Understanding Capex

as an Analyst, Investor or Business Owner

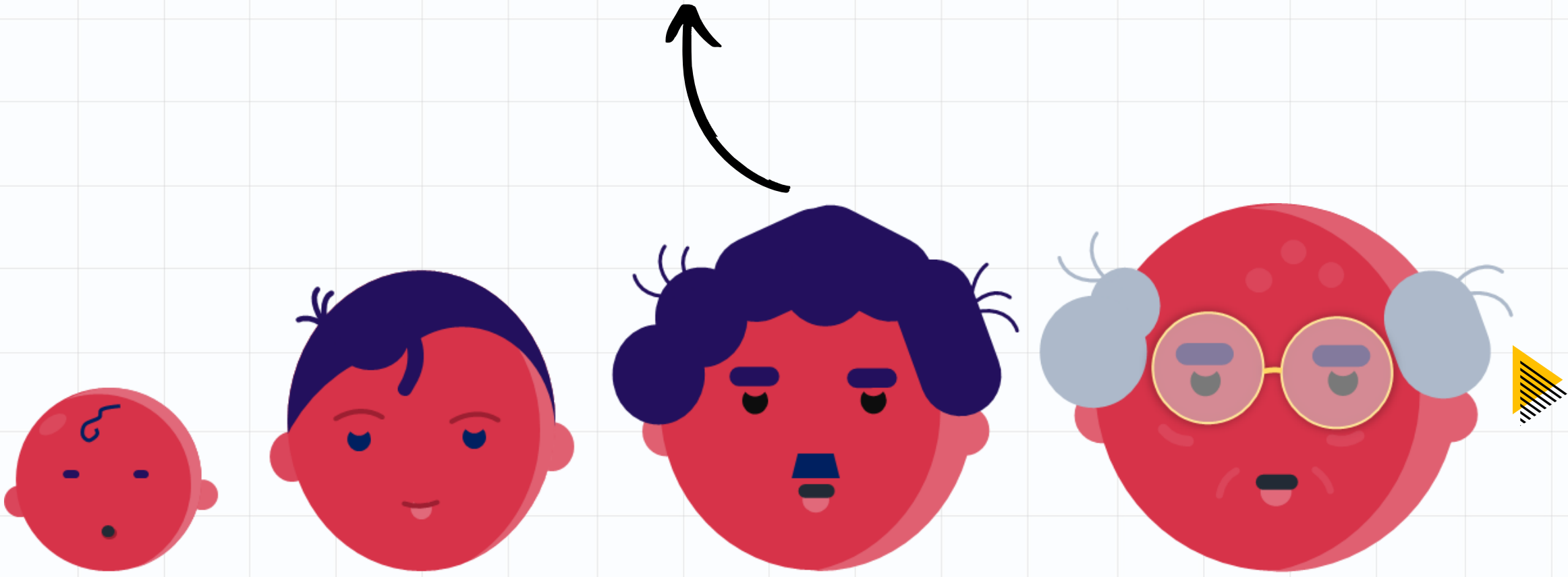
Total Capex (Capital Expenditure)

Maintenance Capex

Growth Capex

Have You Ever Wondered?

Why we stop growing taller here



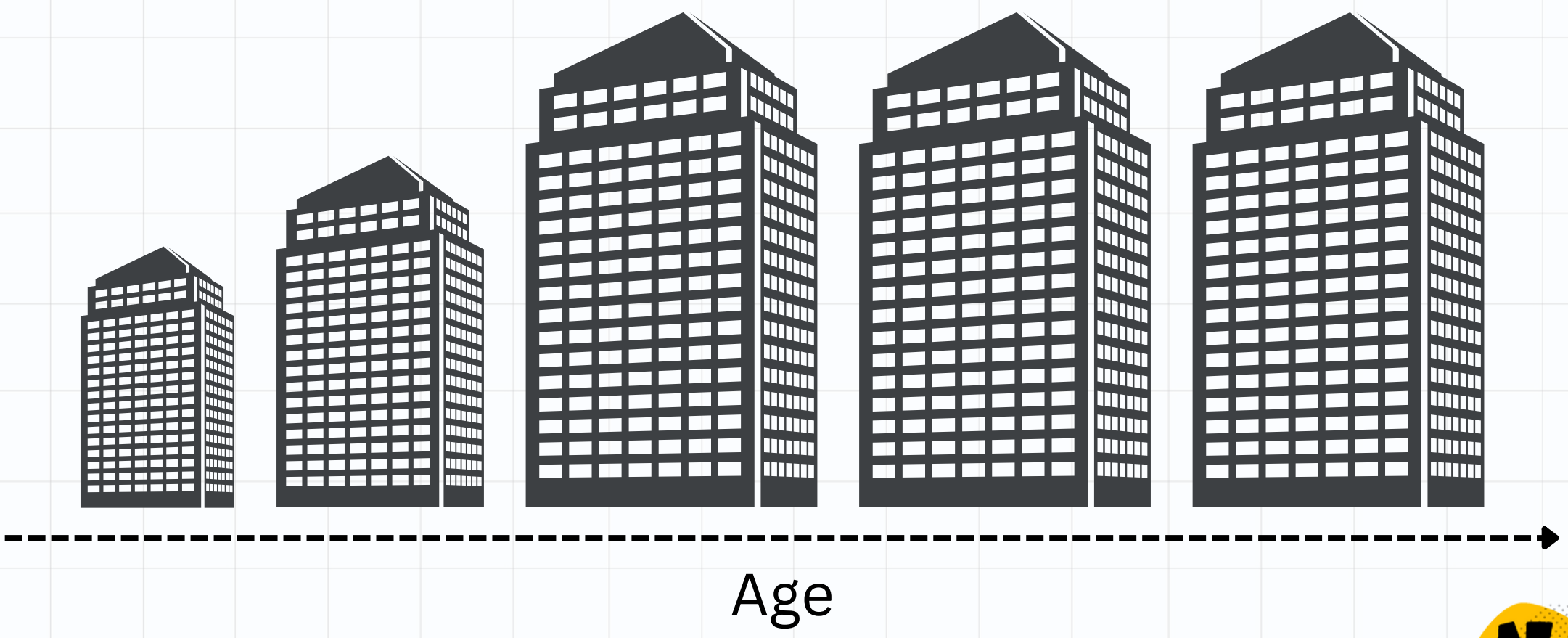
Why We Stop Growing

In the initial years of our lives, most of our metabolic energy is directed towards growth

In later years, most of our metabolic energy is directed towards repair and maintenance

Businesses Also Move in the Same Fashion

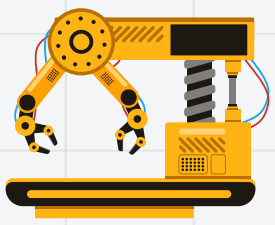
- Replace metabolic energy with capital expenditure that fuels growth of a business and also helps maintain the production capacity and sales level.
- In the initial years of businesses, all the capital expenditure is spent towards growth and as businesses mature most of the capex are done to maintain the existing size of the businesses.
- Understanding capex and being able to differentiate the types of capex can help us assess about a business' future growth and sustainability. So, let's understand this concept on a deeper level.



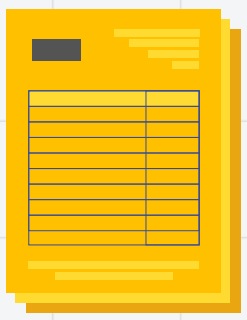
Understanding Capex

Capital Expenditure

Capex (Capital Expenditure) is the investment made during a period, usually for increasing and/or maintaining a company’s production capacity.



This is an expenditure, but it is not shown in the income statement because this type of expenditure is regarded as an investment and not an expense. In accounting terms, this sort of expense is capitalized.



The impact of this expenditure is reflected in the balance sheet asset item of property, plant, and equipment (PP&E) and also reported as investing cash outflow in the cash flow statement of a company.

Understanding Capex

Apple Inc.

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)

	Years ended		
	September 24, 2022	September 25, 2021	September 26, 2020
Cash, cash equivalents and restricted cash, beginning balances	$ 35,929	$ 39,789	$ 50,224
Operating activities:			
Net income	99,803	94,680	57,411
Adjustments to reconcile net income to cash generated by operating activities:			
Depreciation and amortization	11,104	11,284	11,056
Share-based compensation expense	9,038	7,906	6,829
Deferred income tax expense/(benefit)	895	(4,774)	(215)
Other	111	(147)	(97)
Changes in operating assets and liabilities:			
Accounts receivable, net	(1,823)	(10,125)	6,917
Inventories	1,484	(2,642)	(127)
Vendor non-trade receivables	(7,520)	(3,903)	1,553
Other current and non-current assets	(6,499)	(8,042)	(9,588)
Accounts payable	9,448	12,326	(4,062)
Deferred revenue	478	1,676	2,081
Other current and non-current liabilities	5,632	5,799	8,916
Cash generated by operating activities	122,151	104,038	80,674
Investing activities:			
Purchases of marketable securities	(76,923)	(109,558)	(114,938)
Proceeds from maturities of marketable securities	29,917	59,023	69,918
Proceeds from sales of marketable securities	37,446	47,460	50,473
Payments for acquisition of property, plant and equipment	(10,708)	(11,085)	(7,309)
Payments made in connection with business acquisitions, net	(306)	(33)	(1,524)

Payment for PP&E reported in cash flow statment under investing activities is taken as capex

Apple Inc.

CONSOLIDATED BALANCE SHEETS
(In millions, except number of shares which are reflected in thousands and par value)

	September 24, 2022	September 25, 2021
ASSETS:		
Current assets:		
Cash and cash equivalents	$ 23,646	$ 34,940
Marketable securities	24,658	27,699
Accounts receivable, net	28,184	26,278
Inventories	4,946	6,580
Vendor non-trade receivables	32,748	25,228
Other current assets	21,223	14,111
Total current assets	135,405	134,836
Non-current assets:		
Marketable securities	120,805	127,877
Property, plant and equipment, net	42,117	39,440
Other non-current assets	54,428	48,849
Total non-current assets	217,350	216,166
Total assets	$ 352,755	$ 351,002

Alternatively, take the difference between current year's PP&E and previous year's PP&E and then add back depreciation

Apple Inc.

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Understanding Capex

Total Capex

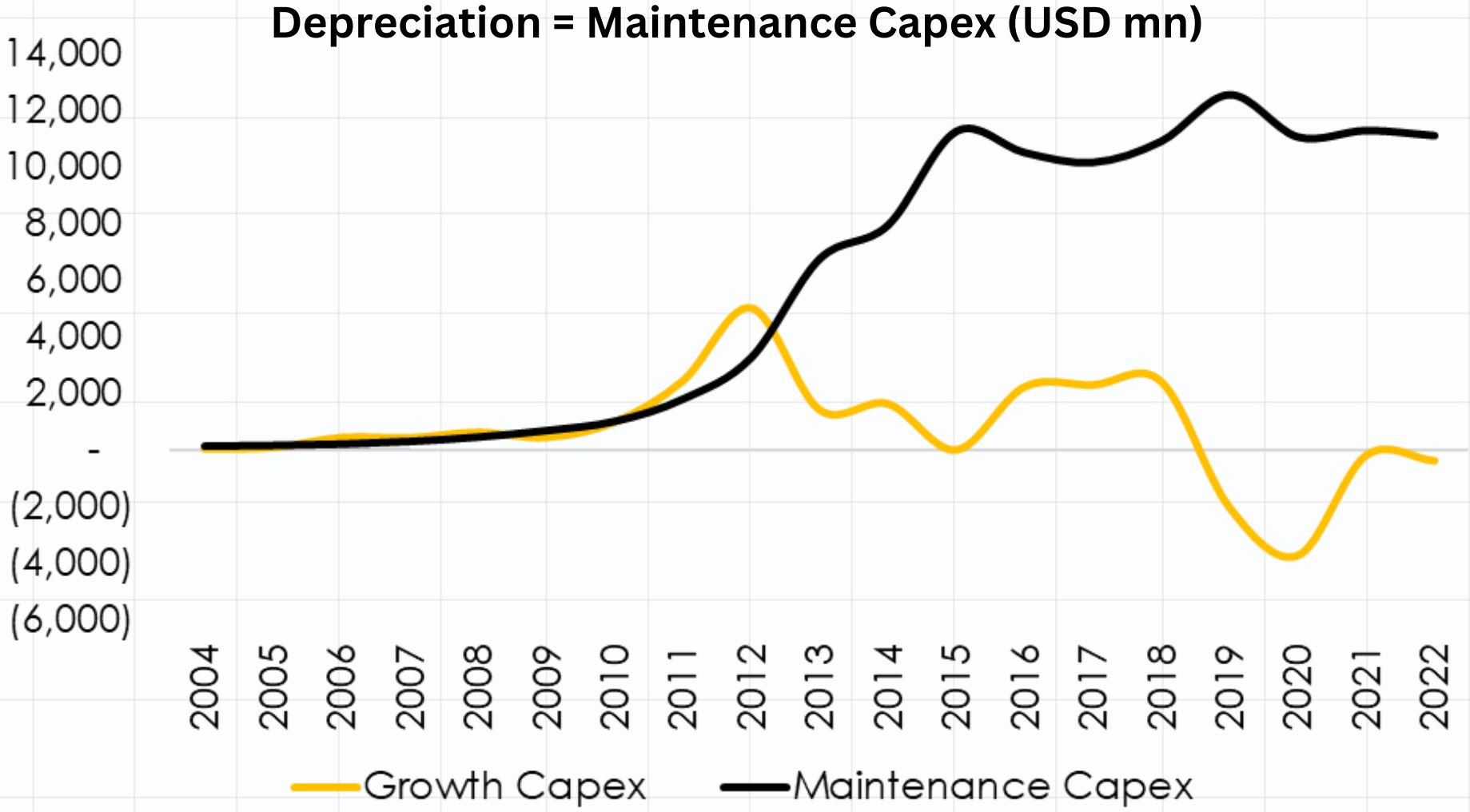
Maintenance Capex	Growth Capex
Part of capex that is required to <u>maintain</u> the current production capacity and/or current sales	Part of capex that is required to <u>increase</u> current production capacity and/or sales level
👍 A rule of thumb: maintenance capex during a specific period is close to depreciation of PP&E in that period	Growth Capex = Total Capex - Maintenance Capex

Bruce Greenwald, who wrote *Value Investing: From Graham to Buffett and Beyond*, came up with an **alternative formula for breaking down capex**.

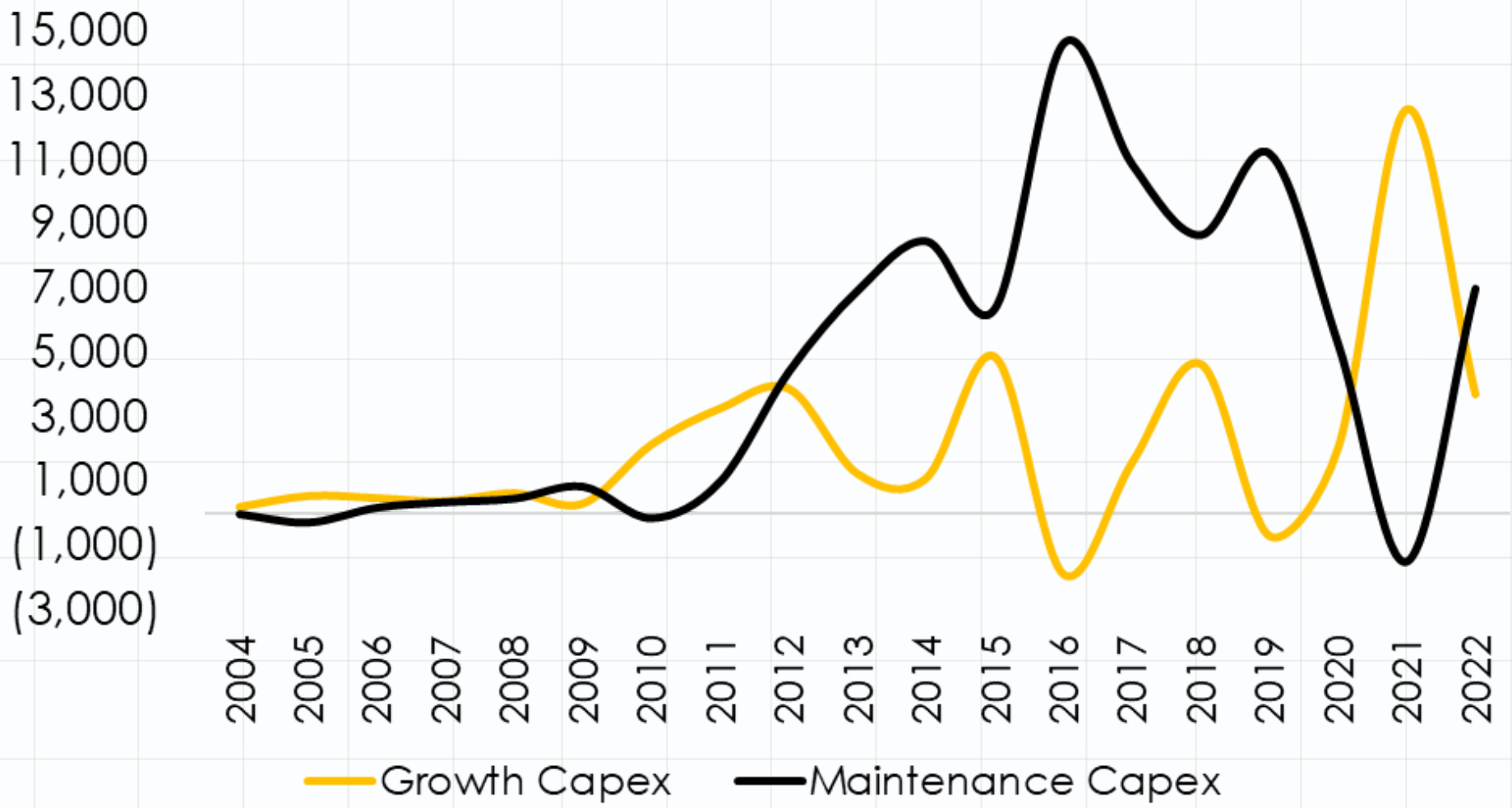
- Calculate the ratio of PP&E to sales for each of the five prior years (you can do 3 or 7 years average as you deem appropriate capex cycle) and find the average. This is used to indicate dollars of PP&E it takes to support each dollar of sales.
- Multiply the above ratio by the increase or decrease in sales the company posted in absolute dollars in the current year. The result of this calculation is growth capex. Subtracting it from total capex will yield maintenance capex.
- The main idea of this formula is that the capex required (based on historical averages) for increase in sales is considered growth capex, and the capex required for maintaining the sales level is considered maintenance capex.

Understanding Capex

Maintenance Capex and Growth Capex of Apple Inc. Considering Depreciation = Maintenance Capex (USD mn)



Maintenance Capex and Growth Capex of Apple Inc. Considering Bruce Greenwald Formula (USD mn)



But both of these analyses are incomplete...

Limitations

- The depreciation = maintenance capex assumption can be misleading if the assessment of depreciation is either overstated or understated.
- Machinery or equipment can become obsolete much earlier than anticipated due to technological advancement or some other reasons. Here, maintenance capex can become higher than depreciation.
- Effect of inflation and deflation can understate maintenance capex. Maintenance capex can increase/decrease due to inflation/deflation while depreciation generally has no effect of inflation/deflation which makes the depreciation number an imperfect proxy for maintenance capex.
- Bruce Greenwald’s formula for breaking down capex can be one solution to address this problem but it has limitations as well. His formula doesn’t consider investment in intangibles as capex which is becoming more and more significant in driving a business’ growth.

Pay Attention to Intangibles

- Global economy is shifting from one relying on tangible assets (e.g. plant, machineries, buildings) to one that is based on Intangible assets (e.g. goodwill, patent, trademarks, R&D etc.).
- Companies invest in intangibles both for growth and maintenance.
- For instance, spending on research and development (R&D) is a form of investment in intangibles. Many academicians and practitioners assume that spending on R&D is all about growth, but there is evidence that a meaningful percentage of R&D spending, especially for large digital technology companies, is in fact necessary just to maintain current operations.

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