

Equity Valuation of Tesco Plc.

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Abstract:

This dissertation aimed to value the British retailer Tesco Plc. The objective was to determine a target price for the company and as a consequence determine a buy or sell recommendation when comparing it to the current market price.

After the state of the art of literature regarding equity valuation has been assessed, the retail industry as well as Tesco have been analysed in more detail. Based on this, the retail business of Tesco has been valued using the Adjusted Present Value method. Furthermore a multiples valuation was performed, which did not confirm the results obtained under the intrinsic valuation. The banking business of Tesco has been valued using both, the DuPont methodology as well as a multiples approach, while the Chinese Joint Venture has been valued based on a recent transaction.

The sum of the parts results in a value of 2.85 GBP per share. As the share of Tesco trades at 1.83 GBP as per October 31st 2015, a buy recommendation is concluded. A comparison with the valuation of Bernstein investment bank is conducted and differences in valuation are evaluated.

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List of abbreviations

APT	Arbitrage Pricing Theory
APV	Adjusted present value
CAPM	Capital Asset Pricing Model
CCF	Capital cash flows
CEO	Chief Executive Officer
DCF	Discounted cash flow
DDM	Dividend discount model
EBIT	Earnings before interest and tax
EBITDA	Earnings before interest, tax, depreciation and amortisation
EPS	Earnings per share
ECB	European Central Bank
EURIBOR	Euro Interbank Offered Rate
EV	Enterprise value
FCFF	Free cash flow to the firm
FCFE	Free cash flow to the equity
GDP	Gross domestic product
GBP	British pound sterling
i.e.	this means
Joint Venture	JV
LIBOR	London Interbank Offered Rate
MFI	Monetary Financial Institutions
NOPLAT	Net operating profit less adjusted taxes
PCF	Price-cash flow
P/E	Price-earnings
PBV	Price-book value
PV	Present value
PP&E	Property, plant and equipment
ROA	Return on assets
ROE	Return on equity
UK	United Kingdom
US	United States
WACC	Weighted average cost of capital

List of symbols und variables

CF_t	Cash flow at period t
D	Debt
Div_t	Dividend per share forecasted at time t
E	Equity
g	Growth rate of profit
HML	High minus low (return difference of diversified portfolios with high and low book-to-market ratios.
k_d	After-tax cost of debt
k_e	Cost of equity
k_u	Cost of unlevered equity
n	Life of an asset
P_0	Share price at t=0
r	Discount rate
r_f	Risk-free rate
r_m	Market rate of return
SMB	Small minus big (return difference small and big diversified portfolios)
β_e	Equity beta
β_s	Beta coefficient relating to SMB
β_v	Beta coefficient relating to HML
t	tax rate
V	Enterprise value = debt + equity
V_u	Present Value of unlevered firm
V_{ts}	Present Value of Tax Shields
YTM	Yield to maturity

1 Introduction

1.1 Relevance of the topic

In 2015 large amounts of liquidity are present in European capital markets. Figure 1 shows that European Central Bank (ECB) lending to Monetary Financial Institutions (MFI) and others has significantly increased since 1997, despite a slightly decreasing trend since 2012 (ECB, 2015).

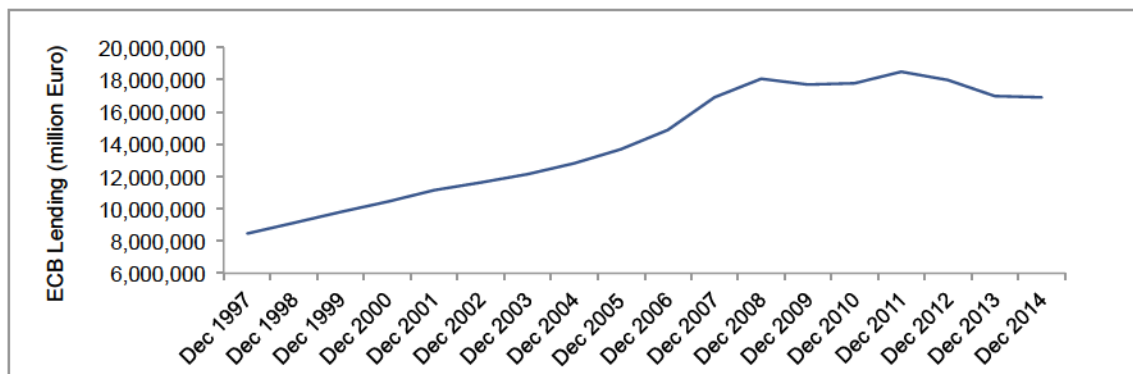


Figure 1 – Outstanding ECB Lending to MFIs: 1997- 2014 (ECB, 2015)

Furthermore interest rates are at very low levels. Figure 2 displays the development of the 3-month Euro Interbank Offered Rate (EURIBOR), for which banks borrow funds to other financial institutions in Europe (Reuters, 2015).¹ The low level of interest rates also impacts the yields that are obtained in the international bond markets.

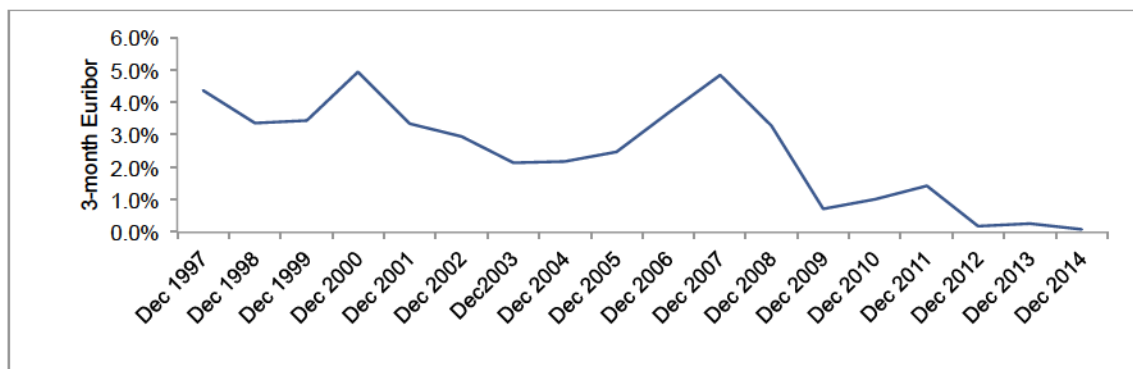


Figure 2 – Euro Interbank Offered Rate: 1997 - 2014 (Reuters, 2015)

Thirdly, the development of the gross domestic product (GDP) in Europe has been positive in the last years (Worldbank, 2015), which will be presented later in this work. As a consequence of these three developments, next to other factors, shares have performed positively

¹ The same trend can be observed from the London Interbank Offered Rate (LIBOR).

since 2012. Figure 3 displays the performance of the S&P500 index and the FTSE100, which increased by 65.3% and 14.2% respectively from 2012 to 2015 (Reuters, 2015).

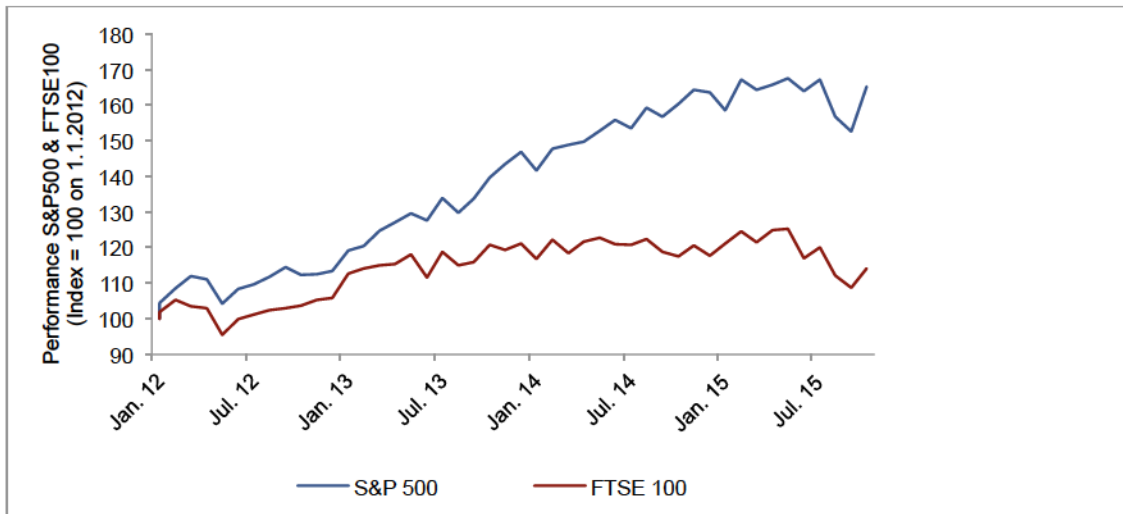


Figure 3 – S&P500 & FTSE100: 2012 - 2015 (Reuters, 2015)

Considering that today's financial markets are strongly affected by political decisions about money supply and interest rates many investors might have the opinion that security prices today do not represent the true value of investments. Therefore the concept of firm value is of high relevance. „Value is the defining dimension of measurement”, and it allows investors to truly evaluate and benchmark their investments (Koller et al, 2010).

1.2 Motivation

Opposite to the development of the overall equity markets and comparable retail companies, the stock of the British retailer Tesco Plc., in the following referred to as “Tesco”, showed a negative performance over the same period. Since 2012 the stock decreased by 54.6% as visualised in figure 4. This is driven by market factors, such as the price dynamics in the United Kingdom (UK) retail market, as well as company specific factors.

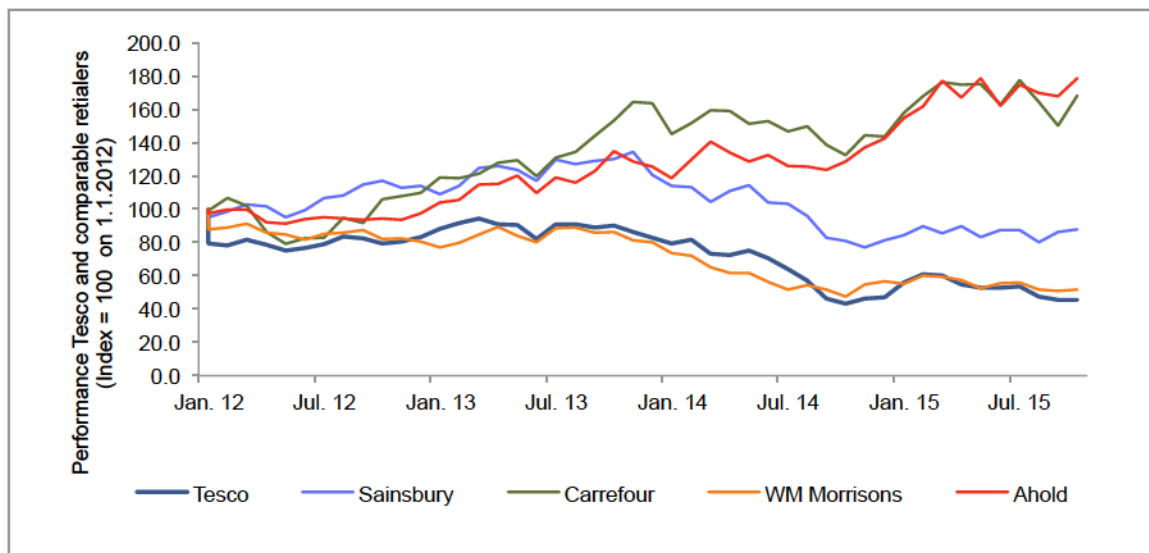


Figure 4 – Tesco & peers: Share price performance: 2012 - 2015 (Reuters, 2015)

By considering macro-, industry and company-specific characteristics, the objective of this piece of work is to evaluate the fair value of Tesco.

1.3 List of research questions & Methodology

In order to determine the fair value of Tesco, the main research question is stated as follows:

What is the fair value of Tesco at March 31st 2016?

In order to answer the main research question, four sub-research questions are defined, which will be evaluated.

How is the macroeconomic environment of Tesco?

What are the dynamics in the retailing industry?

What are reasonable expectations for Tesco's financials in the future?

What are the most suitable valuation methods to be used?

As a first step a literature review is presented in order to define the state-of-the-art of firm valuation.

Afterwards the retail industry will be evaluated. Major strategic challenges and opportunities will be identified. Furthermore a perspective on the macroeconomic environment will be provided, for the countries in which Tesco operates.

The third step represents an analysis of the company itself, which will evaluate its strategic position in the UK and internationally. Furthermore an analysis of the recent financial performance of Tesco is presented.

Based on the information and analysis of the previous chapters, detailed financial forecasts for Tesco can be developed. The assumptions for the valuation are presented.

The financial forecasts serve as a basis for equity valuation of Tesco itself. This includes an analysis of the most suitable valuation methods, the valuation itself as well as a comparison to an investment banking report.

Finally, limitations are identified and conclusions are drawn.

2 Literature review

It is no surprise to state that firm value is a key matrix for shareholders, as it represents the conceptual foundation when doing investment and financing decisions (Damodaran, 2006). Copeland (1994) states that the matrix of value is of greater importance: Next to the relevance that the concept has for shareholders and managers, Copeland states that it also supports the interests of other stakeholders best, as shareholders maximise the claims of all stakeholders by maximising shareholder wealth.

In the following part, different valuation methods and its limitations will be assessed, in order to determine the methods that are most suitable for the valuation of Tesco.

2.1 Intrinsic valuation

Intrinsic valuation is trying to assess the value of a company or an asset by looking at the characteristics of the company or asset itself (Graham, 1962). The most frequently used form of intrinsic valuation is the discounted cash flow (DCF) approach. A survey conducted by Bancel and Mittoo (2014) reveals that most European finance practitioners rely on the DCF model as a key tool for valuations along with other methods.

The basis of the DCF approach is the present value (PV) rule, which states that an asset's value is equal to the PV of the future cash flows it is expected to generate, as expressed in Formula 1 (Damodaran, 2002). The discount rate that is used to relate future cash flows to today's value is representing the variability of the cash flows itself (Ochse, 2012). A lower certainty in the cash flows implies a higher discount rate to compensate for the increased risk.

$$Value = \sum_{t=1}^{t=n} \frac{CF_t}{(1+r)^t}$$

Formula 1 – Present value rule

where, n = Life time of the asset

CF_t = Cash flow at period t

r = Discount rate

In chapter 2.1.6, four commonly used DCF methods are assessed. As these methods rely on different rates to discount the cash flows, the discount rates will be assessed as a first step.

2.1.1 Cost of equity

The cost of equity can be determined using three methods. Firstly, the Capital Asset Pricing Model (CAPM) developed by Sharpe, Linter and Moss is regarded as one of the most fundamental models in finance (Zabarankin et al., 2014). The CAPM is based on the idea that “risk premia depend not on the total risk of the asset, but rather on the relationship of the asset to the overall market (Ross, 1978)”, as expressed in formula 2.

$$k_e = r_f + \beta_e \times (r_m - r_f)$$

Formula 2 – Capital Asset Pricing Model (CAPM)

where, k_e = Cost of equity

r_f = Risk-free rate

β_e = Equity beta

r_m = Market rate of return

Secondly, the Fama-French three-factor model is a model developed by Eugene Fama and Kenneth French in 1993. It states that expected returns can be forecasted based on a function that includes beta as a measure of systematic risk, market capitalisation (SMB) and the book-to-market ratio (HML). The three-factor model is expressed in formula 3 (Fama, French, 2004). It has later been extended by two further factors (Fama & French, 2015).

$$k_e = r_f + \beta_e \times (r_m - r_f) + \beta_s \text{ SMB} + \beta_v \text{ HML}$$

Formula 3 – Fama French three-factor model

where, β_s = Beta coefficient relating to SMB

β_v = Beta coefficient relating to HML

SMB = Small minus big (return difference small and big diversified portfolios)

HML = High minus low (return difference of diversified portfolios with high and low book-to-market ratios).

Thirdly, the Arbitrage Pricing Theory (APT) has first been defined by Ross (1976) stating that the expected return of an asset is a linear relationship affected by various macroeconomic variables.

Theoretically the dividend discount model (DDM) represents an additional way to estimate the cost of equity. However due to its limitations and thus the small extend to which it is used in practise, as examined by Baker and colleagues (2011), it is not further discussed.

The CAPM has various limitations: When comparing it to other models, such as the three-factor model, the limited amount of input variables can be observed. Also, Zhi and colleagues (2012) find that the CAPM fails “to explain the cross-sectional variation in equity risk premium.”

Nonetheless, Zabarankin et al. (2014) confirm the relevance of the CAPM as a “benchmark for asset pricing.” A key advantage for using the CAPM is the ease of use. The components of the CAPM are discussed in the following part.

2.1.1.1 Risk-free rate

The risk-free rate (r_f) represents the return of a risk-free asset that can be obtained in the market at the time of the valuation as stated by Fernández (2004). It is important that the maturity of the risk-free asset matches the maturity of the expected cash flows, and that neither a risk of defaulting, nor a reinvestment risk is present.

As Tesco is reporting its financials in British pound sterling (GBP) the government bond considered as risk-free asset should be a government bond issued by the UK.

2.1.1.2 Beta

In the CAPM formula, the equity beta (β_e), also known as levered beta, expresses the degree “to which the stock co-varies with the aggregate stock market” (Koller and colleagues, 2010). The beta depends on the definition of the market portfolio, the time-period used and the frequency of data. While the definition is clear, there is discussion about which input data to use, especially about the proxy for the market portfolio.

Bartholdy and Peare (2005) state that the most accurate estimates for beta are obtained using “5 years of monthly data and an equal-weighted index, as opposed to the commonly recommended value-weighted index.” It is acknowledged that there is some controversy around the factors driving beta. Recently Reeves and Wu (2013) have found that calculating beta based on high-frequency data can lead to a higher accuracy in some cases.

In case a company is not publicly listed, the beta can be obtained in reference to betas of comparable companies. In order to obtain the equity beta that is representing the adequate risk in terms of leverage, Bernardo and colleagues (2012) highlighted the process of un-levering equity betas from comparable companies and re-leveraging the asset betas, also called unlevered betas, using the target companies leverage ratio. This process is expressed in formula 4 (Pereiro, 2010):

$$\text{Unlevered Beta} = \frac{\text{Levered Beta}}{(1 + (1 - t) \times \frac{D}{E})}$$

Formula 4 – Unlevered Beta

where, $E = \text{Equity}$

$D = \text{Debt}$

$t = \text{tax rate}$

As a potential limitation, Bernardo et al. (2012) evaluate that this method of measuring risk does overstate asset betas.

2.1.1.3 Risk premium

The difference between the market rate of return (r_m) and the risk-free rate (r_f) represents the market risk premium.

Three models can be used to estimate the market risk premium: Historical data (returns), regression analysis or a DCF valuation (Koller and colleagues, 2010). However Koller et al. (2010) also state that while the market risk premiums should be in the range of 4.5 to 5.5 percent, all three models fail to adequately estimate the market risk premium. Next to highlighting the difficulties of forecasting the risk premium, Arnott and Bernstein states that a reasonable expectation for the risk premium should be in the range of 2 to 4 percent (Arnott, Bernstein, 2002).

2.1.2 Cost of debt

For companies with investment-grade rated debt (i.e. having a credit rating of BBB at least) and publicly traded debt, the yield to maturity (YTM) of long-term debt represents the pre-tax cost of debt. It can be calculated by rearranging formula 5 (Koller et al., 2010). The approach using YTM is based on the assumption that all coupons will be paid timely and fully, as well as the face value, and that the debt is traded in a liquid market.

$$Price = \frac{Coupon}{(1 + YTM)} + \frac{Coupon}{(1 + YTM)^2} + \dots + \frac{Face\ value + Coupon}{(1 + YTM)^n}$$

Formula 5 – Bond pricing

where, $YTM = Yield\ to\ maturity$

The after-tax cost of debt can be calculated using the marginal tax rate as shown in formula 6 (Koller et al., 2010). Graham (2008) states that “the statutory marginal tax rate overstates the future marginal tax rate” generally. Koller and colleagues (2010) recommend to transfer the operating taxes from the accrual basis to the cash basis and to separate operating items from non-operating items, to increase the valuation accuracy.

$$k_d = Pre - tax\ cost\ of\ debt \times (1 - t)$$

Formula 6 – Computation: After-tax cost of debt

where, $k_d = After-tax\ cost\ of\ debt$

In further research, Sánchez-Ballesta and García-Meca (2011) have analysed that the cost of debt is affected by the ownership structure, driven by agency cost phenomena.

2.1.3 Weighted average cost of capital

The weighted average cost of capital (WACC) is frequently used to discount expected cash flows in order to derive the enterprise value (EV). Therefore, the cost of equity (k_e) and the after-tax cost of debt are weighted in regard to the respective portion of equity (E) or debt (D) in the capital structure at market values (V), as shown in formula 7 (Farber et al., 2006).

$$WACC = k_e \times \frac{E}{V} + k_d \times (1 - t) \times \frac{D}{V}$$

Formula 7 – Computation: Weighted average cost of capital (WACC)

where, $V = Enterprise\ value = debt + equity$

In case that preferred shares represent a source of financing they should be included in the computation of the WACC.

2.1.4 Forecasted period

In finance, there is no concrete length defined for the forecasting period of the financial statements. It is important to forecast the cash flows until the company has reached a steady state, in order to accurately calculate terminal value (Koller et al., 2010).

2.1.5 Terminal value and growth rate

In 1956, Gordon and Shapiro developed a model to calculate the value of investments, which became known as the Gordon Growth Model (GGM), as expressed in formula 8. Today, it is widely used to calculate terminal values in DCF valuations. Other valuation methods may also be applied to calculate perpetuities for terminal values.

$$P_0 = \frac{Div_t}{k_e - g}$$

Formula 8 – Gordon Growth Model

where, P_0 = Share price at $t=0$

Div_t = Dividend per share (time t)

g = Growth rate of profit

The model underlies the assumption of $k_e > g$. It is argued that companies cannot grow faster than the economy in the long run, and thus values for g , which are far greater than the growth rate of the nominal GDP, are considered to be unrealistic. Furthermore companies should be in steady state in order to apply the model, which means that capital expenditures (capex) and depreciation are at similar levels.

2.1.6 DCF valuation methods

When looking at DCF valuations a distinction between four approaches can be made, as stated by Oded and Michel (2007): Free cash flows to the firm (FCFF), [free] cash flows to the equity (FCFE), capital cash flows (CCF) and adjusted present value (APV). Each approach is evaluated in the following.

2.1.6.1 Free Cash Flow to the Firm

The FCFF method is calculating the EV of the levered firm, by discounting the FCFF using the WACC. The sum of the discounted FCFF represents the value of operations, which is equal to the EV after adjusting it for excess cash. Figure 5 shows the computation of the FCFF:

Free cash flow to the firm (FCFF): computation

<i>Earnings before profit and tax (EBIT)</i>
- <i>Tax on EBIT</i>
<hr/>
= <i>Net operating profit after taxes (NOPLAT)</i>
+ <i>Depreciation + provisions + non cash charges</i>
- <i>Investments in working capital</i>
- <i>Investments in capex</i>
<hr/>
= <i>Free cash flow from operations</i>
+/- <i>Cash flow from non-operating activities</i>
<hr/>
= <i>Free cash flow to the firm (FCFF)</i>

Figure 5 – FCFF Computation

It is important to consider that the cash flows are not adjusted for the tax-deductibility of interest, however the discount rate, WACC, does adjust for this effect, by considering the after-tax cost of debt.

2.1.6.2 Free Cash Flow to the Equity

Under the FCFE method, as shown in figure 6, the equity value of the firm, as opposed the EV, is obtained. The rate that is used to discount the cash flows is the cost of equity (k_e) (Oded & Michel, 2007). The FCFE is the cash flow that is available to the shareholders of the company, as interest expenses and changes in net debt have been considered before.

Free cash flow to the equity (FCFE): computation

<i>Net Income</i>
+ <i>Depreciation + provisions + non cash charges</i>
- <i>Investments in working capital</i>
- <i>Investments in capex</i>
- <i>Principal repayments</i>
+ <i>New debt issues</i>
<hr/>
= <i>Free cash flow to the equity (FCFE)</i>

Figure 6 – FCFE Computation

The equity value of a company can also be obtained as presented in figure 7. Therefore, the FCFF and FCFE method should reconcile to each other.

Reconciliation: Enterprise value to equity value

<i>Value of operations</i>
+ <i>Excess cash & excess marketable securities</i>
<hr/>
= <i>Enterprise value</i>
<hr/>
- <i>Net debt</i>
<hr/>
= <i>Equity value</i>
<hr/>

Figure 7 – Reconciliation of Equity Value

2.1.6.3 Capital Cash Flows

The CCF method is calculating the EV of the levered firm. To do so the cash flows to equity and to debt are discounted at a respective discount rate, as stated by Oded and Michel (2007). Ruback (2002) shows that the CCF method is leading to equivalent valuations as under the already presented FCFF method. Therefore it will not be evaluated in more detail.

2.1.6.4 Adjusted Present Value

Under the APV method, the firm's equity is valued separately from side-effects such as interest tax shields (Mitra, 2010). Booth (2007) states that the APV method is basically an approach "where the unlevered value of the firm is adjusted for the advantages of using debt." This is expressed in formula 9 below:

$$APV = V_u + V_{ts} + PV \text{ of side - effects related to financing}$$

Formula 9 – APV: Concept

where, $V_u = PV$ of the unlevered firm

$V_{ts} = PV$ of tax shields

The PV of the unlevered firm is determined by discounting the FCFF using the unlevered cost of equity, k_u . Koller and colleagues (2010) state that the cost of unlevered equity can be obtained by applying formula 10, after calculating the PV of tax-shields applying the cost of debt first.

$$k_e = k_u + \frac{D - V_{ts}}{E} (k_u - k_d)$$

Formula 10 – APV: Computation of the unlevered cost of equity

Faber et al. (2006) argue that the separate valuation of tax shields, as opposed to applying the concept of WACC, is more appropriate in certain cases, for instance where bankruptcy costs are of major importance or in case financial engineering plays a major role.

The APV method is most convenient to use when the debt ratio of the company varies and it is known for the projected periods as well as when financing side effects apart from the interest tax shield are of major importance (Graham & Smart, 2010).

Luehrmann (1997) highlights that the APV method is less error prone compared to methods based on WACC, and above all it allows managers to identify the drivers for value creation.

2.2 Relative valuation

A survey by Carter and van Auken (1990) showed that equity valuation based on multiples has been a widespread practice. Goedhart et al. (2005) confirm that multiples can represent an effective way to crosscheck assumptions used in the DCF valuation, by comparing it to the outcome of a second valuation method. Additionally, the multiples method can be applied easily, as detailed financial forecasts are not necessarily needed.

Bhojraj and Lee (2002) support that multiples are often used to calculate terminal values among professionals who generally rely on more advanced tools.

A critical factor in the multiples approach is the choice of comparable companies to be used (Eberhart, 2004). Peers should be comparable in terms of company size, markets, products and customers. Furthermore factors such as crossholdings, operating leases and pensions can substantially affect the outcome of relative valuation.

Generally, a distinction is made between multiples that are used to derive equity value and multiples that derive EV. However there is no clear response which multiples are most accurate in certain situations (Kim, Ritter, 1999). In the following multiples of both types and its advantages and disadvantages will be evaluated.

Goedhart and colleagues (2005) highlight that EV multiples, some which are displayed in table 1, have the advantage that they are independent of the firms capital structure. Furthermore, they are not based on earnings, which is an accounting figure with high potential for manipulation, through write-offs for instance. In case EBIT or EBITDA multiples are used, they should be adjusted for non-operating items.²

² EBIT: Earnings before interest and tax
EBITDA: Earnings before interest, tax, depreciation and amortisation

Enterprise Value (EV) Multiples
$EV (\text{Peers}) / EBIT$
$EV (\text{Peers}) / EBITDA$
$EV (\text{Peers}) / \text{Capital (book-value)}$
$\text{Price sales ratio} = \text{Current market price} / \text{Sales per share}$

Table 1 – Overview Enterprise Value (EV) Multiples

An overview of equity multiples, also called earnings multiples, is shown in table 2. Lui and colleagues (2001) find that, when looking at multiples based on historical data, sales and book value multiples have a significantly worse performance than earnings multiples.

Equity Value Multiples
$\text{Price-earnings (P/E) ratio} = \text{Current market price per share} / \text{earnings per share (EPS)}$
$\text{Price cash flow (PCF) ratio} = \text{Current market price per share} / \text{cash flow per share}$
$\text{Dividend Yield} = \text{Dividend} / \text{current market price}$
$\text{Price book value} = \text{Current market price per share} / \text{Book value per share}$

Table 2 – Overview Equity Value Multiples

Furthermore, Liu and colleagues (2001) mention that forward-looking multiples are more accurate and relevant over multiples based on historical data and that accuracy increases alongside a longer forecasting period. This is, of course, dependent on the availability of financial forecasts.

2.3 Asset-based valuation

The asset-based valuation method is often used for companies that do not have an on-going concern. It applies to companies undergoing a liquidation procedure or restructuring as Kim and colleagues (1999) state.

Furthermore asset-based valuation is relevant to the valuation of financial services companies. Classical DCF valuation methods fail to value banks adequately as the financing and operating decisions cannot be separated easily and thus the determination of the cost of capital becomes difficult. Koller and colleagues (2010) recommend valuing the “cash flows to equity,

which includes both the operational and financial cash flows". Alternatively banks can be valued by applying the DuPont method, as displayed in formula 11.

$$\text{Equity Value} = \text{Net Asset Value} \times \frac{\text{Forecasted ROE}}{\text{Required ROE}}$$

Formula 11 – Bank Valuation: DuPont Method

where, ROE = Return on equity

2.4 Contingent claim valuation

Companies or assets that have characteristics similar to options are valued using the contingent claim approach. As this valuation method is not of major relevance in the valuation of Tesco, it will not be examined any further.

3 Industry & Macroeconomic analysis

Understanding the industry dynamics and the macroeconomic environment is crucial in order to create reasonable assumptions that represent the basis for the valuation of Tesco. In the following the retail industry will be analysed in respect to the current market environment, key strategic opportunities and challenges, as well as the macroeconomic situation.

3.1 Overview: Retail Market

The retail market can be distinguished into different channels. On the one hand there are hypermarkets, supermarkets and discounters. While hypermarkets offer a larger range of products than supermarkets, discounters generally offer a smaller range of products at lower prices. Globally the value of these channels accounts to around 35.0% of the total market (Marketline, 2013). Convenience stores are smaller stores with a limited product range and often have a focus on everyday goods. They are usually located in urban centres and account for 28.0% of the market along with gas stations (Marketline, 2013). The rest of the market allocates to special food stores and other channels.

In the UK the retail market is still dominated by the established retailers: Tesco, Asda, Sainsbury's and Morrison's have a combined market share of 72.8% (BBC, 2015). Figure 8 visualises the trend of stable to declining market shares of the leading retailers and increasing market shares of discounters, like Aldi and Lidl (Statista, 2015).

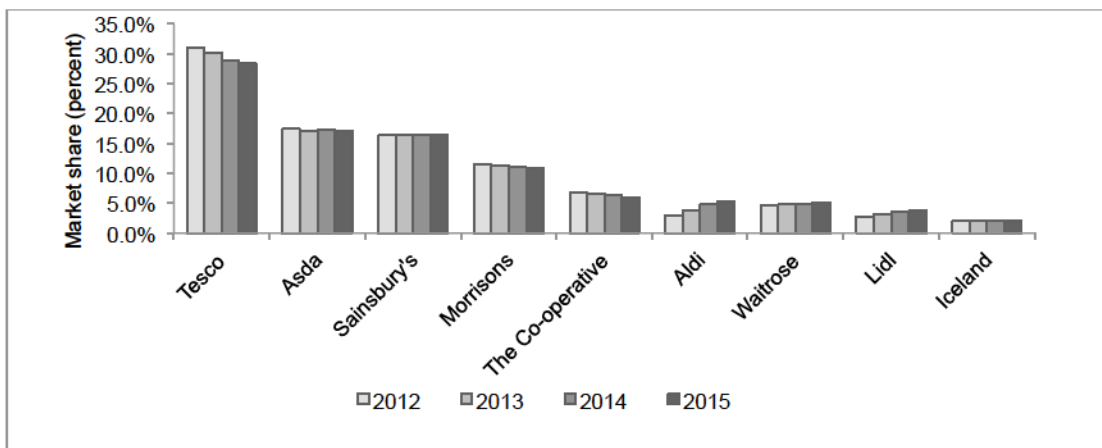


Figure 8 – Retail market: Overview market shares UK (Statista, 2015) (BBC, 2015)

From 2012 to 2015 Tesco has lost market share of 2.8% annually (compound annual growth rate, CAGR) while Lidl and Aldi increased their share by 20.9% and 9.7% annually respectively as expressed in table 3 (Statista, 2015).

Retail Market: CAGR of market shares

<i>Retailer</i>	<i>Tesco</i>	<i>Asda</i>	<i>Sainsbury's</i>	<i>Morrisons</i>	<i>The Co-operative</i>	<i>Aldi</i>	<i>Waitrose</i>	<i>Lidl</i>	<i>Iceland</i>
<i>CAGR Market Share (2012 - 2015)</i>	-2.8%	-0.8%	0.0%	-1.8%	-4.1%	20.9%	3.5%	9.7%	1.6%

Table 3 – CAGR of market share UK: 2012 - 2015

The tendency is confirmed by looking at the short-term trend, as discounters are continuously growing their business activities on the UK market: During the first three month of 2015 Aldi increased its sales by 16.8%, while Lidl achieved a growth of 12.1% (MMR, 2015).

Internationally Thailand and Poland represent the largest business units of Tesco, after the sale of the Korean unit has been announced (Tesco, 2015). In the Thai retail market, consumers often buy fresh foods at local markets, while all other products are purchased at supermarkets, as a study by Kelly and colleagues (2015) showed. Furthermore it is stated that residents located in the capital and higher income shoppers make purchases in grocery stores to a larger extend. Looking at the structure of the Eastern European grocery market, the market is dominated by supermarkets and larger hypermarkets, with the exception for Poland, where discount supermarkets also play an important role. International retail chains dominate the competitive environment (Machek, 2012).

3.2 Key Business Opportunities and Challenges

Emerging markets represent a huge opportunity for established western retailers as annual consumption in emerging markets is estimated to be 30 trillion US Dollar by 2025 (Atsmon et al., 2013). However, research showed that these markets remain a challenge for western retail companies. In a McKinsey study, Child and colleagues (2015) state that “global grocery giants are struggling to grow profitably in many emerging countries.”

Advanced analytics and big data can be used to obtain deeper customer insights and also translate into returns, as Breuer and colleagues highlight (2013). Opportunities for cross-selling can be identified to increase revenue growth and customer feedback can be analysed more effectively. Tesco is mentioned as a pioneer for advanced analytics, having introduced a successful loyalty card program in the 1990s.

Online shopping is a key strategic topic in the industry. While the main concern of European consumers is scepticism about product quality, research has shown that customers favour pick-up of goods in store over delivery, except in the UK (Galante et al., 2013).

In a study by PWC, it is highlighted that margins experience pressure due to both price deflation and increasing costs. The study also identifies drivers for the decreases in prices such as increased sourcing from abroad, improved technology and growth of supermarkets and stores (PWC, 2015)

For EY having the wrong price image is representing a risk as well as the inability to respond to shifts in the demand of consumers. However EY also lists demographic change as one out of ten opportunities, as well as private labels (EY, 2015).

In addition to the highlighted challenges and opportunities, a Porters 5-forces analysis is presented in appendix 1.

3.3 Macroeconomic environment: UK and International

The economic climate substantially affects the consumer sentiment and thus the consumer spending. It can be assumed that discounters become a more reasonable alternative for shoppers in times of challenging economic conditions. In order to analyse the macroeconomic environment, the economic growth within Tesco's markets is analysed first. Secondly further key macroeconomic indicators are evaluated.

Figure 9 displays the real economic growth rates in the UK and Europe. Since the global financial crisis in 2009, the UK has solely experienced periods of positive growth while Europe has mainly experienced periods of positive growth.



Figure 9 – GDP growth European Union & UK: 1997 - 2014 (IMF, 2015)

Figure 10 shows the evolution of real GDP growth rates in the Asian countries in which Tesco is active. While the trends in the respective countries are different, it can still be concluded that growth rates of real GDP remained positive since 2010 throughout all countries.

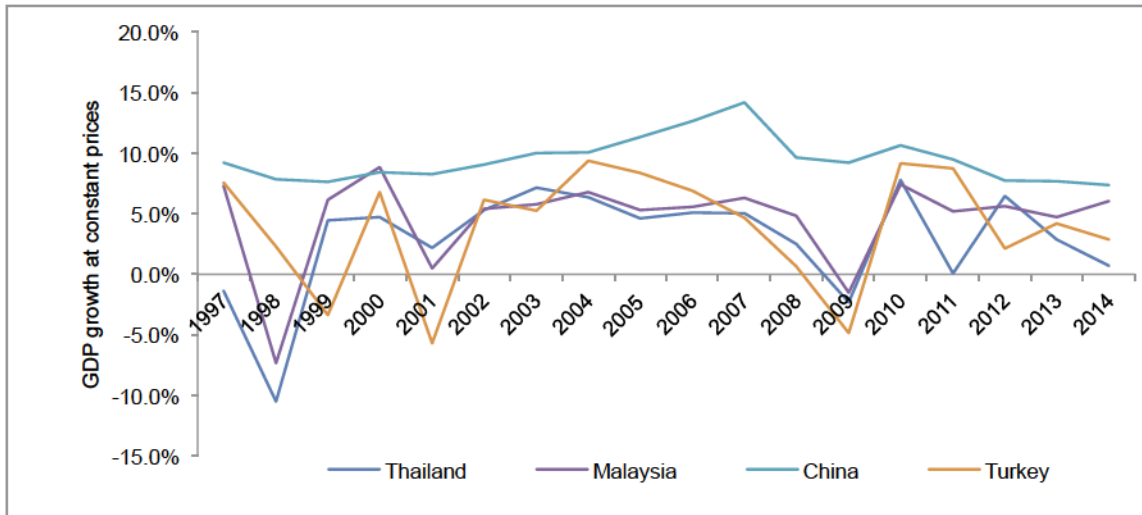


Figure 10 – GDP growth International: 1997 - 2014 (IMF, 2015)

The growth rates in 2014 confirm that the macroeconomic situation has been positive in all countries in which Tesco operates, as displayed in figure 11. The UK GDP, in real terms, grew at 2.6% in 2014, while Asia (4.7%) and Europe (3.2%) also showed positive growth developments. However, as economies move in cycles there is the risk of a worsening in the economic climate.

UK		Asia		Europe	
UK	2.6%	Malaysia	6.0%	Slovakia	2.4%
		Thailand	0.7%	Hungary	3.6%
		China	7.4%	Ireland	4.8%
				Poland	3.4%
				Czech Rep.	2.0%
				Turkey	2.9%
Average	2.6%		4.7%		3.2%

Figure 11 – GDP growth rates: Overview 2014 (Worldbank, 2015).

Extending the view to other key economic indicators it can be stated that inflation puts pressure on profit margins, as there is the risk that retailers cannot pass price increases from suppliers to the customer fully. In the UK the average consumer prices increased 1.5% recently, which can be regarded as low to moderate (IMF, 2015).

Unemployment, wage growth and consumer confidence are analysed and presented in appendix 2. Concluding these and the GDP figures analysed before it can be summarized that the macroeconomic situation in the UK as well as in the international markets is stable to positive.

4 Company analysis

After the industry has been presented, a more detailed analysis of Tesco itself will be performed.

4.1 Overview and International Footprint

Tesco is the biggest retailer in the UK in terms of market share and publicly listed since January 2nd 1986. Next to its UK retail operations it is running international retail operations, banking services, and other activities such as mobile phone services. The main contributors to the company's revenue and margin are the retail activities and, to a smaller extent, the banking activities. Therefore this work will focus on these activities.³

Overall Tesco operates 7,817 stores with 109.6m square feet selling space area (Tesco, 2015). The main store formats in the UK are Tesco Express (1,735 stores), Superstore (487 stores), Extra (250 stores) and Metro (191 stores), which basically distinguish themselves in terms of store size, product range and location. A composition of the stores is presented in appendix 3. Tesco itself manages the majority of the stores, while the degree of franchise stores is significantly below 1.0%, for which it will not be considered separately (Tesco, 2015).

Internationally Tesco is operating in Eastern Europe as well as Asia. It closed its operations in the United States (US) and Japan in 2011 (Tesco, 2013). Figure 12 displays the sales area per country as per February 2015, showing that Thailand and Poland represent the largest international markets (Tesco, 2015). In China, Tesco is invested in a Joint Venture (JV) with China Resources Holding, where it holds a stake of 20.0%.

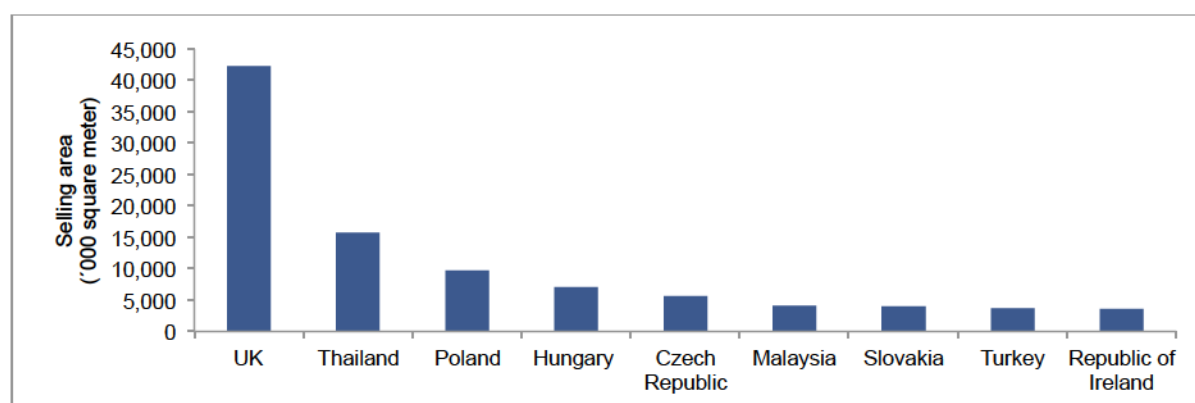


Figure 12 – Tesco store area: Overview per country 2015 (excluding South Korea)

³ As no separate profitability details are disclosed for the fuel stations that Tesco operates as per investor relations department, they are treated within the UK retail operations in this work.

The majority of the revenues (69.2%) is generated in the UK. The revenues from Europe (13.5%) and Asia (15.7%) contribute approximately equal parts as per business year 2015 and shown in figure 13. Tesco Bank contributes insignificantly towards the company's revenue (1.6%), but significantly towards Tesco's overall margin (14.0%). A more detailed margin analysis is presented later this chapter.

	UK	Europe	Asia	US	Tesco Bank	Total*
Revenue absolute (GBP m)	43,573	8,515	9,884	–	1,024	62,996
Revenue relative	69.2%	13.5%	15.7%	–	1.6%	100.0%
Trading profit absolute (GBP m)	467	164	565	–	194	1,390
Trading profit relative	33.6%	11.8%	40.6%	–	14.0%	100.0%

*Before adjustment for IFRIC13

Figure 13 – Tesco revenue and profit by region: 2015

Tesco Bank offers banking and insurance services, such as mortgages, credit cards, personal loans and savings products. Per 2015, it recorded 5.4m banking- and 2.0m insurance accounts, with the majority of the business conducted online (Tesco, 2015). As per Chief Executive Office (CEO) Lewis the range of mortgages and loan products is further developed. The revenues in the first half decreased slightly by 0.8% to 478m GBP. The cost-income ratio, which is a commonly used indicator for the efficiency in the banking industry, is at 65.0%, which is regarded as average in the industry (Reserve Bank of Australia, 2015).

The majority of the shares of Tesco are in free-float. The ten largest shareholders, highlighted in figure 14, own 31.3% of the company as per October 31st (Reuters, 2015).

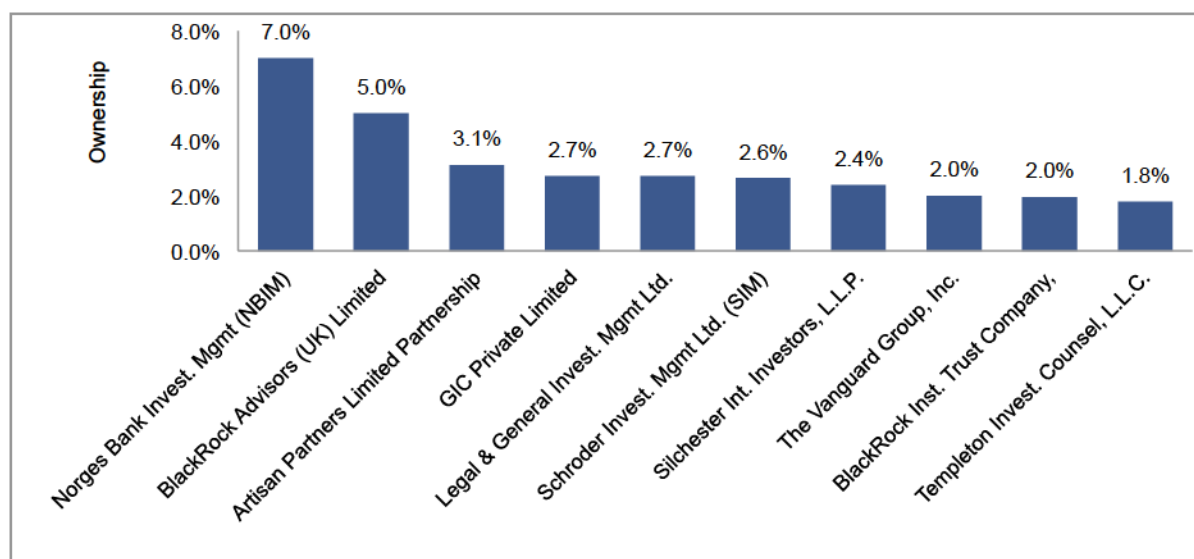


Figure 14 – Tesco shareholder structure: 2015

Figure 15 displays the share price performance of Tesco over the past 10 years, since October 2005. Over this period, the share has lost 39.1%. The performance of the Tesco stock since 1.1.2006 in regard to comparable companies is displayed in appendix 4.

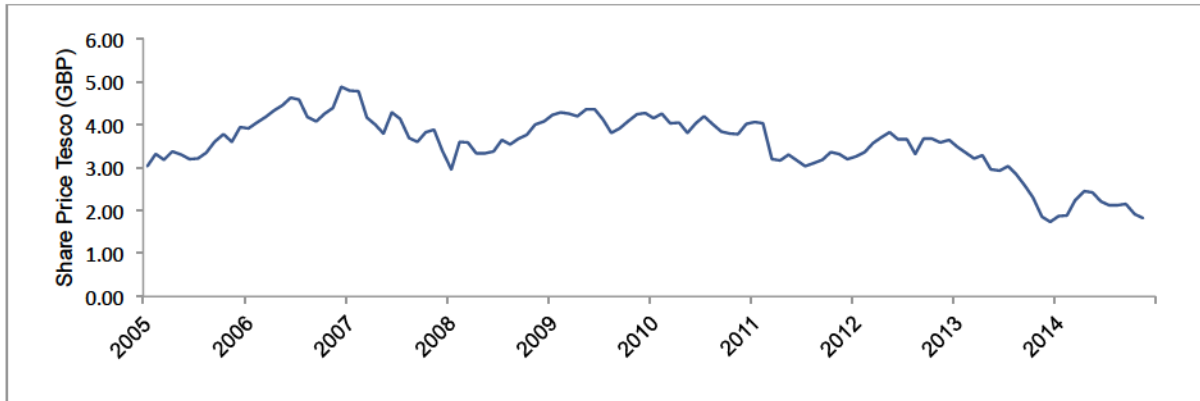


Figure 15 – Tesco share price performance: 2005 - 2015 (Reuters, 2015)

4.2 Financial Analysis

Tesco's business year finishes in March. In the following work, the business years will be labelled with the year in which the business year ends. This means "2010/2011" will be considered "2011".

The financial analysis is based on the data of the last five complete business years, starting in 2011. Since 2015, Tesco only reports its financials in the categories UK, International and Tesco Bank. The analysis is based on the total company basis, thus not considering Tesco Bank as a separate unit for this purpose.

4.2.1 Operating performance

Tesco has grown its revenue at a CAGR of 0.9% since 2011. Over the same period the number of total sales area has grown at a CAGR of 1.7% to 110,474 square feet and the number stores has grown at a CAGR of 10.7% to 7,817. Thus, the growth of stores is stronger than the growth of sales area, implying that the focus has been on opening smaller stores. Furthermore it can be stated that the growth in stores and sales area could not be translated into revenue growth. The peak in terms of revenue has already been reached in 2012, with the following years showing negative growth rates.

During the same time period, the net profit decreased from 2,671m GBP to a loss of 5,766m GBP, mainly driven by the restructuring costs of 7,182m GBP booked in 2015 and shown in

figure 16. When looking at the development of net income until 2014, it is visible that a negative trend is prevailing since 2012.

Profit and loss statement (£m)	2011	2012	2013	2014	2015	CAGR (11-15)	Variance (vs. 14)
Sales ^(incl VAT; excl IFRIC 13)	67,074	71,402	70,712	70,894	69,654	0.9%	-1.7%
Group revenue ^{(excl VAT) **}	60,455	63,916	63,406	63,557	62,284	0.7%	-2.0%
Group trading & operating expenses	56,741	59,947	59,881	60,242	60,894	1.8%	1.1%
Group trading profit	3,714	3,969	3,525	3,315	1,390	-21.8%	-58.1%
Restructuring (costs)/profit	203	213	(1,143)	(684)	(7,182)	U	U
Operating profit (EBIT)	3,917	4,182	2,382	2,631	(5,792)	U	U
Share of post-tax profits/(losses) of JV	57	91	72	60	(13)	U	U
Net finance costs	(333)	(235)	(397)	(432)	(571)	14.4%	32.2%
Profit/(loss) before tax (EBT)	3,641	4,038	2,057	2,259	(6,376)	U	U
Taxation	(864)	(874)	(529)	(347)	657	F	F
Profit/(loss) from continuing operations	2,777	3,164	1,528	1,912	(5,719)	U	U
Discontinued operations	(106)	(350)	(1,504)	(942)	(47)	-18.4%	U
Profit/(loss) for the year (Net Income)	2,671	2,814	24	970	(5,766)	U	U
Corporate Tax Rate	23.7%	22.9%	25.7%	15.4%	20.7%	-3.4%	34.8%

Figure 16 – Tesco financial performance: 2011 - 2015

When looking for the driver of the change in net income margin from 4.4% in 2011 to a negative 9.3% in 2015, it is visible that the margins in the UK have decreased strongest, by 35.4%. Margins of the activities in Europe (-23.9%) and of Tesco Bank (-9.9%) have also worsened, while Asia remained relatively stable (-1.9%), as shown in figure 17.

Profitability margins	2011	2012	2013	2014	2015	CAGR (11-15)	Variance (vs. 14)
Trading Margin UK	6.1%	5.8%	5.2%	5.0%	1.1%	-35.4%	-78.7%
Trading Margin Europe	5.7%	5.4%	3.5%	2.6%	1.9%	-23.9%	-25.0%
Trading Margin Asia	6.2%	6.8%	7.3%	6.7%	5.7%	-1.9%	-14.8%
Trading Margin US	-37.6%	N/A	N/A	N/A	N/A	N/A	N/A
Trading Margin International	4.9%	6.1%	5.5%	4.8%	4.0%	-4.9%	-16.6%
Trading Margin Tesco Bank	28.7%	21.6%	18.7%	19.3%	18.9%	-9.9%	-2.1%
Trading Margin Total Company	6.1%	6.2%	5.6%	5.2%	2.2%	-22.4%	-57.2%
Operating (EBIT) Margin	6.5%	6.5%	3.8%	4.1%	-9.3%	U	U
EBT Margin	6.0%	6.3%	3.2%	3.6%	-10.2%	U	U
Net Income Margin	4.4%	4.4%	0.0%	1.5%	-9.3%	U	U

Figure 17 – Tesco profit margin analysis: 2011 - 2015

Relating the income statement to the balance sheet, it can be observed that the ROE decreased from 16.1% (2011) to a negative ratio in 2015, as shown in figure 18.

Du Pont Analysis	2011	2012	2013	2014	2015	CAGR (11-15)	Variance (vs. 14)
Profitability	4.4%	4.4%	0.0%	1.5%	-9.3%	U	-706.6%
Asset turnover	128.1%	125.9%	126.5%	126.7%	140.9%	2.4%	11.2%
Leverage (A/E)	284.0%	285.3%	300.9%	340.7%	625.3%	21.8%	83.5%
ROE	16.1%	15.8%	0.1%	6.6%	-81.5%	U	U

Figure 18 – Tesco DuPont analysis: 2011 - 2015

Based on the DuPont framework, it can be concluded that the driver for the decrease in ROE is the decrease in profitability.

4.2.2 Financial position

Tesco holds a large amount of property on its balance sheet. Net property, plant and equipment (PP&E) represent more than 45.0% of the total assets during 2014 and 2015. From 2011 to 2014, the asset-side of the balance sheet increased to a size of 50,164m GBP, and was reduced to 44,214m GBP in 2015, following the one-time write-off. The write-off was mainly driven by revaluations on the property portfolio. A second consequence of the restructuring and revaluation charge was a negative effect on equity, which has been reduced to 7,071m GBP in 2015, as displayed in figure 19.

Selected Items: Balance Sheet	2011	2012	2013	2014	2015	CAGR (11-15)	Variance (vs. 14)
Total Assets	47,206	50,781	50,129	50,164	44,214	-1.6%	-11.9%
Total Liabilities	30,583	32,980	33,468	35,442	37,143	5.0%	4.8%
Total Equity	16,623	17,801	16,661	14,722	7,071	-19.2%	-52.0%

Figure 19 – Tesco balance sheet overview: 2011 - 2015

The liquidity ratios of Tesco are below 100%, which generally implies that current assets are not financed by current liabilities, as shown in figure 20. However this characteristic is common among retail companies and not a negative indicator for Tesco. Furthermore, figure 20 displays that leverage increased significantly with the debt / equity ratio worsening from 66.6% (2011) to 179.0% (2015).

Liquidity Ratios	2011	2012	2013	2014	2015	CAGR (11-15)	Variance (vs. 14)
Current Ratio	65.5%	64.4%	66.6%	61.1%	59.7%	-2.3%	-2.4%
Cash Ratio	16.0%	25.0%	19.0%	21.2%	16.9%	1.4%	-20.2%
Debt & Interest Coverage Ratios							
Debt / total assets	23.5%	23.1%	21.6%	22.4%	28.6%	5.1%	28.1%
Debt / equity	66.6%	66.0%	65.0%	76.2%	179.0%	28.0%	135.1%
Net Debt / Equity	64.2%	59.0%	61.9%	69.3%	170.6%	27.7%	146.4%
Interest coverage ratio	11.8	17.8	6.0	6.1	-10.1	U	-266.6%

Figure 20 – Tesco liquidity & debt ratios: 2011 - 2015

4.2.3 Position of Cash Flow

Despite the large write-off of 7,182m GBP in 2015, only around 700m GBP have been affecting the cash balance of the company, with the remaining items being non-cash. The free-cash flow, excluding the adjustments for operating leases that have been made for valuation purposes accounts to a negative amount of 1,324m GBP, as shown in figure 21.

	2011	2012	2013	2014	2015
EBIT (after adj for operating Leases)	4,950	5,429	3,669	4,045	-4,306
EBIT adjustment for noncash items	-253	-263	1,043	584	6,482
(-) Taxes on EBIT	-1,140	-1,165	-1,256	-736	-1,255
(-/+) Change in deferred taxes	0	66	-154	-412	-395
(=) NOPLAT	3,557	4,067	3,302	3,481	526
(+) Depreciation	1,420	1,498	1,590	1,562	1,551
(=) Gross cash flow (A)	4,977	5,565	4,892	5,043	2,077
(+) Investment in working capital		100	399	-90	-486
(+) Investment in capital expenditures		3,708	2,987	2,881	2,318
(+) Increase in net other assets		0	0	0	0
(+) Investment in operating leases		214	40	127	72
(=) Gross investment (B)		4,022	3,426	2,918	1,904
(=) Free cash flow		1,543	1,466	2,125	173
(=) Cash flow available to investors		1,614	1,519	2,176	162
Free Cashflow without Lease Adjustment		367	232	762	-1,324

Figure 21 – Tesco cash flow: 2011 - 2015

4.3 Management and Strategy

Tesco has renewed the management team in August 2015 after it became clear that the company is facing various challenges. CEO Dave Lewis is leading the new management team.

Next to the worsening financial performance since 2012, which has been addressed, the company had a serious issue with its accounting of commercial income: Commercial income can occur in the form of discounts or rebates paid by suppliers in regard to the volume sold at Tesco or by suppliers contributing to the costs of promotion campaigns (Tesco, 2015). Here Tesco has advanced bookings of commercial income while delaying the booking of the respective costs. By doing so, the company did not comply with its accounting standards and the overall overstatement “was estimated at 263m GBP” (Tesco, 2015).

In the 2015 annual report Dave Lewis announced Tesco's mission as being "the champion for customers" by identifying that customers "want great value and great service" (Tesco, 2015). To achieve this he has announced three strategic priorities:

Firstly Tesco targets to regain "competitiveness in the core UK business", which recently suffered dramatically in terms of profitability (Tesco, 2015). This should be achieved by focusing on service, range, availability and price. While the range of products offered should be made simpler, more space should be given to the top 1000 products to address availability. Prices should be lower and more stable in order to compete with discounters. The focus of the pricing initiative should be "on lines that matter most to customers", as CEO Lewis said. Additionally, Tesco plans to close around 50 stores that are not profitable while not perusing the opening of 49 stores as planned previously.

The company carries a large amount of debt and consequently it aims to focus on "protecting and strengthening the balance sheet" (Tesco, 2015). This primarily implies a reduction of net debt. Furthermore a focus is put on the reduction of capex and lease payments, as well as addressing the issue of unfunded pensions. During the presentation of the interim results of the 2016 business year in October 2015, the sale of the Korean business unit, Homeplus, has been announced to make progress on this target. On October 15th it was announced that Tesco exited development land for around 250m GBP (Financial Times, 2015).

The third priority for Tesco is to rebuild "trust and transparency" (Tesco, 2015). Here Tesco aims to focus on costs instead of commercial income. Also CEO Lewis strives to establish a "speak-up" culture and a new code of conduct to prevent problems such as the commercial income issue. Tesco is trying to improve the relationships to its suppliers, too, after suppliers have recently been dissatisfied with the business practises of Tesco.

A complementary SWOT analysis is presented in appendix 5.

5 Financial Forecasts & Cost of Capital

In the following part financial forecasts are established that will serve as a basis for the valuation. The focus of this chapter is to present the reasoning behind the assumptions to increase the accountability of the valuation itself. The market data used relates to October 31st 2015, which has been defined as the data cut-off point.

On October 7th 2015, Tesco has published interim results for the first two quarters of the business year 2016. Based on a seasonality analysis of revenue per region, these results have been used to complete a forecast of the full business year 2016, as presented in appendix 6. This period will be regarded a first provisional period. The company will be valued using the cash flows starting in the succeeding business year, thus 2017.

As banks are difficult to value using traditional valuation methods, Tesco Bank will be valued separately of the operations of the retail businesses. Consequently a separation of the bank's assets and liabilities from the retail balance sheet represents the first step. Furthermore, the Chinese JV in which Tesco has a stake of 20.0% will be valued separately. Thus the financial forecasts do neither consider income from the JV nor from Tesco Bank.

The explicit period is forecasted from 2017 to 2024, as it is assumed that Tesco is not in steady state earlier. During all times it is assumed that the investor is fully diversified. The financial statements as well as the computation of interest expenses and return ratios can be found in detail in appendices 19 – 24.

5.1 Tesco: Retail Business

The income statement of the retail businesses will be forecasted as a first step.

5.1.1 Income Statement

5.1.1.1 Revenues

As mentioned, Tesco announced to sell the Korean retail business, Homeplus. The total assets of Homeplus account to 4,955m GBP, with a net asset value of 3,431m GBP. The balance sheet is displayed in appendix 7. As a consequence, the forecasted revenue for 2016 accounts to 54,364m GBP, which represents a significant reduction of 12.6% versus 2015, as displayed in figure 22.

Profit and loss statement - Retail (£m)	2011	2012	2013	2014	2015	2016
Revenue UK	40,766	42,803	43,582	43,570	43,573	44,040
Revenue International	19,489	20,694	19,364	19,576	18,399	10,324
Group revenue	60,255	63,497	62,946	63,146	61,972	54,364

Figure 22 – Tesco revenue per region: 2011 - 2016

Revenue growth and consequently revenues will be forecasted based on two components: Firstly the revenue growth from new stores and secondly the revenue growth from like-for-like sales. Like-for-like sales are a key indicator in retail, which basically adjust the growth rate for the effects of sales growth through acquisitions or disposals of assets or changes in the number of stores.

In the UK business like-for-like sales are negative at 1.0% in the first half of 2016, while the transactions (+1.5%) and volume (+1.4%) are increasing. This indicates that price pressure is still increasing and it is expected to dominate the market for the next years. CEO Lewis confirms that price deflation is expected during the next periods. Despite like-for-like sales growth still being negative, a positive trend is visible over the last four quarters as displayed in figure 23. Appendix 8 shows the development of like-for-like sales for the different store types. It can be concluded that the trend is positive for all store types except for the Express stores, which have stable growth but strongly positive at around 4.0% per year.

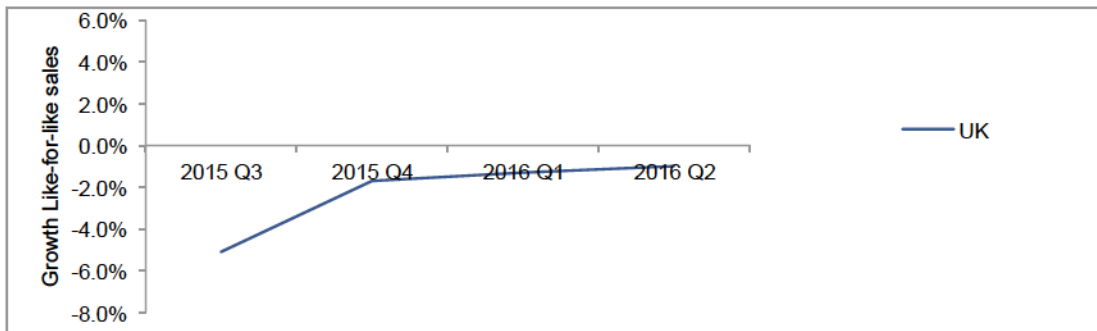


Figure 23 – Tesco like-for-like sales growth UK: 2015 - 2016

The assumption is made that nominal like-for-like sales growth is composed by three factors, being real GDP growth, inflation and competition.

The forecasted revenue growth in the UK is presented in figure 24. The year 2016 is forecasted to be negative due to the effects of store closures and like-for-like sales still being negative. The number of stores decreases by 51 in 2016 as per Tesco. It is assumed that the trend in store growth can be reversed in 2019. Stores continue to grow at a conservative rate of 10 stores per year in the UK for 2019 and 2020, mainly as the market for convenience stores has

more potential. Afterwards store growth is expected to slow down to 5 stores per year. The forecast of like-for-like sales growth assumes real GDP growth of around 2.0% to 2.2% based on IMF data and inflation of 0.0% to 2.0% in line with the macroeconomics environment.⁴ An adjustment of 1.0% to 3.0% (after 2023: 1.0%) is made to account for the price pressure in the market.

UK	2017	2018	2019	2020	2021	2022	2023	2024
Number of stores	3,434	3,434	3,444	3,454	3,464	3,469	3,474	3,479
Net change in stores	0	0	10	10	10	5	5	5
Growth resulting from new stores	0.0%	0.0%	0.3%	0.3%	0.3%	0.1%	0.1%	0.1%
GDP Growth (Real)	2.2%	2.2%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Inflation (Food)	0.0%	0.0%	1.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Adjustment for Competition	-3.0%	-2.5%	-2.5%	-2.5%	-2.0%	-2.0%	-1.0%	-1.0%
Growth of Like-for-Like sales	-0.8%	-0.4%	0.5%	1.5%	2.0%	2.0%	3.0%	3.0%
Total Revenue Growth UK	-0.8%	-0.4%	0.8%	1.8%	2.3%	2.1%	3.1%	3.1%

Figure 24 – Tesco revenue forecast UK: 2017 - 2028

In the first half of the 2016 business year, a positive trend has been visible for the sales growth in the international business, with increased like-for-like sales of 1.0% overall, as displayed in figure 25 for Europe and Asia. CFO Stewart states at the presentation of the 2016 interim results, that he indeed sees positive momentum in the international businesses. This trend is positive despite of some challenges such as the political changes in Hungary, where stores are not able to open on Sundays.

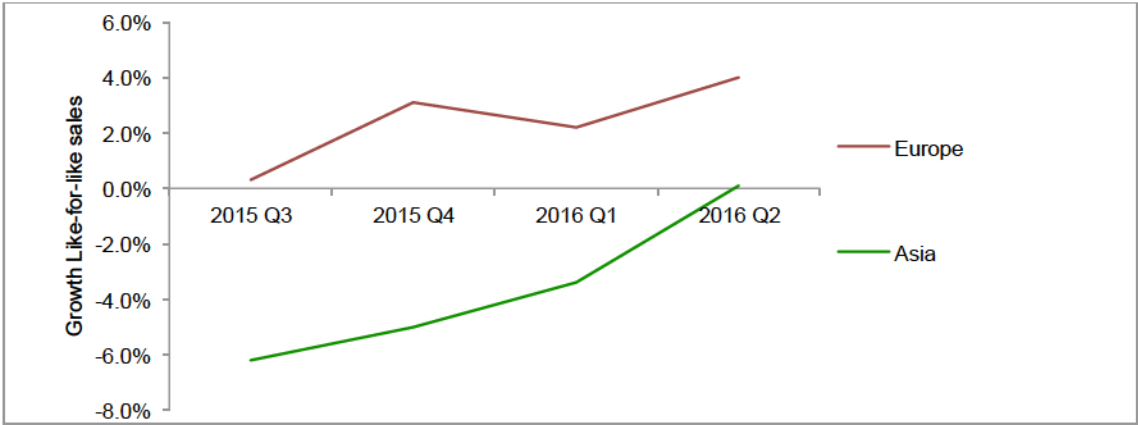


Figure 25 – Tesco like-for like sales growth International: 2015 - 2016

The forecast for 2016 is created based on the seasonality analysis and forecasted as summarized in figure 26 afterwards. Like-for-like sales growth and store growth is forecasted individually for each country, which is presented in appendix 9. The aggregated international

⁴ Until 2019 no inflation is assumed. Afterwards, it is assumed that the inflation estimate of the IMF is equal to the expected inflation in the retail / food sector. CEO Lewis confirmed that no inflation is currently visible in the retail market.

forecasted is determined by weighting the country-specific growth rate based on selling area per country. Overall a growth of 119 stores annually is assumed until 2019, which is decreasing afterwards. This is regarded as realistic given the potential in Eastern Europe and Asia in the next years.

International: Weighted Average	2017	2018	2019	2020	2021	2022	2023	2024
Number of stores	3395	3514	3633	3724	3815	3906	3997	4088
Net new stores	119	119	119	91	91	91	91	91
Growth resulting from new stores	3.6%	3.5%	3.4%	2.5%	2.4%	2.4%	2.3%	2.3%
GDP Growth (Real)	3.3%	3.4%	3.2%	3.1%	3.0%	2.9%	2.9%	2.9%
Inflation (Food)	2.4%	2.5%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%
Adjustment for Competition	-3.7%	-3.4%	-2.4%	-1.4%	-0.6%	-0.6%	-0.6%	-0.6%
Growth of Like-for-Like sales	2.0%	2.5%	3.4%	4.3%	4.9%	4.8%	4.8%	4.8%
Total Revenue Growth	5.6%	6.0%	6.8%	6.8%	7.3%	7.2%	7.2%	7.1%

Figure 26 – Tesco revenue forecast International: 2017 - 2028

5.1.1.2 Operating Expenses

The trading margin is the margin earned after payments to suppliers and operating expenses, including depreciation, have been deducted. Consequently the expense ratio is equal to one minus the trading margin and represents the portion of revenues that is needed to cover the on-going business operations. The operating expenses are forecasted using the format of expense ratios. This format of forecasting assumes that all expenses grow along with revenues. This assumption is regarded as reasonable after an analysis has been performed, which is presented in appendix 10.

A key threat in the UK market is the worsening of margin driven by the continuous price decreases resulting out of the competition with discounters. This threat is also present in Eastern Europe, for which reason the forecast of expense ratios is presented for the UK and international business combined in figure 27.

Operating Expenses (%)	2017	2018	2019	2020	2021	2022	2023	2024
UK ^(BRED VMA)	99.5%	99.0%	99.0%	99.0%	99.0%	98.5%	98.5%	98.5%
International ^(BRED VMA)	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%

Figure 27 – Tesco operating expenses forecast UK & International: 2016 - 2028

The financial forecast accounts for this by forecasting the UK trading margin to be under strong pressure until 2021, with the expense ratio being at 99.0% to 99.5%, with a slight recovery after. This is still regarded as conservative considering the margins that Tesco generated in 2012. The forecasts also consider that Tesco aims to improve its cost structure.

It is assumed that there is potential for cost reductions internationally. In Eastern Europe, Tesco targets to move from a country-based to a regional management structure. Potential

efficiency improvements, such as economies of scale in purchasing or opportunities in logistics, would have a positive effect on margin. However there is also the risk of price pressure affecting margins internationally and thus a forecast of a constant expense ratio at 98.0% is regarded as reasonable, considering that Europe's margin might further decrease and that the Asian business can only compensate this effect to some extent.

Furthermore the foreign country risk is represented in the forecast of cash flows and is another reason for the conservative margin assumptions. No adjustments will be made to the discount rate to account for increased risk.⁵

5.1.1.3 Non-operating Expenses

The assumption is made that no further restructuring is performed in the next years. CEO Lewis confirmed during the interim results presentation that the restructuring included all one-off items from a current point of view.

The sale of Homeplus will result in an after-tax accounting loss of approximately 150m GBP (London Stock Exchange, 2015), which is considered in 2016.

As Tesco's balance sheet carries an extensive property portfolio, there is the risk of further impairments, in case property markets decline. This risk is acknowledged, but not factored into the forecast of the base case due to the inability to make reasonable predictions.

5.1.1.4 Interest

While the interest payments are computed based on the pre-tax cost of debt, that is presented later, the excess cash is assumed to generate interest income of 0.1%.⁶ Interest is computed based on the debt outstanding in the previous period.

5.1.1.5 Taxes

Tesco is active in various markets and consequently, the overall tax rate represents a combination of the taxes paid in different countries. Between 2011 and 2015 the corporate tax rate has varied from 15.4% to 25.7%, as shown in figure 28.

⁵ The approach is substantiated by the fact that Tesco is hedging the majority of the exposure and therefore no further up- or downside is included in the assumptions.

⁶ This conservative assumption is regarded realistic given the market environment where LIBOR and EURIBOR are negative as per October 31st 2015.

Taxes	2011	2012	2013	2014	2015	2016
Corporate tax rate	23.7%	22.9%	25.7%	15.4%	20.7%	30.0%

Figure 28 – Tesco effective tax rate: 2011 - 2016

There is a risk that additional taxes are imposed on retailers in certain countries. However, as Tesco states in their annual report 2015 the taxes are generally imposed on all retailers rather than solely on foreign retailers. Therefore it can be assumed that any additional tax burden can be passed on to the consumer.

Tesco anticipates an effective tax rate of 30% for 2016 along with the reduction of the deferred tax balances. Furthermore the investor relations department confirmed that no cash taxes will be payable in 2016, which is documented in appendix 11. This is considered in the computation of cash flows. The valuation assumes an effective tax rate of 30% for 2016 and 2017 as mentioned by the Tesco's investor relations department. Afterwards a tax rate of 25% is assumed, as it approximates the average from 2011 to 2017.

5.1.2 Balance Sheet

The statement of financial position for 2016 is adjusted to account for the sale of Homeplus, for 4,004m GBP. Tesco reported that the cash proceeds after transaction costs and taxes will account to 3,351m GBP and will be used to reduce the debt of the group, along with debt reductions of 852m GBP driven by a decrease in capital lease obligations. Thus assets held for disposal at the end of business year 2016 are assumed to be zero. Also, the property sale in the UK for 250m GBP is considered.

As Tesco is not carrying any bank debt that could be repaid and as bonds are not maturing immediately, the cash will be assumed to stay on the balance sheet as excess cash in 2016. Afterwards the excess cash balance is assumed to be reduced by 500m GBP annually in order to reduce the outstanding debt. The reduction in lease obligations is assumed to reduce the long-term debt in 2016 by 852m GBP. The account adjustments to the balance sheet in 2016 are highlighted in appendix 12.

5.1.2.1 Deferred Tax Balances

Tesco has a deferred tax liability of 472m GBP and a deferred tax asset of 671m GBP. As highlighted by Tesco's investor relation department, the company is targeting to reduce the deferred tax balances. Thus the forecast assumes a decline in the deferred tax liabilities balance from 472m GBP (2016) to 149m GBP (2024). The deferred tax asset is assumed to decrease from 671m GBP (2016) to 260m GBP (2024).

5.1.2.2 Pension Liabilities

As per October 2015, Tesco has a deficit in pensions of 4,201m GBP, which means that these pensions are not funded and represent a potential liability. Tesco has decided to transform the pension scheme to a defined contribution scheme after November 2015, with the advantage that cash requirements can be planned with more certainty as the risk of investing is passed to the employee. Nonetheless, there is an uncertainty over the number of employees that subscribe to the new scheme, which affects the amount of contributions that Tesco has to match.

5.1.2.1 Total Debt

The balance sheet for 2016 is forecasted using the values of debt outstanding. Therefore the balance sheet is assumed to represent the market value of debt for valuation purposes. This is assumed to be reasonable as the book value of debt is almost identical to the market value of debt in 2016.

Total debt comprises out of the company's net debt, the commitments for operating lease agreements as well as a deficit for pensions. The net debt of the group, excluding the banking business, accounts to 7,851m GBP for 2016. It comprises out of the market value of debt outstanding, publicly traded bonds, minus the excess cash. This includes all interest-bearing debt, including capital lease obligations. The PV of operating lease commitments accounts to 9,091m GBP. With the pension deficit of 4,201m GBP this results in total debt of 21,143m GBP, after considering the sale of Homeplus and property in October.⁷

Tesco has the key strategic objective to strengthen the balance sheet and with the recent disposal of property and Homeplus, it already managed to improve its leverage ratio in terms of net debt over equity from 170.6% in 2015 to 127.4% in 2016. Over the explicit period this ratio is assumed to decrease to 85.9%, which is close to Tesco's leverage before 2015, being in the range of 59.0% to 69.3%. This forecast underlies the assumption that a dividend of 5.00 pence GBP is paid in 2019, which is increasing at a rate of 10.0% annually.

Due to the substantial deleveraging of the balance sheet, the use of WACC as a discount rate is not considered as appropriate. The APV method will be applied for the valuation of the retail business.

⁷ Tesco itself has a less conservative definition of net debt in its investor relation documentation. The definition in this work deducts the excess cash only.

5.1.3 Cash Flow Statement

5.1.3.1 Capital Expenditures and Depreciation

Tesco has reduced the capex from 2,987m GBP in 2013 to 2,318m GBP in 2015 and is targeting to spend less than 1,000m GBP in 2016, as displayed in figure 29.

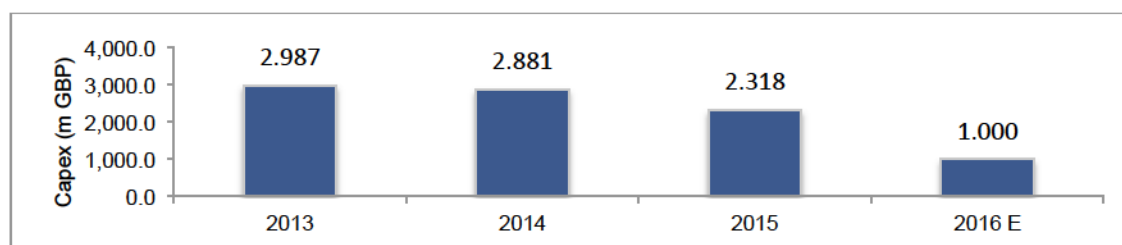


Figure 29 – Tesco capex: 2013 - 2016

The forecast, done as a percentage of net PP&E over revenue, assumes a constant spending of around 1,000m GBP in capex over the next years. This covers refurbishments of stores as well as opening of new stores as described in the revenue forecast. The assumption is regarded as reasonable given the moderate growth of the business that is presumed. Figure 30 shows the capex and depreciation forecast.

Description	2016	2017	2018	2019	2020	2021	2022	2023	2024
Depreciation (m GDP)	1,750	1,459	1,393	1,385	1,379	1,374	1,145	1,031	941
Capex (m GDP)	1,000	1,009	996	1,021	1,047	1,138	1,165	1,011	964

Figure 30 – Tesco depreciation and capex forecast: 2016 - 2024

Considering that the growth of the Tesco business has been astonishing, just increasing the amount of stores in the UK at a CAGR of 10.4% from 2011 to 2015, the depreciation is still at a relatively high level during the first years of the explicit period. Along with growth coming mainly from existing stores and with the decrease in growth of the business it is expected to decrease to the level of capex in 2022 to 2024, where the steady state is reached.

5.1.3.2 Working Capital

The forecasting of balances for inventories, receivables, operating cash and provisions follows a common approach. The balance sheet items are forecasted as a percentage of revenues, which is equal to the average of the last four years (2012-2016), as displayed in figure 31. The accounts “Loans and advances to customers” as well as “Other current liabilities” are considered to be zero, as these accounts relate to Tesco Bank.

Working capital / Revenues	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Inventories	5.9%	5.6%	4.7%	4.7%	5.3%	4.0%	4.1%	4.1%	4.1%	4.1%	4.2%	4.2%
Receivables	4.0%	3.4%	3.4%	2.9%	3.4%	3.5%	3.5%	3.5%	3.5%	3.5%	3.6%	3.6%
Operating Cash	3.6%	3.6%	3.4%	4.0%	3.6%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Loans / Advances to Customers	4.9%	5.8%	6.1%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accounts payable	17.5%	16.7%	15.9%	15.3%	16.4%	14.3%	14.3%	14.3%	14.3%	14.3%	14.3%	14.3%
Provisions	0.3%	0.4%	1.1%	0.8%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other current liabilities	10.3%	13.4%	11.4%	13.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Net working capital	-9.7%	-12.0%	-10.7%	-10.3%	-4.6%	-4.3%	-4.2%	-4.2%	-4.2%	-4.2%	-4.0%	-4.0%

Figure 31 – Tesco working capital (% of revenues): 2013 - 2024

The rather conservative growth assumptions are also visible in the working capital development in absolute terms. The total working capital to be invested from 2016 to 2024 is amounting to minus 301m GBP, as visualized in figure 32. Thus it represents a form of financing.

Working Capital (m GBP) - Accounting									
Description	2016	2017	2018	2019	2020	2021	2022	2023	2024
Inventories	2,620	2,777	2,134	2,233	2,298	2,378	2,458	2,623	2,732
Receivables	1,605	1,815	1,868	1,906	1,962	2,030	2,098	2,248	2,342
Operating cash	2,186	1,926	1,334	1,362	1,401	1,450	1,499	1,561	1,626
Total operational current assets (A)	6,506	6,518	5,336	5,501	5,662	5,858	6,055	6,432	6,700
Accounts payable	8,483	8,647	7,631	7,789	8,016	8,294	8,573	8,929	9,301
Provisions	324	311	0	0	0	0	0	0	0
Total operational current liabilities (B)	8,807	8,957	7,631	7,789	8,016	8,294	8,573	8,929	9,301
Working Capital (A + B)	(2,301)	(2,439)	(2,295)	(2,288)	(2,354)	(2,436)	(2,518)	(2,498)	(2,602)
Investment in Working Capital	911	(138)	145	7	(67)	(82)	(82)	20	(104)
Working Capital / Revenue	-4.4%	-4.6%	-4.3%	-4.2%	-4.2%	-4.2%	-4.2%	-4.0%	-4.0%

Figure 32 – Tesco working capital forecast: 2016 - 2024

5.1.1 Cost of Capital

5.1.1.1 Cost of Debt

The majority of Tesco's debt financing is public, in form of traded bonds. An overview of the bonds outstanding is presented in appendix 13. Standard & Poor's assigned Tesco a credit rating of BB to Tesco, which is not considered investment grade, while Fitch assigned a rating of BBB, which is still considered investment grade. Therefore, the approach of determining the cost of debt as stated in the literature review is regarded as appropriate. As per October 31th the company has a total of 10,504m GBP bonds outstanding. All bonds are fixed-coupon bonds, which reduces the uncertainty in terms of materiality of coupon and principle repayments. However the bonds are issued in different currencies, Euro and US Dollar next to the GBP, as visualized in figure 33.

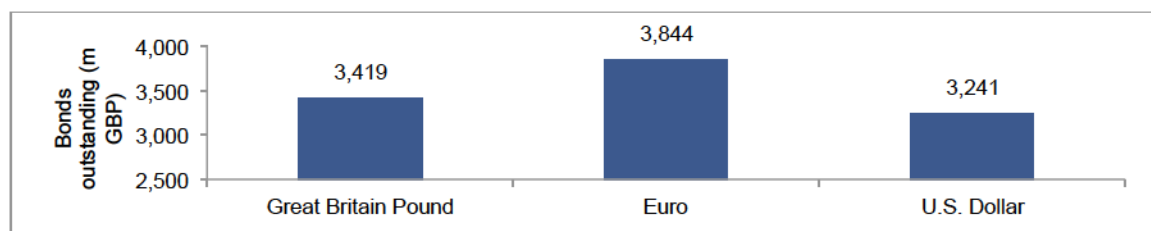


Figure 33 – Tesco bonds outstanding: Currency profile

In terms of maturity, 28.3% of the bonds outstanding are due after 2028, while 35.3% or 3,708m GBP are due within the next three years, as displayed in figure 34.

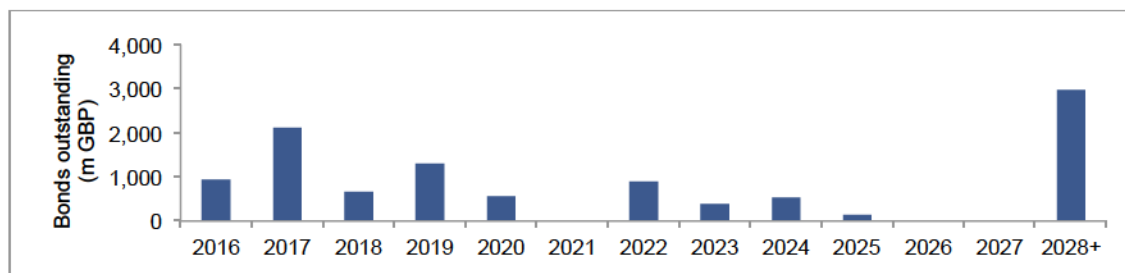


Figure 34 – Tesco bonds outstanding: Maturity profile

The US Dollar and the Euro show some variability against the GBP, as visualized in appendix 14. To account for the variability in exchange rates, the spread between the yield of the bonds of Tesco over the respective risk-free rate is computed, as highlighted in figure 35.⁸ Consequently the weighted average spread accounts to 2.29%.⁹ To obtain the pre-tax cost of debt for Tesco, the spread is added to the UK risk-free rate, which results in a pre-tax cost of debt of 4.24%.¹⁰

Currency	Weighted Average Yield	Risk-free Rate	Weighted Average Spread	Debt / Currency	Average Spread x Portion of Debt
Euro	2.35%	0.56%	1.79%	36.6%	0.65%
Great Britain Pound	4.78%	1.95%	2.83%	32.5%	0.92%
U.S. Dollar	4.49%	2.17%	2.32%	30.9%	0.71%
Average				Average Yield	2.29%

Average Spread	2.29%
Risk-free rate UK	1.95%
Cost of Debt	4.24%

Figure 35 – Tesco pre-tax cost of debt: Computation

After applying the long-run tax rate of 25.0%, the after-tax cost of debt is regarded to be 3.08%.

⁸ The risk-free rate for all three currencies is assumed to be equal to the yield on a 10-year bond of Germany, the UK or the US respectively.

⁹ While the work displayed percentages to the first decimal place so far, the percentages regarding the cost of capital are displaying percentages with two decimal places. The same applies for some metrics regarding peer group evaluation and bankruptcy costs to provide a deeper level of detail.

¹⁰ Tesco has a credit line of 2,000m GBP, for which the pre-tax cost is estimated to be 5.45%. This is derived based on a risk-free rate to which a spread of 3.5% is applied. The spread is determined based on the credit rating of S&P and Fitch. However, as the credit facility is currently unused, it does not affect the actual cost of debt of Tesco. Additionally, Tesco did not advance any payments by factoring receivables; it is assumed that there will be no advances in the future.

5.1.1.2 Cost of Equity

In order to calculate the cost of equity the risk-free rate is determined to be the yield on a 10-year government bond issued by the UK (A1ZY2W). This duration is assumed reasonable, as an 8-year government bond is not available and it is generally matching the explicit period. As per October 31st, 2015 the yield accounts to 1.95%.

The beta is computed using returns for the FTSE100 index, which is determined to be the market index, and the stock performance of Tesco. As highlighted in the literature review, it is based on 5-year monthly data, ending in October 2015. The calculated raw beta accounts to 0.88, while the adjusted beta that weights the market with 1/3 is calculated to be 0.92.

For the risk-premium, a value of 6.53% for the UK market is applied as stated by Damodaran (2015). This value is based on a time period of 10 years. To substantiate this value, Huang (2013) has found that the market risk premium in the UK from 1950 to 2007 has been 5.4%. Therefore the figure of Damodaran is considered as reasonable. Using the formula for the CAPM a cost of equity of 7.94% is obtained.

5.1.1.3 Unlevered Cost of Equity

The unlevered cost of equity is calculated to be 6.29%. This is based on the assumption of a market value of debt of 10,504m GBP, a market value of equity of 14,915m GBP and a PV of tax shields of 2,623m GBP.

5.1.1.4 Weighted Average Cost of Capital

Applying the forward-looking capital structure of 4,891m GBP in debt and 5,692m GBP in equity in 2024 the WACC is computed. The tax rate assumed is 25.0%, as in the financial forecast after 2017. The WACC is computed to be 5.74%.

5.2 Tesco: Bank Business

5.2.1 Income Statement

The revenues for the total year of 2016 are forecasted to be 964m GBP. For valuation purposes constant revenues are projected for 2017 based on the rather stable nature of the business. The net income for 2016 is forecasted to be 178m GBP, with the trading margin growing from 18.0% (2016) to 18.5% (2017), accounting for positive expectations by the company management.

5.2.2 Balance Sheet

Tesco Bank has a business model that focuses on retail banking and insurance. Thus the bank has a strong risk asset ratio of 19.1% (Tesco, 2015). The main positions of the balance sheet involve “loans to customers” (7,720m GBP) on the assets side and “customer advances” (7,020m GBP) on the liability side.

5.2.1 Cost of Capital

In order to determine the cost of capital the CAPM is applied. A bank that is comparable in terms of activities is analysed to obtain a reasonable value for the beta:

Lloyds Banking group states that its business model is “simple, low risk, customer focused, UK and retail bank” (Lloyds, 2015). Lloyd’s generated income of 9.0bn GBP in the first half of 2015 and is, consequently, far larger than Tesco Bank. Unlike Tesco Bank it offers products to corporate clients. Nonetheless are there various similarities: Both companies mainly focus on the UK market and offer traditional retail banking products.

The equity beta of Lloyds accounts to 1.38 and after calculating the asset beta and re-leveraging it using the leverage ratio of Tesco Bank, the equity beta for Tesco Bank is 0.33. The driver for the equity beta being so low as compared to Lloyds is due to the leverage ratio of Tesco Bank (3.5), which is much more conservative than Lloyds leverage ratio (16.1).

As per Damodaran, the return on equity securities in the banking industry is at 5.80%, which results in an equity risk premium of 3.25% (Damodaran, 2015). The total cost of equity accounts to 3.01%.

6 Peer Group

In the following, separate peer groups are defined for the relative valuation of Tesco's retail business and Tesco Bank.

6.1 Tesco: Retail Business

6.1.1 Enterprise Value Multiples

Eight companies are evaluated for the purpose of establishing a peer group for the application of EV multiples. All eight companies are headquartered in Europe and operating between 555 and 12,000 stores, as shown in figure 36.

Company	Basic Facts			Property Development
	HQ	Stores (No.)	Regional Footprint	
Analysed Company Tesco PLC*	UK	7,817	UK (mainly), Eastern Europe, Asia	Yes
Peers Group: Included Companies				
Carrefour SA	France	10,102	Europe, UK, Middle East, Asia, Brazil	
J Sainsbury PLC	UK	1,304	UK	Yes
WM Morrison Supermarkets PLC	UK	555	UK (England, Wales, Scotland)	
Koninklijke Ahold NV	Netherlands	3,008	America, Central Europe, Asia	
Peer Group: Excluded Companies				
Casino Guichard Perrachon SA	France	12,000	France (mainly), South America, Asia	Yes
Distribuidora Int. de Alimentacion SA	Spain	6,914	Europe, China, Turkey, Brazil, Argentina	
Metro AG**	Germany	2,204	Europe, Asia and Marocco	Yes
Asda	UK (subsidiary)	600	UK	

Figure 36 – Tesco retail business: Peer group overview

In figure 37 the evaluation of peers is presented from a financial point of view: Carrefour, Sainsbury, Morrison and Koninklijke Ahold are regarded as the most suitable peers. The reasons for this decision are discussed below.

As the revenues have been decreasing for five companies, also driven by the price deflation, the revenue growth trend on a one-year basis is only considered to a limited extent. Instead, a special focus is put on the 5-year operating margin, in order to ensure comparability of profitability.

Carrefour is comparable in terms of long-run profitability having a 5-year operating margin of 2.06% (Tesco: 2.33%). In terms of current operating margins it is also comparable as well as in terms of markets, as it has a focus on the European market.

Company	Financial								
	Revenue			Margin			Capital Structure	Enterprise & Equity Value	
	Revenue (m GBP)	Revenue Growth Prior Year	Revenue Growth (%) 5-year avg.	Operating Margin (%)	Operating Margin Growth	Operating Margin (%) 5-year avg.	Debt / Equity	EV (m GBP)	Market Cap (m GBP)
Analysed Company									
Tesco PLC*	62,284	-2.0%	1.8%	1.3%	0.5%	2.33%	1.72	25,780	15,436
Peers Group: Included Companies									
Carrefour SA	54,059	-0.5%	-2.5%	1.9%	-0.8%	2.06%	1.52	24,491	14,765
J Sainsbury PLC	23,443	-0.7%	-1.5%	2.8%	-1.8%	3.23%	0.50	6,525	4,969
WM Morrison Supermarkets PLC	16,816	-4.9%	1.8%	2.1%	-1.3%	2.35%	0.60	3,955	3,955
Koninklijke Ahold NV	23,819	0.5%	3.3%	3.5%	0.0%	4.12%	0.77	12,117	10,619
Peer Group: Excluded Companies									
Casino Guichard Perrachon SA	36,041	-0.3%	12.37%	2.5%	-0.3%	4.65%	1.85	16,795	4,381
Distribuidora Int. de Alimentacion SA	6,541	-17.6%	-2.7%	2.6%	-1.4%	N/A	5.26	3,357	2,664
Metro AG**	50,077	2.1%	N/A	1.3%	0.1%	N/A	1.54	10,410	6,254
Asda								N/A	N/A

*For the purpose of assessing the peer group, the data is including Tesco Bank.

**Metro financials in 2013 comprised of a business year with 9-month only. It has been adjusted (x12/9) to obtain comparable growth rates. For the same reason, comprehensive 5-year data is not available.

Figure 37 – Tesco retail business: Peer group financial view

Sainsbury and Morrison are substantially smaller than Tesco, both in terms of number of stores as well as revenues. However, both retailers show comparable characteristics in terms of 5-years operating margin, being in the range of 2.35% to 3.23% (Tesco: 2.33%). The current operating margin of Sainsbury is strong, being at 2.80% in the last fiscal year (Tesco: 1.30%). This difference is considered reasonable taking into consideration that Tesco is still in the phase of recovering margins.

Besides Sainsbury, Koninklijke Ahold is also more profitable than Tesco, having substantially stronger operating margin of 3.50% versus 1.30% of Tesco. Considering that Tesco has generated strong margins in the past, Ahold is considered comparable: When excluding the year 2015, where the write-off affected the financial results, Tesco's operating margin was at 5.20%. Also Ahold is also sowing positive revenue growth over the past years as Tesco did, and it is advanced in terms of online shopping and business analytics like Tesco.

Casino Guichard has the highest operating margin and revenue growth of all evaluated companies over the last five years. They deviate substantially from Tesco's characteristics and are not considered comparable. The geographic footprint of Metro AG is not regarded as comparable. Tesco has no operations in India, Russia and Morocco. Additionally, Metro is mostly focusing on wholesale instead of retail customers. Distribuidora Int. is excluded from the peer group due to the geographic focus on South American countries. Asda is not included in the peer group as its financial data is consolidated into its parent company, Wal-Mart.

6.1.2 Earnings Multiples

Earnings multiples determine the equity value based on net income and share price of comparable companies. Both factors are heavily affected by capital structure.¹¹ Carrefour will be the only suitable company considered comparable from the EV multiple peer group that is suitable for the application of earnings multiples. Carrefour has a debt-to-equity ratio of 1.52, which is comparable to Tesco (2.05).

6.2 Tesco: Bank Business

The peer group for Tesco Bank is presented in figure 38. Virgin Money is considered most comparable: It is the only bank out of the evaluated companies that has a pure focus on personal customers. It is comparable in terms of size, with revenues slightly below the revenues of Tesco Bank. Furthermore, operating margin, cost-income ratio and loan-to-deposit ratio can be regarded as comparable.

Company	Market	Products / Services	Customers (No)	Revenues (m GBP)	Operating Profit Margin (%)	Cost-Income (Efficiency) ratio	Loan-to-deposit ratio (%)	Assets (m GBP)	Equity / Assets	P/E
Analysed Company										
Tesco Bank**	UK	Personal	7.4	1,024	18.9%	65.0%	111.7%	9,362	23.16%	
Peers Group: Included Companies										
Virgin Money (UK) Plc	UK	Personal	4.0	772	12.2%	72.9%	107.0%	26,537	4.69%	12.3
Peer Group: Excluded Companies										
Lloyds banking Group Plc	Worldwide	Personal; Corporate	N/A	19,211	38.1%	100.1%	110.0%	854,896	5.70%	9.4
Royal Bank of Scotland	UK & Ireland	Personal; Corporate	N/A	13,079	65.4%	98.8%	90.0%	1,050,763	5.45%	12.8
Standard Chartered Plc.	Worldwide	Universal	N/A	16,964	41.3%	59.0%	84.0%	725,914	6.40%	14.3

*Efficiency Ratio = Non-interest expense / revenue

** Debt/Equity ratio relates to 2017.

Figure 38 – Tesco Bank: Peer group

In terms of capital structure none of the banks evaluated is comparable, due to the fact that Tesco Bank has an unusually high amount of equity in relation to its business.

¹¹ The leverage ratio (debt/equity of the last fiscal period) used in the evaluation is based on Reuters, to ensure comparability.

7 Valuation

7.1 Valuation method

The retail operations of Tesco are valued using the APV approach, by computing the FCFF and discounting them using the unlevered cost of equity. The multiples valuation method is applied in order to substantiate the results, as they relate to actual market data. The banking activities are valued using both, the DuPont method as well as multiples. The Chinese JV will be valued based on the recent transaction value. After the outcomes of the different valuation methods have been presented, the outcome is concluded and a recommended equity value will be defined.

7.2 Valuation: Retail Business

7.2.1 APV valuation & Sensitivity analysis

The Net operating profit less adjusted taxes (NOPLAT) and FCFF projections are presented in figure 39. The NOPLAT is expected to increase from 1,145m GBP in 2017 to 1,950m GBP in 2024, representing a CAGR of 7.9%. Looking at the cash flows, the FCFF is expected to increase from 1,796m GBP in 2017 to 2,031 in 2024, which results in a CAGR of 1.8%. FCFF growth is lower than the growth in NOPLAT, driven by changes in working capital and deferred taxes. The forecast for tax of EBIT, capex and depreciation is relatively stable.

NOPLAT (m GBP)								
Description	2017	2018	2019	2020	2021	2022	2023	2024
Net sales	52,860	53,361	54,466	56,056	57,999	59,954	62,443	65,044
Operating expenses	(50,911)	(51,316)	(52,411)	(53,982)	(55,902)	(57,829)	(60,389)	(63,036)
Other Expenses	-	-	-	-	-	-	-	-
Depreciation	(1,522)	(1,393)	(1,385)	(1,379)	(1,374)	(1,145)	(1,031)	(941)
Adj. for operating leases	1,281	1,293	1,320	1,359	1,406	1,453	1,513	1,576
EBIT	1,709	1,945	1,990	2,053	2,129	2,433	2,536	2,644
EBIT Margin	3.2%	3.6%	3.7%	3.7%	3.7%	4.1%	4.1%	4.1%
Tax on EBIT	(513)	(486)	(498)	(513)	(532)	(608)	(634)	(661)
Change in deferred taxes	(51)	(49)	(50)	(51)	(27)	(30)	(32)	(33)
NOPLAT	1,145	1,410	1,443	1,488	1,570	1,794	1,870	1,950
<i>growth rate</i>		23.2%	2.3%	3.2%	5.5%	14.3%	4.2%	4.3%
FCFF (m GBP)								
Description	2017	2018	2019	2020	2021	2022	2023	2024
EBIT	1,709	1,945	1,990	2,053	2,129	2,433	2,536	2,644
(+) Depreciation	1,522	1,393	1,385	1,379	1,374	1,145	1,031	941
(-) Tax on EBIT	(513)	(486)	(498)	(513)	(532)	(608)	(634)	(661)
(+) Change in deferred taxes	(51)	(49)	(50)	(51)	(27)	(30)	(32)	(33)
(-) Δ working capital	138	(145)	(7)	67	82	82	(20)	104
(-) Capex	(1,009)	(996)	(1,021)	(1,047)	(1,138)	(1,165)	(1,011)	(964)
(-) Other investments in fixed assets								
FCFF	1,796	1,663	1,800	1,887	1,887	1,856	1,870	2,031
<i>growth rate</i>		-7.4%	8.3%	4.8%	0.0%	-1.6%	0.7%	8.6%

Figure 39 – Tesco retail business NOPLAT & FCFF: 2017 - 2024

In 2024, the last year of the explicit period, the weighted growth rate is 4.1%. However, due to the competitive business environment, the nominal terminal value growth rate is assumed to be 1.0%. Thus growth is assumed to be around zero in real terms. Consequently the discounted terminal value accounts to 25,038m GBP and the total discounted FCFF to 35,074m GBP, which assigns the perpetuity a weight of 67.8%.

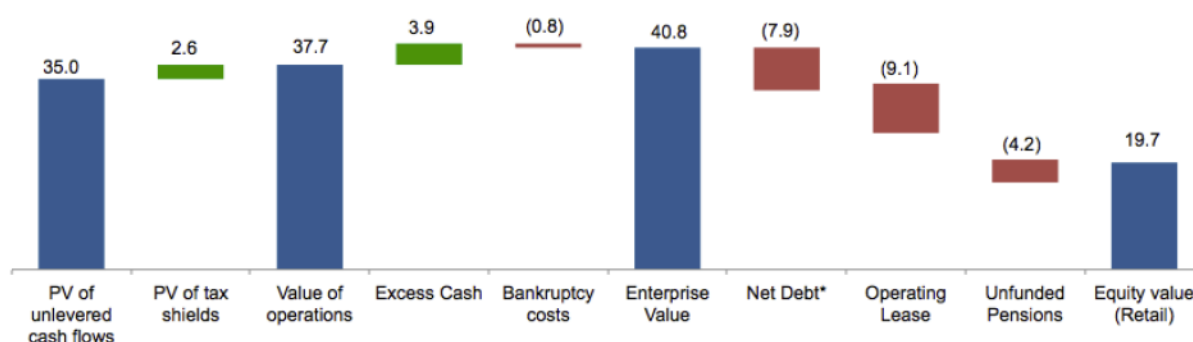
The interest tax shield is equal to the product of interest payments and effective tax rate. The PV of tax shields is computed by discounting the interest tax shield at the cost of debt. It accounts to 2,623m GBP. After discounting the FCFF at the unlevered cost of equity, it is added to the PV of tax shields to obtain the value of Tesco’s operations, 37,697m GBP. The discounting of FCFF and interest tax shields is presented in appendix 15.

Damodaran (2002) established a mapping, which estimates default probability based on credit rating, which is partially based on research by Altman and Kishore. Tesco has a credit rating of BB (Standard & Poors) and BBB (Fitch) which results in an average default risk of 7.25%. By making the assumption that the average bankruptcy costs account to 25.0% of EV, the expected bankruptcy costs are assumed to be equal to 754m GBP, as expressed in figure 40.

Credit Rating Tesco:	Default Rate
BB	12.20%
BBB	2.30%
Average Default Risk	7.25%
EV (before bankruptcy costs)	41,598.2
Bankruptcy costs	754.0

Figure 40 – Tesco retail business: Bankruptcy costs

The EV accounts to 40,844m GBP after accounting for excess cash (3,901m GBP) and bankruptcy costs (754m GBP). To obtain the equity value, the total debt of Tesco is deducted, as presented in figure 41 or in detail in appendix 16. The outcome of the retail business valuation is an equity value of 19,701m GBP or 2.42 GBP per share.



*Net Debt is computed as total financial debt minus excess cash.

Figure 41 – Tesco retail business: DCF valuation outcome walk

A sensitivity analysis is performed on the key variables, as presented in figure 42. It can be summarized that the valuation range, comprised from the average of the pessimistic and optimistic case, ranges from 14,973m GBP to 24,860m GBP, or from 1.84 GBP to 3.06 GBP per share.¹² The outcome is most sensitive to changes in the cost of capital and profitability.

Sensitivity scenarios

Description	Pessimistic	Base	Optimistic
Sales Growth (2017-2024); ± 3p.p.			
Equity value in 2016	17,185.3	19,701.3	21,595.1
% change	-12.8%		9.6%
Trading margin (2017-2024); ± 1p.p.			
Equity value in 2016	11,904.3	19,701.3	27,913.6
% change	-39.6%		41.7%
Capex (2017-2024); ±10%			
Equity value in 2016	17,964.1	19,701.3	21,438.5
% change	-8.8%		8.8%
Cost of capital <small>(ke and kd)</small>; ± 1 p.p.			
Equity value in 2016	13,868.1	19,701.3	26,990.8
% change	-29.6%		37.0%
Growth Rate of Terminal Value <small>(FCFF and tax shields)</small>; ± 2.0 p.p.			
Equity value in 2016	13,943.2	19,701.3	26,360.7
% change	-29.2%		33.8%
Summary:			
	low end		top end
Average	14,973.0	19,701.3	24,859.7
% change	-24.0%		26.2%
Average (per share)	1.84	2.42	3.06

Figure 42 – Tesco retail business: Sensitivity analysis

7.2.2 Multiples valuation

The multiples valuation of Tesco's retail operations is based on historic and forward-looking multiples for both, EV and earnings multiples. The historic data relates to the last fiscal year results 2016. For EV multiples the forward-looking data relates to the next fiscal year, 2017, where EBITDA of Tesco is already relatively stable. Net income is negative in 2016 and thus the historic P/E multiple is excluded. Due to the fact that net income is still negative in 2017, the forward-looking multiple is calculated based on 2024 data, the last year of the explicit

¹² The average of the minimum and maximum values is assumed to represent the valuation range. Therefore a scenario analysis is not performed in addition.

period, and discounted back to 2016. The financial forecasts for the peer group are extracted from the Thomson Reuters Eikon system.¹³

To ensure high accuracy, the financials of the peer group have been adjusted: The EV has been adjusted by the PV of operating leases as well as unfunded pensions, which is not considered in the financials extracted from Reuters originally. Furthermore, figures for EBIT and EBITDA have been adjusted for the operating lease expenses. This is presented in appendix 17.

The EV multiples used are EV/EBITDA and EV/Revenue. For the earnings multiples the forward-looking P/E multiple and the Price/ Book value are computed. As Tesco is not paying dividends the dividend yield measure is excluded. In order to derive the equity value of Tesco the total debt is deducted from the EV for the respective multiples. The forward-looking multiples are discounted to 2016 using the WACC.

Multiple	Equity Value (GBP per share)	Equity Value (m GBP)
EV/EBITDA (historical)	0.77	6,238
EV/Revenue (historical)	1.01	8,207
EV/EBITDA(forward-looking '17)	0.72	5,890
EV/Revenue (forward-looking '17)	1.52	12,406
Price/Book Value (historical)	1.65	13,456
PE (forward-looking '24)	0.92	7,475
Price/Book Value (forward-looking '17)	1.52	12,400

Tesco Equity valuation range with multiples

Description	Average	Minimum	Median	Maximum
Equity Value (m GBP)	9,439	5,890	8,207	13,456
Equity Value (GBP) per share	1.16	0.72	1.01	1.65

Figure 43 – Tesco retail activities multiple valuation: Outcome

The overview of the multiples in figure 43 shows that equity values for Tesco range from 5,890m GBP (0.72 GBP per share) to 13,456m GBP (1.65 GBP per share), with the average at 9,439m GBP (1.16 GBP per share). An evaluation of the results obtained will be presented in part 7.5 of this work.

¹³ It is assumed that the net income of comparable companies for 2024 is equal to the 2017 forecast from Reuters.

7.3 Valuation: Tesco Bank

7.3.1 DuPont Valuation

There are no indicators that unrealised capital gains (losses) or ending tax credits are applicable for Tesco Bank. Also shortfalls in pensions are not considered as they are assumed to relate to the labour-intensive retail business of Tesco mainly. The equity value of 2,241m GBP is consequently assumed to represent the net asset value. The forecasted ROE is assumed to be 21.90%, based on an ROA of 1.75% and an equity multiplier of 12.5. The cost of equity accounts to 3.01% as presented in chapter 5.2.1.

Applying these factors to the DuPont formula, a total equity value of 16,303m GBP (2.00 GBP per share) is obtained for Tesco Bank alone, as displayed in appendix 18. On October 31st the Tesco share was trading at 1.83 GBP. Therefore the DuPont valuation would value Tesco Bank alone higher than the total company.

This is driven by the low cost of equity, which itself is a result of the unusual high amount of equity. Consequently Tesco Bank seems to be overvalued based on the DuPont valuation method. Therefore a multiple valuation will be performed in the next step.

7.3.2 Multiples valuation

The multiple valuation for Tesco Bank is based on the P/E multiple, both historical and forward-looking. Furthermore an historic price/ book value multiple will be applied.

The valuation outcome is present in figure 44. It ranges from 2,641m GBP (0.32 GBP per share) to 3,587m GBP (0.44 GBP per share), with an average of 3,117m GBP (0.38 GBP per share). These values are regarded reasonable.

Multiples		historical multiples		forward-looking multiples	
Identifier	Company	P/E	Price/Book Value	P/E	Price/Book Value
VM.L	Virgin Money Holdings (UK) PLC	20.69	1.39	14.82	1.62

Tesco Data (m GBP)		historical		forward-looking	
Identifier	Company	Income (t=0)	Book Value (t=0)	Income (t=1)	Book Value (t=1)
N/A	Tesco Bank	173	2,241	178	N/A

Outcome		historical multiples		forward-looking multiples	
		P/E	Price/Book Value	P/E	Price/Book Value
Tesco Bank Equity Value (m GBP)		3,587	3,122	2,641	N/A
Tesco Bank Equity Value per share (GBP)		0.44	0.38	0.32	N/A

Figure 44 – Tesco Bank multiple valuation: Outcome

7.4 Valuation: China Joint Venture

China Enterprise Resources, which is a listed company, sold their business operations to its parent company, China Resources Holding, except the beer operations. The purchase price was agreed to be 30,000m Hongkong Dollar (China Enterprise Resources, 2015).

Considering that around 80.6% of this purchase price relates to the retail operations, of which Tesco owns a 20.0% stake, the holding of Tesco is valued with 404m GBP (0.05 GBP per share), as summarized in figure 45.

Turnover Analysis of CRE

Business	All Businesses		Businesses Sold		Comment
	Turnover (m Hongkong dollar)	Relative	Turnover (m Hongkong dollar)	Relative	
Retail	109,500	64.3%	109,500	80.6%	Tesco has 20% Stake
Beer	34,482	20.2%			Business is not sold
Food	16,486	9.7%	16,486	12.1%	Tesco has no Stake
Beverage	9,891	5.8%	9,891	7.3%	Tesco has no Stake
	170,359	100.0%	135,877	100.0%	

Valuation of China JV

Purchase Price paid by China Resources Holding:	30,000.0 m HKD
Exchange Rate (31.10.2015)	12.0 GBP / Hongkong Dollar
Purchase Price paid by China Resources Holding:	2,508.9 m GBP
Percentage of Retail operations of sold businesses	80.6%
Purchase Price relating to Retail Operations	2,021.9 m GBP
Tesco Share in the Joint Venture	20.0%
Value of Tesco Share in Joint Venture	404.4 m GBP
Value of Tesco Share in Joint Venture (per share)	0.05 GBP

Figure 45 – China JV: Turnover analysis and valuation

7.5 Valuation: Sum of the Parts

The average DCF value including Tesco Bank and the Chinese JV accounts to 2.85 GBP as per March 31st 2016, which is a premium of 55.7% compared to the market price of 1.83 GBP on October 31st 2015. The recommendation to buy the Tesco stock is the consequence. The valuation of Tesco where the retail business is based on the multiple valuation accounts to 1.59, which is a discount of 13.1% versus the market. The valuation range is visualized in figure 46.

The outcomes between the DCF and the multiples valuation show a large difference and the multiple valuation does not substantiate the DCF valuation. EBITDA and net income margins are calculated in order to crosscheck the relevance of the peer group. The average EBITDA margin of the peer group is 17.0%. It is 10.4 percentage points higher than Tesco's EBITDA margin of 6.6%. These numbers are after adjustments for operating leases and pensions that have not been considered in the initial analysis when the peer group was established. The

forward-looking net income margin of Carrefour, the only company in the peer group for earnings multiples, is 1.5% and thus it is 0.46 percentage points higher than Tesco's margin. As a consequence the comparability of the peer group can be regarded as limited. The equity value recommendation will consequently be based on the DCF valuation outcome.

Tesco: Retail Business	Equity per share (GBP)			Total Equity (m GBP)		
	Min	Max	Average	Min	Max	Average
DCF Retail Operations	1.84	3.06	2.42	14,973	24,860	19,701
Multiples Retail Operations	0.72	1.65	1.16	5,890	13,456	9,439
Tesco Bank	Min	Max	Average	Min	Max	Average
Multiples Valuation	0.32	0.44	0.38	2,641	3,587	3,117
China JV	Min	Max	Average	Min	Max	Average
Valuation Outcome			0.05			404
Tesco: Sum of the parts	Min	Max	Average	Min	Max	Average
Valuation Outcome (based on DCF)	2.16	3.50	2.85	17,614	28,447	23,223

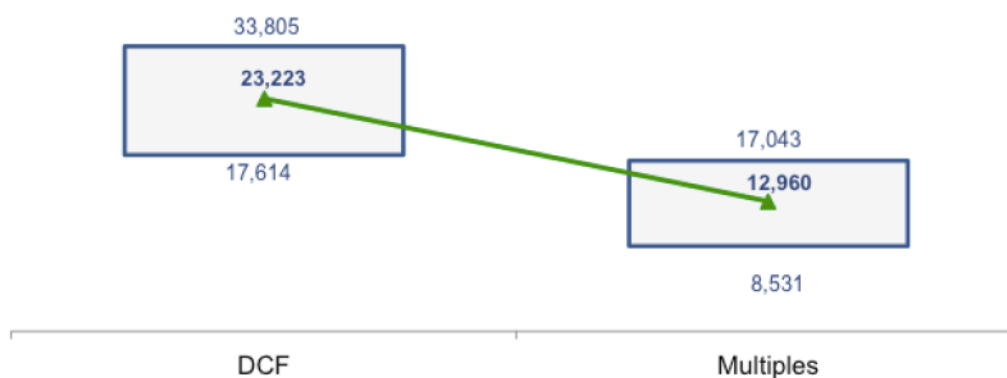


Figure 46 – Tesco: Sum of the Parts

7.6 Comparison with investment bank

During the investor presentation regarding the half-year results of Tesco on October 7th 2015, the leading analyst of Sanford C. Bernstein & Co. (Bernstein), Bruno Monteyne, was asking detailed questions to the management team of Tesco. Implying that he and his team at Bernstein have a deep understanding of the business, it has been decided to compare the valuation outcome of this valuation against their valuation target. Bernstein established a price target of 2.85 GBP per share for Tesco on August 13th 2015. This target was reconfirmed in a report published on October 26th 2015. Therefore, this price is equal to the equity value obtained in this valuation and 55.7% higher compared to the closing price of October 31st 2015.

Despite the fact that the valuation of this report and Bernstein are concluding the same value, the valuation shows important differences in assumptions on some items, which will be evaluated.

Generally, the valuation method used by the investment bank is a multiples approach where each country and asset is valued individually. Bernstein chose this approach as Tesco was actively looking to make disposals to reduce leverage. By applying this valuation method, more visibility on the value of the components of the business was created. As the process of disposals is complete with the sale of Homeplus and certain real estate assets, this advantage was not of importance in the valuation performed in this work. Furthermore it can be stated that while an analysis on a per country level gives further visibility, the financial data in the Bernstein valuation is not adjusted for operating leases, which offsets the accuracy to a certain extent.

Looking at the Bernstein valuation, the core UK business is valued on the assumption of a 3.3% EBIT margin, which is higher than the margin assumed in this valuation, which is below 2.0%.

The international businesses are valued individually as well. For the Asian countries, trading margins of 4.1% to 7.6% are assumed before applying them to different multiples. Adjustments of 10.0% to 30.0% are made to the EV obtained to account for shortfalls in comparability. Looking at Europe the countries Poland, Hungary and Slovakia are valued based on transaction multiples of recent market transactions, while Turkey and Ireland are valued using market multiples.

The discount rate used by Bernstein is at 6.0% and thus comparable to the discount rate used in the present valuation, where the cost of unlevered equity was assumed to be 6.3%.

Due to a similar discount rate and based on the stronger margins assumed in the valuation, Bernstein concludes higher values for the retail operations of Tesco than this valuation concluded.

Regarding the banking business, Tesco Bank is valued at 3,117m GBP in this valuation. Bernstein concludes a value of 1,500m GBP, assuming that the business is worth its book value, after adjusting it for goodwill. The adjustment for goodwill is not made in the present valuation.

Concluding it can be stated that the assumptions made by Bernstein value Tesco's retail operations higher than in the valuation performed. The valuation performed in this work assigns a higher value to the banking operations and concludes an equal value of 2.85 GBP per share finally.

8 Conclusion and future research

By applying different valuation methods for different components of Tesco and presenting their assumptions, a fair value of 2.85 GBP per share for Tesco has been determined. As the market is valuing Tesco at 1.83 GBP per share as per October 31st 2015, a buy recommendation is announced. The valuation consequently implies an upside potential of 55.7%.

The retail business is the largest component of the Tesco as a whole. Here, the outcomes that have been obtained based on different valuation methods have been evaluated and drivers for the differences have been identified, with the conclusion that the intrinsic valuation based on APV gives the best estimate for the fair value of Tesco. Less importance is assigned to the outcome of the multiples valuation.

Despite the fact that the chosen investment bank, Bernstein, recommends a similar value for Tesco, there are substantial differences in assumptions that have been evaluated. The main difference is that Bernstein assigns a higher equity value to the retail business and a smaller value to the banking assets when comparing it to the valuation performed in this work.

Potential limitations of this work are the assumptions used in the valuation itself. Especially competition and the development of the macroeconomic situation affect the company's financial performance and thus its valuation.

Furthermore this valuation work was developed on the assumption that operating expenses are forecasted as a percentage of revenue. Due to the fact that Tesco is not disclosing more detailed information and in line with an analysis of the cost structure of peers that was presented, this limitation was accepted. The accuracy and thus accountability of the report could be increased with the availability of more detailed financial information.

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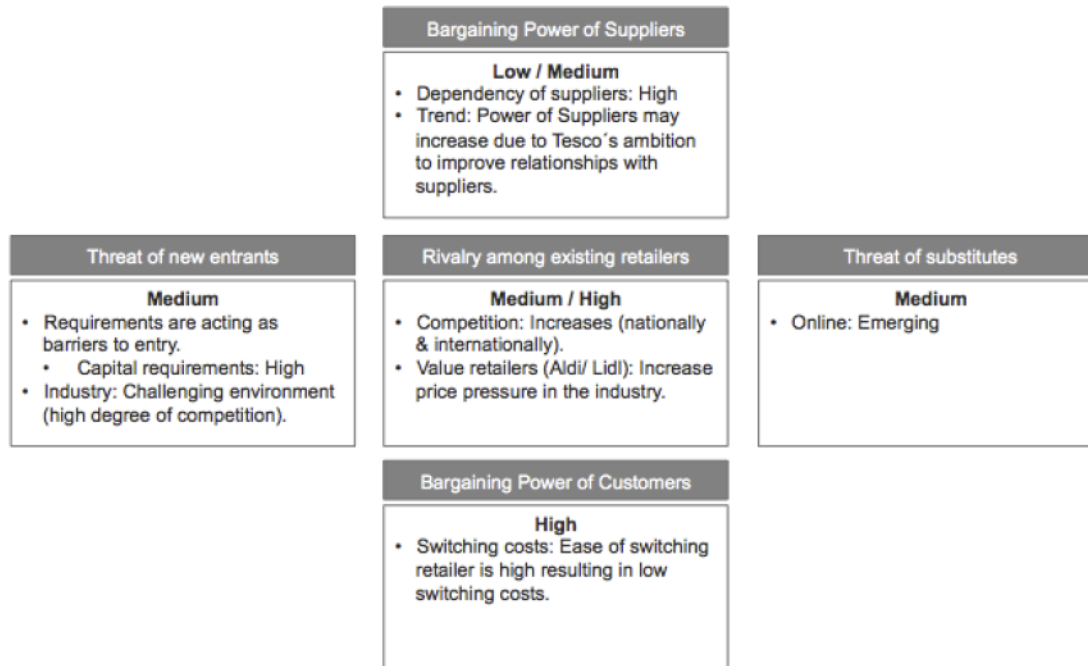
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Appendix:

Appendix 1: Porter's 5 forces – Retail Industry

The attractiveness of the retailing industry is evaluated using the framework of Porter's five forces:



While the bargaining power of suppliers can be considered low to medium, the bargaining power of buyers is high, as shopping at a different retailer does not involve major switching costs. The threat of new entrants is considered as medium, taking into account that Aldi and Lidl are already active on the UK market. However market entry of new players that is expected in emerging and eastern European markets. The shift to online shopping can be regarded as a clear threat. Here, a lack of speed and innovation may lead to losses of market shares. The rivalry within the industry is considered as high, which is visible due to the continuous efforts of value retails to gain market shares.

Appendix 2: Macroeconomic Analysis: Unemployment, wages, consumer confidence

Higher unemployment implies that a higher portion of people has a lower disposable income. The unemployment rate in the UK has been decreasing from 8.1% in 2011 to 5.4% in 2015, indicating a positive environment for traditional retailers like Tesco (IMF, 2015).

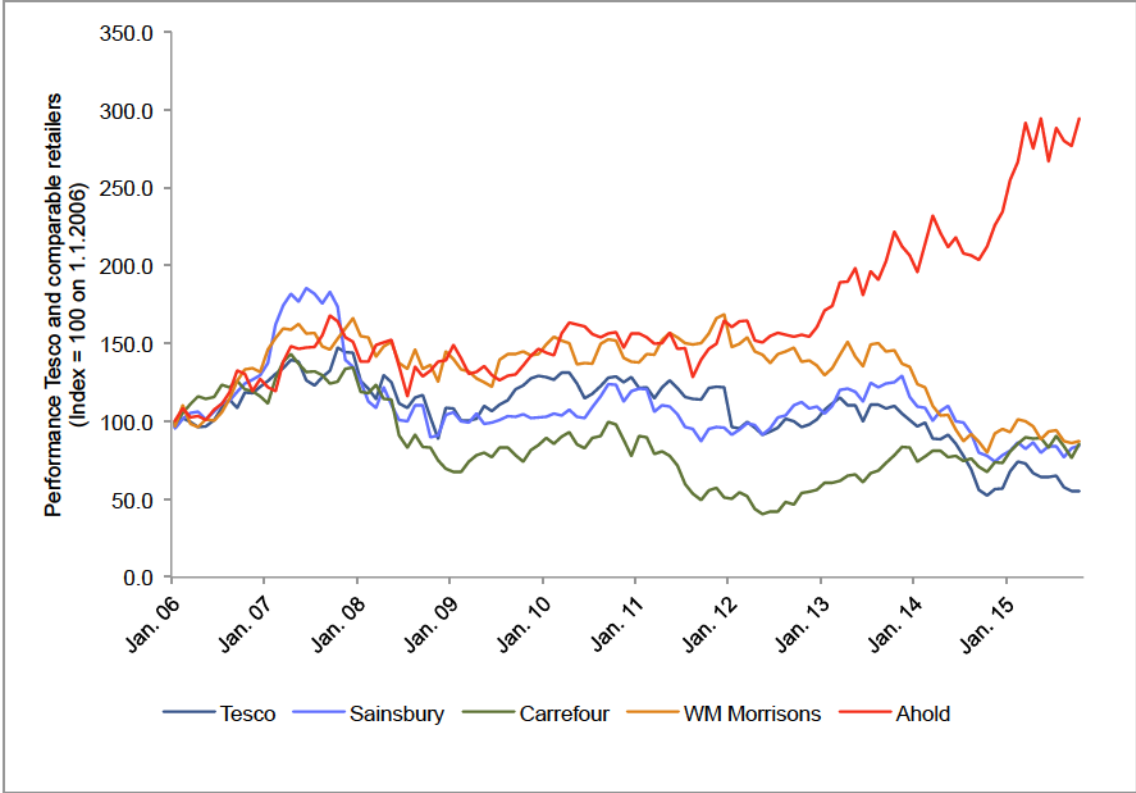
Tesco has been employing 517,802 employees and thus labour costs are of high relevance for the company and its profitability (Tesco, 2015). In terms of wage growth the UK has seen significant increases in 2015, with wages growing by 2.9% in the three-month period until September 2015 (Bloomberg, 2015).

Looking in more detail on Tesco's key market, the UK, the consumer confidence index (CCI) has increased from 99.2 (August 2010) to 101.9 (August 2015) supporting the view of a positive environment (OECD, 2015).

Appendix 3: Tesco Store Overview (Tesco, 2015):

	2013/14 year end	2014/15 year end	Net gain	Openings		Closures/ Disposals	Repurposing/ Extensions ^(a)	% of Group at year end ^(b)
				H1	H2			
Extra	247	250	3	1	2	–	4	3.2%
Homeplus	12	11	(1)	–	–	(1)	–	0.1%
Superstore	482	487	5	2	6	(3)	–	6.2%
Metro	195	191	(4)	–	–	(4)	–	2.5%
Express	1,672	1,735	63	38	28	(3)	–	22.2%
Dotcom only	6	6	–	–	–	–	–	0.1%
Total Tesco^(c)	2,614	2,680	66	41	36	(11)	4	34.3%
One Stop	722	770	48	26	28	(6)	–	9.9%
Diobbies	34	35	1	–	1	–	–	0.4%
Total UK^(c)	3,370	3,485	115	67	65	(17)	4	44.6%
Malaysia	49	54	5	1	4	–	7	0.7%
South Korea	433	425	(8)	–	2	(11)	8	5.4%
Thailand	1,737	1,759	22	53	4	(35)	4	22.5%
Asia^(c)	2,219	2,238	19	54	10	(46)	19	28.6%
Czech Republic	211	209	(2)	–	–	(2)	1	2.7%
Hungary	220	209	(11)	1	1	(13)	–	2.7%
Poland	455	449	(6)	4	3	(13)	4	5.7%
Slovakia	150	155	5	4	1	–	–	2.0%
Turkey	192	173	(19)	3	–	(22)	–	2.2%
Republic of Ireland	146	149	3	2	3	(2)	–	1.9%
Europe^(c)	1,374	1,344	(30)	14	8	(52)	5	17.2%
International^(c)	3,593	3,582	(11)	68	18	(98)	24	45.8%
Group^(c)	6,963	7,067	104	135	83	(115)	28	90.4%
South Korea Franchise	198	543	345	178	193	(25)	(1)	6.9%
Czech Franchise	136	131	(5)	–	–	(5)	–	1.7%
One Stop (UK) Franchise	8	76	68	22	50	(4)	–	1.0%
Total Franchise	342	750	408	200	243	(34)	(1)	9.6%
Group^(c)	7,305	7,817	512	535	326	(149)	27	100.0%

Appendix 4: Share Price Performance Tesco and Peers: 2006 - 2015



Appendix 5: SWOT Analysis Tesco

The framework of the SWOT analysis is chosen to analyse the strategic position of Tesco:

STRENGTHS	<ul style="list-style-type: none"> ▪ Business activities: Market leadership in UK (29% market share)* ▪ Good CEO execution on restructuring: <ol style="list-style-type: none"> 1. Recovering UK competitiveness 2. Rebuilding the balance sheet 3. Regaining trust and transparency ▪ Strong Brand 	WEAKNESSES	<ul style="list-style-type: none"> ▪ Dependency on UK: 67.9% of revenue ▪ Trust: <ul style="list-style-type: none"> ▪ Through worsening supplier relationships, Tesco has lost trust of suppliers and customers
OPPORTUNITIES	<ul style="list-style-type: none"> ▪ Internationalisation ▪ Improvement of store standards ▪ Online Retailing ▪ Divestures: <ul style="list-style-type: none"> ▪ May result in leaner structure of Tesco (but: may be dilutive). 	THREATS	<ul style="list-style-type: none"> ▪ Increased competition: Nationally and internationally <ul style="list-style-type: none"> ▪ Value retailer: challenging market share through intense price pressure ▪ Political factors ▪ Macro-economic environment: <ul style="list-style-type: none"> ▪ Inflation & Currency movements

Despite the reductions in market share, Tesco Plc. is still the leading retailer in the UK, with a market share of 28.4%. Additionally the new management is showing good execution on the strategic objectives.

Nonetheless, the strong dependency on the UK market can also be seen as a weakness, as Tesco is extremely dependent on the development of the economic situation.

The internationalisation represents an opportunity for growth, next to potential improvements of store standards and growth the online retail area. Here, Tesco has just increased its online grocery sales by 14.5% (Tesco, 2015).

The main threat is the continuous price pressure by value retailers in addition to political- and macroeconomic risks for the international businesses.

Appendix 6: Seasonality Analysis of Tesco

Tesco Seasonality Analysis

Region / Unit	2015	2015 First Half	2015 Second Half	Variance Q3/4 vs Q1/2
Revenue UK ^(excl VAT)	43.573	21.031	22.542	7,2%
Revenue Europe ^(excl VAT)	8.515	4.155	4.360	4,9%
Revenue Asia ^(excl VAT)	9.884	4.766	5.118	7,4%
Revenue Tesco Bank ^(excl VAT)	1.024	500	524	4,8%

Region / Unit	2014	2014 First Half	2014 Second Half	Variance Q3/4 vs Q1/2
Revenue UK ^(excl VAT)	43.570	21.630	21.940	1,4%
Revenue Europe ^(excl VAT)	9.267	4.582	4.685	2,2%
Revenue Asia ^(excl VAT)	10.309	5.204	5.105	-1,9%
Revenue Tesco Bank ^(excl VAT)	1.003	498	505	1,4%

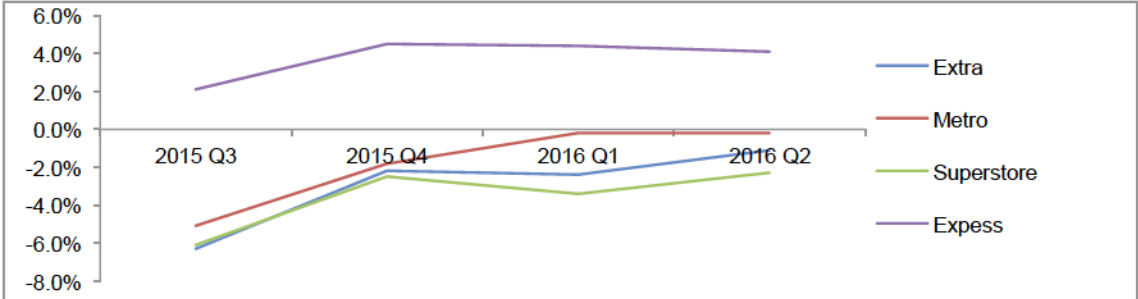
Region / Unit	2013	2013 First Half	2013 Second Half	Variance Q3/4 vs Q1/2
Revenue UK ^(excl VAT)	43.582	21.407	22.175	3,6%
Revenue Europe ^(excl VAT)	9.319	4.542	4.777	5,2%
Revenue Asia ^(excl VAT)	10.045	5.490	4.555	-17,0%
Revenue Tesco Bank ^(excl VAT)	1.021	514	507	-1,4%

Region / Unit	Average Premium Q3/4 vs Q1/2
UK	4,1%
Europe	4,1%
Asia	-3,8%
Tesco Bank	1,6%

Appendix 7: Balance Sheet Homeplus (Tesco, 2015):

Balance Sheet Home Plus (m GBP)			
Assets		Liabilities	
Goodwill	530	Trade Payables	1,148
PP&E	3,499	Other Liabilities	376
Invest. Property	30		
Inventory	184	Equity	
Trade Receivables	597	Equity	3,431
Cash	115		

Appendix 8: Like-for-like sales UK growth per store format (Tesco, 2015):



Appendix 9: Forecast Like-for-like sales

Thailand: Store growth from new stores is assumed to be at around 2.8% only, due to the strong presence of Tesco in Thailand already (1859 stores in 2017). Competition has not been affecting the Asian markets yet but is assumed to do affect like-for-like sales until 2020.

Poland/ Hungary/ Czech Republic: Store growth is assumed to be around 3.1% until 2019 and slowing down to around 1.7% afterwards in line with the GDP growth trend. Competition is assumed to put slight pressure on growth from like-for-like sales for the next years.

Thailand	2017	2018	2019	2020	2021	2022	2023	2024
Number of stores	1,859	1,909	1,959	2,009	2,059	2,109	2,159	2,209
Net change in stores	50	50	50	50	50	50	50	50
Growth resulting from new stores	2.8%	2.7%	2.6%	2.6%	2.5%	2.4%	2.4%	2.3%
GDP Growth (Real)	3.2%	3.8%	3.4%	3.3%	3.2%	3.0%	3.0%	3.0%
Inflation (Food)	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
Adjustment for Competition	-5.0%	-4.0%	-3.0%	-2.0%	0.0%	0.0%	0.0%	0.0%
Growth of Like-for-Like sales	0.4%	2.0%	2.6%	3.5%	5.4%	5.2%	5.2%	5.2%
Total Revenue Growth	3.2%	4.6%	5.2%	6.1%	7.9%	7.6%	7.6%	7.5%

Poland	2017	2018	2019	2020	2021	2022	2023	2024
Number of stores	479	494	509	519	529	539	549	559
Net change in stores	15	15	15	10	10	10	10	10
Growth resulting from new stores	3.2%	3.1%	3.0%	2.0%	1.9%	1.9%	1.9%	1.8%
GDP Growth (Real)	3.5%	3.6%	3.6%	3.6%	3.0%	3.0%	3.0%	3.0%
Inflation (Food)	1.9%	2.3%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Adjustment for Competition	-3.0%	-3.0%	-2.0%	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%
Growth of Like-for-Like sales	2.4%	2.9%	4.1%	5.1%	4.5%	4.5%	4.5%	4.5%
Total Revenue Growth	5.6%	6.0%	7.1%	7.1%	6.4%	6.4%	6.4%	6.3%

Hungary	2017	2018	2019	2020	2021	2022	2023	2024
Number of stores	223	230	237	241	245	249	253	257
Net change in stores	7	7	7	4	4	4	4	4
Growth resulting from new stores	3.2%	3.1%	3.0%	1.7%	1.7%	1.6%	1.6%	1.6%
GDP Growth (Real)	2.3%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%
Inflation (Food)	2.9%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Adjustment for Competition	-3.0%	-3.0%	-2.0%	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%
Growth of Like-for-Like sales	2.2%	2.1%	3.1%	4.1%	4.1%	4.1%	4.1%	4.1%
Total Revenue Growth	5.4%	5.2%	6.1%	5.8%	5.8%	5.7%	5.7%	5.7%

Czech Republic	2017	2018	2019	2020	2021	2022	2023	2024
Number of stores	223	230	237	241	245	249	253	257
Net change in stores	7	7	7	4	4	4	4	4
Growth resulting from new stores	3.2%	3.1%	3.0%	1.7%	1.7%	1.6%	1.6%	1.6%
GDP Growth (Real)	2.6%	2.6%	2.2%	2.2%	2.2%	2.0%	2.0%	2.0%
Inflation (Food)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Adjustment for Competition	-3.0%	-3.0%	-2.0%	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%
Growth of Like-for-Like sales	0.6%	0.6%	1.2%	2.2%	2.2%	2.0%	2.0%	2.0%
Total Revenue Growth	3.8%	3.7%	4.2%	3.9%	3.8%	3.6%	3.6%	3.6%

Malaysia: Store growth is assumed to be at around 8.5% and reducing to 5.3% due to the fact that Tesco has still potential to penetrate the market and increase its presence. GDP forecasts are supporting this view. Competition has not been affecting the Asian markets yet but is assumed until 2020.

Slovakia / Turkey: Growth projections are rather strong due to very positive GDP outlook and low presence of Tesco as per 2015.

Republic of Ireland: Moderate growth assumed from new stores, between 1.7% and 3.2%.

Malaysia	2017	2018	2019	2020	2021	2022	2023	2024
Number of stores	64	69	74	79	84	89	94	99
Net change in stores	5	5	5	5	5	5	5	5
Growth resulting from new stores	8.5%	7.8%	7.2%	6.8%	6.3%	6.0%	5.6%	5.3%
GDP Growth (Real)	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Inflation (Food)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Adjustment for Competition	-5.0%	-4.0%	-3.0%	-2.0%	0.0%	0.0%	0.0%	0.0%
Growth of Like-for-Like sales	3.0%	4.0%	5.0%	6.0%	8.0%	8.0%	8.0%	8.0%
Total Revenue Growth								

Slovakia	2017	2018	2019	2020	2021	2022	2023	2024
Number of stores	195	215	235	245	255	265	275	285
Net change in stores	20	20	20	10	10	10	10	10
Growth resulting from new stores	11.4%	10.3%	9.3%	4.3%	4.1%	3.9%	3.8%	3.6%
GDP Growth (Real)	3.6%	3.6%	3.3%	3.1%	3.1%	3.1%	3.1%	3.1%
Inflation (Food)	1.8%	1.9%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Adjustment for Competition	-3.0%	-3.0%	-2.0%	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%
Growth of Like-for-Like sales	2.4%	2.5%	3.3%	4.1%	4.1%	4.1%	4.1%	4.1%
Total Revenue Growth	13.9%	12.7%	12.6%	8.4%	8.2%	8.1%	7.9%	7.8%

Turkey	2017	2018	2019	2020	2021	2022	2023	2024
Number of stores	193	203	213	218	223	228	233	238
Net change in stores	10	10	10	5	5	5	5	5
Growth resulting from new stores	5.5%	5.2%	4.9%	2.3%	2.3%	2.2%	2.2%	2.1%
GDP Growth (Real)	3.7%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Inflation (Food)	7.0%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Adjustment for Competition	-3.0%	-3.0%	-2.0%	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%
Growth of Like-for-Like sales	7.7%	7.0%	8.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Total Revenue Growth	13.1%	12.2%	12.9%	11.3%	11.3%	11.2%	11.2%	11.1%

Republic of Ireland	2017	2018	2019	2020	2021	2022	2023	2024
Number of stores	159	164	169	172	175	178	181	184
Net change in stores	5	5	5	3	3	3	3	3
Growth resulting from new stores	3.2%	3.1%	3.0%	1.8%	1.7%	1.7%	1.7%	1.7%
GDP Growth (Real)	3.2%	2.7%	2.5%	2.0%	2.0%	2.0%	2.0%	2.0%
Inflation (Food)	1.6%	1.7%	1.9%	2.0%	2.0%	2.0%	2.0%	2.0%
Adjustment for Competition	-3.0%	-3.0%	-2.0%	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%
Growth of Like-for-Like sales	1.7%	1.4%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%
Total Revenue Growth	5.0%	4.5%	5.5%	4.8%	4.7%	4.7%	4.7%	4.6%

Appendix 10: Peers: Analysis Profit and Loss Statements

As defined in the Thesis, Tesco does not disclose the profit and loss statement to a level of detail where costs can be distinguished between cost of sales and administrative (admin) expenses. Instead it discloses a trading margin only, which has been defined in the present work. This analysis tries to approximate the breakdown of these costs for Tesco, in order to determine the extent to which the costs of Tesco are variable. Afterwards a decision can be made if the costs of Tesco can be assumed to increase with increases in revenues.

Below the profit and loss statements of the comparable companies of Tesco are presented, which gives detail on the breakdown on the costs of goods sold as well as administrative costs (Sainsbury, 2015; WM Morrisons, 2015; Carrefour, 2015; Ahold, 2015). The difference between revenues and cost of sales, which fundamentally means payment of goods to suppliers, is the gross profit. After deducting the administrative expenses from the gross margin and accounting for other income, the operating profit is obtained.

Analysis Profit and Loss Accounts: Peer Group per company

	2015		2014	
	Absolute	% of Revenue	Absolute	% of Revenue
Revenue	23,775		23,949	
Cost of Sales	22,567	94.9%	22,562	94.2%
Gross Profit	1,208	5.1%	1,387	5.8%
Admin Expenses	1,132	4.8%	444	1.9%
Other Income	5	0.0%	66	0.3%
Operating Profit	81	0.3%	1,009	4.2%

	2015		2014	
	Absolute	% of Revenue	Absolute	% of Revenue
Revenue	16,816		17,680	
Cost of Sales	16,055	95.5%	16,606	93.9%
Gross Profit	761	4.5%	1,074	6.1%
Admin Expenses	1,670	9.9%	1,259	7.1%
Other Income	78	0.5%	81	0.5%
Operating Profit*	-831	-4.9%	-104	-0.6%

* Income from Disposals is excluded

	2014		2013	
	Absolute	% of Revenue	Absolute	% of Revenue
Revenue	76,318		76,675	
Cost of Sales	59,270	77.7%	59,828	78.0%
Gross Profit	17,048	22.3%	16,847	22.0%
Admin Expenses	14,662	19.2%	14,610	19.1%
Other Income	0	0.0%	0	0.0%
Operating Profit	2,386	3.1%	2,237	2.9%

	2014		2013	
	Absolute	% of Revenue	Absolute	% of Revenue
Revenue	32,774		32,615	
Cost of Sales	24,088	73.5%	23,933	73.4%
Gross Profit	8,686	26.5%	8,682	26.6%
Admin Expenses	7,436	22.7%	7,443	22.8%
Other Income	0	0.0%	0	0.0%
Operating Profit	1,250	3.8%	1,239	3.8%

At Tesco the trading margin is reported only, which is equal to the operating margin but before restructuring costs. As no further restructuring costs or profits are considered in the valuation assumptions, the trading margin can be stated to be equal to the operating margin for Tesco.

As a next step the average costs for each category of these four comparable companies, equal to the EV multiples peer group, is computed and presented below.

Analysis Profit and Loss Accounts: Peer Group average

	Current Fiscal Year	Previous Fiscal Year
	% of Revenue	% of Revenue
Revenue		
Cost of Sales	85.4%	84.9%
Gross Profit	14.6%	15.1%
Admin Expenses	14.1%	12.7%
Other Income	0.1%	0.2%
Operating Profit	0.6%	2.6%

It can be observed that, depending on the respective year, 84.9% to 85.4% of revenues are used to cover cost of sales. The costs of sales are variable costs that increase with increases in revenues.

Furthermore 12.7% to 14.1% are relating to administrative expenses, such as labour costs, rents or systems. It can be assumed that the main cost items in the administrative expenses are variable expenses. Personnel expenses such as wages and salaries mainly grow with an increase in revenues. Also certain fix costs such as rents increase if the number of stores is increased, depending on the expansion (buy, lease, rent). However, rents stay constant if growth is purely driven by like-for-like sales. Furthermore there are expenditures that cannot be assumed to increase with revenues, such as system-related costs. IT and back-office systems are very unlikely to depend on the number of stores operated. Nevertheless, it is regarded reasonable that most of the company's administrative expenses are increasing with increases in revenues for the purpose of establishing a valuation of Tesco.

For the reasons mentioned it is it is regarded reasonable to forecast the profitability as a percentage of trading margin (or expense margin respectively), as the majority of costs can be assumed to be variable. This approach is supported by the fact that the administrative expenses represent a substantially smaller portion of the total costs than the cost of sales.

It is acknowledged that this approach represents a potential limitation to the accuracy of the work. However after the analysis that has been presented it is assumed as a reasonable approach to forecast costs of Tesco during the explicit period.

Appendix 11: Confirmation Investor Relations on Tax

RE: [Tesco/] RE: Investor Request

Relations, Investor

Gesendet: Dienstag, 13. Oktober 2015 15:01

An: clemens@schmitz-aachen.com

Cc: Relations, Investor

 Erledigt am Samstag, 24. Oktober 2015.

Dear Clemens,

Thank you for your email.

You can see a breakdown of revenue (including fuel) by country on page 35 of our interim results press release published last week; the press release and other material is available on our plc website [here](#), including a replay of the live webcast.

As communicated in our first quarter trading statement, our reporting segments ('UK & ROI', 'International' and 'Tesco Bank') have been aligned to the way we now operate the business and report performance internally; this is the level at which we report segmental operating profit before exceptional items.

dunnhumby operates across all our markets and has several separate joint ventures so its performance can be found in the 'UK & ROI' and 'International' segments, and also within the joint ventures and associate line.

You may also have seen in our interim results press release that we said we expect the effective rate of tax for the full year to be around 30%, which includes the anticipated effect on deferred tax of further reductions in the main rate of UK corporation tax that were proposed in the July 2015 UK Budget statement. We also said that the effective rate of tax in the half has been impacted by the relative scale of permanent disallowable items to our overall level of profit.

You may also have heard Alan Stewart, CFO, say in the presentation that "for the current year... we don't expect to pay any cash tax in the current year across the Group".

Hope this helps

Thanks,

Claire

Claire Hassell
Investor Relations – Tesco Plc

Appendix 12: Accounting Adjustments in 2016 to adjust for Homeplus sale

Accounting for Sale of Homeplus

*Tesco receives cash for sale of assets
(bn GBP)*

Dr Cash	3.43	<i>Cash received by Tesco for sale (after transaction costs).</i>
Dr Liabilities	1.52	<i>Liabilities to booked out of the balance sheet.</i>
Cr Assets*	-4.96	<i>Assets to be transferred to buyer at carrying value</i>

Accounting for Sale of Property

*Tesco receives cash for sale of assets
(bn GBP)*

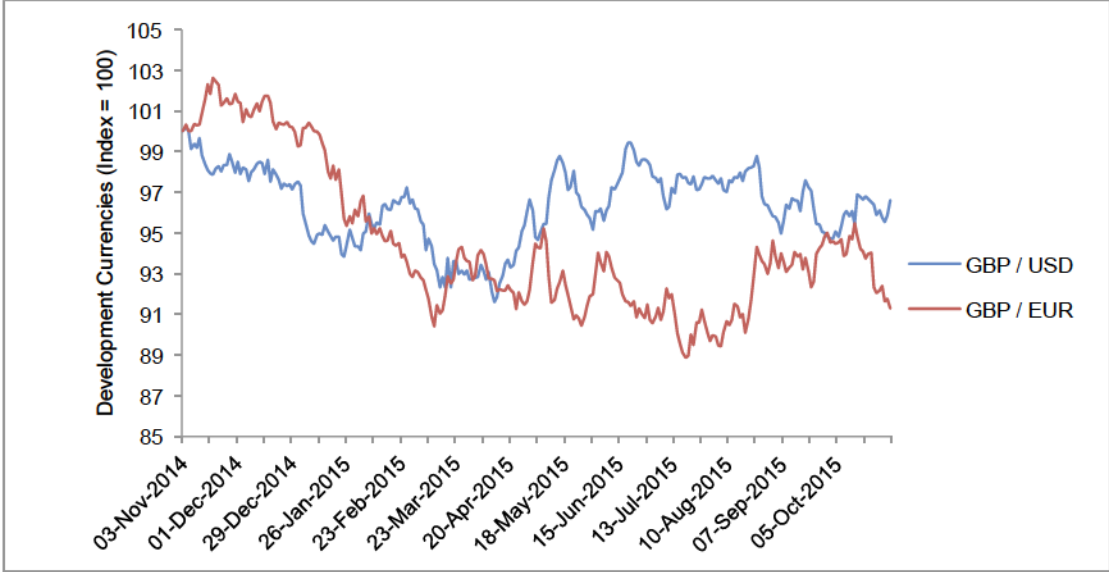
Dr Cash	0.25	<i>Cash received by Tesco for sale.</i>
Cr Assets (PP&E)*	-0.25	<i>Assets to be transferred to buyer</i>

*PP&E is adjusted on a gross and net basis, which means that accumulated depreciation is also adjusted

Appendix 13: Bonds outstanding of Tesco

Maturity Year	Description	Maturity Date	Amt Outstanding (GBP)	Yield	Weighted Yield (% of total debt)
2016	TSCO 4.0000 08-Sep-16 MTN	08-Sep-2016	200,000,000	3.125	0.060
2016	TSCO 5.8750 12-Sep-16 MTN	12-Sep-2016	741,371,641	0.801	0.029
2017	TSCOO / TSCO 1.2500 13-Nov-17 MTN	13-Nov-2017	356,656,728	1.464	0.026
2017	TSCO 5.5000 15-Nov-17	15-Nov-2017	550,946,331	2.674	0.075
2017	TSCO 2.7000 05-Jan-17	05-Jan-2017	324,086,077	2.384	0.040
2017	TSCO 5.5000 15-Nov-17	15-Nov-2017	550,946,331	2.677	0.078
2017	TSCO 2.7000 05-Jan-17	05-Jan-2017	324,086,077	2.391	0.042
2018	TSCO 3.3750 02-Nov-18 MTN	02-Nov-2018	534,985,092	1.864	0.056
2018	TSCOE / TSCO 5.2000 24-Aug-18 MTN	24-Aug-2018	125,000,000	4.053	0.029
2019	TSCOE / TSCO 1.0000 16-Dec-19 MTN	16-Dec-2019	60,000,000	3.111	0.011
2019	TSCOO / TSCO 1.3750 01-Jul-19 MTN	01-Jul-2019	891,641,820	1.903	0.098
2019	TSCO 5.5000 13-Dec-19 MTN	13-Dec-2019	350,000,000	3.709	0.079
2020	TSCOO / TSCO 2.1250 12-Nov-20 '20 MTN	12-Nov-2020	356,656,728	2.411	0.054
2020	TSCOE / TSCO 5.0000 21-Nov-20 MTN	21-Nov-2020	200,000,000	4.053	0.052
2022	TSCO 6.1250 24-Feb-22 MTN	24-Feb-2022	900,000,000	4.992	0.291
2023	TSCO 5.0000 24-Mar-23 MTN	24-Mar-2023	389,000,000	5.233	0.140
2024	TSCOO / TSCO 2.5000 01-Jul-24 MTN	01-Jul-2024	534,985,092	3.625	0.137
2025	TSCO 3.3220 05-Nov-25 MTN	05-Nov-2025	138,154,000	2.826	0.029
2029	TSCO 6.0000 14-Dec-29 MTN	14-Dec-2029	200,000,000	5.697	0.085
2033	TSCO 5.5000 13-Jan-33 MTN	13-Jan-2033	200,000,000	6.007	0.090
2036	TSCO 1.9820 24-Mar-36 MTN	24-Mar-2036	196,000,000	3.066	0.046
2037	TSCO 6.1500 15-Nov-37	15-Nov-2037	745,397,978	6.739	0.390
2037	TSCO 6.1500 15-Nov-37	15-Nov-2037	745,397,978	6.739	0.414
2042	TSCO 4.8750 24-Mar-42 MTN	24-Mar-2042	173,200,000	6.615	0.101
2047	TSCO 5.1250 10-Apr-47 MTN	10-Apr-2047	427,988,074	5.629	0.215
2057	TSCO 5.2000 05-Mar-57 MTN	05-Mar-2057	287,500,000	6.612	0.176
Total			10,503,999,947		2.84

Appendix 14: Movement of GBP against US Dollar and Euro: 2014/2015



Appendix 15: Discounted FCFF and Tax Shields

Discounted FCFF (m GBP)

Description	2017	2018	2019	2020	2021	2022	2023	2024
FCFF	1,796	1,663	1,800	1,887	1,887	1,856	1,870	2,031
Perpetuity								38,762.0
Terminal Value growth rate "g"								1.0%

Discount factor

@ ku (unlevered cost of equity)	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%	6.3%
@ Discount factor	0.941	0.885	0.833	0.783	0.737	0.693	0.652	0.614

(=) Discounted cash flows	1,690	1,472	1,499	1,478	1,391	1,287	1,220	25,038
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% perpetuity	67.8%
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(=) Value of Free Cash Flows to the Firm 35,074.3

Discounted Value of Tax Shields (m GBP)

Debt	2017	2018	2019	2020	2021	2022	2023	2024
Prior Year Net Debt	3,767	7,131	7,819	6,288	6,145	6,141	4,880	4,934
Total Interest Payment (Net)	494	388	356	319	282	259	244	225
Effective Tax Rate	30.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
Interest Tax Shield	148	97	89	80	71	65	61	56
Perpetuity								2,607.4
Terminal Value growth rate "g"								1.0%

Discount factor

@ kd	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
@ Discount factor	0.969	0.939	0.910	0.882	0.855	0.829	0.803	0.779

(=) Discounted tax shield	144	91	81	70	60	54	49	2,074
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% perpetuity	77.4%
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(=) Value of Tax Shields 2,622.9

Appendix 16: Valuation Retail Business: Outcome

Equity value (m GBP)

PV of unlevered Cash Flows	35,074.3
(+) PV of Tax Shields	2,622.9
(=) Value of operations	37,697.2
(+) Excess cash & excess securities	3,901.0
(-) Expected Bankruptcy Costs	754.0
(=) EV	40,844.3
(-) Net Debt	7,851.0
(-) Operating Leases	9,091.0
(-) Unfunded Pensions	4,201.0
(=) Equity value	19,701.3

Equity value per share (GBP)

PV of unlevered Cash Flows	4.31
(+) PV of Tax Shields	0.32
(=) Value of operations	4.63
(+) Excess cash & excess securities	0.48
(-) Expected Bankruptcy Costs	0.09
(=) EV / share	5.02
(-) Net Debt / share	0.96
(-) Operating Lease / share	1.12
(-) Unfunded Pensions / share	0.52
(=) Equity value / share	2.42

Appendix 17: Adjustments for Enterprise Value Multiples

Enterprise Value: Adjustments

Company Name	Operating Lease commitments (discounted) (m GBP)	Operating lease expense last fiscal year (m GBP)	Unfunded Pension (m GBP)	Adjusted EV (GBP)	Adjusted EBITDA (f=0) (GBP)	Adjusted EBITDA (f=1) (GBP)	Adjusted EBIT (f=0) GBP	Adjusted EBIT (f=1) (GBP)
Carrefour SA	1,955	112	356	27,174,833,132	3,702,259,889	3,565,347,995	2,575,125,908	2,492,745,914
J Sainsbury PLC	5,095	586	592	12,252,467,105	1,941,000,000	1,819,261,650	1,362,000,000	1,253,241,000
WM Morrison Supermarkets PLC	1,038	77	0	6,956,538,840	904,000,000	848,559,940	519,000,000	462,430,720
Koninklijke Ahold NV	3,455	425	3,151	18,982,275,743	2,129,291,069	2,152,861,842	1,416,988,050	1,421,592,329

Appendix 18: DuPont Valuation Overview

Tesco Bank Valuation - m GBP

Income Statement / Balance Sheet Items	
Net income	178
Revenues (ex tax)	964
Total assets	10,176
Net Asset Value	
Equity	2,241
Unrealised cap gains / (losses)	-
Ending tax credits	-
Shortfalls pension funds	-
Net Asset Value	2,241
Ratios	
Profit margin (%)	18.5%
Asset Utilisation (%)	1.8%
Other	
Equity multiplier	12.5
Return on Assets (ROA)	1.75%
Forecasted ROE	21.90%
Cost of Equity	
cost of equity	3.01%
Equity Value	
Total Equity Value (m GBP)	16,303
Equity Value / per share	2.00
No of shares outstanding	8,136,950,000

Appendix 19: Balance Sheet Retail Business: Forecast

Balance Sheet (m GBP): Tesco Retail Operations

Description	2016	2017	2018	2019	2020	2021	2022	2023	2024
Assets									
Cash and Short Term Investments	6,087	5,327	4,235	3,763	3,302	2,851	2,400	1,962	1,626
Cash	2,186	1,926	1,334	1,362	1,401	1,450	1,499	1,561	1,626
Cash & Equivalents	0	0							
Short Term Investments	3,901	3,401	2,901	2,401	1,901	1,401	901	401	0
Other Short Term Investments	0								
Trade and other receivables	1,605	1,815	1,868	1,906	1,962	2,030	2,098	2,248	2,342
Loans and advances to customers / banks	3,917	0	0	0	0	0	0	0	0
Derivative financial instruments	79	0	0	0	0	0	0	0	0
Current tax assets	16	0	0	0	0	0	0	0	0
Total Inventory	2,620	2,777	2,134	2,233	2,298	2,378	2,458	2,623	2,732
Total Current Assets	14,324	9,919	8,237	7,902	7,563	7,259	6,956	6,833	6,700
Property/Plant/Equipment, Total - Gross	30,440	29,022	28,856	28,723	28,622	28,615	28,635	28,501	28,325
Property/Plant/Equipment, Total - Net	15,594	14,378	13,981	13,617	13,285	13,050	13,070	13,051	13,074
Goodwill and Other Intangibles. Net	3,122	1,850	1,974	2,124	2,186	2,320	2,398	2,498	2,602
Long Term Investments	1,808	1,586	1,601	1,634	1,682	1,740	1,799	1,873	1,951
Other investment	0								
Loans / advances to customers	4376	0	0	0	0	0	0	0	0
Note Receivable - Long Term	1,252	1,586	1,601	1,634	1,682	1,740	1,799	1,873	1,951
Other Long Term Assets, Total	671	634	427	436	224	232	240	250	260
Total Non-current Assets	26,823	20,034	19,583	19,444	19,059	19,082	19,305	19,545	19,839
Total Assets	41,147	29,953	27,820	27,346	26,622	26,341	26,261	26,377	26,538
Total Assets adj	41,147	29,953	27,820	27,346	26,622	26,341	26,261	26,377	26,538
Liabilities									
Trade & other payables	8,483	8,647	7,631	7,789	8,016	8,294	8,573	8,929	9,301
Derivatives financial instruments and other lial	70	0	0	0	0	0	0	0	0
Provisions	324	311	0	0	0	0	0	0	0
Current Port. of LT Debt/Capital Leases	1,219	2,107	660	1,302	557	0	900	389	535
Other Current liabilities, Total	0	0	0	0	0	0	0	0	0
Total Current Liabilities	17,303	11,064	8,291	9,090	8,573	8,294	9,473	9,318	9,836
Total Long Term Debt	10,533	7,130	7,816	6,285	6,141	6,137	4,875	4,929	4,356
Deferred Income Tax	467	421	372	322	271	244	214	182	149
Minority Interest	-5	0	0	0	0	0	0	0	0
Other Liabilities, Total	6,681	5,286	5,336	5,447	5,606	5,800	5,995	6,244	6,504
Total Non-current Liabilities	13,597	10,155	9,497	8,259	7,813	7,984	7,253	7,086	10,309
Total Liabilities	30,900	21,219	17,788	17,349	16,385	16,278	16,727	16,405	20,145
Shareholders Equity									
Equity attributable to owners of the parent	6,163	6,052	6,005	6,203	6,031	5,865	5,704	5,703	5,692
Non-controlling interests	0	0	0	0	0	0	0	0	0
Total equity	6,163	6,052	6,005	6,203	6,031	5,865	5,704	5,703	5,692
Equity + Liabilities	37,063	27,271	23,793	23,551	22,416	22,143	22,430	22,108	25,837
Equity + Liabilities adj	41,147	29,953	27,820	27,346	26,622	26,341	26,261	26,377	26,538
Check	0	0	0	0	0	0	0	0	0

Appendix 20: Profit and Loss Statement Retail Business: Forecast

Profit and Loss Statement: Tesco Retail Operations (m GBP)

Description	2016	2017	2018	2019	2020	2021	2022	2023	2024
Revenue UK	42,805	42,479	42,331	42,666	43,429	44,424	45,376	46,803	48,274
Revenue International	12,337	10,901	11,555	12,337	13,178	14,146	15,168	16,254	17,410
Group revenue (excl VAT) (before IFRIC 13)	55,141	53,380	53,886	55,002	56,607	58,570	60,544	63,057	65,684
Trading & Operating Expenses UK (excl VAT)	42,466	42,267	41,907	42,239	42,995	43,980	44,696	46,101	47,550
Trading & Operating Expenses International (excl VAT)	10,120	10,686	11,327	12,093	12,918	13,867	14,868	15,933	17,066
Total Trading Expenses	52,586	52,953	53,235	54,332	55,913	57,847	59,564	62,034	64,617
Trading Profit UK (excl VAT)	339	212	423	427	434	444	681	702	724
Trading Profit International (excl VAT)	204	215	228	243	260	279	299	321	344
Trading Profit Tesco Bank (excl VAT)	-	-	-	-	-	-	-	-	-
Total Trading Profit	543	428	651	670	694	723	980	1,023	1,068
Restructuring (costs)/profit	-	-	-	-	-	-	-	-	-
Operating profit (EBIT)	543	428	651	670	694	723	980	1,023	1,068
Share of post-tax profits/(losses) of JV	13	-	-	-	-	-	-	-	-
Net finance costs	(586)	(494)	(388)	(356)	(319)	(282)	(259)	(244)	(225)
Profit/(loss) before tax (EBT)	143	(67)	263	314	375	441	721	779	843
Taxation	(104)	20	(66)	(78)	(94)	(110)	(180)	(195)	(211)
Profit/(loss) from continuing operations	39	(47)	197	235	281	331	541	584	632
Discontinued operations	(150)	-	-	-	-	-	-	-	-
Profit/(loss) for the year (Net Income)	(111)	(47)	197	235	281	331	541	584	632
Other Items									
Depreciation	1,750	1,522	1,393	1,385	1,379	1,374	1,145	1,031	941
Tax Rate	30.0%	30.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Dividends (m GBP)	-	-	-	(407)	(448)	(492)	(542)	(596)	(655)

Appendix 21: Cash Flow Statement Retail Business: Forecast

Statement of Cash Flow - Accounting (m GBP)

Description	2016	2017	2018	2019	2020	2021	2022	2023	2024
Operating income	543	428	651	670	694	723	980	1,023	1,068
Depreciation	1,750	1,522	1,393	1,385	1,379	1,374	1,145	1,031	941
Investment in other operating assets	4,314	(75)	177	(75)	116	(124)	(125)	(159)	(167)
Change in working capital	(911)	138	(145)	(7)	67	82	82	(20)	104
Total Operational Cash Flow	5,696	2,013	2,077	1,973	2,256	2,055	2,082	1,874	1,946
Net finance costs	-	(494)	(388)	(356)	(319)	(282)	(259)	(244)	(225)
Income taxes	(104)	20	(66)	(78)	(94)	(110)	(180)	(195)	(211)
Total Other Cash Flow	(104)	(474)	(454)	(435)	(413)	(392)	(439)	(439)	(436)
Capex	(1,000)	(1,009)	(996)	(1,021)	(1,047)	(1,138)	(1,165)	(1,011)	(964)
Reimbursement old long term debt	(1,219)	(2,107)	(660)	(1,302)	(557)	-	(900)	(389)	(535)
Change in deferred income taxes	273	(51)	(49)	(50)	(51)	(27)	(30)	(32)	(33)
Dividends	-	-	-	(407)	(448)	(492)	(542)	(596)	(655)
Total Investments & Reimbursements	(1,946)	(3,167)	(1,704)	(2,779)	(2,103)	(1,657)	(2,637)	(2,028)	(2,187)
Annual cash flow	3,646	(1,628)	(81)	(1,241)	(260)	5	(994)	(592)	(677)

Appendix 22: Ratio Analysis Retail Business: Forecast

Return Ratios	2016	2017	2018	2019	2020	2021	2022	2023	2024
Return on Total Assets (ROTA)	1.3%	1.4%	2.3%	2.5%	2.6%	2.7%	3.7%	3.9%	4.0%
Return on Assets (ROA)	-0.3%	-0.2%	0.7%	0.9%	1.1%	1.3%	2.1%	2.2%	2.4%
Return on Equity (ROE)	-1.8%	-0.8%	3.3%	3.8%	4.7%	5.6%	9.5%	10.2%	11.1%

Liquidity Ratios	2016	2017	2018	2019	2020	2021	2022	2023	2024
Current Ratio	82.8%	89.7%	99.4%	86.9%	88.2%	87.5%	73.4%	73.3%	68.1%
Cash Ratio	35.2%	48.1%	51.1%	41.4%	38.5%	34.4%	25.3%	21.1%	16.5%

Debt & Interest Coverage Ratios	2016	2017	2018	2019	2020	2021	2022	2023	2024
Debt / total assets	28.6%	30.8%	30.5%	27.7%	25.2%	23.3%	22.0%	20.2%	18.4%
Debt / equity	190.7%	152.6%	141.2%	122.3%	111.1%	104.6%	101.2%	93.2%	85.9%
Net Debt / equity (adj excess cash)	127.4%	96.4%	92.8%	83.6%	79.5%	80.8%	85.5%	86.2%	85.9%
Interest coverage ratio	0.9	0.9	1.7	1.9	2.2	2.6	3.8	4.2	4.7

Asset Utilisation Ratios	2016	2017	2018	2019	2020	2021	2022	2023	2024
Fixed asset turnover	353.6%	371.3%	385.4%	403.9%	426.1%	448.8%	463.2%	483.2%	502.4%
Average daily sales (m GBP)	10.6	12.4	12.7	12.7	12.7	12.7	12.7	13.0	13.0
Inventory turnover	5.1%	5.1%	4.6%	4.0%	4.0%	4.0%	4.0%	4.0%	4.1%

Du Pont Analysis	2016	2017	2018	2019	2020	2021	2022	2023	2024
Profitability	-0.2%	-0.1%	0.4%	0.4%	0.5%	0.6%	0.9%	0.9%	1.0%
Asset turnover	134.0%	178.2%	193.7%	201.1%	212.6%	222.4%	230.5%	239.1%	247.5%
Leverage	667.6%	494.9%	463.3%	440.9%	441.4%	449.1%	460.4%	462.5%	466.3%
ROE	-1.8%	-0.8%	3.3%	3.8%	4.7%	5.6%	9.5%	10.2%	11.1%

Appendix 23: Balance Sheet & Profit and Loss Statement: Tesco Bank

Balance Sheet (m GBP): Tesco Bank

Description	2014	2015
Assets		
Loans and advances to customers / banks	3,705	3,814
Total Inventory	174	235
Total Current Assets	3,879	4,054
Property/Plant/Equipment, Total - Net	93	86
Goodwill and Other Intangibles, Net	1,253	1,223
Long Term Investments	77	80
Other investment	850	827
Loans / advances to customers	3210	3906
Total Non-current Assets	5,483	6,122
Sum Current & Non-current Assets	9,362	10,176
Assets held for disposal	0	0
Total Assets	9,362	10,176
Total Assets adj		
Liabilities		
Trade & other payables	236	245
Provisions	104	90
Other Current liabilities, Total	6,858	7,020
Customer Advances	6,858	7,020
Total Current Liabilities	7,198	7,355
Total Non-current Liabilities	-4	580
Sum Current & Non-current Liabilities	7,194	7,935
Liabilities held for disposal	0	0
Total Liabilities	7,194	7,935
Total equity	2,168	2,241
Equity + Liabilities	9,362	10,176

Income Statement (m GBP): Tesco Bank

Description	2014	2015	2016	2017
Revenue			964	964
Net Income			173	178

Appendix 24: Computation of Interest Expense: Forecast

Computation Interest Expenses

Description	2017	2018	2019	2020	2021	2022	2023	2024
Existing Long-term debt								
Interest rate	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
L-T Debt outstanding*	6,449	4,342	3,682	2,381	1,824	1,824	924	535
Current Portion of L-T Debt & Cap Lease	1,219	2,212	767	1,411	669	116	1,020	514
Total Debt	7,668	6,555	4,449	3,791	2,493	1,940	1,944	1,049
Interest expenses	325	278	189	161	106	82	82	44
New Long-term debt								
Interest rate	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
New L-T Debt outstanding*	4,084	2,682	4,027	3,795	4,205	4,197	3,831	4,269
Interest expenses	173	114	171	161	178	178	162	181
Excess Cash								
Interest rate	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Excess Cash	3,901	3,401	2,901	2,401	1,901	1,401	901	401
Interest income	4	3	3	2	2	1	1	0
Total Interest Expense	494	388	356	319	282	259	244	225

*Interest for the year is calculated based on the basis of the long-term debt outstanding in the prior year

Tesco (TSCO.L)

Executive Summary (Part I)

Rating:	OUTPERFORM	
Price (31.10.15):	1.83 GBP	
Price Target:	2.85 GBP	
Potential:	+55.7%	
Ticker Bloomberg:	TSCO.LN	
Ticker Reuters:	TSCO.L	
52-week High:	2.25 GBP	
52-week Low:	1.55 GBP	
Mkt. Cap. (31.10.15)	14,915m GBP	
Share	2014	2015
Tesco	-43.47%	-3.02%
FTSE100	-2.71%	-3.12%

Background: Tesco is the biggest retail company in the United Kingdom, with a market share of 28.4% (2015). The market share has been declining at a CAGR of 2.8% over the past years, mainly as competition with discount supermarkets is intensifying. Consequently, Tesco's profitability suffered. Additionally the company booked a restructuring charge of 7.2bn GBP in 2015, mainly to adjust the value of property on the balance sheet.

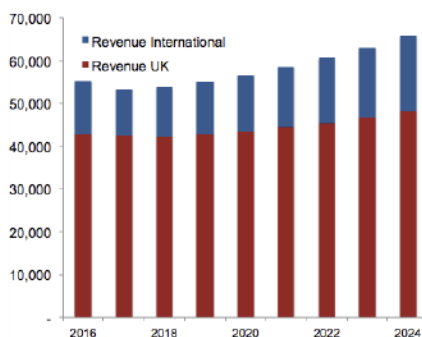
Furthermore, Tesco is operating internationally in Asia and Eastern Europe as well as customer banking through Tesco Bank.

In 2015 it announced the sale of Homeplus, its Korean business unit. Since 2014 a new management team is in place, led by CEO Lewis.

Management: Progress on all three key strategic priorities is visible:

- In a still difficult UK environment, Tesco is slowly getting more competitive.
- The balance sheet was de-leveraged mainly driven by the sale of the Korean business.
- Measures to increase trust and transparency are improving.

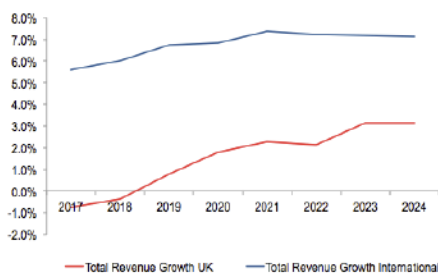
Retail Business: Revenue (m GBP)



Retail Business - UK: Pressure on prices and margins still prevails.

- Strategy: Tesco has simplified its product range. A special focus is put on availability for the top 1000 products. Pricing is made more competitive and stable.
- Growth from new stores: 50 unprofitable stores are closed in 2016. The valuation assumes a constant number of stores after with slight growth from 2019 to 2024, due to potential in the convenience store format.
- Growth from like-for-like sales: The measure still negative currently but showing an improving trend, confirming that management actions are leading in the right direction. While the number of transactions and volume have been increasing in the first half of the 2016 business year, the growth has been negative, indicating that price pressure is still present in the market. This is confirmed by CEO Lewis.
- Profitability: A very challenging environment is assumed for 2017 (expense ratio: 99.5%) with slight recovery after (expense ratio 2018 – 2021: 99.0%). However the retail market in the UK is assumed to remain competitive also based on the strong expansion of discounters (expense ratio after 2021: 98.5%).

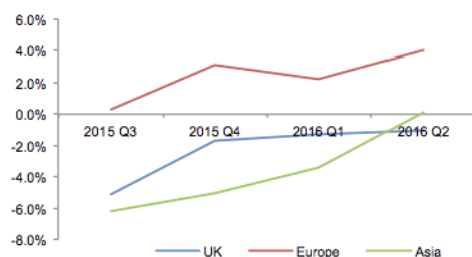
Retail Business: Growth Rates



Retail Business - International: Growth Driver for Tesco's revenues

- Growth from new stores: Total growth of 119 stores is assumed annually until 2020 for the international business (after 2020: 91 stores). This growth is composed based on individual country analysis.
- Growth from like-for-like sales: Currently positive growth is observed at 1.0% overall, with positive trends in Asia and Europe over the last four quarters. Like-for-like sales growth is forecasted on a country level based on GDP growth, inflation and competition. The assumptions are presented individually per country.
- Outlook per country:
 - **Thailand:** Store growth from new stores is assumed to be at 2.8% only, due to the strong presence of Tesco in Thailand already (1859 stores in 2017). Competition has not been affecting the Asian markets yet but is assumed to do affect like-for-like sales until 2020.
 - **Poland/ Hungary/ Czech Republic:** Store growth is assumed to be around 3.1% until 2019 and slowing down to around 1.7% afterwards in line with the GDP growth trend. Competition is assumed to put slight pressure on growth from like-for-like sales for the next years.
 - **Malaysia:** Store growth is assumed to be at around 8.5% and reducing to 5.3% due to the fact that Tesco has still potential to penetrate the market and increase its presence. GDP forecasts are supporting this view. Competition has not been affecting the Asian markets yet but is assumed until 2020.
 - **Slovakia / Turkey:** Growth projections are rather strong due to very positive GDP outlook and low presence of Tesco as per 2015.
 - **Republic of Ireland:** Moderate growth assumed from new stores, between 1.7% and 3.2%.
- Profitability: A constant trading margin of 98.0% is assumed for the international business to account for pressure on margins and other risks (while no further adjustments of discount rate to account for country risk is made).

Retail Business: Trend Like-for-like Sales



Tesco (TSCO.L)

Executive Summary (Part II)

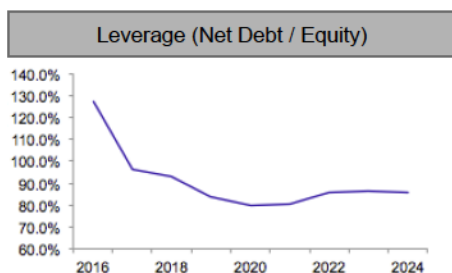
Rating:	OUTPERFORM	
Price (31.10.15):	1.83 GBP	
Price Target:	2.85 GBP	
Potential:	+55.7%	
Ticker Bloomberg:	TSCO.LN	
Ticker Reuters:	TSCO.L	
52-week High:	2.25 GBP	
52-week Low:	1.55 GBP	
Mkt. Cap. (31.10.15)	14,915m GBP	
Share	2014	2015
Tesco	-43.47%	-3.02%
FTSE100	-2.71%	-3.12%

Balance Sheet: Progress in achieving strategic objective strengthen the balance sheet

- Leverage: The sale of Homeplus and property leads to a reduction of net debt over equity from 170.6% (2015) to 127.4% (2016). Further deleveraging is forecasted.
- Tesco is disciplined on capital expenditures. The company targets to keep the spending below 1bn GBP annually. This is assumed over the explicit period, as it is in line with growth projects made.

Valuation Method: The most suitable methods are chosen.

- Intrinsic Valuation:
 - The APV method is applied for the valuation of the retail business due to the changes in capital structure over the explicit period that come along with the deleveraging of the balance sheet.
 - To be conservative and to account for the competitive market conditions a terminal value growth rate of 1.0% has been considered as reasonable.
- Multiples Valuation:
 - A valuation based on this approach has been performed. However after an more detailed analysis, the comparability of the peer group for the valuation of the retail business is not regarded as appropriate. It is not considered for the final value evaluation of the retail business. Tesco Bank is valued using the multiples approach as it is regarded more suitable compared to the DuPont method in the case of Tesco Bank (Under the DuPont approach, the high amount of equity compared to other banks is leading to unreasonable valuation outcome).
- Other valuation methods:
 - The JV in China, in which Tesco owns a stake of 20%, was currently sold by the last owner (China Resource Enterprise) to the parent company (China Resource Holding). The transaction value served as the basis for the valuation of Tesco's share in the JV.

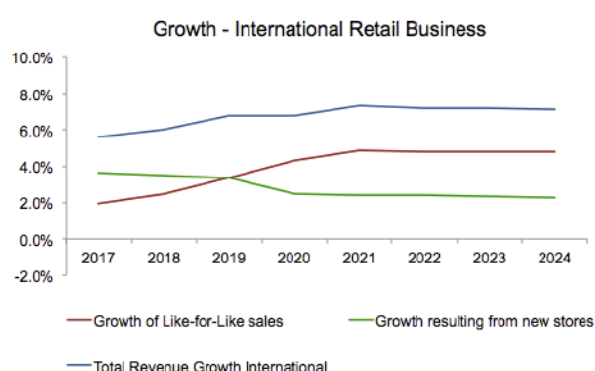
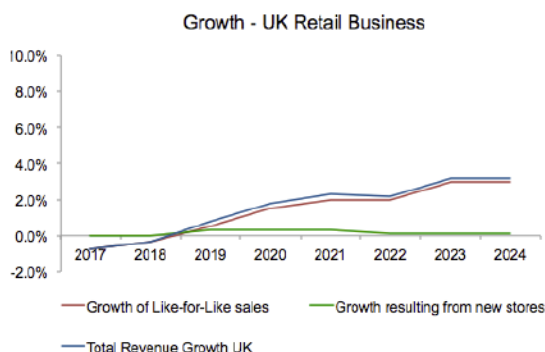


Description	2017	2024
EBIT	1,709	2,644
(+) Depreciation	1,522	941
(-) Tax on EBIT	(513)	(661)
(+) Change in deferred taxes	(51)	(33)
(-) Δ working capital	138	104
(-) Capex	(1,009)	(964)
FCFF	1,796	2,031
Depreciation / Capex	33.72%	-2.49%

Cost of Capital:

- The cost of unlevered equity has been determined to be 6.29%, while the after-tax cost of debt is at 3.08%.

Retail Business: Forecasted Growth Rates - Details



Tesco (TSCO.L)

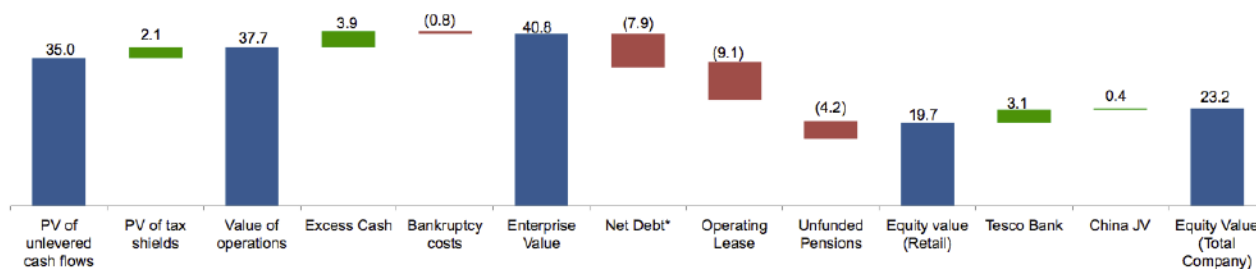
Executive Summary (Part III)

Rating:	OUTPERFORM	
Price (31.10.15):	1.83 GBP	
Price Target:	2.85 GBP	
Potential:	+55.7%	
Ticker Bloomberg:	TSCO.LN	
Ticker Reuters:	TSCO.L	
52-week High:	2.25 GBP	
52-week Low:	1.55 GBP	
Mkt. Cap. (31.10.15)	14,915m GBP	
Share	2014	2015
Tesco	-43.47%	-3.02%
FTSE100	-2.71%	-3.12%

Valuation Outcome (in GBP): Sum of the parts.

- The enterprise value of Tesco's retail operations accounts to 40.8bn, which is driven by a value of 35.0bn for the unlevered firm, 2.1bn for tax shields, 3.9bn in excess cash and partially offset by bankruptcy costs of 0.8bn.
- The equity value of the retail operations accounts to 19.7bn after considering the debt of the retailer.
- The bank is valued at 3.1bn and the China JV is assigned a value of 0.4bn. This results in a equity value 23.2bn for the total company. On a per share basis it is equal to 2.85GBP. A buy recommendation is assigned, considering a potential of 55.7%.

Valuation Outcome: Sum of the parts



Multiples Valuation: Tesco Bank

Multiples		historical multiples (f=0)		forward-looking multiples (f=0)	
		P/E	Price/Book Value	P/E	Price/Book Value
Identifier	Company				
V.M.L	Virgin Money Holdings (UK) PLC	20.69	1.39	14.82	1.62

Tesco Data (m GBP)		historical		forward-looking	
		Income (f=0)	Book Value (f=0)	Income (f=1)	Book Value (f=1)
Identifier	Company				
N/A	Tesco Bank	173	2,241	178	N/A

Outcome	historical multiples (f=0)		forward-looking multiples (f=0)	
	P/E	Price/Book Value	P/E	Price/Book Value
Tesco Bank Equity Value (GBP)	3,587	3,122	2,641	N/A
Tesco Equity Value per share (GBP)	0.44	0.38	0.32	N/A

Description	Minimum	Average	Median	Maximum
Equity Value (m GBP)	2,641	3,117	3,122	3,587
Equity Value per share	0.32	0.38	0.38	0.44

Valuation: Chinese Joint Venture

Valuation of China JV

Purchase Price paid by China Resources Holding:	30,000.0 m HKD
Exchange Rate (31.10.2015)	12.0 GBP / Hongkong Dollar
Purchase Price paid by China Resources Holding:	2,508.9 m GBP
Percentage of Retail operations of sold businesses	80.6%
Purchase Price relating to Retail Operations	2,021.9 m GBP
Tesco Share in the Joint Venture	20.0%
Value of Tesco Share in Joint Venture	404.4 m GBP
Value of Tesco Share in Joint Venture (per share)	0.05 GBP

Tesco (TSCO.L)

Executive Summary (Part IV)

Rating:	OUTPERFORM	
Price (31.10.15):	1.83 GBP	
Price Target:	2.85 GBP	
Potential:	+55.7%	
Ticker Bloomberg:	TSCO.LN	
Ticker Reuters:	TSCO.L	
52-week High:	2.25 GBP	
52-week Low:	1.55 GBP	
Mkt. Cap. (31.10.15)	14,915m GBP	
Share	2014	2015
Tesco	-43.47%	-3.02%
FTSE100	-2.71%	-3.12%

Sensitivity Analysis

- A sensitivity analysis has been performed for the retail activities. It can be concluded that the valuation range obtained ranges from 1.84GBP to 3.06GBP, while the valuation recommendation relies on a value of 2.42GBP.
- The valuation model is highly sensitive to the margin assumptions made. A one percentage point change in margin leads to a decline of 39.6% or to an increase of 41.7% in equity value respectively. Furthermore, the valuation is based on the conservative assumption, that the terminal value growth rate is growing at a rate of 1.0%, thus not growing in real terms.

Retail Business: Sensitivity Analysis

Sensitivity scenarios

Description	Pessimistic	Central	Optimistic
Sales Growth (2017-2024); ± 3p.p.			
Equity value in 2016	17,185.3	19,701.3	21,595.1
% change	-12.8%		9.6%
Trading margin (2017-2024); ± 1p.p.			
Equity value in 2016	11,904.3	19,701.3	27,913.6
% change	-39.6%		41.7%
Capex (2017-2024); ±10%			
Equity value in 2016	17,964.1	19,701.3	21,438.5
% change	-8.8%		8.8%
Cost of capital (ke and kd); ± 1 p.p.			
Equity value in 2016	13,868.1	19,701.3	26,990.8
% change	-29.6%		37.0%
Growth Rate of Terminal Value (FCFF and tax shields); ± 2.0 p.p.			
Equity value in 2016	13,943.2	19,701.3	26,360.7
% change	-29.2%		33.8%

Summary:	low end		top end
Average	14,973.0	19,701.3	24,859.7
% change	-24.0%		26.2%
Average (per share)	1.84	2.42	3.06

