

What is Financial Task Analysis in Excel?

Financial modeling in Excel refers to tools used for preparing the expected financial statements predicting the company's financial performance in a future period using the assumptions and historical performance information. One may use such financial models in DCF valuations, mergers and acquisitions, private equity, project finance, etc.

Financial modeling in Excel is all around the web. There has been a lot written about learning financial modeling. However, most of the financial modeling pieces of training are the same. It goes beyond the usual gibberish and explores practical financial modeling used by [Investment Bankers](#) and Research Analysts.

In this free financial modeling Excel guide, we will take the example of Colgate Palmolive (2016 – 2020) and prepare a fully integrated financial model from scratch.

This guide is over 5,000 words and took me three weeks to complete. Therefore, save this page for future reference, and do not forget to share it.

Financial Modeling in Excel Training – Read me First

Step 1 – Download the Colgate Financial Model Template.

You can download this Colgate Financial Modeling Templates (Solved/Unsolved) here – [Colgate Financial Modeling Templates \(Solved/Unsolved\)](#)

Step 2 – Please note you will get two templates – 1) Unsolved Colgate Palmolive Financial Model and 2) Solved Colgate Palmolive Financial Model.

Step 3- You will work on the **Unsolved Colgate Palmolive Financial Model Template**. Follow the step-by-step instructions to prepare a fully integrated financial model.

Step 4 – Happy Learning!

If you are new to financial modeling, look at this guide on [What is Financial Modeling? How to Build a Financial Model in Excel?](#)

Let us look at how one can build a financial model from scratch. This detailed financial modeling guide will provide a step-by-step guide to creating a financial model. The primary approach taken in this financial modeling guide is **Modular**. The modular system essentially means building core statements like income statements, balance sheets, and cash flows using different modules/sheets. The key focus is to prepare each statement step by step and connect all the supporting programs to the core statements on completion. We understand that this may not be clear now. However, you will realize this is very easy as we move forward.

- [Step 1 – Colgate's Financial Model – Historical](#)
- [Step 2 – Ratio Analysis of Colgate Palmolive](#)
- [Step 3 – Projecting the Income Statement](#)
- [Step 4- Working Capital Forecast](#)
- [Step 5 – Depreciation Forecast](#)
- [Step 6 – Amortization Forecast](#)
- [Step 7 – Other Long Term Forecast](#)

- [Step 8 – Completing the Income Statement](#)
- [Step 9 – Shareholder’s Equity Forecast](#)
- [Step 10 – Shares Outstanding Forecast](#)
- [Step 11 – Completing the Cash Flow Statements](#)
- [Step 12- Debt and Interest Forecast](#)

Please note the following –

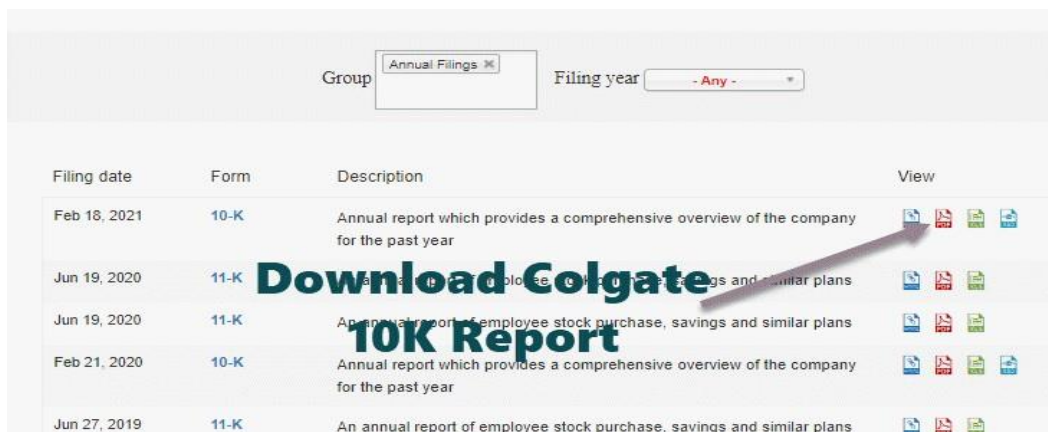
- The core statements are the [Income Statement](#), [Balance Sheet](#), and Cash Flows.
- The different sheets are the [depreciation](#) forecast, working capital forecast, intangibles forecast, [shareholder’s equity](#) forecast, other long term items forecast, [debt forecast schedule](#), etc.
- The different schedules are linked to the core statements upon their completion.
- This financial modeling guide will build a step-by-step integrated economic model of Colgate Palmolive from scratch.



















Step 1 – Financial Modeling in Excel – Project the Historicals

The first step in the financial modeling guide is to prepare the historicals.

Download Colgate’s 10K Reports

One prepares financial models in Excel. The first steps start with knowing how the industry has been doing recently. Understanding the past can provide valuable insights into the company’s future. Therefore the first step is to download all the company’s financials and populate the same in an Excel sheet. For Colgate Palmolive, you can download the annual reports of Colgate Palmolive from their [Investor Relation Section](#).



Filing date	Form	Description	View
Feb 18, 2021	10-K	Annual report which provides a comprehensive overview of the company for the past year	   
Jun 19, 2020	11-K	Annual report of employee stock purchase, savings and similar plans	   
Jun 19, 2020	11-K	Annual report of employee stock purchase, savings and similar plans	   
Feb 21, 2020	10-K	Annual report which provides a comprehensive overview of the company for the past year	   
Jun 27, 2019	11-K	An annual report of employee stock purchase, savings and similar plans	   

Create the Historical Financial Statements Worksheet

- If you download 10K of 2020, you will note that only two years of financial statement data is available. However, for financial modeling in Excel, the recommended dataset is to have the last 5 years of financial statements. Therefore, please download the last 3 years of the [annual report](#) and populate the historical.
- Often, these tasks seem too tedious as it may take a lot of time and energy to format and put the excel in the desired format.

- However, one should not forget that this is the work you are required to do only once for each company. Populating the historicals also helps an analyst understand the trends and [financial statements](#).
- So, please do not skip this. Instead, download and populate the data (even if you feel this is the donkey's work).

Colgate Income Statement with Historical Populated

Income Statement (Consolidated)					
(\$ in Million Except Per Share Amounts)	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20
Net sales	15,195	15,454	15,544	15,693	16,471
Cost of sales	6,072	6,174	6,313	6,368	6,454
Gross profit	9,123	9,280	9,231	9,325	10,017
Selling, general and administrative expenses	5,143	5,400	5,389	5,575	6,019
Other (income) expense, net	25	173	148	196	113
EBIT	3,955	3,707	3,694	3,554	3,885
Non-service related postretirement costs	118	118	87	108	74
Interest expense, net	99	102	143	145	164
EBT	3,738	3,487	3,464	3,301	3,647
Provision for income taxes	1,152	1,313	906	774	787
Net income including noncontrolling interests	2,586	2,174	2,558	2,527	2,860
Less: Net income attributable to noncontrolling int	145	150	158	160	165
Net income attributable to Colgate-Palmolive Cor	2,441	2,024	2,400	2,367	2,695
Earnings per common share, basic	2.74	2.30	2.76	2.76	3.15
Earnings per common share, diluted	2.72	2.28	2.75	2.75	3.14
Basic Weighted Average Shares	891.8	881.1	870.6	859.1	856.8
Diluted Weighted Average Shares	898.4	887.1	873.0	861.1	859.3

Colgate Balance Sheet Historical Data

Consolidated Balance Sheets					
	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20
Assets					
Current Assets					
Cash and cash equivalents	1,315	1,535	726	883	888
Receivables	1,411	1,480	1,400	1,440	1,264
Inventories	1,171	1,221	1,250	1,400	1,673
Other current assets	441	403	417	456	513
Total current assets	4,338	4,639	3,793	4,179	4,338
Property, plant and equipment, net	3,840	4,072	3,881	3,750	3,716
Goodwill, net	2,107	2,218	2,530	3,508	3,824
Other intangible assets, net	1,313	1,341	1,637	2,667	2,894
Deferred income taxes	301	188	152	177	291
Other assets	224	218	168	753	857
Total assets	12,123	12,676	12,161	15,034	15,920
Liabilities and Shareholders' Equity					
Current Liabilities					
Notes and loans payable	13	11	12	260	258
Current portion of long-term debt				254	9
Accounts payable	1,124	1,212	1,222	1,237	1,393
Accrued income taxes	441	354	411	370	403
Other accruals	1,727	1,831	1,696	1,917	2,341

Step 2 – Ratio Analysis

The second step in financial modeling in Excel is to perform ratio analysis. We covered this in detail in part 1 of the series – [Ratio Analysis](#)

Vertical Analysis of Colgate--On the income statement, the vertical analysis is a universal tool for measuring the firm's relative performance from year to year in terms of cost and profitability. Therefore, it should always be included as part of any financial analysis. Here,

percentages are computed concerning net sales, which is considered 100%. This vertical analysis effort in the income statement is often referred to as margin analysis since it yields different margins concerning sales.

<u>Vertical Analysis</u>	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20
Net sales	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of sales	40.0%	40.0%	40.6%	40.6%	39.2%
Gross profit Margin	60.0%	60.0%	59.4%	59.4%	60.8%
Selling, general and administrative expenses	33.8%	34.9%	34.7%	35.5%	36.5%
Other (income) expense, net	0.2%	1.1%	1.0%	1.2%	0.7%
Operating profit Margin (EBIT Margin)	26.0%	24.0%	23.8%	22.6%	23.6%
Non-service related postretirement costs			0.6%	0.7%	0.4%
Interest expense, net	0.7%	0.7%	0.9%	0.9%	1.0%
Income before income taxes (EBT Margin)	24.6%	22.6%	22.3%	21.0%	22.1%
Provision for income taxes	7.6%	8.5%	5.8%	4.9%	4.8%
Net income Margin including noncontrolling interest	17.0%	14.1%	16.5%	16.1%	17.4%
Less: Net income attributable to noncontrolling interest	5.6%	6.9%	6.2%	6.3%	5.8%
Net income Margin	16.1%	13.1%	15.4%	15.1%	16.4%
Effective Tax Rates	30.8%	37.7%	26.2%	23.4%	21.6%

Horizontal Analysis of Colgate

Horizontal analysis is a technique used to evaluate trends over time by [calculating percentage increases excel](#) or decreases relative to a base year. It provides an analytical link between accounts calculated at different dates using the currency with varying purchasing powers. In effect, this analysis indexes the reports and compares these evolved. As with the [vertical analysis](#) methodology, issues that need to be investigated and complemented with other financial analysis techniques will surface. The focus is to look for symptoms of problems that one can diagnose using additional methods.

Let us look at the horizontal analysis of Colgate.

<u>Horizontal Analysis</u>	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20
Net sales		1.7%	0.6%	1.0%	5.0%
Cost of sales		1.7%	2.3%	0.9%	1.4%
Gross profit		1.7%	-0.5%	1.0%	7.4%
Selling, general and administrative expenses		5.0%	-0.2%	3.5%	8.0%
Other (income) expense, net		592.0%	-14.5%	32.4%	-42.3%
Operating profit		-6.3%	-0.4%	-3.8%	9.3%
Interest expense, net		3.0%	40.2%	1.4%	13.1%
Income before income taxes		-6.7%	-0.7%	-4.7%	10.5%
Provision for income taxes		14.0%	-31.0%	-14.6%	1.7%
Net income including noncontrolling interests		-15.9%	17.7%	-1.2%	13.2%
Less: Net income attributable to noncontrolling interests		3.4%	5.3%	1.3%	3.1%
Net income attributable to Colgate-Palmolive Company		-17.1%	18.6%	-1.4%	13.9%

Liquidity Ratios of Colgate

- Liquidity ratios measure the relationship of the more [liquid assets](#) of an enterprise (the ones most easily convertible to cash) to current liabilities. The most common liquidity ratios are the current [ratio](#), Acid test (or quick asset) ratio [Cash Ratios](#).

- Turnover Ratios like [Accounts Receivables](#) turnover, inventory turnover, and payables turnover.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20
Solvency Ratios					
Current ratio	1.31x	1.36x	1.14x	1.03x	.99x
Quick ratio	.82x	.88x	.64x	.58x	.49x
Cash ratio	.40x	.45x	.22x	.22x	.20x
Sales	15,195	15,454	15,544	15,693	16,471
COGS	6,072	6,174	6,313	6,368	6,454
Purchases		6,224	6,342	6,518	6,727
Turnover Ratios					
Receivables turnover		10.69x	10.79x	11.05x	12.18x
Inventory Turnover		5.16x	5.11x	4.81x	4.20x
Payables turnover		5.33x	5.21x	5.30x	5.12x
Days	365				
Average receivables collection period		34.1	33.8	33.0	30.0
Average inventory processing period		70.7	71.4	75.9	86.9
Average Payable Days (payment period)		68.5	70.0	68.9	71.4
Cash Collection Cycle		36.35	35.21	40.12	45.51

Also, have a look at this detailed article on [Cash Conversion Cycle](#).

Operating Profitability Ratios of Colgate

[Profitability ratios](#) are a company's ability to generate earnings relative to sales, assets, and equity.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20
Operating Efficiency					
Total asset turnover (Sales / Average Assets)		1.25	1.25	1.15	1.06
Net fixed asset turnover		3.91	3.91	4.11	4.41
Equity turnover		(102.01)	(191.90)	2,092.40	38.30
Operating Profitability					
Gross Profit Margin	60.0%	60.0%	59.4%	59.4%	60.8%
Operating Profit Margin	26.0%	24.0%	23.8%	22.6%	23.6%
Net Profit Margin	16.1%	13.1%	15.4%	15.1%	16.4%
Return on Total Assets		29.9%	29.7%	26.1%	25.1%
Return on Equity (Net Income / Total Equity)		1672.3%	1162.7%	669.4%	344.8%
Return on Owner's Equity		-1336.0%	-2963.0%	31560.0%	626.7%
ROE DuPont Analysis					
Profit Margin (Net Income / Sales)		14.1%	16.5%	16.1%	17.4%
Asset Turnover (Sales / Average Assets)		124.6%	125.2%	115.4%	106.4%
Asset Leverage (Average Assets / Average Equity)		9538.1%	5644.8%	3602.0%	1865.8%
Dupont ROE		1672.3%	1162.7%	669.4%	344.8%

Risk Analysis of Colgate

Through [Risk Analysis](#), we try to gauge whether the companies will be able to pay their short and long-term obligations (debt). We calculate [leverage ratios](#) that focus on the sufficiency of assets or generation from assets. Rates that looks at are:

- Debt to Equity Ratio
- Debt ratio
- Interest Coverage Ratio

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20
Financial Risk Ratios					
Debt to equity ratio			32.31	14.06	6.90
Debt ratio			0.97	0.93	0.87
Interest coverage ratio			29	28	27
DSCR			12.03	10.42	6.62

Step 3 – Financial Modeling in Excel – Project the Income Statement

The third step in financial modeling is to forecast the income statement, wherein we will start with modeling the sales or revenue items.

Revenues Projections

For most companies, revenues are a fundamental driver of economic performance. Therefore, a well-designed and logical revenue model reflecting the type and amounts of income flows accurately is extremely important. There are as many ways to create a revenue schedule as there are businesses. Some common types include:

- **Sales Growth:** Sales growth assumption in each period defines the change from the previous period. It is a simple and commonly used method but offers no insights into the components or dynamics of growth.
- **Inflationary and Volume/ Mix effects:** Instead of a simple growth assumption, a price inflation factor and a volume factor are used. This useful approach allows the modeling of fixed and variable costs in multi-product companies and considers price vs. volume movements.
- **Unit Volume, Change in Volume, Average Price, and Change in Price:** This method is appropriate for businesses with a simple product mix. It permits analysis of the impact of several key variables.
- **Dollar Market Size and Growth:** Market share and change in share – useful for cases where information is available on market dynamics and where these assumptions are likely to be fundamental to a decision. For example, the telecom industry.
- **Unit Market Size and Growth:** This is more detailed than the preceding case and is useful when pricing in the market is a crucial variable. (For a company with a price-discounting strategy. For example, a best-of-breed premium-priced niche player) e.g., the luxury car market
- **Volume Capacity, Capacity Utilization Rate, and Average Price:** These assumptions can be important for businesses where production capacity is essential to the decision. (In purchasing additional capacity, for example, or determining whether the expansion would require new investments).
- **Product Availability and Pricing**
- **Revenue was driven by investment** in capital, marketing, or R&D
- **Revenue-based on installed base** (continuing sales of parts, disposables, services, add-ons, etc.). Examples include classic razor-blade businesses and businesses like

computers where sales of service, software, and upgrades are essential. Again, modeling the installed base is key (new additions to the floor, attrition in the ground, continuing revenues per customer, etc.).

- **Employee based:** For example, revenues of professional services firms or sales-based firms such as brokers. Modeling should focus on net staffing and revenue per employee (often based on billable hours). More detailed models will include seniority and other factors affecting pricing.
- **Store, facility, or Square footage based:** Retail companies are often modeled based on stores (old stores plus new stores each year) and revenue per store.
- **Occupancy-factor-based:** This approach applies to airlines, hotels, movie theatres, and other businesses with low marginal costs.

Projecting Colgate Revenues

Let us now look at the Colgate 10K 2020 report. First, Colgate has not provided segmental information in the income statement. However, as additional information, Colgate has provided details of each segment.

	2020	2019	2018
Net sales			
Oral, Personal and Home Care			
North America ⁽¹⁾	\$ 3,741	\$ 3,424	\$ 3,348
Latin America	3,418	3,606	3,605
Europe	2,747	2,450	2,502
Asia Pacific	2,701	2,707	2,734
Africa/Eurasia	981	981	967
Total Oral, Personal and Home Care	13,588	13,168	13,156
Pet Nutrition ⁽²⁾	2,883	2,525	2,388
Total Net sales	\$ 16,471	\$ 15,693	\$ 15,544

⁽¹⁾ Net sales in the U.S. for Oral, Personal and Home Care were \$3,447, \$3,166 and \$3,091 in 2020, 2019 and 2018, respectively.

⁽²⁾ Net sales in the U.S. for Pet Nutrition were \$1,712, \$1,441 and \$1,304 in 2020, 2019 and 2018, respectively.

Source – Colgate 2020 – 10K, Page 119

Since we do not have any further information about the features, we will project the future sales of Colgate based on this available data. We will use the sales growth approach across segments to derive the forecasts. Please see the picture below. We have calculated the year-over-year growth rate for each element.

(\$ in Million Except Per Share Amounts)	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Oral, Personal and Home Care										
North America		\$ 3,117	\$ 3,348	\$ 3,424	\$ 3,741					
% growth (yoy)			7.4%	2.3%	9.3%					
Latin America		3,887	3,605	3,606	3,418					
% growth (yoy)			-7.3%	0.0%	-5.2%					
Europe/South Pacific		2,394	2,502	2,450	2,747					
% growth (yoy)			4.5%	-2.1%	12.1%					
Asia		2,781	2,734	2,707	2,701					
% growth (yoy)			-1.7%	-1.0%	-0.2%					
Africa/Eurasia		983	967	981	981					
% growth (yoy)			-1.6%	1.4%	0.0%					
Total Oral, Personal and Home Care	0	13,162	13,156	13,168	13,588					
			0.0%	0.1%	3.2%					
Pet Nutrition		2,292	2,388	2,525	2,883					
% growth (yoy)			4.2%	5.7%	14.2%					
Total Net sales	\$ -	\$ 15,454	\$ 15,544	\$ 15,693	\$ 16,471					

**Project Sales
based on
historical
growth**

Now, we can assume a sales growth percentage based on the historical trends and project the revenues under each part. Therefore, total net sales are the total of the **Oral, Personal & Home Care**, and **Pet Nutrition Segment**.

(\$ in Million Except Per Share Amounts)	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Oral, Personal and Home Care										
North America		\$ 3,117	\$ 3,348	\$ 3,424	\$ 3,741	=G85*(1+H86)		\$ 4,845	\$ 5,281	\$ 5,756
% growth (yoy)			7.4%	2.3%	9.2%			9.0%	9.0%	9.0%
Latin America		3,887	3,605	3,606	3,418	3,452	3,487	3,522	3,557	3,592
% growth (yoy)			-7.3%	0.0%	-5.2%	1.0%	1.0%	1.0%	1.0%	1.0%
Europe/South Pacific		2,836	2,992	2,945	2,747	2,829	2,914	3,002	3,092	3,185
% growth (yoy)			5.5%	-1.6%	-12.1%	3.0%	3.0%	3.0%	3.0%	3.0%
Asia		2,701	2,701	2,701	2,701	2,701	2,701	2,701	2,701	2,701
% growth (yoy)			-1.7%	-1.0%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Africa/Eurasia		983	967	981	981	991	1,001	1,011	1,021	1,031
% growth (yoy)			-1.6%	1.4%	0.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Total Oral, Personal and Home Care	0	13,162	13,156	13,168	13,588	14,051	14,547	15,080	15,651	16,265
			0.0%	0.1%	3.2%	3.4%	3.5%	3.7%	3.8%	3.9%

Forecast Sales using growth assumptions

Costs Projections

- **Percentage of Revenues:** Simple but offers no insight into any leverage (economy of scale or fixed cost burden).
- **Costs other than depreciation** as a percent of revenues and depreciation from a different schedule: This approach is the minimum acceptable in most cases and permits only partial analysis of operating leverage.
- **Variable costs based on revenue or volume**, fixed costs based on historical trends, and depreciation from a different schedule. This approach is the minimum necessary for sensitivity analysis of profitability based on multiple revenue scenarios.

Cost Projections for Colgate

For projecting the cost, the vertical analysis done earlier will be helpful. So, let us have a relook at the vertical analysis:

Vertical Analysis	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Net sales	100.0%	100.0%	100.0%	100.0%	100.0%					
Cost of sales	40.0%	40.0%	40.6%	40.6%	39.2%					
Gross profit Margin	60.0%	60.0%	59.4%	59.4%	60.8%					
Selling, general and administrative expenses	33.8%	34.9%	34.7%	35.5%	36.5%					
Other (income) expense, net	0.2%	1.1%	1.0%	1.2%	0.7%					
Operating profit Margin (EBIT Margin)	26.0%	24.0%	23.8%	22.6%	23.6%					
Non-service related postretirement costs			0.6%	0.7%	0.4%					
Interest expense, net	0.7%	0.7%	0.9%	0.9%	1.0%					
Income before income taxes (EBT Margin)	24.6%	22.6%	22.3%	21.0%	22.1%					
Provision for income taxes	7.6%	8.5%	5.8%	4.9%	4.8%					
Net income Margin including noncontrolling inter	17.0%	14.1%	16.5%	16.1%	17.4%					
Less: Net income attributable to noncontrolling inter	5.6%	6.9%	6.2%	6.3%	5.8%					
Net income Margin	16.1%	13.1%	15.4%	15.1%	16.4%					
Effective Tax Rates	30.8%	37.7%	26.2%	23.4%	21.6%					

Forecast Future Margins based on Historicals

- Since we have already forecasted sales, all the other costs are some margins of these sales.
- The approach is to take the guidelines from the historical cost and expense margins and then forecast the future margin.

- For example, the cost of sales has been in the range of 39.2%-40.6% for the past five years. So we can look at forecasting the margins on this basis.
- Likewise, selling, general, and Administrative Expenses have been historically in the range of 33.8%-36.5%. We can assume the future SG&A expense margin on this basis. Likewise, we can go on for another set of expenses.

Vertical Analysis	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Net sales	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of sales	40.0%	40.0%	40.6%	40.6%	39.2%	40.0%	40.0%	40.0%	40.0%	40.0%
Gross profit Margin	60.0%	60.0%	59.4%	59.4%	60.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Selling, general and administrative expenses	33.8%	34.9%	34.7%	35.5%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%
Other (income) expense, net	0.2%	1.1%	1.0%	1.2%	0.7%	1.0%	1.0%	1.0%	1.0%	1.0%
Operating profit Margin (EBIT Margin)	26.0%	24.0%	23.8%	22.6%	23.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Non-service related postretirement costs	0.7%	0.7%	0.9%	0.9%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Interest expense, net	24.6%	23.9%	22.8%	21.0%	22.1%	22.0%	22.0%	22.0%	22.0%	22.0%
Income before income taxes (EBT Margin)	7.6%	8.5%	5.8%	4.9%	4.8%	6.0%	6.0%	6.0%	6.0%	6.0%
Provision for income taxes	17.5%	14.1%	16.1%	16.1%	17.4%	6.0%	6.0%	6.0%	6.0%	6.0%
Net income Margin including noncontrolling interest	9.6%	9.9%	8.2%	6.3%	5.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Less: Net income attributable to noncontrolling interest	16.1%	13.1%	15.4%	15.1%	16.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Net income Margin	16.1%	13.1%	15.4%	15.1%	16.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Effective Tax Rates	30.8%	37.7%	26.2%	23.4%	21.6%	22.0%	22.0%	22.0%	22.0%	22.0%

Using the above margins, we can find the actual values by back calculations.

(\$ in Million Except Per Share Amounts)	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Net sales	15,195	15,454	15,544	15,693	16,471	17,222	18,036	18,917
Cost of sales	6,072	6,174	6,313	6,368	6,454	=H6*H32	7,214	7,567
Gross profit	9,123	9,280	9,231	9,325	10,017	10,333	10,821	11,350
Selling, general and administrative expenses	5,143	5,400	5,389	5,475	6,010	6,200	6,493	6,810
Other (income) expense, net	25	171	148	196	113	172	180	189
EBIT	3,955	3,709	3,694	3,654	3,885	3,961	4,148	4,351
Non-service related postretirement costs	118	118	87	108	74			
Interest expense, net	2,722	2,822	143	145	164			
EBT	3,738	3,487	3,464	3,301	3,647			
Provision for income taxes	1,152	1,313	906	774	787			
Net income including noncontrolling interests	2,586	2,174	2,558	2,527	2,860			
Less: Net income attributable to noncontrolling interest	145	150	158	160	165			
Net income attributable to Colgate-Palmolive Corp	2,441	2,024	2,400	2,367	2,695			
Earnings per common share, basic	2.74	2.30	2.76	2.76	3.15			
Earnings per common share, diluted	2.72	2.28	2.75	2.75	3.14			

We use the effective tax rate assumption to calculate the provision for taxes.

5 (\$ in Million Except Per Share Amounts)	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
15 EBT	3,738	3,487	3,464	3,301	3,647	3,892	4,076
17 Provision for income taxes	1,152	1,313	906	774	787	=H16*H47	
18 Net income including noncontrolling interests	2,586	2,174	2,558	2,527	2,860	3,036	3,179
19 Less: Net income attributable to noncontrolling interest	145	150	158	160	165	182	191
20 Net income attributable to Colgate-Palmolive Corp	2,441	2,024	2,400	2,367	2,695	2,854	2,989
21 Earnings per common share, basic	2.74	2.30	2.76	2.76	3.15		
22 Earnings per common share, diluted	2.72	2.28	2.75	2.75	3.14		
23							
46							
47 Effective Tax Rates	30.8%	37.7%	26.2%	23.4%	21.6%	22.0%	22.0%
48							

- Also, note that we do not complete the “Interest Expense (Income)” row as we will look at the income statement later.
- Interest Expense and Interest Income.

- We have also not calculated depreciation and amortization, which we have already included in the cost of sales.
- This completes the income statement (at least for the time being!).

Step 4- Financial Modeling – Working Capital Schedule

Now that we have completed the income statement, the fourth step in financial modeling is to look at the working capital schedule.

Below are the steps that one must follow for a working capital schedule.

Link the Net Sales and Cost of Sales

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Net Sales	15,195	15,454	15,544	15,693	16,471	17,222	18,036	18,917	19,872
Cost of Sales	6,072	6,174	6,313	6,368	6,454	6,889	7,214	7,567	7,949
Working Capital Balances									
Receivables									
Inventories									
Other current assets									
Total Non Cash Current Assets									
Accounts payable									
Accrued income taxes									
Other accruals									
Total Non-Debt Current Liabilities									
Net Working Capital/ (Deficit)									

Link from Income Statement

Reference the Balance Sheet Data related to working capital

- Reference the past data from the balance sheet.
- **Calculate net working capital**
- Arrive at an increase/ decrease in working capital
- Note that we have not included short-term debt and cash and cash equivalents in the working capital. We will deal with debt and **cash and cash equivalents** separately.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Net Sales	15,195	15,454	15,544	15,693	16,471	17,222	18,036	18,917	19,872
Cost of Sales	6,072	6,174	6,313	6,368	6,454	6,889	7,214	7,567	7,949
Working Capital Balances									
Receivables	1,411	1,480	1,400	1,440	1,264				
Inventories	1,171	1,221	1,250	1,400	1,673				
Other current assets	441	403	417	456	513				
Total Non Cash Current Assets	3,023	3,104	3,067	3,296	3,450				
Accounts payable	1,124	1,212	1,222	1,237	1,393				
Accrued income taxes	441	354	411	370	403				
Other accruals	1,727	1,831	1,696	1,917	2,341				
Total Non-Debt Current Liabilities	3,292	3,397	3,329	3,524	4,137				
Net Working Capital/ (Deficit)	(269)	(293)	(262)	(228)	(687)				
(Increase)/ Decrease in Working Capital		24	(31)	(34)	459				

Linked from Balance Sheet

Calculate the Turnover Ratios

- Calculate historical ratios and percentages
- Use the ending or average balance.

- Both are acceptable as long as consistency is maintained.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Ratios & Assumptions									
Accounts Receivable, net (Collection period in days)		34	34	33	30				
Inventory (Days outstanding)		71	71	76	87				
Other Current Assets (% of Net Sales)		2.6%	2.7%	2.9%	3.1%				
Accounts Payable (Days Payable)		68	70	69	71				
Accrued Income Taxes (% of COGS)		5.7%	6.5%	5.8%	6.2%				
Other accruals (% of COGS)		29.7%	26.9%	30.1%	36.3%				

Calculate Turnover & Other Ratios

Populate the assumptions for future working capital items

- Certain items without a prominent driver are assumed usually at constant amounts.
- Ensure assumptions are reasonable and in line with the business.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Ratios & Assumptions									
Accounts Receivable, net (Collection period in days)		34	34	33	30	30	30	30	30
Inventory (Days outstanding)		71	71	76	87	85	85	85	85
Other Current Assets (% of Net Sales)		2.6%	2.7%	2.9%	3.1%	3.1%	3.1%	3.1%	3.1%
Accounts Payable (Days Payable)		68	70	69	71	70	70	70	70
Accrued Income Taxes (% of COGS)		5.7%	6.5%	5.8%	6.2%	6.2%	6.2%	6.2%	6.2%
Other accruals (% of COGS)		29.7%	26.9%	30.1%	36.3%	30.0%	30.0%	30.0%	30.0%

Assumptions

Project the future working capital balances

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Net Sales	15,195	15,454	15,544	15,693	16,471	17,222	18,036	18,917	19,872
Cost of Sales	6,072	6,174	6,313	6,368	6,454	6,889	7,214	7,567	7,949
Working Capital Balances									
Receivables		1,480	1,400	1,440	1,264	=2*H27*H6/\$Q\$10-G10			1,555
Inventories	1,171	1,221	1,250	1,400	1,673	1,536	1,825	1,700	2,002
Other current assets	441	403	417	456	513	534	559	586	616
Total Non Cash Current Assets	3,023	3,104	3,067	3,296	3,450	3,637	3,781	3,998	4,173
Accounts payable		1,212	1,222	1,237	1,393	1,197	1,681	1,173	1,992
Accrued income taxes	441	354	411	370	403	427	447	469	493
Other accruals	1,727	1,831	1,696	1,917	2,341	2,067	2,164	2,270	2,385
Total Non-Debt Current Liabilities	3,292	3,397	3,329	3,524	4,137	3,690	4,293	3,912	4,869

Calculate Working Capital from Assumptions

Calculate the changes in Working Capital

- Arrive at cash flows based on individual line items.
- Ensure signs are accurate!

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
(Increase)/ Decrease in Working Capital		24	(31)	(34)	459	(633)	458	(597)	782
Purchases		6,224	6,342	6,518	6,727	6,752	7,503	7,442	8,252
Cash Flow from Individual line items									
Receivables			80	(40)	176	(303)	169	(314)	157
Inventories			(29)	(150)	(273)	137	(289)	125	(303)
Other current assets			(14)	(30)	(57)	(21)	(25)	(27)	(30)
Accounts payable			10	15	156	(196)	485	(508)	819
Accrued income taxes			57	(41)	33	24	20	22	24
Other accruals			(135)	221	424	(274)	98	106	115
(Increase)/ Decrease in Working Capital			(31)	(34)	459	(633)	458	(597)	782

Double Check Changes in Working Capital

Link up the Working Capital Forecasts to the Balance Sheet

	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Assets							
Current Assets							
Cash and cash equivalents	726	883	888				
Receivables	1,400	1,440	1,264	1,567	1,398	1,712	1,555
Inventories	1,250	1,400	1,673	1,536	1,825	1,700	2,002
Other current assets	417	456	513	534	559	586	616
Total current assets	3,793	4,179	4,338	3,637	3,781	3,998	4,173
Property, plant and equipment, net	3,041	2,750	3,716				
Goodwill, net	2,530	3,508	3,824				
Other intangible assets, net	1,637	2,667	2,894				
Deferred income taxes	6		291				
Other assets	168	753	357				
Total assets	11,135	15,034	15,920				
Liabilities and Shareholders' Equity							
Current Liabilities							
Notes and loans payable	12	260	258				
Current portion of long-term debt		254	9				
Accounts payable	1,222	1,237	1,393	1,197	1,681	1,173	1,992
Accrued income taxes	411	370	403	427	447	469	493
Other accruals	1,696	1,917	2,341	2,067	2,164	2,270	2,385
Total current liabilities	3,341	4,038	4,404	3,690	4,293	3,912	4,869

Link Working Capital Items to the Cash Flow Statement

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Loss on early extinguishment of debt					23				
Charge for U.S. tax reform			80						
Deferred income taxes			27	17	-120				
Voluntary benefit plan contributions			(67)	(113)					
Cash effects of changes in:									
Receivables			(79)	10	138	(303)	169	(314)	157
Inventories				(77)	(251)	137	(289)	125	(303)
Accounts payable, accrued income tax & other accruals			18	36	520	(447)	603	(381)	957
Other non-current assets and liabilities			(36)	87	(26)				
Net cash provided by operations	0	3,056	3,133	3,719					

Step 5 – Financial Modeling in Excel – Depreciation Schedule

With the completion of the working capital schedule, the next step in this financial modeling is to project the **Capex** of Colgate and the depreciation and assets figures.

(Dollars in Millions Except Per Share Amounts)			
	2020	2019	2018
Net sales	\$ 16,471	\$ 15,693	\$ 15,544
Cost of sales	6,454	6,368	6,313
Gross profit	10,017	9,325	9,231
Selling, general and administrative expenses	6,019	5,575	5,389
Other (income) expense, net	113	196	148
Operating profit	3,885	3,554	3,694
Non-service related postretirement costs	74	108	87
Interest (income) expense, net	164	145	143
Income before income taxes	3,647	3,301	3,464
Provision for income taxes	787	774	906
Net income including noncontrolling interests	2,860	2,527	2,558
Less: Net income attributable to noncontrolling interests	165	160	158
Net income attributable to Colgate-Palmolive Company	\$ 2,695	\$ 2,367	\$ 2,400
Earnings per common share, basic	\$ 3.15	\$ 2.76	\$ 2.76
Earnings per common share, diluted	\$ 3.14	\$ 2.75	\$ 2.75

source – Colgate 10K 2020 Page – 72

- It has not provided depreciation and amortization as separate line items. However, it is included in the cost of sales.
- In such cases, please look at the cash flow statements, where you will find the depreciation and amortization expense. Also, note that the below figures are 1) Depreciation and 2) amortization. So, what is the depreciation number?
- Ending Balance for PPE = Beginning balance + Capex – Depreciation – Adjustment for Asset Sales (BASE equation).

	2020
Operating Activities	
Net income including noncontrolling interests	\$ 2,860 \$
Adjustments to reconcile net income including noncontrolling interests to net cash provided by operations:	
Depreciation and amortization	539
Restructuring and termination benefits, net of cash	(71)
Stock-based compensation expense	107
Loss on early extinguishment of debt	23
Charge for U.S. tax reform	—
Deferred income taxes	(120)
Voluntary benefit plan contribution	—
Cash effects of changes in:	
Receivables	138
Inventories	(251)
Accounts payable and other accruals	520
Other non-current assets and liabilities	(26)
Net cash provided by operations	3,719

Depreciation & Amortization is given in Cash Flow Statement

Link the Net Sales figures in the Depreciation Schedule

- Set up the line items
- Reference net sales
- Input past capital expenditures
- Arrive at Capex as a % of net sales

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Net Sales	15,195	15,454	15,544	15,693	16,471	17,222	18,036	18,917	19,872
Capital Expenditures			436	335	410				
Capital Expenditures as % of Net Sales			2.8%	2.1%	2.5%				
Beginning Net PP&E									
Capital Expenditures									
(Depreciation Expense)									
Ending Net PP&E									

link from Cash Flows

Calculate

Forecast the Capital Expenditure Items

- There are various approaches to forecasting capital expenditure. One common practice is to look at the press releases, management projections, and [MD&A](#) to understand the company's view on future capital expenditure.
- If the company has guided future capital expenditure, we can take those numbers directly.
- However, if the Capex numbers are not directly available, we can calculate it crudely using Capex as % of Sales (as done below).
- Use your judgment based on industry knowledge and other reasonable drivers.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Net Sales	15,195	15,454	15,544	15,693	16,471	17,222	18,036	18,917	19,872	20,908
Capital Expenditures			436	335	410	517	541	568	596	627
Capital Expenditures as % of Net Sales			2.8%	2.1%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%
Beginning Net PP&E	Forecast Capex based on Historicals									
Capital Expenditures										
(Depreciation Expense)										
Ending Net PP&E										

Reference Past Information and Calculate Net PP&E

- We will use Ending Balance for PPE = Beginning balance + Capex – Depreciation – Adjustment for Asset Sales (BASE equation)
- It is complicated to reconcile past **PP&E** due to **restatements**, asset sales, etc.
- It is therefore recommended not to reconcile the past PPE as it may lead to some confusion.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Net Sales	15,195	15,454	15,544	15,693	16,471	17,222	18,036	18,917
Capital Expenditures			436	335	410	517	541	568
Capital Expenditures as % of Net Sales			2.8%	2.1%	2.5%	3.0%	3.0%	3.0%
Beginning Net PP&E	Calculate Net PP&E					3,716.0	4,232.7	4,773.7
Capital Expenditures						516.7	541.1	567.5
(Depreciation Expense)								
Ending Net PP&E	3,840	4,072	3,881	3,750	3,716	=SUM(H10:H12)		5,341

Depreciation Policy of Colgate

- Colgate has not explicitly provided a detailed breakup of the Assets. Instead, they clubbed all assets into the land, building, machinery, and other equipment.
- Also, useful lives for machinery and equipment are provided in range. In this case, we will have to do some guesswork to determine the average useful life left for the assets.
- Also, guidance for useful life is not provided for “Other equipment.” Therefore, we will have to estimate the useful life of other equipment.

Property, Plant and Equipment

Land, buildings and machinery and equipment are stated at cost. Depreciation is provided, primarily using the straight-line method, over-estimated useful lives ranging from 3 to 15 years for machinery and equipment and up to 40 years for buildings. Depreciation attributable to manufacturing operations is included in Cost of sales. The remaining component of depreciation is included in Selling, general and administrative expenses.

Colgate 2020 – 10K, Page 79

Below is the breakup of 2012 and 2013 Property, Plant, and Equipment Details

Property, plant and equipment, net	2020	2019
Land	\$ 166	\$ 153
Buildings	1,623	1,600
Manufacturing machinery and equipment	5,409	5,309
Other equipment	1,553	1,518
	8,751	8,580
Accumulated depreciation	(5,035)	(4,830)
Total Property, plant and equipment, net	\$ 3,716	\$ 3,750

Colgate 2020 – 10K, Page 125

- First, find the Asset weights of the Current PPE (2020)
- We will assume that these asset weights of 2020 PPE will continue going forward.
- We use these asset weights to calculate the breakup of estimated capital expenditure.

Estimate the Depreciation of Assets

- Please note that we do not calculate **depreciation of Land** as land is not a depreciable asset.
- For estimating depreciation from Building improvements, we first make use of the below structure.
- Depreciation here is divided into two parts: 1) Depreciation from the building improvements asset already listed on the balance sheet, 2) depreciation from the future Building improvements.
- We use the simple **Straight Line Method of depreciation** to calculate the depreciation from building improvements listed on the asset.
- For calculating future depreciation, we first transpose the Capex using the **TRANSPOSE Function in Excel**.
- We calculate the depreciation from asset contributions from each year.
- Also, the first-year depreciation is divided by two as we assume the mid-year convention for asset deployment.

Total **Depreciation of Building** improvement = depreciation from the asset already listed on the balance sheet + depreciation from the future building improvements.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Building Improvements - Straight Line Method									
Useful Life	40.0 Years								
Building Improvement	1623.0					40.58	40.58	40.58	40.58
Depreciation Expense (existing)									
Total Depreciation (Building Improvement)									
Capex	2021 \$95.8	2022 105.3	2023 105.3	2024 105.3	2025 116.3	40.0 Years	1.2	2.4	2.4
							1.3	2.5	2.5
								1.3	2.6
									1.4
Depreciation (Building Improvements)						=SUM(H38:H42)+H34			49.5

In the above process for estimating depreciation, one may calculate the depreciation of 1) manufacturing equipment & machinery and 2) other equipment, as shown below.

Total Depreciation of Colgate = Depreciation (Building Improvements) + Depreciation (Machinery & Equipment) + Depreciation (additional equipment)

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Depreciation (Building Improvements)						41.8	44.2	46.8
Total Depreciation (Machinery & Equipments)						371.2	393.0	415.9
Total Depreciation (Other Equipment)						106.6	112.8	119.4
Total Depreciation Expense						=H72+H58+H44		582.1

Once we have found the real depreciation figures, we can put that in the BASE equation as shown below.

- With this, we get the ending net PP&E figures for each year.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Net Sales	15,195	15,454	15,544	15,693	16,471	17,222	18,036	18,917
Capital Expenditures			436	335	410	517	541	568
Capital Expenditures as % of Net Sales			2.8%	2.1%	2.5%	3.0%	3.0%	3.0%
Beginning Net PP&E						3,716.0	3,713.1	3,704.0
Capital Expenditures						516.7	541.1	567.5
(Depreciation Expense)						=H75	(550.1)	(582.1)
Ending Net PP&E	3,840	4,072	3,881	3,750	3,716	3,713	3,704	3,689
Link Depreciation Expense								
Total Depreciation Expense						519.6	550.1	582.1

Link the Net PP&E to the Balance Sheet

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Assets									
Current Assets									
Cash and cash equivalents	1,315	1,535	726	883	888				
Receivables	1,411	1,480	1,400	1,440	1,264	1,567	1,398	1,712	1,555
Inventories	1,171	1,221	1,250	1,400	1,673	1,536	1,825	1,700	2,002
Other current assets	441	403	417	456	513	534	559	586	616
Total current assets	4,338	4,639	3,793	4,179	4,338	3,637	3,781	3,998	4,173
Property, plant and equipment, net	3,840	4,072	3,881	3,750	3,716	=Dep Capex 1H13		3,689	3,670
Goodwill, net	2,107	2,218	2,530	3,508	3,824				
Other intangible assets, net	1,313	1,341	1,637	2,567	2,894				
Deferred income taxes	301	188	152	177	291				
Other assets	24	24	18	753	857				
Total assets	12,123	12,676	12,161	15,034	15,920				

Step 6 – Amortization Schedule

The sixth step in this financial modeling in Excel is to forecast the amortization. Again, we have two broad categories to consider here – 1) Goodwill and 2) Other Intangibles.

Forecasting Goodwill

	2020	2019
Oral, Personal and Home Care		
North America	\$ 912	\$ 737
Latin America	171	212
Europe	2,415	2,234
Asia Pacific	190	186
Africa/Eurasia	121	124
Total Oral, Personal and Home Care	3,809	3,493
Pet Nutrition	15	15
Total Goodwill	\$ 3,824	\$ 3,508

Colgate 2020 – 10K, Page 88

- Goodwill comes on the balance sheet when a company acquires another company. It usually is complicated to project goodwill for future years.
- However, Goodwill is subject to impairment tests annually, which the company performs. Therefore, analysts are in no position to conduct such tests and prepare estimates of impairments.
- Most analysts do not project goodwill. They just keep this constant, which we will do in our case.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Assets										
Goodwill, net	2,107.0	2,218.0	2,530.0	3,508.0	3,824.0	=G8	3,824.0	3,824.0	3,824.0	3,824.0
Deferred income taxes										
Other assets										
Liability										
Deferred income taxes										
Other liabilities										

Forecasting Other Intangible Assets

- Colgate's 10K Report notes that most of the finite life intangible is related to the Sanex acquisition.
- "Additions to Intangibles" are also complicated to project.
- Colgate's 10K report provides us with the details of the next five years of amortization expenses.
- We will use these estimates in our financial model.

Other intangible assets as of December 31, 2020 and 2019 were comprised of the following:

	2020			2019		
	Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Trademarks - finite life	\$ 902	\$ (422)	\$ 480	\$ 771	\$ (381)	\$ 390
Other finite life intangible assets	786	(237)	549	699	(169)	530
Indefinite life intangible assets	1,865	—	1,865	1,747	—	1,747
Total Other intangible assets	\$ 3,553	\$ (659)	\$ 2,894	\$ 3,217	\$ (550)	\$ 2,667

The change in the net carrying amounts of Other intangible assets during 2020 was primarily due to the acquisition of hello (see Note 3, Acquisitions for further information) and amortization expense of \$88. Annual estimated amortization expense for each of the next five years is expected to be approximately \$83.

Colgate 2020 – 10K, Page 88

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Net Sales	15,195	15,454	15,544	15,693	16,471	17,222	18,036	18,917	19,872	20,908
Additions to Intangibles			347.0	1089.0	336.0					
Additions to Intangibles as % of Net Sales			2.2%	6.9%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Beginning Net Intangibles										
Additions to Intangibles										
(Amortization Expense)				(62.0)	(88.0)					
(Intangible Sales and write offs)										
Ending Net Intangibles										

Difference of Gross Other Intangible Assets

Calculate Ending Net Intangibles

Consolidated Amortization & Intangible

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Net Sales	15,195	15,454	15,544	15,693	16,471	17,222	18,036	18,917	19,872	20,908
Additions to Intangibles			347.0	1089.0	336.0	344.4	360.7	378.3	397.4	418.2
Additions to Intangibles as % of Net Sales			2.2%	6.9%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Beginning Net Intangibles					2,894.0	3,155.4	3,433.2	3,728.5	4,042.9	
Additions to Intangibles					344.4	360.7	378.3	397.4	418.2	
(Amortization Expense)				(62.0)	(88.0)	(83.0)	(83.0)	(83.0)	(83.0)	(83.0)
Ending Net Intangibles					2,894.0	=SUM(H10:H12)	3,728.5	4,042.9	4,378.1	

Calculate Net Intangibles

Ending net intangibles are linked to the “Other Intangible Assets.”

Consolidated Balance Sheets

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Assets								
Current Assets								
Cash and cash equivalents	1,315	1,535	726	883	888			
Receivables	1,411	1,480	1,400	1,440	1,264	1,567	1,398	1,712
Inventories	1,171	1,221	1,250	1,400	1,673	1,536	1,825	1,700
Other current assets	1,141	1,166	417	456	513	534	559	586
Total current assets	4,338	4,639	3,793	4,179	4,338	3,637	3,781	3,998
Property, plant and equipment, net	3,640	4,112	3,551	3,759	3,716	3,713	3,704	3,689
Goodwill, net	2,107	2,218	2,530	3,508	3,924	3,824	3,824	3,824
Other intangible assets, net	1,313	1,341	1,637	2,667	2,894	=Amort Intangible!H13		3,729
Deferred income taxes	301	188	152	177	291			
Other assets	224	218	168	753	857			
Total assets	12,123	12,676	12,161	15,034	15,920			

Link from Amortization Sheet

Link Depreciation and Amortization to Cash Flow Statements

<u>Consolidated Cash Flows</u>		Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Operating Activities										
Net income including noncontrolling interests				\$ 2,558	\$ 2,527	\$ 2,860				
Adjustments to reconcile net income to net cash provided by operations:										
Depreciation and amortization				511	519	539	=Dep Capex 'IH12'+Amort Intangible'IH12			
Restructuring and termination benefits, net of cash				-7	18					
Stock-based compensation expense				109	100	107				
Loss on early extinguishment of debt						23				
Charge for U.S. tax reform				80						
Deferred income taxes				27	17	-120				
Voluntary benefit plan contributions				(67)	(113)					

Link Capex & Addition to Intangibles to Cash flow statements

<u>Consolidated Cash Flows</u>		Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Investing Activities										
Capital expenditures				(436)	(335)	(410)	=-Dep Capex 'IH7'-Amort Intangible'IH7'			
Purchases of marketable securities and investments				(169)	(184)	(117)				
Proceeds from sale of marketable securities and investments				156	131	124				
Payment for acquisitions, net of cash acquired				(728)	(1,711)	(353)				
Other				7		3				
Net cash used in investing activities		0		(1,170)	(2,099)	(779)				

Step 7 – Other Long Term Schedule

The next step in this financial modeling is to prepare the other long-term schedule. It is when we prepare for the “leftovers” that do not have specific drivers for forecasting. In the case of Colgate, the other long-term items (leftovers) were Deferred Income Taxes (liability and assets), other investments, and other liabilities.

Reference the historical data from the Balance Sheet

Also, calculate the changes in these items.

<u>Other Long Term Asset Liability Schedule</u>		Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Assets										
Goodwill, net		2,107.0	2,218.0	2,530.0	3,508.0	3,824.0	3,824.0	3,824.0	3,824.0	3,824.0
Deferred income taxes		301.0	188.0	152.0	177.0	291.0				
Other assets		224.0	218.0	168.0	753.0	857.0				
Liability										
Deferred income taxes		246.0	204.0	235.0	507.0	426.0				
Other liabilities		2,035.0	2,255.0	2,034.0	2,598.0	2,655.0				

**Link from
Balance
Sheet**

Forecast the Long Term Assets and Liabilities

- Keep the long-term items constant for projected years in case of no visible drivers.
- Link the forecasted long term items to the Balance Sheet as shown below.

Other Long Term Asset Liability Schedule									
	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Assets									
Goodwill, net	2,107.0	2,218.0	2,530.0	3,508.0	3,824.0	3,824.0	3,824.0	3,824.0	3,824.0
Deferred income taxes	301.0	188.0	152.0	177.0	291.0	291.0	291.0	291.0	291.0
Other assets	274.0	218.0	168.0	753.0	857.0	857.0	857.0	857.0	857.0
Liability									
Deferred income taxes	246.0	112.0	118.0	507.0	426.0	426.0	426.0	426.0	426.0
Other liabilities	2,035.0	2,255.0	2,034.0	2,598.0	2,655.0	2,655.0	2,655.0	2,655.0	2,655.0

Assume no Change

Reference Other Long Term Items to the Balance Sheet

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Goodwill, net	2,107	2,218	2,530	3,508	3,824	3,824	3,824	3,824
Other intangible assets, net	1,313	1,341	1,637	2,667	2,894	3,155	3,433	3,729
Deferred income taxes	301	188	152	177	291	291	291	291
Other assets	224	218	168	753	857	857	857	857
Total assets	12,123	12,676	12,161	15,034	15,920	15,477	15,891	16,388
Long-term debt	6,520	6,566	6,354	7,333	7,321	7,321	7,321	7,321
Deferred income taxes	246	112	118	507	426	426	426	426
Other liabilities	2,035	2,255	2,034	2,598	2,655	2,655	2,655	2,655
Total liabilities	12,106	12,433	11,964	14,476	14,819	6,771	7,374	6,993
Commitments and contingent liabilities	-	-	-	-	-	-	-	-
Shareholders' Equity	-	-	-	-	-	-	-	-

Link from Other Long Term Sheet

Link the long term items to the Cash Flow Statement

Please note that if we keep the long-term assets and liabilities constant, the change that flows to the cash flow statement would be zero.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
to net cash provided by operations:								
Depreciation and amortization			511	519	539	(603)	(633)	(665)
Restructuring and termination benefits, net of cash			-7	18	-71			
Stock-based compensation expense			109	100	107			
Loss on early extinguishment of debt					23			
Charge for U.S. tax reform			80					
Deferred income taxes			27	17	-120	0	0	0
Voluntary benefit plan contributions			(67)	(113)				
Cash effects of changes in:								
Receivables			19		138	(303)	169	(314)
Inventories			(58)	(77)	(251)	137	(289)	125
Accounts payable, accrued income tax & other accruals			18	36	520	(447)	603	(381)
Other non-current assets and liabilities			(36)	87	(26)	(21)	(25)	(27)
Net cash provided by operations	0		3,056	3,133	3,719			

Link from other long term sheet / working capital sheet

Step 8 – Financial Modeling in Excel – Completing the Income Statement

- Before we move any further in this Excel-based financial modeling, we will review the income statement.
- Populate the historical basic weighted average shares and dilute the weighted average number of shares
- These figures are available in Colgate's 10K report.

Reference the basic and diluted shares

At this stage, assume that the future number of primary and diluted shares will remain the same as in 2020.

Income Statement (Consolidated)								
(\$ in Million Except Per Share Amounts)								
	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
EBT	3,738	3,487	3,464	3,301	3,647	3,892	4,076	4,275
Provision for income taxes	1,152	1,313	906	774	787	856	897	941
Net income including noncontrolling interests	2,586	2,174	2,558	2,527	2,860	3,036	3,179	3,335
Less: Net income attributable to noncontrolling interests	145	150	158	160	165	182	191	200
Net income attributable to Colgate-Palmolive Co.	2,441	2,024	2,400	2,367	2,695	2,854	2,989	3,135
Earnings per common share, basic	2.74	2.30	2.76	2.76	3.15			
Earnings per common share, diluted	2.72	2.28	2.75	2.75	3.14			
Basic Weighted Average Shares	891.8	881.1	870.6	859.1	856.8	856.8	856.8	856.8
Diluted Weighted Average Shares	898.4	887.1	873.0	861.1	859.3	859.3	859.3	859.3

Keep Shares as constant

Calculate Basic and Diluted earnings per share.

We are ready to move to our next shareholder's equity schedule.

(\$ in Million Except Per Share Amounts)								
	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
EBT	3,738	3,487	3,464	3,301	3,647	3,797	3,975	
Provision for income taxes	1,152	1,313	906	774	787	835	875	
Net income including noncontrolling interests	2,586	2,174	2,558	2,527	2,860	2,961	3,101	
Less: Net income attributable to noncontrolling interests	145	150	158	160	165	178	186	
Net income attributable to Colgate-Palmolive Co.	2,441	2,024	2,400	2,367	2,695	2,784	2,915	
Earnings per common share, basic	2.74	2.30	2.76	2.76	3.15	3.31	3.51	
Earnings per common share, diluted	2.72	2.28	2.75	2.75	3.14	3.31	3.51	
Basic Weighted Average Shares	891.8	881.1	870.6	859.1	856.8	841.4	829.9	
Diluted Weighted Average Shares	898.4	887.1	873.0	861.1	859.3	842.4	830.9	

Calculate EPS

Step 9 – Financial Modelling – Shareholder's Equity Schedule

The next step in this financial modeling in Excel training is to look at the shareholder's equity schedule. The primary objective of this schedule is to project equity-related items like shareholder's equity, dividends, [Share buyback](#), option proceeds, etc.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Beginning Equity Balance								
Net Income								
Issuance/ (Repurchase) of Equity								
Dividends Paid								
Option Proceeds								
Ending Equity Balance	17	243	197	558	=BSIG46			

Colgate's 10K report provides us with the details of common and treasury stock activities in the past years, as shown below.

	Common Stock Outstanding	Treasury Stock
Balance, January 1, 2018	874,701,118	591,005,242
Common stock acquired	(18,786,897)	18,786,897
Shares issued for stock options	6,040,920	(6,040,920)
Shares issued for restricted stock units and other	957,651	(957,651)
Balance, December 31, 2018	862,912,792	602,793,568
Common stock acquired	(17,219,642)	17,219,642
Shares issued for stock options	8,145,777	(8,145,777)
Shares issued for restricted stock units and other	862,852	(862,852)
Balance, December 31, 2019	854,701,779	611,004,581
Common stock acquired	(18,701,843)	18,701,843
Shares issued for stock options	13,018,354	(13,018,354)
Shares issued for restricted stock units and other	875,311	(875,311)
Balance, December 31, 2020	849,893,601	615,812,759

Shares Repurchased Each Year

Share Repurchase: Populate the historical numbers

- Historically, Colgate has repurchased shares, as shown in the schedule above.
- Populate Colgate's shares repurchase (millions) in the Excel sheet.
- Link the historical diluted EPS from the income statement.
- The historical amount repurchased should be referenced from the [cash flow statements](#).

Also, have a look at [Accelerated Share Repurchase](#).

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
<u>Share Repurchase Assumptions</u>								
Current Year EPS	2.72	2.28	2.75	2.75	3.14			
Assumed Current Year EPS Multiple								
Implied Share Price								
Shares Repurchased (in millions)			18.79	17.22	18.70			
Amount Repurchased (\$ outgo)			1,238	1,202	1,476			

From 10K → **Link from CF**

Share Repurchase: Calculate the PE multiple (EPS multiple)

- Calculate the implied average price at which Colgate has done share repurchases historically. One may calculate the Amount repurchased / Number of shares.
- Calculate the [PE multiple](#) = Implied Share Price / EPS

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
<u>Share Repurchase Assumptions</u>									
Current Year EPS	2.72	2.28	2.75	2.75	3.14				
Assumed Current Year EPS Multiple			24.0x	25.4x	25.1x				
Implied Share Price			65.9	69.8	78.9				
Shares Repurchased (in millions)			18.79	17.22	18.70				
Amount Repurchased (\$ outgo)			1,238	1,202	1,476				

Calculate Implied Price

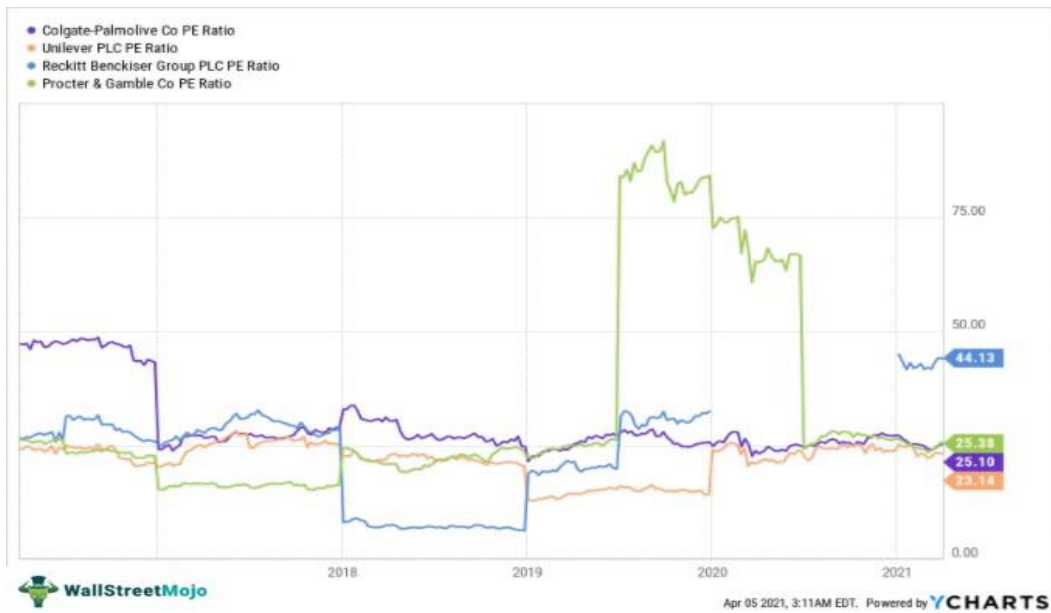
Share Repurchase: Finding Colgate's Share Repurchased

Colgate has not officially announced how many shares they intend to buy back. The only information that their 10K report shares are that they have authorized a buyback of up to 50 million shares.

On June 18, 2018, the Board authorized the repurchase of shares of the Company's common stock having an aggregate purchase price of up to \$5 billion under a new share repurchase program (the "2018 Program"), which replaced a previously authorized share repurchase program. The Company commenced repurchases of shares of the Company's common stock under the 2018 Program beginning June 19, 2018. The Board also has authorized share repurchases on an ongoing basis to fulfill certain requirements of the Company's compensation and benefit programs. The shares are repurchased from time to time in open market or privately negotiated transactions at the Company's discretion, subject to market conditions, customary blackout periods and other factors. The Company repurchased its common stock at a cost of \$1,476 during 2020 under the 2018 Program.

- We need to assume the share repurchase amount to find the number of shares repurchased. Based on the historical repurchase amount, we have taken this number as \$1,500 million for all the future years.
- We need the projected implied share price of the potential buyback to find the number of shares repurchased.
- Actual share price = assumed PE multiple × EPS.
- One can assume future buyback PE multiple based on historical trends. We note that Colgate has repurchased shares at an average PE range of 17x – 25x.

- Below is the snapshot from Reuters that helps us validate the PE range for Colgate.



- In our case, we have assumed that all future buybacks of Colgate will be at a PE multiple of 25x.
- Using the PE of 25x, we can find the implied price = EPS x 25.
- Now that we have found the implied price, we can see the number of shares repurchased = \$ amount used for repurchase / implied price.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	D
Share Repurchase Assumptions									
Current Year EPS	2.72	2.28	2.75	2.75	3.14	3.30	3.51	3.72	
Assumed Current Year EPS Multiple			24.0x	25.4x	25.1x	25.0x	25.0x	25.0x	
Implied Share Price			66	70	79	83	88	93	
Shares Repurchased (in millions)			18.79	17.22	18.70	18.50	18.50	18.50	
Amount Repurchased (\$ outgo)			1,238	1,202	1,476	1,528	1,622	1,723	
New Shares from Exercised Options									

Stock Options: Populate Historical Data

- The common stock and shareholder's equity summary shows us the number of options exercises each year.

A summary of common stock and treasury stock activity for the three years ended December 31 is as follows:

	Common Stock Outstanding	Treasury Stock
Balance, January 1, 2018	874,701,118	591,005,242
Common stock acquired	(18,786,897)	18,786,897
Shares issued for stock options	6,040,920	(6,040,920)
Shares issued for restricted stock units and other	957,651	(957,651)
Balance, December 31, 2018	862,912,792	602,793,568
Common stock acquired	(17,219,642)	17,219,642
Shares issued for stock options	8,145,777	(8,145,777)
Shares issued for restricted stock units and other	862,852	(862,852)
Balance, December 31, 2019	854,701,779	611,004,581
Common stock acquired	(18,701,843)	18,701,843
Shares issued for stock options	13,018,354	(13,018,354)
Shares issued for restricted stock units and other	875,311	(875,311)
Balance, December 31, 2020	849,893,601	615,812,759

- Besides, we also have the option proceeds from the cash flow statements (approx).
- With this, we should be able to find an effective strike price.

Financing Activities		
Short-term borrowing/(repayment) less than 90 days - net	497	294
Principal payments on debt ⁽¹⁾	(1,061)	(1,441)
Proceeds from issuance of debt	—	2,595
Dividends paid	(1,654)	(1,614)
Purchases of treasury shares	(1,476)	(1,202)
Proceeds from exercise of stock options	874	498
Purchases of non-controlling interests in subsidiaries	(99)	—
Net cash used in financing activities	(2,919)	(870)
Effect of exchange rate changes on Cash and cash equivalents	(16)	(7)
Net (decrease) increase in Cash and cash equivalents	5	157
Cash and cash equivalents at beginning of year	883	726
Cash and cash equivalents at end of year	\$ 888	\$ 883

Colgate 2020 – 10K, Page 76

Also, note that the stock options have contractual terms of eight years and vest over three years.

Stock Options

The Company issues non-qualified stock options to non-employee directors, officers and other employees. Beginning in 2019, stock options have a contractual term of eight years. Prior to 2019, stock options generally had a contractual term of six years. Stock options generally vest ratably over three years. As of December 31, 2020, approximately 36,144,000 shares of common stock were available for future stock option grants.

Colgate 2020 – 10K, Page 100

With this data, we fill up the options data as per below. We also note that the weighted average strike price of stock options for 2020 was \$72, and the number of options outstanding was 27.541 million.

A summary of stock option activity during 2020 is presented below:

	Shares (in thousands)	Weighted Average Exercise Price
Options outstanding, January 1, 2020	36,185	\$ 69
Granted	4,976	76
Exercised	(13,019)	67
Forfeited or expired	(601)	72
Options outstanding, December 31, 2020	27,541	72
Options exercisable, December 31, 2020	18,084	\$ 70

Colgate 2020 – 10K, Page 100

Stock Options: Find the Option Proceeds.

Our options data below shows that the option proceeds were \$504 million in 2021. We have assumed that 7 million options exercise each year.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
New Shares from Exercised Options - millions	6.04	8.15	13.0	7.0	7.0	7.0	7.0	7.0
Average Strike Price	54.5	61.1	67.1	72.0	72.0	72.0	72.0	72.0
Option Proceeds	329	498	874	504	504	504	504	504

Stock Options: Forecast Restricted Stock Unit Data

In addition to the stock options, there are [Restricted Stock Units](#) are given to the employees and awarded and vested at the end of each three-year performance period.

A summary of performance-based restricted stock unit activity for the year ended December 31, 2020 is presented below:

	Shares (in thousands)	Weighted Average Grant Date Fair Value Per Award
Performance-based restricted stock units as of January 1, 2020	346	\$ 67
Activity:		
Granted	557	76
Forfeited	(38)	69
Performance-based restricted stock units as of December 31, 2020	865	\$ 73

As of December 31, 2020, there was \$41 of total unrecognized compensation expense related to unvested performance-based restricted stock unit awards, which will be recognized ratably over the remaining performance period.

Colgate 2020 – 10K, Page 99

Populating this data in the restricted stock units dataset.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Calculate RSUs									
New Shares from Exercised Options									
New Shares from Exercised Options - millions			6.04	8.15	13.0	7.0	7.0	7.0	
Average Strike Price			54.5	61.1	67.1	72.0	72.0	72.0	
Option Proceeds			329	498	874	504.0	504.0	504.0	
Restricted Stock Units (RSUs)			0.96	0.86	0.88	=8.65/3	2.88	2.88	
Dividend Assumptions									

The restricted stock units project to be (8.65/3.0 years), i.e., 2.88 million going forward.

Also, have a look at the [Treasury Stock Method](#).

Dividends: Forecast the Dividends

- Forecast estimated dividends using the [Dividend Payout Ratio](#).
- Fixed dividend outgo per-share payout.
- From the 10K reports, we extract all past information on dividends.
- With the information on dividends paid, we can find the Dividend Payout Ratio = Total Dividends Paid / Net Income.
- We have calculated the dividends payout ratio of Colgate as seen below:

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Calculate									
Dividend Assumptions									
Total Dividends Paid			1,591	1,614	1,654				
Net Income			2,400	2,367	2,695				
Dividend Payout Ratio			66.3%	68.2%	61.4%				

We note that the dividends payout ratio has been broadly in the range of 60%-66%. Therefore, let us assume the dividend payout ratio of 60% in the future years.

- We can also link the projected net income from the income statement.
- Using the projected net income and the dividends payout ratio, we can find the total dividends paid.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Dividend Assumptions								
Total Dividends Paid			1,591	1,614	1,654	=H31*H32		1,881
Net Income		2,400	2,367	2,695	2,854	2,989	3,135	
Dividend Payout Ratio		66.3%	68.2%	61.4%	60.0%	60.0%	60.0%	

Calculate Dividends Paid

Forecast equity account in its entirety

With the forecast of share repurchase, option proceeds, and dividends, we are ready to complete the shareholder's equity schedule. Link all these up to find the ending equity balance for each year, as shown below.

	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Beginning Equity Balance					743	836	887
Net Income					2,783	2,913	3,051
Issuance/ (Repurchase) of Equity					(1,524)	(1,618)	(1,718)
Dividends Paid					(1,670)	(1,748)	(1,830)
Option Proceeds					504	504	504
Ending Equity Balance	243	197	117	743	=SUM(H6:H10)		894

Reference these links

Link Ending Shareholder's Equity to the Balance Sheet

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Shareholders' Equity								
Common stock	1,466	1,466	1,466	1,466	1,466			
Additional paid-in capital	1,691	1,984	2,204	2,488	2,969			
Retained earnings	19,922	20,531	21,615	22,501	23,699			
Accumulated other comprehensive income	(4,180)	(3,855)	(4,188)	(4,273)	(4,345)			
Unearned compensation	(7)	(5)	(3)	(2)	(1)			
Treasury stock, at cost	(19,135)	(20,181)	(21,196)	(22,063)	(23,045)			
Total shareholders' equity	(243)	(60)	(102)	117	743	=Shareholders Equity!H11		
Noncontrolling interests	260	303	299	441	358			
Total shareholders' equity	17	243	197	558	1,101			
Total liabilities and shareholders' equity	12,123	12,676	12,161	15,034	15,920			

Link Dividends, Share repurchase & Options proceeds to CF

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Financing Activities								
Revolver								
Short-term borrowing/(repayment) less than 90 days - net			546	294	497			
Principal payments on debt			(725)	(1,441)	(1,061)			
Proceeds from issuance of debt				2,595				
Dividends paid			(1,591)	(1,614)	(1,654)	(1,712)	(1,793)	(1,881)
Purchases of treasury shares			(1,238)	(1,202)	(1,476)	(1,536)	(1,609)	(1,687)
Proceeds from exercise of stock options and excess tax benefits			329	498	874	504.0	504.0	504.0
Purchases of non-controlling interests in subsidiaries					-99			
Net cash used in financing activities	0		(2,679)	(870)	(2,919)			

Step 10 – Shares Outstanding Schedule

The next step in this online financial modeling in Excel training is to look at the shares' outstanding schedule. Summary of shares outstanding schedule:

- Basic Shares – actual and average
- Capture past effects of options and convertibles as appropriate
- **Diluted Shares** – average
- **Reference Shares repurchased and new shares from exercised options**

- Calculate forecasted raw percentages (actual)
- **Calculate average basic and diluted shares**
- **Reference projected shares to Income Statement (recall Income Statement Build up!)**
- **Input historical shares outstanding information**
- **Note:** Commonly, this schedule integrates with the equity schedule.

Input the historical numbers from the 10K report

- **Shares issued** (actual realization of options) and shares repurchased can be referenced from the shareholder's equity schedule.
- The input **weighted an average number of shares** and the effect of stock options for the historical years.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	C
Beginning Balance - Basic (actual)			874.7	862.0	852.9					
Shares Issued (actual realization of options)			6.04	8.15	13.02					
Shares Repurchased			(18.8)	(17.2)	(18.7)					
Ending Balance - Basic (actual)		874.7	862.0	852.9	847.2					
Basic Weighted Average Shares			870.6	859.1	856.8					
Restricted Stock Units			2.4	2.0	2.5					
Diluted Weighted Average Shares			873.0	861.1	859.3					

From 10K Report

Link share issuances & repurchases from the Share Equity Schedule.

Basic Shares (Ending) = Basic Shares (Beginning) + Share Issuances – Shares Repurchased.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	I
Beginning Balance - Basic (actual)			874.7	862.0	852.9	847.2	835.7	824.2	812.7	
Shares Issued (actual realization of options)			6.04	8.15	13.02	7.00	7.00	7.00	7.00	
Shares Repurchased			(18.8)	(17.2)	(18.7)	(18.5)	(18.5)	(18.5)	(18.5)	
Ending Balance - Basic (actual)		874.7	862.0	852.9	847.2	835.7	824.2	812.7	801.2	
Basic Weighted Average Shares			870.6	859.1	856.8					
Restricted Stock Units			2.4	2.0	2.5					
Diluted Weighted Average Shares			873.0	861.1	859.3					

Link from Shareholders Equity Sheet

Find the basic weighted average shares

- We find an average of two years, as shown below.
- Also, add the effect of options and restricted stock units (referenced from the shareholder's equity schedule) to find the diluted weighted average shares.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Beginning Balance - Basic (actual)			874.7	862.0	852.9	847.2	835.7	824.2	812.7
Shares Issued (actual realization of options)			6.04	8.15	13.02	7.0	7.0	7.0	7.0
Shares Repurchased			(18.8)	(17.2)	(18.7)	(18.5)	(18.5)	(18.5)	(18.5)
Ending Balance - Basic (actual)		874.7	862.0	852.9	847.2	835.7	824.2	812.7	801.2
Basic Weighted Average Shares			870.6	859.1	856.8	=AVERAGE(G9:H9)		818.4	806.9
Restricted Stock Units			2.4	2.0	2.5	2.9	2.9	2.9	2.9
Diluted Weighted Average Shares			873.0	861.1	859.3	844.3	832.8	821.3	809.8

Link Basic & diluted weighted shares to Income Statement

- Now that we have calculated the diluted weighted average shares, it is time to update the same in the income statement.
- Link up forecasted diluted weighted average shares outstanding to the income statement as shown below

(\$ in Million Except Per Share Amounts)	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
EBT	3,738	3,487	3,464	3,301	3,647	3,892	4,076	4,275
Provision for income taxes	1,152	1,313	906	774	787	856	897	941
Net income including noncontrolling interests	2,586	2,174	2,558	2,527	2,860	3,036	3,179	3,335
Less: Net income attributable to noncontrolling interests	145	150	158	160	165	182	191	200
Net income attributable to Colgate-Palmolive Corporation	2,441	2,024	2,400	2,367	2,695	2,854	2,989	3,135
Earnings per common share, basic	2.74	2.30	2.76	2.76	3.15	3.39	3.60	3.83
Earnings per common share, diluted	2.72	2.28	2.75	2.75	3.14	3.38	3.59	3.82
Basic Weighted Average Shares	891.8	881.1	870.6	859.1	856.8	=Shares Outstanding 'IH11'		
Diluted Weighted Average Shares	898.4	887.1	873.0	861.1	859.3	844.3	832.8	821.3

With this, we complete the shares' outstanding schedule and time to move to our next set of statements.

Step 11 – Completing the Cash Flow Statements

We must fully complete the cash flow statements before we move to our next and final schedule in this financial modeling, i.e., the debt schedule. Until this stage, there are only a couple of incomplete things.

- Income Statement** – interest expense/ income are incomplete at this stage
- Balance Sheet** – cash and debt items are incomplete at this stage

	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Operating Activities					
Net income including noncontrolling interests	\$ 2,558	\$ 2,527	\$ 2,860	\$ 3,036	\$ 3,179
Adjustments to reconcile net income to net cash provided by operations:					
Depreciation and amortization	511	519	539	603	633
Restructuring and termination benefits, net of income taxes	-7	18	-71	0	0
Stock-based compensation expense	109	100	107	0	0
Loss on early extinguishment of debt			23	0	0
Charge for U.S. tax reform	86			0	0
Deferred income taxes	17		-120	0	0
Voluntary benefit plan contributions	(67)	(113)		0	0
Cash effects of changes in:					
Receivables	(79)	19	138	(303)	169
Inventories	(58)	(77)	(251)	137	(289)
Accounts payable, accrued income tax & other liabilities	18	36	520	(447)	603
Other non-current assets and liabilities	(36)	87	(26)	(21)	(25)
Net cash provided by operations	3,056	3,133	3,719	=SUM(H7:H21)	

Calculate Cash Flow for Financing Activities

Accounts payable, accrued income tax & other liabilities	18	30	520	(441)	603	(381)	857
Other non-current assets and liabilities	(36)	87	(26)	(21)	(25)	(27)	(30)
Net cash provided by operations	3,056	3,133	3,719	3,005	4,270	3,402	4,984
Investing Activities							
Capital expenditures	(436)	(335)	(410)	(861)	(902)	(946)	(994)
Purchases of marketable securities and investments	(169)	(184)	(143)				
Proceeds from sale of marketable securities	156	131	124				
Payment for acquisitions, net of cash acquired	(728)	(1,711)	(353)				
Other	7		3				
Net cash used in investing activities	(1,170)	(2,099)	(779)	(861)	(902)	(946)	(994)
Cash Flow for Financing Activities	1,886	1,034	2,940	=H30+H22	2,457	3,990	

Financing Activities

Also, check out [Cash Flow from Financing](#)

Find net increase (decrease) in Cash & Cash Equivalents

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Financing Activities							
Revolver							
Short-term borrowing/(repayment) less than 90 days - net			546	294	497		
Principal payments on debt			(725)	(1,441)	(1,061)		
Proceeds from issuance of debt				2,595			
Dividends paid			(1,591)	(1,614)	(1,654)	(1,712)	(1,793)
Purchases of treasury shares			(1,238)	(1,202)	(1,476)	(1,563)	(1,660)
Proceeds from exercise of stock options and excess tax benefits			329	498	874	504.0	504.0
Purchases of non-controlling interests in subsidiaries					-99		
Net cash used in financing activities	0	(2,679)	(870)	(870)	(2,919)	(2,772)	(2,949)
Effect of exchange rate changes on Cash and cash equivalents			(16)	(7)	(16)	0	0
Net increase (decrease) in Cash and cash equivalents	0	(809)	157	5	=H22+H30+H43+H45		

Calculate Net Change in Cash

Complete the cash flow statements

Find the year-end cash and cash equivalents at the end of the year.

	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Proceeds from issuance of debt			2,595			
Dividends paid		(1,591)	(1,614)	(1,654)	(1,712)	(1,793)
Purchases of treasury shares		(1,238)	(1,202)	(1,476)	(1,563)	(1,660)
Proceeds from exercise of stock options and excess tax benefits		329	498	874	504.0	504.0
Purchases of non-controlling interests in subsidiaries				-99		
Net cash used in financing activities	0	(2,679)	(870)	(2,919)	(2,772)	(2,949)
Effect of exchange rate changes on Cash and cash equivalents		(16)	(7)	(16)	0	0
Net increase (decrease) in Cash and cash equivalents	(809)	157	5	(627)	420	
Cash and cash equivalents at beginning of year	1,535	726	883	=G49		261
Cash and cash equivalents at end of year	\$ 726	\$ 883	\$ 888	\$ 261	\$ 680	\$

Link the cash & cash equivalents to the Balance Sheet.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Assets							
Current Assets							
Cash and cash equivalents	1,315	1,535	726	883	888	=CFIH49	680
Receivables	1,411	1,480	1,400	1,440	1,267	1,567	1,398
Inventories	1,171	1,221	1,250	1,400	1,673	1,536	1,825
Other current assets	441	403	417	456	513	534	559
Total current assets	4,338	4,639	3,793	4,179	4,338	3,897	4,462
Property, plant and equipment, net	3,840	4,072	3,881	3,750	3,716	3,713	3,704
Goodwill, net	2,107	2,218	2,530	3,508	3,824	3,824	3,824
Other intangible assets, net	1,313	1,341	1,637	2,667	2,894	3,155	3,433
Deferred income taxes	301	188	152	177	291	291	291
Other assets	224	218	168	753	857	857	857
Total assets	12,123	12,676	12,161	15,034	15,920	15,738	16,571

Now we are ready to take care of our last and final schedule, i.e., Debt and Interest Schedule

Step 12 – Financial Modeling in Excel – Debt and Interest Schedule

The next step in this online financial modeling is to complete the debt and interest schedule. Summary of the **Debt and Interest – Schedule**.

Set up a Debt Schedule

- Reference the cash flow available for financing
- Reference all equity sources and uses of cash

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Cash Flow Available for Financing Activities						2,144.3	3,368.4	2,456.5	3,990.0
Proceeds from/ (Repurchase of) Equity						(1,563.2)	(1,659.7)	(1,765.1)	(1,880.6)
Dividends						(1,712.3)	(1,793.2)	(1,880.8)	(1,975.7)
Option Proceeds						504.0	504.0	504.0	504.0
+ Beginning Cash Balance									
- Minimum Cash Balance									
Cash Available for Debt Repayment									
Long Term Debt Issuance									
Long Term Debt (Repayments)									
Cash Available for Revolving Credit Facility									

Links

Calculate Cash Flow from Debt Repayment

- Reference the beginning cash balance from the balance sheet.
- Deduct a minimum cash balance. We have assumed that Colgate would like to keep a minimum of \$500 million yearly.

Skip long-term debt issuance/ repayments, cash available for revolving credit facility, and revolver section.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Cash Flow Available for Financing Activities						2,144.3	3,368.4	2,456.5
Proceeds from/ (Repurchase of) Equity						(1,563.2)	(1,659.7)	(1,765.1)
Dividends						(1,712.3)	(1,793.2)	(1,880.8)
Option Proceeds						504.0	504.0	504.0
+ Beginning Cash Balance						888.0	260.8	680.4
- Minimum Cash Balance						(500.0)	(500.0)	(500.0)
Cash Available for Debt Repayment						=SUM(H6:H11)	(505.0)	
Long Term Debt Issuance								
Long Term Debt (Repayments)								
Cash Available for Revolving Credit Facility								

Colgate's 10K report notes the available details on the revolving credit facility.

At December 31, 2020, the Company had access to unused domestic and foreign lines of credit of \$4,657 (including under the facilities discussed below) and could also issue long-term debt pursuant to an effective shelf registration statement. In November 2018, the Company entered into an amended and restated \$2,650 revolving credit facility with a syndicate of banks that was scheduled to expire in November 2023. In August 2019, the term of the facility was extended by one year and it now expires in November 2024. In August 2020, the Company entered into a \$1,500 364-day credit facility with a syndicate of banks that is scheduled to expire in August 2021. Commitment fees related to the credit facilities are not material.

Colgate 2020 – 10K, Page 49

Also provided in additional information on debt is the committed long-term debt repayments.

The following represents the scheduled maturities of the Company's contractual obligations as of December 31, 2020:

	Total	2021	2022	2023	2024	2025
Long-term debt including current portion ⁽¹⁾	\$ 6,204	\$ 631	\$ 413	\$ 896	\$ 498	\$ 130
Net cash interest payments on long-term debt ⁽²⁾	1,515	109	111	96	79	72
Operating Leases	715	157	133	89	58	46
Purchase obligations ⁽³⁾	715	396	188	118	8	3
U.S. tax reform payments	220	10	25	46	62	77
Total	\$ 9,369	\$ 1,303	\$ 870	\$ 1,245	\$ 705	\$ 328

Colgate 2020 – 10K, Page 50

Calculate the Ending Long Term Debt.

We use the long-term debt repayment schedule provided above and calculate the ending balance of long-term debt repayments.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
<u>Debt (Long Term + Current Debt)</u>								
Beginning Balance						7,343.0	6,712.0	6,299.0
Issuance								
(Repayment/ Amortization)						(631.0)	(413.0)	(896.0)
Ending Balance							6,299.0	5,403.0
Long Term Debt								
Current Portion of Long Term Debt								

From 10K Report

Link from BS

Link the long term debt repayments

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Cash Available for Debt Repayment						(239.2)	180.4	(505.0)
Long Term Debt Issuance						-	-	-
Long Term Debt (Repayments)						(631.0)	(413.0)	(896.0)
Cash Available for Revolving Credit Facility						(870.2)	(232.6)	(1,401.0)
<u>Revolving Credit Facility</u>								
Beginning Balance								
Discretionary (Paydown)/ Borrowings								
Ending Balance								
<u>Debt (Long Term + Current Debt)</u>								
Beginning Balance						7,343.0	6,712.0	6,299.0
Issuance								
(Repayment/ Amortization)						(631.0)	(413.0)	(896.0)
Ending Balance						6,712.0	6,299.0	5,403.0

**Reference
Debt Items**

Calculate the discretionary borrowings/paydowns.

Using the cash sweep formula, as shown below, calculate the discretionary borrowings/paydown.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Cash Available for Debt Repayment						(239.2)	180.4	(505.0)	132.7
Long Term Debt Issuance						-	-	-	-
Long Term Debt (Repayments)						(631.0)	(413.0)	(896.0)	(498.0)
Cash Available for Revolving Credit Facility						(870.2)	(232.6)	(1,401.0)	(365.3)
Revolving Credit Facility									
Beginning Balance						-	870.2	1,102.8	2,503.8
Discretionary (Paydown)/ Borrowings						=IF(H15<0,-H15,-MIN(H15,H18))			
Ending Balance						870.2	1,102.8	2,503.8	2,869.1

Calculate Interest Expense from Revolving Credit Facility

- Make a reasonable assumption for an interest rate based on the information provided in the 10K report.
- Find the average balance of the revolving credit facility and multiply it with the assumed interest rate.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Revolving Credit Facility								
Beginning Balance						-	860.3	843.3
Discretionary (Paydown)/ Borrowings						860.3	(17.0)	1,570.2
Ending Balance						-	860.3	2,413.5
Revolving Credit Facility								
Average Balance						=AVERAGE(G20:H20)		
Interest Rate						1.5%	1.5%	1.5%
Interest Expense						6.5	12.8	24.4

Calculate the Interest Expense from the Long Term Debt

Link the historical average balances and interest expenses. Find the implied interest rate for historical years.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Debt (Long Term + Current Debt)								
Beginning Balance						7,343.0	6,712.0	6,299.0
Issuance								
(Repayment/ Amortization)						(631.0)	(413.0)	(896.0)
Ending Balance	6,520.0	6,566.0	6,354.0	7,587.0	7,343.0	6,712.0	6,299.0	5,403.0
Long Term Debt								
Average Balance						6,460.0	6,970.0	7,465.0
Interest Rate						=E40/E38	2.08%	2.20%
Interest Expense						143	145	164

Assume the interest rate on Long term debt based on the implied interest rate. Then, multiply the average long-term debt by the assumed interest rate.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
<u>Debt (Long Term + Current Debt)</u>								
Beginning Balance					7,343.0	6,712.0	6,299.0	
Issuance								
(Repayment/ Amortization)						(631.0)	(413.0)	(896.0)
Ending Balance	6,520.0	6,566.0	6,354.0	7,587.0	7,343.0	6,712.0	6,299.0	5,403.0
<u>Long Term Debt</u>								
Average Balance		6,460.0	6,970.5	7,465.0	7,027.5	6,505.5	5,851.0	
Interest Rate		2.21%	2.08%	2.20%	2.2%	2.2%	2.2%	
Interest Expense		143	145	164	=H39*H38			128.7

Calculate **Total Interest Expense** = average balance of debt x interest rate

Find the Total Interest Expense = Interest (Revolving Credit Facility) + Interest (Long Term Debt)

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
<u>Revolving Credit Facility</u>								
Average Balance					430.1	851.8	1,628.4	
Interest Rate					1.5%	1.5%	1.5%	
Interest Expense					6.5	12.8	24.4	
<u>Long Term Debt</u>								
Average Balance		6,460.0	6,970.5	7,465.0	7,027.5	6,505.5	5,851.0	
Interest Rate		2.21%	2.08%	2.20%	2.2%	2.2%	2.2%	
Interest Expense		143	145	164	154.6	143.1	128.7	
<u>Total Interest Expense</u>					=H40+H35	155.90	153.15	

Link debt & Revolver drawdowns to Cash Flows

	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Financing Activities							
Revolver					870	(7)	1,581
Short-term borrowing/(repayment) less than net		546	294	497			
Principal payments on debt		(725)	(1,441)	(1,061)	(631)	(413)	(896)
Proceeds from issuance of debt			2,595				
Dividends paid		(1,591)	(1,614)	(1,654)	(1,712)	(1,793)	(1,881)
Purchases of treasury shares		(1,238)	(1,202)	(1,476)	(1,563)	(1,660)	(1,765)
Proceeds from exercise of stock options and benefits		329	498	874	504.0	504.0	504.0
Purchases of non-controlling interests in subsidiaries				-99			
Net cash used in financing activities		(2,679)	(870)	(2,919)	(2,532)	(3,368)	(2,457)
Effect of exchange rate changes on Cash and cash equivalents		(16)	(7)	(16)	0	0	0
Net increase (decrease) in Cash and cash equivalents		(809)	157	5	(388)	0	0
Cash and cash equivalents at beginning of year		1,535	726	883	888	500	500
Cash and cash equivalents at end of year		\$ 726	\$ 883	\$ 888	\$ 500	\$ 500	\$ 500

Reference Current and Long Term to Balance Sheet

- Demarcate the Current Portion of Long Term Debt and long-term debt as shown below.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
<u>Debt (Long Term + Current Debt)</u>								
Beginning Balance						7,343.0	6,712.0	6,299.0
Issuance								
(Repayment/ Amortization)						(631.0)	(413.0)	(896.0)
Ending Balance					7,343.0	6,712.0	6,299.0	5,403.0
Long Term Debt						6,299.0	5,403.0	4,905.0
Current Portion of Long Term Debt						=-125	896.0	498.0

- Link the revolving credit facility, long-term debt, and current portion of long-term debt to the balance sheet.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Liabilities and Shareholders' Equity								
Current Liabilities								
Notes and loans payable	13	11	12	260	258	258	258	258
Current portion of long-term debt				254	9	413	896	498
Accounts payable	1,124	1,212	1,222	1,237	1,393	1,197	1,681	1,173
Accrued income taxes	441	354	411	370	427	427	447	469
Other accruals	1,727	1,831	1,696	1,917	2,341	2,067	2,164	2,270
Total current liabilities	3,305	3,398	3,341	4,038	4,404	4,361	5,447	4,668
Revolver						870	864	2,445
Long-term debt	6,520	6,566	6,354	7,333	7,334	6,299	5,403	4,905
Deferred income taxes	246	204	235	507	426	426	426	426
Other liabilities	2,035	2,255	2,034	2,598	2,655	2,655	2,655	2,655
Total liabilities	12,106	12,433	11,964	14,476	14,819	14,612	14,795	15,099
Commitments and contingent liabilities	-	-	-	-	-	-	-	-
Shareholders' Equity								
Common stock	1,466	1,466	1,466	1,466	1,466			
Additional paid-in capital	1,894	1,894	1,894	1,894	1,894			
Retained earnings	19,922	20,531	21,615	22,501	23,699			
Accumulated other comprehensive income	(4,180)	(3,855)	(4,188)	(4,273)	(4,345)			
Unearned compensation	(7)	(5)	(3)	(2)	(1)			
Treasury stock, at cost	(19,135)	(20,181)	(21,196)	(22,063)	(23,025)			
Total shareholders' equity	(243)	(60)	(102)	117	743		858	798
Noncontrolling interests	260	303	299	441	358		931	1,141
Total shareholders' equity	17	243	197	558	1,101	1,365	1,789	1,940
Total liabilities and shareholders' equity	12,123	12,676	12,161	15,034	15,920	15,977	16,391	17,358

Link Noncontrolling Interest from Income Statement

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24
Deferred income taxes	246	204	235	507	426	426	426	426	426
Other liabilities	2,035	2,255	2,034	2,598	2,655	2,655	2,655	2,655	
Total liabilities	12,106	12,433	11,964	14,476	14,819	14,612	14,795	15,099	15,419
Commitments and contingent liabilities	-	-	-	-	-	-	-	-	-
Shareholders' Equity									
Common stock	1,466	1,466	1,466	1,466	1,466				
Additional paid-in capital	1,891	1,984	2,038	2,115	2,199				
Retained earnings	19,922	20,531	21,615	22,501	23,699				
Accumulated other comprehensive income	(4,180)	(3,855)	(4,188)	(4,273)	(4,345)				
Unearned compensation	(7)	(5)	(3)	(2)	(1)				
Treasury stock, at cost	(19,135)	(20,181)	(21,196)	(22,063)	(23,025)				
Total shareholders' equity	(243)	(60)	(102)	117	743		858	798	
Noncontrolling interests	260	303	299	441	358		931	1,141	
Total shareholders' equity	17	243	197	558	1,101	1,365	1,596	1,789	1,940
Total liabilities and shareholders' equity	12,123	12,676	12,161	15,034	15,920	15,977	16,391	16,888	17,358

Calculate the Interest Income using the average cash balance

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Interest Rate			2.2%	2.1%	2.2%	2.2%	2.2%	2.2%
Interest Expense			143.0	145.0	164.0	154.6	143.1	128.7
<u>Total Interest Expense</u>						161.13	156.12	153.54
<u>Cash Balances</u>								
Average Balance						=AVERAGE(CF1G49:H49)		
Interest Rate						0.50%	0.50%	0.50%
Interest Income						3.47	2.50	2.50

Link Interest Expense and Interest Income to Income Statement

(\$ in Million Except Per Share Amounts)	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Net sales	15,195	15,454	15,544	15,693	16,471	17,222	18,036	18,917
Cost of sales	6,072	6,174	6,313	6,368	6,454	6,889	7,214	7,567
Gross profit	9,123	9,280	9,231	9,325	10,017	10,333	10,821	11,350
Selling, general and administrative expenses	5,143	5,400	5,389	5,575	6,019	6,200	6,493	6,810
Other (income) expense, net	25	173	148	196	113	172	180	189
EBIT	3,963	3,607	3,694	3,554	3,885	3,961	4,148	4,351
Non-service related postretirement costs	118	118	87	108	74	69	72	76
Interest expense, net	99	102	143	145	164	=Debt!H42-Debt!H47		
EBT	3,738	3,487	3,464	3,301	3,647	3,735	3,923	4,125
Provision for income taxes	1,152	1,313	906	774	787	822	863	907
Net income including noncontrolling interests	2,586	2,174	2,558	2,527	2,860	2,913	3,060	3,217
Less: Net income attributable to noncontrolling interests	145	150	158	160	165	175	184	193
Net income attributable to Colgate-Palmolive Co.	2,441	2,024	2,400	2,367	2,695	2,738	2,876	3,024

Perform the Balance Sheet check: Total Assets = Liabilities + Shareholder's Equity

Audit the Balance Sheet

We need to audit the model and check for linkage errors if there is any discrepancy.

	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Other assets	224	218	168	753	857	857	857	857
Total assets	12,123	12,676	12,161	15,034	15,920	15,977	16,391	16,888
Liabilities and Shareholders' Equity								
Current Liabilities								
Notes and loans payable	13	11	12	260	258	258	258	258
Current portion of long-term debt				254	9	413	896	498
Accounts payable	1,124	1,212	1,222	1,237	1,393	1,197	1,681	1,173
Accrued income taxes	441	354	411	370	403	427	447	469
Other accruals	72	85	85	1,911	2,341	2,067	2,164	2,270
Total current liabilities	3,305	3,408	3,341	4,038	4,404	4,361	5,447	4,668
Total shareholders' equity	(1,460)	(1,151)	(1,482)	(1,777)	743	842	900	910
Noncontrolling interests	260	303	299	441	358	533	716	909
Total shareholders' equity	17	243	197	558	1,101	1,375	1,616	1,820
Total liabilities and shareholders' equity	12,123	12,676	12,161	15,034	15,920	15,977	16,391	16,888
Check	-	-	-	-	=H47-H19	-	-	-

Conclusion

In conclusion, Excel is a powerful tool for financial analysis that can be used by companies to gain insights into their financial performance. The above case study demonstrates how a company can perform various financial analysis tasks such as ratio analysis, trend analysis, and common size analysis using Excel. By analyzing the financial data, the company can make informed decisions and improve its financial performance.