokers has indeed been remarkably constant through time at about 11% since 2003. Analysts at Oppenheim Research advocates a further move toward a complete break-up of Bayer, because they consider a separate floatation of MaterialScience would notably enable the "new" Bayer to focus efforts and R&D investments as well as target acquisitions on the potentially highly synergetic healthcare and life science operations, while divesting a division with no real strategic relevance within the current structure. One could even expect the discount to increase as the market becomes more and more impatient that its break-up expectations be met, especially as such a break-up is now more than ever realistic since the German law provides for a tax-free spin-off of assets once they have been managed independently for at least seven years without having sold major parts of their business.[14]

b. *"Limited" break-ups*

A less radical way for a conglomerate of achieving greater focus is to separate from a single branch so as to benefit from the (or at least some of the) above pros while still enjoying some degree of business diversification. There are basically two ways of completing such a "limited" break-up: an outright sale or a whole or partial floatation of the division on the equity market.

- An outright sale is usually favoured by financial analysts, to the extent that there is no strategic reason for keeping the division in the portfolio, even at a minority stake. Moreover, such a method can maximize value for the selling company's shareholders, who will benefit from the synergy premium ("control premium") usually paid by the acquirer. Unlike trade sales, Initial Public Offerings (IPO) are systematically done at a discount to fundamental value;
- Floating some part of the divested branch on the stock market. There are basically two popular yet very different ways of doing so: IPO and spin-off. An IPO – or direct floatation of a given unit of the parent company on the stock market – brings some

[14] Oppenheim Research, 20th November 2007 – "Bayer: Pharma promise is in focus"

significant cash inflow, which will be welcomed by the conglomerate if it intends to pursue a growth strategy, but it has some uncertainties regarding the final price of the issue and does not result in immediate separation from the parent, which may thus still be applied a conglomerate discount. Unlike an IPO, a spin-off – or distribution by the parent to its shareholders of newly issued shares of the separated branch – instantaneously results in an entire separation of the division. Spin-offs are usually more welcomed by the parent's shareholders because they can choose whether to keep or sell their shares of the divested unit, with the proceeds directly ending up in their pockets should they choose to sell.

These last two options have been strongly favoured by the community of financial analysts throughout Continental Europe. The example of the Dutch conglomerate Akzo Nobel is quite telling. A closer look back in 2001 at HSBC's view on the benefits of a mere floatation of the sole Pharma branch should enable us to better understand why spin-offs have become so popular among financial analysts since the 1990s. HSBC strongly advocates a break-up of Akzo Nobel, subordinating the whole removal of its 30% conglomerate discount to the sale of its Pharma business, even if such a sale would leave the almost unrelated Coating and Chemicals division staying together in the remaining structure: *"In our opinion, a complete break-up is not necessary to achieve the desired objective of removing the conglomerate discount."* [15] According to the HSBC analysts, Akzo Nobel's 2001 corporate structure is that of a true conglomerate, comprising of three largely unrelated activities: Chemicals, Coatings and Pharmaceuticals, which results in the 30% HSBC discount. Eradication of the brokerage house's discount depends on Akzo's splitting off from the pharma branch only, rather than completely breaking up. In addition to conferring full independence to management teams in their conduct of business and strategic decisions, a spin-off is specifically expected to be the most beneficial option facing Akzo's management because it would add value to both split-up entities. On the one hand, the separate listing of the pharma business would reflect its "true" value (pharma companies were highly valued at that time) and would make it easier for the company to acquire some other firms and raise funds on the stock market. The undervaluation of the pharma branch in the 2001 context and necessity of a full floatation of this branch is especially obvious as any takeover speculation (and resulting value improvement) is deterred due to what the financial analysts see as the *"Chemicals & Coatings poison pill"*. On the other hand, the HSBC analysts emphasize how a focused chemicals and coatings

[15] HSBC, 11th April 2001 – "Akzo Nobel: Dehybridisation"

conglomerate would make sense compared to the current situation, where the chemicals branch is constrained over major acquisitions as management directed most cash flows to the pharma business. A refocused two-legged company would probably achieve significant savings considering chemicals and coatings overlapping procurement and overheads, while still having sufficient critical mass to prosper as a stand-alone specialty chemical company. HSBC's analysts conclude in saying such a move from Akzo would give it the most appropriate size and best strategic fit as regards a merger of equals with ICI, another European chemicals giant, which they believe shareholders of the two companies would welcome in light of the consolidation that occurred in the early 2000s in Europe's chemical sector.

c. *Strategic refocus*

Another way of (at least partially) removing the conglomerate discount has been for some conglomerates to undertake a strategic refocus of their activities through targeted acquisitions and disposals. This strategic refocus sometimes complements the previously described solutions as a further step toward a full removal of the discount applied by brokers. However, a strategic refocus' success (as measured by the disappearance of the analysts' conglomerate discount) critically depends on the proper handling of the "reinvestment risk" by the group's management.[16] This reinvestment risk arises due to the sudden inflows of cash resulting from the initial proceeds of non-core businesses, prior to the subsequent purchase of any significant asset by the company. It consists in the concern that shareholders will not benefit from the company portfolio refocus as much as they should because the group might overpay for its new assets and acquire businesses without any value creation potential. Such a risk can be efficiently addressed by the management of a refocusing conglomerate by redistributing cash proceeds directly to the shareholders via a share buyback programme and/or the payment of a special dividend, which should both be welcomed by financial analysts as signals of a strong management commitment to shareholder value.

A typical example of strategic refocus is that of the German utility giant E.ON. E.ON was created in 2000 following the merger of VEBA and VIAG, both heavyweights on the German electricity market with strong presence in other non-energy activities. This merger gave birth to a very traditional conglomerate comprising of various unrelated yet thriving activities, from chemicals to electricity along with real estate and telecommunications. The group spotted

[16] Deutsche Bank, 10th December 2002 – "E.ON: Moth or butterfly?"

energy as the most promising activity within its business portfolio, given some highly favourable factors, notably the liberalization of the energy market in Europe. E.ON's management decided to undertake a complete reshuffle of the portfolio, disposing of all non-energy activities and then using the proceeds to expand in the electricity and gas sectors. E.ON's ambition was stated as such by the management: transforming into a "focused energy-service provider with a global presence". The group had already divested about € 23bn of non-core (energy) assets and acquired about € 19bn in its core energy business by the end of 2002. Main divestments included those of VEBA Electronics, VIAG Interkom in telecommunications and Stinnes in steel, while the purchase of Powergen and TXU's retail business in the UK, and Sydkraft in Sweden were among the biggest acquisitions to date. Financial analysts were very responsive and quick to express their strong support for such a clear strategic refocus: the average conglomerate discount applied to the German conglomerate equalled 5% in 2002, down from 15% in 2000. The decrease in the discount was even clearer following the completion of the acquisition of Ruhrgas (the largest German gas company) in 2003, which really set E.ON as Germany's major utility company. This significant decrease in the applied discount was all the more remarkable since E.ON's profitability at that time was behind that of competitors' and was blamed for overpaying its acquisitions. E.ON's transformation into an energy pure play was considered completed in 2007, with energy now accounting for 100% of the group's sales, with electricity and gas respectively representing 70% and 30% of the total.

E.ON's portfolio shifts since 2000

Acquisitions

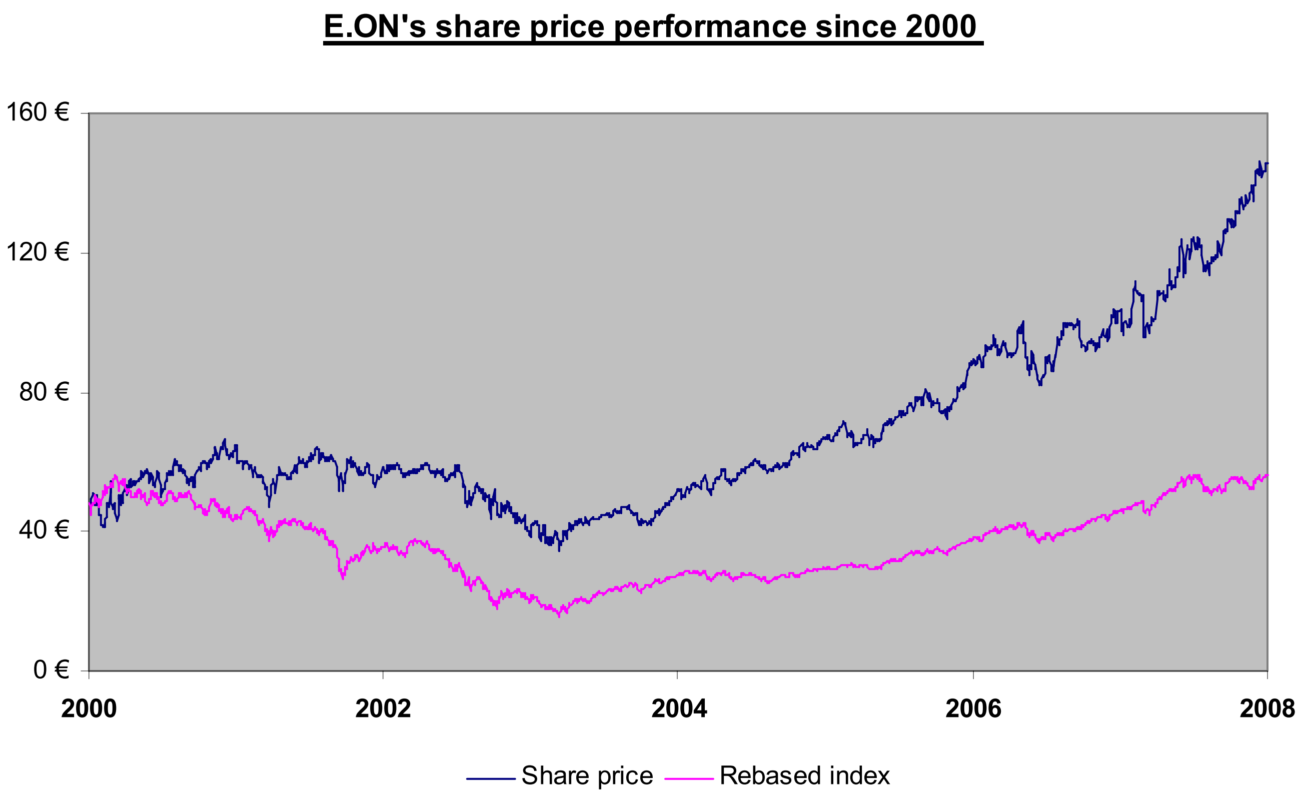
€ in billions	Transaction volume	Closing date
Powergen/LG&E	15.3	07/02
Ruhrgas (100%)	11.2	01/03
TXU retail business	2.5	10/02
E.ON Energie (Sydkraft, Edász, ZSE, Thüga stakes, EAM, EMR, HeinGas, EZH, Espoon Sähkö, EWW, NRE)	10.1	
Graninge	1.1	11/03
Midlands Electricity	1.6	10/03
Distrigaz Nord	0.3	06/05
Bulgaria Power Distributors	0.2	10/04
Moldova	0.1	09/05
Caledonia Oil and Gas Ltd.	0.7	11/05
MOL Gas Trade and Storage	1.1	03/06
Energie E2 Renovables Ibéricas	0.7	08/07
OGK-4	4.1	10/07
Skarv-Idun area	0.7	Q4/07
Airtricity North America	1.0	Q1/08
Statkraft	4.4	Q3/08
Total	55.1	

Divestments

€ in billions	Transaction volume	Closing date
E-Plus	4.3	02/00
Cablecom	1.0	03/00
Gerresheimer Glas	0.5	07/00
VEBA Electronics	2.6	10/00
VIAG Interkom	11.4	02/01
Orange	1.8	11/00
VEBA Oel	6.8	07/02
Klöckner & Co	1.1	10/01
VAW aluminium	3.1	03/02
Degussa	5.7	02/03
Stinnes	2.8	10/02
Schmalbach-Lubeca	2.3	12/02
Bouygues Telecom	1.1	12/03
Gelsenwasser	0.9	09/03
Viterra Energy Services	0.9	06/03
swb	0.3	11/03
EWE	0.5	01/04
VNG	0.8	01/04
Union Fenosa	0.2	01/04
Degussa (3.62%)	0.3	05/04
Viterra	7.0	08/05
Ruhrgas Industries	1.5	09/05
E.ON Finland	0.4	06/06
Degussa (42.86%)	2.8	07/06
ONE	0.4	Q4/07
Total	60.2	

Source 2007 Annual report

This strategic refocus on the energy business has clearly paid off when looking at E.ON's bullish share price since 2002. This steady outperformance over the market is consistent with the progressive removal of the brokers' discount over the period. From 15% in 2000, the average conglomerate discount quickly declined to 5% in 2002. No analyst has applied any conglomerate discount since 2005, reflecting the favourable view financial analysts have had regarding E.ON's strategy.

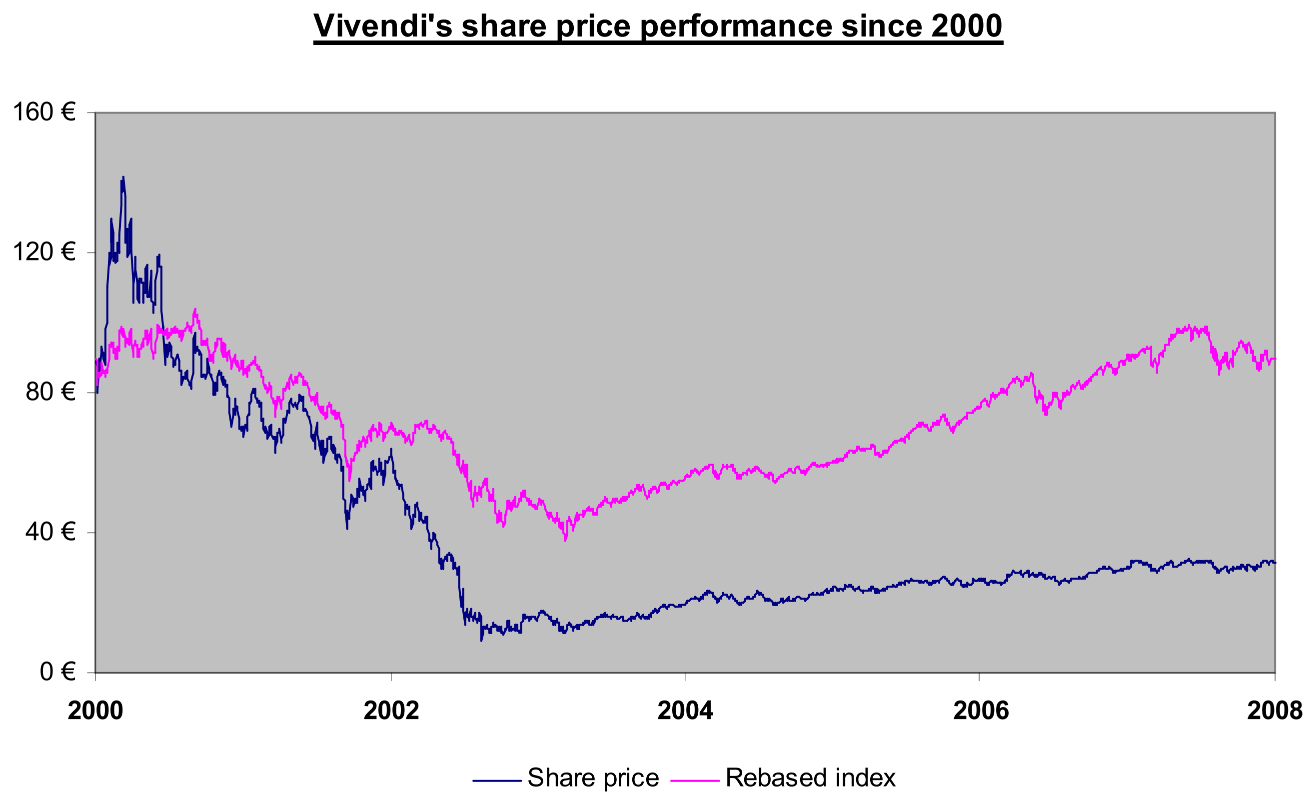


However, trimming the conglomerate structure, whether by breaking up or refocusing, even if it has usually been supported by Continental Europe's financial analysts, seems not to always be the right solution to best achieve the removal of the conglomerate discount. It is for instance telling to see the discount applied to Vivendi has remained strikingly constant since 2004 after an initial promising decrease in 2003. In fact, the discount that is currently affecting Vivendi share price has nothing to do with inefficiencies in its portfolio of activities[17]:

- Vivendi's diversified businesses all have synergies that make sense in the context of growing media *convergence*; DVDs, music, cinema and telecommunication activities are increasingly interrelated;

[17] ING, 14th February 2007 – "Vivendi: Real potential"

- Vivendi's assets should experience strong future growth since based upon large customer bases, which are becoming highly valuable assets as user-generated content is now key to develop in the media sector;
- Vivendi's branches are all leaders in their fields;
- Vivendi has control over all of its assets and their respective cash flows, and the need for cash transfers between divisions is low.



It is consequently not so surprising the spin-off of Vivendi's environmental and transport activities has not been followed by a durable decrease in the conglomerate discount applied by financial analysts.

So, if the discount cannot always be explained by the business portfolio structure of the conglomerate, which additional factors should be considered in assessing management's optimal ways of reducing their group's discount?

2) Some less tangible yet key conditions to achieve conglomerate discount reduction in Continental Europe

a. *Improving corporate governance*

Poor corporate governance is often crucial to the application of a conglomerate discount. One can indeed suspect management to advocate the upholding of a conglomerate structure in order to increase their power and compensation by having control over a larger corporation, even if such an upholding of the conglomerate structure does not maximize shareholder value. A good example lies in the case of Lagardère, which until 2005 compensated its managers on the almost exclusive basis of revenue increases, and did not include any criteria that was aligned with value creation. The introduction of a set of new compensation criteria such as net profit and cash flow per division probably played a major role in reducing the average conglomerate discount from 16.7% in 2004 to 8.5% in 2005. Recent academic works tend to confirm such a link between corporate governance and the conglomerate discount that is observed in the market, which is likely to negatively impact the analysts' opinion on conglomerates. Christian Weiner, a German researcher, documents that corporate governance behaviour affects the conglomerate discount[18]. Positive corporate governance behaviour overcomes several causes that lead to a conglomerate discount. According to Weiner, this negative impact of conglomerates' poor corporate governance is especially significant in Germany. To make his point, the researcher regresses conglomerate discounts observed in the German market against a corporate governance rating for all DAX 30 companies[19]. Testing the existence of a relationship between the discount and corporate governance behaviour, Weiner shows virtuous corporate governance behaviour of a company reduces the conglomerate discount and can even turn the discount into a conglomerate premium. Weiner sees some reasons for the discount are agency costs resulting from ineffective internal capital markets, suboptimal compensation for managers, information asymmetries between segment managers and heightened incentive for rent seeking by managers. Appropriate corporate governance is a possible way to curb all these shortfalls and consequently trim the conglomerate discount by providing information, control and legal protection.

[18] Christian Weiner, 14th December 2005 – "The Conglomerate Discount in Germany and the Relationship to Corporate Governance"

[19] The index is provided by the Institutional Shareholder Service and comprises of 55 corporate governance criteria within 8 categories: Auditor Independence, Board Structure, Charter and Bylaw Provisions, Anti-takeover Provisions, Executive and Director Pay, Directors and Officers Ownership, Progressive Practices and Director Education.

The influence of corporate governance on the conglomerate discount is well exemplified by the case of Siemens. Prior to the appointment of the new CEO Peter Löscher in 2007, Siemens had long been considered a typical example of the poor corporate governance that exists within a lot of conglomerates. In November 2007, Löscher announced plans to change Siemens' committee-based culture for a simpler and leaner structure with suitable alignment of management incentives with shareholders' interests. For instance, the new CEO decided to put an end to the previous management structure that left much room for misuse of shareholder funds, with some managers seating on the board without having any direct managerial responsibility. From fiscal year 2008 on, the former nine divisions of Siemens will be grouped under three newly created sectors (Energy, Industry and Healthcare). The divisional headquarter operations will now be led by a CEO reporting to the sector CEO, whereas regional operations will be maintained but will now depend on each sector. It is no chance Deutsche Bank immediately announced it would stop considering Siemens as a conglomerate (and thus reduced its discount from 10% to 0%)!

b. *The art of communicating to the investment community*

Siemens would not have achieved such a conglomerate discount reduction had it not efficiently communicated on its shake-up of the group structure and transparency improvements. Brokers are indeed very sensitive to what they *perceive*, thus welcoming any signal from the company that it is *actually* improving transparency in its investor communication. Key financial communication improvements at Siemens as seen by Deutsche Bank are the following[20]:

- More concise presentation so as to get directly to the points of interests;
- Detailed disclosure of the effects of acquisitions on the accounts;
- Cash conversion disclosure for each division and the whole company;
- Proper explanations on capital structure metrics (transparent adjustments, …) and detailed definitions of other metrics (ROCE, …).

Moreover, Siemens made clear to investors that its measures toward corporate governance improvements were part of a wider strategic plan. Löscher was indeed quick to set the key axes of its strategy: strict rules to prevent corruption, a new managerial culture, a focus on

[20] Deutsche Bank, 10th November 2007 – "Siemens: A Welcome Breath of Fresh Air"

high-growth markets, innovation and portfolio reshuffle. A carefully planned share buyback as well as a clear capital structure, divisional margins and SG&A expense reduction targets were also very positive signals to investors, who have embraced a much more positive view of Siemens since then. The Siemens example shows the role of communication when it comes to the brokers' conglomerate discount. Setting a clear roadmap with specific targets and timeframe is bound to help European conglomerates improve their image to the community of financial analysts. In the case of Siemens, improvements on the corporate governance side have added some considerable credibility as for management's ability to successfully implement the announced strategy.

The other side of the coin, promises need to be delivered once they are made! Proper communication does not immunize a conglomerate against brokers' discontent, since analysts will be all the more sensitive to subsequent signals indicating whether the conglomerate lives up to its promising communication or not. This is illustrated by Finmeccanica, the Italian defence conglomerate, which used to be heavily discounted by analysts despite restructuring efforts and communication on clear strategic plans. Focusing on aerospace and defence, Finmeccanica pursued a strong acquisition strategy in these two areas in the early 2000s, while grouping together its transport and energy activities under the same legal entity "Finmeccanica 2", which was due to be disposed of in the near future. Management's failure to dispose of these non-core assets and the absence of any clear prospect on Finmeccanica 2 led the analysts to maintain their discounts at a high level: from 2001 to 2005, the average applied discount was well above 25%! As Deutsche Bank put it at that time: *"Disappointingly, results saw **no firm update from management** on [Finmeccanica 2] although finalisation of the agreement **was originally expected** in February. Moreover the timing for any finalisation of the deal appears **far from clear** […] If Finmeccanica 2 were to go ahead and also a potential exit route **were made clear** for Finmeccanica to sell [its stake], we would see potential for the level of the holding discount to reduce."*[21] Expressions in bold letters highlight how crucial a clear corporate communication is from a broker's point of view.

[21] Deutsche Bank, 30th March 2004 – "Finmeccanica: Still awaiting clarity on Finmeccanica 2"

c. *Influencing brokers' perception of the conglomerate*

Ultimately, the purpose of a clear communication is for the conglomerate to influence the way it is *perceived* by financial analysts. The ability to change the brokers' perception is key to achieving any conglomerate discount reduction. The conglomerate discount as applied by brokers is indeed highly subjective, depending for a large part on personal judgment. As analysts at Bear Stearns put it, *"identification of the "correct" conglomerate discount is arbitrary"*[22]. The successful attempt to improve its perception by financial analysts has for instance been key for Solvay to achieve a whole removal of its conglomerate discount in 2007. The Belgian pharma-chemical company had for long been valued on the basis of its chemical activities only, due to some misunderstanding of its real business branches and lack of clarity regarding the relevance of keeping a hybrid structure given the lack of scale of its pharma business. This lack of clarity undermined the group value in two ways, as pharma activities were undervalued and a conglomerate discount was applied to the company. The value was thus considerably capped due to the analysts' misunderstanding of the group's businesses and resulting conservative approach to the stock valuation. Consequently, the group did its best to explain to investors the consistency of keeping a hybrid structure and the true nature of its various branches. Such steps have been quick to pay off, as Exane BNP now considers the stock as a truly "pharma-chemical" company, with both Exane's Pharma and Chemical teams covering the company.

A closer look at the conglomerate discount and financial analysts' perception: Interview with R.Rozemulder, Manager at Rothschild & Cie

In which respect does the lack of clarity of a conglomerate's businesses impact the discount that is applied by brokers?

R.R.: I see three major reasons for a conglomerate to suffer from a discount that would result from some misperception of the group's activities. Let us consider the ThyssenKrupp case:

- Brokers are unable to value some activities due to the lack of information on what "hides" behind them, and they are not willing to overcome this obstacle since finding relevant information would be both time- and money-consuming. This is clearly the

[22] Bear Stearns, 4th April 2002 – Merck KgaA Initiation of Coverage

case for ThyssenKrupp, which suffers from what I would call a "misunderstanding discount" that brokers apply to reflect the lack of clarity regarding the "non-steel activities" that account for about 20% of revenues;

- Divisional financial data is really poor. For example, there is a clear lack of a detailed P&L for each business within the group. True, there are some useful financial elements scattered in the annual report, but they dramatically need to be presented in an investor-friendlier way;
- One of the divisions of ThyssenKrupp badly impacts the overall picture of the group as seen by brokers: the "Services" branch is itself a conglomerate!

In addition to the usual "recipes" (spin-offs, refocus, ...), in which respect can a conglomerate influence the way it is perceived by financial analysts?

R.R.: Communication from management can wield a strong influence on brokers' perception of the conglomerate, which is key to achieve any conglomerate discount reduction. Any communication campaign should primarily focus on two axes: conveying the clearest possible picture of the organisation itself, and explaining to the investors how the activities interact and thus make the conglomerate structure relevant (such as the search for synergies and the reduction of the cyclicality of earnings). One could say ThyssenKrupp is halfway on its road toward discount reduction: each business is now comprehensively reviewed in the annual report, but the management now ought to better explain the rationale that unites all these activities under the same banner.

Does this mean the financial communication of a conglomerate should mainly aim at convincing investors and brokers of the strategic relevance underpinning the diversified structure?

R.R.: It is actually less a matter of strategic relevance than a matter of business clarification: even if strategically unsound, a given conglomerate structure is likely to be spared by analysts provided the management conveys a clear picture of the group activities. Solvay provides with a good example of a successful communication policy. The company valuation had long suffered from the analysts' misunderstanding of its activities and "hybrid" structure. Most analysts found it more convenient (and less costly!) to consider the whole group as a chemical company, which led them to disregard the pharmaceutical activities and thus value this branch in a pretty conservative way due to their poor knowledge of the pharmaceutical business. In

2007, Solvay's management decided to directly come to analysts so as to provide them with a comprehensive overview of both group activities and respective value drivers. This has proved beneficial to the company valuation, since brokers have now embraced a more business-specific approach that better suits the hybrid structure of the company. Brokers' valuations now more accurately reflect what Solvay really consists in: the combination of both pharmaceutical and chemical activities.

Conclusion

For all the criticism they have been drawing from the investment community across Continental Europe, conglomerates still account for a big share of the European corporate landscape. Even if in diverse proportions, diversified business structures are nevertheless present in almost all countries and sectors. As corporate strategies get more and more based on shareholder value considerations, it thus seems important that the conglomerates' financial and investor relation managers gain better understanding of the valuation patterns of a conglomerate, and consequently of their perception by brokers, since brokers are some highly influential market makers.

Though displaying a clear declining trend of the conglomerate discount since 2002, this study highlights the negative view that is widespread among analysts when it comes to evaluating a conglomerate in Continental Europe. Most conglomerates are indeed subject to a discount from brokers (42 out of 48). Yet, the picture gets blurred when one pays a closer attention to some remarkable discount patterns:

- The discount applied to one given company is quite fickle, experiencing some up and down movements through time and sometimes differing by large proportions between different brokers… not to mention how huge the gap can be between different companies: there is definitely no "one-size-fits-all" conglomerate discount!
- This holds especially true when considering the relationship of the conglomerate discount to business cycles, as the applied discount tends to be revised upward when the business environment of the company gets less favourable. This clearly contradicts the idea of an "intrinsic" discount that would be inherent to the conglomerate status of the company and independent from any external factor (like the business the environment).

A quantitative analysis of the discount further emphasizes its elusiveness. Even if a significant discount driver, business diversification (as measured by sales dispersion and the number of business areas) is not the only explanatory parameter for the conglomerate discount. It appears financial analysts take some less quantifiable factors into consideration when evaluating a conglomerate.

A more qualitative but still practical approach has led us to observe the applied conglomerate discount is mainly a matter of brokers' *perception*, which leaves a conglomerate's management with much margin of manoeuvre as regards the discount. The current discount most conglomerates suffer from in Continental Europe is not irremediable, as shown by its steady decrease over the last five years.

There is no "miracle drug" for the conglomerate discount: traditional remedies like demergers and strategic refocus will miss the point if not coupled with a good communication plan, as the Vivendi and Finmeccanica examples illustrate. Brokers' perception indeed appears to be highly sensitive to signals indicating management's commitment to shareholder value maximization.

However, it would probably be a mistake to reduce the case of conglomerate valuation to a mere signalling issue. A recent study indeed reminds us of the critical role managers should play within a conglomerate to make sure it does not fall into the usual inefficiencies which diversified business structures have been much criticized for[23]. Efficient capital allocation, a clear and consistent portfolio strategy, a lean organization structure with clear responsibilities, CEO-driven management initiatives and management development and skill transfers are seen by the BCG as the five key levers to be applied by the management of a conglomerate to improve its market performance. It remains to be seen whether this can be – and if it can, in which way – monitored by the financial analysts so that they may come up with less arbitrary discounts.

[23] "Managing for Value, How the World's Top Diversified Companies Produce Superior Shareholder Returns" – The Boston Consulting Group, December 2006

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Interview

With M. Robert Rozemulder, Manager at Rothschild & Cie in Paris. The interview took place at the Rothschild & Cie headquarters in Paris on 14^{th} April 2008.

Appendix 1: Continental Europe's conglomerates as of 2007[24]

Company	Country	Sector	Industry
Ahold	Netherlands	Consumer Services	*Food Retailers & Wholesalers*
Akzo Nobel	Netherlands	Basic Materials	*Specialty chemicals*
Allianz	Germany	Financials	*Full line Insurance*
Alstom	France	Industrials	*Industrial machinery*
Altana	Germany	Basic Materials	*Specialty chemicals*
AP Moller - Maersk	Denmark	Industrials	*Marine Transportation*
BASF	Germany	Basic Materials	*Specialty Chemicals*
Bayer	Germany	Basic Materials	*Commodity Chemicals*
Bilfinger Berger	Germany	Industrials	*Heavy Construction*
BNP Paribas	France	Financials	*Banks*
Bouygues	France	Industrials	*Heavy Construction*
Credit Suisse	Switzerland	Financials	*Banks*
Daimler	Germany	Consumer Goods	*Automobiles*
Delhaize	Belgium	Consumer Services	*Food Retailers & Wholesalers*
Deutsche Post	Germany	Industrials	*Delivery services*
E.ON	Germany	Utilities	*Multi-utilities*
FIAT	Italy	Consumer Goods	*Automobiles*
Finmeccanica	Italy	Industrials	*Defence*
Fortis	Belgium	Financials	*Banks*
GEA Group	Germany	Industrials	*Diversified industrials*
Henkel	Germany	Consumer Goods	*Non-durable Household Products*
Hochtief	Germany	Industrials	*Heavy Construction*
Lagardère	France	Consumer Services	*Publishing*
Lanxess	Germany	Basic Materials	*Commodity Chemicals*
Man	Germany	Industrials	*Commercial Vehicles & Trucks*
Merck	Germany	Healthcare	*Pharmaceuticals*
Metro	Germany	Consumer Services	*Broadline Retailers*
Munich Re	Germany	Financials	*Insurance*
Novartis	Switzerland	Healthcare	*Pharmaceuticals*
Orkla	Norway	Consumer Goods	*Food Products*
Philips	Netherlands	Consumer Goods	*Consumer Electronics*
PPR	France	Consumer Services	*Broadline Retailers*
Rheinmetall	Germany	Consumer Goods	*Auto Parts*
Richemont	Switzerland	Consumer Goods	*Clothing & Accessories*
Roche	Switzerland	Healthcare	*Pharmaceuticals*
Saint Gobain	France	Industrials	*Building Materials & Fixtures*
Salzgitter	Germany	Basic Materials	*Steel*
SAP	Germany	Technology	*Software*
Schindler	Germany	Industrials	*Industrial Machinery*
Siemens	Germany	Industrials	*Electronic Equipment*
Solvay	Belgium	Basic Materials	*Specialty chemicals*
Telefonica	Spain	Telecommunications	*Fixed-line Telecommunications*
Thyssenkrupp	Germany	Industrials	*Diversified Industrials*
TUI	Germany	Consumer Services	*Travel & Tourism*
UBS	Switzerland	Financials	*Banks*
Vivendi	France	Consumer Services	*Broadcasting & Entertainment*
Wacker Chemie	Germany	Basic Materials	*Commodity Chemicals*
Zurich Financial Services	Switzerland	Financials	*Full Line Insurance*

[24] I chose to select as a "conglomerate" a company that met the two following criteria:
- Market capitalization of at least 1.5 billion euros as of 12/31/2007
- At least two brokers referring to the group as a "conglomerate"

Appendix 2: Brokers' discounts

Company	Country	*Broker*	Applied discount					
			2007	2006	2005	2004	2003	2002
Ahold	Netherlands							
		HSBC					15%	30%
		ING	10%		8%			
		Deutsche Bank	5%					
		Average discount	8%		8%		15%	30%
		Nb of discounters	2	0	1	0	1	1
Akzo Nobel	Netherlands							
		Rabo	10%					
		ABN AMRO		20%	20%	15%	20%	
		UBS				10%	10%	
		HSBC		20%			20%	
		Commerzbank					30%	
		BNPP					20%	
		Société Générale		0%	10%			
		Deutsche Bank		5%				
		Natexis		0%	20%			
		Average discount	10%	9%	17%	13%	20%	
		Nb of discounters	1	5	3	2	5	0
Alstom	France							
		Natexis			15%			
		ING		0%	15%	15%	25%	
		Average discount		0%	15%	15%	25%	
		Nb of discounters	0	1	2	1	1	0
Altana	Germany							
		Kepler					0%	15%
		Votonbel				0%	10%	
		Metzler			10%			
		Average discount			10%	0%	5%	15%
		Nb of discounters	0	0	1	1	2	1
AP Moller - Mærsk	Denmark							
		Carnegie		0%	0%	0%	0%	25%
		West LB		15%	20%	20%	20%	0%
		HSBC	10%	5%				
		ABN	0%	10%		35%		
		SoGe	10%					
		Bear Stearns		5%	5%			
		Citigroup			20%			
		Deutsche Bank			15%			
		Danske Equities				15%	15%	
		Average discount	7%	7%	12%	18%	12%	13%
		Nb of discounters	3	5	5	4	3	2
BASF	Germany							
		Donaldson, L & J						
		Metzler						10%
		DB	5%	5%	5%	10%	5%	10%
		Credit Suisse						10%
		Commerzbank					0%	20%
		Kepler					5%	5%
		Citigroup			0%	10%		
		Oppenheim	5%					
		Average discount	5%	5%	3%	10%	3%	11%
		Nb of discounters	2	1	2	2	3	5

Bayer	Germany							
		Deutsche Bank	10%	10%	10%	10%	10%	10%
		Sal. Oppenheim	10%					
		ING	10%	10%	10%		15%	25%
		Kepler	10%	10%	10%	10%	10%	10%
		HSBC	15%	15%			12%	12%
		MM Warburg		15%	15%	15%		
		SoGé		10%				
		West LB		10%	10%	10%	15%	10%
		UBS				10%	10%	10%
		Votonbel					10%	15%
		Commerzbank					30%	
		Metzler					10%	10%
		Donaldson, L & J						
		ABN AMRO						
		BGB						15%
		Natexis				15%		
		Credit Suisse					0%	10%
		BNPP						
		Average discount	11%	11%	11%	12%	12%	13%
		Nb of discounters	5	7	5	6	10	10
Bilfinger Berger	Germany							
		HSBC				10%	10%	
		Natexis	0%			10%		
		Average discount	0%			10%	10%	
		Nb of discounters	1	0	0	2	1	0
BNP Paribas	France							
		Deutsche Bank	10%					
		Average discount	10%					
		Nb of discounters	1	0	0	0	0	0
Bouygues	France							
		Ixis	10%	10%	10%	10%	12%	
		BNP Paribas				10%	15%	10%
		SoGe	10%	15%	15%	15%	15%	15%
		HSBC	10%	10%	10%	10%	10%	
		Deutsche Bank	10%	10%				15%
		ABN AMRO					15%	
		UBS				10%	10%	
		Dexia		10%				
		Citigroup			10%			
		Credit Suisse	10%	10%	10%	15%	15%	
		Average discount	10%	11%	11%	12%	13%	13%
		Nb of discounters	5	6	5	6	7	3
Credit Suisse	Switzerland							
		Bear Stearns	10%					
		Deutsche Bank	10%					
		Average discount	10%					
		Nb of discounters	2	0	0	0	0	0
DaimlerChrysler	Germany							
		UBS						20%
		WestLB		10%	10%			
		Natexis	10%					
		Average discount	10%	10%	10%			20%
		Nb of discounters	1	1	1	0	0	1
Delhaize	Belgium							
		Deutsche Bank	5%	5%				
		Average discount	5%	5%				
		Nb of discounters	1	1	0	0	0	0
Deutsche Post	Germany							
		ING	15%					
		WestLB				15%	25%	
		Average discount	15%			15%	25%	
		Nb of discounters	1	0	0	1	1	0

E.ON	Germany							
		UBS						0%
		Deutsche Bank						10%
		HSBC						0%
		Société Générale						
		Metzler			0%	0%	0%	10%
		WestLB					5%	
		Citigroup			5%			
		Average discount			3%	0%	3%	5%
		Nb of discounters	0	0	2	1	2	4
FIAT	Italy							
		Oppenheim	10%					
		Banca IMI	20%	30%				
		Caboto	10%			15%		
		HSBC					15%	
		Deutsche Bank						
		BNPP					10%	30%
		Average discount	13%	30%		15%	13%	30%
		Nb of discounters	3	1	0	1	2	1
Finmeccanica	Italy							
		Deutsche Bank	0%	0%	5%	30%	30%	30%
		Caboto	10%	10%	20%	25%		
		Société Générale						20%
		ABN AMRO						
		BNPP						35%
		Average discount	5%	5%	13%	28%	30%	28%
		Nb of discounters	2	2	2	2	1	3
GEA Group	Germany							
former MG Technologies		*MM Warburg*	15%	10%				
		Deutsche Bank	0%	0%		0%	15%	
		HSBC		10%				
		WestLB			5%	0%	10%	
		Metzler				15%	25%	
		UBS					8%	25%
		BGB					10%	10%
		Average discount	8%	7%	5%	5%	14%	18%
		Nb of discounters	2	3	1	3	5	2
Henkel	Germany							
		Commerzbank						
		Kepler	10%	10%	10%	10%	10%	
		UBS						10%
		Oppenheim	10%	10%	10%			
		Natexis	10%	10%	10%	10%		
		MM Warburg			20%	25%		
		Metzler	0%		15%	20%	20%	20%
		Citigroup			6%			
		WestLB						20%
		Average discount	8%	10%	12%	16%	15%	17%
		Nb of discounters	4	3	6	4	2	3
Hochtief	Germany							
		Deutsche Bank	10%					
		HSBC	0%	10%		20%	20%	
		WestLB				20%		
		Equinet				20%		
		Average discount	5%	10%		20%	20%	
		Nb of discounters	2	1	0	3	1	0

Lagardère	France							
		Ixis			10%		20%	
		BNPP					0%	
		Cheuvreux						
		Crédit Lyonnais					20%	
		Bear Stearns		10%	10%	10%	10%	
		Citigroup				20%	15%	15%
		Credit Suisse				15%	18%	10%
		HSBC				30%	30%	
		UBS				10%	10%	
		ABN AMRO	3%	3%		15%	25%	0%
		Deutsche Bank	4%	3%	5.5%			
		Average discount	4%	5%	9%	17%	16%	8%
		Nb of discounters	2	3	3	6	9	3
Lanxess	Germany							
		Kepler	20%	20%	35%			
		Metzler			20%			
		Average discount	20%	20%	28%			
		Nb of discounters	1	1	2	0	0	0
Man	Germany							
		WestLB	6%	10%	10%	15%	10%	
		MM Warburg	0%	10%				
		Oppenheim		10%				
		Société Générale		10%				
		Deutsche Bank		0%	10%	15%	15%	
		Citigroup			10%	5%	5%	20%
		Kepler			10%			
		Metzler			15%			0%
		BGB				15%	10%	15%
		Natexis			10%	10%		
		Commerzbank						20%
		Santander						15%
		BNPP						
		Average discount	3%	8%	11%	12%	10%	14%
		Nb of discounters	2	5	6	5	4	5
Merck	Germany							
		Kepler		5%			15%	15%
		Natexis		0%		0%	15%	
		Deutsche Bank		0%	5%	15%		
		Votonbel				15%		
		BGB				15%		
		WestLB				0%	15%	
		Commerzbank					30%	
		ING						15%
		Average discount		2%	5%	9%	19%	15%
		Nb of discounters	0	3	1	5	4	2
Metro	Germany							
		Société Générale		0%	5%			10%
		ABN AMRO			10%			
		Citigroup			3%			
		Kepler		0%	0%	13%		
		WestLB						
		Average discount		0%	5%	13%		10%
		Nb of discounters	0	2	4	1	0	1
Novartis	Switzerland							
		Vontobel	10%					
		SoGé	0%	15%				
		Average discount	5%	15%				
		Nb of discounters	2	1	0	0	0	0
Orkla	Norway							
		Orion	15%					
		Carnegie			15%			
		UBS				20%		19%
		Kaupthing	0%			20%		
		Average discount	8%		15%	20%		19%
		Nb of discounters	2	0	1	2	0	1

Philips	Netherlands							
		Kempen	0%	10%	20%	20%	20%	20%
		Deutsche Bank	10%	15%	10%		0%	
		Credit Suisse	10%	10%	10%	15%		
		ABN AMRO	15%	15%	15%	15%	15%	17%
		Petercam	10%	15%		20%	20%	
		SoGé	10%	10%	15%	15%	25%	25%
		Fortis		10%				
		ING		15%	15%	25%	25%	20%
		WestLB				15%		15%
		Delta Lloyd		10%	15%		15%	
		BNP Paribas				20%		20%
		HSBC						15%
		Rabobank		10%	10%	15%	10%	
		Commerzbank						10%
		Kepler	15%	15%				
		Average discount	10%	12%	14%	18%	16%	18%
		Nb of discounters	7	11	8	9	8	8
PPR	France							
		Credit Suisse	10%	10%	10%	15%	15%	20%
		ABN AMRO					15%	
		ING				10%	10%	
		HSBC	0%	5%				
		Société Générale				5%		10%
		Deutsche Bank		5%				
		Average discount	5%	7%	10%	10%	13%	15%
		Nb of discounters	2	3	1	3	3	2
Rheinmetall	Germany							
		HSBC					15%	
		Average discount					15%	
		Nb of discounters	0	0	0	0	1	0
Richemont	Switzerland							
		HSBC				10%	15%	
		Deutsche Bank					8%	8%
		UBS					10%	5%
		ING						10%
		Credit Suisse						
		ABN AMRO						
		Average discount				10%	11%	8%
		Nb of discounters	0	0	0	1	3	3
Saint Gobain	France							
		Ixis		10%			15%	
		Credit Suisse		10%	15%	20%		
		Deutsche Bank		5%	5%	0%		
		UBS					10%	
		Average discount		8%	10%	10%	13%	
		Nb of discounters	0	3	2	2	2	0
Salzgitter	Germany							
		MM Warburg	5%					
		Average discount	5%					
		Nb of discounters	1	0	0	0	0	0
Schindler	Germany							
		Credit Suisse			10%			
		Average discount			10%			
		Nb of discounters	0	0	1	0	0	0

Siemens AG	Germany							
		ABN AMRO	10%	10%				
		Deutsche Bank	0%	0%	10%	10%	10%	15%
		Natexis	0%					
		Metzler		15%	15%	15%	15%	15%
		MM Warburg		10%				25%
		Société Générale		10%	10%	10%	10%	10%
		Bear Stearns			10%			15%
		Citigroup			10%	0%	10%	10%
		Kepler				10%	10%	10%
		HSBC		10%			10%	10%
		BNP Paribas					30%	30%
		BGB					10%	
		Pictet						15%
		Commerzbank					10%	
		Credit Suisse		0%	10%	10%	8%	8%
		ING		15%	15%	15%	15%	15%
		Average discount	3%	9%	11%	10%	13%	15%
		Nb of discounters	3	8	7	7	11	12
Telefonica	Spain							
		ABN AMRO					5%	
		Average discount					5%	
		Nb of discounters	0	0	0	0	1	0
Thyssenkrupp	Germany							
		Credit Suisse	10%	10%	10%		0%	0%
		Deutsche Bank	10%	0%	10%	0%	12%	
		MM Warburg	10%	10%	10%	10%	10%	
		SRH AlsterResearch	15%					
		Kepler	10%	10%	0%			
		Oppenheim	10%					
		Metzler		10%		10%	10%	
		WestLB				10%		
		SoGé	20%	20%		0%	10%	10%
		Average discount	12%	10%	8%	6%	8%	5%
		Nb of discounters	7	6	4	5	5	2
TUI	Germany							
former Preussag		*WestLB*			10%	10%	10%	5%
		BGB				10%	10%	
		UBS				10%	10%	10%
		Kepler					10%	
		Metzler						10%
		HSBC					0%	
		Deutsche Bank						
		Average discount			10%	10%	8%	8%
		Nb of discounters	0	0	1	3	5	3
UBS AG	Switzerland							
		Bear Stearns	10%					
		Deutsche Bank	10%					
		Credit Suisse	6%					
		Average discount	9%					
		Nb of discounters	3	0	0	0	0	0
Vivendi	France							
		ABN AMRO	10%	10%	15%	15%	15%	
		Deutsche Bank	10%	10%	10%	15%	15%	
		Credit Suisse	5%		15%	15%		40%
		ING	12%	10%		10%	15%	
		Bear Stearns	10%	10%			10%	10%
		Citigroup			15%	0%	10%	13%
		HSBC				30%	30%	
		UBS				0%	20%	45%
		Average discount	9%	10%	14%	12%	16%	27%
		Nb of discounters	5	4	4	7	7	4
Wacker Chemie	Germany							
		Deutsche Bank	5%					
		Oppenheim	10%					
		Average discount	8%					

Appendix 3: Quantitative data on conglomerates

Company	Country	Number of segments	Sales (€ bn)	o/w largest segment	o/w largest two segments	Market capitalization (€ bn)	Free float
Ahold	Netherlands		28.2			12.1	82.0%
Akzo Nobel	Netherlands	3	10.2	36%	68%	15.7	88.0%
Allianz	Germany	4	102.6	48%	91%	66.7	100.0%
Alstom	France	3	14.2	50%	78%	20.5	70.0%
Altana	Germany	4	1.4	32%	58%	2.3	49.9%
AP Möller-Maersk	Denmark	5	37.4	52%	72%	16.0	40.0%
BASF	Germany	5	58.0	24%	48%	49.7	100.0%
Bayer	Germany	3	29.0	40%	76%	47.7	90.0%
Bilfinger Berger	Germany	3	8.6	40%	79%	1.9	100.0%
BNP Paribas	France	4	31.0	39%	65%	67.2	95.0%
Bouygues	France	5	29.6	39%	67%	19.4	63.0%
Credit Suisse	Switzerland	3	21.1	54%	93%	47.8	100.0%
Daimler	Germany	4	99.4	53%	81%	69.5	95.0%
Delhaize	Belgium	2	19.0	95%	100%	6.0	100.0%
Deutsche Post	Germany	4	63.5	40%	65%	27.9	69.0%
E.ON	Germany		68.7			100.8	100.0%
FIAT	Italy	7	58.5	49%	69%	19.3	64.0%
Finmeccanica	Italy	8	11.9	32%	57%	9.3	68.0%
Fortis	Belgium	2	29.8	63%	100%	39.3	88.0%
GEA Group	Germany	4	5.2	43%	73%	4.4	90.0%
Henkel	Germany	3	13.1	43%	75%	9.1	43.0%
Hochtief	Germany	2	16.5	92%	100%	6.4	64.0%
Lagardère	France	4	8.6	43%	70%	6.9	79.0%
Lanxess	Germany	3	6.6	41%	70%	2.8	95.0%
Man	Germany	4	15.5	67%	81%	16.1	70.0%
Merck	Germany	2	7.1	69%	100%	5.8	87.0%
Metro	Germany	4	64.3	49%	76%	18.5	34.0%
Münich Re	Germany	2	37.3	58%	100%	29.4	90.0%
Novartis	Switzerland	4	39.8	63%	82%	98.3	100.0%
Orkla	Norway	3	8.0	40%	75%	13.8	70.0%
Philips	Netherlands	5	26.8	39%	63%	33.7	100.0%
PPR	France	2	17.9	80%	100%	14.1	60.0%
Rheinmetall	Germany	2	4.0	56%	100%	2.0	100.0%
Richemont	Switzerland	4	2.5	50%	78%	24.5	100.0%
Roche	Switzerland	2	27.9	80%	100%	83.0	100.0%
Saint Gobain	France	5	43.4	45%	70%	24.1	77.0%
Salzgitter	Germany	5	10.1	44%	72%	6.4	75.0%
SAP	Germany	2	10.2	73%	100%	44.4	74.0%
Schindler	Germany	2	8.3	63%	100%	5.4	100.0%
Siemens	Germany	9	76.5	20%	36%	99.1	94.0%
Solvay	Belgium	3	9.6	41%	73%	7.6	69.9%
Telefonica	Spain		56.4			106.1	88.0%
Thyssenkrupp	Germany	5	55.2	30%	54%	19.7	75.0%
TUI	Germany	2	21.9	72%	100%	4.8	90.0%
UBS	Switzerland	3	19.3	61%	78%	65.6	94.0%
Vivendi	France	4	21.7	42%	64%	36.5	95.0%
Wacker Chemie	Germany	5	3.8	38%	74%	10.2	33.0%
Zürich Financial	Switzerland	4	37.5	62%	87%	29.2	100.0%

Appendix 4a: Statistical analysis – correlations

	Discount	Free float
ABN AMRO	0.0%	100.0%
Ahold	7.5%	82.0%
Akzo Nobel	10.0%	88.0%
Allianz	0.0%	100.0%
Alstom	0.0%	70.0%
Altana	0.0%	50.0%
AP Moller - Mærsk	6.7%	40.0%
BASF	5.0%	100.0%
Bayer	11.0%	90.0%
Bilfinger Berger	0.0%	100.0%
BNP Paribas	10.0%	95.0%
Bouygues	10.0%	63.0%
Credit Suisse	10.0%	100.0%
DaimlerChrysler	10.0%	95.0%
Delhaize	5.0%	100.0%
Deutsche Post	15.0%	69.0%
E.ON	0.0%	100.0%
FIAT	13.3%	64.0%
Finmeccanica	5.0%	68.0%
Fortis	0.0%	88.0%
GEA Group	7.5%	90.0%
Henkel	7.5%	43.0%
Hochtief	5.0%	64.0%
Lagardère	3.5%	79.0%
Lanxess	20.0%	95.0%
Man	3.0%	70.0%
Merck	0.0%	87.0%
Metro	0.0%	34.0%
Münich Re	0.0%	90.0%
NKT Holding	0.0%	100.0%
Novartis	5.0%	100.0%
Orkla	7.5%	70.0%
Philips	10.0%	100.0%
PPR	5.0%	60.0%
Rheinmetall	0.0%	100.0%
Richemont	0.0%	100.0%
Roche	0.0%	100.0%
Saint Gobain	0.0%	77.0%
Salzgitter	5.0%	75.0%
SAP	0.0%	74.0%
Schindler	0.0%	100.0%
Siemens AG	3.3%	94.0%
Telefonica	0.0%	88.0%
Thyssenkrupp	12.1%	75.0%
TUI	0.0%	90.0%
UBS AG	8.7%	94.0%
Vivendi	9.4%	95.0%
Wacker Chemie	7.5%	33.0%
Zürich Financial Services	0.0%	100.0%

	Discount	Free float
Discount	1	
Free float	-0.12323166	1

	Discount	Payout
ABN AMRO	0.0%	47.8%
Ahold	7.5%	0.0%
Akzo Nobel	10.0%	35.9%
Allianz	0.0%	19.1%
Alstom	0.0%	50.0%
AP Moller - Mærsk	6.7%	15.7%
BASF	5.0%	37.0%
Bayer	11.0%	32.6%
Bilfinger Berger	0.0%	27.7%
BNP Paribas	10.0%	37.5%
Bouygues	10.0%	49.9%
Credit Suisse	10.0%	24.6%
DaimlerChrysler	10.0%	42.6%
Delhaize	5.0%	32.8%
Deutsche Post	15.0%	51.0%
E.ON	0.0%	28.1%
FIAT	13.3%	28.3%
Finmeccanica	5.0%	24.4%
Henkel	7.5%	23.2%
Hochtief	5.0%	64.7%
Lagardère	3.5%	36.6%
Lanxess	20.0%	19.4%
Man	3.0%	20.1%
Merck	0.0%	75.0%
Metro	0.0%	41.6%
Münich Re	0.0%	25.1%
NKT Holding	0.0%	33.1%
Novartis	5.0%	34.9%
Orkla	7.5%	20.8%
Philips	10.0%	41.4%
PPR	5.0%	44.5%
Rheinmetall	0.0%	24.3%
Richemont	0.0%	15.0%
Roche	0.0%	33.0%
Saint Gobain	0.0%	64.7%
Salzgitter	5.0%	7.6%
SAP	0.0%	28.8%
Schindler	0.0%	54.9%
Siemens AG	3.3%	38.7%
Telefonica	0.0%	34.9%
Thyssenkrupp	12.1%	30.2%
UBS AG	8.7%	39.3%
Vivendi	9.4%	57.4%
Wacker Chemie	7.5%	0.0%
Zürich Financial Services	0.0%	23.9%

	Discount	Payout
Discount	1	
Payout	-0.10117668	1

	Discount	Number of divisions
Akzo Nobel	10.0%	3
Allianz	0.0%	4
Alstom	0.0%	3
Altana	0.0%	4
AP Moller - Mærsk	6.7%	5
BASF	5.0%	5
Bayer	11.0%	3
Bilfinger Berger	0.0%	3
BNP Paribas	10.0%	4
Bouygues	10.0%	5
Credit Suisse	10.0%	3
DaimlerChrysler	10.0%	4
Delhaize	5.0%	2
Deutsche Post	15.0%	4
FIAT	13.3%	7
Finmeccanica	5.0%	8
Fortis	0.0%	2
GEA Group	7.5%	4
Henkel	7.5%	3
Hochtief	5.0%	2
Lagardère	3.5%	4
Lanxess	20.0%	3
Man	3.0%	4
Merck	0.0%	2
Metro	0.0%	4
Münich Re	0.0%	2
Novartis	5.0%	4
Orkla	7.5%	3
Philips	10.0%	5
PPR	5.0%	2
Rheinmetall	0.0%	2
Richemont	0.0%	4
Roche	0.0%	2
Saint Gobain	0.0%	5
Salzgitter	5.0%	5
SAP	0.0%	2
Schindler	0.0%	2
Siemens AG	3.3%	9
Solvay	0.0%	3
Thyssenkrupp	12.1%	5
TUI	0.0%	2
UBS AG	8.7%	3
Vivendi	9.4%	4
Wacker Chemie	7.5%	5
Zürich Financial Services	0.0%	4

	Discount	Sales largest segment
Akzo Nobel	10.0%	36.0%
Allianz	0.0%	47.6%
Alstom	0.0%	50.0%
Altana	0.0%	32.2%
AP Moller - Mærsk	6.7%	52.1%
BASF	5.0%	24.4%
Bayer	11.0%	40.5%
Bilfinger Berger	0.0%	39.6%
BNP Paribas	10.0%	38.6%
Bouygues	10.0%	39.3%
Credit Suisse	10.0%	54.0%
DaimlerChrysler	10.0%	52.7%
Delhaize	5.0%	95.0%
Deutsche Post	15.0%	40.5%
FIAT	13.3%	49.2%
Finmeccanica	5.0%	32.1%
Fortis	0.0%	62.5%
GEA Group	7.5%	43.1%
Henkel	7.5%	43.0%
Hochtief	5.0%	91.9%
Lagardère	3.5%	43.4%
Lanxess	20.0%	40.6%
Man	3.0%	67.1%
Merck	0.0%	69.1%
Metro	0.0%	49.3%
Münich Re	0.0%	57.6%
Novartis	5.0%	63.0%
Orkla	7.5%	40.0%
Philips	10.0%	38.8%
PPR	5.0%	80.1%
Rheinmetall	0.0%	56.3%
Richemont	0.0%	50.1%
Roche	0.0%	79.7%
Saint Gobain	0.0%	44.9%
Salzgitter	5.0%	43.5%
SAP	0.0%	72.5%
Schindler	0.0%	63.0%
Siemens AG	3.3%	20.1%
Solvay	0.0%	41.0%
Thyssenkrupp	12.1%	30.3%
TUI	0.0%	71.5%
UBS AG	8.7%	61.0%
Vivendi	9.4%	41.6%
Wacker Chemie	7.5%	38.4%
Zürich Financial Services	0.0%	62.0%

	Colonne 1	*Colonne 2*
Colonne 1	1	
Colonne 2	0.256992128	1

	Colonne 1	*Colonne 2*
Colonne 1	1	
Colonne 2	-0.32440188	1

	Discount	Sales two largest segments
Akzo Nobel	10.0%	68%
Allianz	0.0%	91%
Alstom	0.0%	78%
Altana	0.0%	58%
AP Moller - Mærsk	6.7%	72%
BASF	5.0%	48%
Bayer	11.0%	76%
Bilfinger Berger	0.0%	79%
BNP Paribas	10.0%	65%
Bouygues	10.0%	67%
Credit Suisse	10.0%	93%
DaimlerChrysler	10.0%	81%
Delhaize	5.0%	100%
Deutsche Post	15.0%	65%
FIAT	13.3%	69.5%
Finmeccanica	5.0%	57.1%
Fortis	0.0%	100.0%
GEA Group	7.5%	73.2%
Henkel	7.5%	75.0%
Hochtief	5.0%	100.0%
Lagardère	3.5%	70.0%
Lanxess	20.0%	70.4%
Man	3.0%	81.3%
Merck	0.0%	100.0%
Metro	0.0%	75.9%
Münich Re	0.0%	100.0%
Novartis	5.0%	82.0%
Orkla	7.5%	75.0%
Philips	10.0%	63.1%
PPR	5.0%	100.0%
Rheinmetall	0.0%	100.0%
Richemont	0.0%	77.9%
Roche	0.0%	100.0%
Saint Gobain	0.0%	70.5%
Salzgitter	5.0%	71.9%
SAP	0.0%	100.0%
Schindler	0.0%	100.0%
Siemens AG	3.3%	36.1%
Solvay	0.0%	73.0%
Thyssenkrupp	12.1%	54.2%
TUI	0.0%	100.0%
UBS AG	8.7%	78.0%
Vivendi	9.4%	64.1%
Wacker Chemie	7.5%	74.4%
Zürich Financial Services	0.0%	87.0%

	Colonne 1	*Colonne 2*
Colonne 1	1	
Colonne 2	-0.42329753	1

Appendix 4b: Satistical analysis – regressions

FREE FLOAT & PAYOUT

Statistiques de la régression	
Coefficient de détermination multiple	0.221247645
Coefficient de détermination R^2	0.048950521
Coefficient de détermination R^2	0.00366245
Erreur-type	0.050478241
Observations	45

ANALYSE DE VARIANCE

	Degré de liberté	*Somme des carrés*	*Moyenne des carrés*	*F*
Régression	2	0.005508228	0.002754114	1.080870087
Résidus	42	0.107018217	0.002548053	
Total	44	0.112526445		

	Coefficients	*Erreur-type*	*Statistique t*	*Probabilité*
Constante	0.072368153	0.035832096	2.019646077	0.049830608
Variable X 1	-0.039121635	0.039367585	-0.993752468	0.326034423
Variable X 2	0.038984161	0.038205836	1.020371868	0.313393906

NUMBER OF DIVISIONS

Statistiques de la régression	
Coefficient de détermination multiple	0.256992128
Coefficient de détermination R^2	0.066044954
Coefficient de détermination R^2	0.044325069
Erreur-type	0.049437449
Observations	45

ANALYSE DE VARIANCE

	Degré de liberté	*Somme des carrés*	*Moyenne des carrés*	*F*
Régression	1	0.007431804	0.007431804	3.040759848
Résidus	43	0.105094641	0.002444061	
Total	44	0.112526445		

	Coefficients	*Erreur-type*	*Statistique t*	*Probabilité*
Constante	0.020487605	0.019167888	1.068850431	0.291100786
Variable X 1	0.008264806	0.004739599	1.743777465	0.088344053

NUMBER OF DIVISIONS & MAIN SEGMENT'S SALES PROPORTION

Statistiques de la régression	
Coefficient de détermination multiple	0.330176861
Coefficient de détermination R^2	0.10901676
Coefficient de détermination R^2	0.066588986
Erreur-type	0.048858195
Observations	45

ANALYSE DE VARIANCE

	Degré de liberté	*Somme des carrés*	*Moyenne des carrés*	*F*
Régression	2	0.012267268	0.006133634	2.569466913
Résidus	42	0.100259176	0.002387123	
Total	44	0.112526445		

	Coefficients	*Erreur-type*	*Statistique t*	*Probabilité*
Constante	0.083760503	0.04832428	1.733300591	0.090379275
Variable X 1	0.002595572	0.00614875	0.422130036	0.675083214
Variable X 2	-0.08277178	0.058156815	-1.423251604	0.162049514

NB DIV. & MAIN SEGMENT'S SALES PROP. & 2 MAIN SEGMENTS' AGGREGATE SALES PROP.

Statistiques de la régression	
Coefficient de détermination multiple	0.456564817
Coefficient de détermination R^2	0.208451432
Coefficient de détermination R^2	0.150533244
Erreur-type	0.046595292
Observations	45

ANALYSE DE VARIANCE

	Degré de liberté	*Somme des carrés*	*Moyenne des carrés*	*F*
Régression	3	0.023442031	0.00781401	3.599066888
Résidus	41	0.089015969	0.002171121	
Total	44	0.112458		

	Coefficients	*Erreur-type*	*Statistique t*	*Probabilité*
Constante	0.25035392	0.086505724	2.894073454	0.006066722
Variable X 1	-0.008295188	0.007563466	-1.096744248	0.279153287
Variable X 2	0.064934646	0.085344275	0.76085532	0.451097384
Variable X 3	-0.257024903	0.11295104	-2.275542594	0.028167905

NB DIV. & MAIN SEGMENT'S SALES PROP. & 2 MAIN SEGMENTS' AGG. SALES PROP. & FREE FLOAT

Statistiques de la régression	
Coefficient de détermination multiple	0.457412793
Coefficient de détermination R^2	0.209226463
Coefficient de détermination R^2	0.130149109
Erreur-type	0.047151037
Observations	45

ANALYSE DE VARIANCE

	Degré de liberté	*Somme des carrés*	*Moyenne des carrés*	*F*
Régression	4	0.02352919	0.005882297	2.645845531
Résidus	40	0.08892881	0.00222322	
Total	44	0.112458		

	Coefficients	*Erreur-type*	*Statistique t*	*Probabilité*
Constante	0.244961361	0.091676445	2.672020729	0.010854625
Variable X 1	-0.00819622	0.007669981	-1.068610264	0.291652046
Variable X 2	0.066333322	0.086650605	0.76552636	0.448451865
Variable X 3	-0.259132201	0.114792659	-2.257393486	0.029513094
Variable X 4	0.007370899	0.037226918	0.197999172	0.844048553