A Work Project, presented as part of the requirements for the Award of a Master Degree in Economics / Finance / Management from the NOVA – School of Business and Economics.

EQUITY RESEARCH PROJECT
CHECK POINT SOFTWARE TECHNOLOGIES

"Preventing every IT device and systems from data breaches"

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Abstract

The growth in information technology, has meant that business now must be done and conducted in ways that are efficient to both enterprises, employees, and customers. The use of technology nowadays is much more prominent as it allows enterprises to gain competitive advantage over its peers and to streamline inefficient business processes and especially deliver more up to date products and solutions. As the pandemic forced companies to digitize their business and employees to work remotely, it also brought opportunities for enterprises to exist without the need of having an office or headquarters, and function remotely. For this to happen, an efficient IT system is required and performance of these is conditioned by how secure it is against cyberattacks from hackers looking to exploit remote working. Therefore, in this report I explore how pioneers in cybersecurity such as Checkpoint is providing protection to enterprises, financial institutions and governments from possible threats that can cost them millions in damages or their reputation.

Keywords (up to four)
- Technology
- Digitisation
- IT Systems
- Cybersecurity

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This report is part of the Equity Research report (“Protecting the next generation of cyber-attacks”), developed by Arsénio Renato João Mabote Júnior and David Pan Ye should be read has an integral part of it.

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Introduction

The purpose of the joint equity research report is to illustrate how an industry such as cybersecurity is developing from the lens of one of the biggest cybersecurity solutions providers as Checkpoint, as trends such as remote working increase the migration of data from server rooms/data centres to cloud-based applications. This is relevant because, this industry because it has plenty of unexploited potential and is being driven by the common hot topics that surround day-to-day in society, which are cyber-attacks. For example, in Portugal, Modelo Continente, one of the largest retailers in the country website in first quarter 2022 saw its website attacked, which disrupted its abilities for shoppers to make orders online. TAP Portugal, also this year suffered a cyberattack within which the president's and ministers' personal data were stolen. Uber, for instance, as of this month suffered another breach where corporate data was stolen. Indeed, these businesses are users of different IT system and cloud services.

So, this report focuses on how much business these high-profile data breaches are bringing to the cybersecurity industry and one of its leaders, Checkpoint. Within this individual, the aim is to cover the financial performance of Checkpoint, from the forecast of revenues and other metrics to the discounted cash flows and final investment recommendation. My colleague will cover the overview of the industry, the business model of Checkpoint, firm wide initiatives, revenue drivers and market share.

Forecasted Values Analysis (RD, IS and BS)

This section is referring to the extended version of our base case. Since Check Point is a key player in the security software segment, we have taken into consideration about the industry drivers and blended our own estimates about the company to forecast income statement and balance sheet.

On the income statement, our total revenues will change accordingly because of a change in our drivers. Additionally, on the core business we expect the SG&A, R&D to maintain as **41% and 14%** of revenues, respectively. Depreciation will also stay at 10% whilst statutory taxes **at 23%.** On the non-core business, financial income will remain a percentage of the average yield on the company's investments. We predict under our base case, for total comprehensive income to increase from **2022F to 2027F** at a faster rate due to the accelerated increase in revenues which stem from the **12% CAGR** of the industry until **2027**. From **2028F** until the steady state at 2038F comprehensive income will grow at an average of **5%** and then it will stall at **2.6%.** (Exhibit 22)

We believe Check Point will have many more years of high growth before stabilizing in the steady state. We predict that the cybersecurity industry will peak its 5-year run growing at an average of **12% CAGR**. We expect **high adoption of cloud cybersecurity products** thus revenues from **SaaS subscriptions to grow at faster pace** than other sorts of revenues such as products/license or updates and maintenance. (Exhibit 22)

Over time, the company will generate recurrent revenues from corporate contract renovation, which may include more maintenance and updates, thus increasing revenues. In this case, CAGR value will be **8.2% from 2022F to 2027F**. Later from 2028F to 2038F is expected to grow at **4% compound annually,** which is last year before steady state, this growth rate is lower than industry growth rate. (Exhibit 22)

Although, replicating software comes at nearly zero cost, the company need to invest a certain amount of money for marketing and sales, when it comes to attracting potential clients and rewarding partners, in addition providing maintenance and assistance as arranged in the contract. Furthermore, there are additional expenses regarding R&D for developing or improving existing products and services, especially cloud cybersecurity products. Even though, the company do not possess any inventory, we expect several costs regarding materials, distribution, and sales inside cost of revenues.

That is the reason it is plausible to assume that gross margin, SG&A, R&D should grow at the same pace as revenues, which means costs will

Exhibit 21. CHKP total revenues and growth rate of comparable companies

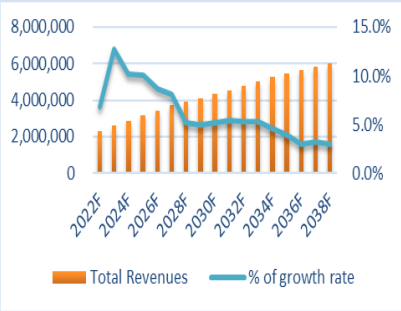


Exhibit 23. Forecasts of main lines of costs

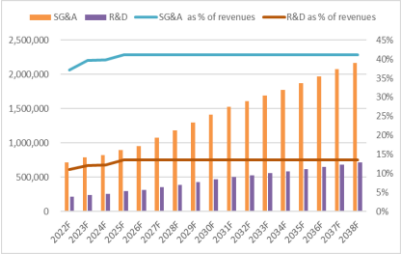
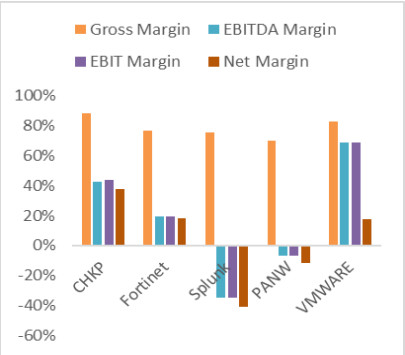


Exhibit 24. Margins across comparable companies

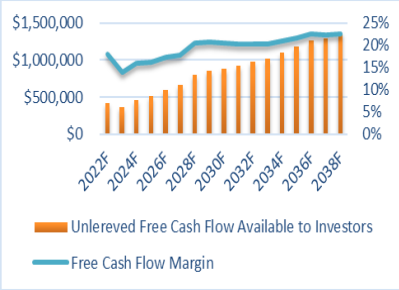


increase in function of increase in revenue. Putting into context, **costs of revenues will represent 11.5% of revenues, SG&A will be 41% while R&D is 14%.** (Exhibit 23)

Therefore, both gross profit and EBITDA rise at **6.2% and 5.55% annually** from **2023F to 2038F**, making gross margin equals to 85.5% while EBITDA margin will be 33.9%. That come after deduction of D&A, which we estimated as part of net property, plant and equipment (Net PP&E), producing **EBIT margin between 32.9%-33.5%** depending on the years (Exhibit 24).

Moreover, in the period in analysis, we expect net income margins to decrease slightly, with a range **between 27.4% to 26.2%** (Own Analysis, 2022)**,** depending on the years. These values are quite reasonable for a competitive industry when certain competitors like Palo Alto Networks or Splunk register negative comprehensive income. We should emphasize that the company holds more liquid assets than accounted for the time period in analysis due to great portion of investment and deferred revenues which are only registered when the contract is fulfilled. (Exhibit 24)

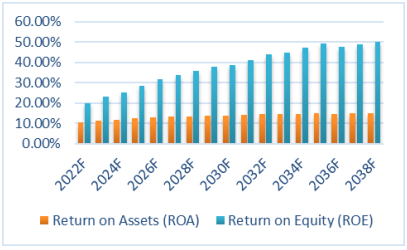
Exhibit 25. CHKP unlevered FCF and FCF margin from 2022F-2038F



One of the key advantages of Check Point is in fact in its ability to generate positive free cash flow compared to other competitors. On long-term, we expect free cash flow margin to be **superior to 20%.** As mentioned previously, we believe this figure is lower than the actual amount of liquidity that the company have. (Exhibit 25)

As a business that does not incur any sort of interest-bearing debt, a strong **FCF Margin** means it can use its cash for transactions with shareholders such as buybacks which can then prompt the company's stock price and increase its earnings-per-share (EPS). This is an advantage for shareholders, as they can expect to be rewarded periodically as the company performs better during the fiscal years.

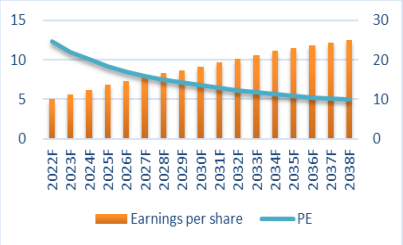
Exhibit 26. CHKP ROA and ROE from 2022F-2038F



Looking at the possible profitability ratio, we see improvements both in terms of ROA and ROE. According to our model, ROA will improve from **10.45% in 2022F to 14% in 2038F**. Besides that, ROE will increase from **19.73% to 50**% during the same period. (Exhibit 26) This is assuming that the company will improve its operational efficiency and become more profitable over time. Although, we could state that both ROA and ROE could be affected at some point due to increased competition and innovation in the industry, we have verified that net income can suffer minor downward deviations. CHKP has an efficient cost structure, minor sales expenses and high brand reputation associated with low marketing expenses, medium-to-low R&D, and no debt which can allow it to maintain its net margins into the

future.

Exhibit 27. CHKP EPS and PE from 2022F-2038F



Supposing, we maintain the share price and number of shares constant, as we have higher net income throughout the years, so earnings per share will increase. As matter of fact, we see reverse trend for PE ratio, which decrease over time as the price is fixated. As share prices follow an upward trend, over long term, there should be a historical median PE ratio for Check Point which is higher than what the graph suggests, in fact the **median historical PE for the last 10 years is 21**, so at certain point in time, share price should be close enough to reflect historical levels. (Exhibit 27).

Risks for Check Point

The global cybersecurity market is characterized by emerging trends such as the increase in 5th generation attacks. Any slowdown in the upward trend of spending in the network security market may act as a headwind for CHKP prospects, remaining the main risk factor to consider. Moreover, high technological advancement of the industry means new players are emerging on a yearly basis in attempt to offer cutting edge solutions those large enterprises do not offer or to capitalize on a new sub-segment of the market. Therefore, this will lead to our second most important risk factor which will be competition.

A potential slowdown in security spending by organizations can imply lower revenues for players in the cybersecurity industry, especially CHKP as one of the leading providers globally. Potentially, a reduction means that the spending from small, medium, and large enterprises will **decrease** and therefore lower total revenues for CHKP, as it will be discussed under the **pessimistic scenario,** in later sections.

Currently, the cybersecurity market has several new **small** to **medium companies** that can compete with Check Point from time to time. However, due the extended market experience, customer reputation and strong customer base that the business, it is unlikely that increased competition from small to medium players will place great effect on the business revenues.

Check Point's competitors may pursue advantages in relation to being established for much longer in the market, much easier accessibility to a more enhanced customer base and financial, marketing, and technical prowess. If at all, an increase in competition, and therefore rise in large players in the network security space, will imply a reduction in Check Point's market share as its revenues will make for a lower portion of the industry.

If this happens so, revenues will be lower and thus affecting the overall value for the company, as also to be discussed under **pessimistic scenario**.

Thirdly, Check Point relies heavily on a small number of distributors and channel sales partners, and this exacerbates the risk to the business. A breakdown in the relationship Check Point has with its channel sales partners can also undermine the value of the business. For example, since it generates 35% of revenue from its 2 largest partners, a termination of business relationships with one or both, might imply a drastic reduction in revenues, ranging from 17.5% to 35%. However, any termination would not be temporarily as **a substitute partner** would be found. On the other hand, in case consolidation begins among distributors of CHKP's products, these parties may become larger in size and prefer to sell competitors' products instead of Check Point's products.

This is a frequent issue in the security industry and more incident in competitors such as FTNT which also relies heavily on the double tier distribution channel as CHKP. Contrary, VMW relies much less on distribution partners and invests in direct sales, instead. Meanwhile, SPLK uses a mix of distribution channels and sales methods. So, it is unlikely that this could be a risk for VMW or SPLK.

Furthermore, Check Point faces risks inherently to the **acquisition of talent**. The growth in the competitive landscape, implies that the quality of services and solutions must maintain or increase and since product offerings require a significant amount of human capital intensity, this creates pressure to attract, train and retain top talent to the business. Moreover, majority of its products require frequent maintenance and updates which entails that to fulfil customers' requirements, it cannot be understaffed. So, we could infer that the ability for CHKP to hire, compensate and retain talent could be a function of innovative products and a factor for revenue growth.

Valuation Model

Discounted Cash Flow Valuation

Check Point's Enterprise Value is estimated through **Discounted Cash Flow Model** or more well known as **DCF**. We believe this approach is most suitable for our analysis as it estimates the company based **on firm** and **industry specific assumptions**. Moreover, it considers **capital structure** when **calculating cost of capital** as cost of equity or debt will impact the present value of our free cash flows. The **intrinsic value** derives from **ability of organization to generate free cash flows**. As our company,

does not have any debt we have not considered other valuation methods like **APV**.

Check Point Technologies became public **on 28th June of 1996** and listed on Nasdaq. Up until **2021**, Check Point's cash flow have been growing steadily, but the situation may change as the company gradually shift focus on cloud cybersecurity products, cashflows can go higher if it sees large growth in security revenues or it can decrease in case it chooses to use cash to invest in further growth of its security segment or product portfolio expansion. We already witness relevant **double-digit growth** in the cloud security subscriptions portion of the business in the **last four years**. Latest **third quarter financial result of 2022** indicates total revenue increasing **8 percent YoY**, both **security subscriptions and deferred revenues increased 13% YoY** (Check Point, 2022) beating analyst consensus for EPS.

We conclude that, cash flow generation and consequently the value of the company will depend on how management executes its long-term strategies, how the **industry grows** and **the ability of the company to capture further market share**. Acknowledging the difficulty to assess and forecast tech revenues, we have considered different scenarios for the company that might give us a reliable and expectation for the price per share.

Weighted Average Cost of Capital (WACC)

A crucial component of the valuation, we have assumed a **constant capital structure** as part of estimating WACC which for the past few years Check Point had **zero interest bearing debt**, so our WACC values **come 100% from cost of equity** while estimated **cost of debt** gives us **0%.**

Exhibit 28. CHKP Raw Beta and Adjusted Beta 2022F-2038F

Raw Beta	0.7
Confidence Interval Lower 95%	0.64
Confidence Interval Higher 95%	0.75
Adjusted Beta	0.8
Unlevered Raw Beta	0.44

Cost of equity: we have used the **CAPM** which considers three different variables such as risk-free rate, and market risk premium. It also considers beta or firm-specific risk adjustment was used to estimate **cost of equity**.

For our estimated risk-free rate, we have considered **latest U.S government 10Y Treasury Bond Yield (USGG10YR**). Our model aims to forecast what are the prospects of investment for next year so adjusting to current macroeconomics and market factors. During our sensitivity analysis, we will address how different type of discount rate will affect our valuation, especially risk-free rate. (Exhibit 28)

Risk Premium: regarding risk premium, we have attempted to calculate **historical average stock return**, but the values are much **different compared to the values of overall industry**. Therefore, a reasonable

value of risk premium would be between **4.5%~5.5%** according to *McKinsey's* valuation book, so we have taken the conservative approach to choose **4.5%.**

Beta: The values for beta were estimated by regressing **daily stock movement of the company with the SPX return of the last 5 years**. According to our values obtained, we will find Check Point's raw beta equalling **0.69** with a confidence interval **between [0.64 ,0.75].** The distance of raw beta and intervals is relatively small and compared to the values of **unlevered beta (0.44), by considering liabilities, we have found out raw** beta is much higher.

We considered **beta values** as crucial element to estimate WACC, as our **cost of debt is zero**, as mentioned above as we don't have any debt. we used a higher

beta to multiply with **cost of equity**, this market structure makes the levered beta obtained from regression a reliable value for **discounting rate is higher** and **within reasonable levels**. Therefore, the one used was **raw beta** which addresses market and firm specific circumstances happening right now.

Our final WACC value corresponds **to 6.66%** which is close to the **Software (System & Application)** cost of capital estimated by *Damodaran*, if adjusting the cost of equity by current market factors. (Exhibit 29)

Exhibit 29. WACC calculation formula

Check Point Software Technology	
Beta	0.69
Market Risk Premium	4.50%
Risk Free Rate (US10Y)	3.55%
Cost of Equity	7.36%
Cost of Debt	0%
Total Debt / Capital	0%
WACC	6.66%

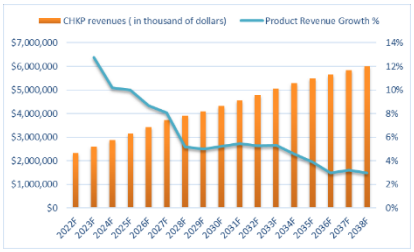
Scenario Analysis

Before starting our valuation, we have considered various alternatives to evaluate the company. In our opinion, the best approach to estimate Check Point's revenue is assuming different hypothetical scenario of revenue growth rate by **changing customer growth rate** and **average expenditure**. The purpose is to find how the company's **equity value will perform under certain assumptions** while industry growth rate will remain the same throughout forecasting periods**.**

As far as concern, market share will decrease over time, it does not mean we does not believe in the company, by contrast it shows that earnings and innovation are difficult to be monopolized despite long presence in the market.

To forecast revenues and valuation outcomes for each scenario we used the bridge between top bottom and bottom-up analysis as stated in the revenue drivers' section, to arrive at the final valuation.

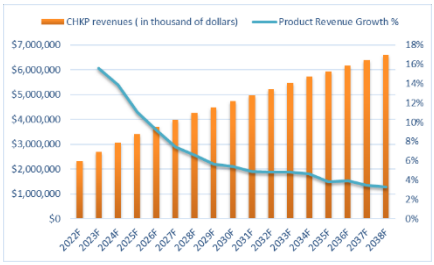
Exhibit 30. Base Case revenues and growth rate from 2022F-2038F



Base Case (Conservative Growth) **$161.22**

Our base assumption is that Check Point's revenues will increase substantially as the industry continue to expand but with slower growth rate compared to the overall industry. In the base case scenario, we expect the company to benefit from increased adoption of security software solutions as the whole industry is still in the expansion period. This will lead to increased provision of security solutions by Check Point and consequently customer growth for the company will be roughly **2%** per year until **2030F**. From then, we expect customer growth to decrease to **around 1.5% per year** as Check Point may lose traction on the acquisition of customers as competition makes it hard to attain new customers while there is a shift in customer demand towards other security need uncovered by existing products. (Exhibit 30) Furthermore, average expenditure for customers will increase over the years as companies spend more in IT along with cybersecurity. This is a scenario that considers future steady cashflows of the company with already consolidated segment of the market as well as research, development of existing and new technology which is financed solely by its free cash flows.

Exhibit 31. Optimistic Case revenues and growth rate from 2022F-2038F



Optimistic Case (Following Industry Growth) **$236.46**

Our optimistic case assumption for Check Point is that the company, is that the company will catch next waves of industry innovation with other product segments beside security that will win over customers and fuel financial growth beyond what is expected for the base case, for the following reasons: Check Point recently designed a strategy that aims **to protect all technology devices from networks through cloud transformations**, which will allow it to secure remote employees, defend critical infrastructures and protect organisations of **5th generation cyberattacks** whilst delivering superior product innovation, coupled with lighting speed production and best price to performance. This means that its products will be up to date with the most prominent issues in cyber security and able to tackle most pressing consumer needs. For example, recently Check Point released a **5th product** called **Infinity** which is a service that includes all its products, licenses and services blended into a single product which allows enterprises to be well-protected against all sorts of attacks.

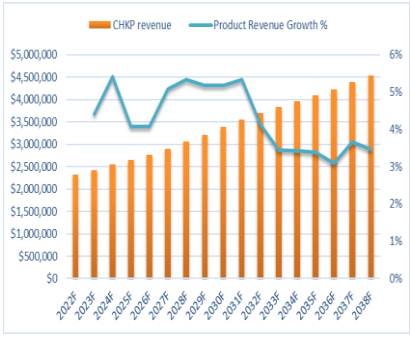
Product innovation, along with industry growth will allow on the revenue drivers side, Check Point will be able to increase the number of customers on a yearly basis, and customers will continue to **increase their average expenditure** on the firm's products which will allow **revenues to grow almost at the same rate as industry CAGR** on the first few years from **2023F to 2027F**. We expect customer growth to be at around **3.5% CAGR**

until 2038F and from then to decrease to **2% during the steady state.** (Exhibit 31)

Moreover, in case Check Point can increase its R&D expenditure and make further investments on its product portfolio, R&D will grow beyond its 14% of revenues and will allow the firm to generate higher returns on research capital **per dollar amount** which could go beyond its current **$7.50 per $1** invested in R&D. If this is the case, the business will be able to grow at a much faster rate, reaching double-digit revenue growth as some of its competitors such as Palo Alto. This is also an element to be addressed under value creation and investment recommendation sections.

Taking onboard our assumptions and by applying the same process as described in the base case, we predict Check Point EV under optimistic case to be of $**29.6bn**, which implies a target stock price of $**236.46** in comparison to today's price **of $131.59.** In this case we assume that the in perpetuity, growth rates are to be consistent with GDP at **3%.**

Exhibit 32. Pessimistic Case revenues and growth rate from 2022F-2038F



Pessimistic Case (Increased competition, Spending reduction) $133.06

Given the risks outlined under the "Risks for Check Point" section, we were able draw a connection between the effects of increased competition in the security market space and the reduction in security spending on the revenues of Check Point. In comparison with the base case scenario, this scenario implies further deacceleration of billings due to new market entrants, derived from losses of product competitiveness and business clients shifting towards newer or cheaper products/services or businesses maintaining a tight IT budget. This extreme scenario assumes that the industry will continue to exist and flourish with or without the presence of the company, therefore modelling the worst outcome is necessary to decipher possible business or industry downturns.

We expect that under a pessimistic case, the company is unable to accompany industry trends, as average spending of small, medium, and large enterprises product offerings decreases by **3% per year** from **2023F** to the remainder of the forecast period. A slowdown in spending will not indeed place much effect on the firms' revenues as the number of customers that are acquired will continue to follow the **1.5% upward trends** as in base case, throughout the forecasting period due to Check Point's expertise, brand reputation and market presence, allowing it to maintain contracts while having some room for growth.

We forecast the effects of increased competition in the industry to decrease market share **by 1% from 4% to 3%**, five periods earlier than in our base

case. This means, the percentage reduction will take place in **2025F** instead of **2029F**. (Exhibit 32)

Still, the effects of loss of market share to the business would remain minimal as customer growth would still maintain its upward trend. This signals that CHKP ability to maintain its brand reputation can allow it to withstand both most important risk factors.

Sensitivity Analysis

Reaching the end of our research, we stress tested our final inputs by determining how the change in certain inputs would affect our valuation and final price. This allows us to understand the reliability of our target price in each scenario and drawing conclusions about the matrix output.

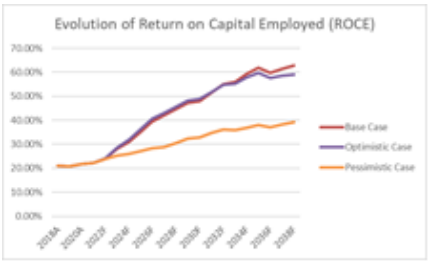
First, we found that since there is no debt, majority of changes to the final output will depend entirely on the cost of equity. Under **base case** scenario, it is possible to see that stock price is a buy recommendation for any **cost of equity ranging from 4% to 7%,** as a higher cost of equity between **8% and 10%**, would significantly affect the final price, and thus create a sell recommendation.

Secondly, we tested the effects of variables such as **market risk premium** and **risk-free rate** as these directly influence our cost of equity obtained from the asset pricing model, (Appendix).The risk-free rate in specific, exacerbates volatility in the final enterprise value and stock price. Implicitly, technology companies grow at a much faster rate because of growth of technology use and initiatives, which entails cash flows and final enterprise values growing much higher. However, these will be conditioned by **interest rates** and **inflationary pressures**. As inflationary pressures generate interest rate hikes, this means that Check Point's valuation will also be highly subject to the interest rate decisions taking place across the world. As a matter of fact, the energy crisis has been a prime example of this. Currently, the risk-free has decreased from its peak this year at **4.21%** to **3.55%**.

Finally, we have considered investment outcomes for different WACC values and steady state growth. For any WACC values higher than **9%**, the investment will be unattractive, unless steady state values range between **4% to 4.50%.** Additionally, although growth rates less or equal than 3%, do not have the same potential to affect outcome, it will affect the terminal value which will be discounted to the present value when investment is decided.

Value Creation

Exhibit 33. ROCE from 2022F-2038F



For Check Point, we decided to create a section on value creation as it allows us to measure how the business is creating value through its activities taking onto account the capital invested into the business. As also reported by *McKinsey,* software businesses are usually capital-light businesses with **negative invested capital**, which means that they do not carry a significant amount of fixed assets and do not significantly invest in machinery as it is more of a business that relies on the expertise of its employees and their creative abilities to come up with creative solutions for the products they provide. As a matter of fact, all the peers that compete with Check Point such as Fortinet, Palo Alto Networks, VM Ware and Splunk also have negative return on invested capital, this can be seen **under the ratios for each peer within the model**. (Exhibit 33)

Return on Invested Capital vs Return on Capital Employed

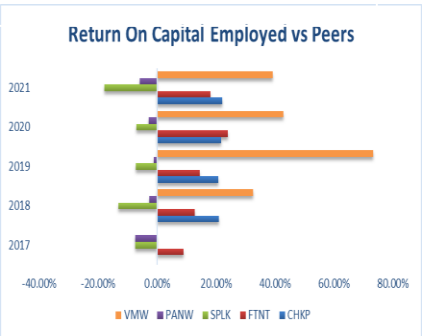
Since Check Point is a capital light business, we could not infer any useful information that may drive value from the calculations of ROIC or RONIC. However, we decided to instead make use of another proxy ratio for profitability and capital efficiency, *Return on Capital Employed (ROCE).* This ratio tells can tell us how much the company earns from its operations alone without the interest on debt or taxes. We have calculated using the following formula:

$$ROCE = \frac{EBIT}{Capital\ Employed}$$

$$ROCE = \frac{EBIT}{Total\ Assets\ - Current\ Liabilities}$$

By subtracting current liabilities from total assets, we were able to obtain the total capital employed (equity) by the business during a fiscal year. As a measure of value creation, we predict Check Point's return on capital employed to surpass **20%** during the entire forecast period to a point where it will reach **49%** in **2038F,** for our base case and **53%** for optimistic case. This signals that Check Point will be able to positively take advantage of on their operational performance. Therefore, the business is a strong case for return on capital invested in the production process.

Exhibit 34. ROCE vs Peers



As a proxy for the levels of investment, historically, ROCE performance against peers such as SPLK, PANW considerable strong**,** as CHKP delivered positive returns over the years 2017 to 2021. Meanwhile, CHKP performs worse when compared to VMW which have much higher ROCE

because of the **scale of their operating profits**, and **much larger revenue amounts**. (Exhibit 34).

On one side, VMW can achieve much higher EBIT because it attains a much more diverse product portfolio than CHKP, for example, security solutions are only a fraction of its business as it also offers a wide range of non-security related cloud infrastructure solutions such as digital workspaces and serverless data centers. In addition, VMW spends much more on R&D which could potentially be a factor that enhances its revenues and operating profits. Conversely, FTNT which is of similar revenue size as CHKP and similar product offering in the security market, performs positively but still below CHKP. This illustrates that within the security market itself, excluding companies that offer diverse product offerings outside of security, CHKP can get a higher return on its capital.

Given the revenue growth we predict in our base case and optimistic case, we predict the ROCE to continue to evolve beyond 20% over the long run. Over the longer term or in perpetuity, CHKP's ROCE could be undermined if the business does not expand itself beyond the provision of its security products towards cloud solutions, which would entail that its EBIT would still not grow much larger as compared to businesses as VMW. It could also be undermined if the business does not increase the amount of R&D in attempts to bring many more solutions to the market, which would translate in greater revenues and operating profits.

Growth

To estimate the value derived from growth, we have decomposed the calculation of value in different formulas. For example, we estimate the value generated by: First, by dividing the FCF by the difference between cost of capital and growth; Second, by estimating the difference between core result and core investment and divide by the same cost of capital and growth and third by multiplying the core result by one minus the investment rate and dividing by the elements mentioned previously. As a result, we predict that for any level of growth below the company's cost of capital of **6.66%**, there will be free cash flow generation, especially from **2028F** to **2038F.** This emphasizes the ability that the business must generate cash. However, from period **2022F to 2027F,** in some years growth is a value destroyer as it surpasses the cost of capital for the business. Same principle was applied for the optimistic and pessimistic scenario.

Multiples Valuation

As part of the valuation, we have decided to compare how Check Point

performs against its peers when different valuation metrics are brought into question. In general, technology holdings tend to be overvalued due to prospects of rapid revenue growth that derives from breakthroughs in the industry. **Industry median** for P/E and EV/EBITDA are at **42x.** Across competitors, CHKP's **price-to-earnings** ranks the lowest at **21x** whilst the Splunk has the highest at **105x**. The market is willing to pay much more for the current earnings of SPLK than it is for CHKP, and this derives from the expectation of future growth related to the firm. For example, in comparison with CHKP, SPLK invests much more in the expansion of its product portfolio and is actively tackling concerns regarding the lack of data analytics capabilities in enterprises by skewing its product offerings towards cloud, software tools that allows businesses to use data analytics to streamline processes across its entity. Cybersecurity, on the other hand, ends up making a small portion of the business and it stays behind the expertise of CHKP.

Moreover, we found CHKP's **enterprise value-to-ebitda** to be at **13x** in comparison to **305x** for PANW and **70x** for SPLK. Market wise, PANW multiple seems to be overvalued when benchmarked against CHKP, VMW and SPLK. Sky-rocketing levels of debt are factors that enhances PANW ability to benefit from high enterprise value, though still unprofitable. PANW debt amounts to almost **$3.2bn** what makes two-thirds of its 2021 revenue, as the business aggressively uses debt to invest in R&D and SG&A. Although this valuation may seem appealing for investing appetite, PANW is still to make a profit whilst incurring high risks from the amount of debt it attains on its capital structure what may leave any potential investor unsettled. **Price-to-sales** industry median is at **8.6x** and CHKP ranks with **8.7x** whilst PANW and SPLK have **8.5x** and **9.5x.** This multiple however, does not at all consider the impact of debt in a company's valuation which entails that out of the multiples covered so far, CHKP's multiple is much more appealing than its peers because its sales figure is much more realistic as it does not have to pay any interest rate to debtholders going down the income statement. As a company pays down expenses then its sales figures will lower and if it incurs no debt obligations it means that sales will be closer to the net income figure.

On the opposite side, PANW and SPLK sales figures can be misleading as both are incur high expenses related to SG&A and R&D are highly indebted.

Furthermore, same process applies for **enterprise value-to-sales** where our estimate industry median stood at **10.16x** and one in which CHKP ranks in line with its industry peers. Our estimated **Price-to-book** ratio implies

that the market is not valuing CHKP's assets as they should when compared to FTNT, SPLK and PANW. We conclude that overall, CHKP does present signs of undervaluation and that it has potential to increase its value should it continue to invest in the expansion of its business, product portfolio and maintaining its capital structure. The business incurs much less risks than its counterparts and presents stable metrics across the board.

Final Recommendation

Our final recommendation, all target prices analysed before, we have arrived at a recommendation price of **$ 166.19 dollars per share**.

We believe the market is undervaluing CHKP for the following reasons: first, as a pioneer and one of the largest players in the security market, it will benefit from the growth in security market which we believe will grow between **11%~13% every year until 2027**. As CHKP has a strong customer base and reputation, made up of enterprises of all scales, we predict it to capture revenue growth derived from improved industry prospects.

Secondly, CHKP over the years has been able to maintain a lower cost structure, which allowed it to attain the highest gross margins amongst the biggest players in the segment, as well as EBIT margins, excluding its operational excellence. Although it could be stated that faster growing cybersecurity players such as CrowdStrike, Palo Alto Networks whose annual revenue growth exceed 20% and P/E ratios exceed 50x (Bloomberg, 2022) could place an effect on CHKP ability to compete, due to increased investment and release of much more innovative solutions, we found the opposite; Having long term expertise in cybersecurity, CHKP is more **conservative** on investment in future growth, developing product solutions with more certainty in terms of return: as a result, they spend much less on R&D and attain the highest R&D productivity in the industry even when compared with compared with Splunk which spends **almost 4x** as much.

When compared with high-growth peers, these invest much more in R&D and have high expenses related to sales and marketing as attempt to build market presence. Therefore, these leads to struggle to generate profits which entails low net income margins and negative net income periodically and relatively **low cash flows margins**. Although **high growth peers can be much more appealing to investors due to potential massive returns** (Capital IQ, 31st, 2021), in our view, CHKP conservative approach is more sustainable in the short to medium term because it is no longer actively

trading **its entire earnings for potential growth**. For example, PANW is still signalling to investors its potential to become profitable in 2023 as it had a negative net margin **of -12% in 2021 whilst CHKP has achieved 38% in 2021**.

However, over the medium to long term, inclusive in perpetuity, CHKP may have to move away from its **conservative approach** and increase its R&D expense for further revenue growth at double digits, and in that case, we predict that net margins and FCF may lower, however since it has a reputable name in the security market and strong customer base, net margins will not become negative, mostly because it will not have to do a lot of investment in marketing. Unless the company is mismanaged, net losses or extremely low or negative operational margins derived from high expenses seems unlikely.

Interestingly, as stated CHKP does not have any debt, it will reward shareholders much more frequently through share buybacks whilst **delivering strong revenue growth**. Meanwhile, competitors such as PANW and SPLK will have much of their future earnings redirected to debtholders and bondholders. So, CHKP we believe, CHKP can grow at a medium-to-high rate as some of its competitors, at much lower costs, without incurring a net loss and by consistently rewarding its shareholders, which is uncommon. Check point is also a business that we believe, amid global economy downturns, can generate strong appetite for investors looking for consolidated, established, and profitable technology players.

Appendix

"CHECK_POINT_TECHNOLOGIES"

"INFRASTRUCTURE SOFTWARE AND CYBERSECURITY SERVICES"

COMPANY REPORT

16 DECEMBER 2022

ARSÉNIO MABOTE JR. 50858@novasbe.pt
DAVID PAN YE 49311@novasbe.pt

"Protecting the next generation of cyberattacks"

Sophistication of attacks is driving up business for infrastructure software companies

- We predict Check Point technologies to reach a price of **$161.22** in FY 2023, a **23 %** increase over today's share price of $**131.59**. Therefore, we recommend investors to **BUY** the stock.

- Check Point will benefit in the upcoming years from the shift from **on-premises to cloud applications**; Security subscription products, its most profitable product segment will benefit the most from this as it continues to grow at **13% per year,** on our estimated average**.**

- The company has pushed its operational excellence along with highest **Gross Margins (88.5%)** and **Operating Margins (44%)** in the industry when benchmarked against peers; It also generates **nearly $8 dollars** per **$1 dollar** invested in research and development of new initiatives

- Security Market represent over **50% of sales** in the System Infrastructure Software. It is predicted to remain as is for the next 5~10 years.

Company description

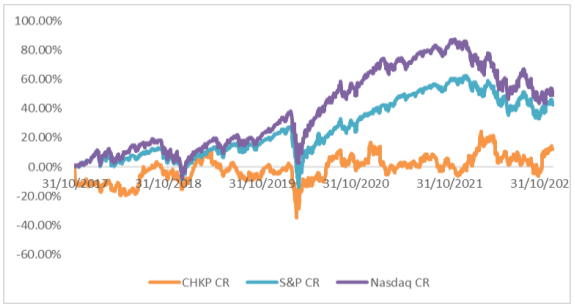
Founded in Israel and based in the U.S, Check Point Technologies is one of the leading entities across the globe in cybersecurity solutions that protects enterprise of all sizes across cloud, network, and many other digital infrastructures. It has over 5000 employees across 75 offices worldwide.

Recommendation:	**BUY**
Vs Previous Recommendation	*HOLD*
Price Target FY23:	**166.19 $**
Vs Previous Price Target	*0.00 €*
Price (as of 0919-Feb-23)	**131.59 $**

Bloomberg: CHKP US EQUITY

52-week range ($)	107.54-149.62
Market Cap ($m)	16107.8303
Outstanding Shares (m)	125.411

Source: Bloomberg



Source: *Bloomberg*

(Values in $ millions)	2023F	2024F	2025F	2026F
Revenues	2,512	2,654	2.811	3,023
% Growth rate	8.52%	5.65%	5.91%	7.56%
Gross Profit	2,222	2,348	2,487	2,675
Gross Margin (%)	88.5%	88.5%	88.5%	88.5%
EBITDA	851.0	899.0	952.2	1,024
EBITDA Margin (%)	33.9%	33.9%	33.9%	33.9%
Net Income Margin (%)	27.2%	27.1%	26.9%	26.8%
Free Cash Flow Margin (%)	18%	18%	20%	18%
Return on Assets (ROA %)	10.9%	11.0%	11.4%	11.8%
Return on Equity (ROE %)	21.6%	22.1%	23.5%	25.6
Return on Capital Employed (ROCE %)	26.4%	27.1%	28.8%	31.5%

Source: *Financial Statement*

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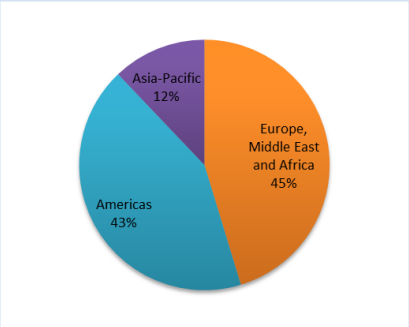
Company Overview

Exhibit 1. Geography Breakdown of Revenues



Check Point Technologies is **one of the earliest providers of security software solutions**, founded in **1993**, is also a **pioneer in firewall technology products.** Founded by **Gil Schwed**, considered the inventor **of modern firewall technology**, the company contributed a lot to the development of the cybersecurity industry. For instance, many ex-Check Point employees are founders or executives of relevant cybersecurity or IT companies, as reported by *Crunchbase*, this number totalled 68 organizations companies and 411 relevant senior management executives. Check Point Technologies is **established in Tel-Aviv, Israel and in the U.S** and in more than 75 offices worldwide **(Exhibit 1).**

Currently, Europe, Middle East & Africa make the highest portion of revenues by Check Point with **45.3% of total revenues** whilst **Americas make 42.6%**, which leaves **Asia-Pacific** with **12.1% (Exhibit 2).** We predict that revenue share per region to continue to be led by EMEA region, especially as developing countries in Africa continue to increase the implementation of advanced technology in their economies and thus the use of advanced cybersecurity services and solutions.

Exhibit 2. Check Point Business Footprint

Macroeconomic Landscape

Globally, **identified cyber security threat have increased substantially** over the years. This comes as no surprise, as the world economy boomed for several decades. The population became more dependent on the internet, which entails more devices are connected to a network of information technology infrastructure.

Digital Divide: technology adoption is unequal between different regions and economies, therefore there are still unexploited markets beyond developed economies. Although internet have been part of our society for so long, **worldwide internet penetration is about 65.3%** (ITU; National Statistical Offices; Equinix GXI; IDC; 2022)**,** which is far from its potential. The more internet is used, the greater the need for security protection.

The average broadband speed and volume of data is **expected to increase 30% Y-o-Y from 2016 to 2024** (ITU; National Statistical Offices; 2022), it will drive innovation and implementation of IT infrastructure capable of handling Big Data.

Cloudification of infrastructure: cloud has emerged as an obvious substitute of traditional hardware infrastructure. Recent survey indicated that **60% of small businesses, 76% of midsize companies and 90% of**

large enterprises (Statista, 2021) have adopted cloud with more companies adopting in the future. The use of cloud is a manner for companies to reduce the use of data centres and server rooms which usually come with the need of extra IT staff, increased capital investment and risk of data loss. Therefore, cloud is **hugely beneficial as it also allows for minimisation of costs, guaranteed availability, and leverage for use of different application services**. (Page 16, IBM, 2022)

As more organizations are migrating to cloud while more employees working at home, it will drive demand **for SaaS (Software-as-a-Service) products** in comparison with **traditional on-premises infrastructure**. Cybersecurity spending may continue to grow at **10-12% CAGR for the next 4 years**. (IDC, 2022)

Emergence of new cyber threats: As new tech trends take the next wave of innovation; the demand will increase with substantial increase of users **due to network effect**. Hackers or expert in cybersecurity will find vulnerabilities, for most of cases, **the higher the demand for a product or service,** the more likely it is for the processes to be hacked due to weakness of newly established products or technologies. Therefore, developing sophisticated hacking techniques becomes worthwhile of investment in time and money, **so the complexity of attack has increased substantially while the cost to execute the attacks dramatically decreased over time.** (BCG, 2022)

Even though large enterprises are usually early adopter of cutting-edge technology, **data breaches have increased in severity over the past years** (Sophos, 2022)**,** affecting companies like Uber, Facebook, Microsoft, or WordPress have leaked millions of sensitive user data**.**

COVID-19: The pandemic has accelerated IT spending in key technological areas, **with 84% of firms upholding an increase in cybersecurity spending in 2020**. (HFS Research, 2020)

Geopolitical conflicts: times of turbulent geopolitical conflict drives the industry upward, as government and corporations are more willing **to increase IT spending** and then allocate a significant portion to cybersecurity when it is perceived that a threat might arise. Recent **Ukraine war and tensions with Russia**, one of biggest source of cyber-attacks, is also a huge factor to persuade corporations to increase budget spending for critical IT infrastructure which includes cybersecurity. Major economies around globe suffered massively from cybercrime, in 2021 economic losses for **China, Brazil and U.S** corresponds to **$574, $188, and $153 billion dollars**, **respectively.** (IBM; NordVPN, 2022)

Exhibit 3. Main categories of security market

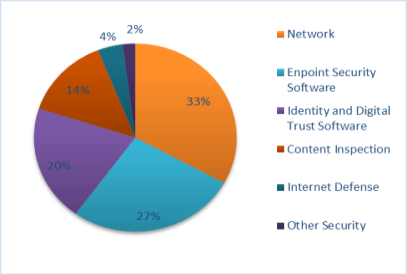
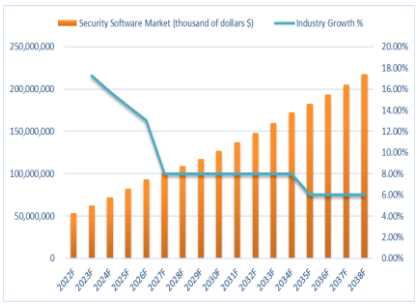
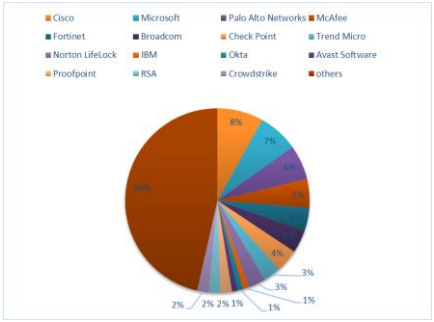


Exhibit 4. Security Software Market Total Revenues and Growth Rate



Cybersecurity will gain more shares of IT spending

Exhibit 5. Security Market Share



Industry

The cybersecurity market is **highly fragmented** (Exhibit 3) with many leading providers of cybersecurity solutions such as **Check Point, Cisco, Microsoft, Fortinet, etc** (exhibit 5). It is also filled with many new entrants that are bringing disruptive solutions such **as serverless, cloud-based protection** only, which is the case of companies such as CrowdStrike.

According to our analysis, Cybersecurity spending have stayed **above historical levels since 2020**. Over the years, many **enterprises utilised on-premises cybersecurity applications,** as stated previously which entailed the usage of computer server rooms to protect company systems from attacks. However, the shift **towards remote working arising from the pandemic**, forced enterprises to **digitise their business processes**. (CX Network, 2021) This movement increased migration of workloads and data from normal computer or server rooms towards public cloud or cloud premises**.**

The use of cloud premises raises concerns about the **safety of the data stored in clouds** which in turn leads to an increase in cybersecurity spending by enterprises. Indeed, cybersecurity spending is predicted to reach **$200 billion by 2024.** (IDC, 2021)

Therefore, incumbent companies such as **Check Point**, **Cisco, Palo Alto Networks, Fortinet,** and **Cisco** are revamping their existing offerings and expanding to **cloud-based subscription model to stay competitive**. In addition, **cloud spending** might **reach $ 1 trillion by 2026 compared to $405 billion in 2021.** (IDC, 2021)

So, we predict cybersecurity software spending will continue to gain more traction as percentage of IT security spending, especially if **cloud systems are adopted**.

By contrast, hardware segment of the business may deaccelerate in growth as company shift to cloud and demand other type of protection. Companies that have a great portion of revenue from hardware will be mostly impacted such as **Fortinet** (**96% of revenues**), **Palo Alto (86%**) and (**Check Point with 79%).** At the same time, industry wide development and distribution of cloud security products which will be the most promising segment of product as it will cover the lack of dynamism in the hardware segment of the business.

There is large opportunity for growth when it comes to the industry, as **the**

Exhibit 6. Market Penetration by segment of security market

Segment	Total addressable market in billion US$	Current segment penetration
Data protection	50-100	30-35%
Governance, risk, and compliance	50-100	30-35%
Email security and awareness	50-100	10-15%
Cloud security	50-100	1-5%
Network security	50-100	15-20%
Identity and access management	50-100	20-25%
Security Consulting	100-200	15-20%
Web security	100-200	5-10%
IOT/OT	100-200	1-5%
End Point Security	100-200	5-10%
Application Security	100-200	1-5%
Security and operations management	400-500	1-5%
MSSP/outsorcing	400-500	5-10%

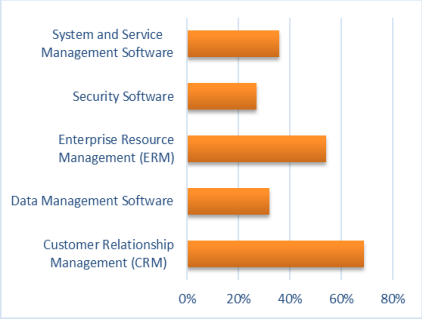
total addressable market is nearly 10 times the size of the vendor market. (Mckinsey Research, 2021) This means that the security market is only operating at 1/10th of its potential, As shown in Exhibit 6., the cybersecurity market in total represent nearly **$2 trillion dollars** (Mckinsey Research, 2021) which is far from being fully exploited with some areas being still in its early stage.

Security Market

Check Point competes actively in the security market, which includes infrastructure software. This segment comprises different solutions covering topics such as **network, endpoint, identity and digital trust, content inspection** and **internet defence**. Network security is the predominant topic within the security market, followed by endpoint security and identity and digital trust (Exhibit 3).

One driver of the security market is cloud adoption. Comparing with other segments of software, the security market **has a low adoption of cloud solutions (27%) against that of segments such as Customer Relationship Management** (CRM) with **69%** (Exhibit 7). But the more companies manage to move their workloads away from server rooms, the more protection will be needed.

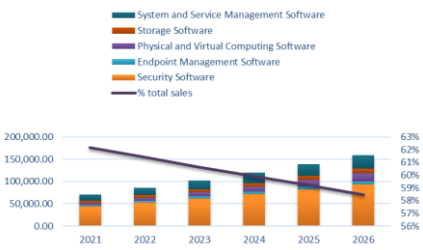
Exhibit 7. Cloud Penetration in each type of software



Another driver is IT Spending: since cybersecurity is usually a non-discretionary item, spending on cloud and digitisation of businesses will imply further growth in revenues for security providers such as Check Point. For example, it is possible to see from the table that the security software attains more than **50% of revenues from infrastructure software segment** (Exhibit 8) when compared with segments such as Endpoint Management Software, Physical and Virtual Computer Software, Storage and Systems Software.

The security market will face growth across all sub-segments. For example, Identity security market is valued at **$11.1bn** and remains one of the fastest-growing sub-segments in the security market and it is predicted to grow as companies move away from passwords to **unique** authentication methods for apps and devices. Network security, although mostly reliant on the use of hardware and on-premises appliances which may hurt hardware sales for companies such as Check Point, our predictions is that it will be valued at almost **$50bn by 2030 from the $21bn it is worth today.**

Exhibit 8. Segments of Security Market



The rise in identity theft, frauds and data breaches is also a fuel to the identity and digital trust software sub-segment, our predictions is to be valued at over **$71bn by 2027** in comparison to today's value of **$23bn** (Own Analysis, 2022)**.** As matter of fact, **cybersecurity and cloud**

migration are also within the top priority for companies only **behind digital transformation.** (Flexera, 2022) Indeed, Check Point is actively allocating new initiatives and product releases that allow it to capture growth in the segments, as will be seen in subsequent sections.

Therefore, we consider infrastructure software and cybersecurity sector to be promising in the next decade and benefit from rapid growth because of factors mentioned above.

Business Model and Product Segments of Check Point

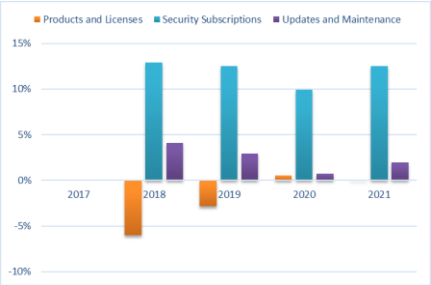
Check Point revenues can be divided in three sources: **hardware and licensing, all sort of subscriptions,** and lastly **software updates and maintenance**. As reported by the company, revenues come from agreements with **various channel partners.** (Exhibit 9)

Exhibit 9. Two- tier distribution model

Check Point does not sell its products directly, instead it only makes sales through distributors and partners. Although, we were unable to attain its **revenue sharing model,** we found that over 35% of Check Point's revenues are derived from 2 largest channel partners and the remainder 65% come from the 10 largest distributors.

The company operates similarly to traditional firewall providers such as **Fortinet** and **Palo Alto Networks** by selling its products and services **through two-tier distribution model.** Partnership names include **Amazon Web Services (AWS),** and other names such as **Google Cloud, Service Now, Okta and more**. The partnerships are for joint provision of cybersecurity solution across disciplines such as software infrastructure, cloud, threat intelligence, etc. All participants are responsible to get the product to end-consumers, therefore these are key for Check Point's ability to collect revenue. In 2021, revenues for the business totaled **$2.17 billion** compared **to $2.06 billion in 2020,** representing a 5% increase. Comparing with 2017, **it gives an estimate CAGR of 3.16%.** (Exhibit 10) (Own Analysis, 2022)

Exhibit 10. Check Point growth rate per type of revenue



Over the years, revenues from **security subscriptions have been gathering pace** within the business in comparison with products and licenses which has been gradually slowing down. This is happening due to the factors mentioned above such **as sophistication of cyberattacks** which leaves enterprises more conscious of the need for cybersecurity protection. Interestingly, it is possible to see that from 2017, security subscriptions revenue **grew 13% every year**, except for 2020 where it **grew by 10%** (Exhibit 10).

This is equivalent to a **CAGR of 9.47%** emphasizing Check Point's ability

to put its expertise into practice and to market its products effectively. Products do not grow as fast as security subscriptions, mostly because these are hardware based, often network gateways[4] and servers[5] to be used in server rooms. Additionally, licenses are only sold or issued to managed security providers or authorized parties as it involves the transfer of *know-how* and *intellectual property* and not to end-consumers which implies that these will not be sold at scale to enterprises. Software updates and maintenance are a direct function of the security products sales and product this is because the more the business sells software, the more they will need to update and maintain it alongside the enterprise that buys the product.

Sales Channel

Check Point's will benefit from **reduction of marketing** and **sales expenditure** due to the sales distribution channel while also reaching to many more customers through third party connections. Other companies like Palo Alto Networks or Fortinet also employ this method, **but the customer acquisition costs for these companies are usually higher** (Exhibit 11). The partnership it forms with its ***Technology Partners*** also enhance the business name and reputation due to being associated with big name brands such as **Google or Amazon Web Services**. (Check Point, 2022)

Exhibit 11. S&G as % of revenues for all companies

The company's co-founders are **pioneers in cybersecurity industry**, as they invented and introduced the **first firewall and VPN product back in 1993**. Since then, product portfolio evolved towards inclusion of every tailored solution that covers all customer's cybersecurity needs depending on business size and industry. Check Point is keen on product innovation, and every product it has aims at tackling latest costumer concerns. As mentioned, software updates, and maintenance are related **to technical support that allows customers to access updated versions** of the product according to the specific contract established.

Security subscriptions are packages of security solutions distributed **as software as a service (SaaS).** It is, indeed, this segment of that has the biggest potential as more companies **adopting cloud technology at the same increase access to company's internal systems by workers working at home**.

Check Point offers products that tackle the following types of cyber-attacks: **Malware, Phishing, Man-in-the-middle attack, Denial-of-service attack, SQL Injection, Zero-day exploit**. The products of Check Point are divided into three strategic pillars: **Quantum, CloudGuard, Harmony, and others.**

Quantum (Enterprise Network Security Perimeter and Datacentre): This is part of products and licenses and is a security set which is designed with **Next Generation Firewall technology (NGFW).** The purpose of this product is to protect private internet connection of enterprises from the public internet, according to the policy of each organisation. It prevents from the most advanced **5th generation of cybersecurity attacks.**

Harmony (Securing the User Environment): Check Point Harmony is a security subscription, which is useful for organisations daily as it protects employees working devices as well as internet connectivity from malicious attacks at any scale to any corporate application. For example, **Harmony Endpoint secures users PCs from ransomware, phishing, malware**; Harmony Mobile and Email secures users' email, phones while giving a complete protection for applications such as Microsoft Office 365 and Google.

As of recent, **Cloud Guard and Harmony** grew by **13% in revenues** within **Q3 2022** (Check Point, 2022) and we expect these to continue to climb in the following years, given strong demand for cloud security and Check Point's security subscriptions. Check Point also released Infinity in 2017 which will be the fastest growth product among its portfolio as it is the only one from a Cybersecurity provider that offers all-around protection on one product. This will be suitable for large enterprises and will facilitate sales as most functionalities existent across other products are bundled in the same product.

Indeed, to address the growth in the network security sub-segments as stated before, Check point in **the fourth quarter 2022**, released **Quantum Titan**, which is a network security package enabled by Artificial Intelligence, designed to protect on-premises and cloud systems. In the **third quarter of 2022**, revenues for **Quantum** solutions increased **11% YoY** (Check

Point, 2022)**.** Likewise, the release of Check Point infinity, means that the business is the only one to release a product that tackles threats associated with every sub-segment of the security market: **network security**, **endpoint security**, **identity**, **content inspection**, **internet defence**, and others.

Technology and Innovation

Developing **better infrastructure product and technology** is the key to long-term success of the company. State of art managed detection and response products such as **Horizon** launched in September of 2022 (Check Point, 2022) has been incorporated in the **Infinity** bundle. **AI and Deep learning** have also been incorporated to **Quantum Titan** with new enhanced functionalities keeping devices away from phishing, DNS, or any other threat.

This improves the speed for scanning for IoT devices in matter of minutes compared to months of traditional technology. It is also noteworthy to highlight that **firewall are not outdated compared to software licensed products**, according to the CEO in the 3rd quarter financial result video conference, it is **one of the most reliable and efficient way to protect the whole infrastructure and devices connected to it.**

Further Investment

This year has become particularly pertinent to address the sales and marketing strategy of the company. The company is valuing **restructure and expansion of sales team worldwide**. In early 2022, **Tal Payne** started assuming the position of COO. Then, regional directors and VP's have been assigned, together with hiring more frontal sales team. The emphasis is **to develop new customers and educate the market about the firm's product capability and potential**. Sales team takes about 6-12 months to be efficient and work on new deals, therefore this factor might affect positively next and subsequent year's revenues**.**

Business outlook

Mid to long-term outlook looks positive, as double-digit revenue growth persist across the main sources of revenue. The company is also actively looking for new regions for expansion as Asia, as the company **cut business ties with Russia** which contributed a significant portion of revenue in the past. According to the COO, the company raised price twice:

one in the beginning of the year (~7%) and another in **the beginning of Q3 of 2022 (6~7%). In the end of the year**, is expected to have more deals resulting from **customer renovation, security plan upgrade, or competitive replacement to Check Point's products**. (Check Point, 2022) Certainly, mega deals are vital asset however it depends on **customer budget and timing**. Another point is that most products are sold in US dollars. Again, with the company based in Israel, each beginning of the year, the company will hedge between shekel and USD. There **is little or no effect on revenues resulting from fluctuations of sovereign currencies**, in addition a strong dollar is beneficial for revenues but might also increase costs.

Overall, the firm expects **strong double-digit growth both from hardware and subscriptions** (Check Point, 2022), making analysts excited about next quarter results that will release in February of 2023. Still, Revenues and EPS are hard to project due to uncertainty.

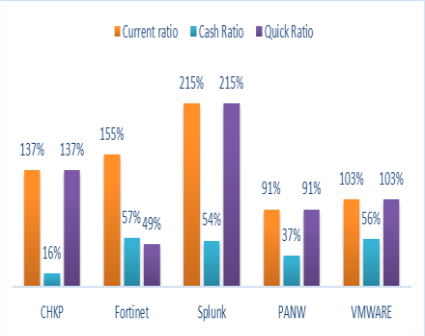
Key ratios comparison

Cashflow Management

When it comes to ability to manage cashflow, we can draw interesting conclusions amongst Check Point and its competitors. The **current ratio in the industry is relatively high**, which implies that most companies could use short-term assets to cover short-term liabilities.

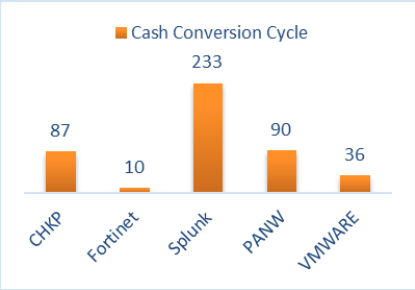
For companies operating in cybersecurity, most current assets are composed by cash and cash equivalents, short investments, and account receivables. When it comes to current liabilities, a great portion is composed by deferred revenues and accrued expenses. However, when it comes to Palo Alto (PANW) the ratio is low and this is due to including **convertible notes valued at $1.5557 billion dollar, which make the ratio lower compared to rivals**, including Check Point. (Palo Alto Annual Report, 2021).

Exhibit 12. Cashflow Management Ratio comparable companies



Looking at the cash ratio, there are disparities across the years for Palo Alto, this arises due to the split between cash and equivalents with short-term investments unstable over time, as both assets are liquid and reliable. Therefore, although for a period the cash ratio may be lower than usual it, should not affect functioning of the business. The cash ratio for the industry only proves how much current liability can be covered by cash, which dismiss all current investments of the company. Hence, even with low cash ratio in 2021, there are enough **short- term assets** such as **investments** or receivables to cover current liabilities.

Exhibit 13. Cash Conversion cycle of comparable companies

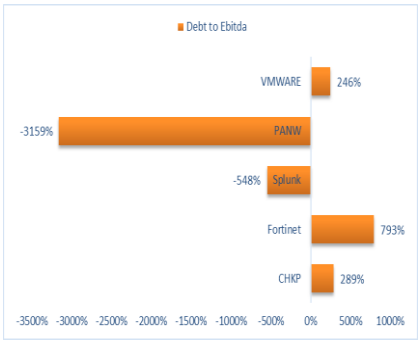


Quick ratio will be equal to current ratio due to **inexistent inventories** Check Point except for its peer, Fortinet, being the only comparable company that manufacture its own hardware and security processors. The company faces challenges regarding inventory management and supply chain issues, inventory constitute most current assets which indicate some degree of liquidity problem.

Looking at the cash conversion cycle, we will find out that Check Point's efficiency of managing cashflow are lower than **other industry peers like Fortinet or VMware**, which are able to negotiate **better terms for their account payables** and reducing the amount of receivables. This is unlikely to be problematic, as the nature of the business involve contracts of different maturity especially larger contracts with large enterprises, which can exceed more than one year.

Financial Structure

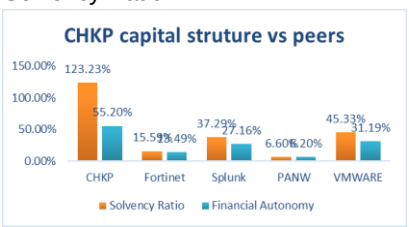
Exhibit 14. Debt to EBITDA Ratio of comparable companies



Check Point Technologies is the only company whose total liability is lower than equity, while all other companies have it otherwise. Although deferred revenues are included in total liabilities, it is not necessarily a liability but more of a cash to be earned in the future. Therefore, in case those are received completely, what is left, will be a much smaller portion of liabilities when compared to equity, thus the elevated solvability of the business. Some companies **have negative EBITDA** values which make the ratio Debt/EBITDA negative, by contrast Check Point **have positive EBITDA thus better than closer competitor like Fortinet or Palo Alto Networks but falling behind to VMWare** (Exhibit 14).

One of the best aspects of the company, it is constantly concerned about shareholders, which can be proved by analysing solvency ratio and financial autonomy which are better any comparable business. Solvency ratio for **CHKP is the highest within peers and surpass Splunk which is the second highest by a large margin. Moreover, financial autonomy stands at 55% as compared to 31% from Splunk** (Exhibit 15).

Exhibit 15. Financial Autonomy and Solvency Ratio



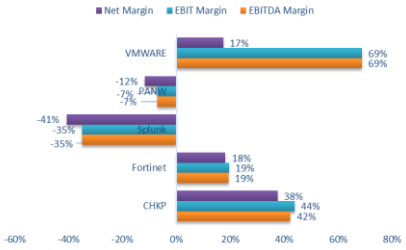
Financially, Check Point does **not have any interest-bearing debt**, therefore it has a healthy financial structure. This certainly shows that the company is stable and steadily managed as opposed to **PANW** that prefers more **aggressive and hyper growth approach** with riskier capital structure mainly funded by **debt and equity instruments issuance**. This capital structure is also beneficial for the business because it implies that shareholders may be rewarded more frequently with cash from transactions with shareholders.

Profitability

This section should identify and compare how different company's operations will affect margins and net income.

By looking at the graph, we will find out that Check Point has the **highest gross margins** (88%) while direct competitors like Fortinet have 77% and PANW have 70%. The main reason for this is larger costs for producing and selling the products compared to Check Point.

Exhibit 16. EBITDA, EBIT and Net margin of comparable companies

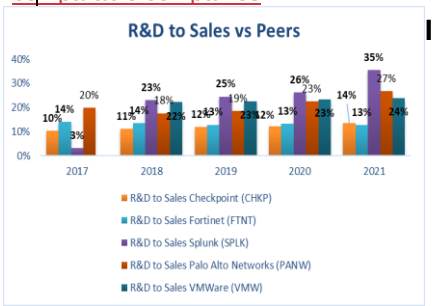


After considering costs **like SG&A and R&D**, as mentioned previously some companies such as PANW and Splunk even struggle to have **positive EBITDA margin** due to higher costs associated **with SG&A and cost of revenues**. Sales and Marketing expenses are indeed a very important source of cost for these technology companies. VMWare for instance, stated that **it spends heavily on marketing expenses** mostly because of the competition they face from strategic partners as they may also create products or acquire companies that compete with them. Situations as these lead to further marketing initiatives to ensure products do not lose traction. Splunk, on the other hand, spends a handful of funds on hosting marketing campaigns, events, building strong sales teams and executing field and inside sales.

The strength and expertise of Check Point's products and solutions is evident as it does not need to market itself as heavy as others. Additionally, Check Point holds an **EBIT margin of 44%** and **Net margin of 38%** significantly superior to similar positioned competitors **like Fortinet or PANW**. (Exhibit 16)

At the end, Net margin for Check Point corresponds to 38% compared to 18% from FTNT, -41% from Splunk, -12% from PANW and 17% from VMWARE. Clearly, Check Point has a strong economic moat of **providing the best cybersecurity solutions, backed by its operational excellence**.

Exhibit 17.R&D to Sales vs comparable companies



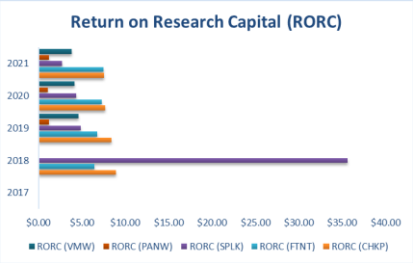
Investment levels (R&D to Sales and RORC)

Since the industry is competitive, cybersecurity players must be always investing in R&D and making breakthrough innovations. As a proxy for the levels of investment CHKP requires compared to its competitors, we have first used the R&D to Sales ratio. This metric tells us how much is being spent on R&D as a percentage of revenue. We found that **Check Point has the second lowest R&D expenditure as a percentage of revenue** (Exhibit 17), which is in line with Fortinet's R&D to Sales on an annual basis. Both CHKP and FTNT however, rank lower in comparison to SPLK, PANW and VMW. For example, SPLK, PANW, VMW have more than 25% of its

sales put into R&D with SPLK having 35%. Although this may seem as CHKP may fall behind in future revenue growth because of low R&D expenditure, we were able to identify the opposite:

We used the Return on Research Capital (RORC) to estimate R&D productivity, precisely how much revenue CHKP can bring in as a result of expenditures made on R&D. We have proceeded to calculate this by dividing **current gross profits** by **previous year R&D expenses**, giving the amount **earned per dollar** spent on R&D. The underlying assumption is that it takes one year for R&D to produce results within the business, although it can often take more. (Exhibit 18)

Exhibit 18. RORC of comparable companies



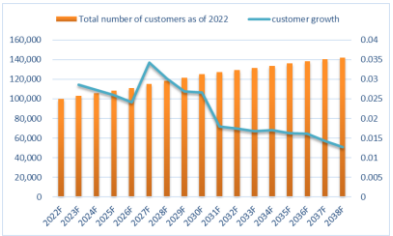
Indeed, we have found that Check Point has the highest return on research capital amongst its competitors, as it makes nearly **$8** per **$1** spent on R&D. This also means that the business can generate nearly 8x times its expenditure on development and that the business is also very efficient and able to **spend little on R&D** and attain higher returns from it.

Lesser expenditure on operations, has allowed the business to benefit from positive net income trends over the years in comparison to loss making competitors such as PANW and SPLK, CHKP is a leader in delivering consistent revenue growth without making losses. (Exhibit 18)

Revenue Drivers

To perform the valuation, a key element of it was to **forecast the revenue drivers for the company**. We proceeded to estimate the revenue drivers by first adopting **a top-bottom approach** which we have done by estimating the revenues for the company by determining the dimension of the entire market and eventually Check Point's **market share**. **A bottom-up approach** would imply relying on **forecasts given by the business, relating to the demand from its current customers**, customer turnover and prospects of new clients. However, since we did not have data available for the customer turnover, we estimated the number of existing customers based on available data and statements the company has made in the past and **performed a conservative estimate** of the increase in the number of customers every year. This means that our approach is a bridge between a **top-down and bottom-up analysis** for a more thorough investment thesis.

Exhibit .19 CHKP number of customers and growth rate 2022F-2038F



Product revenue

To estimate the product revenue for Check Point we began by **estimating the total number of customers of Check Point**, by segmenting them into **small, medium, and large enterprise businesses**. We extracted the

prices for Check Point's 4 main products or solutions: **Quantum Spark, CloudGuard, Harmony and Others**, and we multiplied their prices by the number of users/employees at the enterprise that purchases them to arrive at average spending**.**

Check Point currently has a customer base comprised of **52% large businesses, 38% medium-sized businesses and 10% small businesses**. (Exhibit 20) For simplicity, we assumed each of these businesses to have a minimum number of employees of **10 (small businesses), 50 (medium-sized) and 250 (large-businesses)**. Check Point provides support to **100,176 businesses worldwide**. (Exhibit 19) By multiplying this to the percentage (%) amount of each type of client (size) per the number of employees, we obtained the average expenditure per business size. To estimate the total revenue per business size we multiplied the average expenditure by the number of small/medium/large businesses in CHKP's client portfolio. By summing up revenues derived from each client segment, we obtained **total product revenues**.

$$Total\ revenues = \sum_{i}^{3} \begin{matrix} average\ expenditure_i * \\ Total\ Number\ of\ customers * weight\ of\ customer\ type_i \end{matrix}$$

The fundamental part of the drivers is coming up with **correct assumptions of revenue drivers** since a great portion of our IS and BS items are connected to revenues. In our forecasts, we consider customer growth and average expenditure will growth at different pace according to the correspondent scenario, base, optimistic and pessimistic.

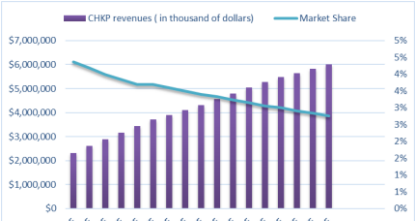
Type of customer	*Weight per customer type*	*Nº of employees*	*Average expenditure (2021)*
Small	**10%**	**10**	**$ 2310**
Medium	**38%**	**50**	**$ 8550**
Large	**52%**	**250**	**$37750**

Exhibit 20. Type of customers and corresponding weight

Market Share

To estimate the market share, we divided our **product revenue estimates by the value of the security market sales forecast**. Under our base case, our estimates are that the market share for Check Point technologies **will stay at 4% until 2028F and then it will decrease to 3% from 2029F to**

Exhibit 21. CHKP revenues and market share from 2022F-2038F



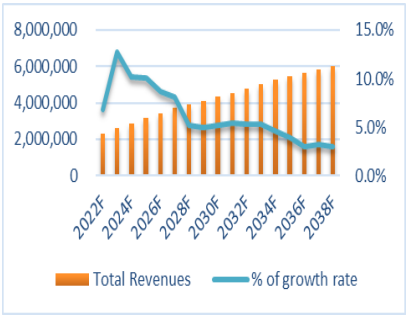
2041F. (Exhibit 21) This is mainly because, as the industry grows, there will be more players in the security market segment, which implies that the industry will be **concentrated of companies offering similar services**. For example, IDC Report states that companies such as **Cisco, Fortinet, Palo Alto Networks** may be outpaced by innovative businesses that offer cloud-based security only such as CrowdStrike. However, we predict the market share not to **go lower than 3%** as Check Point has an unbeatable **brand reputation** that allows it to continue to **acquire clients easily and at a low cost** and **develop cutting-edge security solutions** alongside its partners.

Forecasted Values Analysis (RD, IS and BS)

This section is referring to the extended version of our base case. Since Check Point is a key player in the security software segment, we have taken into consideration about the industry drivers and blended our own estimates about the company to forecast income statement and balance sheet.

On the income statement, our total revenues will change accordingly because of a change in our drivers. Additionally, on the core business we expect the SG&A, R&D to maintain as **41% and 14%** of revenues, respectively. Depreciation will also stay at 10% whilst statutory taxes **at 23%.** On the non-core business, financial income will remain a percentage of the average yield on the company's investments. We predict under our base case, for total comprehensive income to increase from **2022F to 2027F** at a faster rate due to the accelerated increase in revenues which stem from the **12% CAGR** of the industry until **2027**. From **2028F** until the steady state at 2038F comprehensive income will grow at an average of **5%** and then it will stall at **2.6%.** (Exhibit 22)

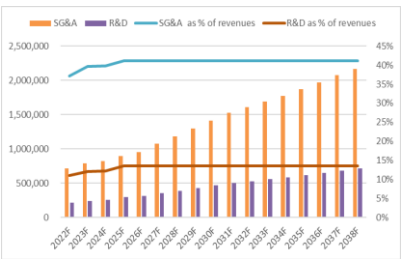
Exhibit 22. CHKP total revenues and growth rate of comparable companies



We believe Check Point will have many more years of high growth before stabilizing in the steady state. We predict that the cybersecurity industry will peak its 5-year run growing at an average of **12% CAGR**. We expect **high adoption of cloud cybersecurity products** thus revenues from **SaaS subscriptions to grow at faster pace** than other sorts of revenues such as products/license or updates and maintenance. (Exhibit 22)

Over time, the company will generate recurrent revenues from corporate contract renovation, which may include more maintenance and updates, thus increasing revenues. In this case, CAGR value will be **8.2% from 2022F to 2027F**. Later from 2028F to 2038F is expected to grow at **4% compound annually,** which is last year before steady state, this growth rate is lower than industry growth rate. (Exhibit 22)

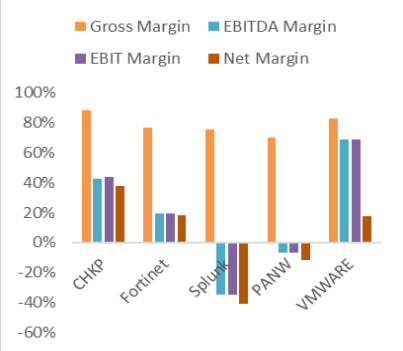
Exhibit 23. Forecasts of main lines of costs



Although, replicating software comes at nearly zero cost, the company

need to invest a certain amount of money for marketing and sales, when it comes to attracting potential clients and rewarding partners, in addition providing maintenance and assistance as arranged in the contract. Furthermore, there are additional expenses regarding R&D for developing or improving existing products and services, especially cloud cybersecurity products. Even though, the company do not possess any inventory, we expect several costs regarding materials, distribution, and sales inside cost of revenues.

Exhibit 24. Margins across comparable companies



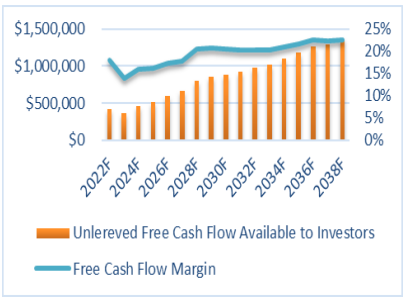
That is the reason it is plausible to assume that gross margin, SG&A, R&D should grow at the same pace as revenues, which means costs will increase in function of increase in revenue. Putting into context, **costs of revenues will represent 11.5% of revenues, SG&A will be 41% while R&D is 14%.** (Exhibit 23)

Therefore, both gross profit and EBITDA rise at **6.2% and 5.55% annually** from **2023F to 2038F**, making gross margin equals to 85.5% while EBITDA margin will be 33.9%. That come after deduction of D&A, which we estimated as part of net property, plant and equipment (Net PP&E), producing **EBIT margin between 32.9%-33.5%** depending on the years (Exhibit 24).

Moreover, in the period in analysis, we expect net income margins to decrease slightly, with a range **between 27.4% to 26.2%** (Own Analysis, 2022)**,** depending on the years. These values are quite reasonable for a competitive industry when certain competitors like Palo Alto Networks or Splunk register negative comprehensive income. We should emphasize that the company holds more liquid assets than accounted for the time period in analysis due to great portion of investment and deferred revenues which are only registered when the contract is fulfilled. (Exhibit 24)

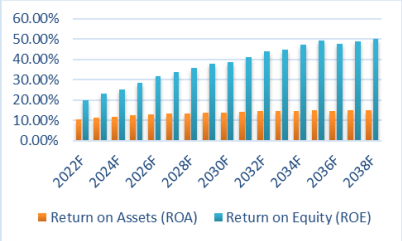
One of the key advantages of Check Point is in fact in its ability to generate positive free cash flow compared to other competitors. On long-term, we expect free cash flow margin to be **superior to 20%.** As mentioned previously, we believe this figure is lower than the actual amount of liquidity that the company have. (Exhibit 25)

Exhibit 25. CHKP unlevered FCF and FCF margin from 2022F-2038F



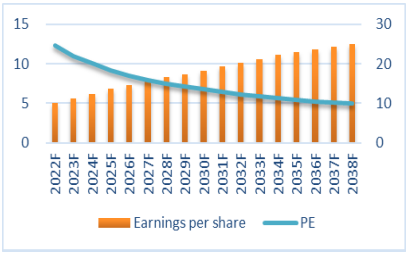
As a business that does not incur any sort of interest-bearing debt, a strong **FCF Margin** means it can use its cash for transactions with shareholders such as buybacks which can then prompt the company's stock price and increase its earnings-per-share (EPS). This is an advantage for shareholders, as they can expect to be rewarded periodically as the company performs better during the fiscal years.

Exhibit 26. CHKP ROA and ROE from 2022F-2038F



Looking at the possible profitability ratio, we see improvements both in terms of ROA and ROE. According to our model, ROA will improve from **10.45% in 2022F to 14% in 2038F**. Besides that, ROE will increase from **19.73% to 50**% during the same period. (Exhibit 26) This is assuming that the company will improve its operational efficiency and become more profitable over time. Although, we could state that both ROA and ROE could be affected at some point due to increased competition and innovation in the industry, we have verified that net income can suffer minor downward deviations. CHKP has an efficient cost structure, minor sales expenses and high brand reputation associated with low marketing expenses, medium-to-low R&D, and no debt which can allow it to maintain its net margins into the future.

Exhibit 27. CHKP EPS and PE from 2022F-2038F



Supposing, we maintain the share price and number of shares constant, as we have higher net income throughout the years, so earnings per share will increase. As matter of fact, we see reverse trend for PE ratio, which decrease over time as the price is fixated. As share prices follow an upward trend, over long term, there should be a historical median PE ratio for Check Point which is higher than what the graph suggests, in fact the **median historical PE for the last 10 years is 21**, so at certain point in time, share price should be close enough to reflect historical levels. (Exhibit 27).

Risks for Check Point

The global cybersecurity market is characterized by emerging trends such as the increase in 5th generation attacks. Any slowdown in the upward trend of spending in the network security market may act as a headwind for CHKP prospects, remaining the main risk factor to consider. Moreover, high technological advancement of the industry means new players are emerging on a yearly basis in attempt to offer cutting edge solutions those large enterprises do not offer or to capitalize on a new sub-segment of the market. Therefore, this will lead to our second most important risk factor which will be competition.

A potential slowdown in security spending by organizations can imply lower revenues for players in the cybersecurity industry, especially CHKP as one of the leading providers globally. Potentially, a reduction means that the spending from small, medium, and large enterprises will **decrease** and therefore lower total revenues for CHKP, as it will be discussed under the **pessimistic scenario,** in later sections.

Currently, the cybersecurity market has several new **small** to **medium companies** that can compete with Check Point from time to time. However,

due the extended market experience, customer reputation and strong customer base that the business, it is unlikely that increased competition from small to medium players will place great effect on the business revenues.

Check Point's competitors may pursue advantages in relation to being established for much longer in the market, much easier accessibility to a more enhanced customer base and financial, marketing, and technical prowess. If at all, an increase in competition, and therefore rise in large players in the network security space, will imply a reduction in Check Point's market share as its revenues will make for a lower portion of the industry. If this happens so, revenues will be lower and thus affecting the overall value for the company, as also to be discussed under **pessimistic scenario**.

Thirdly, Check Point relies heavily on a small number of distributors and channel sales partners, and this exacerbates the risk to the business. A breakdown in the relationship Check Point has with its channel sales partners can also undermine the value of the business. For example, since it generates 35% of revenue from its 2 largest partners, a termination of business relationships with one or both, might imply a drastic reduction in revenues, ranging from 17.5% to 35%. However, any termination would not be temporarily as **a substitute partner** would be found. On the other hand, in case consolidation begins among distributors of CHKP's products, these parties may become larger in size and prefer to sell competitors' products instead of Check Point's products.

This is a frequent issue in the security industry and more incident in competitors such as FTNT which also relies heavily on the double tier distribution channel as CHKP. Contrary, VMW relies much less on distribution partners and invests in direct sales, instead. Meanwhile, SPLK uses a mix of distribution channels and sales methods. So, it is unlikely that this could be a risk for VMW or SPLK.

Furthermore, Check Point faces risks inherently to the **acquisition of talent**. The growth in the competitive landscape, implies that the quality of services and solutions must maintain or increase and since product offerings require a significant amount of human capital intensity, this creates pressure to attract, train and retain top talent to the business. Moreover, majority of its products require frequent maintenance and updates which entails that to fulfil customers' requirements, it cannot be understaffed. So, we could infer that the ability for CHKP to hire, compensate and retain talent could be a function of innovative products and

a factor for revenue growth.

Valuation Model

Discounted Cash Flow Valuation

Check Point's Enterprise Value is estimated through **Discounted Cash Flow Model** or more well known as **DCF**. We believe this approach is most suitable for our analysis as it estimates the company based **on firm** and **industry specific assumptions**. Moreover, it considers **capital structure** when **calculating cost of capital** as cost of equity or debt will impact the present value of our free cash flows. The **intrinsic value** derives from **ability of organization to generate free cash flows**. As our company, **does not have any debt** we have not considered other valuation methods like **APV**.

Check Point Technologies became public **on 28th June of 1996** and listed on Nasdaq. Up until **2021**, Check Point's cash flow have been growing steadily, but the situation may change as the company gradually shift focus on cloud cybersecurity products, cashflows can go higher if it sees large growth in security revenues or it can decrease in case it chooses to use cash to invest in further growth of its security segment or product portfolio expansion. We already witness relevant **double-digit growth** in the cloud security subscriptions portion of the business in the **last four years**. Latest **third quarter financial result of 2022** indicates total revenue increasing **8 percent YoY**, both **security subscriptions and deferred revenues increased 13% YoY** (Check Point, 2022) beating analyst consensus for EPS.

We conclude that, cash flow generation and consequently the value of the company will depend on how management executes its long-term strategies, how the **industry grows** and **the ability of the company to capture further market share**. Acknowledging the difficulty to assess and forecast tech revenues, we have considered different scenarios for the company that might give us a reliable and expectation for the price per share.

Weighted Average Cost of Capital (WACC)

A crucial component of the valuation, we have assumed a **constant capital structure** as part of estimating WACC which for the past few years Check Point had **zero interest bearing debt**, so our WACC values **come 100% from cost of equity** while estimated **cost of debt** gives us **0%.**

Cost of equity: we have used the **CAPM** which considers three different variables such as risk-free rate, and market risk premium. It also considers

Exhibit 28. CHKP Raw Beta and Adjusted Beta 2022F-2038F

Raw Beta	0.7
Confidence Interval Lower 95%	0.64
Confidence Interval Higher 95%	0.75

beta or firm-specific risk adjustment was used to estimate **cost of equity**.

For our estimated risk-free rate, we have considered **latest U.S government 10Y Treasury Bond Yield (USGG10YR**). Our model aims to forecast what are the prospects of investment for next year so adjusting to current macroeconomics and market factors. During our sensitivity analysis, we will address how different type of discount rate will affect our valuation, especially risk-free rate. (Exhibit 28)

Risk Premium: regarding risk premium, we have attempted to calculate **historical average stock return**, but the values are much **different compared to the values of overall industry**. Therefore, a reasonable value of risk premium would be between **4.5%~5.5%** according to *McKinsey's* valuation book, so we have taken the conservative approach to choose **4.5%.**

Beta: The values for beta were estimated by regressing **daily stock movement of the company with the SPX return of the last 5 years**. According to our values obtained, we will find Check Point's raw beta equalling **0.69** with a confidence interval **between [0.64 ,0.75].** The distance of raw beta and intervals is relatively small and compared to the values of **unlevered beta (0.44), by considering liabilities, we have found out raw** beta is much higher.

Exhibit 29. WACC calculation formula

Check Point Software Technology	
Beta	0.69
Market Risk Premium	4.50%
Risk Free Rate (US10Y)	3.55%
Cost of Equity	7.36%
Cost of Debt	0%
Total Debt / Capital	0%
WACC	6.66%

We considered **beta values** as crucial element to estimate WACC, as our **cost of debt is zero**, as mentioned above as we don't have any debt. we used a higher

beta to multiply with **cost of equity**, this market structure makes the levered beta obtained from regression a reliable value for **discounting rate is higher** and **within reasonable levels**. Therefore, the one used was **raw beta** which addresses market and firm specific circumstances happening right now.

Our final WACC value corresponds **to 6.66%** which is close to the **Software (System & Application)** cost of capital estimated by *Damodaran*, if adjusting the cost of equity by current market factors. (Exhibit 29)

Scenario Analysis

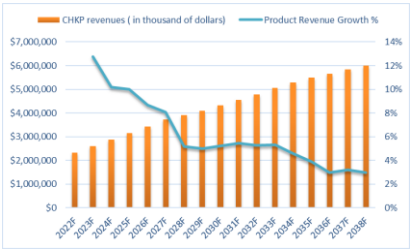
Before starting our valuation, we have considered various alternatives to evaluate the company. In our opinion, the best approach to estimate Check Point's revenue is assuming different hypothetical scenario of revenue growth rate by **changing customer growth rate** and **average expenditure**. The purpose is to find how the company's **equity value will**

perform under certain assumptions while industry growth rate will remain the same throughout forecasting periods**.**

As far as concern, market share will decrease over time, it does not mean we does not believe in the company, by contrast it shows that earnings and innovation are difficult to be monopolized despite long presence in the market.

To forecast revenues and valuation outcomes for each scenario we used the bridge between top bottom and bottom-up analysis as stated in the revenue drivers' section, to arrive at the final valuation.

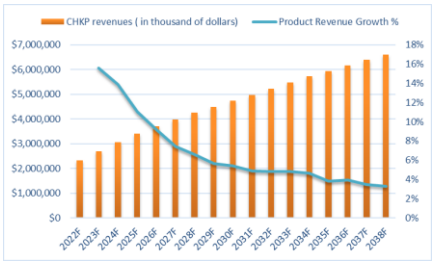
Exhibit 30. Base Case revenues and growth rate from 2022F-2038F



Base Case (Conservative Growth)
$166.19

Our base assumption is that Check Point's revenues will increase substantially as the industry continue to expand but with slower growth rate compared to the overall industry. In the base case scenario, we expect the company to benefit from increased adoption of security software solutions as the whole industry is still in the expansion period. This will lead to increased provision of security solutions by Check Point and consequently customer growth for the company will be roughly **2%** per year until **2030F**. From then, we expect customer growth to decrease to **around 1.5% per year** as Check Point may lose traction on the acquisition of customers as competition makes it hard to attain new customers while there is a shift in customer demand towards other security need uncovered by existing products. (Exhibit 30) Furthermore, average expenditure for customers will increase over the years as companies spend more in IT along with cybersecurity. This is a scenario that considers future steady cashflows of the company with already consolidated segment of the market as well as research, development of existing and new technology which is financed solely by its free cash flows.

Exhibit 31. Optimistic Case revenues and growth rate from 2022F-2038F



Optimistic Case (Following Industry Growth)
$236.46

Our optimistic case assumption for Check Point is that the company, is that the company will catch next waves of industry innovation with other product segments beside security that will win over customers and fuel financial growth beyond what is expected for the base case, for the following reasons: Check Point recently designed a strategy that aims **to protect all technology devices from networks through cloud transformations**, which will allow it to secure remote employees, defend critical infrastructures and protect organisations of **5th generation cyberattacks** whilst delivering superior product innovation, coupled with lighting speed production and best price to performance. This means that its products will

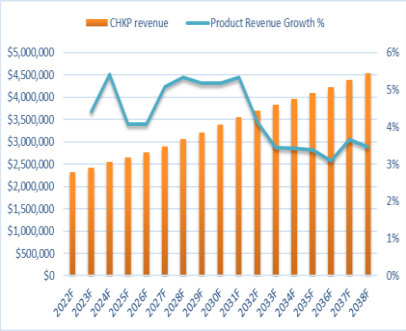
be up to date with the most prominent issues in cyber security and able to tackle most pressing consumer needs. For example, recently Check Point released a **5th product** called **Infinity** which is a service that includes all its products, licenses and services blended into a single product which allows enterprises to be well-protected against all sorts of attacks.

Product innovation, along with industry growth will allow on the revenue drivers side, Check Point will be able to increase the number of customers on a yearly basis, and customers will continue to **increase their average expenditure** on the firm's products which will allow **revenues to grow almost at the same rate as industry CAGR** on the first few years from **2023F to 2027F**. We expect customer growth to be at around **3.5% CAGR until 2038F** and from then to decrease to **2% during the steady state.** (Exhibit 31)

Moreover, in case Check Point can increase its R&D expenditure and make further investments on its product portfolio, R&D will grow beyond its 14% of revenues and will allow the firm to generate higher returns on research capital **per dollar amount** which could go beyond its current **$7.50 per $1** invested in R&D. If this is the case, the business will be able to grow at a much faster rate, reaching double-digit revenue growth as some of its competitors such as Palo Alto. This is also an element to be addressed under value creation and investment recommendation sections.

Taking onboard our assumptions and by applying the same process as described in the base case, we predict Check Point EV under optimistic case to be of $**29.6bn**, which implies a target stock price of $**236.46** in comparison to today's price **of $131.59.** In this case we assume that the in perpetuity, growth rates are to be consistent with GDP at **3%.**

Exhibit 32. Pessimistic Case revenues and growth rate from 2022F-2038F



Pessimistic Case (Increased competition, Spending reduction) $133.06

Given the risks outlined under the "Risks for Check Point" section, we were able draw a connection between the effects of increased competition in the security market space and the reduction in security spending on the revenues of Check Point. In comparison with the base case scenario, this scenario implies further deacceleration of billings due to new market entrants, derived from losses of product competitiveness and business clients shifting towards newer or cheaper products/services or businesses maintaining a tight IT budget. This extreme scenario assumes that the industry will continue to exist and flourish with or without the presence of the company, therefore modelling the worst outcome is necessary to decipher possible business or industry downturns.

We expect that under a pessimistic case, the company is unable to accompany industry trends, as average spending of small, medium, and large enterprises product offerings decreases by **3% per year** from **2023F** to the remainder of the forecast period. A slowdown in spending will not indeed place much effect on the firms' revenues as the number of customers that are acquired will continue to follow the **1.5% upward trends** as in base case, throughout the forecasting period due to Check Point's expertise, brand reputation and market presence, allowing it to maintain contracts while having some room for growth.

We forecast the effects of increased competition in the industry to decrease market share **by 1% from 4% to 3%**, five periods earlier than in our base case. This means, the percentage reduction will take place in **2025F** instead of **2029F**. (Exhibit 32)

Still, the effects of loss of market share to the business would remain minimal as customer growth would still maintain its upward trend. This signals that CHKP ability to maintain its brand reputation can allow it to withstand both most important risk factors.

Sensitivity Analysis

Reaching the end of our research, we stress tested our final inputs by determining how the change in certain inputs would affect our valuation and final price. This allows us to understand the reliability of our target price in each scenario and drawing conclusions about the matrix output.

First, we found that since there is no debt, majority of changes to the final output will depend entirely on the cost of equity. Under **base case** scenario, it is possible to see that stock price is a buy recommendation for any **cost of equity ranging from 4% to 7%,** as a higher cost of equity between **8% and 10%**, would significantly affect the final price, and thus create a sell recommendation.

Secondly, we tested the effects of variables such as **market risk premium** and **risk-free rate** as these directly influence our cost of equity obtained from the asset pricing model, (Appendix).The risk-free rate in specific, exacerbates volatility in the final enterprise value and stock price. Implicitly, technology companies grow at a much faster rate because of growth of technology use and initiatives, which entails cash flows and final enterprise values growing much higher. However, these will be conditioned by **interest rates** and **inflationary pressures**. As inflationary pressures generate interest rate hikes, this means that Check Point's valuation will also be highly subject to the interest rate decisions taking place across the

world. As a matter of fact, the energy crisis has been a prime example of this. Currently, the risk-free has decreased from its peak this year at **4.21%** to **3.55%**.

Finally, we have considered investment outcomes for different WACC values and steady state growth. For any WACC values higher than **9%**, the investment will be unattractive, unless steady state values range between **4% to 4.50%.** Additionally, although growth rates less or equal than 3%, do not have the same potential to affect outcome, it will affect the terminal value which will be discounted to the present value when investment is decided.

Value Creation

Exhibit 33. ROCE from 2022F-2038F

For Check Point, we decided to create a section on value creation as it allows us to measure how the business is creating value through its activities taking onto account the capital invested into the business. As also reported by *McKinsey,* software businesses are usually capital-light businesses with **negative invested capital**, which means that they do not carry a significant amount of fixed assets and do not significantly invest in machinery as it is more of a business that relies on the expertise of its employees and their creative abilities to come up with creative solutions for the products they provide. As a matter of fact, all the peers that compete with Check Point such as Fortinet, Palo Alto Networks, VM Ware and Splunk also have negative return on invested capital, this can be seen **under the ratios for each peer within the model**. (Exhibit 33)

Return on Invested Capital vs Return on Capital Employed

Since Check Point is a capital light business, we could not infer any useful information that may drive value from the calculations of ROIC or RONIC. However, we decided to instead make use of another proxy ratio for profitability and capital efficiency, *Return on Capital Employed (ROCE).* This ratio tells can tell us how much the company earns from its operations alone without the interest on debt or taxes. We have calculated using the following formula:

$$ROCE = \frac{EBIT}{Capital\ Employed}$$

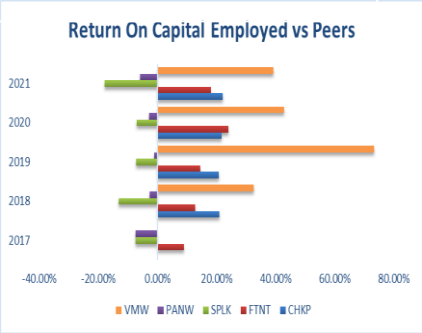
$$ROCE = \frac{EBIT}{Total\ Assets\ - Current\ Liabilities}$$

By subtracting current liabilities from total assets, we were able to obtain

the total capital employed (equity) by the business during a fiscal year. As a measure of value creation, we predict Check Point's return on capital employed to surpass **20%** during the entire forecast period to a point where it will reach **49%** in **2038F,** for our base case and **53%** for optimistic case. This signals that Check Point will be able to positively take advantage of on their operational performance. Therefore, the business is a strong case for return on capital invested in the production process.

As a proxy for the levels of investment, historically, ROCE performance against peers such as SPLK, PANW considerable strong**,** as CHKP delivered positive returns over the years 2017 to 2021. Meanwhile, CHKP performs worse when compared to VMW which have much higher ROCE because of the **scale of their operating profits**, and **much larger revenue amounts**. (Exhibit 34).

Exhibit 34. ROCE vs Peers



On one side, VMW can achieve much higher EBIT because it attains a much more diverse product portfolio than CHKP, for example, security solutions are only a fraction of its business as it also offers a wide range of non-security related cloud infrastructure solutions such as digital workspaces and serverless data centers. In addition, VMW spends much more on R&D which could potentially be a factor that enhances its revenues and operating profits. Conversely, FTNT which is of similar revenue size as CHKP and similar product offering in the security market, performs positively but still below CHKP. This illustrates that within the security market itself, excluding companies that offer diverse product offerings outside of security, CHKP can get a higher return on its capital.

Given the revenue growth we predict in our base case and optimistic case, we predict the ROCE to continue to evolve beyond 20% over the long run. Over the longer term or in perpetuity, CHKP's ROCE could be undermined if the business does not expand itself beyond the provision of its security products towards cloud solutions, which would entail that its EBIT would still not grow much larger as compared to businesses as VMW. It could also be undermined if the business does not increase the amount of R&D in attempts to bring many more solutions to the market, which would translate in greater revenues and operating profits.

Growth

To estimate the value derived from growth, we have decomposed the calculation of value in different formulas. For example, we estimate the value generated by: First, by dividing the FCF by the difference between cost of capital and growth; Second, by estimating the difference between core result and core investment and divide by the same cost of capital and

growth and third by multiplying the core result by one minus the investment rate and dividing by the elements mentioned previously. As a result, we predict that for any level of growth below the company's cost of capital of **6.66%**, there will be free cash flow generation, especially from **2028F** to **2038F.** This emphasizes the ability that the business must generate cash. However, from period **2022F to 2027F,** in some years growth is a value destroyer as it surpasses the cost of capital for the business. Same principle was applied for the optimistic and pessimistic scenario.

Multiples Valuation

As part of the valuation, we have decided to compare how Check Point performs against its peers when different valuation metrics are brought into question. In general, technology holdings tend to be overvalued due to prospects of rapid revenue growth that derives from breakthroughs in the industry. **Industry median** for P/E and EV/EBITDA are at **42x.** Across competitors, CHKP's **price-to-earnings** ranks the lowest at **21x** whilst the Splunk has the highest at **105x**. The market is willing to pay much more for the current earnings of SPLK than it is for CHKP, and this derives from the expectation of future growth related to the firm. For example, in comparison with CHKP, SPLK invests much more in the expansion of its product portfolio and is actively tackling concerns regarding the lack of data analytics capabilities in enterprises by skewing its product offerings towards cloud, software tools that allows businesses to use data analytics to streamline processes across its entity. Cybersecurity, on the other hand, ends up making a small portion of the business and it stays behind the expertise of CHKP.

Moreover, we found CHKP's **enterprise value-to-ebitda** to be at **13x** in comparison to **305x** for PANW and **70x** for SPLK. Market wise, PANW multiple seems to be overvalued when benchmarked against CHKP, VMW and SPLK. Sky-rocketing levels of debt are factors that enhances PANW ability to benefit from high enterprise value, though still unprofitable. PANW debt amounts to almost **$3.2bn** what makes two-thirds of its 2021 revenue, as the business aggressively uses debt to invest in R&D and SG&A. Although this valuation may seem appealing for investing appetite, PANW is still to make a profit whilst incurring high risks from the amount of debt it attains on its capital structure what may leave any potential investor unsettled. **Price-to-sales** industry median is at **8.6x** and CHKP ranks with **8.7x** whilst PANW and SPLK have **8.5x** and **9.5x.** This multiple however, does not at all consider the impact of debt in a company's valuation which entails that out of the multiples covered so far, CHKP's multiple is much

more appealing than its peers because its sales figure is much more realistic as it does not have to pay any interest rate to debtholders going down the income statement. As a company pays down expenses then its sales figures will lower and if it incurs no debt obligations it means that sales will be closer to the net income figure.

On the opposite side, PANW and SPLK sales figures can be misleading as both are incur high expenses related to SG&A and R&D are highly indebted.

Furthermore, same process applies for **enterprise value-to-sales** where our estimate industry median stood at **10.16x** and one in which CHKP ranks in line with its industry peers. Our estimated **Price-to-book** ratio implies that the market is not valuing CHKP's assets as they should when compared to FTNT, SPLK and PANW. We conclude that overall, CHKP does present signs of undervaluation and that it has potential to increase its value should it continue to invest in the expansion of its business, product portfolio and maintaining its capital structure. The business incurs much less risks than its counterparts and presents stable metrics across the board.

Final Recommendation

Our final recommendation, all target prices analysed before, we have arrived at a recommendation price of **$ 166.19 dollars per share**.

We believe the market is undervaluing CHKP for the following reasons: first, as a pioneer and one of the largest players in the security market, it will benefit from the growth in security market which we believe will grow between **11%~13% every year until 2027**. As CHKP has a strong customer base and reputation, made up of enterprises of all scales, we predict it to capture revenue growth derived from improved industry prospects.

Secondly, CHKP over the years has been able to maintain a lower cost structure, which allowed it to attain the highest gross margins amongst the biggest players in the segment, as well as EBIT margins, excluding its operational excellence. Although it could be stated that faster growing cybersecurity players such as CrowdStrike, Palo Alto Networks whose annual revenue growth exceed 20% and P/E ratios exceed 50x (Bloomberg, 2022) could place an effect on CHKP ability to compete, due to increased investment and release of much more innovative solutions, we found the opposite; Having long term expertise in cybersecurity, CHKP is more **conservative** on investment in future growth, developing product solutions with more certainty in terms of return: as a result, they spend

much less on R&D and attain the highest R&D productivity in the industry even when compared with compared with Splunk which spends **almost 4x** as much.

When compared with high-growth peers, these invest much more in R&D and have high expenses related to sales and marketing as attempt to build market presence. Therefore, these leads to struggle to generate profits which entails low net income margins and negative net income periodically and relatively **low cash flows margins**. Although **high growth peers can be much more appealing to investors due to potential massive returns** (Capital IQ, 31st, 2021), in our view, CHKP conservative approach is more sustainable in the short to medium term because it is no longer actively trading **its entire earnings for potential growth**. For example, PANW is still signalling to investors its potential to become profitable in 2023 as it had a negative net margin **of -12% in 2021 whilst CHKP has achieved 38% in 2021**.

However, over the medium to long term, inclusive in perpetuity, CHKP may have to move away from its **conservative approach** and increase its R&D expense for further revenue growth at double digits, and in that case, we predict that net margins and FCF may lower, however since it has a reputable name in the security market and strong customer base, net margins will not become negative, mostly because it will not have to do a lot of investment in marketing. Unless the company is mismanaged, net losses or extremely low or negative operational margins derived from high expenses seems unlikely.

Interestingly, as stated CHKP does not have any debt, it will reward shareholders much more frequently through share buybacks whilst **delivering strong revenue growth**. Meanwhile, competitors such as PANW and SPLK will have much of their future earnings redirected to debtholders and bondholders. So, CHKP we believe, CHKP can grow at a medium-to-high rate as some of its competitors, at much lower costs, without incurring a net loss and by consistently rewarding its shareholders, which is uncommon. Check point is also a business that we believe, amid global economy downturns, can generate strong appetite for investors looking for consolidated, established, and profitable technology players.

Appendix

Financial Statements

BASE CASE

Forecasted Income Statement (in thousand of dollars $) Core Business	2018A	2019A	2020A	2021A	2022F	2023F	2024F	2025F	2026F	2027F
Total Revenues	$1,916,475.00	$1,994,800.00	$2,064,900.00	$2,166,800.00	2,315,067.36	2,512,224.80	2,654,136.77	2,811,072.38	3,023,668.10	3,260,371.21
% of growth rate	3.33%	4.09%	3.51%	4.93%	6.84%	8.52%	5.65%	5.91%	7.56%	7.83%
Total cost of revenues (COGS)	$198,568.00	$209,800.00	$219,900.00	$249,600.00	$266,679.35	$289,390.49	$305,737.74	$323,815.61	$348,305.13	$375,571.65
% of revenues	10.36%	10.52%	10.65%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%
Gross Profit	$1,717,907.00	$1,785,000.00	$1,845,000.00	$1,917,200.00	$2,048,388.01	$2,222,834.31	$2,348,399.03	$2,487,256.77	$2,675,362.97	$2,884,799.55
SG&A	712,377.00	791,900.00	822,700.00	890,500.00	$ 951,434.14	$ 1,032,460.86	$ 1,090,783.09	$ 1,155,279.66	$ 1,242,651.12	$ 1,339,930.11
% of revenues	37%	40%	40%	41%	41%	41%	41%	41%	41%	41%
R&D	$211,523.00	$239,200.00	$252,800.00	$292,700.00	$312,728.55	$339,361.36	$358,531.40	$379,730.89	$408,449.17	$440,423.97
% of revenues	11%	12%	12%	14%	14%	14%	14%	14%	14%	14%
EBITDA	$794,007.00	$753,900.00	$769,500.00	$734,000.00	$784,225.33	$851,012.09	$899,084.54	$952,246.23	$1,024,262.68	$1,104,445.48
% EBITDA Margin	41%	38%	37%	34%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%
D&A	$2,811.00	$5,600.00	$6,600.00	$8,500.00	$8,597.14	$9,967.67	$11,427.55	$12,786.94	$14,567.25	$16,895.56
depreciation/ Net PPE t-1	4%	7%	8%	10%	10%	10%	11%	12%	13%	13%
Total operating expenses (EBIT)	$791,196.00	$748,300.00	$762,900.00	$725,500.00	$775,628.19	$841,044.43	$887,656.99	$939,459.29	$1,009,695.43	$1,087,549.92
% of growth rate	-14%	6%	-2%	5%	7%	8.4%	5.5%	5.8%	7.5%	7.7%
Core Result Before Taxes (EBT)	$791,196.00	$748,300.00	$762,900.00	$725,500.00	$775,628.19	$841,044.43	$887,656.99	$939,459.29	$1,009,695.43	$1,087,549.92
% of growth rate	-14.4%	5.7%	-1.9%	5.2%	7%	8.4%	5.5%	5.8%	7.5%	7.7%
Statutory Taxes	$146,203.84	$123,452.00	$117,546.00	$127,050.00	$178,394.48	$193,440.22	$204,161.11	$216,075.64	$232,229.95	$250,136.48
Israel Tax rate (23%)					23%	23%	23%	23%	23%	23%
Core Business Result (Net Income)	$644,992.16	$624,848.00	$645,354.00	$598,450.00	$597,233.71	$647,604.21	$683,495.88	$723,383.65	$777,465.48	$837,413.44
% of growth rate	-14.67%	-3.12%	3.28%	-7.27%	0%	8.4%	5.5%	5.8%	7.5%	7.7%
Financial Operations										
Financial Income	$65,066.00	$80,600.00	$66,600.00	$42,100.00	$42,984.10	$43,886.77	$44,808.39	$45,749.36	$46,710.10	$47,691.01
% average yield					2.10%	2.10%	2.10%	2.10%	2.10%	2.10%
Statutory Taxes	$0.00	$0.00	$0.00	$0.00	$6,017.77	$6,144.15	$6,273.17	$6,404.91	$6,539.41	$6,676.74
% of growth of tax expense						2.1%	2.1%	2.1%	2.1%	2.1%
Financing Result	$65,066.00	$80,600.00	$66,600.00	$42,100.00	$36,966.33	$37,742.62	$38,535.21	$39,344.45	$40,170.69	$41,014.27
% of growth rate	38.35%	38.35%	38.35%	38.35%	-12%	2.1%	2.1%	2.1%	2.1%	2.1%
Total Comprehensive Income	$65,066.00	$80,600.00	$66,600.00	$42,100.00	$634,200.03	$685,346.83	$722,031.10	$762,728.10	$817,636.17	$878,427.71
% of growth rate	-92%	24%	-17%	-37%	-22.2%	8.1%	5.4%	5.6%	7.2%	7.4%

Forecasted Income Statement (in thousand of dollars $) Core Business	2028F	2029F	2030F	2031F	2032F	2033F	2034F	2035F	2036F	2037F	2038F	2039F	2040F	2041F
Total Revenues	3,439,206.49	3,622,164.41	3,824,501.35	3,984,097.65	4,211,578.80	4,453,525.38	4,672,590.75	4,867,698.35	5,021,903.70	5,194,134.38	5,357,645.94	5,504,981.20	5,656,368.18	5,811,918.31
% of growth rate	5.49%	5.32%	5.59%	4.17%	5.71%	5.74%	4.92%	4.18%	3.17%	3.43%	3.15%	2.75%	2.75%	2.75%
Total cost of revenues (COGS)	$396,172.21	$417,247.66	$440,555.44	$458,939.81	$485,144.02	$513,014.55	$538,249.33	$560,724.34	$578,487.71	$598,327.46	$617,162.83	$634,134.81	$651,573.52	$669,491.79
% of revenues	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%
Gross Profit	$3,043,034.28	$3,204,916.75	$3,383,945.91	$3,525,157.84	$3,726,434.78	$3,940,510.83	$4,134,341.42	$4,306,974.01	$4,443,415.99	$4,595,806.92	$4,740,483.10	$4,870,846.39	$5,004,794.67	$5,142,426.52
SG&A	$ 1,413,426.89	$ 1,488,617.97	$ 1,571,773.33	$ 1,637,363.37	$ 1,730,852.37	$ 1,830,286.30	$ 1,920,316.62	$ 2,000,500.91	$ 2,063,875.41	$ 2,134,657.87	$ 2,201,856.98	$ 2,262,408.05	$ 2,324,624.27	$ 2,388,551.44
% of revenues	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
R&D	$464,581.75	$489,296.44	$516,628.92	$538,187.83	$568,916.89	$601,600.00	$631,192.22	$657,548.14	$678,378.81	$701,644.42	$723,732.22	$743,634.85	$764,084.81	$785,097.14
% of revenues	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
EBITDA	$1,165,025.64	$1,227,002.34	$1,295,543.66	$1,349,606.64	$1,426,665.52	$1,508,624.53	$1,582,832.57	$1,648,924.95	$1,701,161.77	$1,759,504.63	$1,814,893.91	$1,864,803.49	$1,916,085.59	$1,968,777.94
% EBITDA Margin	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%
D&A	$19,217.49	$21,350.00	$23,741.84	$26,114.17	$28,757.18	$32,145.51	$35,664.25	$38,980.99	$41,895.12	$44,704.68	$47,693.44	$50,547.68	$53,366.03	$56,341.52
depreciation/ Net PPE t-1	15%	15%	16%	17%	18%	19%	20%	21%	22%	22%	23%	24%	25%	25%
Total operating expenses (EBIT)	$1,145,808.15	$1,205,652.35	$1,271,801.81	$1,323,492.47	$1,397,908.33	$1,476,479.02	$1,547,168.32	$1,609,943.97	$1,659,266.65	$1,714,799.95	$1,767,200.47	$1,814,255.81	$1,862,719.55	$1,912,436.42
% of growth rate	5.4%	5.2%	5.5%	4.1%	5.6%	5.6%	4.8%	4.1%	3.1%	3.3%	3.1%	2.7%	2.7%	2.7%
Core Result Before Taxes (EBT)	$1,145,808.15	$1,205,652.35	$1,271,801.81	$1,323,492.47	$1,397,908.33	$1,476,479.02	$1,547,168.32	$1,609,943.97	$1,659,266.65	$1,714,799.95	$1,767,200.47	$1,814,255.81	$1,862,719.55	$1,912,436.42
% of growth rate	5.4%	5.2%	5.5%	4.1%	5.6%	5.6%	4.8%	4.1%	3.1%	3.3%	3.1%	2.7%	2.7%	2.7%
Statutory Taxes	$263,535.87	$277,300.04	$292,514.42	$304,403.27	$321,518.92	$339,590.18	$355,848.71	$370,287.11	$381,631.33	$394,403.99	$406,456.11	$417,278.84	$428,425.50	$439,860.38
Israel Tax rate (23%)	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%
Core Business Result (Net Income)	$882,272.28	$928,352.31	$979,287.40	$1,019,089.21	$1,076,389.42	$1,136,888.85	$1,191,319.61	$1,239,656.86	$1,277,635.32	$1,320,395.96	$1,360,744.36	$1,396,976.97	$1,434,294.05	$1,472,576.04
% of growth rate	5.4%	5.2%	5.5%	4.1%	5.6%	5.6%	4.8%	4.1%	3.1%	3.3%	3.1%	2.7%	2.7%	2.7%
Financial Operations														
Financial Income	$48,692.52	$49,715.07	$50,759.08	$51,825.02	$52,913.35	$54,024.53	$55,159.05	$56,317.39	$57,500.05	$58,707.55	$59,940.41	$61,199.16	$62,484.34	$63,796.51
% average yield	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%
Statutory Taxes	$6,816.95	$6,960.11	$7,106.27	$7,255.50	$7,407.87	$7,563.43	$7,722.27	$7,884.43	$8,050.01	$8,219.06	$8,391.66	$8,567.88	$8,747.81	$8,931.51
% of growth of tax expense	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%
Financing Result	$41,875.57	$42,754.96	$43,652.81	$44,569.52	$45,505.48	$46,461.10	$47,436.78	$48,432.95	$49,450.04	$50,488.49	$51,548.75	$52,631.28	$53,736.53	$54,865.00
% of growth rate	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%
Total Comprehensive Income	$924,147.85	$971,107.26	$1,022,940.21	$1,063,658.73	$1,121,894.90	$1,183,349.94	$1,238,756.39	$1,288,089.81	$1,327,085.36	$1,370,884.46	$1,412,293.12	$1,449,608.25	$1,488,030.59	$1,527,441.04
% of growth rate	5.2%	5.1%	5.3%	4.0%	5.5%	5.5%	4.7%	4.0%	3.0%	3.3%	3.0%	2.6%	2.7%	2.6%

BASE CASE

Forecasted Balance Sheet (in thousand of dollars $) Core Business	2018A	2019A	2020A	2021A	2022F	2023F	2024F	2025F	2026F	2027F
Operating Cash	$38,330	$39,896	$41,298	$43,336	$46,301	$50,244	$53,083	$56,221	$60,473	$65,207
% of revenues	2.00%	2.00%	2.00%	2.00%	2%	2%	2%	2%	2%	2%
Accounts Receivable	$495,390	$495,800	$540,800	$597,800	$638,706	$693,099	$732,252	$775,549	$834,202	$899,506
% of revenues	25.85%	24.85%	26.19%	27.59%	28%	28%	28%	28%	28%	28%
Prepaid expenses and other current assets	$74,738.00	$59,100.00	$50,100.00	$46,400.00	$49,575	$53,797	$56,836	$60,196	$64,749	$69,818
% of revenues	3.90%	2.96%	2.43%	2.14%	2%	2%	2%	2%	2%	2%
Net Property, Plant and Equipment	$78,514	$87,700	$88,100	$83,400	$89,107	$96,695	$102,158	$108,198	$116,381	$125,491
% of revenues	4.10%	4.40%	4.27%	3.85%	4%	4%	4%	4%	4%	4%
Deferred Tax Asset	$84,688	$55,300	$34,400	$51,700	$51,700	$43,945	$37,353	$31,750	$26,988	$22,940
(trends towards zero)					15%	15%	15%	15%	15%	15%
Income tax accrual	$356,750	$393,300	$422,800	$454,900	$486,027	$527,419	$557,212	$590,159	$634,792	$684,485
% of revenues	18.61%	19.72%	20.48%	20.99%	21%	21%	21%	21%	21%	21%
Trade Payable	$20,763	$15,900	$17,500	$9,800	$10,126	$10,988	$11,609	$12,295	$13,225	$14,260
% of COGS	10.31%	7.38%	7.73%	3.80%	4%	4%	4%	4%	4%	4%
Employee and Payroll accruals	$156,958	$190,900	$220,900	$206,300	$254,927	$276,637	$292,264	$309,545	$332,955	$359,020
% of revenues	8.19%	9.57%	10.70%	9.52%	11%	11%	11%	11%	11%	11%
Deferred revenues	$1,337,954	$1,386,700	$1,481,900	$1,707,100	$1,823,912	$1,979,241	$2,091,045	$2,214,686	$2,382,178	$2,568,663
% of revenues	69.81%	69.52%	71.77%	78.78%	79%	79%	79%	79%	79%	79%
Accrued expenses and other liabilities	$173,974	$178,000	$196,800	$238,600	$254,927	$276,637	$292,264	$309,545	$332,955	$359,020
% of revenues	9.08%	8.92%	9.53%	11.01%	11%	11%	11%	11%	11%	11%
Core Invested Capital	($1,274,740)	($1,427,004)	($1,585,202)	($1,794,064)	($1,954,529)	($2,133,140)	($2,262,712)	($2,404,315)	($2,593,312)	($2,802,487)
Non-Core Business										
Goodwill	$950,572	$981,900	$1,002,200	$1,196,200	$1,196,200	$1,196,200	$1,315,820	$1,315,820	$1,315,820	$1,447,402
% growth rate		3%	2%	19%	0%	0%	10%	0%	0%	10%
Intagible assets	$40,967	$42,800	$38,500	$61,000	$65,174	$70,724	$74,720	$79,138	$85,123	$91,786
% of revenues	2.14%	2.15%	1.86%	2.82%	3%	3%	3%	3%	3%	3%
Short-term investments	$5,450	$0	$214,500	$492,500	$505,426	$518,690	$532,303	$546,273	$560,610	$575,323
% average historical return					3%	3%	3%	3%	3%	3%
Marketable securities	$3,729,987	$3,668,900	$3,529,400	$3,019,000	$3,098,233	$3,179,545	$3,262,992	$3,348,628	$3,436,512	$3,526,703
% average historical return					3%	3%	3%	3%	3%	3%
Other investments and noncurrent assets	$64,220	$94,200	$85,500	$80,300	$82,407	$84,570	$69,657	$73,776	$79,355	$85,568
% average historical return					3%	3%	3%	3%	3%	3%
Other Liabilities (trend toward zero)	$9,425	$31,300	$33,100	$26,400	$22,968	$19,982	$17,384	$15,124	$13,158	$11,448
(trend toward zero)					13%	13%	13%	13%	13%	13%
Non-Core Invested Capital	$4,781,771	$4,756,500	$4,837,000	$4,822,600	$4,924,472	$5,029,748	$5,238,107	$5,348,511	$5,464,262	$5,715,334
Net Financial Assets										
Excess Cash	$265,358	$239,304	$214,402	$228,564	$244,204	$265,001	$279,971	$296,525	$318,950	$343,919
% growth rate of operating cash		-9.82%	-10.41%	6.61%	6.84%	8.52%	5.65%	5.91%	7.56%	7.83%
Financial	$265,358	$239,304	$214,402	$228,564	$244,204	$265,001	$279,971	$296,525	$318,950	$343,919
Equity	$3,772,389	$3,568,800	$3,466,200	$3,257,100	$3,214,147	$3,161,609	$3,255,366	$3,240,720	$3,189,900	$3,256,767

Forecasted Balance Sheet (in thousand of dollars $) Core Business	2028F	2029F	2030F	2031F	2032F	2033F	2034F	2035F	2036F	2037F	2038F	2039F	2040F	2041F
Operating Cash	$68,784	$72,443	$76,490	$79,682	$84,232	$89,071	$93,452	$97,354	$100,438	$103,883	$107,153	$110,100	$113,127	$116,238
% of revenues	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Accounts Receivable	$948,845	$999,322	$1,055,144	$1,099,176	$1,161,935	$1,228,686	$1,289,124	$1,342,953	$1,385,497	$1,433,013	$1,478,125	$1,518,773	$1,560,539	$1,603,454
% of revenues	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
Prepaid expenses and other current assets	$73,647	$77,565	$81,898	$85,316	$90,187	$95,368	$100,059	$104,237	$107,539	$111,228	$114,729	$117,884	$121,126	$124,457
% of revenues	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Net Property, Plant and Equipment	$132,375	$139,417	$147,205	$153,348	$162,103	$171,416	$179,848	$187,357	$193,293	$199,922	$206,215	$211,886	$217,713	$223,700
% of revenues	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Deferred Tax Asset	$19,499	$16,574	$14,088	$11,975	$10,178	$8,652	$7,354	$6,251	$5,313	$4,516	$3,839	$3,263	$2,774	$0
(trends towards zero)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Income tax accrual	$722,030	$760,441	$802,919	$836,425	$884,183	$934,977	$980,968	$1,021,929	$1,054,303	$1,090,461	$1,124,789	$1,155,721	$1,187,503	$1,220,160
% of revenues	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
Trade Payable	$15,043	$15,843	$16,728	$17,426	$18,421	$19,479	$20,437	$21,291	$21,965	$22,718	$23,434	$24,078	$24,740	$25,420
% of COGS	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Employee and Payroll accruals	$378,713	$398,859	$421,140	$438,714	$463,763	$490,406	$514,528	$536,013	$552,993	$571,959	$589,964	$606,188	$622,858	$639,987
% of revenues	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Deferred revenues	$2,709,558	$2,853,700	$3,013,110	$3,138,847	$3,318,066	$3,508,682	$3,681,272	$3,834,986	$3,956,476	$4,092,167	$4,220,988	$4,337,065	$4,456,335	$4,578,884
% of revenues	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%	79%
Accrued expenses and other liabilities	$378,713	$398,859	$421,140	$438,714	$463,763	$490,406	$514,528	$536,013	$552,993	$571,959	$589,964	$606,188	$622,858	$639,987
% of revenues	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Core Invested Capital	($2,960,906)	($3,122,381)	($3,300,212)	($3,440,630)	($3,639,561)	($3,850,758)	($4,041,897)	($4,212,079)	($4,346,651)	($4,496,702)	($4,639,078)	($4,767,334)	($4,899,015)	($5,036,588)
Non-Core Business														
Goodwill	$1,447,402	$1,447,402	$1,592,142	$1,592,142	$1,592,142	$1,751,356	$1,751,356	$1,751,356	$1,926,492	$1,926,492	$1,926,492	$2,119,141	$2,119,141	$2,119,141
% growth rate	0%	0%	10%	0%	0%	10%	0%	0%	10%	0%	0%	10%	0%	0%
Intagible assets	$96,821	$101,972	$107,668	$112,161	$118,565	$125,376	$131,543	$137,036	$141,377	$146,226	$150,829	$154,977	$159,239	$163,618
% of revenues	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Short-term investments	$590,423	$605,918	$621,820	$638,140	$654,888	$672,075	$689,713	$707,815	$726,391	$745,455	$765,020	$785,097	$805,702	$826,847
% average historical return	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Marketable securities	$3,619,260	$3,714,247	$3,811,727	$3,911,764	$4,014,428	$4,119,786	$4,227,908	$4,338,869	$4,452,742	$4,569,603	$4,689,531	$4,812,607	$4,938,912	$5,068,533
% average historical return	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Other investments and noncurrent assets	$90,261	$95,063	$100,373	$104,562	$110,532	$116,882	$122,631	$127,752	$131,799	$136,319	$140,610	$144,477	$148,450	$152,532
% average historical return	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Other Liabilities (trend toward zero)	$9,960	$8,665	$7,538	$6,558	$5,706	$4,964	$4,319	$3,757	$3,269	$2,844	$2,474	$2,153	$1,873	$0
(trend toward zero)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Non-Core Invested Capital	$5,834,208	$5,955,937	$6,226,192	$6,352,211	$6,484,849	$6,780,511	$6,918,834	$7,059,071	$7,375,532	$7,521,251	$7,670,008	$8,014,147	$8,169,572	$8,330,672
Net Financial Assets														
Excess Cash	$362,783	$382,083	$403,426	$420,261	$444,257	$469,778	$492,886	$513,467	$529,733	$547,901	$565,149	$580,691	$596,660	$613,068
% growth rate of operating cash	5.49%	5.32%	5.59%	4.17%	5.71%	5.74%	4.92%	4.18%	3.17%	3.43%	3.15%	2.75%	2.75%	2.75%
Financial	$362,783	$382,083	$403,426	$420,261	$444,257	$469,778	$492,886	$513,467	$529,733	$547,901	$565,149	$580,691	$596,660	$613,068
Equity	$3,236,085	$3,215,638	$3,329,406	$3,331,841	$3,289,544	$3,399,531	$3,369,824	$3,360,458	$3,558,615	$3,572,450	$3,596,078	$3,827,503	$3,867,216	$3,907,152

BASE CASE

Forecasted Free Cash Flow (in thousand of dollars $) Core Free Cash Flow (FCF)	2018A	2019A	2020A	2021A	2022F	2023F	2024F	2025F	2026F	2027F
EBIT	$791,196.00	$748,300.00	$762,900.00	$725,500.00	$775,628.19	$841,044.43	$887,656.99	$939,459.29	$1,009,695.43	$1,087,549.92
Cash Taxes	$146,203.84	$123,452.00	$117,546.00	$127,050.00	$178,394.48	$193,440.22	$204,161.11	$216,075.64	$232,229.95	$250,136.48
NOPAT	$644,992.16	$624,848.00	$645,354.00	$598,450.00	$597,233.71	$647,604.21	$683,495.88	$723,383.65	$777,465.48	$837,413.44
D&A	$2,811.00	$5,600.00	$6,600.00	$8,500.00	$8,597.14	$9,967.67	$11,427.55	$12,786.94	$14,567.25	$16,895.56
Gross Cash Flow	$647,803.16	$630,448.00	$651,954.00	$606,950.00	$605,830.84	$657,571.88	$694,923.44	$736,170.59	$792,032.73	$854,309.00
Changes in Accounts Receivable	$23,167.00	$410.00	$45,000.00	$57,000.00	$40,905.59	$54,393.91	$39,152.19	$43,297.08	$58,653.18	$65,304.19
Changes in Prepaid expenses and other current assets	-$6,740.00	-$15,638.00	-$9,000.00	-$3,700.00	$3,175.01	$4,221.94	$3,038.91	$3,360.63	$4,552.54	$5,068.78
Changes in Trade Payable	$8,541.00	-$4,863.00	$1,600.00	-$7,700.00	$325.76	$862.34	$620.70	$686.41	$929.86	$1,035.30
Changes in Employee and Payroll Accruals	$17,110.00	$33,942.00	$30,000.00	-$14,600.00	$48,626.65	$21,710.25	$15,626.82	$17,281.17	$23,410.25	$26,064.87
Changes in Deferred Revenues	$101,888.00	$31,725.00	$96,700.00	$148,800.00	$86,043.37	$114,415.54	$82,355.17	$91,073.78	$123,374.77	$137,364.91
Changes in Accrued Expenses and other liabilities	-$2,594.00	$4,026.00	$18,800.00	$41,800.00	$16,326.65	$21,710.25	$15,626.82	$17,281.17	$23,410.25	$26,064.87
Net Working Capital Changes	$124,290.00	$59,328.00	$179,900.00	$237,000.00	$194,751.51	$215,589.55	$155,179.22	$171,607.41	$232,471.14	$258,832.31
Capex	$3,558.00	$14,786.00	$7,000.00	$3,800.00	$14,303.94	$17,556.25	$16,889.74	$18,827.39	$22,750.05	$26,006.25
Unlevered Free Cash Flow (FCFF)/ Core Cash Flow	$768,535.16	$674,990.00	$824,854.00	$840,150.00	$396,775.39	$424,426.08	$522,854.48	$545,735.80	$536,811.55	$569,470.44
Non Core Result										
Change in Intangibles and Goodwill	$161,132.00	$33,161.00	$16,000.00	$216,500.00	$4,174.04	$5,550.40	$3,995.12	$4,418.07	$5,985.02	$6,663.69
Change in Investments	$282,376.00	-$147,992.00	$131,900.00	-$10,200.00	$12,925.55	$13,264.78	$13,612.91	$13,970.18	$14,336.82	$14,713.09
Non Core Free Cash Flow (FCF)	$443,508	-$114,831	$147,900	$206,300	$17,100	$18,815	$17,608	$18,388	$20,322	$21,377
Unlereved Free Cash Flow Available to Investors	$1,212,043.16	$560,159.00	$972,754.00	$1,046,450.00	$413,875	$443,241	$540,463	$564,124	$557,133	$590,847
Net Financial Assets/ Net Debt	$207,920.84	$265,357.50	$239,304.00	$214,402.00	$36,966.33	$37,742.62	$38,535.21	$39,344.45	$40,170.69	$41,014.27
Transaction with Shareholders	($1,419,964.00)	($825,516.50)	($1,212,058.00)	($1,260,852.00)	($450,841.31)	($480,983.88)	($578,997.73)	($603,468.50)	($597,304.08)	($631,861.49)
Financing Cashflow	($1,212,043.16)	($560,159.00)	($972,754.00)	($1,046,450.00)	($413,874.98)	($443,241.26)	($540,462.51)	($564,124.04)	($557,133.39)	($590,847.22)
Check	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE

Forecasted Free Cash Flow (in thousand of dollars $) Core Free Cash Flow (FCF)	2028F	2029F	2030F	2031F	2032F	2033F	2034F	2035F	2036F	2037F	2038F	2039F	2040F	2041F
EBIT	$1,145,808.15	$1,205,652.35	$1,271,801.81	$1,323,492.47	$1,397,908.33	$1,476,479.02	$1,547,168.32	$1,609,943.97	$1,659,266.65	$1,714,799.95	$1,767,200.47	$1,814,255.81	$1,862,719.55	$1,912,436.42
Cash Taxes	$263,535.87	$277,300.04	$292,514.42	$304,403.27	$321,518.92	$339,590.18	$355,848.71	$370,287.11	$381,631.33	$394,403.99	$406,456.11	$417,278.84	$428,425.50	$439,860.38
NOPAT	$882,272.28	$928,352.31	$979,287.40	$1,019,089.21	$1,076,389.42	$1,136,888.85	$1,191,319.61	$1,239,656.86	$1,277,635.32	$1,320,395.96	$1,360,744.36	$1,396,976.97	$1,434,294.05	$1,472,576.04
D&A	$19,217.49	$21,350.00	$23,741.84	$26,114.17	$28,757.18	$32,145.51	$35,664.25	$38,980.99	$41,895.12	$44,704.68	$47,693.44	$50,547.68	$53,366.03	$56,341.52
Gross Cash Flow	$901,489.77	$949,702.30	$1,003,029.24	$1,045,203.37	$1,105,146.60	$1,169,034.35	$1,226,983.86	$1,278,637.84	$1,319,530.44	$1,365,100.64	$1,408,437.80	$1,447,524.65	$1,487,660.09	$1,528,917.56
Changes in Accounts Receivable	$49,338.99	$50,476.39	$55,822.88	$44,031.14	$62,759.94	$66,750.81	$60,438.10	$53,828.38	$42,543.82	$47,516.85	$45,111.32	$40,648.43	$41,766.26	$42,914.84
Changes in Prepaid expenses and other current assets	$3,829.59	$3,917.87	$4,332.86	$3,417.61	$4,871.30	$5,181.06	$4,691.08	$4,178.05	$3,302.16	$3,688.16	$3,501.45	$3,155.05	$3,241.81	$3,330.96
Changes in Trade Payable	$782.20	$800.23	$884.99	$698.05	$994.97	$1,058.24	$958.16	$853.37	$674.47	$753.31	$715.17	$644.42	$662.14	$680.35
Changes in Employee and Payroll Accruals	$19,692.68	$20,146.65	$22,280.60	$17,574.15	$25,049.38	$26,642.26	$24,122.67	$21,484.53	$16,980.52	$18,965.41	$18,005.29	$16,224.01	$16,670.17	$17,128.60
Changes in Deferred Revenues	$103,782.72	$106,175.19	$117,421.34	$92,617.84	$132,013.17	$140,407.83	$127,129.28	$113,225.97	$89,489.34	$99,949.90	$94,889.97	$85,502.45	$87,853.77	$90,269.74
Changes in Accrued Expenses and other liabilities	$19,692.68	$20,146.65	$22,280.60	$17,574.15	$25,049.38	$26,642.26	$24,122.67	$21,484.53	$16,980.52	$18,965.41	$18,005.29	$16,224.01	$16,670.17	$17,128.60
Net Working Capital Changes	$195,554.47	$200,062.53	$221,253.28	$174,516.84	$248,748.20	$264,566.00	$239,545.64	$213,348.07	$168,621.90	$188,332.41	$178,798.13	$161,109.53	$165,540.05	$170,092.40
Capex	$26,100.85	$28,392.04	$31,529.78	$32,257.02	$37,512.92	$41,458.02	$44,096.06	$46,490.67	$47,830.48	$51,333.83	$53,986.99	$56,218.61	$59,192.91	$62,328.64
Unlevered Free Cash Flow (FCFF)/ Core Cash Flow	$679,834.45	$721,247.74	$750,246.18	$838,429.51	$818,885.48	$863,010.34	$943,342.16	$1,018,799.10	$1,103,078.06	$1,125,434.41	$1,175,652.68	$1,230,196.51	$1,262,927.13	$1,296,496.53
Non Core Result														
Change in Intangibles and Goodwill	$5,034.59	$5,150.65	$5,696.21	$4,492.97	$6,404.08	$6,811.31	$6,167.15	$5,492.69	$4,341.21	$4,848.66	$4,603.20	$4,147.80	$4,261.86	$4,379.06
Change in Investments	$15,099.23	$15,495.51	$15,902.18	$16,319.53	$16,747.83	$17,187.38	$17,638.46	$18,101.37	$18,576.44	$19,063.98	$19,564.30	$20,077.77	$20,604.70	$21,145.47
Non Core Free Cash Flow (FCF)	$20,134	$20,646	$21,598	$20,813	$23,152	$23,999	$23,806	$23,594	$22,918	$23,913	$24,168	$24,226	$24,867	$25,525
Unlereved Free Cash Flow Available to Investors	$699,968	$741,894	$771,845	$859,242	$842,037	$887,009	$967,148	$1,042,393	$1,125,996	$1,149,347	$1,199,820	$1,254,422	$1,287,794	$1,322,021
Net Financial Assets/ Net Debt	$41,875.57	$42,754.96	$43,652.81	$44,569.52	$45,505.48	$46,461.10	$47,436.78	$48,432.95	$49,450.04	$50,488.49	$51,548.75	$52,631.28	$53,736.53	$54,865.00
Transaction with Shareholders	($741,843.84)	($784,648.86)	($815,497.39)	($903,811.54)	($887,542.87)	($933,470.12)	($1,014,584.55)	($1,090,826.12)	($1,175,445.75)	($1,199,835.53)	($1,251,368.93)	($1,307,053.35)	($1,341,530.23)	($1,376,886.06)
Financing Cashflow	($699,968.27)	($741,893.90)	($771,844.58)	($859,242.02)	($842,037.39)	($887,009.03)	($967,147.77)	($1,042,393.17)	($1,125,995.71)	($1,149,347.04)	($1,199,820.18)	($1,254,422.08)	($1,287,793.70)	($1,322,021.06)
Check	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE

Years	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F
Total Revenues	2,315,067.36	2,610,003.20	2,875,729.97	3,163,582.13	3,438,408.13	3,716,443.53	3,908,425.64	4,103,807.43	4,319,082.22	4,554,131.55
% of growth rate	6.84%	12.74%	10.18%	10.01%	8.69%	8.09%	5.17%	5.00%	5.25%	5.44%
Total cost of revenues (COGS)	$266,679.35	$300,653.87	$331,263.71	$364,422.24	$396,080.24	$428,107.95	$450,222.93	$472,729.52	$497,527.66	$524,603.67
% of revenues	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%
Gross Profit	$2,048,388.01	$2,309,349.33	$2,544,466.27	$2,799,159.89	$3,042,327.89	$3,288,335.58	$3,458,202.71	$3,631,077.91	$3,821,554.57	$4,029,527.88
SG&A	$ 951,434.14	$ 1,072,645.31	$ 1,181,852.29	$ 1,300,152.24	$ 1,413,098.78	$ 1,527,364.30	$ 1,606,264.09	$ 1,686,561.07	$ 1,775,033.56	$ 1,871,632.89
% of revenues	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
R&D	$312,728.55	$352,569.66	$388,465.09	$427,349.31	$464,473.91	$502,032.04	$527,965.75	$554,358.70	$583,438.88	$615,190.28
% of revenues	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
EBITDA	$784,225.33	$884,134.37	$974,148.88	$1,071,658.34	$1,164,755.20	$1,258,939.24	$1,323,972.87	$1,390,158.14	$1,463,082.13	$1,542,704.71
% EBITDA Margin	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%
D&A	$8,597.14	$10,355.62	$12,863.54	$15,591.89	$18,642.66	$21,900.62	$24,894.35	$27,489.08	$30,377.35	$33,710.75
depreciation/ Net PPE t-1	10%	10%	12%	13%	14%	15%	17%	17%	18%	19%
Total operating expenses (EBIT)	$775,628.19	$873,778.75	$961,285.34	$1,056,066.45	$1,146,112.54	$1,237,038.62	$1,299,078.52	$1,362,669.06	$1,432,704.78	$1,508,993.95
% of growth rate	7%	12.7%	10.0%	9.9%	8.5%	7.9%	5.0%	4.9%	5.1%	5.3%
Core Result Before Taxes (EBT)	$775,628.19	$873,778.75	$961,285.34	$1,056,066.45	$1,146,112.54	$1,237,038.62	$1,299,078.52	$1,362,669.06	$1,432,704.78	$1,508,993.95
% of growth rate	7%	12.7%	10.0%	9.9%	8.5%	7.9%	5.0%	4.9%	5.1%	5.3%
Statutory Taxes	$178,394.48	$200,969.11	$221,095.63	$242,895.28	$263,605.88	$284,518.88	$298,788.06	$313,413.88	$329,522.10	$347,068.61
Israel Tax rate (23%)	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%
Core Business Result (Net Income)	$597,233.71	$672,809.64	$740,189.71	$813,171.17	$882,506.65	$952,519.74	$1,000,290.46	$1,049,255.17	$1,103,182.68	$1,161,925.34
% of growth rate	0%	12.7%	10.0%	9.9%	8.5%	7.9%	5.0%	4.9%	5.1%	5.3%

Years	2032F	2033F	2034F	2035F	2036F	2037F	2038F	2039F	2040F	2041F
Total Revenues	4,793,564.16	5,047,584.42	5,278,226.40	5,484,087.05	5,648,124.60	5,829,885.31	6,002,124.63	6,167,183.05	6,336,780.59	6,511,042.05
% of growth rate	5.26%	5.30%	4.57%	3.90%	2.99%	3.22%	2.95%	2.75%	2.75%	2.75%
Total cost of revenues (COGS)	$552,184.61	$581,445.94	$608,014.27	$631,727.95	$650,623.92	$671,561.46	$691,402.21	$710,415.77	$729,952.20	$750,025.89
% of revenues	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%	11.52%
Gross Profit	$4,241,379.55	$4,466,138.48	$4,670,212.13	$4,852,359.10	$4,997,500.68	$5,158,323.85	$5,310,722.42	$5,456,767.28	$5,606,828.38	$5,761,016.17
SG&A	$ 1,970,033.64	$ 2,074,429.54	$ 2,169,217.56	$ 2,253,821.08	$ 2,321,236.37	$ 2,395,935.42	$ 2,466,721.42	$ 2,534,556.26	$ 2,604,256.56	$ 2,675,873.62
% of revenues	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
R&D	$647,533.80	$681,847.87	$713,003.91	$740,812.39	$762,971.23	$787,524.20	$810,790.97	$833,087.72	$855,997.64	$879,537.57
% of revenues	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
EBITDA	$1,623,812.12	$1,709,861.07	$1,787,990.67	$1,857,725.63	$1,913,293.08	$1,974,864.23	$2,033,210.02	$2,089,123.30	$2,146,574.19	$2,205,604.98
% EBITDA Margin	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%	33.87%
D&A	$37,414.12	$41,468.04	$45,660.75	$49,609.38	$53,086.00	$56,433.33	$59,970.33	$63,440.01	$66,977.19	$70,711.59
depreciation/ Net PPE t-1	20%	21%	22%	24%	24%	25%	26%	27%	27%	28%
Total operating expenses (EBIT)	$1,586,398.00	$1,668,393.03	$1,742,329.92	$1,808,116.25	$1,860,207.08	$1,918,430.90	$1,973,239.69	$2,025,683.29	$2,079,597.00	$2,134,893.39
% of growth rate	5.1%	5.2%	4.4%	3.8%	2.9%	3.1%	2.9%	2.7%	2.7%	2.7%
Core Result Before Taxes (EBT)	$1,586,398.00	$1,668,393.03	$1,742,329.92	$1,808,116.25	$1,860,207.08	$1,918,430.90	$1,973,239.69	$2,025,683.29	$2,079,597.00	$2,134,893.39
% of growth rate	5.1%	5.2%	4.4%	3.8%	2.9%	3.1%	2.9%	2.7%	2.7%	2.7%
Statutory Taxes	$364,871.54	$383,730.40	$400,735.88	$415,866.74	$427,847.63	$441,239.11	$453,845.13	$465,907.16	$478,307.31	$491,025.48
Israel Tax rate (23%)	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%
Core Business Result (Net Income)	$1,221,526.46	$1,284,662.63	$1,341,594.04	$1,392,249.52	$1,432,359.45	$1,477,191.79	$1,519,394.56	$1,559,776.13	$1,601,289.69	$1,643,867.91
% of growth rate	5.1%	5.2%	4.4%	3.8%	2.9%	3.1%	2.9%	2.7%	2.7%	2.7%

Base Case Scenario										
		Cost of Equity								
cost of debt	161.22	2.00%	3.00%	4.00%	5.00%	6.00%	6.66%	7.00%	8.00%	9.00%	10.00%
	0.00%			530.99	288.75	196.12	161.22	147.45	117.58	97.47	83.05
	0.50%			530.99	288.75	196.12	161.22	147.45	117.58	97.47	83.05
	1.00%			530.99	288.75	196.12	161.22	147.45	117.58	97.47	83.05
	2.00%			530.99	288.75	196.12	161.22	147.45	117.58	97.47	83.05
	3.00%			530.99	288.75	196.12	161.22	147.45	117.58	97.47	83.05
	4.00%			530.99	288.75	196.12	161.22	147.45	117.58	97.47	83.05
	5.00%			530.99	288.75	196.12	161.22	147.45	117.58	97.47	83.05
	6.00%			530.99	288.75	196.12	161.22	147.45	117.58	97.47	83.05
	7.00%			530.99	288.75	196.12	161.22	147.45	117.58	97.47	83.05

Base Case Scenario										
		market risk premium								
risk-free rate	161.22	1.00%	2.00%	3.00%	4.00%	4.50%	5.00%	6.00%	7.00%	8.00%	9.00%
	0.00%						954.54	474.22	312.50	231.56	183.10
	1.00%				658.52	487.27	385.58	270.47	207.16	167.22	139.79
	2.00%			501.04	324.25	274.82	238.10	187.25	153.78	130.12	112.56
	3.00%	710.51	403.35	279.32	212.44	189.40	170.71	142.25	121.66	106.09	93.94
	3.55%	710.51	403.35	279.32	212.44	189.40	170.71	142.25	121.66	106.09	93.94
	4.00%	336.88	245.01	191.59	156.74	143.52	132.27	114.19	100.30	89.32	80.44
	5.00%	217.97	174.33	144.81	123.55	115.02	107.55	95.09	85.13	77.00	70.24
	6.00%	159.82	134.49	115.86	101.61	95.67	90.37	81.29	73.83	67.58	62.29
	7.00%	125.50	109.04	96.26	86.08	81.73	77.78	70.90	65.11	60.18	55.93

Base Case Scenario											
		steady state									
WACC	161.22	1.00%	1.50%	2.00%	2.50%	2.75%	3.00%	3.25%	3.50%	4.00%	4.50%
	4.00%	261.44	299.95	357.71	453.98	530.99	646.52	839.05			
	4.50%	220.81	246.53	282.54	336.55	375.13	426.57	498.58	606.60		
	5.00%	190.52	208.56	232.62	266.30	288.75	316.82	352.90	401.01	569.41	
	6.00%	148.48	158.31	170.60	186.40	196.12	207.47	220.87	236.96	281.20	354.94
	6.66%	129.09	136.04	144.47	154.93	161.16	168.25	176.37	185.78	209.91	245.21
	7.00%	120.83	126.71	133.76	142.38	147.45	153.16	159.62	167.01	185.48	211.34
	8.00%	101.37	105.11	109.47	114.63	117.58	120.83	124.41	128.39	137.85	150.02
	9.00%	86.99	89.49	92.34	95.63	97.47	99.46	101.63	104.00	109.44	116.09
	10.00%	75.99	77.71	79.64	81.84	83.05	84.35	85.74	87.24	90.62	94.61
	11.00%	67.32	68.54	69.90	71.42	72.24	73.12	74.06	75.06	77.27	79.82

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Report Recommendations

Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

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