

A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the  
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How dividend payout policy and statutory tax rate affects  
Daimler's valuation

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## Abstract

This project aims to study the effect of the dividend payout policy and the statutory tax rate on Daimler's expected share price. The possible future changes in these two parameters occur due to different reasons. On the one hand, the dividend payout policy is in the scope of Daimler (therefore, defined by the company), while the company does not control the other parameter (statutory tax rate). For performing this analysis, the global and industry's payout ratio was analysed. Moreover, the future expectations for Germany as well as comparable country's statutory tax rates were considered.

Keywords (up to four): Daimler, Automotive, Payout, Tax Rate

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## **Dividend Payout Ratio**

According to Dividend Irrelevance Theory<sup>1</sup>, on a perfect capital markets world, the dividend policy does not affect a company's valuation. Therefore, to a shareholder, it is indifferent receiving a dividend or being rewarded through capital gains. Although some of the inherent assumptions do not hold in reality, as an example, the inexistence of taxes.

In fact, taxes are a reality in all economies. Regarding Germany's tax law, it should be stated that, for individuals, dividends and capital gains are taxed at a rate of 26,375%<sup>2</sup>. Even though capital gains can have a tax refund if the personal income tax is below 25%. Moreover, Germany has tax agreements with other nations to avoid double taxation.

Until 2009, capital gains were taxed according to the personal income tax rate. Thus, under capital gains scope, the actual tax law is more favourable for investors than the previous one. Furthermore, under the taxation perspective, for a middle/higher income German citizen (i.e. which personal income tax is above 25%), there is no difference between receiving dividends or being remunerated through capital gains. Also bear in mind that for corporations, the taxation of dividends and capital gains is somewhat different.

Daimler's dividend policy set a payout ratio of 40% depending on supporting cash flows and has no share buybacks planned for the long term<sup>3</sup>, this policy was considered in our valuation model. Moreover, this model forecasted that in the period 2020-2021, earnings per share (EPS) would shrink in comparison with the values recorded in the last years (Figure 1). Considering that managers are reluctant to cut

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<sup>1</sup> By Franco Modigliani and Merton Miller

<sup>2</sup> Source: "International Tax German Highlights 2019" Study by Deloitte

<sup>3</sup> Source: Daimler "Fixed Income Presentation Q3 2019"

dividends since the market might perceive it as a negative signal, the only solution to at least maintain the dividend level is to increase the payout ratio<sup>4</sup>. With this action, the managers can give a positive indication to the shareholders, evidencing that the company is in a desirable financial situation. Hence, this could be a reality that Daimler’s managers will face in the upcoming years. Thus, the payout ratio set by Daimler (40%) could not be applied straightly. In fact, in the period 2015-2017, the payout ratio ranged between 37,98% and 41,30% (in line with the target ratio). Although in the following year (2018), the earnings per share had significantly dropped, and to maintain the dividend level of the previous years, Daimler increased the payout ratio to 47,94%. Furthermore, with the current approach regarding dividend policy, only in 2023, the dividend per share will return to the level registered in the period 2015-2018 (Figure 1).

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F
EPS	6,51 €	7,87 €	7,97 €	9,61 €	6,78 €	4,29 €	5,42 €	5,87 €	6,87 €	8,01 €	9,00 €	10,12 €	10,65 €	11,03 €	11,35 €	11,68 €
DPS	2,45 €	3,25 €	3,25 €	3,65 €	3,25 €	1,72 €	2,17 €	2,35 €	2,75 €	3,20 €	3,60 €	4,05 €	4,26 €	4,41 €	4,54 €	4,67 €
Payout Ratio	37,63%	41,30%	40,78%	37,98%	47,94%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%

Figure 1- EPS and DPS forecasted (with payout ratio at 40%); Source: Own Creation

After considering the aforementioned reasons, it is insightful to conduct a sensitivity analysis regarding the dividend payout policy.

Firstly, it is essential to highlight that the total market recorded an average payout ratio of 41,95% (44,31% if excluded financials companies). Although, considering the Auto & Truck industry, this ratio declines to 32,98%. Daimler is a German-based company (nonetheless, having operations all across the world), hence analysing this ratio according to the Western European market is also insightful, considering that this one records higher payout ratios when compared to the global market. For instance, the total and the Auto & Trucks Western European market registered an

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<sup>4</sup> Signaling Effect Theory

average payout ratio of 49,3% and 33,55%, respectively<sup>5</sup>.

Moreover, in order to better understand the industry, it will be analysed the dividend payout policy of rival companies. In the period 2016-2018, Volkswagen had a payout ratio of around 20%. Daimler's main competitor (BMW) recorded a relatively stable payout ratio that was in the interval of 30% to 35%. Regarding American companies, General Motors had a dividend payout ratio in the period 2015-2018, ranging between 25% and 30%, excluding the year where the earnings were negative (although, in this same year, the company paid a dividend). Concerning Ford, it has the highest payout ratio considering these four companies, which was, on average, 51,12% for the period 2015-2018 (Figure 2).

DPS	2015	2016	2017	2018
Volkswagen	2,98 €	2,06 €	3,96 €	4,86 €
BMW	3,20 €	3,50 €	4,00 €	3,50 €
General Motors	1,52 €	1,90 €	1,52 €	1,52 €
Ford Motor	0,85 €	0,65 €	0,73 €	0,60 €

EPS	2015	2016	2017	2018
Volkswagen	- 3,20 €	10,24 €	22,63 €	23,57 €
BMW	9,70 €	10,45 €	13,12 €	10,82 €
General Motors	6,11 €	6,12 €	- 2,65 €	5,61 €
Ford Motor	1,86 €	1,16 €	1,91 €	0,93 €

Payout Ratio	2015	2016	2017	2018	Average
Volkswagen	-93,13%	20,12%	17,50%	20,62%	19,41%
BMW	32,99%	33,49%	30,49%	32,35%	32,33%
General Motors	24,88%	31,05%	-57,36%	27,09%	27,67%
Ford Motor	45,70%	56,03%	38,22%	64,52%	51,12%
Average	34,52%	35,17%	28,74%	36,14%	32,63%
Median	32,99%	32,27%	30,49%	29,72%	30,00%

Figure 2- Rivals' Payout Ratio; Source: Own Creation (data from Yahoo Finance)

Payout Ratio	20%	30%	40%	50%	60%	70%	80%
Share Price	61,89 €	61,34 €	60,79 €	60,25 €	59,70 €	59,15 €	58,60 €

Figure 3- Sensitivity Analysis with Payout Ratio; Source: Own Creation

To sum up, regardless of the payout ratio's level analysed, the share price does not vary much. In fact, when the payout ratio ranged between 20% and 80%, the share price ranged between 58,60€ and 61,89€ (Figure 3). With this sensitivity analysis, there is an expected return (considering only capital gains) that ranged between 16,90% and 23,46%.

<sup>5</sup> Source: Aswath Damodoran

## Statutory Tax Rate

Daimler is a German company based in Stuttgart. Consequently, it is there subject to corporate tax income on worldwide income (although, bear in mind the existence of tax treaties). Thus, in Germany, it is subjected to a corporate tax income of 15%, plus the imposition of a 5,5% solidarity surcharge, giving a tax rate of 15,825%. Moreover, it is also imposed a trade tax rate, which varies from the municipality (ranged between 14% and 17%)<sup>6</sup>. Afterwards, in 2018, Daimler faced a statutory rate of 28,825%. In our valuation model, it was considered that this statutory tax would remain unchanged in the future. This tax rate affects the net income as well as the WACC. Since Daimler cannot control this rate, keep in mind that it depends on the German tax law, a sensitivity analysis concerning this parameter will be performed.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Central	22,08%	22,06%	22,08%	15,83%	15,83%	15,83%	15,83%	15,83%	15,83%	15,83%	15,83%	15,83%	15,83%	15,83%	15,83%
Sub-Central	16,28%	16,35%	16,28%	13,58%	13,55%	13,66%	13,73%	13,76%	13,82%	13,88%	13,96%	13,99%	14,06%	14,06%	14,06%
Combined	38,36%	38,41%	38,36%	29,41%	29,37%	29,49%	29,55%	29,58%	29,64%	29,71%	29,78%	29,82%	29,89%	29,89%	29,89%

Figure 4- Average Corporate income tax rate; Source: Own Creation (with OECD data)

The average corporate income tax rate, in Germany, has been relatively stable in the last ten years (registering small increases), varying between 29,37% and 29,89%. However, it should be mentioned that the previous German tax reform occurred in 2008 when this tax rate had dropped roughly nine percentual points.

Germany's economy contracted 0,2% in the second quarter of 2019, and almost faced a technical recession in the third quarter, where its GDP growth at a 0,1% rate. Therefore, German economic development is somehow facing a delicate moment. For instance, a tax relief for enterprises might be a measure with the aim of Germany remains internationally competitive. In fact, when comparing the German combined corporate income tax rate with other nations (France, Italy, United Kingdom, and the

<sup>6</sup> Source: "Worldwide Corporate Tax Guide" Study by EY

United States), it is possible to conclude that the German tax rate is one of the highest ones, only surpassed by France, in 2019 (Figure 5). Nonetheless, France planned to low corporate income tax rate<sup>7</sup> to 25% by 2020 (bear in mind, that this value stood at 33,33% in 2018). Moreover, the US has recently reduced its federal corporate tax rate from 35% to 21%.

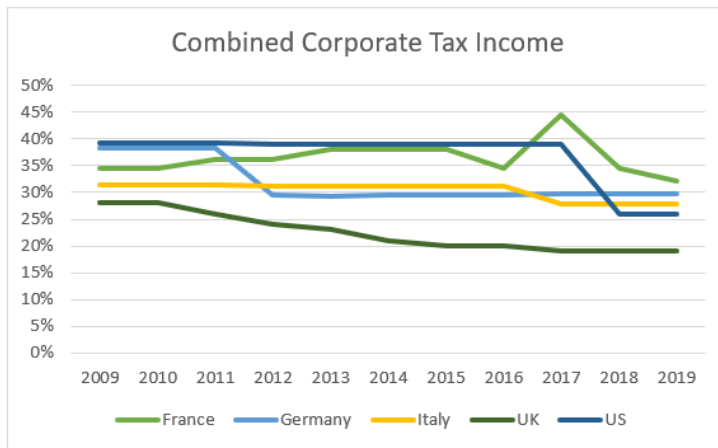


Figure 5- Combined Corporate Tax Income by country; Source: Own Creation (with OCDE data)

Last August, Germany Economy Minister Peter Altmaier presented a proposal<sup>8</sup> that incorporates the gradual elimination of the solidarity surcharge (5,5%), a tax that financed the reconstruction of former East Germany after the reunification.

Statutory Tax Rate	29,000%	29,165%	29,330%	29,495%	29,660%	<b>29,825%</b>	29,990%
Share Price	65,61 €	64,65 €	63,67 €	62,68 €	61,70 €	60,79 €	59,73 €

Figure 6- Sensitivity Analysis with Statutory Tax Rate; Source: Own Creation

All in all, a sensitivity analysis was performed, and the most insightful result to consider is when the statutory rate is at 29% since it represents the elimination of the solidarity surcharge (most plausible scenario). In this case, it is achieved a share valuation of 65,61€ (Figure 6). In the most extreme scenario (with a statutory tax rate of 25%, in line with French future taxation) a valuation of 88,89€ is achieved.

<sup>7</sup> Corporate income tax rate only incorporates central government tax rate, thus it is different than combined corporate income tax rate (which includes both central and sub-central government tax rate)

<sup>8</sup> Source: "Germany seeks to cut corporate tax rate to 25%" by Bloomberg