Capital structure decisions in the context of corporate spin-offs

The case of PT Multimedia

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Abstract

In February 2006, Sonae presented a hostile takeover offer for 100% of Portugal Telecom's (PT) outstanding shares. If it was accepted, it would have been the largest ever business deal in Portugal.
Although the offer was rejected, it changed the Portuguese telecommunications industry by leading to the separation of PT and Portugal Telecom Multimedia (PTM) via spin-off.
In this thesis I examine the motivations for this spin-off transaction and its implications on both firm's capital structure decisions.
By comparing each firm debt level (implicit debt level) with the one that would minimize their cost of capital (optimal debt level), derived via WACC minimization, I conclude that after the spin-off, the capital allocation efficiency worsened significantly.
Furthermore I argue that in both PT and PTM the deterioration was a direct consequence of the spin-off. As such, my findings contrast with previous studies that suggest that capital allocation efficiency improves, or at least remains unchanged, following a spin-off.

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Chapter 1 – Introduction

In February 2006, Sonae presented a hostile takeover offer for 100% of Portugal Telecom's (PT) outstanding shares. If it was accepted, it would have been the largest ever business deal in Portugal.

A year later the offer failed, and Sonae was not able to gain control of PT. However, this event contributed to a significant change in the Portuguese telecommunications sector. Until that point, PT dominated all the segments of the industry (fixed telephone, mobile telephone, internet and television), not having to face significant competition (except for the mobile telephone segment). However as a consequence of the failure of the hostile takeover, PT had to spin-off one of its largest subsidiaries, Portugal Telecom Multimedia (PTM).

PTM dominated a segment (television), had significant market share in other (internet) and, soon after the spin-off was announced, began operating in fixed telephone, thus creating a true competitor to PT.

The main objective of this thesis is two analyze this transaction and the impact it had on PT and PTM's capital structure. Based on the existing literature for capital structure decisions, and more specifically for spin-off transactions, this thesis will focus on answering the following questions:

- Which were the factors that motivated the spin-off?
- What was the immediate impact on leverage for both firms?
- Did the spin-off increase or decrease the capital allocation efficiency[1] on both firms?

To answer the first question, I analyze the announcement made by PT's Board. If besides the two factors officially mentioned to explain this spin-off transaction (increase the remuneration package so that PT's shareholders would not accept Sonae's offer and regulatory pressure) there were other factors that could have been relevant to this decision.

The second question is to analyze both firms' leverage on the period around the transaction and its variation, identifying if it is consistent with the traditional theory on the subject.

Finally, I will compare PT and PTM's implicit capital structure with its optimal capital structure and evaluate the impact of the spin-off.

[1] It's the difference between optimal and implicit capital structure. The lower is the difference, between these two indicators, the larger is the capital allocation efficiency.

In order to estimate the optimal capital structure, I will make a sensitivity analysis, testing different debt levels. The cost of equity will be valued using CAPM and the cost of debt will be determined using the Damodaran (2012) approach on synthetic ratings.

In answering all of these questions, I will compare PT and PTM's results with industry peers selected from sector indexes, respectively Eurostoxx Telecommunications Index and BI Europe Cable & Satellite Index.

This thesis is organized as follows: Section 2 presents a literature review on capital structure decisions, Section 3 has a brief introduction of the PT Group (that includes both firms), questions and methodology are explained in Section 4, and in Section 5 I review the results. Finally, Section 6 presents the conclusions and the limitations of the study are presented in Section 7.

Chapter 2 - Literature Review

2.1 - Traditional theories on Capital Structure:

Companies finance their assets by different forms of funding, both internal and external, thereby determining their capital structure. If instead of distributing profits from previous years, companies decide to retain them, they are using internal financing. By contrast, if they are using the capital markets to obtain funds, they are using external financing. Companies try to meet their financial needs by mixing these two types of financing and they can change their capital structure throughout the company life according to their life cycle, market conditions or preferences of the manager/owner.

The basis of the research in capital structure theory and financing decisions was established by the work of Franco Modigliani and Merton H. Miller in 1958. They derived the following rule of optimal investment "(…) the type of instrument used to finance an investment is irrelevant to the question of whether or not the investment is worthwhile" (Modigliani and Miller 1958, pp.292).

This proposition was based on a market with certain conditions, like the absence of taxes, no bankruptcy costs and no agency costs or asymmetry of information. Additionally, it assumed atomistic competition in the capital markets and easy access to those markets.

These types of conditions are hardly observable in capital markets and that was also assumed by the authors "Having served their purpose they can now be relaxed in the direction of greater realism and relevance" (Modigliani and Miller 1958, pp.296).

By eliminating some of these assumptions, different results are obtained. Both Modigliani and Miller later considered the effect of corporate taxes on capital structure decisions and concluded: "(…) that the tax advantages of debt financing are somewhat greater than we originally suggested and, to this extent, the quantitative difference between the valuations implied by our position and by the traditional view is narrowed." (Modigliani and Miller 1963, pp.434).

However in the same article, the authors identified some reasons that explain why companies do not choose to be financed exclusively with debt. For instance, in some cases it might be cheaper for investors to finance via retained earnings (considering personal income taxes or some limitations imposed by lenders). So, in order to find the best possible capital structure, each company must consider the pros and cons of the choice between internal and external forms of funding. This discussion lays the ground for the trade-off theory.

2.1.1 – The Trade-off Theory:

This theory argues that the financing choice is made by considering the benefits and costs of increasing (or decreasing) leverage (percentage of the firm's assets financed by debt). According to Graham and Leary (2011, pp.9)"(…) the static tradeoff suggests firms choose their capital structure to balance the benefits of debt financing (e.g. corporate tax savings and mitigation of agency conflicts between managers and shareholders) with the direct and indirect costs of financial distress.". Based on this definition, a number of implications could be derived, the first one being that profitability and leverage should be positively correlated. The most profitable firms face the highest marginal tax rates, so the higher the debt, the higher the tax savings. Another fact that reinforces this finding is that firms with larger profits face a smaller probability of bankruptcy, which lowers the bankruptcy cost. Debt could also be used to mitigate the agency costs between managers and shareholders. As more profitable firms generate more free cash flow, managers without supervision could use it to invest in riskier projects. So, by issuing debt, the interest payments generated will align the incentives of managers and shareholders and will force managers to allocate the resources more efficiently. According to Jensen (1986, pp.325)"The threat caused by failure to make debt service payments serves an effective motivating force to make such organizations more efficient".

There are other implications that can be derived from this theory, such as firms with more tangible assets that are more redeployable should have higher leverage, because it lowers its bankruptcy cost. For the same reason, firms with more intangible assets or with high R&D intensity should be less leveraged. Finally, firms with higher depreciation expenses should have less leverage, because these expenses generate a tax benefit that will lower the tax benefits of debt.

This theory assumes that firms have target leverage ratios and some authors such as Jalilvand and Harris (1984) present evidence that firms manage leverage towards an optimal ratio. The trade-off theory explains several patterns and trends in the corporate strategy decision process of firms, but according to authors, like Graham and Leary (2011), there are important shortcomings, like the fact that many profitable firms facing high marginal tax rates have very little leverage. Further, directional trade-off predictions explain little of the observed capital structure variation and the rate of the reversion to target is too slow to be considered a firm's priority. There are some authors that defend that a firm can have different debt ratios according to its life cycle: star-up firms will have very little or none debt, as a firm grows it

starts to use debt as its cash flows become predictable and when the firm reaches its mature state the debt ratio tends to reach its peak.

So, in order to address these shortcomings, other theories must be considered to explain the capital structure decision:

2.1.2 – Pecking order theory:

This theory argues, according to Myers (1984) and Myers and Majluf (1984), that firms choose their capital structure according to a financing hierarchy, where firms usually prefer internal finance. If external finance is needed, firms issue debt first, then hybrid securities, like convertible bonds, and only as a last resort issue equity.

Managers prefer to finance via internal financing (retained earnings), and when not enough, management may also plan to cover part the investments with new debt but, according to Myers (1984, pp.589) "it tries to restrain itself enough to keep the debt safe", which means "reasonably close to default-risk free". As debt level increases so does the costs of financial distress (bankruptcy costs) and the financial flexibility of the firm for new issues of debt becomes smaller.

Only after these possibilities are exhausted would management consider issuing equity, which is why, according to Graham and Leary (2011, pp.319) "there is a significant negative market reaction to the announcement of seasoned equity issues".

However, according to Fama and French (2005) and Leary and Roberts (2010), the pecking order theory predicts a relatively small number of debt and equity issuance decisions.

Overall both the pecking order and the trade-off theories leave many financing decisions unexplained and offer some conflicting predictions.

2.1.3 – Alternative theories

The shortcomings of the traditional capital structure theories have created room for different, more recent, attempts to explain the capital structure decision and two significant ones are the market timing theory by Baker and Wurgler (2002) and the mechanical stock price explanation by Welch (2004).

Baker and Wurgler (2002, pp.3) argue that "capital structure is largely the cumulative outcome of past attempts to time the equity market", which means, as Antão and Bonfim (2008, pp.175) stated, that "managers tend to time the market by issuing shares when the equity market is perceived as more favorable". These findings are contradictory to the traditional capital structure theories, because they do not follow the pecking order hierarchy

of financing, as equity could be issued before debt or even before the firm consumes all of its retained earnings. It also contradicts the trade-off theory of a target leverage ratio.
On the other hand, Welch (2004, pp.107) argues that ‘‘(...) over reasonably long time frames, the stock price effects are considerably more important in explaining debt-equity ratios than previously identified proxies’’, which means that the capital structure is primarily affected by external influences of stock returns instead of being influenced by the decisions undertaken by the management.

2.1.4 – Facts unaddressed by traditional theories

The theories reviewed in the previous sections present the most comprehensive explanations on the capital structure decision. However, according to Graham and Leary (2011) there are several aspects unaddressed or wrongly tackled by those theories like mis-measurement of variables (leverage, distress costs or tax shields); the effect capital structure has on non-financial stakeholders, supply conditions in the capital market, financial contracting and the value effects of capital structure.
One aspect not identified in the work of Graham and Leary was the role that internal markets have in the capital structure decisions inside corporate groups, specifically the role that a parent company has in financing its subsidiary and how a subsidiary capital structure changes when it is spun-off.
In the following section I review the literature on those subjects, which are closely related to the topic of this thesis.

2.2 – Capital Structure in a corporate group and the impact of a Spin-off

2.2.1 – Capital structure in a corporate group

Before reviewing the existing literature about the financing decisions within a corporate group we must gain an understanding on what defines it.
Using the International Financial Reporting Standards (IFRS) it is possible to present a definition that is understandable and comparable across international boundaries, and so, according to IFRS 10 – Consolidated Financial Statements, a corporate group is comprised by a parent company and subsidiary and the parent controls the subsidiary. According to the same standard, a parent controls its investee when it has all of the following: power over the investee; exposure, or rights, to variable returns from its involvement with the investee; and the ability to use its power over the investee to affect the amount of the investor's return.
Previous standards, like the International Accounting Standard 27 (IAS 27)[2], established that control was presumed when the parent holds more than half of the voting rights of an entity.
As I have presented in the previous section, traditional capital structure theories focus on standalone companies but as Bianco and Nicodano (2006, pp.938) stated "(…) the capital structure of group affiliated companies is richer since they have access to both the internal (within the group) and the external capital market". This topic will be analyzed further in the next section.

2.2.1.1 – Debt issuance in a corporate group

Not only is the decision on capital structure more complex because of the access to within the group financing, it also requires to consider the financial structure of the group as a whole.
In terms of issuing debt, as the parent company faces limited liability in case of the insolvency of the subsidiary, there is an incentive for issuance of debt by the latter. However, and as Bianco and Nicodano (2006) argue in their study, this factor could present an incentive for management to allocate riskier projects to the subsidiary. The lenders, anticipating this scenario would charge higher interest rates which might offset the advantages of the issuance of debt by the subsidiary.
The result of their study was that, in their sample, parent companies issue external debt and are net lenders to their subsidiaries and therefore but they only analyze corporate groups within a country, but if multinational corporations are considered, where the parent and the

[2] IAS 27 is superseded by IFRS 10 with effect from annual periods beginning on or after 1st January 2013.

subsidiary are present in different markets, facing different tax rates and different bankruptcy costs, we might obtain different results.

Chowdhry and Nanda (1994, pp.263), argue that the "optimal debt financing strategy for the subsidiary is determined by the trade-off between tax savings due to the deductibility of interest expense and bankruptcy costs" and based on their model, they predict that a subsidiary will have a larger proportion of external debt if it is facing a higher tax rate than the parent.

So, based on the existing literature an argument can be made that subsidiaries rely primarily on financing within the group and only issue external debt if the tax advantages offset the bankruptcy costs.

2.2.1.2– Equity issuances in a corporate group

The adverse selection model of Myers and Majluf (1984) predicts that firms, on average, will issue stock when managers have private information that their stock is overvalued. Then, in a parent-subsidiary framework, as Nanda (1991) argues, subsidiary stock issues will occur when its assets are overvalued and the parent's assets are undervalued.

Consistent with this hypothesis, Slovin and Sushka (1997, pp.842) analyzed subsidiary equity issuances and concluded that "Gains in parent value exceed losses sustained by minority shareholders of issuing subsidiaries so, contrary to prior evidence about negative wealth effects of seasonal equity issuance, announcements of subsidiary stock offerings increase the value of the combined enterprise".

Vijh (2006) presents a different approach to this issue. He argues that, based on a sample of 127 seasoned equity offerings (SEO's) within parent-subsidiary structures during 1981-2002, "the market perceives the issuing firm to be overvalued, but perceives no significant new information concerning the nonissuing firm's value"(Vijh 2006, pp.1339) . Furthermore, he identified the three main types of equity issues in these structures and defined them as parent primary issue, a subsidiary primary issue, and a subsidiary secondary issue of stock held by the parent and analyzed the motivations behind them. He concluded that both higher prior year returns and financing deficits were significant factors for both primary issues, but neither was a significant factor regarding secondary issues.

Vijh (2006) also concluded that the choice between which firm issues stock is driven by the overvaluation of the issued stock and that funds are not transferred across firms within corporate group structures.

2.2.2 – Spin-off and the effect on the capital structure

2.2.2.1 – Forms of restructuring

Since I am analyzing the effect that a spin-off had on an entity's capital structure, in this section I identify and define the corporate divestiture forms.

There are three major forms in which a firm can divest: sell-offs, equity carve-outs and spin-offs.

In an asset sell-off, the subsidiary is sold to a third party and the parent firm receives cash in the transaction.

An equity carve-out occurs when a firm issues equity of a subsidiary. The parent receives cash and the buyers of the stock are the new shareholders of the firm. However, the parent firm maintains a controlling interest in the subsidiary that is being carved out.

Finally, the spin-off also involves an equity issuance of a subsidiary, but in this case the parent firm does not receive cash in the transaction because the new shares are distributed to the existing shareholders of the parent as a pro rata dividend.

2.2.2 – Vertical divestiture and the decision between spin-off and a carve-out:

Analyzing the vertical[3] divestiture decision, Jain, Kini and Shenoy (2011) suggest that parent firms are more likely to divest subsidiaries whose industries experience positive demand shocks and that the firms undertaking these decisions are relatively less productive parent firms as their assets/subsidiaries are more valuable to other firms in the industry. They also concluded that "attractive industry financing conditions, particularly in subsidiary firm industries, instead of internal financing constraints influence integrated firms to consider financial divestitures" (Jain, Kini and Shenoy (2011, pp.603). Other authors like Duhaime and Grant (1984) hypothesized several individual factors to be relevant on the divestment decision and concluded that divestment decisions tend to be made when firm financial strength, as measured by the ROE[4], is low by comparison to industry financial strength. Duhaime and Grant (1984) also concluded that divested units had low competitive and financial strength and low interdependency with the firm' other units.

Analyzing the method of vertical divestiture the financial constraints become relevant and "vertical divestiture is likely to be a carve-out instead of a spin-off in face of tighter financial

[3] The disposal of some or all of the subsidiaries, divisions or assets that make up a company's vertical combination

[4] Return on Equity

constraints" as argued by Jain, Kini and Shenoy (2011, pp.605), which means that if the subsidiary is financed significantly by the parent, it is more likely the parent would decide to do an equity carve-outs, retaining control of the entity.

Furthermore, Jain, Kini and Shenoy (2011) also conclude that spin-offs are more likely in larger industries which experience positive demand shocks.

Other authors like Johnson, Klein and Thibodeaux (1996, pp.306) have argued that "firms engaging in spin-offs are larger, more highly leveraged and have higher asset turnover and lower real asset growth than their industry rivals".

2.2.3 – Impact of a spin-off in the capital structure

In spin-offs, managers issue equity of a subsidiary that already exists or could result from breaking up a company by allocating a segment of the original firm's assets and liabilities to a newly formed company.

Since management can arbitrarily choose the financing mix of the new company, this could imply an incentive to allocate a larger debt load to the subsidiary in order to leave the parent less leveraged. One example of this was the Marriot spin-off, which, as Parrino (1997, pp. 269) concluded, would have "reduced the value of the assets underlying the bondholder claims", without increasing the interest amount paid to the bondholders. However even without covenant protection, the bondholders were able to force a modification in the spin-off plan.

These findings are consistent with the work of McNeil and Moore (2005) and Gertner, Powers and Scharfstein (2002) that concluded that there was no general tendency to misallocate capital by the parent. On the determinants of debt allocation, John (1993) concluded that profitability was a significant factor when allocating debt.

Mehrotra, Mikkelson and Partch (2003) were able to establish some relationships between financial indicators from the companies emerging from the spin-off and the debt ratio. They concluded that high profitability, higher level (and lower volatility) of cash operating returns, and larger proportions of assets in property, plant and equipment are positively related to higher debt ratios.

Analyzing the post spin-off period, several authors have studied the evolution of leverage in the companies emerging from the transaction. John (1993), Johnson, Klein and Thibodeaux (1996) and Daley, Mehrotra and Sivakuman (1997) have concluded that there is no significant change in leverage levels following spin-offs. Other authors, like Michaely and Shaw (1995), obtained different results, finding that only the spin-off parents decreased debt levels.

Assessing the impact of a spin-off in the capital allocation efficiency, Gertner Powers and Scharfstein (2002, pp.2504) found that "one of the effects of the spinoff – or even one of the reasons they are undertaken in the first place- is to increase the efficiency of capital allocation", because they found that financing within the group is inefficient on average. Other authors concluded that the allocation of debt does not change significantly following the spin-off and that "spinoffs are not commonly motivated by a desire to improve the allocation of capital, unless most firms are unable to realize intended improvements" McNeil and Moore (2005, pp. 265). Finally, Johnson, Klein and Thibodeaux (1996) conclude that both the parent and the subsidiary experience increases in real asset growth following spin-offs, and the parent firms experience significant improvements in the cash flow margin on sales.

2.3. - Business Line and Country analysis

2.3.1 – Telecommunications sector:

Since this thesis examines capital structure decisions in a telecommunications company, in this section I review some of the latest developments in the capital structure decision in this sector.

In Europe, since the mid 1990's there was an increasing volume of market reforms.

Cambini and Rondi (2011) characterized the sector in many European countries as being dominated by an incumbent, with an almost monopolistic position, that competes with smaller alternative operators.

They also argue that in response to market reforms, many incumbents expanded their activity by growth through mergers and acquisitions and into related markets.

These companies financed its growth via leverage, specifically when undertaking large investments and, as Cambini and Rondi (2011) concluded, the increase in leverage also has an impact in the regulated rates, increasing them. Regulators in order to provide an investment incentive to the incumbent may raise the access charge, which in turn solidifies incumbent market position, thus having a negative impact in the competition.

As the result of the increase in leverage, many of major EU telecommunications companies have large net debt positions.

The United States faces a similar situation, where deregulation caused an abnormal increase in leverage. According to Leach, Moyen and Yang (2013, pp.334) "this increase is consistent with the introduction of a new benefit of debt when the product market opens to competition".

Chapter 3 - Company background:

PT was, in 2007, the largest telecommunications company in Portugal and one of the largest Portuguese companies overall. It is the incumbent Portuguese operator and provides several services to its customers, such as:

- Fixed telephone services;
- Mobile telephone services;
- Internet Service Provider;
- Cable distribution network operator;
- Data transmission services;
- Voice over internet services (VoIP).

PT was founded in 1994, resulting from the merger of three independent, publicly owned, operators: Telefones de Lisboa e Porto, Telecom Portugal and Teledifusora de Portugal. With the merger, PT became the only national telecommunications operator.
Through the 1990s, the Portuguese government carried out a privatization program. This occurred in several steps and by the end of 2000 all but 500 "golden shares" (nominal shares which are able to outvote all other shares in certain specified circumstances) of its capital was privately owned, making it one of the most privatized European Telecoms.
PT started as a fixed telecommunications operator, but began investing heavily in new technologies, such as mobile telephone services and internet access service in the 1990's.
In 2000, the Portuguese telecommunications sector was fully opened to competition and as a consequence PT's market share on its most traditional business, fixed telephone services, dropped significantly(from 92% in 2001 to 71% in 2006)[5]. The same happened to its contribution to the group revenue, as presented in table 1:

[5] Anacom's Situação das Telecomunicações 2006

Table 1 - PT's Revenue by operational segment (2001-2006)

Business Segments	2001		2002		2003		2004		2005		2006	
	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%
Fixed Telephone Services	2.401	42%	2.248	40%	2.138	37%	2.145	37%	2.050	32%	1.912	30%
Mobile Telephone Services – Portugal	1.172	21%	1.267	23%	1.347	23%	1.462	25%	1.455	23%	1.424	23%
Mobile Telephone Services – Brazil	1.401	24%	1.218	22%	1.362	24%	1.599	27%	2.037	32%	2.105	33%
Multimedia	592	10%	640	11%	684	12%	598	10%	627	10%	664	10%
Other	160	3%	210	4%	246	4%	82	1%	215	3%	238	4%
Total Revenue	**5.726**	**100%**	**5.582**	**100%**	**5.776**	**100%**	**5.886**	**100%**	**6.385**	**100%**	**6.343**	**100%**

Source: Bloomberg, Portugal Telecom Annual Reports (2002-2007)
Values in €M

PT had also begun to expand internationally, targeting markets in Africa, Asia and South America. By 2007, PT had a significant shareholder stake in Médi Telecom (Morocco), Unitel (Angola), MTC (Namibia), CST (Sao Tome e Principe, CVT (Cape Verde), Timor Telecom (East Timor), CTM (Macao), UOL and Brasilcel (Brazil).

Beginning in 1998, PT and Telefonica (Spanish Telecommunications incumbent) announced an agreement regarding their Brazilian assets in order to create a strategic joint venture for the mobile-phone segment in Brazil called Brasilcel, which eventually would control the largest mobile phone operator in South America (VIVO). As part of the agreement, Telefonica increased its shareholders stake in PT to 10 percent, becoming at the time the largest shareholder.

Multimedia Sector

In 1994, PT created TV Cabo Portugal S.A. (TV Cabo), a TV cable and satellite operator, which shortly after became the operator with the largest market share.

In July 1999, as part of the PT Group reorganization process, PT formed Portugal Telecom Multimedia (PTM) transferring to the new company TV Cabo, SAPO (internet services provider) and a minority stake in Páginas Amarelas, the leading Portuguese telephone directories business.

PTM had its initial public offering (IPO) in November 1999, having PT remained the largest shareholder (with a stake greater than 58 percent).

In the years following the IPO, PTM acquired Lusomundo, a media holding company in Portugal, with cinema and movie distribution assets (Lusomundo Audiovisuais) and several newspapers and radio stations (Lusomundo Media). Later, in 2005, PTM sold Lusomundo Media.

In January 2007, PTM launched voice telephony services, establishing itself as an integrated "triple play" operator (telephone, internet and television).

Hostile Takeover offer by Sonae and aftermath:

On February 6, 2006, Sonae SGPS, S.A. and Sonaecom—SGPS, S.A. announced an unsolicited tender offer for all the outstanding ordinary shares and convertible bonds of PT. Soon after, they extended the offer for all the outstanding ordinary shares of PTM, which was conditioned upon the successful purchase of more than 50% of the ordinary shares of PT.

PT's management advised its shareholders to reject Sonae's proposal and, contingent to the failure Sonae's offer, proposed a revised remuneration package for the 2006-2008 period (up from Euro 3.0 billion to Euro 3.5 billion)[6] as well as the spin-off of the 58,43% shares PT had in PTM to all PT shareholders by way of a dividend in kind.

At the extraordinary meeting of shareholders, held on March 2, 2007, the proposal to remove the 10% voting limitation from the bylaws of PT was rejected. Since this was a necessary pre-requisite established by Sonae, its takeover offer also failed.

Hence, the spin-off of PTM advanced and it was concluded in 7th November 2007[7].

[6] PT Board Press Release – Portugal Telecom approves proposal to spinoff PT Multimedia, to increase the proposal shareholder remuneration package to Euro 3.5 billion and to contribute Euro 1.0 billion in the pension funds – 3rd August 2006

[7] After 31st January 20008 Portugal Telecom Multimedia changed its name to Zon Multimedia

Chapter 4 – Research Questions and Methodology

4.1 - Factors influencing PTM's spin-off decision:

On 3rd of August 2006, the Board of PT announced the approval of a proposal to spin-off PTM. At the time, the decision was explained with two main arguments: i) to increase the remuneration package to prevent Sonae and Sonaecom's offer from succeeding, and ii) "to address the concerns regarding access network concentration…"[8] However and focusing specially in the second argument, although the European Commission[9] and the Portuguese Competition Authority[10] stated that separation of the local telephone and cable network would be important to promote competition in local access, there was still no official ruling by any regulator's authority that obliged PT to undertake such a decision.

So, in order to better understand this transaction, I am going to investigate if any other motives were important influences.

Based on the works of Duhaime and Grant (1984) and Decker and Mellewigt (2007), the following factors may be individually important to influence this divestment decision:

- Firm financial strength;
- Unit financial strength;
- Unit interdependency;
- Corporate Strategy.

Duhaime and Grant (1984) tested other factors, such as economic growth and managerial attachment, but were proven less significant. Also, since PT and the majority of its peers are multinational companies, it would be very difficult to determine the economic growth of the area in which these companies operate.

Beginning with firm financial strength, based on the existing literature, I defined the following measures[11]:

1) Return on equity (ROE) – averaged over the three years prior to the spin-off;
2) Market-to-book ratio – averaged over the three years prior to the spin-off;
3) Debt burden – averaged over the three years prior to the spin-off;
4) Dividend payout ratio – averaged over the three years prior to the spin-off.

[8] PT Board Press Release – Portugal Telecom approves proposal to spinoff PT Multimedia, to increase the proposal shareholder remuneration package to Euro 3.5 billion and to contribute Euro 1.0 billion in the pension funds – 3rd August 2006

[9] European Electronics Communications –Regulation and Markets 2005

[10] Relatório Anual de Acompanhamento dos Mercados de Comunicações Electrónicas - 2004

[11] For the detailed formulas used in the calculation of these measures, please refer to Appendix A

I derive the hypothesis that PT's financial strength was important to the decision to spin-off PTM. This is tested by comparing its financial performance with that of its industry peers, defined in chapter 4.4. However some indicators might be more important than others, and I, following the findings of Duhaime and Grant (1984), hypothesize that firm financial strength, measured by ROE, is lower than industry average and other traditional measures are not significant.

The second factor tested is the unit financial strength and, it is important the emphasize that PTM is already an independent firm, so the same measures applied to determine the financial strength of PT can also be used to measure the financial strength of the divested unit, PTM. Our hypothesis is that the PTM financial strength is lower than PT and so could have been a motivation for the spin-off.

Unit interdependency can be measured by the levels of technology or facilities shared, but also by the proportion of significant items from the divesting unit's balance sheet or income statement with the parent firm. In this case, I will analyze PTM's annual report in the year before the spin-off and assess the importance of the transactions with PT (and firms controlled by PT, or on which PT has significant influence) in the year before the spin-off. I expect that PTM has low level of interdependency with PT and PT's other units.

Finally PT's decision to divest might result from a reorientation of its corporate strategy, because "simultaneous investment in too many and too diverse technological field or the performance of redundant activities often result in inefficiency"[12]. In determining the relative importance of this motivation, I will analyze the annual reports and public statements made by both firms' key personnel. I expect that a strategic reorientation of PT could be relevant in the decision to divest PTM.

[12] Decker & Mellewigt (2007, pp.8)

4.2 – Spin-off impact on PT and PTM's leverage

On 7th November 2007 PTM was spun-off from PT. It represented significant changes in its organization, namely at the ownership level, operationally and also presented some challenges financially.

As it was described in the chapter 2.2, by being part of a corporate group, PTM had access to financing within the group and so, by leaving that structure, had to adapt the financing mix available.

I analyze the quarterly evolution of leverage[13] in both PT and PTM, beginning in the year prior to the spin-off and ending in the year after[14] and compare it with both industry peers.

This thesis, following the findings of John (1993), Johnson, Klein and Thibodeaux (1996) and Daley, Mehrotra and Sivakuman (1997)[15], hypothesizes that leverage in both PT and PTM remains similar to the pre-spin-off levels instead of considering alternative theories like Michaely and Shaw (1995) that stated that only the spin-off parents decreased debt levels.

4.3 – Analyzing PT and PTM capital allocation efficiency

Existing literature argues that "one of the effects of spin-offs – or even one of the reasons they are undertaken in the first place – is to increase the efficiency of capital allocation"[16]. This theory is based on the assumption that financing within the group is inefficient.

Assessing this premise, Mcneil and Moore (2005) concluded that, on average, the capital allocation efficiency of the parent firms remains unchanged post-spin-off.

This thesis examines which hypothesis is true to PTM's spin-off case by comparing each firm proportion of debt in the capital structure[17] (Implicit Debt Level) to the proportion of debt that would minimize the cost of capital to each firm (Optimal Debt Level). The latter is the one that maximizes the use of the tax shields and the agency benefits and at the same time minimizes the distress and agency costs. The same calculations are made for each of PT and PTM industry peers to make an industry comparison.

[13] Debt / Total Assets

[14] Since the spinoff date was 7th November 2007, I will consider the previous quarter ending date 30th September 2007 the reference date

[15] Daley, Mehrotra and Sivakumar (1997) concluded that cross-industry spin-offs lead to a small decline in leverage ratio of the combined assets, but there is no change in leverage associated with same industry spinoffs. PT and PTM operate in the same industry.

[16] Gertner, Powers and Scharfstein (2002, pp.2504)

[17] Debt level = Debt / (Debt + Market Capitalization of Equity)

4.3.1 - Computing the Optimal Debt Level:

In order to determine the Optimal Debt Level for each year and each firm I made a sensitivity analysis testing different debt levels. I am testing 10 different debt levels (the first being 0% and the last being 90%) per year. Having identified the level which resulted in the lowest cost of capital I use the "goal seek" excel function to determine the exact optimal.
The method used is the weighted average cost of capital (WACC) and the calculations are made on a yearly basis, starting three years before the spin-off date ending three years after. [18]
The weighted-average cost of capital general formula is:

$$WACC = [\frac{E}{E+D}Ke + \frac{D}{E+D}Kd(1-Tc)]$$

where:

E - Value of Equity;
D - Value of Debt;
Ke - Cost of Equity;
Kd - Cost of Debt;
Tc - Corporate tax rate.

In the process of WACC computation I consider the following assumptions:

- The capital structure has only two claims (Equity and Debt);
- The Equity values considered are the market values;
- The Debt values applied are the book values of debt[19];
- The adjustment costs of rebalancing the capital structure are not taken in consideration;
- The tax shields are limited by the EBIT value.
- The corporate tax rate is the marginal tax rate

In order to solve the equation for every company and every year, it is necessary to collect the following variables:

E – Market value of Equity (obtained from Bloomberg);
D – Book value of financial debt (obtained from each firm's Annual Report and Bloomberg);
Tc – Marginal Tax Rate (obtained from the OECD).

[18] In this case, since the calculations are made on a yearly basis, the spinoff date considered will be 2007.
[19] Debt = Interest bearing liabilities

Cost of equity

The Cost of Equity is the rate of return investors require on an equity investment in a firm. It results from a trade-off between risk and return that a specific asset should grant to its holder. The least risky investments are treasury bills of AAA countries. By comparison, the market portfolio of common stocks is considered a much riskier investment and therefore investors require a higher return from the market portfolio than from treasury bills.
Considering just one individual security of the market portfolio, in order to determine its risk, we must determine how sensitive it is to market movements. This sensitivity is called beta (β). Stocks with β greater than 1 tend to amplify the overall movements of the market and stocks with β between 0 and 1 tend to move in the same direction as the market, but not as far. If the β is negative, its returns tend to move in the opposite direction of the market's returns.
In order to estimate an accurate projection of the trade-off between risk and return of a single firm, I use the capital asset pricing model (CAPM) and this model undertakes the following assumptions:

- Individual investors are price takers, therefore the security prices are not affected by the trades they make (perfect competition assumption);
- Single-period investment horizon;
- Investments are limited to traded financial assets (it rules out non-traded assets);
- There are no taxes and transaction costs;
- Investors are rational mean-variance optimizers;
- There are homogeneous expectations; all investors analyze securities through the same lenses of cash flows distribution probabilities[20].

The model's message is that, in a competitive market, the expected risk premium varies proportionally to beta and is defined as:

$$Expected\ risk\ premium\ on\ stock = beta\ \times expected\ risk\ premium\ on\ market$$

or

$$r - rf = \beta\ (rm - rf)$$

where:

r – Expected stock return;

rf – risk free rate;

[20] According to Markowitz Portfolio Theory, all investors will have the same expectations and make the same choices given a particular set of circumstances.

rm-rf – expected risk premium on the market.
Based on this formula we derive the following for calculating the cost of equity:

$$Expected\ stock\ return = rf + \beta\ (rm - rf)$$

where:

rf – Risk free rate

Yield used is the one from Long term (10 years) German Government Bonds, because the majority of firms analyzed present their financial information in euros.

β

Derived by obtaining the covariance between the daily returns of the firm's stock in the 5 years previous to the analyzed date, with the daily market returns (in this case the Eurostoxx Index) in the same period. To compute the values it was used the excel formula "Slope".
In the WACC minimization process, I will be changing the capital structure and, by that, changing the applicable β. In order to compute different levels of β I will need to determine the Unlevered Beta (β_0), which is obtained by the following equation:

$$\beta_0 = \frac{\beta}{[1 + (1 - Tc) * \frac{D}{E}]}$$

Market Risk Premium – *(rm –rf)*

For the country of each firm analyzed, I have identified the most important stock exchange index presented in table 2:

Table 2 - List of Stock Exchange Indexes by Country

Country	Stock Exchange Index
Austria	ATX
Belgium	BEL20
Finland	OMX Helsinki 25
France	CAC 40
Germany	DAX
Greece	ASE
Netherlands	AEX
Poland	WIG 20
Portugal	PSI 20
Spain	IBEX 35
United Kingdom	FTSE 100
United States	S&P 500

For each index, I calculate the total return (including dividends), and compute the monthly market return for the longest period available (since 1990).
Using that market return, and having obtained, via Bloomberg, the monthly risk free yield[21] I can determine a Market Risk Premium for every country and period needed, based on the following formula:

$$Yearly\ Rate = (1 + monthly\ rate)^{12} - 1$$

Cost of Debt

The cost of debt measures the current cost to the firm of borrowing funds to finance itself. In general terms, it is defined by the following factors:

- The risk-free rate that is being negotiated in the markets. As the riskless rate increases, the cost of debt for firms will also increase;
- The entity's default risk. As the default risk of the firm increases, the cost of borrowing money also increases;
- The tax advantages of debt. If the tax shields increase, more debt in the overall capital structure can be used. This can, in turn, increase the cost of debt.

The simplest scenario for estimating the cost of debt occurs when a firm only has tradable long term bonds (Damodaran, 2012). The cost of debt would then be computed based on the market price, yield, coupon and maturity of the portfolio of bonds.

[21] Yield on the Long term (10 years) German Government Bonds

However, the majority of firms have bonds outstanding that do not trade on a regular basis or have other instruments of debt, like loans, which create hurdles when computing the cost of debt.

Since the majority of larger firms are rated, it is possible to estimate their cost of debt by using their ratings and associated default spreads. However, many companies are not rated. Then there are two additional alternatives to estimate the cost of debt:

- Recent borrowing history: by analyzing recent borrowings made by the firm and use these spreads to come up with a cost of debt;
- Estimate a "synthetic rating", based upon its financial ratios.

Damodaran (2012) presented this last hypothesis, and, based on information collected on the years 1999 and 2000 from the S&P 500 index, he was able to establish the connection between the interest coverage ratio (ICR)[22] and the rating of the manufacturing companies of the S&P 500. One important distinction he made was to divide the sample between firms with market capitalization lower or greater than $2 billion. His conclusions are detailed in tables 3 and 4.

Table 3 – ICR and ratings: Low Market Cap Firms

ICR	Rating	Spread
> 12,5	AAA	0,75%
9,5 – 12,5	AA	1%
7,5 – 9,5	A+	1,5%
6 – 7,5	A	1,8%
4,5 – 6	A-	2%
3,5 – 4,5	BBB	2,25%
3 – 3,5	BB	3,5%
2,5 – 3	B+	4,75%
2 - 2,5	B	6,5%
1,5 – 2	B-	8%
1,25 – 1,5	CCC	10%
0,8 – 1,25	CC	11,5%
0,5 – 0,8	C	12,7%
< 0,5	D	14%

Source – Damodaran (2012)

[22] EBIT/Interest Expense

Table 4 - ICR and ratings: High Market Cap Firms

ICR	Rating	Spread
> 8,5	AAA	0,75%
6,5 – 8,5	AA	1%
5,5 – 6,5	A+	1,5%
4,25 – 5,5	A	1,8%
3 – 4,25	A-	2%
2,5 – 3	BBB	2,25%
2 – 2,5	BB	3,5%
1,75 – 2	B+	4,75%
1,5 - 1,75	B	6,5%
1,25 – 1,5	B-	8%
0,8 – 1,25	CCC	10%
0,65 – 0,8	CC	11,5%
0,2 – 0,65	C	12,7%
< 0,2	D	14%

Source – Damodaran (2012)

In this thesis I use the synthetic rating model[23] to estimate the cost of debt. Although the majority of firms analyzed is covered by a rating agency, in the sensitivity analysis I change the capital structure of each entity, and so the initial rating would not be representative of the new capital structure obtained with each new debt level.

I maintain the relation between ICR and rating estimated by Damodaran, but I have updated the spread associated to each rating with the information from the Reuters Pricing Service (RPS) for Corporate Bond Spreads[24].

Since the information obtained from RPS calculates the spread over the US Government Bonds with the same maturity I determine new spreads for each period analyzed based on the German Government Bonds. The updated synthetic rating tables computed are presented in Tables 5 and 6[25]:

[23] Damodaran (2012)
[24] RPS bases its calculations on a database of over 20.000 bonds prices corporate bonds at a spread above an underlying treasury issue.
[25] The lower rating for which RPS information available was CCC

Table 5 - Synthetic Rating – Low Market Capitalization Firms

ICR	Rating	Spread 2004	Spread 2005	Spread 2006	Spread 2007	Spread 2008	Spread 2009	Spread 2010
> 12,5	AAA	0,13%	0,68%	0,88%	1,07%	1,65%	0,48%	0,26%
9,5 – 12,5	AA	0,30%	0,80%	1,03%	1,27%	2,00%	1,08%	0,71%
7,5 – 9,5	A+	0,59%	0,93%	1,34%	1,47%	2,25%	1,28%	0,96%
6 – 7,5	A	0,61%	0,95%	1,51%	1,62%	2,40%	1,38%	1,01%
4,5 – 6	A-	0,63%	0,98%	1,71%	1,67%	2,45%	1,48%	1,11%
3,5 – 4,5	BBB	0,79%	1,41%	1,86%	1,79%	2,55%	1,58%	1,16%
3,25 – 3,5	BB+	1,04%	1,51%	1,92%	1,97%	2,85%	1,88%	1,46%
3 – 3,25	BB	1,17%	1,59%	2,20%	2,02%	3,15%	1,98%	1,56%
2,5 – 3	B+	2,10%	2,55%	2,45%	3,03%	5,45%	2,20%	1,99%
2 - 2,5	B	2,65%	2,65%	2,90%	3,66%	6,10%	3,62%	2,49%
1,5 – 2	B-	3,75%	3,95%	4,50%	3,76%	6,45%	4,57%	3,99%
1,5>	CCC	4,45%	4,05%	5,30%	4,23%	6,60%	10,97%	5,29%

Table 6 - Synthetic Rating – High Market Capitalization Firms

ICR	Rating	Spread 2004	Spread 2005	Spread 2006	Spread 2007	Spread 2008	Spread 2009	Spread 2010
> 8,5	AAA	0,13%	0,68%	0,88%	1,07%	1,65%	0,48%	0,26%
6,5 – 8,5	AA	0,30%	0,80%	1,03%	1,27%	2,00%	1,08%	0,71%
5,5 – 6,5	A+	0,59%	0,93%	1,34%	1,47%	2,25%	1,28%	0,96%
4,25 – 5,5	A	0,61%	0,95%	1,51%	1,62%	2,40%	1,38%	1,01%
3 – 4,25	A-	0,63%	0,98%	1,71%	1,67%	2,45%	1,48%	1,11%
2,5 – 3	BBB	0,79%	1,41%	1,86%	1,79%	2,55%	1,58%	1,16%
2,25 – 2,5	BB+	1,04%	1,51%	1,92%	1,97%	2,85%	1,88%	1,46%
2 – 2,25	BB	1,17%	1,59%	2,20%	2,02%	3,15%	1,98%	1,56%
1,75 – 2	B+	2,10%	2,55%	2,45%	3,03%	5,45%	2,20%	1,99%
1,5 – 1,75	B	2,65%	2,65%	2,90%	3,66%	6,10%	3,62%	2,49%
1,25 – 1,5	B-	3,75%	3,95%	4,50%	3,76%	6,45%	4,57%	3,99%
1,25>	CCC	4,45%	4,05%	5,30%	4,23%	6,60%	10,97%	5,29%

The spread will be added to the risk free rate for each period and it will determine the cost of debt.

Calculating the Optimal Debt Level:

The key input to determine the cost of debt is the ICR. Since all the firms have positive EBIT, in the first debt level tested[26] the rating is always AAA, because as there is no debt and no interest expense, the ICR is always greater than 8.5 or 12.5[27]. In the second level of debt (10%) I computed the WACC by analyzing if by using the AAA rating I would still have an

[26] 0% Debt
[27] Depending if it was a high or low market capitalization firm

ICR greater than 8.5 or 12.5. If that is true I would maintain the AAA rating and if it is not true, I would test the next rating.

It is also important to notice that by increasing the proportion of debt in the capital structure I would also be increasing the β, which resulted in an increase of the cost of equity. [28]

Finally, in order to perform the necessary calculations, two additional assumptions are considered:

- Ebit is independent from the capital structure and is equal to the reported in the income statement for each year;
- Cost of equity must always be greater than the cost of debt. For some observations of the model, particularly when lower ratings were computed for low levels of debt, the cost of debt obtained was larger than the cost of equity. In those cases I made the assumption that the cost of equity would be equal to the pretax cost of debt.

4.4 – Industry Peers – Sample selection

In order to test the proposed methodology and to test if the results are consistent with the sector, I have selected a sample of industry peers for each firm.

In the case of PT, I identify several telecommunications companies which, for the period covered (2004-2010), were part of the Eurostoxx Telecommunications (PT was also part of that index). The firms selected were[29]:

- Belgacom
- Deutsche Telekom
- Elisa OYJ
- Hellenic Telecommunications
- KPN
- Orange
- Telefonica
- Telecom Austria

Based on the same criteria, for PTM I selected several firms from the BI Europe Cable & Satellite Index. However, in this case some of the firms selected were not listed in some years of our sample. The firms selected were:

[28] Higher leverage enhances the variance in the net income and consequently makes the equity investment in the firm riskier

[29] Telecom Italia was excluded from the sample because the risk premium computed for Italy (based on the Stock Exchange Index MIB30) was negative i.e. return of the risk free rate was larger than the Market Return.

- Cyfrowy Polsat SA
- Liberty Global
- Sky Broadcasting Group
- Telenet
- Virgin Media

I considered one additional peer for PTM, Sonaecom, because it is also a Portuguese firm, had operated in some of the same sectors as PTM (telecommunications, internet service provider, and media) and also had a shareholder with controlling interest (Sonae SGPS).

Chapter 5 – Results

In this chapter I present the findings from the questions and the methodology previously outlined in Chapter 4.

5.1 - Factors influencing PTM spin-off decision:

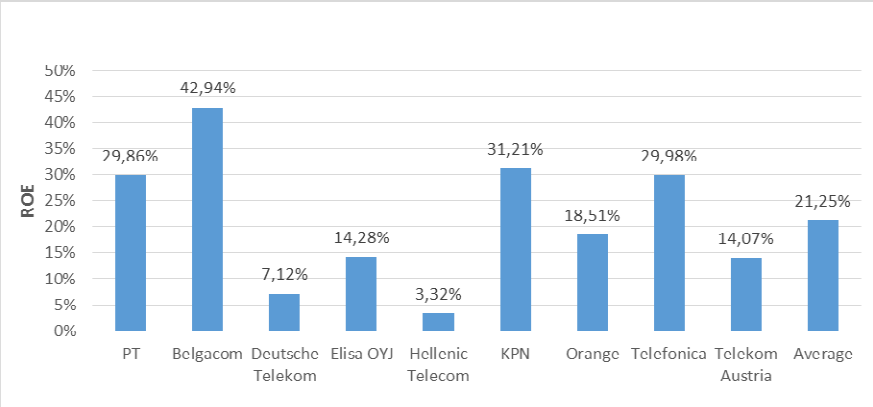
Several motives were hypothesized to influence the decision to divest[30]:

Firm financial strength

The first motive hypothesized to be relevant is PT financial strength. The decision to spin-off might have occurred when its financial strength, when compared to industry peers, was subpar.

In figure 1 I compare PT's ROE with industry peers:

Figure 1 – ROE – PT vs Industry Peers

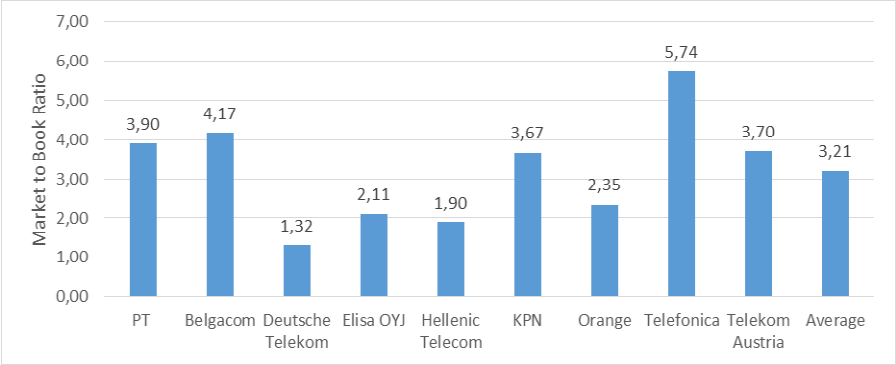


If we do not consider Belgacom, who's ROE is much larger than any other, PT's ROE compares very favorably with industry peers.

The Market to Book Ratio captures the perception that the market has on the value of the firm, compared to its book value. The results are presented in figure 2.

[30] The data used to test each motive is presented in Appendix A.

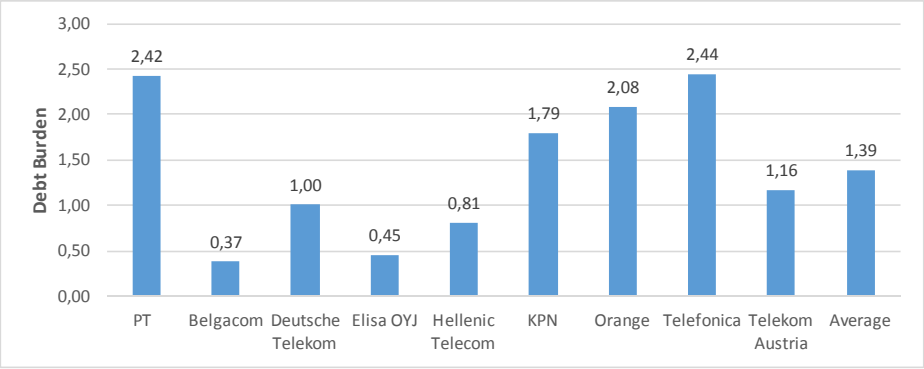
Figure 2 – Market to Book Ratio – PT vs Industry Peers



PT has the third largest Market to Book ratio of firms considered and therefore it is doubtful that it was a motivation for the divestment decision.

Analyzing the debt burden in the year before the spin-off the results are:

Figure 3 – Debt Burden – PT vs Industry Peers

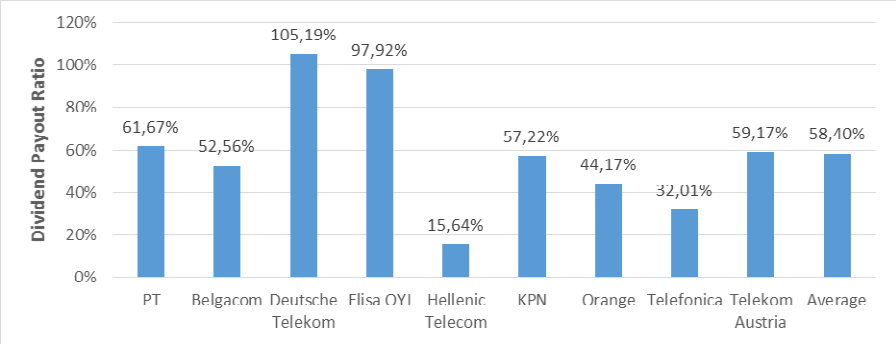


PT's debt burden is one of the largest in the sample, and in order reduce the proportion of debt, a spin-off transaction might be considered a solution. However it is important to mention that several authors have studied the role that financial constraints have in divestment decisions and concluded that when the parent firm is more financially constraint, the preferred method of divestiture is a carve-out instead of a spin-off[31]. It is also important to notice that if the spun-off unit has a smaller debt burden than the parent, the transaction would result in an increase in the parent debt burden. It is observable in figure 7, that PT's debt burden is larger than PTM, so reducing PT debt burden cannot be considered a motivation to spin-off PTM.

Finally, the last indicator is the dividend payout ratio and figure 4 compares PT with its peers:

[31] Jain, Kini and Shenoy (2011)

Figure 4 – Dividend Payout Ratio – PT vs Industry Peers



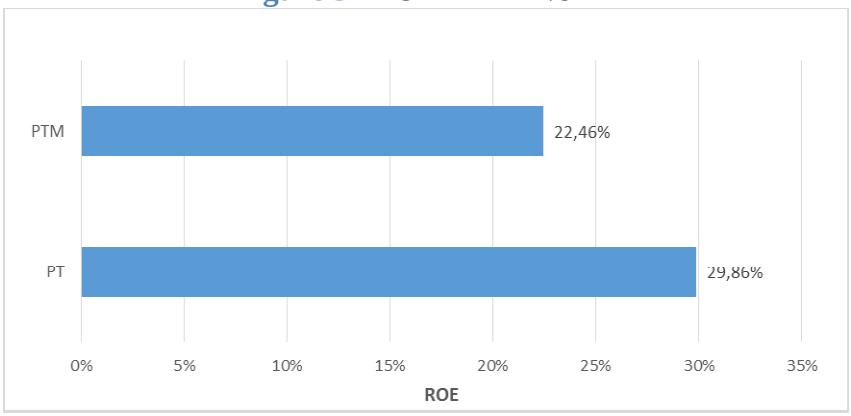
PT dividend payout ratio is the 3rd largest in the sample and so it must not be considered significant in the spin-off decision.

In conclusion, firm financial strength, by comparison with industry peers, does not appear to have had a strong influence in this spin-off decision. The findings of Duhaime and Grant (1984) and Decker and Mellewigt (2007) are not applicable in this particular spin-off transaction.

Unit financial strength:

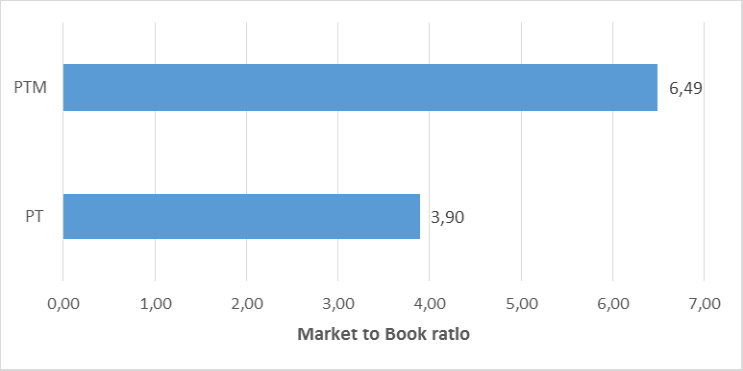
Following the same approach used to assess the importance of firm financial strength. I analyze the same four indicators regarding PTM, but this time, instead of comparing PTM to its industry peers, I compare it to its parent firm, PT.

Figure 5– ROE – PTM vs PT



PTM ROE is smaller than PT's, which indicates that it is performing worse than the parent company. This could be an incentive to divest, because the ROE of PT excluding PTM would increase.

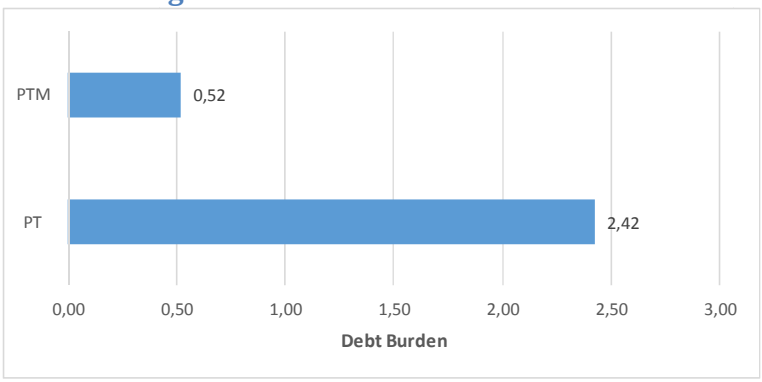
Figure 6 – Market to Book Ratio – PTM vs PT



PTM perceived value, when compared to the equity book value, is much greater than PT's, so it seems to indicate that the perceived value for the market of this division is greater than for the other divisions of PT.

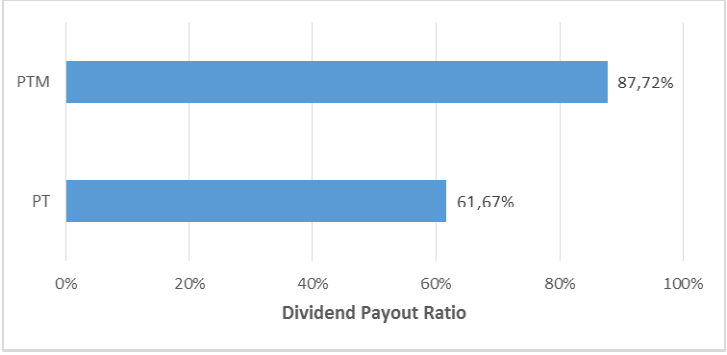
Based on the results presented in figure 7, PTM's debt burden is significantly lower than PT's, so divesting PTM would worsen PT's debt burden and therefore cannot be considered as a motivation to spin-off PTM.

Figure 7 - Debt Burden - PTM vs PT



Finally, PTM dividend payout ratio is greater than PT's, so the data does not support the hypothesis of this factor being relevant.

Figure 8 – Dividend Payout Ratio – PT vs PTM



Overall, the only indicator that could, according to the data analyzed, be considered a relevant factor for the occurrence of the transaction is PTM's ROE.

Unit interdependency

Analyzing PTM annual report, specifically the related parties section, I have reviewed the transactions between both firms, in the year before the spin-off (2006) and the results are presented in table 7:

Table 7 - Percentage of PTM Balance Sheet and Income Statement accounts with PT Group[32]

Income Statement	**2006**
Revenue	0,25%
Cost of products sold, supplies and services	14,71%
Interest income	23,13%
Interest expense	16,38%
Balance Sheet	**2006**
Accounts Receivable	2,21%
Accounts Payable	27,19%
Debt	30,7%

Source – PTM Annual Report 2006

Analyzing the financial information obtained, it is observable than in key items like Revenue the percentage that is represented by related parties is very small. Duhaime and Grant (1984) defined as an indicator of low proportion of sales to the firm' other units if it was below 10%, which is the case. However there are a significant number of balance sheet and income statement items where this threshold is surpassed, and so I concluded that there is evidence of significant unit interdependency.

Corporate Strategy

According to Decker and Mellewigt (2007, pp.4), some firms might "decide to divest businesses due to their misfit with Corporate Strategy". Some companies could be too diverse and management, in an attempt to focus its core business, may decide to divest some of its divisions, in spite of being profitable.

Analyzing this particular situation and bearing in mind that in April 2nd 2008, less than six months after the spin-off, PT launched its triple play offer service "Meo", that would essentially operate in the same businesses that PTM was operating (television, internet and telephone), it would make sense to disregard corporate strategy as a factor in the decision to spin-off PTM. Furthermore, since there was pressure from both local and European regulators

[32] PT Group Firms considered: PT Comunicações, PT SGPS, PT Contact, PT Pro and PT SI

to separate the cable and telephone networks, this decision could have been easily seen as a consequence of that pressure and not as a strategic decision by the firm.

However, although there was pressure from the regulators, there was no official ruling that forced PT to sell one of its networks. Also "Meo" technology was already being developed before the decision to spin-off PTM was announced[33] so, even without PTM, PT would still be able to compete in all of the business segments that they considered core.

In addition, by choosing to spin-off PTM instead of selling, the result was a new player in the industry instead of a potentially increase in the market share of an already established competitor, which minimizes the negative impact for PT.

Finally, PT was facing a hostile takeover offer and by making the spin-off conditional to its failure, PT's Board was giving the shareholders an incentive to refuse the offer.

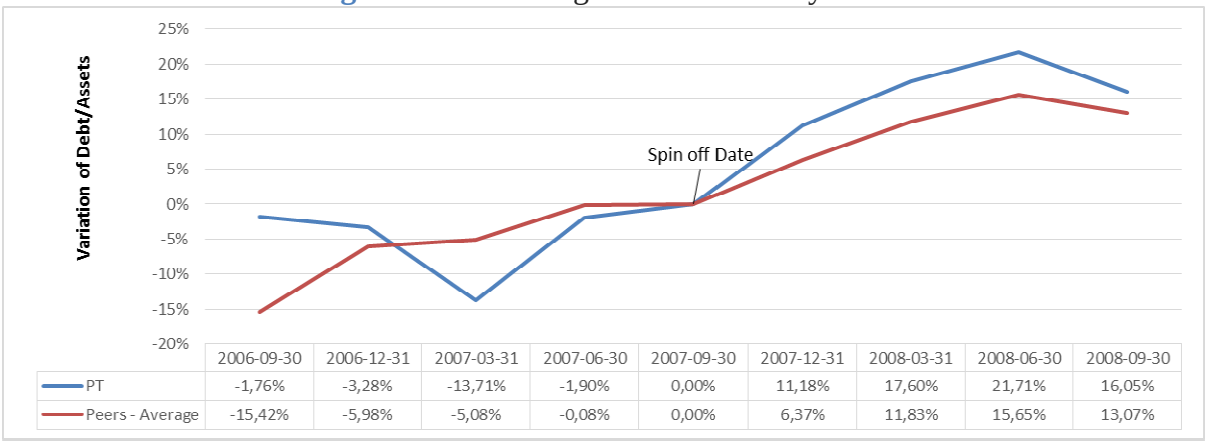
So, based on the arguments presented, the decision to separate PTM from PT via spin-off could be considered a corporate strategy decision.

5.2 - Spin-off impact on PT and PTM's leverage.

In this section I analyze the impact of the transaction in both firms leverage as outlined in chapter 4.2.

Having computed the information quarterly I present the results for PT in figure 9[34]:

Figure 9 – Δ Leverage – PT vs Industry Peers



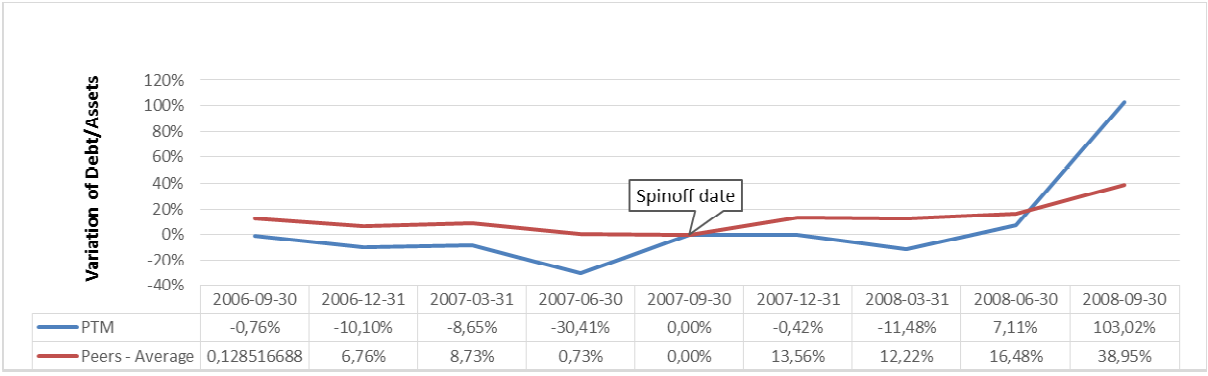
	2006-09-30	2006-12-31	2007-03-31	2007-06-30	2007-09-30	2007-12-31	2008-03-31	2008-06-30	2008-09-30
PT	-1,76%	-3,28%	-13,71%	-1,90%	0,00%	11,18%	17,60%	21,71%	16,05%
Peers - Average	-15,42%	-5,98%	-5,08%	-0,08%	0,00%	6,37%	11,83%	15,65%	13,07%

My findings suggest that after the spin-off, PT's debt level had a significant increase, which began in the first quarter of 2007. One year after the spin-off date, the accumulated increase is 16,05 %. Analyzing the industry peers, leverage had increased after the PTM's spin-off date, but at a slower pace.

[33] Martins (2014)

[34] Tables B1 to B6 of the Appendix B outline the data used to assess the spin-off impact on PT and PTM's leverage

Figure 10– Δ Leverage – PTM vs Industry Peers



	2006-09-30	2006-12-31	2007-03-31	2007-06-30	2007-09-30	2007-12-31	2008-03-31	2008-06-30	2008-09-30
PTM	-0,76%	-10,10%	-8,65%	-30,41%	0,00%	-0,42%	-11,48%	7,11%	103,02%
Peers - Average	0,128516688	6,76%	8,73%	0,73%	0,00%	13,56%	12,22%	16,48%	38,95%

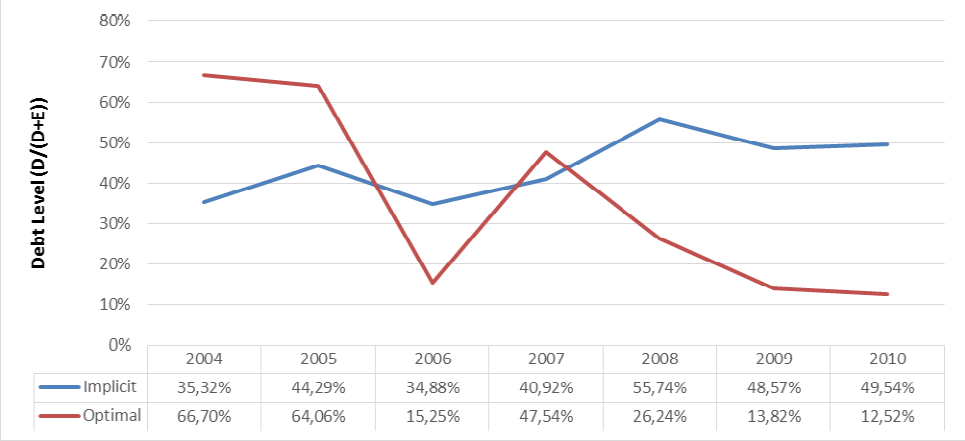
Analyzing the evolution of PTM's leverage, it is observable that one year after the spin-off, leverage has more than doubled. This increase started in the second quarter of 2008. PTM's industry peers leverage also recorded a significant increase (42,08 % in the year after the spin-off), but at a much smaller pace.

So, the results do not support the initial hypothesis that the leverage would not change significantly, because in both PT and PTM it increased at a faster pace than its industry peers.

5.3 - PT and PTM capital allocation efficiency

Finally, analyzing the spin-off impact in the capital allocation efficiency[35] and beginning with PT's, figure 11 compares year end PT's Implicit and Optimal Debt Level since 2004 until 2010, calculated according to the methodology described in chapter 4.3.

Figure 11 – PT – Optimal and Implicit Debt Level



	2004	2005	2006	2007	2008	2009	2010
Implicit	35,32%	44,29%	34,88%	40,92%	55,74%	48,57%	49,54%
Optimal	66,70%	64,06%	15,25%	47,54%	26,24%	13,82%	12,52%

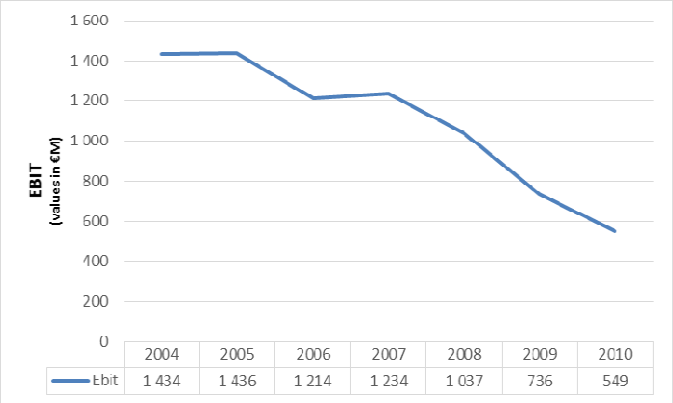
Analyzing the Implicit Debt Level, the proportion of debt in the capital structure has increased following the spin-off. It resulted from an increase in the debt held by PT, from Euro 5.5 billion to Euro 7.2 billion in the period covered, but also because of the decrease in

[35] Detailed results of the model outlined in Chapter 4.3 are presented in Appendix C for PT, PTM and both firms industry peers.

the Market Capitalization of the firm (it was worth Euro 10.1 billion in 2004 and only Euro 7.3 billion in 2010)[36].

The Optimal Debt Level of PT, before 2007, had no defined tendency but after 2007 it has recorded a significant decrease. This decrease is explained by the decline in PT's EBIT (figure 12) and by the decrease in the risk premium.

Figure 12 - PT EBIT 2004 - 2010



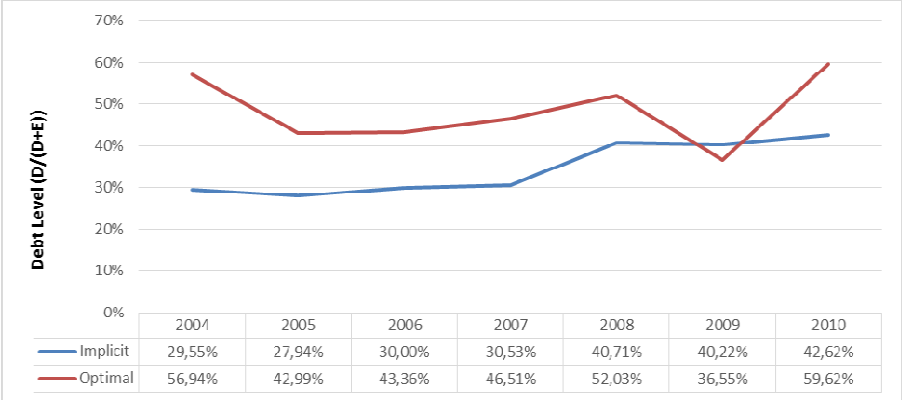
Since the key variable in this model is the ICR, as EBIT decreases, the ICR also decreases and, as a consequence, for the same debt level the cost of debt will be relatively higher than in a year with higher EBIT. Simultaneously, the risk premium was also lower in the years after 2007 (particularly in 2008 and 2009). As a result, the cost of equity was comparably lower in the years after the spin-off. So, combining these effects, for the same debt level the cost of debt was higher and the cost of equity was lower, which in turn resulted in the lowering of proportion of debt in the optimal capital structure.

It is important to emphasize that EBIT explains this trajectory only because the size of the company[37] remained very similar between 2007 and 2010 (has decreased 4%). If the decrease in EBIT was simultaneous with the decrease in the capital structure, the interest expense would also be lower (as debt considered in each level would also have been lower).

In figure 13, it is present PT's industry peers Optimal and Implicit Debt Levels:

[36] As per "Table C2" in the Appendix C.
[37] For this purpose, size of the company means debt plus market capitalization of equity.

Figure 13 - PT's Industry Peers (Average) – Optimal and Implicit Debt Level



	2004	2005	2006	2007	2008	2009	2010
Implicit	29,55%	27,94%	30,00%	30,53%	40,71%	40,22%	42,62%
Optimal	56,94%	42,99%	43,36%	46,51%	52,03%	36,55%	59,62%

In this case, and except for the year 2009, the optimal debt level has always been higher than its implicit debt level and also significantly higher than PT's optimal debt level.

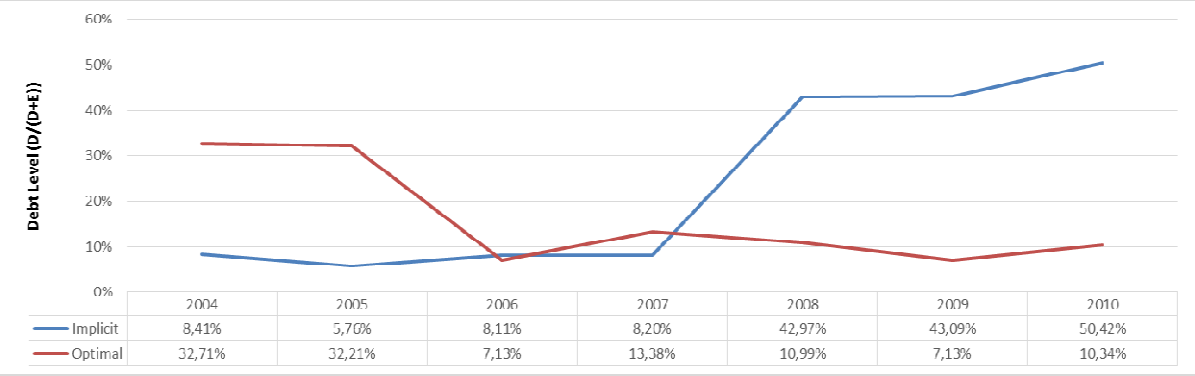
So the evidence analyzed suggests that PT's capital allocation efficiency worsened significantly after the spin-off. In order to understand the role that this transaction had on PT's capital allocation efficiency, it is necessary to considered that although the relative size of PTM's operations were not very significant in the context of the PT Group (in 2006 PTM's Total Assets accounted for less than 7% of PT Group Total Assets[38]), it operated in profitable market segments on which PTM had significant market share[39], mainly TV cable and satellite (it had a 74% Market share in 2006) and Internet Services Provider (it had a 36% Market share in 2006).

So, by separating PTM from its group structure, PT lost significant presence in two markets considered core businesses to the company, increased the competition level and as a consequence lowered its profitability. As the decrease of the EBIT was one of the main contributors to the decrease in the optimal debt level, it might be possible to establish a relation between PTM´s spin-off and the increased inefficiency in PT's capital allocation.

Analyzing PTM's Capital Allocation Efficiency:

[38] PT and PTM Annual Reports 2006
[39] Anacom's - Situação das Telecomunicações 2007

Figure 14 – PTM – Optimal and Implicit Debt Level



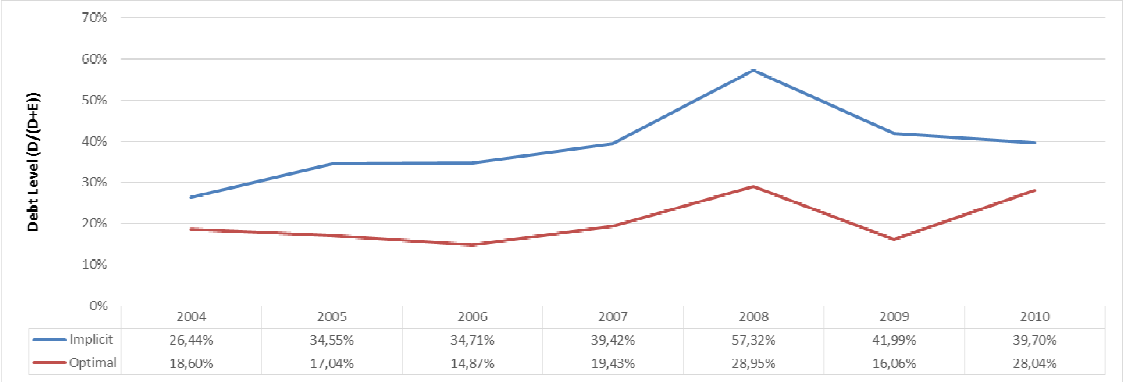
	2004	2005	2006	2007	2008	2009	2010
Implicit	8,41%	5,76%	8,11%	8,20%	42,97%	43,09%	50,42%
Optimal	32,71%	32,21%	7,13%	13,38%	10,99%	7,13%	10,34%

In figure 14 it is observable that the proportion of debt in the capital structure increased significantly after the spin-off. Similarly to PT, it was the result of the increase in debt held by the firm and the decrease in the market capitalization. However, in PTM's this item had a more significant progression (PTM's debt increased from Euro 0.3 billion in 2007 to Euro 1.1 billion in 2010 and market capitalization decreased from Euro 3.0 billion in 2007 to Euro 1.0 billion in 2010)[40].

In terms of Optimal Debt Level, PTM's decline after 2005 is related to the decline in its profitability, as measured by EBIT in the years 2006 and 2007[41] and also because after 2007 PTM's market capitalization was below the threshold of $2 billion and started being considered a low market cap firm[42]. As a consequence, each rating implied an increased ICR (for example in 2007 a PTM's AAA rating implied that the ICR was greater than 8.5 , but after 2007 in order to be rated AAA PTM's ICR had to be greater than 12,5). So even though profitability increased significantly after 2007[43] that effect was offset by the increased ICRs implied by each rating, as compared to previous years. In turn, the optimal debt level has remained stable.

[40] As per "Table C13" in the Appendix C.
[41] And as it was the case in PT the capital structure of the firm remained very similar in those years.
[42] As per "Table C13" in the Appendix C.
[43] This increase is explained almost entirely by the decrease in the size of the company and a small increase in the EBIT.

Figure 15 - PTM's Industry Peers (Average) – Optimal and Implicit Debt Level



	2004	2005	2006	2007	2008	2009	2010
Implicit	26,44%	34,55%	34,71%	39,42%	57,32%	41,99%	39,70%
Optimal	18,60%	17,04%	14,87%	19,43%	28,95%	16,06%	28,04%

Analyzing PTM's industry peers, their implicit debt level increased significantly until 2008 and since then it has decreased. Their optimal debt level had a more stable progression than PTM's and was, over the period covered, always lower than the implicit debt level.

The year 2007 marked a change in the PTM's capital allocation efficiency. Until 2007 PTM's proportion of debt in the capital structure was very low and the optimal debt level, which started significantly higher than the implicit level, was closing the gap. After 2007, because of the increased proportion of debt in the capital structure, the implicit debt level increased significantly and the optimal debt level remained similar to before.

So, my findings on both companies are contrary to the hypothesis formulated in chapter 4.3 because the PTM spin-off had a significant impact on both firms capital allocation, decreasing their efficiency.

Chapter 6 – Conclusions

The objective of this thesis is to analyze PTM's spin-off and understand its implications on the capital structure of PTM and its former parent firm PT.

In order to better understand the transaction, first I analyze the factors influencing the spin-off decision. Based on the existing literature, and in addition to the factors identified by PT's Board, I hypothesize four factors (firm financial strength, unit financial strength, unit interdependency and corporate strategy) and assess its relevance to the transaction.

In terms of financial strength, I have tested four measures (ROE, Market-to-Book ratio, Debt Burden and Dividend Payout ratio) and the rational considered is that if PT's performance on those measures was below the industry average (assessed by comparing PT's results with the results obtained by its industry peers in the period leading to the spin-off) it might have had relevance to the decision. Based on that premise, none of the measures of firm financial strength could be considered an influence for this spin-off.

Analyzing unit financial strength, since PTM was already an independent unit, the measures considered are the same that were used to assess PT's financial strength. However, instead of comparing PTM's results with its industry peers, I compare them relatively to its parent company, PT. The findings show that only PTM's ROE was lower than PT. None of the other variables could be a factor supporting the need for a spin-off.

Unit interdependency is also hypothesized as a factor only if the proportion of significant PTM's balance sheet and income statement items with PT was low in the year before the spin-off. For the purpose of this thesis if the proportion was lower than 10% it is considered an indicator of low unit interdependency. For several items, on both PTM's balance sheet and income statement, the proportion with PT was larger than the threshold established, thus I conclude that this factor was not significant.

Finally, the last factor is corporate strategy. It is hypothesized that if the transaction resulted from a reorientation of PT's corporate strategy, it could be considered a factor. Based on this thesis findings I have considered corporate strategy to be a significant factor, because PT was, before the spin-off was announced, already developing a new technology "Meo" to compete in the same market segments as PTM. So PT, without being forced by any regulator, decided to separate itself from PTM and chose the technology they considered best to operate in the market. By choosing to spin-off instead of selling the firm to an already established competitor PT was able to persuade the shareholders to reject the hostile takeover by Sonae and strategically reposition PT in all of the sectors considered core businesses.

As a conclusion, besides increasing the remuneration package so that PT's shareholders would not accept Sonae's offer and regulatory pressure, the only other factors that might have influenced the decision to spin-off PTM were unit financial strength, as measured by ROE, and corporate strategy.

Analyzing the impact on leverage, I observe that in the year after the spin-off, both firms leverage increased significantly. Although both firms' industry peers leverage also recorded an increase, its growth rate was lower. Based on the literature, I hypothesized that both firms' leverage would remain similar to its pre-spin-off level, and so the conclusion disproves this hypothesis.

Finally, in terms of capital allocation efficiency, based on the sensitivity analyses performed, I conclude that PT and PTM's optimal debt level decreased significantly after the spin-off, while its implicit debt level increased substantially, thus deteriorating the capital allocation efficiency in both cases.

In PT's case, until 2007 both optimal and implicit debt levels had no defined tendency but in 2007 they were very similar. After 2007, the implicit debt level increased, and optimal debt level decreased substantially. The decrease in optimal debt level can be explained in part by the spin-off, due to the decline in profitability.

PTM had significant market share in the segments in which it operated. By separating PTM from its group structure, PT lost significant presence in two markets and also increased the competition (after the spin-off PTM started operating in mobile and telephone services), lowering its profitability as a consequence. PT's industry peers optimal and implicit debt levels were very stable throughout the period covered and only in 2009 was the optimal debt level lower than the implicit debt level.

Finally, PTM optimal debt level had decreased significantly until 2006 and has remained relatively stable (and low) after. The implicit debt level had until 2007 remained relatively low, but after it has recorded a very significant increase due to the increase in the debt held by the firm and, more importantly, because of the decline in the market capitalization. As a consequence, after 2007 the capital allocation efficiency deteriorated and just like PT it can be explained by the spin-off. Investors could perceive PTM individually as a less valuable firm, comparing to the same company operating in the context of PT's group.

Chapter 7 – Limitations

The main limitation of this thesis is related to the model used to assess the capital allocation efficiency. The model designed by Damodaran (2012) to estimate synthetic ratings is based on the relation between the Interest Coverage Ratio and Ratings for manufacturing firms in the S&P Index in the years 1999 and 2000. If I were to update the model to the years 2004 to 2010 or if I considered firms' members of the Eurostoxx instead, I could have reached different results.

However, this thesis goal was to better understand the motives and consequences of PTM spinoff. So, testing Damodaran's model under different scenarios was considered not directly relevant to achieve them. One possible direction for future research would be to investigate if the relationship between Interest Coverage Ratio and Ratings derived by Damodaran (2012) holds in different periods and with firms from other stock market indexes.

When determining the optimal debt level, I calculate the interest expense based on the firms synthetic rating. If I were to compare the firm's implicit interest expense with the one obtained by the model, for the same debt level, it is possible that there could be some difference between them, because the firm's implicit interest expense is comprised by several different debt instruments, issued at different times and with different interest rates, while the debt level estimated by the model considers that the entire debt level of the firm was negotiated with the market conditions available in the same period.

Finally, the number of peers selected, particularly in the case of PTM, was very limited and for some firms of the sample there was no available information for every period. If the comparison of the capital allocation efficiency was performed with a higher number of industry peers, the benchmark to PT and PTM results could have been different. However, by selecting the peers from the same stock market sector indexes I tried to ensure that I would only compare similar firms, in terms of revenue sources and business environment and by expanding the number of peers I could have not achieved that goal.

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Appendices

Appendix A: Factors influencing the spinoff

Calculating the firm financial strength measures:

ROE:

$$ROE = \frac{Earnings\ per\ share}{Book\ Equity\ per\ share} = \frac{Net\ Income}{Book\ Equity}$$

Table A1 – ROE – PT, PTM and PT's Industry Peers

Firms	2004			2005			2006			Average
	Net Income	Book Equity	ROE	Net Income	Book Equity	ROE	Net Income	Book Equity	ROE	ROE
Belgacom	1.074	2.629	41%	1.098	2.591	42%	1.094	2.399	46%	42,94%
Deutsche Telekom	1.594	45.803	3%	5.589	48.599	12%	3.165	49.670	6%	7,12%
Elisa OYJ	159	915	17%	178	1.350	13%	161	1.312	12%	14,28%
Hellenic Telecom.	133	4.412	3%	(217)	4.513	(5%)	575	4.889	12%	3,32%
KPN	1.757	6.411	27%	1.454	5.104	28%	1.583	4.196	38%	31,21%
Orange	3.200	17.683	18%	6.360	28.438	22%	4.768	31.368	15%	18,51%
Telefonica	3.354	12.342	27%	4.827	16.158	30%	6.579	20.001	33%	29,98%
Telekom Austria	228	2.742	8%	409	2.919	14%	562	2.824	20%	14,07%
Average[44]			20%			20%			24%	21,25%
PT	725	2.254	32%	689	2.582	27%	954	3.106	31%	29,86%
PTM	123	509	24%	113	439	26%	74	424	17%	22,46%

Source: Bloomberg, Portugal Telecom and Portugal Telecom Multimedia Annual Reports (2004-2007)
Values in €M

Market to Book Ratio (MB):

$$Market\ to\ Book\ Ratio = \frac{Stock\ Price}{Book\ Equity\ per\ share} = \frac{Market\ Cap.Equity}{Book\ Equity}$$

Table A2 – MB – PT, PTM and PT's Industry Peers

Firms	2004			2005			2006			Average
	Market Cap.	Book Equity	MB	Market Cap.	Book Equity	MB	Market Cap.	Book Equity	MB	MB
Belgacom	11.152	2.629	4,24	9.378	2.591	3,62	11.144	2.399	4,65	4,17
Deutsche Telekom	69.878	45.803	1,53	59.109	48.599	1,22	60.576	49.670	1,22	1,32
Elisa OYJ	1.681	915	1,84	2.596	1.350	1,92	3.360	1.312	2,56	2,11
Hellenic Telecom.	6.486	4.412	1,47	8.831	4.513	1,96	11.156	4.889	2,28	1,90
KPN	16.283	6.411	2,54	18.222	5.104	3,57	20.584	4.196	4,91	3,67
Orange	60.104	17.683	3,40	54.638	28.438	1,92	54.610	31.368	1,73	2,35
Telefonica	91.951	12.342	7,45	94.908	16.158	5,87	78.109	20.001	3,91	5,74
Telekom Austria	9.748	2.742	3,56	12.366	2.919	4,24	9.372	2.824	3,32	3,70
Average			3,39			3,11			3,12	3,21
PT	10.111	2.254	4,49	9.539	2.582	3,69	10.905	3.106	3,51	3,90
PTM	2.858	509	5,61	2.974	439	6,78	3.008	424	7,09	6,49

Source: Bloomberg, Portugal Telecom and Portugal Telecom Multimedia Annual Reports (2004-2007)
Values in €M

Debt Burden:

$$Debt\ Burden = \frac{Total\ Debt}{Book\ Equity}$$

[44] Excluding PT and PTM

Table A3 – Debt Burden – PT, PTM and PT's Industry Peers

Firms	2006		
	Debt	Book Equity	Debt Burden
Belgacom	1.988	2.399	0,83
Deutsche Telekom	46.482	49.670	0,94
Elisa OYJ	399	1.312	0,30
Hellenic Telecom.	4.591	4.889	0,94
KPN	9.068	4.196	2,16
Orange	38.886	31.368	1,23
Telefonica	59.057	20.001	2,95
Telekom Austria	3.307	2.824	1,19
Average			1,38
PT	5.840	3.106	1,88
PTM	266	424	0,63

Source: Bloomberg, Portugal Telecom and Portugal Telecom Multimedia Annual Reports (2004-2007)
Values in €M

Dividend Payout Ratio (DPR):

$$Dividend\ Payout\ Ratio = \frac{Dividend\ per\ share}{Earnings\ per\ share} = \frac{Dividends}{Net\ Income}$$

Table A4 – DPR – PT, PTM and Pt's Industry Peers

Firms	2004			2005			2006			Average
	Dividends	Net Income	DPR	Dividends	Net Income.	DPR	Dividends	Net Income.	DPR	DPR
Belgacom	500	1.074	47%	534	1.098	49%	684	1.094	63%	52,56%
Deutsche Telekom	2.600	1.594	163%	3.005	5.589	54%	3.124	3.165	98%	105,19%
Elisa OYJ	123	159	78%	116	178	65%	243	161	151%	97,92%
Hellenic Telecom.	0	133	0%	0	(217)	0%	270	575	47%	15,64%
KPN	799	1.757	45%	943	1.454	65%	971	1.583	61%	57,22%
Orange	1.184	3.200	37%	2.603	6.360	41%	2.602	4.768	55%	44,17%
Telefonica	973	3.354	29%	1.083	4.827	22%	2.934	6.579	45%	32,01%
Telekom Austria	119	228	52%	261	409	64%	346	562	62%	59,17%
Average			56%			48%			71%	58,40%
PT	395	725	54%	526	689	75%	517	954	125%	87,72%
PTM	77	123	63%	85	113	76%	93	74	54%	61,67%

Source: Bloomberg, Portugal Telecom and Portugal Telecom Multimedia Annual Reports (2004-2007)
Values in €M

Unit interdependency:

Table A5 – PTM Related Party Transactions 2006

Items	2006		
	Related Parties Transactions	PTM	%
Income Statement			
Revenue	1 641	666 483	0,25%
Cost of products sold, supplies and services	58 502	397 726	14,71%
Interest income	461	1 991	23,13%
Interest expense	1 662	10 146	16,38%
Balance Sheet			
Accounts receivable	5 871	265 620	2,21%
Accounts payable	51 087	187 899	27,19%
Debt	81 555	265 620	30,70%

Source: Portugal Telecom Multimedia Annual Reports (2006)
Values in 000'€

Appendix B: Spin-off impact on PT and PTM's leverage

Table B1- Debt - PT and Industry Peers

Values in €M	Q3 2006	Q4 2006	Q1 2007	Q2 2007	Q3 2007	Q4 2007	Q1 2008	Q2 2008	Q3 2008
Belgacom	397	1.988	1.983	1.971	1.971	1.964	1.971	1.946	2.015
Deutsche Telekom	44.148	46.482	46.709	45.623	43.127	42.906	42.507	46.501	46.575
Elisa OYJ	375	399	722	678	678	755	998	913	912
Hellenic Telecom	4.197	4.591	4.071	4.065	4.043	5.528	6.114	6.064	6.060
KPN	10.103	9.068	8.783	9.815	10.351	11.755	11.377	11.605	12.782
Orange	-	38.886	-	44.738	-	41.380	-	42.525	-
Telefonica	60.622	59.057	58.297	56.412	53.820	53.928	52.185	53.064	52.874
Telekom Austria	3.132	3.370	3.191	3.534	3.656	4.080	3.901	4.050	3.790
PT	5.772	5.840	5.049	5.632	5.786	6.217	6.048	6.922	7.071

Source: Bloomberg

Table B2– Total Assets – PT and Industry Peers

Values in €M	Q3 2006	Q4 2006	Q1 2007	Q2 2007	Q3 2007	Q4 2007	Q1 2008	Q2 2008	Q3 2008
Belgacom	6.080	7.300	7.471	7.058	7.362	7.325	7.362	7.017	7.294
Deutsche Telekom	124.440	130.160	129.435	124.508	120.749	120.673	118.369	120.126	123.385
Elisa OYJ	2.052	2.091	2.206	2.108	2.168	2.176	2.113	2.046	2.043
Hellenic Telecom	12.050	12.549	12.264	12.468	12.011	11.699	11.415	11.518	11.201
KPN	22.394	21.258	21.104	20.802	20.734	24.797	24.519	24.226	24.440
Orange	-	103.171	-	100.756	-	101.183	-	98.991	-
Telefonica	109.554	108.982	107.065	106.855	105.623	105.873	101.761	103.867	105.583
Telekom Austria	7.304	7.560	7.387	7.506	7.559	9.004	8.734	8.714	8 770
PT	13.788	14.171	13.731	13.469	13.578	13.122	12.069	13.347	14.300

Source: Bloomberg

Table B3 - Leverage – PT and Industry Peers - Quarterly variation (accumulated)

	Q3 2006	Q4 2006	Q1 2007	Q2 2007	Q3 2007	Q4 2007	Q1 2008	Q2 2008	Q3 2008
Belgacom	(76%)	2%	(1%)	4%	0%	0%	0%	4%	3%
Deutsche Telekom	(1%)	0%	1%	3%	0%	0%	1%	8%	6%
Elisa OYJ	(42%)	(39%)	5%	3%	0%	11%	51%	43%	43%
Hellenic Telecom	3%	9%	(1%)	(3%)	0%	40%	59%	56%	61%
KPN	(10%)	(15%)	(17%)	(6%)	0%	(5%)	(7%)	(4%)	5%
Orange	(10%)	-	(15%)	-	0%	-	(8%)	-	(3%)
Telefonica	(9%)	(6%)	(7%)	(3%)	0%	0%	1%	0%	(2%)
Telekom Austria	(11%)	(8%)	(11%)	(3%)	0%	(6%)	(8%)	(4%)	(11%)
Average	(15%)	(6%)	(5%)	0%	0%	6%	12%	16%	13%
PT	(2%)	(3%)	(14%)	(2%)	0%	11%	18%	22%	16%

Source: Bloomberg

Table B4 - Debt - PTM and Industry Peers

Values in €M	Q3 2006	Q4 2006	Q1 2007	Q2 2007	Q3 2007	Q4 2007	Q1 2008	Q2 2008	Q3 2008
Liberty Global	8.888	9.273	10.703	11.639	11.436	12.586	12.350	12.574	13.694
Telenet	1.307	1.406	1.410	1.302	1.270	2.018	2.015	2.005	2.084
Virgin Media	9.158	9.042	9.069	9.034	8.744	8.101	7.558	7.621	7.844
Sonaecom	464	464	463	464	308	394	330	356	367
PTM	260	266	214	277	280	264	336	739	883

Source: Bloomberg

Table B5 - – Total Assets – PTM and Industry Peers

Values in €M	Q3 2006	Q4 2006	Q1 2007	Q2 2007	Q3 2007	Q4 2007	Q1 2008	Q2 2008	Q3 2008
Liberty Global	18.733	19.387	21.302	21.907	21.823	22.368	21.986	21.537	22.658
Telenet	2.418	2.592	2.611	2.626	2.687	2.665	2.639	2.686	2.741
Virgin Media	16.515	16.507	16.254	16.132	15.434	14.230	13.018	12.608	12.617
Sonaecom	1.489	1.720	1.676	1.693	1.603	1.759	1.695	1.796	1.808
PTM	970	975	936	929	943	1.000	1.053	1.220	1.359

Source: Bloomberg

Table B6 - - Leverage – PTM and Industry Peers - Quarterly variation (accumulated)

	Q3 2006	Q4 2006	Q1 2007	Q2 2007	Q3 2007	Q4 2007	Q1 2008	Q2 2008	Q3 2008
Liberty Global	(9%)	(9%)	(4%)	1%	0%	7%	7%	11%	15%
BSKY	-	(8%)	-	0%	0%	(3%)	-	13%	-
Telenet	14%	15%	14%	5%	0%	60%	62%	58%	61%
Virgin Media	(2%)	(3%)	(2%)	(1%)	0%	0%	2%	7%	10%
Sonaecom	62%	40%	44%	30%	0%	16%	1%	3%	6%
Average	13%	7%	9%	1%	0%	14%	12%	16%	39%
PTM	(1%)	(10%)	(9%)	(30%)	0%	0%	(11%)	7%	103%

Source: Bloomberg

Appendix C: PT and PTM capital allocation efficiency

PT and Industry Peers – Implicit Debt Level:

Table C1 - PT and Industry Peers – Implicit Debt Level:

	2004	2005	2006	2007	2008	2009	2010
Belgacom	3,14%	4,16%	15,14%	14,91%	22,36%	21,06%	21,32%
Deutsche Telekom	42,23%	44,15%	43,42%	39,56%	49,84%	53,29%	54,78%
Elisa OYJ	27,10%	16,31%	10,62%	18,52%	30,62%	23,18%	24,18%
Hellenic Telecom	32,90%	28,03%	29,15%	30,92%	50,90%	51,81%	63,82%
KPN	35,38%	33,69%	30,58%	34,55%	40,36%	40,94%	42,20%
Orange	47,98%	49,34%	41,59%	39,13%	43,16%	44,33%	46,66%
Telefonica	23,15%	26,61%	43,06%	34,01%	42,29%	38,96%	44,41%
Telekom Austria	24,48%	21,22%	26,44%	32,65%	46,17%	48,16%	43,59%
Average	29,55%	27,94%	30,00%	30,53%	40,71%	40,22%	42,62%
PT	35,32%	44,29%	34,88%	40,92%	55,74%	48,57%	49,54%

Table C2 - PT – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	10.111	9.539	10.905	8.976	5.317	7.462	7.340
D	5.522	7.584	5.840	6.218	6.696	7.046	7.206
D+E	15.633	17.123	16.745	15.194	12.012	14.508	14.546
D/(D+E)	35,32%	44,29%	34,88%	40,92%	55,74%	48,57%	49,54%

Source: Bloomberg

Table C3 - Belgacom – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	11.152	9.378	11.144	11.204	8.755	8.197	8.077
D	361	407	1.988	1.964	2.521	2.187	2.189
D+E	11.513	9.785	13.132	13.168	11.276	10.384	10.266
D/(D+E)	3,14%	4,16%	15,14%	14,91%	22,36%	21,06%	21,32%

Source: Bloomberg

Table C4 - Deutsche Telekom – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	69.878	59.109	60.576	65.550	46.884	44.878	41.722
D	51.090	46.721	46.482	42.906	46.594	51.191	50.546
D+E	120.968	105.830	107.058	108.456	93.478	96.069	92.268
D/(D+E)	42,23%	44,15%	43,42%	39,56%	49,84%	53,29%	54,78%

Source: Bloomberg

Table C5 - Elisa OYJ – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	1.681	2.596	3.360	3.323	1.914	2.484	2.534
D	625	506	399	755	845	750	808
D+E	2.307	3.102	3.759	4.079	2.759	3.233	3.343
D/(D+E)	27,10%	16,31%	10,62%	18,52%	30,62%	23,18%	24,18%

Source: Bloomberg

Table C6 - Hellenic Telecom – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	6.486	8.831	11.156	12.352	5.833	5.044	3.005
D	3.181	3.440	4.591	5.528	6.048	5.422	5.300
D+E	9.666	12.270	15.746	17.880	11.881	10.466	8.304
D/(D+E)	32,90%	28,03%	29,15%	30,92%	50,90%	51,81%	63,82%

Source: Bloomberg

Table C7 - KPN – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	16.283	18.222	20.584	22.270	17.795	19.286	17.173
D	8.913	9.258	9.068	11.755	12.041	13.371	12.537
D+E	25.196	27.480	29.652	34.025	29.836	32.657	29.710
D/(D+E)	35,38%	33,69%	30,58%	34,55%	40,36%	40,94%	42,20%

Source: Bloomberg

Table C9 - Orange – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	60.104	54.638	54.610	64.365	51.993	46.131	41.309
D	55.445	53.225	38.886	41.380	39.478	36.732	36.142
D+E	115.549	107.863	93.496	105.745	91.471	82.863	77.451
D/(D+E)	47,98%	49,34%	41,59%	39,13%	43,16%	44,33%	46,66%

Source: Bloomberg

Table C10 - Telefonica – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	91.951	94.908	78.109	104.635	72.584	88.966	76.492
D	27.703	34.403	59.057	53.928	53.188	56.791	61.100
D+E	119.653	129.312	137.166	158.563	125.772	145.757	137.592
D/(D+E)	23,15%	26,61%	43,06%	34,01%	42,29%	38,96%	44,41%

Source: Bloomberg

Table C11 - Telekom Austria – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	9.748	12.366	9.372	8.415	4.557	4.404	4.656
D	3.159	3.330	3.370	4.080	3.909	4.091	3.598
D+E	12.908	15.697	12.742	12.495	8.465	8.494	8.254
D/(D+E)	24,48%	21,22%	26,44%	32,65%	46,17%	48,16%	43,59%

Source: Bloomberg

PTM and Industry Peers – Implicit Debt Level:

Table C12 - PTM and Industry Peers – Implicit Debt Level:

	2004	2005	2006	2007	2008	2009	2010
BSKY	7,79%	17,07%	20,29%	17,21%	27,69%	17,15%	18,05%
Cyfrowdy	-	-	-	-	3,01%	1,32%	0,44%
Liberty Global	-	56,34%	58,81%	64,87%	86,29%	85,71%	72,35%
Sonaecom	26,86%	29,82%	20,15%	24,56%	52,42%	35,52%	42,58%
Telenet	-	47,72%	38,84%	48,10%	64,59%	51,88%	46,47%
Virgin Media	44,68%	43,60%	59,58%	67,79%	84,60%	63,41%	51,69%
Average	26,44%	34,55%	34,71%	39,42%	57,32%	41,99%	39,70%
PTM	8,41%	5,76%	8,11%	8,20%	42,97%	43,09%	50,42%

Table C13 - PTM – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	2.857	2.974	3.008	2.952	1.094	1.280	1.048
D	262	182	266	264	824	969	1.066
D+E	3.119	3.156	3.273	3.215	1.918	2.249	2.113
D/(D+E)	8,41%	5,76%	8,11%	8,20%	42,97%	43,09%	50,42%

Source: Bloomberg

Table C14 - BSKY – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	10.784	9.851	9.033	10.272	9.171	11.218	10.850
D	911	2.028	2.299	2.136	3.511	2.322	2.390
D+E	11.695	11.879	11.332	12.408	12.682	13.540	13.240
D/(D+E)	7,79%	17,07%	20,29%	17,21%	27,69%	17,15%	18,05%

Source: Bloomberg

Table C15 - Cyfrowdy – Implicit Debt Level:

Values in €M	2008	2009	2010
E	875	889	1.119
D	27	12	5
D+E	902	901	1.124
D/(D+E)	3,01%	1,32%	0,44%

Source: Bloomberg

Table C16 - Liberty Global – Implicit Debt Level:

Values in €M	2005	2006	2007	2008	2009	2010
E	6.625	6.494	6.817	2.335	3.008	6.422
D	8.548	9.273	12.586	14.694	18.040	16.806
D+E	15.173	15.767	19.402	17.029	21.048	23.228
D/(D+E)	56,34%	58,81%	64,87%	86,29%	85,71%	72,35%

Source: Bloomberg

Table C17 - Sonaecom – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	860	1.085	1.839	1.209	368	694	482
D	316	461	464	394	406	382	357
D+E	1.176	1.546	2.303	502	774	1.076	839
D/(D+E)	26,86%	29,82%	20,15%	24,56%	52,42%	35,52%	42,58%

Source: Bloomberg

Table C18 - Telenet – Implicit Debt Level:

Values in €M	2005	2006	2007	2008	2009	2010
E	1.583	2.215	2.178	1.357	2.198	3.314
D	1.445	1.406	2.018	2.475	2.370	2.878
D+E	3.028	3.621	4.196	3.832	4.568	6.192
D/(D+E)	47,72%	38,84%	48,10%	64,59%	51,88%	46,47%

Source: Bloomberg

Table C19 - Virgin Media – Implicit Debt Level:

Values in €M	2004	2005	2006	2007	2008	2009	2010
E	3.178	4.284	6.133	3.849	1.173	3.885	6.562
D	2.567	3.312	9.042	8.101	6.445	6.732	7.023
D+E	5.745	7.595	15.176	11.950	7.619	10.617	13.585
D/(D+E)	44,68%	43,60%	59,58%	67,79%	84,60%	63,41%	51,69%

Source: Bloomberg

PT and Industry Peers – Optimal Debt Level

Table C20 - PT and Industry Peers – Optimal Debt Level

	2004	2005	2006	2007	2008	2009	2010
Belgacom	98,12%	99,99%	53,25%	55,85%	79,34%	34,72%	99,99%
Deutsche Telekom	50,23%	60,92%	57,72%	28,20%	45,13%	21,49%	62,68%
Elisa OYJ	67,96%	25,70%	35,63%	47,01%	68,95%	51,69%	60,74%
Hellenic Telecom	46,13%	1,21%	35,88%	37,30%	29,94%	28,55%	16,91%
KPN	70,62%	52,75%	42,66%	43,01%	26,45%	23,78%	36,25%
Orange	55,06%	62,26%	67,34%	61,66%	82,66%	62,39%	86,34%
Telefonica	41,68%	41,08%	41,44%	56,35%	78,71%	58,70%	90,71%
Telekom Austria	25,71%	0,00%	12,94%	42,74%	5,04%	11,04%	23,30%
Average	56,94%	42,99%	43,36%	46,51%	52,03%	36,55%	59,62%
PT	66,70%	64,06%	15,25%	47,54%	26,24%	13,82%	12,52%

Table C21 - PT Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**66,70%**	**70%**	**80%**	**90%**
D+E	15.633	15.633	15.633	15.633	15.633	15.633	15.633	15.633	15.633	15.633	15.633
Interest	0	64	128	199	285	358	430	478	546	1.270	1.428
Ebit	1.434	1.434	1.434	1.434	1.434	1.434	1.434	1.434	1.434	1.434	1.434
Rating	AAA	AAA	AAA	AA	A	A-	A-	A-	BBB	CCC	CCC
ICR	?	22,46	11,23	7,19	5,02	4,00	3,34	3,00	2,62	1,13	1,00
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%
β_0	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57
β_l	0,57	0,62	0,67	0,75	0,85	0,98	1,19	1,40	1,54	2,23	4,29
Pre-Tax Cost of Debt	4,08%	4,08%	4,08%	4,25%	4,56%	4,58%	4,58%	4,58%	4,99%	10,15%	10,15%
kd	2,96%	2,96%	2,96%	3,08%	3,31%	3,32%	3,32%	3,32%	3,62%	7,36%	7,36%
re	4,46%	4,52%	4,60%	4,70%	4,84%	5,02%	5,30%	5,59%	5,77%	10,15%	10,15%
Tc	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%
WACC	4,46%	4,37%	4,27%	4,22%	4,22%	4,17%	4,12%	4,08%	4,27%	7,92%	7,64%

Table C22- PT Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**64,06%**	**70%**	**80%**	**90%**
D+E	17 123	17 123	17 123	17 123	17 123	17 123	17 123	17 123	17 123	17 123	17 123
Interest	0	70	139	215	297	374	449	480	892	1 033	1 317
Ebit	1 436	1 436	1 436	1 436	1 436	1 436	1 436	1 436	1 436	1 436	1 436
Rating	AAA	AAA	AAA	AA	A	A-	A-	A-	B	B-	CCC
ICR	∞	20,59	10,29	6,67	4,83	3,84	3,20	2,99	1,61	1,39	1,09
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%
β_0	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50
β_l	0,50	0,54	0,59	0,66	0,74	0,86	1,04	1,15	1,35	1,95	3,76
Pre-Tax Cost of Debt	4,07%	4,07%	4,07%	4,19%	4,34%	4,37%	4,37%	4,37%	7,44%	7,54%	8,54%
kd	2,95%	2,95%	2,95%	3,04%	3,15%	3,17%	3,17%	3,17%	5,40%	5,47%	6,19%
re	4,50%	4,59%	4,71%	4,86%	5,07%	5,36%	5,79%	6,03%	6,50%	7,93%	12,23%
Tc	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%
WACC	4,50%	4,43%	4,36%	4,32%	4,30%	4,26%	4,22%	4,20%	5,73%	5,96%	6,80%

Table C23 - PT Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**10%**	**15,25%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	16 745	16 745	16 745	16 745	16 745	16 745	16 745	16 745	16 745	16 745	16 745
Interest	0	94	143	203	323	444	872	1 403	1 636	1 870	2 104
Ebit	1 214	1 214	1 214	1 214	1 214	1 214	1 214	1 214	1 214	1 214	1 214
Rating	AAA	AAA	AAA	A+	A-	BBB	B-	CCC	CCC	CCC	CCC
ICR	∞	12,97	8,50	5,99	3,76	2,73	1,39	0,87	0,74	0,65	0,58
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%
β_0	0,54	0,54	0,54	0,54	0,54	0,54	0,54	0,54	0,54	0,54	0,54
β_l	0,54	0,58	0,61	0,64	0,71	0,80	0,93	1,12	1,45	2,10	4,05
Pre-Tax Cost of Debt	5,59%	5,59%	5,59%	6,05%	6,42%	6,63%	10,41%	13,96%	13,96%	13,96%	13,96%
kd	4,05%	4,05%	4,05%	4,39%	4,65%	4,81%	7,55%	10,64%	11,11%	11,47%	11,75%
re	5,52%	5,65%	5,73%	5,81%	6,01%	6,29%	10,41%	13,96%	13,96%	13,96%	15,81%
Tc	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%
WACC	5,52%	5,49%	5,47%	5,52%	5,61%	5,69%	8,98%	11,97%	11,97%	11,97%	12,15%

Table C24 - PT Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**47,54%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	15 194	15 194	15 194	15 194	15 194	15 194	15 194	15 194	15 194	15 194	15 194
Interest	0	77	161	257	346	411	455	752	931	1 161	1 306
Ebit	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234	1 234
Rating	AAA	AAA	AA	A	A-	A-	BBB	B	B-	CCC	CCC
ICR	∞	15,94	7,67	4,80	3,57	3,00	2,71	1,64	1,33	1,06	0,94
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%
β_0	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42
β_l	0,42	0,45	0,49	0,55	0,62	0,69	0,72	0,87	1,13	1,64	3,16
Pre-Tax Cost of Debt	5,09%	5,09%	5,29%	5,64%	5,69%	5,69%	5,99%	8,25%	8,75%	9,55%	9,55%
kd	3,74%	3,74%	3,89%	4,15%	4,18%	4,18%	4,41%	6,07%	6,43%	7,02%	7,16%
re	5,69%	5,80%	5,94%	6,12%	6,36%	6,60%	6,70%	7,21%	8,05%	9,74%	14,81%
Tc	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%
WACC	5,69%	5,59%	5,53%	5,53%	5,49%	5,45%	5,55%	6,52%	6,92%	7,57%	7,93%

Table C25 - PT Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**20%**	**26,24%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	12.012	12.012	12.012	12.012	12.012	12.012	12.012	12.012	12.012	12.012	12.012
Interest	0	47	93	122	161	222	281	366	792	997	1.121
Ebit	1.037	1.037	1.037	1.037	1.037	1.037	1.037	1.037	1.037	1.037	1.037
Rating	AAA	AAA	AAA	AAA	A+	A	A-	BBB	B-	CCC	CCC
ICR	?	22,30	11,15	8,50	6,44	4,67	3,70	2,84	1,31	1,04	0,93
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%
β_0	0,41	0,41	0,41	0,41	0,41	0,41	0,41	0,41	0,41	0,41	0,41
β_l	0,41	0,44	0,48	0,51	0,54	0,61	0,71	0,86	1,11	1,61	3,11
Pre-Tax Cost of Debt	3,87%	3,87%	3,87%	3,87%	4,47%	4,62%	4,67%	5,07%	9,42%	10,37%	10,37%
kd	2,85%	2,85%	2,85%	2,85%	3,29%	3,40%	3,43%	3,73%	6,92%	7,62%	7,83%
re	3,82%	3,89%	3,98%	4,05%	4,09%	4,25%	4,46%	4,78%	9,42%	10,37%	10,37%
Tc	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%
WACC	3,82%	3,79%	3,75%	3,73%	3,85%	3,91%	3,95%	4,15%	7,67%	8,17%	8,08%

Table C26 - PT Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**13,82%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	14 508	14 508	14 508	14 508	14 508	14 508	14 508	14 508	14 508	14 508	14 508
Interest	0	63	87	151	231	350	1 292	1 550	1 808	2 067	2 325
Ebit	736	736	736	736	736	736	736	736	736	736	736
Rating	AAA	AAA	AAA	A	A-	BB+	CCC	CCC	CCC	CCC	CCC
ICR	∞	11,74	8,50	4,86	3,18	2,10	0,57	0,47	0,41	0,36	0,32
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%
β_0	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42
β_l	0,42	0,45	0,47	0,50	0,55	0,62	0,73	0,88	1,14	1,65	3,19
Pre-Tax Cost of Debt	4,32%	4,32%	4,32%	5,22%	5,32%	6,04%	17,81%	17,81%	17,81%	17,81%	17,81%
kd	3,17%	3,17%	3,17%	3,83%	3,91%	4,44%	15,12%	15,57%	15,89%	16,13%	16,31%
re	4,57%	4,67%	4,71%	4,79%	4,94%	5,15%	17,81%	17,81%	17,81%	17,81%	17,81%
Tc	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%
WACC	4,57%	4,52%	4,50%	4,60%	4,63%	4,86%	16,46%	16,46%	16,46%	16,46%	16,46%

Table C27 - PT Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**12,52%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	14 546	14 546	14 546	14 546	14 546	14 546	14 546	14 546	14 546	14 546	14 546
Interest	0	52	65	125	207	645	806	967	1 128	1 289	1 451
Ebit	549	549	549	549	549	549	549	549	549	549	549
Rating	AAA	AAA	AAA	A	BBB	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	10,64	8,50	4,39	2,65	0,85	0,68	0,57	0,49	0,43	0,38
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%
β_0	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45
β_l	0,45	0,48	0,49	0,53	0,59	0,66	0,77	0,94	1,21	1,75	3,39
Pre-Tax Cost of Debt	3,55%	3,55%	3,55%	4,30%	4,75%	11,08%	11,08%	11,08%	11,08%	11,08%	11,08%
kd	2,61%	2,61%	2,61%	3,16%	3,49%	8,58%	9,08%	9,41%	9,65%	9,83%	9,97%
re	4,33%	4,44%	4,47%	4,58%	4,76%	11,08%	11,08%	11,08%	11,08%	11,08%	13,38%
Tc	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%
WACC	4,33%	4,26%	4,24%	4,30%	4,38%	10,08%	10,08%	10,08%	10,08%	10,08%	10,31%

Table C28 - Belgacom Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**	**98,12%**
D+E	11 513	11 513	11 513	11 513	11 513	11 513	11 513	11 513	11 513	11 513	11 513
Interest	0	50	100	150	208	277	334	391	447	502	548
Ebit	1 643	1 643	1 643	1 643	1 643	1 643	1 643	1 643	1 643	1 643	1 643
Rating	AAA	AAA	AAA	AAA	AA	A+	A	A-	A-	A-	A-
ICR	∞	32,82	16,41	10,94	7,90	5,94	4,93	4,20	3,68	3,27	3,00
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	5,89%	5,89%	5,89%	5,89%	5,89%	5,89%	5,89%	5,89%	5,89%	5,89%	5,89%
β_0	0,71	0,71	0,71	0,71	0,71	0,71	0,71	0,71	0,71	0,71	0,71
β_l	0,71	0,76	0,83	0,91	1,02	1,18	1,42	1,81	2,59	4,94	25,16
Pre-Tax Cost of Debt	4,35%	4,35%	4,35%	4,35%	4,52%	4,81%	4,83%	4,85%	4,85%	4,85%	4,85%
kd	2,87%	2,87%	2,87%	2,87%	2,98%	3,17%	3,19%	3,20%	3,20%	3,20%	3,20%
re	7,87%	8,18%	8,56%	9,06%	9,71%	10,64%	12,02%	14,32%	18,93%	32,76%	151,82%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	7,87%	7,65%	7,42%	7,20%	7,02%	6,91%	6,72%	6,54%	6,35%	6,16%	6,00%

Table C29 - Belgacom Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**	**99,99%**
D+E	9 785	9 785	9 785	9 785	9 785	9 785	9 785	9 785	9 785	9 785	9 785
Interest	0	50	99	149	198	254	312	366	420	473	526
Ebit	1 727	1 727	1 727	1 727	1 727	1 727	1 727	1 727	1 727	1 727	1 727
Rating	AAA	AAA	AAA	AAA	AAA	AA	A+	A	A-	A-	A-
ICR	∞	34,80	17,40	11,60	8,70	6,80	5,53	4,72	4,11	3,65	3,29
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	6,91%	6,91%	6,91%	6,91%	6,91%	6,91%	6,91%	6,91%	6,91%	6,91%	6,91%
β_0	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69
β_l	0,69	0,74	0,81	0,89	1,00	1,15	1,38	1,76	2,53	4,82	4580,58
Pre-Tax Cost of Debt	5,07%	5,07%	5,07%	5,07%	5,07%	5,19%	5,32%	5,34%	5,37%	5,37%	5,37%
kd	3,35%	3,35%	3,35%	3,35%	3,35%	3,43%	3,51%	3,53%	3,55%	3,55%	3,55%
re	8,11%	8,46%	8,90%	9,46%	10,22%	11,27%	12,86%	15,50%	20,78%	36,61%	31675,65%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	8,11%	7,95%	7,79%	7,63%	7,47%	7,35%	7,25%	7,12%	6,99%	6,85%	6,71%

Table C30 - Belgacom Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**53,25%**	**60%**	**70%**	**80%**	**90%**
D+E	13 132	13 132	13 132	13 132	13 132	13 132	13 132	13 132	13 132	13 132	13 132
Interest	0	73	147	238	337	422	449	522	957	1 467	1 650
Ebit	1 347	1 347	1 347	1 347	1 347	1 347	1 347	1 347	1 347	1 347	1 347
Rating	AAA	AAA	AAA	A+	A-	A-	A-	BBB	B-	CCC	CCC
ICR	∞	18,35	9,17	5,65	3,99	3,20	3,00	2,58	1,41	0,92	0,82
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	6,96%	6,96%	6,96%	6,96%	6,96%	6,96%	6,96%	6,96%	6,96%	6,96%	6,96%
β_0	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50
β_l	0,50	0,53	0,58	0,64	0,72	0,83	0,87	0,99	1,26	1,81	3,45
Pre-Tax Cost of Debt	5,59%	5,59%	5,59%	6,05%	6,42%	6,42%	6,42%	6,63%	10,41%	13,96%	13,96%
kd	3,69%	3,69%	3,69%	3,99%	4,24%	4,24%	4,24%	4,38%	6,87%	9,60%	10,09%
re	7,41%	7,66%	7,98%	8,39%	8,93%	9,70%	10,01%	10,84%	12,74%	16,55%	27,98%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	7,41%	7,27%	7,12%	7,07%	7,06%	6,97%	6,94%	6,96%	8,63%	10,99%	11,88%

Table C31 - Belgacom Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**55,85%**	**60%**	**70%**	**80%**	**90%**
D+E	13 168	13 168	13 168	13 168	13 168	13 168	13 168	13 168	13 168	13 168	13 168
Interest	0	67	134	217	300	375	419	474	717	922	1 132
Ebit	1 256	1 256	1 256	1 256	1 256	1 256	1 256	1 256	1 256	1 256	1 256
Rating	AAA	AAA	AAA	A+	A-	A-	A-	BBB	B+	B-	CCC
ICR	∞	18,73	9,36	5,79	4,19	3,35	3,00	2,65	1,75	1,36	1,11
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%
β_0	0,54	0,54	0,54	0,54	0,54	0,54	0,54	0,54	0,54	0,54	0,54
β_l	0,54	0,58	0,63	0,70	0,78	0,90	1,00	1,08	1,38	1,98	3,77
Pre-Tax Cost of Debt	5,09%	5,09%	5,09%	5,49%	5,69%	5,69%	5,69%	5,99%	7,78%	8,75%	9,55%
kd	3,36%	3,36%	3,36%	3,63%	3,76%	3,76%	3,76%	3,96%	5,14%	5,78%	6,31%
re	7,43%	7,66%	7,94%	8,31%	8,80%	9,49%	10,04%	10,52%	12,24%	15,67%	25,98%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	7,43%	7,23%	7,03%	6,91%	6,79%	6,62%	6,53%	6,58%	7,27%	7,76%	8,27%

Table C32 - Belgacom Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**79,34%**	**80%**	**90%**
D+E	11 276	11 276	11 276	11 276	11 276	11 276	11 276	11 276	11 276	11 276	11 276
Interest	0	44	87	131	190	261	316	369	418	457	956
Ebit	1 254	1 254	1 254	1 254	1 254	1 254	1 254	1 254	1 254	1 254	1 254
Rating	AAA	AAA	AAA	AAA	AA	A	A-	A-	A-	BBB	B-
ICR	∞	28,73	14,36	9,58	6,59	4,81	3,97	3,40	3,00	2,74	1,31
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	3,34%	3,34%	3,34%	3,34%	3,34%	3,34%	3,34%	3,34%	3,34%	3,34%	3,34%
β_0	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48
β_l	0,48	0,52	0,56	0,62	0,69	0,80	0,96	1,22	1,70	1,75	3,34
Pre-Tax Cost of Debt	3,87%	3,87%	3,87%	3,87%	4,22%	4,62%	4,67%	4,67%	4,67%	5,07%	9,42%
kd	2,56%	2,56%	2,56%	2,56%	2,79%	3,05%	3,08%	3,08%	3,08%	3,35%	6,22%
re	4,56%	4,68%	4,83%	5,01%	5,27%	5,62%	6,15%	7,04%	8,64%	8,81%	14,12%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	4,56%	4,47%	4,37%	4,28%	4,28%	4,34%	4,31%	4,27%	4,23%	4,44%	7,01%

Table C32 - Belgacom Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**34,72%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	10 384	10 384	10 384	10 384	10 384	10 384	10 384	10 384	10 384	10 384	10 384
Interest	0	45	90	134	156	213	271	331	386	475	1 664
Ebit	1 323	1 323	1 323	1 323	1 323	1 323	1 323	1 323	1 323	1 323	1 323
Rating	AAA	AAA	AAA	AAA	AAA	A+	A	A-	A-	BBB	CCC
ICR	∞	29,51	14,76	9,84	8,50	6,22	4,88	3,99	3,42	2,79	0,79
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
β_0	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48
β_l	0,48	0,51	0,56	0,61	0,64	0,69	0,79	0,95	1,21	1,74	3,31
Pre-Tax Cost of Debt	4,32%	4,32%	4,32%	4,32%	4,32%	5,12%	5,22%	5,32%	5,32%	5,72%	17,81%
kd	2,85%	2,85%	2,85%	2,85%	2,85%	3,38%	3,44%	3,51%	3,51%	3,77%	13,00%
re	5,14%	5,27%	5,43%	5,64%	5,76%	5,91%	6,30%	6,88%	7,84%	9,77%	15,56%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	5,14%	5,03%	4,91%	4,80%	4,75%	4,90%	4,87%	4,86%	4,81%	4,97%	13,25%

Table C33 - Belgacom Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**	**99,99%**
D+E	10 266	10 266	10 266	10 266	10 266	10 266	10 266	10 266	10 266	10 266	10 266
Interest	0	36	73	109	146	182	246	309	353	407	452
Ebit	1 610	1 610	1 610	1 610	1 610	1 610	1 610	1 610	1 610	1 610	1 610
Rating	AAA	AAA	AAA	AAA	AAA	AAA	AA	A	A	A-	A-
ICR	∞	44,18	22,09	14,73	11,04	8,84	6,53	5,21	4,56	3,96	3,56
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	3,93%	3,93%	3,93%	3,93%	3,93%	3,93%	3,93%	3,93%	3,93%	3,93%	3,93%
β_0	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48
β_l	0,48	0,52	0,56	0,62	0,69	0,80	0,96	1,22	1,75	3,34	3177,81
Pre-Tax Cost of Debt	3,55%	3,55%	3,55%	3,55%	3,55%	3,55%	4,00%	4,30%	4,30%	4,40%	4,40%
kd	2,34%	2,34%	2,34%	2,34%	2,34%	2,34%	2,64%	2,84%	2,84%	2,90%	2,90%
re	4,85%	4,99%	5,17%	5,39%	5,69%	6,10%	6,73%	7,77%	9,85%	16,09%	12490,77%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	4,85%	4,73%	4,60%	4,48%	4,35%	4,22%	4,28%	4,32%	4,24%	4,22%	4,15%

Table C34 - Deutsche Telekom Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**50,23%**	**60%**	**70%**	**80%**	**90%**
D+E	120 968	120 968	120 968	120 968	120 968	120 968	120 968	120 968	120 968	120 968	120 968
Interest	0	526	1 093	1 752	2 346	2 932	2 946	7 017	8 822	10 082	11 342
Ebit	8 838	8 838	8 838	8 838	8 838	8 838	8 838	8 838	8 838	8 838	8 838
Rating	AAA	AAA	AA	A	A-	A-	A-	B-	CCC	CCC	CCC
ICR	∞	16,80	8,09	5,04	3,77	3,01	3,00	1,26	1,00	0,88	0,78
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	6,46%	6,46%	6,46%	6,46%	6,46%	6,46%	6,46%	6,46%	6,46%	6,46%	6,46%
β_0	0,64	0,64	0,64	0,64	0,64	0,64	0,64	0,64	0,64	0,64	0,64
β_l	0,64	0,69	0,74	0,81	0,91	1,04	1,04	1,24	1,56	2,22	4,19
Pre-Tax Cost of Debt	4,35%	4,35%	4,52%	4,83%	4,85%	4,85%	4,85%	9,67%	10,42%	10,42%	10,42%
kd	2,66%	2,66%	2,76%	2,95%	2,96%	2,96%	2,96%	5,91%	6,37%	6,87%	7,26%
re	7,85%	8,13%	8,48%	8,94%	9,54%	10,39%	10,41%	11,66%	13,78%	18,02%	30,74%
Tc	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%
WACC	7,85%	7,58%	7,34%	7,14%	6,91%	6,68%	6,67%	8,21%	8,59%	9,10%	9,61%

Table C35 - Deutsche Telekom Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**60,92%**	**70%**	**80%**	**90%**
D+E	105 830	105 830	105 830	105 830	105 830	105 830	105 830	105 830	105 830	105 830	105 830
Interest	0	537	1 073	1 689	2 261	2 842	3 411	3 463	6 253	7 231	8 135
Ebit	10 390	10 390	10 390	10 390	10 390	10 390	10 390	10 390	10 390	10 390	10 390
Rating	AAA	AAA	AAA	A+	A	A-	A-	A-	B	B-	B-
ICR	∞	19,36	9,68	6,15	4,60	3,66	3,05	3,00	1,66	1,44	1,28
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	7,67%	7,67%	7,67%	7,67%	7,67%	7,67%	7,67%	7,67%	7,67%	7,67%	7,67%
β_0	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62
β_l	0,62	0,66	0,71	0,78	0,87	0,99	1,18	1,21	1,50	2,13	4,01
Pre-Tax Cost of Debt	5,07%	5,07%	5,07%	5,32%	5,34%	5,37%	5,37%	5,37%	8,44%	8,54%	8,54%
kd	3,10%	3,10%	3,10%	3,25%	3,26%	3,28%	3,28%	3,28%	5,16%	5,22%	5,22%
re	8,05%	8,37%	8,77%	9,29%	9,98%	10,94%	12,39%	12,56%	14,80%	19,62%	34,09%
Tc	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%
WACC	8,05%	7,84%	7,64%	7,48%	7,29%	7,11%	6,92%	6,91%	8,05%	8,10%	8,11%

Table C36 - Deutsche Telekom Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**57,72%**	**60%**	**70%**	**80%**	**90%**
D+E	107 058	107 058	107 058	107 058	107 058	107 058	107 058	107 058	107 058	107 058	107 058
Interest	0	598	1 197	1 998	2 749	3 549	4 097	4 888	7 801	11 956	13 451
Ebit	10 245	10 245	10 245	10 245	10 245	10 245	10 245	10 245	10 245	10 245	10 245
Rating	AAA	AAA	AAA	A	A-	BBB	BBB	BB	B-	CCC	CCC
ICR	∞	17,12	8,56	5,13	3,73	2,89	2,50	2,10	1,31	0,86	0,76
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	7,60%	7,60%	7,60%	7,60%	7,60%	7,60%	7,60%	7,60%	7,60%	7,60%	7,60%
β_0	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62
β_l	0,62	0,66	0,71	0,78	0,87	0,99	1,13	1,18	1,49	2,12	4,00
Pre-Tax Cost of Debt	5,59%	5,59%	5,59%	6,22%	6,42%	6,63%	6,63%	7,61%	10,41%	13,96%	13,96%
kd	3,42%	3,42%	3,42%	3,80%	3,92%	4,05%	4,05%	4,65%	6,36%	9,31%	9,82%
re	8,63%	8,95%	9,34%	9,86%	10,54%	11,49%	12,53%	12,92%	15,30%	20,07%	34,37%
Tc	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%
WACC	8,63%	8,39%	8,16%	8,04%	7,89%	7,77%	7,64%	7,96%	9,04%	11,46%	12,28%

Table C37 - Deutsche Telekom Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**20%**	**28,20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	108 456	108 456	108 456	108 456	108 456	108 456	108 456	108 456	108 456	108 456	108 456
Interest	0	574	1 235	1 833	2 685	4 144	5 181	6 217	7 253	8 289	9 325
Ebit	4 582	4 582	4 582	4 582	4 582	4 582	4 582	4 582	4 582	4 582	4 582
Rating	AAA	AA	A-	BBB	B	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	7,98	3,71	2,50	1,71	1,11	0,88	0,74	0,63	0,55	0,49
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	7,78%	7,78%	7,78%	7,78%	7,78%	7,78%	7,78%	7,78%	7,78%	7,78%	7,78%
β_0	0,61	0,61	0,61	0,61	0,61	0,61	0,61	0,61	0,61	0,61	0,61
β_l	0,61	0,65	0,70	0,76	0,77	0,86	0,98	1,17	1,48	2,10	3,97
Pre-Tax Cost of Debt	5,09%	5,29%	5,69%	5,99%	8,25%	9,55%	9,55%	9,55%	9,55%	9,55%	9,55%
kd	3,11%	3,23%	3,48%	3,66%	5,04%	5,84%	6,27%	6,81%	7,21%	7,50%	7,73%
re	9,06%	9,38%	9,78%	10,19%	10,30%	10,99%	11,96%	13,41%	15,83%	20,66%	35,17%
Tc	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%	38,90%
WACC	9,06%	8,76%	8,52%	8,35%	8,72%	8,93%	9,11%	9,45%	9,79%	10,13%	10,47%

Table C38 - Deutsche Telekom Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**45,13%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	93 478	93 478	93 478	93 478	93 478	93 478	93 478	93 478	93 478	93 478	93 478
Interest	0	362	789	1 296	1 747	1 971	4 403	5 817	6 786	7 756	8 725
Ebit	5 912	5 912	5 912	5 912	5 912	5 912	5 912	5 912	5 912	5 912	5 912
Rating	AAA	AAA	AA	A	A-	A-	B-	CCC	CCC	CCC	CCC
ICR	∞	16,34	7,49	4,56	3,38	3,00	1,34	1,02	0,87	0,76	0,68
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	6,16%	6,16%	6,16%	6,16%	6,16%	6,16%	6,16%	6,16%	6,16%	6,16%	6,16%
β_0	0,49	0,49	0,49	0,49	0,49	0,49	0,49	0,49	0,49	0,49	0,49
β_l	0,49	0,53	0,58	0,64	0,72	0,78	0,84	1,01	1,30	1,87	3,60
Pre-Tax Cost of Debt	3,87%	3,87%	4,22%	4,62%	4,67%	4,67%	9,42%	10,37%	10,37%	10,37%	10,37%
kd	2,70%	2,70%	2,95%	3,23%	3,26%	3,26%	6,58%	7,24%	7,64%	7,99%	8,25%
re	5,99%	6,23%	6,52%	6,90%	7,41%	7,74%	8,12%	9,18%	10,95%	14,49%	25,10%
Tc	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%
WACC	5,99%	5,88%	5,81%	5,80%	5,75%	5,72%	7,35%	8,02%	8,64%	9,29%	9,94%

Table C39- Deutsche Telekom Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**20%**	**21,49%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	96 069	96 069	96 069	96 069	96 069	96 069	96 069	96 069	96 069	96 069	96 069
Interest	0	415	829	891	1 504	2 043	2 746	10 264	11 975	13 685	15 396
Ebit	7 577	7 577	7 577	7 577	7 577	7 577	7 577	7 577	7 577	7 577	7 577
Rating	AAA	AAA	AAA	AAA	A	A-	BBB	CCC	CCC	CCC	CCC
ICR	∞	18,27	9,14	8,50	5,04	3,71	2,76	0,74	0,63	0,55	0,49
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	6,28%	6,28%	6,28%	6,28%	6,28%	6,28%	6,28%	6,28%	6,28%	6,28%	6,28%
β_0	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42
β_l	0,42	0,45	0,49	0,50	0,55	0,62	0,72	0,86	1,11	1,60	3,07
Pre-Tax Cost of Debt	4,32%	4,32%	4,32%	4,32%	5,22%	5,32%	5,72%	17,81%	17,81%	17,81%	17,81%
kd	3,01%	3,01%	3,01%	3,01%	3,64%	3,71%	3,99%	13,84%	14,41%	14,83%	15,16%
re	6,03%	6,24%	6,50%	6,54%	6,83%	7,27%	7,88%	17,81%	17,81%	17,81%	22,67%
Tc	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%
WACC	6,03%	5,92%	5,80%	5,78%	5,87%	5,84%	5,94%	15,43%	15,43%	15,43%	15,91%

Table C40 - Deutsche Telekom Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**62,68%**	**70%**	**80%**	**90%**
D+E	92 268	92 268	92 268	92 268	92 268	92 268	92 268	92 268	92 268	92 268	92 268
Interest	0	328	655	1 107	1 587	2 030	2 436	2 545	3 733	8 179	9 201
Ebit	7 635	7 635	7 635	7 635	7 635	7 635	7 635	7 635	7 635	7 635	7 635
Rating	AAA	AAA	AAA	AA	A	A-	A-	A-	BB	CCC	CCC
ICR	∞	23,31	11,65	6,90	4,81	3,76	3,13	3,00	2,05	0,93	0,83
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	6,93%	6,93%	6,93%	6,93%	6,93%	6,93%	6,93%	6,93%	6,93%	6,93%	6,93%
β_0	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
β_l	0,40	0,43	0,47	0,52	0,59	0,68	0,82	0,87	1,06	1,52	2,93
Pre-Tax Cost of Debt	3,55%	3,55%	3,55%	4,00%	4,30%	4,40%	4,40%	4,40%	5,78%	11,08%	11,08%
kd	2,48%	2,48%	2,48%	2,79%	3,00%	3,07%	3,07%	3,07%	4,04%	7,96%	8,31%
re	5,75%	5,97%	6,24%	6,58%	7,05%	7,70%	8,67%	9,02%	10,29%	13,53%	23,26%
Tc	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%	30,18%
WACC	5,75%	5,62%	5,48%	5,45%	5,43%	5,38%	5,31%	5,29%	5,91%	9,07%	9,80%

Table C41 - Elisa OYJ Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**67,96%**	**70%**	**80%**	**90%**
D+E	2 307	2 307	2 307	2 307	2 307	2 307	2 307	2 307	2 307	2 307	2 307
Interest	0	10	20	31	45	56	67	76	85	178	216
Ebit	228	228	228	228	228	228	228	228	228	228	228
Rating	AAA	AAA	AAA	AA	A	A-	A-	A-	BBB	B-	CCC
ICR	∞	22,73	11,37	7,29	5,12	4,08	3,40	3,00	2,69	1,28	1,05
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	9,91%	9,91%	9,91%	9,91%	9,91%	9,91%	9,91%	9,91%	9,91%	9,91%	9,91%
β_0	0,86	0,86	0,86	0,86	0,86	0,86	0,86	0,86	0,86	0,86	0,86
β_l	0,86	0,92	1,01	1,12	1,26	1,46	1,77	2,15	2,27	3,29	6,33
Pre-Tax Cost of Debt	4,35%	4,35%	4,35%	4,52%	4,83%	4,85%	4,85%	4,85%	5,26%	9,67%	10,42%
kd	3,09%	3,09%	3,09%	3,21%	3,43%	3,44%	3,44%	3,44%	3,73%	6,86%	7,40%
re	12,17%	12,84%	13,68%	14,76%	16,19%	18,20%	21,21%	24,95%	26,24%	36,28%	66,42%
Tc	29,00%	29,00%	29,00%	29,00%	29,00%	29,00%	29,00%	29,00%	29,00%	29,00%	29,00%
WACC	12,17%	11,87%	11,56%	11,29%	11,09%	10,82%	10,55%	10,34%	10,48%	12,75%	13,30%

Table C42 - Elisa OYJ Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**10%**	**20%**	**25,70%**	**30%**	**40%**	**50%**	**60,00%**	**70%**	**80%**	**90%**
D+E	3 102	3 102	3 102	3 102	3 102	3 102	3 102	3 102	3 102	3 102	3 102
Interest	0	17	33	43	79	118	148	178	207	237	266
Ebit	129	129	129	129	129	129	129	129	129	129	129
Rating	AAA	A	A-	A-	B	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	7,76	3,86	3,00	1,64	1,09	0,87	0,72	0,62	0,54	0,48
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	10,97%	10,97%	10,97%	10,97%	10,97%	10,97%	10,97%	10,97%	10,97%	10,97%	10,97%
β_0	0,94	0,94	0,94	0,94	0,94	0,94	0,94	0,94	0,94	0,94	0,94
β_l	0,94	1,02	1,12	1,18	1,24	1,41	1,64	1,99	2,57	3,73	7,22
Pre-Tax Cost of Debt	5,07%	5,34%	5,37%	5,37%	8,44%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%
kd	3,75%	3,95%	3,97%	3,97%	6,25%	7,06%	7,39%	7,75%	8,00%	8,19%	8,34%
re	13,65%	14,50%	15,56%	16,29%	16,93%	18,75%	21,30%	25,12%	31,50%	44,25%	82,50%
Tc	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%
WACC	13,65%	13,44%	13,24%	13,13%	13,72%	14,07%	14,34%	14,70%	15,05%	15,41%	15,76%

Table C43 - Elisa OYJ Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**35,63%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	3 759	3 759	3 759	3 759	3 759	3 759	3 759	3 759	3 759	3 759	3 759
Interest	0	21	47	72	89	157	262	315	367	420	472
Ebit	222	222	222	222	222	222	222	222	222	222	222
Rating	AAA	AAA	A	A-	BBB	B-	CCC	CCC	CCC	CCC	CCC
ICR	∞	10,56	4,75	3,07	2,50	1,42	0,85	0,71	0,60	0,53	0,47
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	11,03%	11,03%	11,03%	11,03%	11,03%	11,03%	11,03%	11,03%	11,03%	11,03%	11,03%
β_0	0,96	0,96	0,96	0,96	0,96	0,96	0,96	0,96	0,96	0,96	0,96
β_l	0,96	1,04	1,13	1,26	1,35	1,43	1,67	2,02	2,61	3,79	7,33
Pre-Tax Cost of Debt	5,59%	5,59%	6,22%	6,42%	6,63%	10,41%	13,96%	13,96%	13,96%	13,96%	13,96%
kd	4,14%	4,14%	4,60%	4,75%	4,91%	7,70%	10,89%	11,40%	11,77%	12,04%	12,25%
re	14,51%	15,38%	16,46%	17,86%	18,83%	19,72%	22,32%	26,23%	32,74%	45,76%	84,83%
Tc	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%
WACC	14,51%	14,25%	14,09%	13,92%	13,87%	14,91%	16,61%	17,33%	18,06%	18,79%	19,51%

Table C44 - Elisa OYJ Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**47,01%**	**50%**	**60,00%**	**70%**	**80%**	**90%**
D+E	4 079	4 079	4 079	4 079	4 079	4 079	4 079	4 079	4 079	4 079	4 079
Interest	0	21	43	70	93	115	159	214	273	312	351
Ebit	287	287	287	287	287	287	287	287	287	287	287
Rating	AAA	AAA	AA	A-	A-	BBB	B+	B-	CCC	CCC	CCC
ICR	∞	13,83	6,65	4,12	3,09	2,50	1,81	1,34	1,05	0,92	0,82
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	10,18%	10,18%	10,18%	10,18%	10,18%	10,18%	10,18%	10,18%	10,18%	10,18%	10,18%
β_0	0,84	0,84	0,84	0,84	0,84	0,84	0,84	0,84	0,84	0,84	0,84
β_l	0,84	0,91	1,00	1,11	1,26	1,40	1,47	1,78	2,30	3,34	6,47
Pre-Tax Cost of Debt	5,09%	5,09%	5,29%	5,69%	5,69%	5,99%	7,78%	8,75%	9,55%	9,55%	9,55%
kd	3,77%	3,77%	3,92%	4,21%	4,21%	4,43%	5,76%	6,48%	7,07%	7,26%	7,52%
re	12,90%	13,61%	14,49%	15,63%	17,14%	18,55%	19,26%	22,44%	27,74%	38,35%	70,15%
Tc	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%
WACC	12,90%	12,63%	12,38%	12,20%	11,97%	11,91%	12,51%	12,86%	13,27%	13,48%	13,78%

Table C45 - Elisa OYJ Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**68,95%**	**70%**	**80%**	**90%**
D+E	2 759	2 759	2 759	2 759	2 759	2 759	2 759	2 759	2 759	2 759	2 759
Interest	0	11	21	35	51	64	77	89	98	208	258
Ebit	267	267	267	267	267	267	267	267	267	267	267
Rating	AAA	AAA	AAA	AA	A	A-	A-	A-	BBB	B-	CCC
ICR	∞	24,96	12,48	7,63	5,23	4,14	3,45	3,00	2,72	1,28	1,04
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	7,85%	7,85%	7,85%	7,85%	7,85%	7,85%	7,85%	7,85%	7,85%	7,85%	7,85%
β_0	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66
β_l	0,66	0,72	0,78	0,87	0,99	1,15	1,40	1,75	1,81	2,62	5,07
Pre-Tax Cost of Debt	3,87%	3,87%	3,87%	4,22%	4,62%	4,67%	4,67%	4,67%	5,07%	9,42%	10,37%
kd	2,86%	2,86%	2,86%	3,12%	3,42%	3,46%	3,46%	3,46%	3,75%	6,97%	7,67%
re	8,15%	8,58%	9,11%	9,80%	10,71%	11,99%	13,92%	16,69%	17,12%	23,53%	42,76%
Tc	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%
WACC	8,15%	8,00%	7,86%	7,79%	7,80%	7,73%	7,64%	7,57%	7,76%	10,28%	11,18%

Table C46 - Elisa OYJ Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**51,69%**	**60%**	**70%**	**80%**	**90%**
D+E	3 233	3 233	3 233	3 233	3 233	3 233	3 233	3 233	3 233	3 233	3 233
Interest	0	14	28	51	69	86	89	117	403	461	518
Ebit	267	267	267	267	267	267	267	267	267	267	267
Rating	AAA	AAA	AAA	A	A-	A-	A-	BB+	CCC	CCC	CCC
ICR	∞	19,10	9,55	5,27	3,88	3,10	3,00	2,28	0,66	0,58	0,51
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	8,14%	8,14%	8,14%	8,14%	8,14%	8,14%	8,14%	8,14%	8,14%	8,14%	8,14%
β_0	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66
β_l	0,66	0,71	0,78	0,87	0,98	1,15	1,18	1,39	1,80	2,61	5,05
Pre-Tax Cost of Debt	4,32%	4,32%	4,32%	5,22%	5,32%	5,32%	5,32%	6,04%	17,81%	17,81%	17,81%
kd	3,19%	3,19%	3,19%	3,86%	3,93%	3,93%	3,93%	4,47%	14,74%	15,13%	15,42%
re	8,75%	9,19%	9,74%	10,45%	11,39%	12,72%	12,99%	14,70%	18,00%	24,62%	44,45%
Tc	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%
WACC	8,75%	8,59%	8,43%	8,47%	8,41%	8,32%	8,31%	8,56%	15,72%	17,02%	18,33%

Table C47 - Elisa OYJ Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**60,74%**	**70%**	**80%**	**90%**
D+E	3 343	3 343	3 343	3 343	3 343	3 343	3 343	3 343	3 343	3 343	3 343
Interest	0	12	24	40	57	74	88	89	259	296	333
Ebit	268	268	268	268	268	268	268	268	268	268	268
Rating	AAA	AAA	AAA	AA	A	A-	A-	A-	CCC	CCC	CCC
ICR	∞	22,59	11,29	6,68	4,66	3,64	3,04	3,00	1,03	0,90	0,80
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	9,12%	9,12%	9,12%	9,12%	9,12%	9,12%	9,12%	9,12%	9,12%	9,12%	9,12%
β_0	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62	0,62
β_l	0,62	0,68	0,74	0,82	0,93	1,09	1,32	1,34	1,70	2,47	4,78
Pre-Tax Cost of Debt	3,55%	3,55%	3,55%	4,00%	4,30%	4,40%	4,40%	4,40%	11,08%	11,08%	11,08%
kd	2,63%	2,63%	2,63%	2,96%	3,18%	3,26%	3,26%	3,26%	8,20%	8,47%	8,76%
re	8,65%	9,12%	9,71%	10,46%	11,46%	12,86%	14,97%	15,17%	18,48%	25,50%	46,55%
Tc	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%	26,00%
WACC	8,65%	8,47%	8,29%	8,21%	8,15%	8,06%	7,94%	7,93%	11,28%	11,88%	12,54%

Table C48- Hellenic Telecom Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**46,13%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	9 666	9 666	9 666	9 666	9 666	9 666	9 666	9 666	9 666	9 666	9 666
Interest	0	42	87	140	187	216	254	604	705	806	906
Ebit	649	649	649	649	649	649	649	649	649	649	649
Rating	AAA	AAA	AA	A	A-	A-	BBB	CCC	CCC	CCC	CCC
ICR	∞	15,43	7,43	4,63	3,46	3,00	2,55	1,07	0,92	0,81	0,72
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	5,97%	5,97%	5,97%	5,97%	5,97%	5,97%	5,97%	5,97%	5,97%	5,97%	5,97%
β_0	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57
β_l	0,57	0,61	0,66	0,72	0,81	0,88	0,93	1,12	1,42	2,04	3,87
Pre-Tax Cost of Debt	4,35%	4,35%	4,52%	4,83%	4,85%	4,85%	5,26%	10,42%	10,42%	10,42%	10,42%
kd	2,83%	2,83%	2,94%	3,14%	3,15%	3,15%	3,42%	6,77%	7,06%	7,48%	7,81%
re	7,06%	7,30%	7,60%	8,00%	8,52%	8,93%	9,25%	10,35%	12,17%	15,83%	26,79%
Tc	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%
WACC	7,06%	6,85%	6,67%	6,54%	6,37%	6,27%	6,33%	8,20%	8,60%	9,15%	9,71%

Table C49 - Hellenic Telecom Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**1,21%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	12 270	12 270	12 270	12 270	12 270	12 270	12 270	12 270	12 270	12 270	12 270
Interest	0	8	117	234	351	468	585	702	820	937	1 054
Ebit	24	24	24	24	24	24	24	24	24	24	24
Rating	AAA	A-	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	3,00	0,21	0,10	0,07	0,05	0,04	0,03	0,03	0,03	0,02
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	7,53%	7,53%	7,53%	7,53%	7,53%	7,53%	7,53%	7,53%	7,53%	7,53%	7,53%
β_0	0,59	0,59	0,59	0,59	0,59	0,59	0,59	0,59	0,59	0,59	0,59
β_l	0,59	0,59	0,63	0,69	0,76	0,86	0,99	1,19	1,52	2,19	4,20
Pre-Tax Cost of Debt	5,07%	5,37%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%
kd	3,45%	3,65%	8,92%	9,23%	9,33%	9,38%	9,42%	9,44%	9,45%	9,46%	9,47%
re	7,75%	7,78%	9,54%	9,54%	9,54%	9,76%	10,77%	12,27%	14,79%	19,82%	34,91%
Tc	32,00%	32,00%	32,00%	32,00%	32,00%	32,00%	32,00%	32,00%	32,00%	32,00%	32,00%
WACC	7,75%	7,73%	9,48%	9,48%	9,48%	9,61%	10,09%	10,57%	11,05%	11,53%	12,02%

Table C50 - Hellenic Telecom Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**35,88%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	15 746	15 746	15 746	15 746	15 746	15 746	15 746	15 746	15 746	15 746	15 746
Interest	0	88	191	303	363	418	820	1 319	1 539	1 759	1 978
Ebit	1 088	1 088	1 088	1 088	1 088	1 088	1 088	1 088	1 088	1 088	1 088
Rating	AAA	AAA	A+	A-	A-	BBB	B-	CCC	CCC	CCC	CCC
ICR	∞	12,36	5,71	3,59	3,00	2,61	1,33	0,83	0,71	0,62	0,55
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	7,39%	7,39%	7,39%	7,39%	7,39%	7,39%	7,39%	7,39%	7,39%	7,39%	7,39%
β_0	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55
β_l	0,55	0,59	0,65	0,72	0,77	0,81	0,94	1,14	1,46	2,11	4,06
Pre-Tax Cost of Debt	5,59%	5,59%	6,05%	6,42%	6,42%	6,63%	10,41%	13,96%	13,96%	13,96%	13,96%
kd	3,97%	3,97%	4,30%	4,56%	4,56%	4,71%	7,39%	10,62%	11,10%	11,45%	11,73%
re	8,01%	8,33%	8,73%	9,25%	9,63%	9,94%	10,90%	12,34%	14,75%	19,56%	33,99%
Tc	29,00%	29,00%	29,00%	29,00%	29,00%	29,00%	29,00%	29,00%	29,00%	29,00%	29,00%
WACC	8,01%	7,90%	7,85%	7,84%	7,81%	7,84%	9,14%	11,31%	12,19%	13,07%	13,96%

Table C51 - Hellenic Telecom Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**37,30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	17 880	17 880	17 880	17 880	17 880	17 880	17 880	17 880	17 880	17 880	17 880
Interest	0	91	196	305	380	429	738	1 025	1 196	1 366	1 537
Ebit	1 139	1 139	1 139	1 139	1 139	1 139	1 139	1 139	1 139	1 139	1 139
Rating	AAA	AAA	A+	A-	A-	BBB	B	CCC	CCC	CCC	CCC
ICR	∞	12,51	5,80	3,73	3,00	2,66	1,54	1,11	0,95	0,83	0,74
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	7,38%	7,38%	7,38%	7,38%	7,38%	7,38%	7,38%	7,38%	7,38%	7,38%	7,38%
β_0	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47
β_l	0,47	0,50	0,55	0,61	0,67	0,70	0,81	0,99	1,28	1,86	3,60
Pre-Tax Cost of Debt	5,09%	5,09%	5,49%	5,69%	5,69%	5,99%	8,25%	9,55%	9,55%	9,55%	9,55%
kd	3,82%	3,82%	4,12%	4,27%	4,27%	4,49%	6,19%	7,16%	7,28%	7,56%	7,78%
re	7,74%	8,03%	8,38%	8,84%	9,27%	9,46%	10,32%	11,60%	13,75%	18,04%	30,92%
Tc	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%
WACC	7,74%	7,61%	7,53%	7,47%	7,41%	7,47%	8,25%	8,94%	9,22%	9,66%	10,10%

Table C52 - Hellenic Telecom Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**20%**	**29,94%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	11 881	11 881	11 881	11 881	11 881	11 881	11 881	11 881	11 881	11 881	11 881
Interest	0	46	92	138	150	212	275	333	388	895	1 109
Ebit	1 170	1 170	1 170	1 170	1 170	1 170	1 170	1 170	1 170	1 170	1 170
Rating	AAA	AAA	AAA	AAA	AA	A+	A	A-	A-	B-	CCC
ICR	∞	25,45	12,72	8,50	7,78	5,51	4,26	3,51	3,01	1,31	1,06
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	3,41%	3,41%	3,41%	3,41%	3,41%	3,41%	3,41%	3,41%	3,41%	3,41%	3,41%
β_0	0,44	0,44	0,44	0,44	0,44	0,44	0,44	0,44	0,44	0,44	0,44
β_l	0,44	0,48	0,53	0,59	0,59	0,67	0,78	0,95	1,22	1,78	3,45
Pre-Tax Cost of Debt	3,87%	3,87%	3,87%	3,87%	4,22%	4,47%	4,62%	4,67%	4,67%	9,42%	10,37%
kd	2,90%	2,90%	2,90%	2,90%	3,17%	3,35%	3,47%	3,50%	3,50%	7,07%	7,78%
re	4,47%	4,59%	4,75%	4,95%	4,96%	5,23%	5,61%	6,17%	7,12%	9,02%	14,70%
Tc	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%
WACC	4,47%	4,42%	4,38%	4,34%	4,42%	4,48%	4,54%	4,57%	4,59%	7,46%	8,47%

Table C53 - Hellenic Telecom Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**20%**	**28,55%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	10 466	10 466	10 466	10 466	10 466	10 466	10 466	10 466	10 466	10 466	10 466
Interest	0	45	90	129	154	218	278	334	419	1 491	1 677
Ebit	1 096	1 096	1 096	1 096	1 096	1 096	1 096	1 096	1 096	1 096	1 096
Rating	AAA	AAA	AAA	AAA	AA	A	A-	A-	BBB	CCC	CCC
ICR	∞	24,27	12,13	8,50	7,10	5,02	3,94	3,28	2,62	0,74	0,65
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	3,49%	3,49%	3,49%	3,49%	3,49%	3,49%	3,49%	3,49%	3,49%	3,49%	3,49%
β_0	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42	0,42
β_l	0,42	0,46	0,50	0,55	0,56	0,63	0,74	0,90	1,16	1,69	3,27
Pre-Tax Cost of Debt	4,32%	4,32%	4,32%	4,32%	4,92%	5,22%	5,32%	5,32%	5,72%	17,81%	17,81%
kd	3,24%	3,24%	3,24%	3,24%	3,69%	3,91%	3,99%	3,99%	4,29%	14,53%	14,90%
re	4,86%	4,99%	5,14%	5,31%	5,34%	5,60%	5,97%	6,52%	7,45%	17,81%	17,81%
Tc	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%
WACC	4,86%	4,81%	4,76%	4,71%	4,84%	4,93%	4,98%	5,00%	5,24%	15,19%	15,19%

Table C54 - Hellenic Telecom Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**16,91%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	8 304	8 304	8 304	8 304	8 304	8 304	8 304	8 304	8 304	8 304	8 304
Interest	0	29	50	71	110	158	460	552	644	736	828
Ebit	424	424	424	424	424	424	424	424	424	424	424
Rating	AAA	AAA	AAA	A+	A-	BBB	CCC	CCC	CCC	CCC	CCC
ICR	∞	14,37	8,50	6,00	3,87	2,69	0,92	0,77	0,66	0,58	0,51
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	2,23%	2,23%	2,23%	2,23%	2,23%	2,23%	2,23%	2,23%	2,23%	2,23%	2,23%
β_0	0,33	0,33	0,33	0,33	0,33	0,33	0,33	0,33	0,33	0,33	0,33
β_l	0,33	0,35	0,38	0,39	0,43	0,49	0,58	0,70	0,91	1,32	2,56
Pre-Tax Cost of Debt	3,55%	3,55%	3,55%	4,25%	4,40%	4,75%	11,08%	11,08%	11,08%	11,08%	11,08%
kd	2,70%	2,70%	2,70%	3,23%	3,34%	3,61%	8,63%	9,04%	9,33%	9,55%	9,72%
re	3,69%	3,75%	3,81%	3,83%	3,93%	4,06%	11,08%	11,08%	11,08%	11,08%	11,08%
Tc	24,00%	24,00%	24,00%	24,00%	24,00%	24,00%	24,00%	24,00%	24,00%	24,00%	24,00%
WACC	3,69%	3,65%	3,62%	3,71%	3,75%	3,88%	9,86%	9,86%	9,86%	9,86%	9,86%

Table C55 - KPN Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**70,62%**	**80%**	**90%**
D+E	25 196	25 196	25 196	25 196	25 196	25 196	25 196	25 196	25 196	25 196	25 196
Interest	0	110	219	342	487	608	733	855	863	1 949	2 362
Ebit	2 588	2 588	2 588	2 588	2 588	2 588	2 588	2 588	2 588	2 588	2 588
Rating	AAA	AAA	AAA	AA	A	A	A-	A-	A-	B-	CCC
ICR	∞	23,62	11,81	7,58	5,32	4,25	3,53	3,03	3,00	1,33	1,10
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	7,60%	7,60%	7,60%	7,60%	7,60%	7,60%	7,60%	7,60%	7,60%	7,60%	7,60%
β_0	0,58	0,58	0,58	0,58	0,58	0,58	0,58	0,58	0,58	0,58	0,58
β_l	0,58	0,63	0,68	0,75	0,84	0,97	1,16	1,48	1,51	2,12	4,03
Pre-Tax Cost of Debt	4,35%	4,35%	4,35%	4,52%	4,83%	4,83%	4,85%	4,85%	4,85%	9,67%	10,42%
kd	2,85%	2,85%	2,85%	2,96%	3,16%	3,16%	3,18%	3,18%	3,18%	6,33%	6,82%
re	8,13%	8,45%	8,86%	9,37%	10,07%	11,04%	12,49%	14,92%	15,13%	19,77%	34,33%
Tc	34,50%	34,50%	34,50%	34,50%	34,50%	34,50%	34,50%	34,50%	34,50%	34,50%	34,50%
WACC	8,13%	7,89%	7,65%	7,45%	7,31%	7,10%	6,90%	6,70%	6,69%	9,02%	9,57%

Table C56 - KPN Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**52,75%**	**60%**	**70%**	**80%**	**90%**
D+E	27 480	27 480	27 480	27 480	27 480	27 480	27 480	27 480	27 480	27 480	27 480
Interest	0	139	285	440	590	738	779	1 161	1 643	2 098	2 360
Ebit	2 336	2 336	2 336	2 336	2 336	2 336	2 336	2 336	2 336	2 336	2 336
Rating	AAA	AAA	AA	A	A-	A-	A-	BB	B-	CCC	CCC
ICR	∞	16,76	8,19	5,31	3,96	3,17	3,00	2,01	1,42	1,11	0,99
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	8,67%	8,67%	8,67%	8,67%	8,67%	8,67%	8,67%	8,67%	8,67%	8,67%	8,67%
β_0	0,59	0,59	0,59	0,59	0,59	0,59	0,59	0,59	0,59	0,59	0,59
β_l	0,59	0,64	0,69	0,77	0,86	1,00	1,05	1,20	1,54	2,22	4,24
Pre-Tax Cost of Debt	5,07%	5,07%	5,19%	5,34%	5,37%	5,37%	5,37%	7,04%	8,54%	9,54%	9,54%
kd	3,47%	3,47%	3,56%	3,66%	3,68%	3,68%	3,68%	4,82%	5,85%	6,54%	6,57%
re	8,45%	8,84%	9,33%	9,95%	10,79%	11,97%	12,38%	13,73%	16,66%	22,52%	40,12%
Tc	31,50%	31,50%	31,50%	31,50%	31,50%	31,50%	31,50%	31,50%	31,50%	31,50%	31,50%
WACC	8,45%	8,30%	8,17%	8,07%	7,95%	7,82%	7,79%	8,38%	9,09%	9,73%	9,92%

Table C57 - KPN Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**42,66%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	29 652	29 652	29 652	29 652	29 652	29 652	29 652	29 652	29 652	29 652	29 652
Interest	0	166	340	553	761	812	1 062	1 852	2 898	3 312	3 726
Ebit	2 437	2 437	2 437	2 437	2 437	2 437	2 437	2 437	2 437	2 437	2 437
Rating	AAA	AAA	AA	A	A-	A-	BB+	B-	CCC	CCC	CCC
ICR	∞	14,70	7,16	4,40	3,20	3,00	2,30	1,32	0,84	0,74	0,65
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	8,10%	8,10%	8,10%	8,10%	8,10%	8,10%	8,10%	8,10%	8,10%	8,10%	8,10%
β_0	0,61	0,61	0,61	0,61	0,61	0,61	0,61	0,61	0,61	0,61	0,61
β_l	0,61	0,65	0,71	0,79	0,89	0,92	1,03	1,25	1,60	2,31	4,44
Pre-Tax Cost of Debt	5,59%	5,59%	5,74%	6,22%	6,42%	6,42%	7,16%	10,41%	13,96%	13,96%	13,96%
kd	3,94%	3,94%	4,04%	4,38%	4,52%	4,52%	5,04%	7,33%	10,48%	10,92%	11,26%
re	8,86%	9,24%	9,72%	10,34%	11,16%	11,43%	12,31%	14,04%	16,92%	22,68%	39,96%
Tc	29,60%	29,60%	29,60%	29,60%	29,60%	29,60%	29,60%	29,60%	29,60%	29,60%	29,60%
WACC	8,86%	8,71%	8,58%	8,55%	8,50%	8,48%	8,68%	10,01%	12,42%	13,27%	14,13%

Table C58 - KPN Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**43,01%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	34 025	34 025	34 025	34 025	34 025	34 025	34 025	34 025	34 025	34 025	34 025
Interest	0	173	360	576	775	833	1 324	1 787	2 275	2 600	2 925
Ebit	2 500	2 500	2 500	2 500	2 500	2 500	2 500	2 500	2 500	2 500	2 500
Rating	AAA	AAA	AA	A	A-	A-	B+	B-	CCC	CCC	CCC
ICR	∞	14,43	6,94	4,34	3,23	3,00	1,89	1,40	1,10	0,96	0,85
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	7,37%	7,37%	7,37%	7,37%	7,37%	7,37%	7,37%	7,37%	7,37%	7,37%	7,37%
β_0	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52
β_l	0,52	0,56	0,62	0,69	0,78	0,81	0,91	1,10	1,43	2,07	4,02
Pre-Tax Cost of Debt	5,09%	5,09%	5,29%	5,64%	5,69%	5,69%	7,78%	8,75%	9,55%	9,55%	9,55%
kd	3,79%	3,79%	3,94%	4,20%	4,24%	4,24%	5,80%	6,52%	7,12%	7,21%	7,47%
re	8,15%	8,46%	8,86%	9,37%	10,05%	10,30%	11,01%	12,44%	14,82%	19,59%	33,89%
Tc	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%
WACC	8,15%	8,00%	7,88%	7,82%	7,73%	7,70%	8,40%	8,89%	9,43%	9,69%	10,11%

Table C59 - KPN Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**20%**	**26,45%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	29 836	29 836	29 836	29 836	29 836	29 836	29 836	29 836	29 836	29 836	29 836
Interest	0	116	231	306	378	552	697	836	1 968	2 475	2 785
Ebit	2 597	2 597	2 597	2 597	2 597	2 597	2 597	2 597	2 597	2 597	2 597
Rating	AAA	AAA	AAA	AAA	AA	A	A-	A-	B-	CCC	CCC
ICR	∞	22,48	11,24	8,50	6,87	4,71	3,73	3,11	1,32	1,05	0,93
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	5,24%	5,24%	5,24%	5,24%	5,24%	5,24%	5,24%	5,24%	5,24%	5,24%	5,24%
β_0	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50
β_l	0,50	0,54	0,59	0,63	0,65	0,74	0,87	1,05	1,36	1,98	3,82
Pre-Tax Cost of Debt	3,87%	3,87%	3,87%	3,87%	4,22%	4,62%	4,67%	4,67%	9,42%	10,37%	10,37%
kd	2,88%	2,88%	2,88%	2,88%	3,14%	3,44%	3,48%	3,48%	7,02%	7,73%	7,91%
re	5,55%	5,77%	6,04%	6,25%	6,38%	6,84%	7,49%	8,46%	10,07%	13,30%	22,99%
Tc	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%
WACC	5,55%	5,48%	5,41%	5,36%	5,41%	5,48%	5,49%	5,47%	7,94%	8,84%	9,41%

Table C60 - KPN Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**20%**	**23,78%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	32 657	32 657	32 657	32 657	32 657	32 657	32 657	32 657	32 657	32 657	32 657
Interest	0	141	282	335	501	695	868	1 120	4 071	4 652	5 234
Ebit	2 850	2 850	2 850	2 850	2 850	2 850	2 850	2 850	2 850	2 850	2 850
Rating	AAA	AAA	AAA	AAA	A+	A-	A-	BBB	CCC	CCC	CCC
ICR	∞	20,22	10,11	8,50	5,69	4,10	3,28	2,54	0,70	0,61	0,54
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	5,55%	5,55%	5,55%	5,55%	5,55%	5,55%	5,55%	5,55%	5,55%	5,55%	5,55%
β_0	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45
β_l	0,45	0,48	0,53	0,55	0,59	0,67	0,78	0,94	1,22	1,77	3,43
Pre-Tax Cost of Debt	4,32%	4,32%	4,32%	4,32%	5,12%	5,32%	5,32%	5,72%	17,81%	17,81%	17,81%
kd	3,22%	3,22%	3,22%	3,22%	3,81%	3,96%	3,96%	4,26%	14,63%	15,03%	15,33%
re	5,86%	6,06%	6,32%	6,43%	6,65%	7,09%	7,70%	8,62%	17,81%	17,81%	22,43%
Tc	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%
WACC	5,86%	5,78%	5,70%	5,67%	5,80%	5,84%	5,83%	6,00%	15,58%	15,58%	16,04%

Table C61 - KPN Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**36,25%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	29 710	29 710	29 710	29 710	29 710	29 710	29 710	29 710	29 710	29 710	29 710
Interest	0	105	211	316	382	475	639	784	915	1 046	1 270
Ebit	3 250	3 250	3 250	3 250	3 250	3 250	3 250	3 250	3 250	3 250	3 250
Rating	AAA	AAA	AAA	AAA	AAA	AA	A	A-	A-	A-	BBB
ICR	∞	30,81	15,41	10,27	8,50	6,84	5,09	4,14	3,55	3,11	2,56
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	5,81%	5,81%	5,81%	5,81%	5,81%	5,81%	5,81%	5,81%	5,81%	5,81%	5,81%
β_0	0,43	0,43	0,43	0,43	0,43	0,43	0,43	0,43	0,43	0,43	0,43
β_l	0,43	0,46	0,50	0,56	0,61	0,64	0,74	0,90	1,16	1,69	3,28
Pre-Tax Cost of Debt	3,55%	3,55%	3,55%	3,55%	3,55%	4,00%	4,30%	4,40%	4,40%	4,40%	4,75%
kd	2,64%	2,64%	2,64%	2,64%	2,64%	2,98%	3,20%	3,28%	3,28%	3,28%	3,54%
re	5,43%	5,64%	5,90%	6,22%	6,48%	6,66%	7,28%	8,20%	9,73%	12,80%	22,01%
Tc	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%	25,50%
WACC	5,43%	5,34%	5,25%	5,15%	5,09%	5,19%	5,24%	5,25%	5,21%	5,18%	5,39%

Table C62 - Orange Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**55,06%**	**60%**	**70%**	**80%**	**90%**
D+E	115 549	115 549	115 549	115 549	115 549	115 549	115 549	115 549	115 549	115 549	115 549
Interest	0	502	1 005	1 674	2 241	2 801	3 085	3 645	8 427	9 631	10 834
Ebit	9 254	9 254	9 254	9 254	9 254	9 254	9 254	9 254	9 254	9 254	9 254
Rating	AAA	AAA	AAA	A	A-	A-	A-	BBB	CCC	CCC	CCC
ICR	∞	18,42	9,21	5,53	4,13	3,30	3,00	2,54	1,10	0,96	0,85
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	4,82%	4,82%	4,82%	4,82%	4,82%	4,82%	4,82%	4,82%	4,82%	4,82%	4,82%
β_0	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69
β_l	0,69	0,74	0,80	0,88	0,99	1,14	1,24	1,36	1,73	2,48	4,71
Pre-Tax Cost of Debt	4,35%	4,35%	4,35%	4,83%	4,85%	4,85%	4,85%	5,26%	10,42%	10,42%	10,42%
kd	2,81%	2,81%	2,81%	3,12%	3,13%	3,13%	3,13%	3,40%	6,73%	6,87%	7,27%
re	7,02%	7,26%	7,55%	7,94%	8,45%	9,17%	9,65%	10,24%	12,04%	15,62%	26,38%
Tc	35,43%	35,43%	35,43%	35,43%	35,43%	35,43%	35,43%	35,43%	35,43%	35,43%	35,43%
WACC	7,02%	6,81%	6,60%	6,49%	6,32%	6,15%	6,06%	6,13%	8,32%	8,62%	9,18%

Table C63 - Orange Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**62,26%**	**70%**	**80%**	**90%**
D+E	107 863	107 863	107 863	107 863	107 863	107 863	107 863	107 863	107 863	107 863	107 863
Interest	0	547	1 094	1 728	2 304	2 897	3 476	3 607	5 316	7 370	8 291
Ebit	10 822	10 822	10 822	10 822	10 822	10 822	10 822	10 822	10 822	10 822	10 822
Rating	AAA	AAA	AAA	A	A	A-	A-	A-	BB	B-	B-
ICR	∞	19,78	9,89	6,26	4,70	3,74	3,11	3,00	2,04	1,47	1,31
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	6,01%	6,01%	6,01%	6,01%	6,01%	6,01%	6,01%	6,01%	6,01%	6,01%	6,01%
β_0	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66
β_l	0,66	0,71	0,77	0,84	0,95	1,09	1,31	1,37	1,66	2,38	4,53
Pre-Tax Cost of Debt	5,07%	5,07%	5,07%	5,34%	5,34%	5,37%	5,37%	5,37%	7,04%	8,54%	8,54%
kd	3,30%	3,30%	3,30%	3,47%	3,47%	3,49%	3,49%	3,49%	4,58%	5,56%	5,56%
re	7,28%	7,57%	7,93%	8,39%	9,00%	9,86%	11,15%	11,54%	13,31%	17,61%	30,53%
Tc	34,95%	34,95%	34,95%	34,95%	34,95%	34,95%	34,95%	34,95%	34,95%	34,95%	34,95%
WACC	7,28%	7,14%	7,00%	6,91%	6,79%	6,68%	6,56%	6,53%	7,20%	7,97%	8,05%

Table C64 - Orange Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**67,34%**	**70%**	**80%**	**90%**
D+E	93 496	93 496	93 496	93 496	93 496	93 496	93 496	93 496	93 496	93 496	93 496
Interest	0	523	1 045	1 745	2 326	3 001	3 719	4 174	4 981	7 786	11 747
Ebit	10 436	10 436	10 436	10 436	10 436	10 436	10 436	10 436	10 436	10 436	10 436
Rating	AAA	AAA	AAA	A	A	A-	BBB	BBB	BB	B-	CCC
ICR	∞	19,97	9,98	5,98	4,49	3,48	2,81	2,50	2,10	1,34	0,89
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	5,84%	5,84%	5,84%	5,84%	5,84%	5,84%	5,84%	5,84%	5,84%	5,84%	5,84%
β_0	0,72	0,72	0,72	0,72	0,72	0,72	0,72	0,72	0,72	0,72	0,72
β_l	0,72	0,78	0,84	0,93	1,04	1,20	1,44	1,70	1,83	2,62	4,99
Pre-Tax Cost of Debt	5,59%	5,59%	5,59%	6,22%	6,22%	6,42%	6,63%	6,63%	7,61%	10,41%	13,96%
kd	3,67%	3,67%	3,67%	4,08%	4,08%	4,21%	4,35%	4,35%	4,99%	6,83%	9,69%
re	8,17%	8,48%	8,86%	9,36%	10,02%	10,94%	12,32%	13,88%	14,63%	19,25%	33,09%
Tc	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%
WACC	8,17%	8,00%	7,82%	7,77%	7,64%	7,57%	7,54%	7,46%	7,88%	9,31%	12,03%

Table C65 - Orange Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**61,66%**	**70%**	**80%**	**90%**
D+E	105 745	105 745	105 745	105 745	105 745	105 745	105 745	105 745	105 745	105 745	105 745
Interest	0	539	1 077	1 679	2 387	3 010	3 612	3 712	4 436	6 982	8 330
Ebit	11 136	11 136	11 136	11 136	11 136	11 136	11 136	11 136	11 136	11 136	11 136
Rating	AAA	AAA	AAA	AA	A	A-	A-	A-	BBB	B	B-
ICR	∞	20,68	10,34	6,63	4,67	3,70	3,08	3,00	2,51	1,59	1,34
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	5,10%	5,10%	5,10%	5,10%	5,10%	5,10%	5,10%	5,10%	5,10%	5,10%	5,10%
β_0	0,53	0,53	0,53	0,53	0,53	0,53	0,53	0,53	0,53	0,53	0,53
β_l	0,53	0,57	0,62	0,68	0,77	0,88	1,06	1,10	1,35	1,93	3,68
Pre-Tax Cost of Debt	5,09%	5,09%	5,09%	5,29%	5,64%	5,69%	5,69%	5,69%	5,99%	8,25%	8,75%
kd	3,34%	3,34%	3,34%	3,47%	3,70%	3,73%	3,73%	3,73%	3,93%	5,41%	5,74%
re	7,03%	7,23%	7,48%	7,79%	8,22%	8,81%	9,71%	9,90%	11,20%	14,17%	23,10%
Tc	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%
WACC	7,03%	6,84%	6,65%	6,50%	6,41%	6,27%	6,12%	6,10%	6,11%	7,16%	7,48%

Table C66 - Orange Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**82,66%**	**90%**
D+E	91 471	91 471	91 471	91 471	91 471	91 471	91 471	91 471	91 471	91 471	91 471
Interest	0	354	708	1 062	1 544	2 114	2 564	2 991	3 418	3 532	4 175
Ebit	10 596	10 596	10 596	10 596	10 596	10 596	10 596	10 596	10 596	10 596	10 596
Rating	AAA	AAA	AAA	AAA	AA	A	A-	A-	A-	A-	BBB
ICR	∞	29,92	14,96	9,97	6,86	5,01	4,13	3,54	3,10	3,00	2,54
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	3,62%	3,62%	3,62%	3,62%	3,62%	3,62%	3,62%	3,62%	3,62%	3,62%	3,62%
β_0	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52
β_l	0,52	0,56	0,60	0,67	0,75	0,86	1,03	1,31	1,88	2,14	3,58
Pre-Tax Cost of Debt	3,87%	3,87%	3,87%	3,87%	4,22%	4,62%	4,67%	4,67%	4,67%	4,67%	5,07%
kd	2,54%	2,54%	2,54%	2,54%	2,77%	3,03%	3,06%	3,06%	3,06%	3,06%	3,33%
re	4,83%	4,97%	5,14%	5,36%	5,66%	6,07%	6,69%	7,71%	9,77%	10,72%	15,94%
Tc	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%
WACC	4,83%	4,73%	4,62%	4,52%	4,50%	4,55%	4,51%	4,46%	4,40%	4,39%	4,59%

Table C67 - Orange Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**62,39%**	**70%**	**80%**	**90%**
D+E	82.863	82.863	82.863	82.863	82.863	82.863	82.863	82.863	82.863	82.863	82.863
Interest	0	358	715	1.222	1.729	2.203	2.643	2.749	3.502	11.804	13.280
Ebit	8.246	8.246	8.246	8.246	8.246	8.246	8.246	8.246	8.246	8.246	8.246
Rating	AAA	AAA	AAA	AA	A	A-	A-	A-	BB+	CCC	CCC
ICR	?	23,05	11,53	6,75	4,77	3,74	3,12	3,00	2,35	0,70	0,62
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	3,77%	3,77%	3,77%	3,77%	3,77%	3,77%	3,77%	3,77%	3,77%	3,77%	3,77%
β_0	0,46	0,46	0,46	0,46	0,46	0,46	0,46	0,46	0,46	0,46	0,46
β_l	0,46	0,50	0,54	0,59	0,67	0,77	0,92	0,97	1,17	1,68	3,20
Pre-Tax Cost of Debt	4,32%	4,32%	4,32%	4,92%	5,22%	5,32%	5,32%	5,32%	6,04%	17,81%	17,81%
kd	2,83%	2,83%	2,83%	3,22%	3,42%	3,49%	3,49%	3,49%	3,96%	13,52%	14,00%
re	5,13%	5,26%	5,42%	5,63%	5,90%	6,28%	6,85%	7,03%	7,81%	17,81%	17,81%
Tc	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%
WACC	5,13%	5,02%	4,90%	4,90%	4,91%	4,88%	4,83%	4,82%	5,11%	14,38%	14,38%

Table C68 - Orange Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**86,34%**	**90%**
D+E	77 451	77 451	77 451	77 451	77 451	77 451	77 451	77 451	77 451	77 451	77 451
Interest	0	275	550	825	1 239	1 665	1 998	2 385	2 726	2 942	3 311
Ebit	8 830	8 830	8 830	8 830	8 830	8 830	8 830	8 830	8 830	8 830	8 830
Rating	AAA	AAA	AAA	AAA	AA	A	A	A-	A-	A-	BBB
ICR	∞	32,11	16,06	10,70	7,13	5,30	4,42	3,70	3,24	3,00	2,67
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	3,84%	3,84%	3,84%	3,84%	3,84%	3,84%	3,84%	3,84%	3,84%	3,84%	3,84%
β_0	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45
β_l	0,45	0,49	0,53	0,58	0,65	0,75	0,90	1,15	1,64	2,33	3,13
Pre-Tax Cost of Debt	3,55%	3,55%	3,55%	3,55%	4,00%	4,30%	4,30%	4,40%	4,40%	4,40%	4,75%
kd	2,33%	2,33%	2,33%	2,33%	2,62%	2,82%	2,82%	2,89%	2,89%	2,89%	3,11%
re	4,70%	4,83%	4,99%	5,19%	5,46%	5,84%	6,41%	7,36%	9,26%	11,90%	14,96%
Tc	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%	34,43%
WACC	4,70%	4,58%	4,45%	4,33%	4,33%	4,33%	4,26%	4,23%	4,16%	4,12%	4,30%

Table C69 - Telefonica Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**10%**	**20%**	**25,71%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	12.908	12.908	12.908	12.908	12.908	12.908	12.908	12.908	12.908	12.908	12.908
Interest	0	56	125	161	374	538	672	807	941	1.076	1.210
Ebit	483	483	483	483	483	483	483	483	483	483	483
Rating	AAA	AAA	A-	A-	B-	CCC	CCC	CCC	CCC	CCC	CCC
ICR	?	8,60	3,86	3,00	1,29	0,90	0,72	0,60	0,51	0,45	0,40
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	3,26%	3,26%	3,26%	3,26%	3,26%	3,26%	3,26%	3,26%	3,26%	3,26%	3,26%
β_0	0,28	0,28	0,28	0,28	0,28	0,28	0,28	0,28	0,28	0,28	0,28
β_l	0,28	0,30	0,32	0,34	0,35	0,40	0,46	0,55	0,70	1,00	1,91
Pre-Tax Cost of Debt	4,35%	4,35%	4,85%	4,85%	9,67%	10,42%	10,42%	10,42%	10,42%	10,42%	10,42%
kd	2,87%	2,87%	3,20%	3,20%	6,38%	7,24%	7,87%	8,30%	8,60%	8,83%	9,01%
re	4,58%	4,65%	4,73%	4,78%	9,67%	10,42%	10,42%	10,42%	10,42%	10,42%	10,42%
Tc	34,00%	34,00%	34,00%	34,00%	34,00%	34,00%	34,00%	34,00%	34,00%	34,00%	34,00%
WACC	4,58%	4,47%	4,42%	4,38%	8,68%	9,15%	9,15%	9,15%	9,15%	9,15%	9,15%

Table C70 - Telefonica Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**41,08%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	129 312	129 312	129 312	129 312	129 312	129 312	129 312	129 312	129 312	129 312	129 312
Interest	0	656	1 376	2 084	2 778	2 853	5 458	6 627	8 636	9 870	11 104
Ebit	8 559	8 559	8 559	8 559	8 559	8 559	8 559	8 559	8 559	8 559	8 559
Rating	AAA	AAA	A+	A-	A-	A-	B	B-	CCC	CCC	CCC
ICR	∞	13,05	6,22	4,11	3,08	3,00	1,57	1,29	0,99	0,87	0,77
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	9,28%	9,28%	9,28%	9,28%	9,28%	9,28%	9,28%	9,28%	9,28%	9,28%	9,28%
β_0	0,77	0,77	0,77	0,77	0,77	0,77	0,77	0,77	0,77	0,77	0,77
β_l	0,77	0,82	0,89	0,98	1,10	1,11	1,26	1,51	1,93	2,76	5,24
Pre-Tax Cost of Debt	5,07%	5,07%	5,32%	5,37%	5,37%	5,37%	8,44%	8,54%	9,54%	9,54%	9,54%
kd	3,30%	3,30%	3,46%	3,49%	3,49%	3,49%	5,49%	5,55%	6,23%	6,65%	6,97%
re	10,41%	10,92%	11,56%	12,39%	13,48%	13,63%	15,02%	17,33%	21,18%	28,87%	51,94%
Tc	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%
WACC	10,41%	10,16%	9,94%	9,72%	9,49%	9,46%	10,25%	10,26%	10,72%	11,09%	11,46%

Table C71 - Telefonica Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**41,44%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	137 166	137 166	137 166	137 166	137 166	137 166	137 166	137 166	137 166	137 166	137 166
Interest	0	767	1 660	2 642	3 638	3 769	7 140	11 489	13 404	15 319	17 234
Ebit	9 422	9 422	9 422	9 422	9 422	9 422	9 422	9 422	9 422	9 422	9 422
Rating	AAA	AAA	A+	A-	BBB	BBB	B-	CCC	CCC	CCC	CCC
ICR	∞	12,29	5,68	3,57	2,59	2,50	1,32	0,82	0,70	0,62	0,55
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	9,58%	9,58%	9,58%	9,58%	9,58%	9,58%	9,58%	9,58%	9,58%	9,58%	9,58%
β_0	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63
β_l	0,63	0,67	0,73	0,80	0,90	0,91	1,03	1,24	1,57	2,25	4,28
Pre-Tax Cost of Debt	5,59%	5,59%	6,05%	6,42%	6,63%	6,63%	10,41%	13,96%	13,96%	13,96%	13,96%
kd	3,63%	3,63%	3,93%	4,17%	4,31%	4,31%	6,77%	9,95%	10,53%	10,95%	11,29%
re	9,94%	10,37%	10,91%	11,61%	12,54%	12,70%	13,83%	15,78%	19,03%	25,52%	44,99%
Tc	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%	35,00%
WACC	9,94%	9,70%	9,52%	9,38%	9,25%	9,22%	10,30%	12,28%	13,08%	13,87%	14,66%

Table C72 - Telefonica Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**56,35%**	**60%**	**70%**	**80%**	**90%**
D+E	158 563	158 563	158 563	158 563	158 563	158 563	158 563	158 563	158 563	158 563	158 563
Interest	0	808	1 679	2 684	3 611	4 751	5 355	7 405	9 716	12 118	13 633
Ebit	13 388	13 388	13 388	13 388	13 388	13 388	13 388	13 388	13 388	13 388	13 388
Rating	AAA	AAA	AA	A	A-	BBB	BBB	B+	B-	CCC	CCC
ICR	∞	16,58	7,98	4,99	3,71	2,82	2,50	1,81	1,38	1,10	0,98
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	8,94%	8,94%	8,94%	8,94%	8,94%	8,94%	8,94%	8,94%	8,94%	8,94%	8,94%
β_0	0,67	0,67	0,67	0,67	0,67	0,67	0,67	0,67	0,67	0,67	0,67
β_l	0,67	0,73	0,79	0,87	0,98	1,13	1,26	1,36	1,74	2,50	4,77
Pre-Tax Cost of Debt	5,09%	5,09%	5,29%	5,64%	5,69%	5,99%	5,99%	7,78%	8,75%	9,55%	9,55%
kd	3,44%	3,44%	3,57%	3,81%	3,84%	4,05%	4,05%	5,25%	5,91%	6,45%	6,50%
re	10,34%	10,79%	11,35%	12,08%	13,05%	14,41%	15,59%	16,44%	19,83%	26,62%	46,97%
Tc	32,50%	32,50%	32,50%	32,50%	32,50%	32,50%	32,50%	32,50%	32,50%	32,50%	32,50%
WACC	10,34%	10,05%	9,80%	9,60%	9,37%	9,23%	9,08%	9,73%	10,09%	10,48%	10,55%

Table C73 - Telefonica Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**78,71%**	**80%**	**90%**
D+E	125 772	125 772	125 772	125 772	125 772	125 772	125 772	125 772	125 772	125 772	125 772
Interest	0	487	974	1 461	2 124	2 906	3 525	4 113	4 624	5 103	10 664
Ebit	13 873	13 873	13 873	13 873	13 873	13 873	13 873	13 873	13 873	13 873	13 873
Rating	AAA	AAA	AAA	AAA	AA	A	A-	A-	A-	BBB	B-
ICR	∞	28,49	14,25	9,50	6,53	4,77	3,94	3,37	3,00	2,72	1,30
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	7,41%	7,41%	7,41%	7,41%	7,41%	7,41%	7,41%	7,41%	7,41%	7,41%	7,41%
β_0	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57
β_l	0,57	0,62	0,67	0,74	0,84	0,97	1,17	1,51	2,05	2,17	4,18
Pre-Tax Cost of Debt	3,87%	3,87%	3,87%	3,87%	4,22%	4,62%	4,67%	4,67%	4,67%	5,07%	9,42%
kd	2,71%	2,71%	2,71%	2,71%	2,95%	3,23%	3,27%	3,27%	3,27%	3,55%	6,59%
re	7,19%	7,52%	7,94%	8,47%	9,17%	10,16%	11,65%	14,12%	18,17%	19,07%	33,92%
Tc	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%
WACC	7,19%	7,04%	6,89%	6,74%	6,69%	6,70%	6,62%	6,53%	6,44%	6,65%	9,33%

Table C74 - Telefonica Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**58,70%**	**60%**	**70%**	**80%**	**90%**
D+E	145 757	145 757	145 757	145 757	145 757	145 757	145 757	145 757	145 757	145 757	145 757
Interest	0	629	1 258	2 237	3 042	3 875	4 549	5 000	18 168	20 764	23 359
Ebit	13 647	13 647	13 647	13 647	13 647	13 647	13 647	13 647	13 647	13 647	13 647
Rating	AAA	AAA	AAA	A+	A	A-	A-	BBB	CCC	CCC	CCC
ICR	∞	21,69	10,84	6,10	4,49	3,52	3,00	2,73	0,75	0,66	0,58
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	7,78%	7,78%	7,78%	7,78%	7,78%	7,78%	7,78%	7,78%	7,78%	7,78%	7,78%
β_0	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55
β_l	0,55	0,59	0,65	0,71	0,81	0,93	1,10	1,13	1,45	2,09	4,01
Pre-Tax Cost of Debt	4,32%	4,32%	4,32%	5,12%	5,22%	5,32%	5,32%	5,72%	17,81%	17,81%	17,81%
kd	3,02%	3,02%	3,02%	3,58%	3,65%	3,72%	3,72%	4,00%	13,79%	14,30%	14,69%
re	7,66%	7,99%	8,41%	8,94%	9,65%	10,65%	11,91%	12,15%	14,64%	19,63%	34,58%
Tc	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%
WACC	7,66%	7,50%	7,33%	7,33%	7,25%	7,19%	7,10%	7,26%	14,05%	15,36%	16,68%

Table C75 - Telefonica Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**	**90,71%**
D+E	137 592	137 592	137 592	137 592	137 592	137 592	137 592	137 592	137 592	137 592	137 592
Interest	0	488	977	1 465	2 201	2 924	3 550	4 238	4 843	5 449	5 491
Ebit	16 474	16 474	16 474	16 474	16 474	16 474	16 474	16 474	16 474	16 474	16 474
Rating	AAA	AAA	AAA	AAA	AA	A+	A	A-	A-	A-	A-
ICR	∞	33,73	16,86	11,24	7,48	5,63	4,64	3,89	3,40	3,02	3,00
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	7,10%	7,10%	7,10%	7,10%	7,10%	7,10%	7,10%	7,10%	7,10%	7,10%	7,10%
β_0	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52
β_l	0,52	0,56	0,61	0,68	0,76	0,89	1,07	1,37	1,98	3,80	4,08
Pre-Tax Cost of Debt	3,55%	3,55%	3,55%	3,55%	4,00%	4,25%	4,30%	4,40%	4,40%	4,40%	4,40%
kd	2,49%	2,49%	2,49%	2,49%	2,80%	2,98%	3,01%	3,08%	3,08%	3,08%	3,08%
re	6,66%	6,95%	7,31%	7,77%	8,39%	9,25%	10,55%	12,71%	17,02%	29,97%	31,94%
Tc	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%
WACC	6,66%	6,50%	6,35%	6,19%	6,15%	6,11%	6,02%	5,97%	5,87%	5,77%	5,76%

Table C76 - Telekom Austria Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**10%**	**20%**	**25,71%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	12 908	12 908	12 908	12 908	12 908	12 908	12 908	12 908	12 908	12 908	12 908
Interest	0	56	125	161	374	538	672	807	941	1 076	1 210
Ebit	483	483	483	483	483	483	483	483	483	483	483
Rating	AAA	AAA	A-	A-	B-	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	8,60	3,86	3,00	1,29	0,90	0,72	0,60	0,51	0,45	0,40
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	3,26%	3,26%	3,26%	3,26%	3,26%	3,26%	3,26%	3,26%	3,26%	3,26%	3,26%
β_0	0,28	0,28	0,28	0,28	0,28	0,28	0,28	0,28	0,28	0,28	0,28
β_l	0,28	0,30	0,32	0,34	0,35	0,40	0,46	0,55	0,70	1,00	1,91
Pre-Tax Cost of Debt	4,35%	4,35%	4,85%	4,85%	9,67%	10,42%	10,42%	10,42%	10,42%	10,42%	10,42%
kd	2,87%	2,87%	3,20%	3,20%	6,38%	7,24%	7,87%	8,30%	8,60%	8,83%	9,01%
re	4,58%	4,65%	4,73%	4,78%	9,67%	10,42%	10,42%	10,42%	10,42%	10,42%	9,91%
Tc	34,00%	34,00%	34,00%	34,00%	34,00%	34,00%	34,00%	34,00%	34,00%	34,00%	34,00%
WACC	4,58%	4,47%	4,42%	4,38%	8,68%	9,15%	9,15%	9,15%	9,15%	9,15%	9,10%

Table C77 - Telekom Austria Optimal Debt Level 2005

values in €M	2005									
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	15 697	15 697	15 697	15 697	15 697	15 697	15 697	15 697	15 697	15 697
Interest	0	80	169	393	599	749	899	1 048	1 198	1 348
Ebit	662	662	662	662	662	662	662	662	662	662
Rating	AAA	AAA	A-	B+	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	8,31	3,92	1,68	1,10	0,88	0,74	0,63	0,55	0,49
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	5,96%	5,96%	5,96%	5,96%	5,96%	5,96%	5,96%	5,96%	5,96%	5,96%
β_0	0,31	0,31	0,31	0,31	0,31	0,31	0,31	0,31	0,31	0,31
β_l	0,31	0,34	0,37	0,41	0,47	0,55	0,66	0,86	1,25	2,43
Pre-Tax Cost of Debt	5,07%	5,07%	5,37%	8,34%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%
kd	3,80%	3,80%	4,03%	6,26%	7,16%	7,43%	7,78%	8,04%	8,22%	8,37%
re	5,17%	5,33%	5,52%	8,34%	9,54%	9,54%	9,54%	8,44%	10,77%	17,76%
Tc	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%
WACC	5,17%	5,18%	5,22%	7,72%	8,59%	8,49%	8,49%	8,16%	8,73%	9,31%

Table C78 - Telekom Austria Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**10%**	**12,94%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	12 742	12 742	12 742	12 742	12 742	12 742	12 742	12 742	12 742	12 742	12 742
Interest	0	71	92	159	245	388	889	1 067	1 245	1 423	1 601
Ebit	783	783	783	783	783	783	783	783	783	783	783
Rating	AAA	AAA	AAA	A	A-	BB	CCC	CCC	CCC	CCC	CCC
ICR	∞	11,00	8,50	4,94	3,19	2,02	0,88	0,73	0,63	0,55	0,49
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	6,07%	6,07%	6,07%	6,07%	6,07%	6,07%	6,07%	6,07%	6,07%	6,07%	6,07%
β_0	0,33	0,33	0,33	0,33	0,33	0,33	0,33	0,33	0,33	0,33	0,33
β_l	0,33	0,36	0,37	0,39	0,44	0,50	0,58	0,70	0,91	1,33	2,57
Pre-Tax Cost of Debt	5,59%	5,59%	5,59%	6,22%	6,42%	7,61%	13,96%	13,96%	13,96%	13,96%	13,96%
kd	4,19%	4,19%	4,19%	4,67%	4,82%	5,71%	10,89%	11,40%	11,76%	12,04%	12,25%
re	5,96%	6,13%	6,18%	6,33%	6,60%	6,96%	13,96%	13,96%	13,96%	13,96%	19,53%
Tc	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%
WACC	5,96%	5,93%	5,92%	6,00%	6,07%	6,46%	12,42%	12,42%	12,42%	12,42%	12,98%

Table C79 - Telekom Austria Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**42,74%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	12 495	12 495	12 495	12 495	12 495	12 495	12 495	12 495	12 495	12 495	12 495
Interest	0	64	132	212	285	304	486	656	836	955	1 074
Ebit	912	912	912	912	912	912	912	912	912	912	912
Rating	AAA	AAA	AA	A	A-	A-	B+	B-	CCC	CCC	CCC
ICR	∞	14,34	6,90	4,31	3,21	3,00	1,88	1,39	1,09	0,96	0,85
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	5,28%	5,28%	5,28%	5,28%	5,28%	5,28%	5,28%	5,28%	5,28%	5,28%	5,28%
β_0	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
β_l	0,40	0,43	0,47	0,53	0,60	0,62	0,70	0,85	1,10	1,59	3,09
Pre-Tax Cost of Debt	5,09%	5,09%	5,29%	5,64%	5,69%	5,69%	7,78%	8,75%	9,55%	9,55%	9,55%
kd	3,82%	3,82%	3,97%	4,23%	4,27%	4,27%	5,84%	6,56%	7,16%	7,27%	7,53%
re	6,41%	6,59%	6,81%	7,09%	7,46%	7,59%	7,99%	8,78%	10,09%	12,72%	20,61%
Tc	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%
WACC	6,41%	6,31%	6,24%	6,23%	6,19%	6,17%	6,91%	7,45%	8,04%	8,36%	8,83%

Table C80 - Telekom Austria Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**5,04%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	8 465	8 465	8 465	8 465	8 465	8 465	8 465	8 465	8 465	8 465	8 465
Interest	0	17	40	176	263	351	439	527	615	702	790
Ebit	140	140	140	140	140	140	140	140	140	140	140
Rating	AAA	AAA	A-	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	8,50	3,55	0,80	0,53	0,40	0,32	0,27	0,23	0,20	0,18
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	1,55%	1,55%	1,55%	1,55%	1,55%	1,55%	1,55%	1,55%	1,55%	1,55%	1,55%
β_0	0,53	0,53	0,53	0,53	0,53	0,53	0,53	0,53	0,53	0,53	0,53
β_l	0,53	0,55	0,57	0,63	0,70	0,79	0,92	1,12	1,45	2,11	4,09
Pre-Tax Cost of Debt	3,87%	3,87%	4,67%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%
kd	2,90%	2,90%	3,50%	8,30%	8,99%	9,34%	9,54%	9,68%	9,78%	9,85%	9,91%
re	3,77%	3,80%	3,84%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%
Tc	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%
WACC	3,77%	3,76%	3,81%	9,96%	9,96%	9,96%	9,96%	9,96%	9,96%	9,96%	9,96%

Table C81 - Telekom Austria Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**11,04%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	8 494	8 494	8 494	8 494	8 494	8 494	8 494	8 494	8 494	8 494	8 494
Interest	0	37	40	90	454	605	756	908	1 059	1 210	1 361
Ebit	344	344	344	344	344	344	344	344	344	344	344
Rating	AAA	AAA	AAA	A-	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	9,38	8,50	3,81	0,76	0,57	0,45	0,38	0,32	0,28	0,25
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	2,57%	2,57%	2,57%	2,57%	2,57%	2,57%	2,57%	2,57%	2,57%	2,57%	2,57%
β_0	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52	0,52
β_l	0,52	0,56	0,57	0,62	0,69	0,78	0,91	1,10	1,43	2,08	4,02
Pre-Tax Cost of Debt	4,32%	4,32%	4,32%	5,32%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%
kd	3,24%	3,24%	3,24%	3,99%	14,43%	15,28%	15,78%	16,12%	16,36%	16,54%	16,68%
re	4,72%	4,83%	4,85%	4,97%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%
Tc	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%
WACC	4,72%	4,67%	4,67%	4,77%	16,79%	16,79%	16,79%	16,79%	16,79%	16,79%	16,79%

Table C82 - Telekom Austria Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**20%**	**23,30%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	8 254	8 254	8 254	8 254	8 254	8 254	8 254	8 254	8 254	8 254	8 254
Interest	0	29	59	68	105	145	182	286	640	732	823
Ebit	580	580	580	580	580	580	580	580	580	580	580
Rating	AAA	AAA	AAA	AAA	A+	A-	A-	BB	CCC	CCC	CCC
ICR	∞	19,81	9,90	8,50	5,51	4,00	3,20	2,03	0,91	0,79	0,71
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	2,57%	2,57%	2,57%	2,57%	2,57%	2,57%	2,57%	2,57%	2,57%	2,57%	2,57%
β_0	0,54	0,54	0,54	0,54	0,54	0,54	0,54	0,54	0,54	0,54	0,54
β_l	0,54	0,58	0,64	0,66	0,71	0,80	0,94	1,14	1,47	2,14	4,15
Pre-Tax Cost of Debt	3,55%	3,55%	3,55%	3,55%	4,25%	4,40%	4,40%	5,78%	11,08%	11,08%	11,08%
kd	2,66%	2,66%	2,66%	2,66%	3,19%	3,30%	3,30%	4,34%	8,57%	8,88%	9,13%
re	4,34%	4,45%	4,60%	4,65%	4,78%	5,03%	5,37%	5,89%	11,08%	11,08%	13,63%
Tc	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%	25,00%
WACC	4,34%	4,28%	4,21%	4,19%	4,30%	4,34%	4,34%	4,96%	9,32%	9,32%	9,58%

PTM and Industry Peers – Optimal Debt Level

Table C83 – PTM and Industry Peers – Optimal Debt Level

	2004	2005	2006	2007	2008	2009	2010
BSKY	41,86%	45,19%	39,03%	33,64%	45,80%	16,95%	52,86%
Cyfrowdy	-	-	-	-	21,17%	13,66%	17,96%
Liberty Global	-	8,54%	10,01%	22,15%	43,06%	21,00%	34,33%
Sonaecom	8,83%	4,50%	1,15%	11,38%	5,88%	0,00%	0,00%
Telenet	-	26,96%	23,95%	28,64%	44,46%	40,96%	42,14%
Virgin Media	5,10%	0,00%	0,20%	1,35%	13,32%	3,80%	20,93%
Average	18,60%	17,04%	14,87%	19,43%	28,95%	16,06%	28,04%
PTM	32,71%	32,21%	7,13%	13,38%	10,99%	7,13%	10,34%

Table C84 – PTM – Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**32,71%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	3 119	3 119	3 119	3 119	3 119	3 119	3 119	3 119	3 119	3 119	3 119
Interest	0	13	28	47	51	127	158	190	222	253	285
Ebit	127	127	127	127	127	127	127	127	127	127	127
Rating	AAA	AAA	A	BBB	BBB	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	10,00	4,47	2,73	2,50	1,01	0,80	0,67	0,57	0,50	0,45
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%
β_0	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70
β_l	0,70	0,76	0,83	0,92	0,95	1,04	1,21	1,46	1,88	2,73	5,26
Pre-Tax Cost of Debt	4,08%	4,08%	4,56%	4,99%	4,99%	10,15%	10,15%	10,15%	10,15%	10,15%	10,15%
kd	2,96%	2,96%	3,31%	3,62%	3,62%	7,36%	7,91%	8,28%	8,55%	8,75%	8,91%
re	4,63%	4,71%	4,81%	4,93%	4,97%	10,15%	10,15%	10,15%	10,15%	10,15%	10,84%
Tc	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%
WACC	4,63%	4,54%	4,51%	4,54%	4,53%	9,04%	9,03%	9,03%	9,03%	9,03%	9,10%

Table C85 – PTM – Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**32,21%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	3 156	3 156	3 156	3 156	3 156	3 156	3 156	3 156	3 156	3 156	3 156
Interest	0	13	27	41	44	95	135	162	189	216	243
Ebit	133	133	133	133	133	133	133	133	133	133	133
Rating	AAA	AAA	A	A-	A-	B-	CCC	CCC	CCC	CCC	CCC
ICR	∞	10,38	4,87	3,22	3,00	1,40	0,99	0,82	0,71	0,62	0,55
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%
β_0	0,71	0,71	0,71	0,71	0,71	0,71	0,71	0,71	0,71	0,71	0,71
β_l	0,71	0,77	0,84	0,94	0,96	1,06	1,23	1,49	1,92	2,78	5,37
Pre-Tax Cost of Debt	4,07%	4,07%	4,34%	4,37%	4,37%	7,54%	8,54%	8,54%	8,54%	8,54%	8,54%
kd	2,95%	2,95%	3,15%	3,17%	3,17%	5,47%	6,22%	6,61%	6,88%	7,09%	7,25%
re	5,00%	5,14%	5,31%	5,53%	5,58%	5,82%	6,23%	6,84%	7,87%	9,91%	16,05%
Tc	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%
WACC	5,00%	4,92%	4,88%	4,82%	4,81%	5,68%	6,22%	6,70%	7,18%	7,65%	8,13%

Table C86 – PTM – Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**7,13%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	3 273	3 273	3 273	3 273	3 273	3 273	3 273	3 273	3 273	3 273	3 273
Interest	0	13	20	43	137	183	228	274	320	366	411
Ebit	111	111	111	111	111	111	111	111	111	111	111
Rating	AAA	AAA	A+	BBB	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	8,50	5,60	2,56	0,81	0,61	0,49	0,40	0,35	0,30	0,27
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%
β_0	0,67	0,67	0,67	0,67	0,67	0,67	0,67	0,67	0,67	0,67	0,67
β_l	0,67	0,71	0,72	0,79	0,88	0,99	1,15	1,39	1,80	2,61	5,03
Pre-Tax Cost of Debt	5,59%	5,59%	6,05%	6,63%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%
kd	4,05%	4,05%	4,39%	4,81%	10,85%	11,63%	12,10%	12,41%	12,63%	12,79%	12,92%
re	5,90%	6,01%	6,06%	6,26%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	18,67%
Tc	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%
WACC	5,90%	5,87%	5,89%	5,97%	13,03%	13,03%	13,03%	13,03%	13,03%	13,03%	13,50%

Table C87 – PTM – Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**13,38%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	3 215	3 215	3 215	3 215	3 215	3 215	3 215	3 215	3 215	3 215	3 215
Interest	0	18	24	56	92	123	154	184	215	246	276
Ebit	74	74	74	74	74	74	74	74	74	74	74
Rating	AAA	A-	A-	B-	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	4,02	3,00	1,31	0,80	0,60	0,48	0,40	0,34	0,30	0,27
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%
β_0	0,58	0,58	0,58	0,58	0,58	0,58	0,58	0,58	0,58	0,58	0,58
β_l	0,58	0,63	0,65	0,69	0,77	0,87	1,01	1,23	1,58	2,30	4,44
Pre-Tax Cost of Debt	5,09%	5,69%	5,69%	8,75%	9,55%	9,55%	9,55%	9,55%	9,55%	9,55%	9,55%
kd	3,74%	4,18%	4,18%	6,43%	7,53%	8,04%	8,34%	8,54%	8,69%	8,80%	8,88%
re	6,24%	6,40%	6,46%	6,60%	9,55%	9,55%	9,55%	9,55%	9,56%	11,93%	19,04%
Tc	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%
WACC	6,24%	6,18%	6,16%	6,56%	8,95%	8,95%	8,95%	8,95%	8,95%	9,42%	9,90%

Table C88 – PTM – Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**10,99%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	1 918	1 918	1 918	1 918	1 918	1 918	1 918	1 918	1 918	1 918	1 918
Interest	0	7	8	18	51	80	99	119	139	159	179
Ebit	102	102	102	102	102	102	102	102	102	102	102
Rating	AAA	AAA	AAA	A-	B	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	13,73	12,50	5,69	2,01	1,28	1,03	0,85	0,73	0,64	0,57
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%
β_0	0,51	0,51	0,51	0,51	0,51	0,51	0,51	0,51	0,51	0,51	0,51
β_l	0,51	0,55	0,56	0,60	0,67	0,76	0,88	1,07	1,38	2,01	3,88
Pre-Tax Cost of Debt	3,87%	3,87%	3,87%	4,67%	8,82%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%
kd	2,85%	2,85%	2,85%	3,43%	6,48%	7,62%	7,62%	8,02%	8,36%	8,61%	8,81%
re	4,04%	4,12%	4,13%	4,23%	8,82%	10,37%	10,37%	10,37%	10,37%	10,37%	11,21%
Tc	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%
WACC	4,04%	4,00%	3,99%	4,07%	8,12%	9,27%	9,00%	8,96%	8,96%	8,96%	9,05%

Table C89 – PTM – Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**7,13%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	2 249	2 249	2 249	2 249	2 249	2 249	2 249	2 249	2 249	2 249	2 249
Interest	0	7	12	80	120	160	200	240	280	320	360
Ebit	87	87	87	87	87	87	87	87	87	87	87
Rating	AAA	AAA	AA	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	12,50	7,46	1,08	0,72	0,54	0,43	0,36	0,31	0,27	0,24
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%
β_0	0,49	0,49	0,49	0,49	0,49	0,49	0,49	0,49	0,49	0,49	0,49
β_l	0,49	0,52	0,53	0,58	0,64	0,73	0,85	1,03	1,33	1,93	3,73
Pre-Tax Cost of Debt	4,32%	4,32%	4,92%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%
kd	3,17%	3,17%	3,61%	13,09%	14,41%	15,26%	15,77%	16,11%	16,35%	16,53%	16,67%
re	4,77%	4,85%	4,89%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%
Tc	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%
WACC	4,77%	4,73%	4,75%	16,86%	16,79%	16,79%	16,79%	16,79%	16,79%	16,79%	16,79%

Table C90 – PTM – Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**10,34%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	2 113	2 113	2 113	2 113	2 113	2 113	2 113	2 113	2 113	2 113	2 113
Interest	0	8	9	20	70	94	117	141	164	187	211
Ebit	83	83	83	83	83	83	83	83	83	83	83
Rating	AAA	AA	AA	BBB	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	9,83	9,50	4,14	1,18	0,89	0,71	0,59	0,51	0,44	0,39
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%
β_0	0,44	0,44	0,44	0,44	0,44	0,44	0,44	0,44	0,44	0,44	0,44
β_l	0,44	0,47	0,47	0,52	0,58	0,65	0,76	0,92	1,19	1,73	3,33
Pre-Tax Cost of Debt	3,55%	4,00%	4,00%	4,75%	11,08%	11,08%	11,08%	11,08%	11,08%	11,08%	11,08%
kd	2,61%	2,94%	2,94%	3,49%	8,14%	8,48%	9,00%	9,34%	9,59%	9,78%	9,92%
re	4,31%	4,42%	4,42%	4,56%	11,08%	11,08%	11,08%	11,08%	11,08%	11,08%	13,21%
Tc	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%
WACC	4,31%	4,27%	4,27%	4,34%	10,20%	10,04%	10,04%	10,04%	10,04%	10,04%	10,25%

Table C91 – BSKY – Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**41,86%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	11 695	11 695	11 695	11 695	11 695	11 695	11 695	11 695	11 695	11 695	11 695
Interest	0	51	106	170	227	237	565	731	853	975	1 097
Ebit	712	712	712	712	712	712	712	712	712	712	712
Rating	AAA	AAA	AA	A-	A-	A-	B-	CCC	CCC	CCC	CCC
ICR	∞	14,00	6,74	4,19	3,14	3,00	1,26	0,97	0,83	0,73	0,65
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	4,72%	4,72%	4,72%	4,72%	4,72%	4,72%	4,72%	4,72%	4,72%	4,72%	4,72%
β_0	0,88	0,88	0,88	0,88	0,88	0,88	0,88	0,88	0,88	0,88	0,88
β_1	0,88	0,95	1,04	1,15	1,30	1,33	1,50	1,81	2,33	3,36	6,45
Pre-Tax Cost of Debt	4,35%	4,35%	4,52%	4,85%	4,85%	4,85%	9,67%	10,42%	10,42%	10,42%	10,42%
kd	3,04%	3,04%	3,16%	3,39%	3,39%	3,39%	6,77%	7,37%	7,81%	8,14%	8,39%
re	7,86%	8,18%	8,59%	9,11%	9,80%	9,96%	10,78%	12,24%	14,67%	19,54%	34,15%
Tc	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%
WACC	7,86%	7,67%	7,50%	7,39%	7,24%	7,21%	8,77%	9,32%	9,87%	10,42%	10,97%

Table C92 – BSKY – Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**45,19%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	11 879	11 879	11 879	11 879	11 879	11 879	11 879	11 879	11 879	11 879	11 879
Interest	0	60	123	190	255	288	418	609	793	907	1 020
Ebit	865	865	865	865	865	865	865	865	865	865	865
Rating	AAA	AAA	AA	A	A-	A-	BB	B-	CCC	CCC	CCC
ICR	∞	14,36	7,01	4,54	3,39	3,00	2,07	1,42	1,09	0,95	0,85
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	5,54%	5,54%	5,54%	5,54%	5,54%	5,54%	5,54%	5,54%	5,54%	5,54%	5,54%
β_0	0,80	0,80	0,80	0,80	0,80	0,80	0,80	0,80	0,80	0,80	0,80
β_1	0,80	0,86	0,94	1,04	1,17	1,26	1,36	1,64	2,11	3,04	5,84
Pre-Tax Cost of Debt	5,07%	5,07%	5,19%	5,34%	5,37%	5,37%	7,04%	8,54%	9,54%	9,54%	9,54%
kd	3,55%	3,55%	3,63%	3,74%	3,76%	3,76%	4,93%	5,98%	6,68%	6,81%	7,11%
re	7,74%	8,09%	8,52%	9,07%	9,81%	10,30%	10,85%	12,40%	14,98%	20,16%	35,67%
Tc	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%
WACC	7,74%	7,63%	7,54%	7,47%	7,39%	7,35%	7,89%	8,55%	9,17%	9,48%	9,97%

Table C93 – BSKY – Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**39,03%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	11 332	11 332	11 332	11 332	11 332	11 332	11 332	11 332	11 332	11 332	11 332
Interest	0	63	130	218	284	301	567	949	1 107	1 266	1 424
Ebit	852	852	852	852	852	852	852	852	852	852	852
Rating	AAA	AAA	AA	A-	A-	BBB	B	CCC	CCC	CCC	CCC
ICR	∞	13,45	6,55	3,90	3,00	2,83	1,50	0,90	0,77	0,67	0,60
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	5,02%	5,02%	5,02%	5,02%	5,02%	5,02%	5,02%	5,02%	5,02%	5,02%	5,02%
β_0	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75
β_1	0,75	0,80	0,88	0,97	1,08	1,09	1,27	1,53	1,96	2,83	5,44
Pre-Tax Cost of Debt	5,59%	5,59%	5,74%	6,42%	6,42%	6,63%	10,01%	13,96%	13,96%	13,96%	13,96%
kd	3,91%	3,91%	4,02%	4,49%	4,49%	4,64%	7,01%	10,20%	10,74%	11,14%	11,45%
re	7,69%	7,98%	8,34%	8,81%	9,36%	9,43%	10,30%	11,61%	13,79%	18,15%	31,24%
Tc	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%
WACC	7,69%	7,57%	7,48%	7,51%	7,46%	7,51%	8,66%	10,77%	11,65%	12,54%	13,43%

Table C94 – BSKY – Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**33,64%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	12 408	12 408	12 408	12 408	12 408	12 408	12 408	12 408	12 408	12 408	12 408
Interest	0	63	140	212	238	386	543	711	830	948	1 067
Ebit	713	713	713	713	713	713	713	713	713	713	713
Rating	AAA	AAA	A	A-	A-	B+	B-	CCC	CCC	CCC	CCC
ICR	∞	11,28	5,09	3,36	3,00	1,85	1,31	1,00	0,86	0,75	0,67
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	4,46%	4,46%	4,46%	4,46%	4,46%	4,46%	4,46%	4,46%	4,46%	4,46%	4,46%
β_0	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66
β_1	0,66	0,71	0,77	0,85	0,89	0,96	1,11	1,34	1,73	2,49	4,79
Pre-Tax Cost of Debt	5,09%	5,09%	5,64%	5,69%	5,69%	7,78%	8,75%	9,55%	9,55%	9,55%	9,55%
kd	3,57%	3,57%	3,95%	3,99%	3,99%	5,45%	6,13%	6,69%	7,09%	7,40%	7,64%
re	7,23%	7,46%	7,74%	8,11%	8,27%	8,59%	9,28%	10,30%	12,00%	15,41%	25,64%
Tc	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%
WACC	7,23%	7,07%	6,98%	6,87%	6,83%	7,34%	7,70%	8,13%	8,56%	9,00%	9,44%

Table C95 – BSKY – Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**45,80%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	12 682	12 682	12 682	12 682	12 682	12 682	12 682	12 682	12 682	12 682	12 682
Interest	0	49	107	176	237	271	322	789	921	1 052	1 184
Ebit	814	814	814	814	814	814	814	814	814	814	814
Rating	AAA	AAA	AA	A	A-	A-	BBB	CCC	CCC	CCC	CCC
ICR	∞	16,58	7,60	4,63	3,44	3,00	2,53	1,03	0,88	0,77	0,69
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	3,99%	3,99%	3,99%	3,99%	3,99%	3,99%	3,99%	3,99%	3,99%	3,99%	3,99%
β_0	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69	0,69
β_1	0,69	0,75	0,82	0,91	1,02	1,11	1,19	1,44	1,85	2,68	5,17
Pre-Tax Cost of Debt	3,87%	3,87%	4,22%	4,62%	4,67%	4,67%	5,07%	10,37%	10,37%	10,37%	10,37%
kd	2,79%	2,79%	3,04%	3,33%	3,36%	3,36%	3,65%	7,47%	7,80%	8,12%	8,37%
re	5,71%	5,93%	6,21%	6,56%	7,04%	7,39%	7,70%	8,69%	10,35%	13,66%	23,59%
Tc	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%
WACC	5,71%	5,62%	5,57%	5,59%	5,57%	5,55%	5,67%	7,96%	8,57%	9,23%	9,90%

Table C96 – BSKY – Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**16,95%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	13 540	13 540	13 540	13 540	13 540	13 540	13 540	13 540	13 540	13 540	13 540
Interest	0	58	99	139	216	310	1 206	1 447	1 688	1 929	2 170
Ebit	842	842	842	842	842	842	842	842	842	842	842
Rating	AAA	AAA	AAA	A+	A-	BBB	CCC	CCC	CCC	CCC	CCC
ICR	∞	14,41	8,50	6,08	3,90	2,72	0,70	0,58	0,50	0,44	0,39
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	4,04%	4,04%	4,04%	4,04%	4,04%	4,04%	4,04%	4,04%	4,04%	4,04%	4,04%
β_0	0,71	0,71	0,71	0,71	0,71	0,71	0,71	0,71	0,71	0,71	0,71
β_1	0,71	0,77	0,81	0,84	0,93	1,05	1,22	1,48	1,90	2,75	5,31
Pre-Tax Cost of Debt	4,32%	4,32%	4,32%	5,12%	5,32%	5,72%	17,81%	17,81%	17,81%	17,81%	17,81%
kd	3,11%	3,11%	3,11%	3,68%	3,83%	4,12%	14,32%	14,90%	15,32%	15,63%	15,87%
re	6,25%	6,48%	6,67%	6,77%	7,14%	7,63%	17,81%	17,81%	17,81%	17,81%	24,82%
Tc	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%
WACC	6,25%	6,14%	6,07%	6,15%	6,14%	6,22%	16,07%	16,07%	16,07%	16,07%	16,77%

Table C97 – BSKY – Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**52,86%**	**60%**	**70%**	**80%**	**90%**
D+E	13 240	13 240	13 240	13 240	13 240	13 240	13 240	13 240	13 240	13 240	13 240
Interest	0	47	94	171	233	291	308	459	1 027	1 174	1 320
Ebit	924	924	924	924	924	924	924	924	924	924	924
Rating	AAA	AAA	AAA	A	A-	A-	A-	BB	CCC	CCC	CCC
ICR	∞	19,66	9,83	5,41	3,97	3,17	3,00	2,01	0,90	0,79	0,70
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%
β_0	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70	0,70
β_1	0,70	0,75	0,82	0,91	1,03	1,20	1,26	1,45	1,87	2,71	5,22
Pre-Tax Cost of Debt	3,55%	3,55%	3,55%	4,30%	4,40%	4,40%	4,40%	5,78%	11,08%	11,08%	11,08%
kd	2,56%	2,56%	2,56%	3,10%	3,17%	3,17%	3,17%	4,16%	8,29%	8,64%	8,91%
re	6,11%	6,36%	6,67%	7,08%	7,61%	8,37%	8,64%	9,50%	11,38%	15,16%	26,47%
Tc	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%
WACC	6,11%	5,98%	5,85%	5,88%	5,84%	5,77%	5,75%	6,30%	9,22%	9,94%	10,66%

Table C98 - Cyfrowy - Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**20%**	**21,17%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	902	902	902	902	902	902	902	902	902	902	902
Interest	0	3	7	7	12	17	23	51	59	75	84
Ebit	92	92	92	92	92	92	92	92	92	92	92
Rating	AAA	AAA	AAA	AAA	A+	A-	BBB	B-	B-	CCC	CCC
ICR	∞	26,47	13,23	12,50	7,64	5,48	4,04	1,81	1,55	1,23	1,10
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	2,36%	2,36%	2,36%	2,36%	2,36%	2,36%	2,36%	2,36%	2,36%	2,36%	2,36%
β_0	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47	0,47
β_1	0,47	0,52	0,57	0,58	0,64	0,73	0,86	1,05	1,37	2,01	3,93
Pre-Tax Cost of Debt	3,87%	3,87%	3,87%	3,87%	4,47%	4,67%	5,07%	9,42%	9,42%	10,37%	10,37%
kd	3,14%	3,14%	3,14%	3,14%	3,62%	3,78%	4,11%	7,63%	7,63%	8,40%	8,40%
re	4,07%	4,17%	4,29%	4,31%	4,46%	4,67%	4,97%	9,42%	9,42%	10,37%	12,21%
Tc	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%
WACC	4,07%	4,07%	4,06%	4,06%	4,21%	4,32%	4,54%	8,35%	8,17%	8,79%	8,78%

Table C99 – Cyfrowy – Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**13,66%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	901	901	901	901	901	901	901	901	901	901	901
Interest	0	4	5	9	14	64	80	96	112	128	144
Ebit	66	66	66	66	66	66	66	66	66	66	66
Rating	AAA	AAA	AAA	A	A-	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	17,07	12,50	7,06	4,62	1,03	0,83	0,69	0,59	0,52	0,46
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	3,17%	3,17%	3,17%	3,17%	3,17%	3,17%	3,17%	3,17%	3,17%	3,17%	3,17%
β_0	0,44	0,44	0,44	0,44	0,44	0,44	0,44	0,44	0,44	0,44	0,44
β_1	0,44	0,48	0,49	0,53	0,59	0,67	0,79	0,97	1,26	1,85	3,63
Pre-Tax Cost of Debt	4,32%	4,32%	4,32%	5,22%	5,32%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%
kd	3,50%	3,50%	3,50%	4,23%	4,31%	14,42%	15,01%	15,47%	15,81%	16,06%	16,25%
re	4,77%	4,90%	4,95%	5,05%	5,25%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%
Tc	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%
WACC	4,77%	4,76%	4,75%	4,89%	4,97%	16,45%	16,41%	16,41%	16,41%	16,41%	16,41%

Table C100 – Cyfrowy – Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**17,96%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	1 124	1 124	1 124	1 124	1 124	1 124	1 124	1 124	1 124	1 124	1 124
Interest	0	4	7	9	15	20	58	75	87	100	112
Ebit	90	90	90	90	90	90	90	90	90	90	90
Rating	AAA	AAA	AAA	AA	A	A-	B-	CCC	CCC	CCC	CCC
ICR	∞	22,45	12,50	9,96	6,18	4,53	1,56	1,20	1,03	0,90	0,80
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	3,17%	3,17%	3,17%	3,17%	3,17%	3,17%	3,17%	3,17%	3,17%	3,17%	3,17%
β_0	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45
β_1	0,45	0,49	0,53	0,54	0,60	0,69	0,81	0,99	1,29	1,89	3,70
Pre-Tax Cost of Debt	3,55%	3,55%	3,55%	4,00%	4,30%	4,40%	10,23%	11,08%	11,08%	11,08%	11,08%
kd	2,88%	2,88%	2,88%	3,24%	3,48%	3,56%	8,29%	8,97%	8,97%	9,19%	9,40%
re	4,38%	4,50%	4,63%	4,66%	4,87%	5,14%	10,23%	11,08%	11,08%	11,08%	14,68%
Tc	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%	19,00%
WACC	4,38%	4,34%	4,31%	4,38%	4,45%	4,51%	9,26%	9,82%	9,61%	9,57%	9,93%

Table C101 – Liberty Global – Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**8,54%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	15 173	15 173	15 173	15 173	15 173	15 173	15 173	15 173	15 173	15 173	15 173
Interest	0	70	128	290	434	579	724	869	1 013	1 158	1 303
Ebit	209	209	209	209	209	209	209	209	209	209	209
Rating	AAA	A-	B	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	3,00	1,63	0,72	0,48	0,36	0,29	0,24	0,21	0,18	0,16
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	6,90%	6,90%	6,90%	6,90%	6,90%	6,90%	6,90%	6,90%	6,90%	6,90%	6,90%
β_0	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27
β_1	0,27	0,28	0,29	0,31	0,34	0,38	0,43	0,52	0,65	0,92	1,74
Pre-Tax Cost of Debt	5,07%	5,37%	8,44%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%
kd	3,08%	3,26%	5,13%	6,84%	7,74%	8,19%	8,46%	8,64%	8,77%	8,87%	8,94%
re	5,17%	5,28%	5,30%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,69%	15,34%
Tc	39,28%	39,28%	39,28%	39,28%	39,28%	39,28%	39,28%	39,28%	39,28%	39,28%	39,28%
WACC	5,17%	5,10%	5,28%	9,00%	9,00%	9,00%	9,00%	9,00%	9,00%	9,03%	9,58%

Table C102 – Liberty Global – Optimal Debt Level 2006

values in €M	2006									
D/(D+E)	**0%**	**10,01%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	15 767	15 767	15 767	15 767	15 767	15 767	15 767	15 767	15 767	15 767
Interest	0	101	440	660	880	1 101	1 321	1 541	1 761	1 981
Ebit	304	304	304	304	304	304	304	304	304	304
Rating	AAA	A-	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	3,00	0,69	0,46	0,35	0,28	0,23	0,20	0,17	0,15
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	6,44%	6,44%	6,44%	6,44%	6,44%	6,44%	6,44%	6,44%	6,44%	6,44%
β_0	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,15
β_1	0,15	0,17	0,18	0,20	0,22	0,25	0,30	0,37	0,53	1,00
Pre-Tax Cost of Debt	5,59%	6,42%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%
kd	3,39%	3,90%	10,17%	11,44%	12,07%	12,45%	12,70%	12,88%	13,01%	13,12%
re	4,95%	5,01%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%
Tc	39,30%	39,30%	39,30%	39,30%	39,30%	39,30%	39,30%	39,30%	39,30%	39,30%
WACC	4,95%	4,90%	13,20%	13,20%	13,20%	13,20%	13,20%	13,20%	13,20%	13,20%

Table C103 – Liberty Global – Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**20%**	**22,15%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	19 402	19 402	19 402	19 402	19 402	19 402	19 402	19 402	19 402	19 402	19 402
Interest	0	107	233	258	509	741	927	1 112	1 297	1 483	1 668
Ebit	644	644	644	644	644	644	644	644	644	644	644
Rating	AAA	A+	BBB	BBB	B-	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	6,04	2,77	2,50	1,26	0,87	0,69	0,58	0,50	0,43	0,39
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%
β_0	0,29	0,29	0,29	0,29	0,29	0,29	0,29	0,29	0,29	0,29	0,29
β_1	0,29	0,31	0,33	0,34	0,36	0,40	0,46	0,55	0,69	0,98	1,86
Pre-Tax Cost of Debt	5,09%	5,49%	5,99%	5,99%	8,75%	9,55%	9,55%	9,55%	9,55%	9,55%	9,55%
kd	3,09%	3,34%	3,64%	3,64%	5,32%	6,30%	6,95%	7,38%	7,69%	7,92%	8,11%
re	5,95%	6,07%	6,20%	6,24%	6,38%	6,62%	6,95%	7,45%	8,29%	9,96%	14,96%
Tc	39,26%	39,26%	39,26%	39,26%	39,26%	39,26%	39,26%	39,26%	39,26%	39,26%	39,26%
WACC	5,95%	5,79%	5,69%	5,66%	6,06%	6,49%	6,95%	7,41%	7,87%	8,33%	8,79%

Table C104 – Liberty Global – Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**43,06%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	17.029	17.029	17.029	17.029	17.029	17.029	17.029	17.029	17.029	17.029	17.029
Interest	0	66	144	236	318	343	802	1.060	1.236	1.413	1.589
Ebit	1.028	1.028	1.028	1.028	1.028	1.028	1.028	1.028	1.028	1.028	1.028
Rating	AAA	AAA	AA	A	A-	A-	B-	CCC	CCC	CCC	CCC
ICR	?	15,59	7,15	4,35	3,23	3,00	1,28	0,97	0,83	0,73	0,65
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
β_0	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25
β_1	0,25	0,27	0,29	0,32	0,35	0,37	0,40	0,48	0,61	0,86	1,63
Pre-Tax Cost of Debt	3,87%	3,87%	4,22%	4,62%	4,67%	4,67%	9,42%	10,37%	10,37%	10,37%	10,37%
kd	2,35%	2,35%	2,56%	2,81%	2,84%	2,84%	5,72%	6,42%	6,99%	7,41%	7,74%
re	4,04%	4,11%	4,20%	4,32%	4,48%	4,53%	9,42%	10,37%	10,37%	10,37%	10,37%
Tc	39,25%	39,25%	39,25%	39,25%	39,25%	39,25%	39,25%	39,25%	39,25%	39,25%	39,25%
WACC	4,04%	3,93%	3,87%	3,87%	3,82%	3,80%	7,57%	8,00%	8,00%	8,00%	8,00%

Table C105 – Liberty Global – Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**20%**	**21,00%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	21 048	21 048	21 048	21 048	21 048	21 048	21 048	21 048	21 048	21 048	21 048
Interest	0	103	224	235	1 124	1 499	1 874	2 249	2 624	2 998	3 373
Ebit	706	706	706	706	706	706	706	706	706	706	706
Rating	AAA	AA	A-	A-	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	6,83	3,16	3,01	0,63	0,47	0,38	0,31	0,27	0,24	0,21
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	4,48%	4,48%	4,48%	4,48%	4,48%	4,48%	4,48%	4,48%	4,48%	4,48%	4,48%
β_0	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27	0,27
β_1	0,27	0,29	0,31	0,32	0,34	0,38	0,44	0,52	0,66	0,94	1,77
Pre-Tax Cost of Debt	4,32%	4,92%	5,32%	5,32%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%
kd	2,63%	2,99%	3,24%	3,24%	13,43%	14,53%	15,18%	15,62%	15,93%	16,17%	16,35%
re	4,61%	4,69%	4,79%	4,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%
Tc	39,10%	39,10%	39,10%	39,10%	39,10%	39,10%	39,10%	39,10%	39,10%	39,10%	39,10%
WACC	4,61%	4,52%	4,48%	4,48%	16,49%	16,49%	16,49%	16,49%	16,49%	16,49%	16,49%

Table C106 – Liberty Global – Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**34,33%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	23 228	23 228	23 228	23 228	23 228	23 228	23 228	23 228	23 228	23 228	23 228
Interest	0	82	200	307	351	1 029	1 287	1 544	1 802	2 059	2 316
Ebit	1 053	1 053	1 053	1 053	1 053	1 053	1 053	1 053	1 053	1 053	1 053
Rating	AAA	AAA	A	A-	A-	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	12,77	5,27	3,43	3,00	1,02	0,82	0,68	0,58	0,51	0,45
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	5,07%	5,07%	5,07%	5,07%	5,07%	5,07%	5,07%	5,07%	5,07%	5,07%	5,07%
β_0	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48
β_1	0,48	0,52	0,56	0,61	0,64	0,68	0,78	0,92	1,17	1,66	3,13
Pre-Tax Cost of Debt	3,55%	3,55%	4,30%	4,40%	4,40%	11,08%	11,08%	11,08%	11,08%	11,08%	11,08%
kd	2,16%	2,16%	2,61%	2,67%	2,67%	6,74%	7,53%	8,12%	8,54%	8,86%	9,11%
re	5,41%	5,58%	5,79%	6,05%	6,19%	11,08%	11,08%	11,08%	8,89%	11,37%	18,82%
Tc	39,21%	39,21%	39,21%	39,21%	39,21%	39,21%	39,21%	39,21%	39,21%	39,21%	39,21%
WACC	5,41%	5,24%	5,15%	5,04%	4,98%	9,34%	9,30%	9,30%	8,65%	9,36%	10,08%

Table C107 – Sonaecom – Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**8,83%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	1 176	1 176	1 176	1 176	1 176	1 176	1 176	1 176	1 176	1 176	1 176
Interest	0	5	6	24	36	48	60	72	84	95	107
Ebit	21	21	21	21	21	21	21	21	21	21	21
Rating	AAA	A-	BBB	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	4,50	3,65	0,90	0,60	0,45	0,36	0,30	0,26	0,22	0,20
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%	1,36%
β_0	0,65	0,65	0,65	0,65	0,65	0,65	0,65	0,65	0,65	0,65	0,65
β_l	0,65	0,70	0,70	0,77	0,85	0,97	1,12	1,36	1,75	2,54	4,90
Pre-Tax Cost of Debt	4,08%	4,58%	4,99%	10,15%	10,15%	10,15%	10,15%	10,15%	10,15%	10,15%	10,15%
kd	2,96%	3,32%	3,62%	7,65%	8,48%	8,90%	9,15%	9,32%	9,44%	9,53%	9,60%
re	4,57%	4,63%	4,64%	10,15%	10,15%	10,15%	10,15%	10,15%	10,15%	10,15%	10,35%
Tc	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%
WACC	4,57%	4,52%	4,54%	9,65%	9,65%	9,65%	9,65%	9,65%	9,65%	9,65%	9,67%

Table C108 – Sonaecom – Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**4,50%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	1 546	1 546	1 546	1 546	1 546	1 546	1 546	1 546	1 546	1 546	1 546
Interest	0	3	13	26	40	53	66	79	92	106	119
Ebit	14	14	14	14	14	14	14	14	14	14	14
Rating	AAA	A-	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	4,50	1,04	0,52	0,35	0,26	0,21	0,17	0,15	0,13	0,12
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%	2,37%
β_0	0,61	0,61	0,61	0,61	0,61	0,61	0,61	0,61	0,61	0,61	0,61
β_l	0,61	0,64	0,66	0,73	0,80	0,91	1,06	1,28	1,65	2,40	4,62
Pre-Tax Cost of Debt	4,07%	4,37%	8,54%	8,54%	8,54%	8,54%	8,54%	8,54%	8,54%	8,54%	8,54%
kd	2,95%	3,17%	6,19%	7,32%	7,73%	7,93%	8,06%	8,14%	8,20%	8,24%	8,27%
re	4,77%	4,81%	8,54%	8,54%	8,54%	8,54%	8,54%	8,54%	8,54%	8,99%	14,27%
Tc	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%
WACC	4,77%	4,74%	8,31%	8,30%	8,30%	8,30%	8,30%	8,30%	8,30%	8,39%	8,87%

Table C109 – Sonaecom – Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**1,15%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	2 303	2 303	2 303	2 303	2 303	2 303	2 303	2 303	2 303	2 303	2 303
Interest	0	1	32	64	96	129	161	193	225	257	289
Ebit	19	19	19	19	19	19	19	19	19	19	19
Rating	AAA	AAA	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	12,50	0,58	0,29	0,19	0,14	0,12	0,10	0,08	0,07	0,06
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%	2,93%
β_0	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66	0,66
β_l	0,66	0,67	0,72	0,78	0,87	0,98	1,14	1,38	1,78	2,58	4,98
Pre-Tax Cost of Debt	5,59%	5,59%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%
kd	4,05%	4,05%	11,75%	12,86%	13,22%	13,41%	13,52%	13,59%	13,64%	13,68%	13,71%
re	5,89%	5,90%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	18,54%
Tc	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%	27,50%
WACC	5,89%	5,88%	13,74%	13,74%	13,74%	13,74%	13,74%	13,74%	13,74%	13,74%	14,20%

Table C110 – Sonaecom – Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**11,38%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	1 603	1 603	1 603	1 603	1 603	1 603	1 603	1 603	1 603	1 603	1 603
Interest	0	8	9	18	29	53	70	92	107	122	138
Ebit	36	36	36	36	36	36	36	36	36	36	36
Rating	AAA	AAA	AAA	A	BBB	B	B-	CCC	CCC	CCC	CCC
ICR	∞	4,46	3,92	2,01	1,26	0,69	0,52	0,40	0,34	0,30	0,26
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%	3,32%
β_0	0,59	0,59	0,59	0,59	0,59	0,59	0,59	0,59	0,59	0,59	0,59
β_l	0,59	0,64	0,65	0,70	0,78	0,89	1,03	1,25	1,61	2,34	4,53
Pre-Tax Cost of Debt	5,09%	5,09%	5,09%	5,64%	5,99%	8,25%	8,75%	9,55%	9,55%	9,55%	9,55%
kd	3,74%	3,74%	3,74%	4,15%	4,41%	6,75%	7,55%	8,55%	8,69%	8,80%	8,88%
re	6,28%	6,44%	6,47%	6,64%	6,90%	7,25%	7,73%	9,55%	9,66%	12,08%	19,33%
Tc	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%
WACC	6,28%	6,17%	6,16%	6,14%	6,15%	7,05%	7,64%	8,95%	8,98%	9,46%	9,93%

Table C111 – Sonaecom – Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**5,88%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	774	774	774	774	774	774	774	774	774	774	774
Interest	0	2	4	15	24	32	40	48	56	64	72
Ebit	22	22	22	22	22	22	22	22	22	22	22
Rating	AAA	AAA	A	B-	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	12,50	6,15	1,51	0,91	0,69	0,55	0,46	0,39	0,34	0,30
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%	2,13%
β_0	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50
β_l	0,50	0,52	0,54	0,59	0,65	0,74	0,86	1,05	1,35	1,96	3,79
Pre-Tax Cost of Debt	3,87%	3,87%	4,62%	9,42%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%
kd	2,85%	2,85%	3,40%	6,92%	7,86%	8,49%	8,86%	9,12%	9,29%	9,43%	9,53%
re	4,01%	4,06%	4,10%	9,42%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%	11,02%
Tc	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%
WACC	4,01%	3,99%	4,03%	8,92%	9,62%	9,62%	9,62%	9,62%	9,62%	9,62%	9,68%

Table C112 – Sonaecom – Optimal Debt Level 2009

values in €M	2009									
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	1 076	1 076	1 076	1 076	1 076	1 076	1 076	1 076	1 076	1 076
Interest	0	19	38	57	77	96	115	134	153	172
Ebit	19	19	19	19	19	19	19	19	19	19
Rating	AAA	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	1,00	0,50	0,33	0,25	0,20	0,17	0,14	0,12	0,11
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%	2,82%
β_0	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63
β_l	0,63	0,68	0,74	0,83	0,94	1,09	1,32	1,71	2,48	4,78
Pre-Tax Cost of Debt	4,32%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%
kd	3,17%	13,10%	15,45%	16,24%	16,63%	16,87%	17,02%	17,13%	17,22%	17,28%
re	5,16%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%
Tc	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%
WACC	5,16%	17,34%	17,34%	17,34%	17,34%	17,34%	17,34%	17,34%	17,34%	17,34%

Table C113 – Sonaecom – Optimal Debt Level 2010

values in €M	2010									
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	839	839	839	839	839	839	839	839	839	839
Interest	0	9	19	28	37	46	56	65	74	84
Ebit	14	14	14	14	14	14	14	14	14	14
Rating	AAA	B-	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	1,57	0,73	0,48	0,36	0,29	0,24	0,21	0,18	0,16
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%	3,07%
β_0	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57	0,57
β_l	0,57	0,61	0,67	0,75	0,85	0,98	1,19	1,54	2,24	4,32
Pre-Tax Cost of Debt	3,55%	10,23%	11,08%	11,08%	11,08%	11,08%	11,08%	11,08%	11,08%	11,08%
kd	2,61%	7,52%	8,95%	9,66%	10,01%	10,23%	10,37%	10,47%	10,55%	10,61%
re	4,71%	10,23%	11,08%	11,08%	11,08%	11,08%	11,08%	11,08%	11,08%	16,24%
Tc	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%	26,50%
WACC	4,71%	9,96%	10,65%	10,65%	10,65%	10,65%	10,65%	10,65%	10,65%	11,17%

Table C114 – Telenet – Optimal Debt Level 2005

values in €M	2005										
D/(D+E)	**0%**	**10%**	**20%**	**26,96%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	3 028	3 028	3 028	3 028	3 028	3 028	3 028	3 028	3 028	3 028	3 028
Interest	0	15	33	44	64	103	144	173	202	231	260
Ebit	132	132	132	132	132	132	132	132	132	132	132
Rating	AAA	AAA	A-	A-	BB	B-	CCC	CCC	CCC	CCC	CCC
ICR	∞	8,57	4,04	3,00	2,06	1,27	0,91	0,76	0,65	0,57	0,51
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	6,91%	6,91%	6,91%	6,91%	6,91%	6,91%	6,91%	6,91%	6,91%	6,91%	6,91%
β_0	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63
β_l	0,63	0,68	0,73	0,78	0,81	0,91	1,05	1,25	1,60	2,29	4,37
Pre-Tax Cost of Debt	5,07%	5,07%	5,37%	5,37%	7,04%	8,54%	9,54%	9,54%	9,54%	9,54%	9,54%
kd	3,35%	3,35%	3,55%	3,55%	4,65%	5,64%	6,59%	7,08%	7,43%	7,70%	7,90%
re	7,66%	7,98%	8,38%	8,73%	8,90%	9,58%	10,54%	11,98%	14,37%	19,17%	33,54%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	7,66%	7,52%	7,42%	7,33%	7,62%	8,00%	8,56%	9,04%	9,51%	9,99%	10,46%

Table C115 – Telenet – Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**10%**	**20%**	**23,95%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	3 621	3 621	3 621	3 621	3 621	3 621	3 621	3 621	3 621	3 621	3 621
Interest	0	21	46	57	113	202	253	303	354	404	455
Ebit	144	144	144	144	144	144	144	144	144	144	144
Rating	AAA	AA	A-	BBB	B-	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	6,92	3,09	2,50	1,27	0,71	0,57	0,47	0,41	0,36	0,32
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	6,96%	6,96%	6,96%	6,96%	6,96%	6,96%	6,96%	6,96%	6,96%	6,96%	6,96%
β_0	0,64	0,64	0,64	0,64	0,64	0,64	0,64	0,64	0,64	0,64	0,64
β_l	0,64	0,69	0,75	0,77	0,82	0,92	1,06	1,28	1,63	2,33	4,45
Pre-Tax Cost of Debt	5,59%	5,74%	6,42%	6,63%	10,41%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%
kd	3,69%	3,79%	4,24%	4,38%	6,87%	10,59%	11,26%	11,71%	12,03%	12,27%	12,46%
re	8,41%	8,74%	9,15%	9,34%	9,67%	13,96%	11,35%	12,83%	15,28%	20,19%	34,92%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	8,41%	8,24%	8,16%	8,15%	8,83%	12,61%	11,31%	12,16%	13,01%	13,86%	14,71%

Table C116 – Telenet – Optimal Debt Level 2007

values in €M	2007										
D/(D+E)	**0%**	**10%**	**20%**	**28,64%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	4 196	4 196	4 196	4 196	4 196	4 196	4 196	4 196	4 196	4 196	4 196
Interest	0	21	47	68	75	147	200	241	281	321	361
Ebit	205	205	205	205	205	205	205	205	205	205	205
Rating	AAA	AAA	A	a-	BBB	B-	CCC	CCC	CCC	CCC	CCC
ICR	∞	9,61	4,33	3,00	2,72	1,40	1,02	0,85	0,73	0,64	0,57
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%	5,74%
β_0	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48
β_l	0,48	0,51	0,56	0,61	0,61	0,69	0,79	0,95	1,22	1,74	3,32
Pre-Tax Cost of Debt	5,09%	5,09%	5,64%	5,69%	5,99%	8,75%	9,55%	9,55%	9,55%	9,55%	9,55%
kd	3,36%	3,36%	3,73%	3,76%	3,96%	5,78%	6,31%	6,78%	7,18%	7,47%	7,71%
re	7,06%	7,26%	7,51%	7,79%	7,84%	8,27%	8,87%	9,78%	11,29%	14,32%	23,40%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	7,06%	6,87%	6,75%	6,63%	6,67%	7,27%	7,59%	7,98%	8,41%	8,84%	9,27%

Table C117 – Telenet – Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**44,46%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	3.832	3.832	3.832	3.832	3.832	3.832	3.832	3.832	3.832	3.832	3.832
Interest	0	15	32	53	72	80	180	238	278	318	358
Ebit	239	239	239	239	239	239	239	239	239	239	239
Rating	AAA	AAA	AA	A	A-	A-	B-	CCC	CCC	CCC	CCC
ICR	?	16,10	7,38	4,49	3,33	3,00	1,32	1,00	0,86	0,75	0,67
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	3,34%	3,34%	3,34%	3,34%	3,34%	3,34%	3,34%	3,34%	3,34%	3,34%	3,34%
β_0	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40	0,40
β_l	0,40	0,43	0,46	0,51	0,57	0,61	0,66	0,79	1,01	1,45	2,76
Pre-Tax Cost of Debt	3,87%	3,87%	4,22%	4,62%	4,67%	4,67%	9,42%	10,37%	10,37%	10,37%	10,37%
kd	2,56%	2,56%	2,79%	3,05%	3,08%	3,08%	6,22%	6,85%	7,35%	7,72%	8,02%
re	4,28%	4,38%	4,50%	4,66%	4,87%	4,98%	9,42%	10,37%	10,37%	10,37%	12,18%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	4,28%	4,20%	4,16%	4,18%	4,15%	4,14%	7,82%	8,26%	8,25%	8,25%	8,43%

Table C118 – Telenet – Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**40,96%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	4 568	4 568	4 568	4 568	4 568	4 568	4 568	4 568	4 568	4 568	4 568
Interest	0	20	45	73	97	99	192	488	569	651	732
Ebit	299	299	299	299	299	299	299	299	299	299	299
Rating	AAA	AAA	AA	A-	A-	A-	B+	CCC	CCC	CCC	CCC
ICR	∞	15,14	6,65	4,10	3,07	3,00	1,55	0,61	0,52	0,46	0,41
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
β_0	0,46	0,46	0,46	0,46	0,46	0,46	0,46	0,46	0,46	0,46	0,46
β_l	0,46	0,49	0,53	0,59	0,66	0,67	0,76	0,91	1,16	1,66	3,17
Pre-Tax Cost of Debt	4,32%	4,32%	4,92%	5,32%	5,32%	5,32%	8,41%	17,81%	17,81%	17,81%	17,81%
kd	2,85%	2,85%	3,25%	3,51%	3,51%	3,51%	5,55%	14,10%	14,63%	15,03%	15,34%
re	5,07%	5,19%	5,34%	5,54%	5,81%	5,84%	6,18%	17,81%	17,81%	17,81%	17,81%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	5,07%	4,96%	4,92%	4,93%	4,89%	4,88%	5,86%	15,59%	15,59%	15,59%	15,59%

Table C119 – Telenet – Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**42,14%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	6.192	6.192	6.192	6.192	6.192	6.192	6.192	6.192	6.192	6.192	6.192
Interest	0	22	50	80	109	115	343	412	480	549	617
Ebit	345	345	345	345	345	345	345	345	345	345	345
Rating	AAA	AAA	AA	A	A-	A-	CCC	CCC	CCC	CCC	CCC
ICR	?	15,67	6,95	4,31	3,16	3,00	1,00	0,84	0,72	0,63	0,56
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	3,93%	3,93%	3,93%	3,93%	3,93%	3,93%	3,93%	3,93%	3,93%	3,93%	3,93%
β_0	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48	0,48
β_l	0,48	0,52	0,56	0,62	0,70	0,72	0,80	0,96	1,23	1,77	3,37
Pre-Tax Cost of Debt	3,55%	3,55%	4,00%	4,30%	4,40%	4,40%	11,08%	11,08%	11,08%	11,08%	11,08%
kd	2,34%	2,34%	2,64%	2,84%	2,90%	2,90%	7,31%	7,93%	8,38%	8,72%	8,98%
re	4,87%	5,01%	5,18%	5,41%	5,71%	5,78%	11,08%	11,08%	11,08%	11,08%	16,19%
Tc	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%	33,99%
WACC	4,87%	4,74%	4,67%	4,64%	4,59%	4,57%	9,20%	9,19%	9,19%	9,19%	9,70%

Table C120 – Virgin Media – Optimal Debt Level 2004

values in €M	2004										
D/(D+E)	**0%**	**5,10%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	5 745	5 745	5 745	5 745	5 745	5 745	5 745	5 745	5 745	5 745	5 745
Interest	0	14	60	120	180	239	299	359	419	479	539
Ebit	43	43	43	43	43	43	43	43	43	43	43
Rating	AAA	A-	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	3,00	0,71	0,36	0,24	0,18	0,14	0,12	0,10	0,09	0,08
rf	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%	3,68%
rm-rf	4,72%	4,72%	4,72%	4,72%	4,72%	4,72%	4,72%	4,72%	4,72%	4,72%	4,72%
β_0	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50
β_l	0,50	0,52	0,54	0,59	0,66	0,74	0,86	1,03	1,33	1,92	3,68
Pre-Tax Cost of Debt	4,35%	4,85%	10,42%	10,42%	10,42%	10,42%	10,42%	10,42%	10,42%	10,42%	10,42%
kd	3,04%	3,39%	8,19%	9,30%	9,68%	9,86%	9,97%	10,05%	10,10%	10,14%	10,17%
re	6,06%	6,15%	10,42%	10,42%	10,42%	10,42%	10,42%	10,42%	10,42%	12,73%	21,07%
Tc	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%
WACC	6,06%	6,01%	10,20%	10,20%	10,20%	10,20%	10,20%	10,20%	10,20%	10,66%	11,26%

Table C121 – Virgin Media – Optimal Debt Level 2005

values in €M	2005									
D/(D+E)	**0%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	7.595	7.595	7.595	7.595	7.595	7.595	7.595	7.595	7.595	7.595
Interest	0	72	145	217	290	362	435	507	580	652
Ebit	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29
Rating	AAA	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	?	-0,40	-0,20	-0,13	-0,10	-0,08	-0,07	-0,06	-0,05	-0,04
rf	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%	3,31%
rm-rf	5,54%	5,54%	5,54%	5,54%	5,54%	5,54%	5,54%	5,54%	5,54%	5,54%
β_0	0,37	0,37	0,37	0,37	0,37	0,37	0,37	0,37	0,37	0,37
β_l	0,37	0,40	0,44	0,48	0,54	0,63	0,76	0,98	1,41	2,70
Pre-Tax Cost of Debt	5,07%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%
kd	5,07%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%
re	5,36%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	11,11%	18,29%
Tc	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%
WACC	5,36%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,54%	9,85%	10,42%

Table C122 – Virgin Media – Optimal Debt Level 2006

values in €M	2006										
D/(D+E)	**0%**	**0,20%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	15 176	15 176	15 176	15 176	15 176	15 176	15 176	15 176	15 176	15 176	15 176
Interest	0	2	212	424	636	847	1 059	1 271	1 483	1 695	1 907
Ebit	14	14	14	14	14	14	14	14	14	14	14
Rating	AAA	AAA	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	8,50	0,07	0,03	0,02	0,02	0,01	0,01	0,01	0,01	0,01
rf	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%	3,95%
rm-rf	5,02%	5,02%	5,02%	5,02%	5,02%	5,02%	5,02%	5,02%	5,02%	5,02%	5,02%
β_0	0,24	0,24	0,24	0,24	0,24	0,24	0,24	0,24	0,24	0,24	0,24
β_l	0,24	0,24	0,26	0,29	0,32	0,36	0,42	0,50	0,64	0,93	1,78
Pre-Tax Cost of Debt	5,59%	5,59%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%
kd	3,91%	3,91%	13,68%	13,82%	13,87%	13,89%	13,90%	13,91%	13,92%	13,92%	13,93%
re	5,17%	5,18%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%	13,96%
Tc	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%
WACC	5,17%	5,17%	13,93%	13,93%	13,93%	13,93%	13,93%	13,93%	13,93%	13,93%	13,93%

Table C123 – Virgin Media – Optimal Debt Level 2007

values in €M+C91:N108	2007										
D/(D+E)	**0%**	**1,35%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	11 950	11 950	11 950	11 950	11 950	11 950	11 950	11 950	11 950	11 950	11 950
Interest	0	10	114	228	342	457	571	685	799	913	1 027
Ebit	24	24	24	24	24	24	24	24	24	24	24
Rating	AAA	BBB	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	2,50	0,21	0,11	0,07	0,05	0,04	0,04	0,03	0,03	0,02
rf	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%	4,31%
rm-rf	4,46%	4,46%	4,46%	4,46%	4,46%	4,46%	4,46%	4,46%	4,46%	4,46%	4,46%
β_0	1,34	1,34	1,34	1,34	1,34	1,34	1,34	1,34	1,34	1,34	1,34
β_1	1,34	1,36	1,45	1,58	1,75	1,97	2,28	2,75	3,54	5,10	9,81
Pre-Tax Cost of Debt	5,09%	5,99%	9,55%	9,55%	9,55%	9,55%	9,55%	9,55%	9,55%	9,55%	9,55%
kd	3,57%	4,20%	8,94%	9,25%	9,35%	9,40%	9,43%	9,45%	9,47%	9,48%	9,49%
re	10,29%	10,35%	10,76%	11,34%	12,09%	13,09%	14,48%	16,58%	20,07%	27,05%	48,01%
Tc	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%	30,00%
WACC	10,29%	10,27%	10,58%	10,92%	11,27%	11,61%	11,96%	12,30%	12,65%	12,99%	13,34%

Table C124 – Virgin Media – Optimal Debt Level 2008

values in €M	2008										
D/(D+E)	**0%**	**10%**	**13,32%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	7.619	7.619	7.619	7.619	7.619	7.619	7.619	7.619	7.619	7.619	7.619
Interest	0	36	47	158	237	316	395	474	553	632	711
Ebit	142	142	142	142	142	142	142	142	142	142	142
Rating	AAA	A-	A-	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	?	4,00	3,00	0,90	0,60	0,45	0,36	0,30	0,26	0,22	0,20
rf	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%	2,95%
rm-rf	3,99%	3,99%	3,99%	3,99%	3,99%	3,99%	3,99%	3,99%	3,99%	3,99%	3,99%
β_0	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45
β_1	0,45	0,48	0,50	0,53	0,59	0,66	0,77	0,93	1,20	1,74	3,35
Pre-Tax Cost of Debt	3,87%	4,67%	4,67%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%
kd	2,79%	3,36%	3,36%	7,76%	8,63%	9,06%	9,33%	9,50%	9,62%	9,72%	9,79%
re	4,74%	4,88%	4,93%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%	10,37%	16,31%
Tc	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%
WACC	4,74%	4,73%	4,73%	9,85%	9,85%	9,85%	9,85%	9,85%	9,85%	9,85%	10,44%

Table C125 – Virgin Media – Optimal Debt Level 2009

values in €M	2009										
D/(D+E)	**0%**	**3,80%**	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	10 617	10 617	10 617	10 617	10 617	10 617	10 617	10 617	10 617	10 617	10 617
Interest	0	17	64	378	567	756	945	1 134	1 323	1 512	1 702
Ebit	148	148	148	148	148	148	148	148	148	148	148
Rating	AAA	AAA	BB+	CCC	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	8,50	2,31	0,39	0,26	0,20	0,16	0,13	0,11	0,10	0,09
rf	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%	3,39%
rm-rf	4,04%	4,04%	4,04%	4,04%	4,04%	4,04%	4,04%	4,04%	4,04%	4,04%	4,04%
β_0	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78	0,78
β_1	0,78	0,80	0,84	0,92	1,02	1,16	1,34	1,63	2,09	3,03	5,85
Pre-Tax Cost of Debt	4,32%	4,32%	6,04%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%
kd	3,11%	3,11%	4,35%	15,85%	16,50%	16,83%	17,03%	17,16%	17,25%	17,32%	17,37%
re	6,54%	6,63%	6,80%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	17,81%	26,99%
Tc	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%
WACC	6,54%	6,50%	6,55%	17,42%	17,42%	17,42%	17,42%	17,42%	17,42%	17,42%	18,33%

Table C126 – Virgin Media – Optimal Debt Level 2010

values in €M	2010										
D/(D+E)	**0%**	**10%**	**20%**	**20,93%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**
D+E	13 585	13 585	13 585	13 585	13 585	13 585	13 585	13 585	13 585	13 585	13 585
Interest	0	54	120	125	452	602	753	903	1 054	1 204	1 355
Ebit	375	375	375	375	375	375	375	375	375	375	375
Rating	AAA	AA	A-	A-	CCC	CCC	CCC	CCC	CCC	CCC	CCC
ICR	∞	6,91	3,14	3,00	0,83	0,62	0,50	0,42	0,36	0,31	0,28
rf	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%	2,96%
rm-rf	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%	4,50%
β_0	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97	0,97
β_1	0,97	1,05	1,15	1,16	1,27	1,44	1,67	2,02	2,60	3,77	7,26
Pre-Tax Cost of Debt	3,55%	4,00%	4,40%	4,40%	11,08%	11,08%	11,08%	11,08%	11,08%	11,08%	11,08%
kd	2,56%	2,88%	3,17%	3,17%	8,50%	9,15%	9,53%	9,79%	9,97%	10,11%	10,22%
re	7,33%	7,68%	8,12%	8,16%	8,68%	9,43%	10,48%	12,05%	14,67%	19,91%	35,64%
Tc	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%	28,00%
WACC	7,33%	7,20%	7,13%	7,12%	8,63%	9,31%	10,00%	10,69%	11,38%	12,07%	12,76%