Preformed Line Products Company – comprehensive Valuation

Ticker: PLPC

Date of start: 10/07/24

Date of end: 24/07/24

Date format: day/month/year

Made by Roi Dayan

<u>disclaimer</u>

- I am not a professional (although no one really is).

- this is not a financial advice.

- the data is not 100% reliable, but it is reliable.

- I am aware that within 8 days the company releases the 2024 Q2 report, which means my analysis of the balance sheet would be outdated, with that being said, balance sheets does not tend to change much from quarter to quarter.

Second, although I believe my storyline is true and I think my estimates of this report would come as true, I can't predict the future, maybe in that report PLP would report 100% growth rate, which would cause me to change my opinion and update my valuation.

The point is that the not going to update this valuation **unless the results in that report (2024 Q2) would surprise me to the point that I change my story for the company.**

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PART 1 – OPENING

Why?

Preformed line products, or for short PLP is not the most known company out there, it's a small company with a market cap of about 500M. Although it has been operating since 1957, and went public in 1995, you have probably never heard of this name, and probably stumbled upon this document by accident.

PLP never really got the spotlight from **Wall Street**, if wall street was a father, then PLP was probably the son that got less attention, in the 29 years she is public and tradeable, only 3 years out of them there was some analyst giving attention to the company. As of today, no analyst in wall street is analyzing this company, there is no "analysts forecast" for this company, and the last time there was an analyst analyzing this company, was **13 years ago**, in 2011.

For those exact reasons, I am very happy that I found this company.

History

Two short years after the end of the war, the United States experienced explosive growth as consumers sought to meet pent-up demand for goods and services. Part of that growth resulted in millions of miles of new power lines installed across the country.

During this time, Tom Peterson, an engineer, was working on a new concept for the industry. His idea was to preform rods into a helix with an inside diameter smaller than the outside diameter. The thinking was that helically preformed rods, when applied over the conductor, could provide a secure fit without end clamps to "armor" and protect the conductor from abrasion and fatigue. The PREFORMED™ Armor Rod was born, and with it, Preformed Line Products. New product development quickly followed, including GUY-GRIP® Dead-ends and ARMOR-GRIP® Suspensions, and Preformed Line Products became recognized for setting new standards in power industry support.

The early years in business were so successful the company purchased its first facility in Cleveland, Ohio and opened its first branch plant in Palo Alto, California soon after. Growth beyond the U.S. wasn't far behind. An inquiry from a Canadian pole line hardware manufacturer resulted in the licensing of that company to produce PREFORMED™ Armor Rods.

1957 Growth at Home and Abroad

As the needs of the utility industry grew, Preformed Line Products was there. Helically formed spacers, dampers, splicers, wrap ties, and guy guards were developed and produced from various materials and in a variety of sizes. A cornerstone of PLP's success has been the ability to anticipate customer needs and solve those needs quickly and effectively.

In order to better serve its customers, the company developed its own Research and Engineering Center. Technicians and engineers could, in-house, simulate a wide range of external conditions faced by its products to ensure quality, durability, and performance. Customers valued PLP not only as an efficient supplier but as an effective problem solver and partner.

Growth at home was matched by growth abroad. During the 1960s, the company was manufacturing products in Canada, England, Germany, and India, and Australia became a licensee in 1962. In 1964 Preformed Line Products received the Presidential "E" Award for "significant contributions to the export expansion program of the United States."

1967 Strengthening the Foundation

With its reputation in the power industry, Preformed Line Products branched out into the **telecommunications** industry in 1968 with the acquisition of the Smith Company in California. Smith was known for its innovative line of products designed to enable telephone systems to be installed completely below ground. Closures ranging from the two-pair SERVISEAL to the Stainless Steel Splice Case quickly became successful PLP products.

PLP continued to expand internationally with full ownership of manufacturers in **England**, joint ventures in **Spain** and **Japan** and subsidiaries in **Brazil** and **Mexico**.

In 1974, the company opened its new world headquarters in Mayfield Village, Ohio, where it remains today.

1977 Delivering Where It Counts

As its markets and product lines continued to grow, Preformed Line Products realized the need for an expanded Research and Engineering facility. Built at the headquarters location, the facility opened in 1979 and continues to be one of the most sophisticated in the country. Engineers and technicians test everything from tension load to the impact of wind speed and humidity on product performance and durability.

Supporting the company's strategic growth abroad, Australia became a wholly owned subsidiary and we began a joint venture in **South Africa**.

1987 Strategic Growth and Development

In 1993 PLP purchased Superior Modular Products, a producer of high-speed data cross-connect systems for communications networks. This purchase contributed to the expansion of their telecommunications product mix and strengthened our ability to meet the complex and rapidly changing needs of communication networks. Once a small niche market, the proliferation of cable television spurred new growth opportunities for PLP.

The COYOTE® Closure, a high-quality closure for fiber optic cables, was introduced in 1995. Telephone, power and CATV customers were quick to realize the benefits of the product and made it PLP's most successful product launch ever. they extended the COYOTE name to a full line of fiber optic products. Once again, PLP research and design efforts identified a need and we were quick to respond with the right product for the customers.

2007-2008 Alternative Energy

Culminating years of investigation into the solar energy market, just the right partner was found. DPW Solar, located in Albuquerque, New Mexico was acquired in 2007. DPW Solar specializes in engineering, designing and installing turnkey photovoltaic systems for residential, commercial and industrial applications. It is also a major manufacturer of photovoltaic racks and equipment and battery enclosures. In 2008 they began to take their solar power capabilities to their traditional power utility customers and distributors under the PLP Solar brand.

2009 - 2010 Global Expansion

PLP continued to strengthen its ability to respond to market needs both globally and locally,

In 2009 PLP acquired the **Dulmison** product line and its facilities, located in Indonesia and Malaysia. Dulmison was a former licensee from 1960-1977, then became a formidable competitor in both the transmission and distribution product markets. The successful seven year acquisition project increased PLP's position in the Energy market which now offers the most comprehensive line of products in the industry.

2010 ended with another acquisition. **Electropar**, a company that designs, manufactures and markets pole line and substation hardware for the global electrical utility industry. This acquisition strengthened Preformed's position in the power distribution, transmission and substation hardware markets throughout the Asia-Pacific region and will provide a strong and established channel in New Zealand for PLP’s global offerings.

2013 French and Russian PLP Locations Established and World Headquarters Facility Expanded

PLP **France** was established in February of 2013 at INNEOS and is a wholly owned subsidiary of Preformed Line Products. PLP has always marketed a wide range of transmission, distribution and communications products in the French market.

PLP **Russia** Ltd. was established in November of 2013. With its Sales and Engineering offices located in Moscow, PLP Russia will focus on the transmission and distribution power sector, with the goal of setting up a manufacturing facility located in the territory of the Russian Federation.

PLP completed an addition at World Headquarters which featured a major expansion of its laboratory and testing facility.

Future

From PLP website:

“When it comes to the future, Winston Churchill once said: "The farther backward you can look, the farther forward you are likely to see." At Preformed Line Products, we can look back over our first 75+ years and know that our future is strong and bright. Built on an entrepreneurial foundation of innovation, quality and service, we are uniquely positioned to meet the challenges of the next generation.

While much about the future is unknown, we can expect that the continued growth of foreign markets, industry consolidations, regulatory changes and new technologies will be part of the picture. As lines between the power and telecommunications industries blur, we see this as an opportunity to solidify our position as the leader in safeguarding conductors and cables, whatever industry. Our commitment to research and design keeps PLP first in customers' minds.

Our past has prepared us to anticipate change, view it as opportunity and meet it with the same diligence Tom Peterson brought to his first product design. The talent, commitment and dedication of our people is unmatched anywhere in the world. At home or abroad, PLP is the connection you can count on. Preformed Line Products.”

The bottom line

Preformed Line Products is a company that provides **building products**, in her last 10k, she specified her sales spread by sector:

	Year Ended December 31, 2023				
Product Type	PLP-USA	The Americas	EMEA	Asia-Pacific	Consolidated
Energy	63%	74%	52%	73%	64%
Communications	33%	24%	44%	3%	29%
Special Industries	4%	2%	4%	24%	7%
Total	100%	100%	100%	100%	100%

64% from energy, 29% from communications and 7% from "special industries". by checking in PLP's website, an example of her main products by industry are as follows:

COMMUNICATIONS

Products that perform better, last longer, and are easier to install - you can count on PLP to provide high-quality closures and solutions that meet the rigorous demands of today's modern communications networks. We serve all segments of the communications industry, including telecommunications network operators, cable television and broadband service providers, corporations and enterprise networks, government departments and agencies, and educational institutions.

Fiber Networks

Copper Networks

Pole Line Hardware

ENERGY

PLP has been providing innovative products and services to the electric power utility industry since 1947. We offer solutions for supporting, protecting, terminating, and splicing transmission and distribution lines as well as bolted, welded, and compressed connectors for substations. We also offer a full array of products for OPGW (Optical Ground Wire) and ADSS (All Dielectric Self Supporting) fiber optic cables, which are commonly used to monitor and control power networks.

Distribution

Transmission

Substation

<u>The current situation of PLP</u>

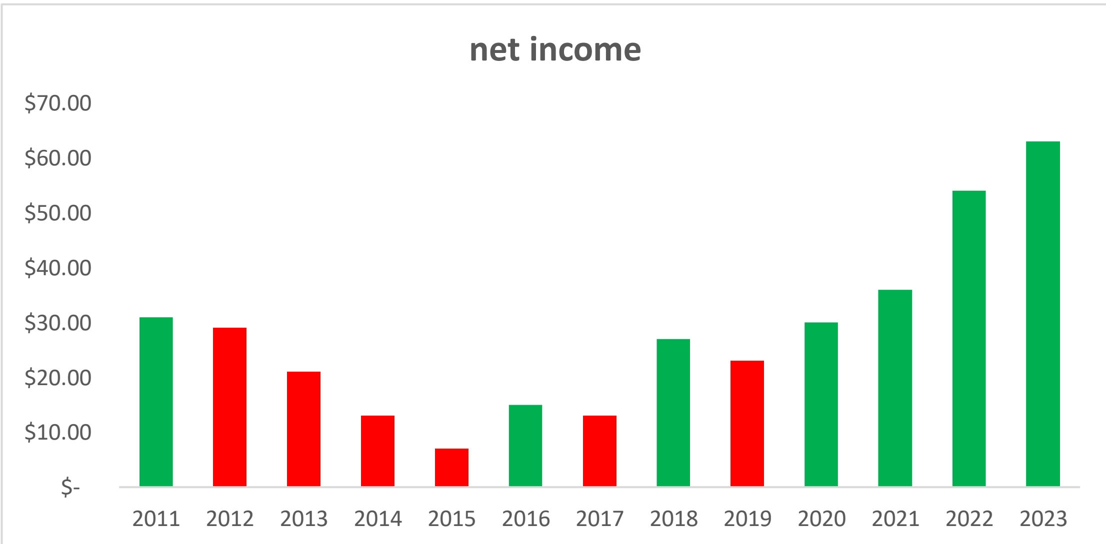
<u>How is the company these days</u>

PLP's stock graph is as follows:

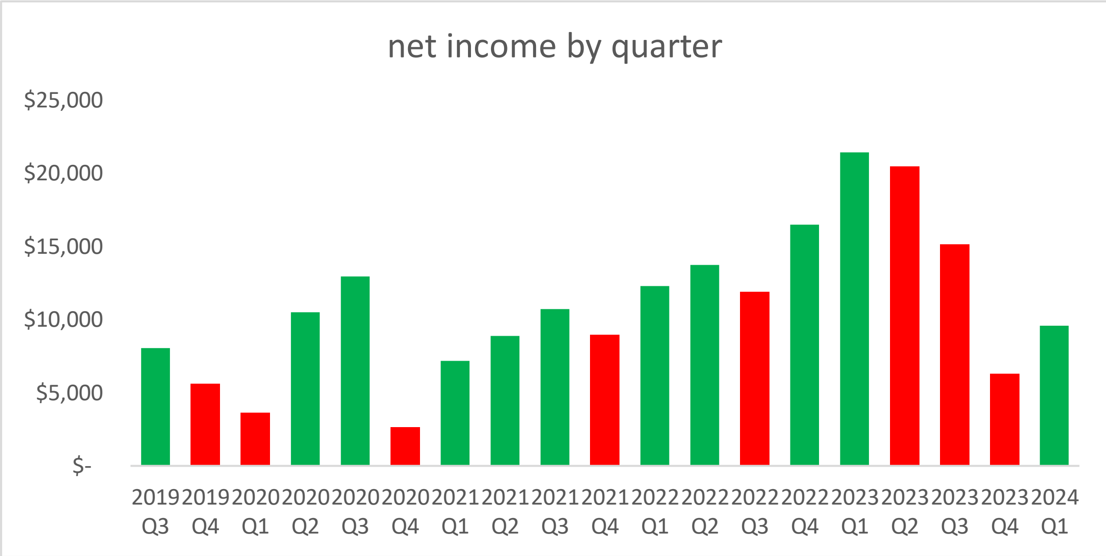
1 candle per month

She reached a high of about 180$ per share, but since fell to 120$ per share, a fall of about 30% of the stock's price, and there is a good reason for that.

PLP's net income by year is as follows:

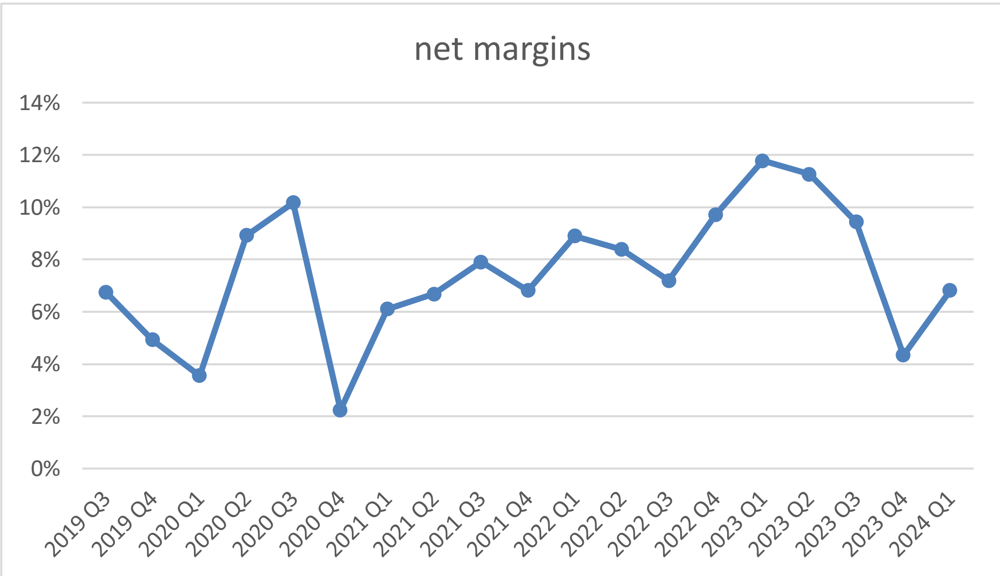


She experienced a rough time from 2013 to 2016, with yearly net income deteriorating rapidly, but since she managed to grow her net income to an all-time high, in a stable growth. In a year-based graph, 2023 seems a strong year, but if we zoom in, we can get a more precise perspective:

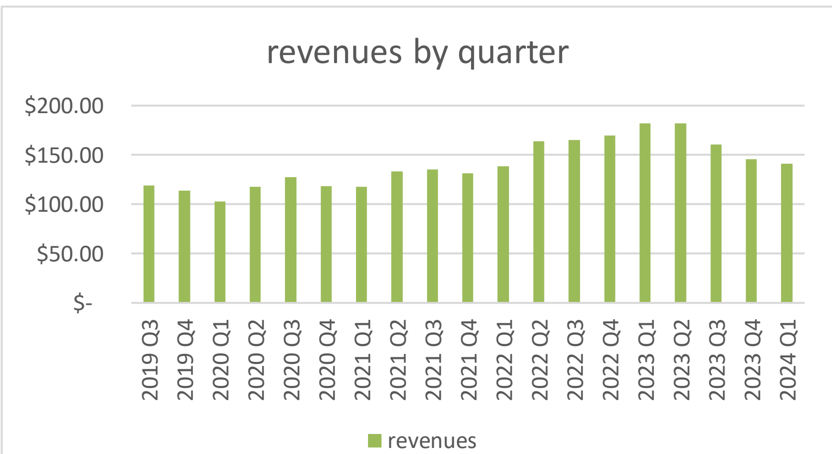


The net income by quarter can be volatile, for a couple of reasons, but in this specific case, we can see that since **the second half of 2023**, PLP had a negative growth and her net income rapidly deteriorate, although the last quarter showed a positive growth in net income, of about 50%, I would still argue that there is a fundamental problem with PLP.

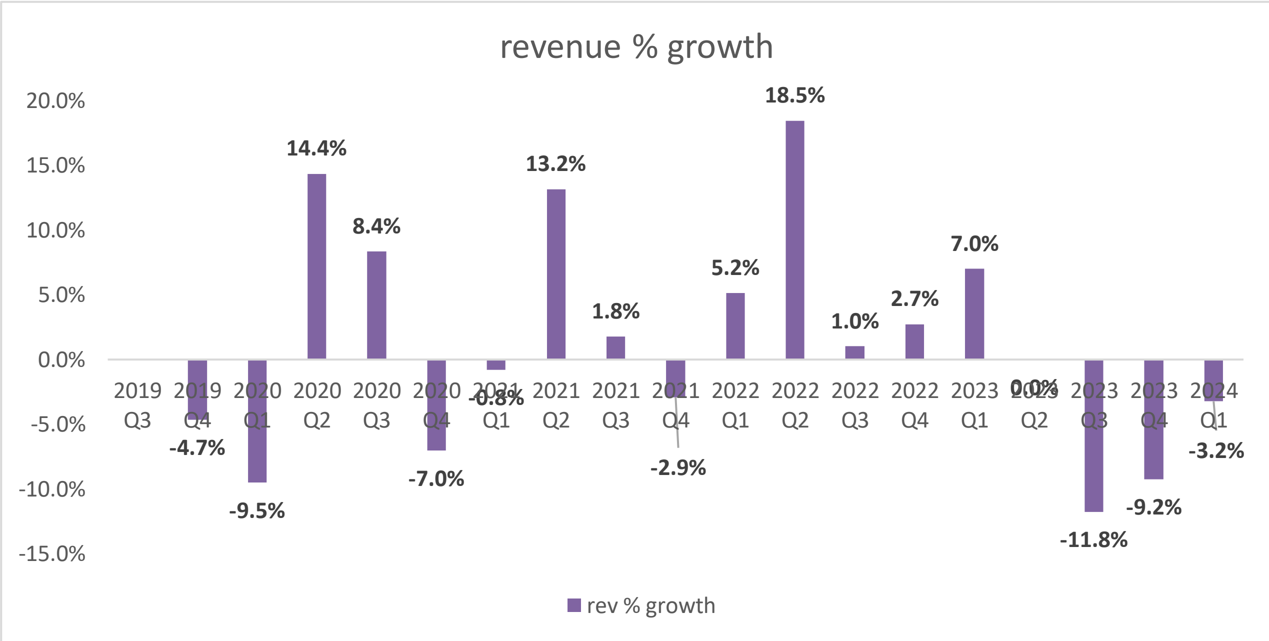
The reason that her net income grew last quarter, is not because of growth in sales, but because of higher margins:



Again, net margins by quarter can be volatile, so this statistic doesn't promise us that the fundamental problem is gone, furthermore, we can see that the problem still exists if we take a look at the sales by quarter graph.



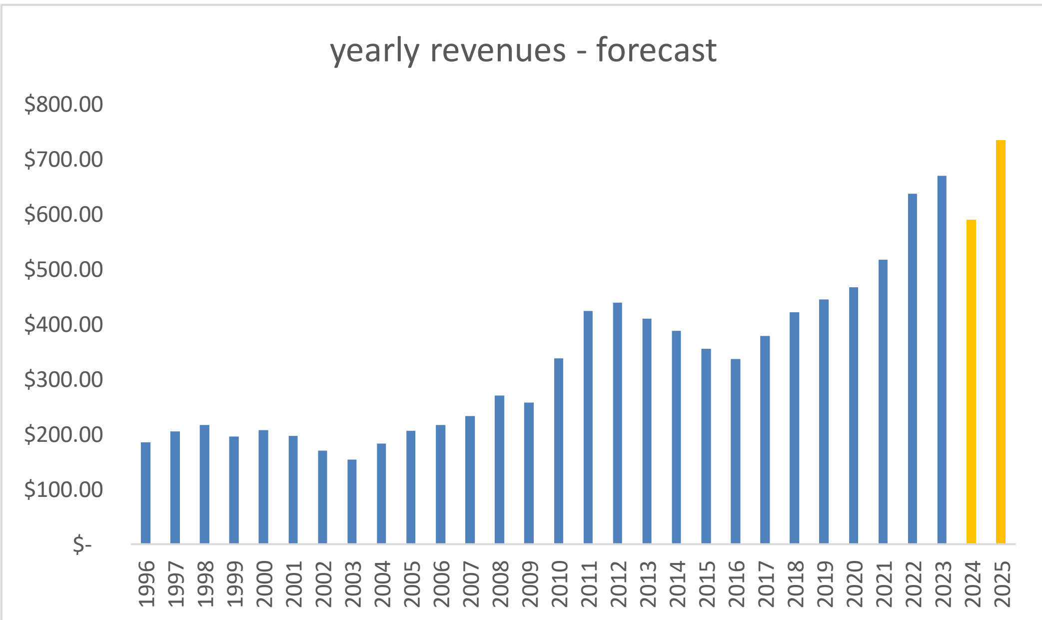
PLP is experiencing **negative growth**, and that is the reason why its stock price fell 30%.



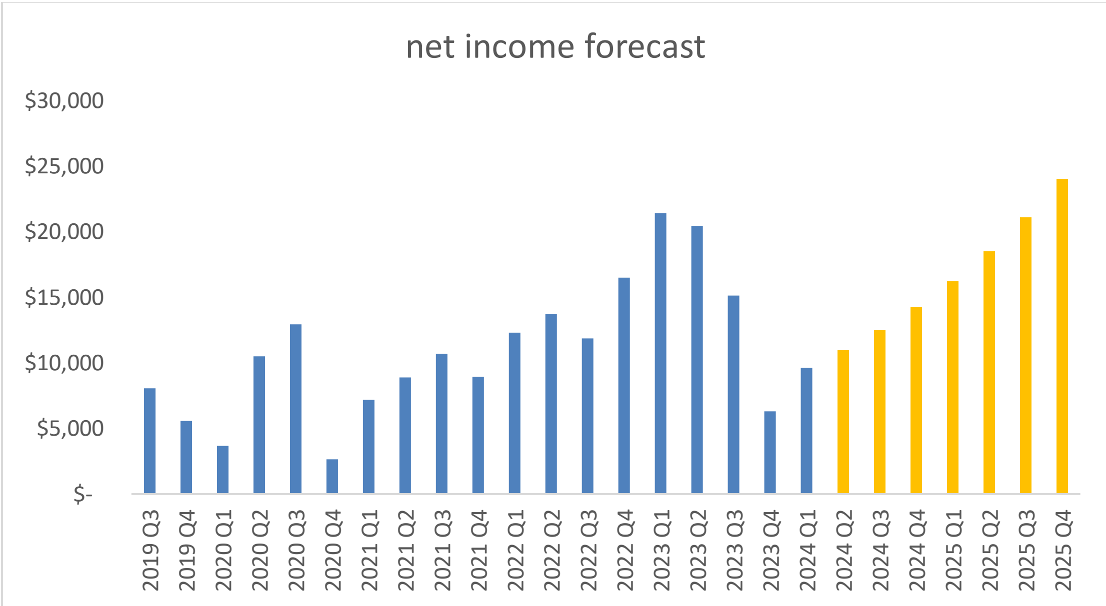
Although it is visible that slowly but surely her growth is getting closer to being **positive.**

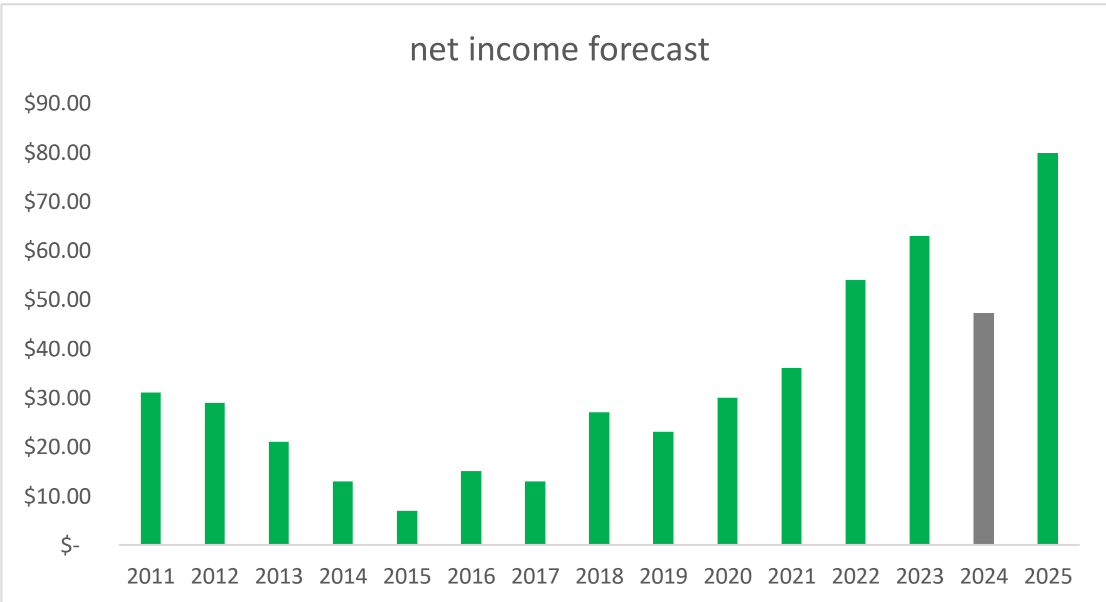
The **median** growth rate in quarters that had **positive growth** rate is 6.1%, PLP reported in her 2023 10k that she anticipate that this slow and negative growth will stick through the first half of 2024, if we take the current quarter revenue, grow it 2024 Q2 at a 0% growth, and then grow It for the rest of 2024 and 2025 at a rate of 6.1%, we get a total of revenue of 589 million dollar at 2024, a **negative** growth of -12% from 2023. and 734 million dollars at 2025.

Although this forecast is not a precise one, because revenues by quarter are very volatile, still it does mean that if PLP will perform an average performance, she will experience a negative growth this year. So statistically by past means, the odds are not in her favor.



If we do the same exercise for the net income, we get the same results:





Again, those forecasts are not reliable at all, but those forecasts tell us that if PLP will experience an average performance, she would have a negative growth for the year 2024.

In the last annual report of PLP, the management explain the slowdown of the second half of 2023 thru 2024 for the following reasons:

> The celebration was short-lived, however, due to the character of the record and the year. The second half of the year began to indicate a very definite slowdown when same month, previous year comparisons were made. The resultant record year was built on the strength of a very solid first half of the year, tempered by a slower second half which we believe will continue through the first half of 2024.

> The good news is this slowdown was not unexpected; we clearly saw it coming. The "competitive exuberance" exhibited by a number of our customers over the past few years when combined with sharply rising interest rates in an inflationary economy, slowing the pace of product deployment, led to overstocked warehouses and a need for our customers to "take a break" and let things adjust. Further good news lies in the knowledge that the records set in previous years were the result of not simply elevated market demand but also an increasing market appreciation for our high-quality products and outstanding customer service.

From 2024 Q1 report:

PLP ANNOUNCES FIRST QUARTER 2024 FINANCIAL RESULTS

CLEVELAND, OHIO – MAY 1, 2024 – Preformed Line Products Company (NASDAQ: PLPC) today reported financial results for its first quarter of 2024.

Net sales in the first quarter of 2024 were $140.9 million compared to $181.8 million in the first quarter of 2023, a 22% decrease due primarily to a slowdown in spending within the communications end market. Foreign currency translation increased first quarter 2024 net sales by $0.7 million.

Net income for the quarter ended March 31, 2024 was $9.6 million, or $1.94 per diluted share, compared to $21.4 million, or $4.28 per diluted share, for the comparable period in 2023. Net income for the quarter was lower as a result of decreased gross margins caused by the lower sales level, partially offset by a reduction in selling, general and administrative expenses due to cost containment efforts. Gross profit as a percentage of net sales was 31.3% for the first quarter of 2024.

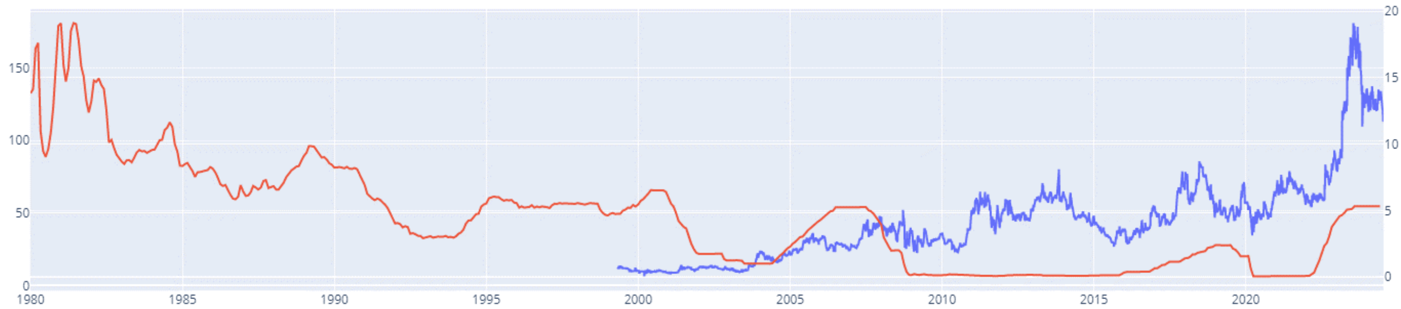
Rob Ruhlman, Executive Chairman, said, "The decrease in quarterly net sales is a continuation of the decline in market demand that we saw coming mid-2023. Softness in communications end market demand continues to be caused by the higher borrowing rates, delayed BEAD stimulus funding, as well as elevated inventory levels, largely due to the overbuying that occurred in 2022 and early 2023. Our spend thrift philosophy as well as cost reduction activities instituted in mid-2023 led to reduced spending in areas not impacting customer service experience. Our excitement about the prospects of the markets that we serve allows us to continue our investment in new product development, streamlining our manufacturing operations and expanding our customer service portfolio. These actions, along with our continued strong liquidity, will allow us to take advantage of favorable market conditions when they return. Our current focus is unchanged: provide our customers with the high-quality products and timely service they have come to expect from PLP."

From those statements, the management explain the negative growth for few reasons:

1. high interest rates

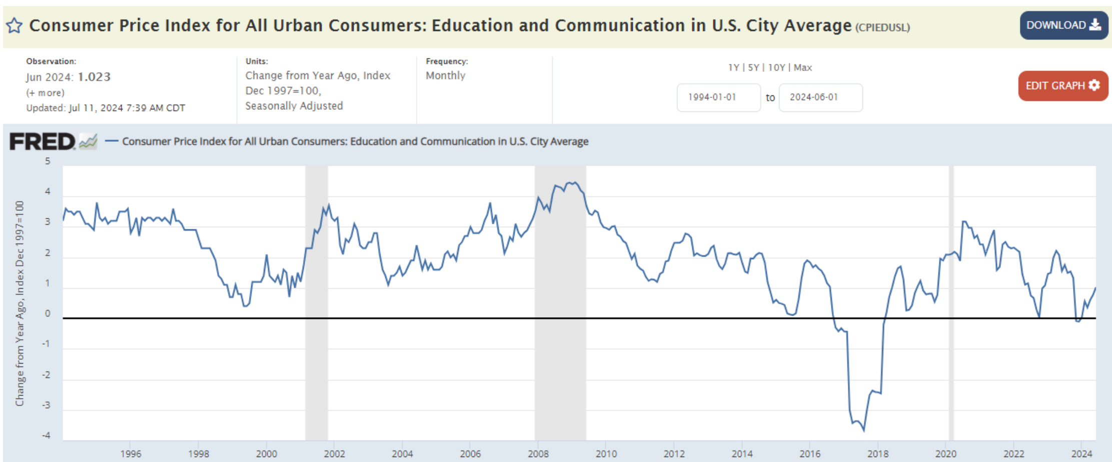
2. weakening buying power in the communication sector

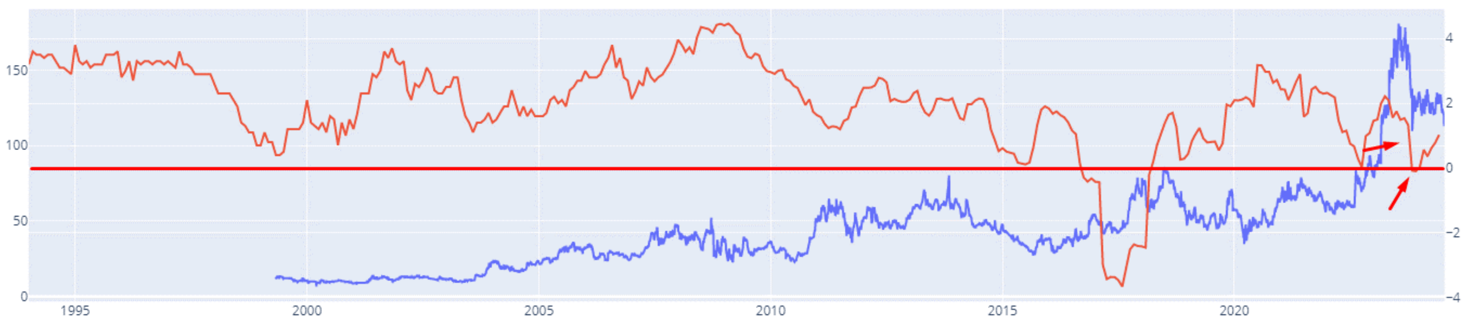
To further verify (or debunk) those statements, I first checked the relationship between the interest rates and the stock price:



The correlation is very weak, we can even see **a positive correlation** in 2023, where from side the interest rates surge, but on the other hand the stock price surged as well, so accusing the sticky interest rates as the main cause of the slowdown in sales, is just not justified, although its obviously has some effect on the company's revenues.

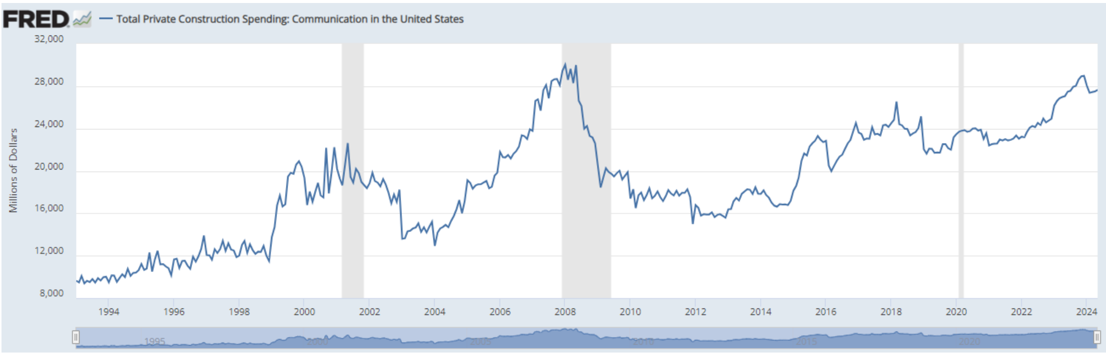
The second excuse was the weakening buying power in the communication sector, to start I check the correlation between the stock price and the cpi (inflation) for education and communication:

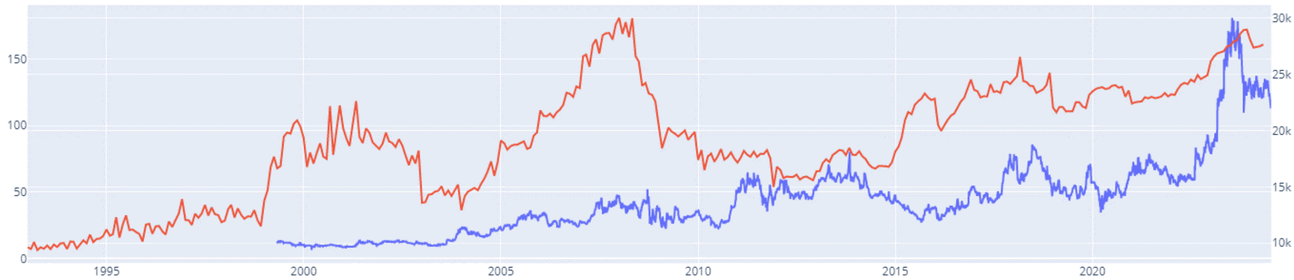




This time, there is a slight correlation between the two, when the cpi is low, that means the demand is weak, we can see that when the stock surge, the cpi increased as well, and when the cpi decreased, the stock fell as well, although if we check the historical correlation between the two, its very **weak**, so it’s not a satisfying reason for the slowdown in growth.

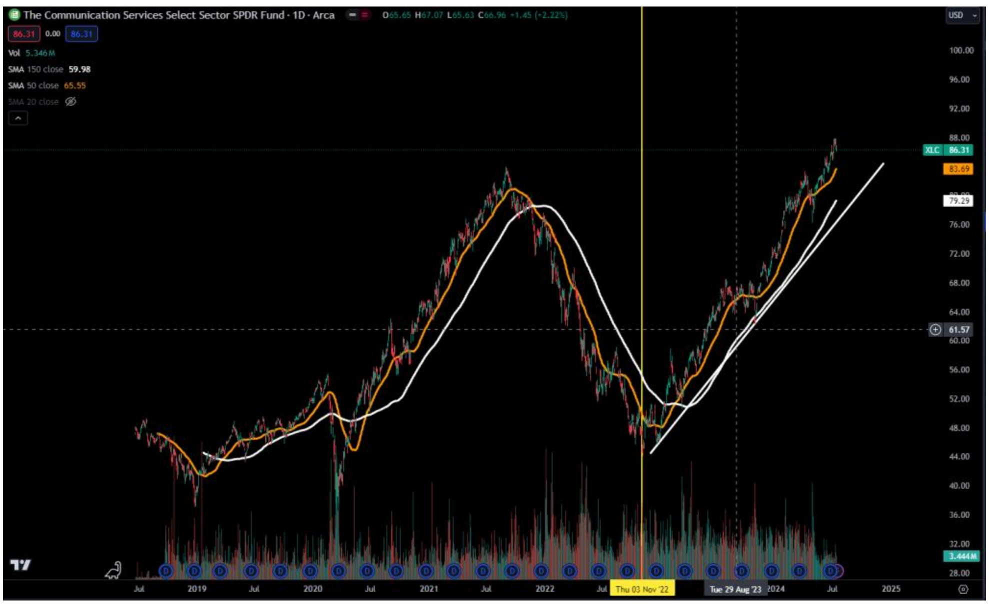
I also check the correlation between the total construction spending in communication between the stock price:





This time the correlation is non-existent, the spending is pretty stable, while the stock price fell and the growth fell as well.

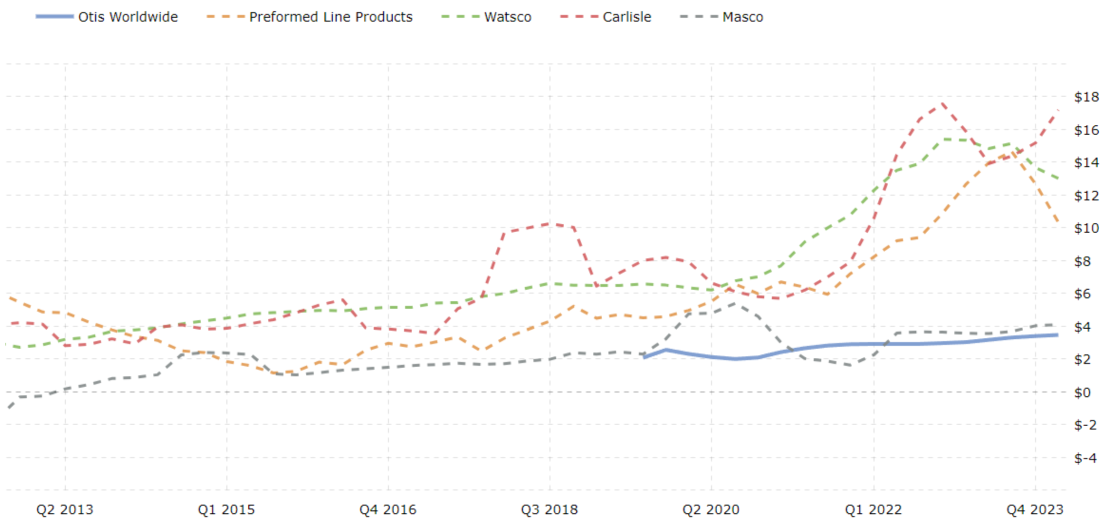
I also checked the s&p500 communication service index, an index that follows the companies in the s&p500 that are in the communication service sector, although the communication service sector is different then the communication sector, surely there is somewhat a correlation between the two, so I wanted to see if maybe they experienced a fall in stock price.



Again, not even the slightest sign of weakening buying power.

I still was not satisfied with the reliability of the results, so I check the Earnings Per Share graphs of the biggest companies in the communication sector, when a company get bigger, at some point her growth is really effected by the macro-economic environment, so if there is a weakening buying power, surely they would show signs as well.

Sources: macrotrends.net



Again, weak correlation, the sector seems fine.

I also checked their stock graphs and they almost all are around all-time high, which (probably) means their fundamentals are fine.

I think the final nail in the coffin is the fact that the communication sector makes only 29% of the company's sales, its not low, but still, there need to be an extreme weak buying power to cause a company a 3 consecutive negative growth quarters from a source that contributes only 29% of the sales.

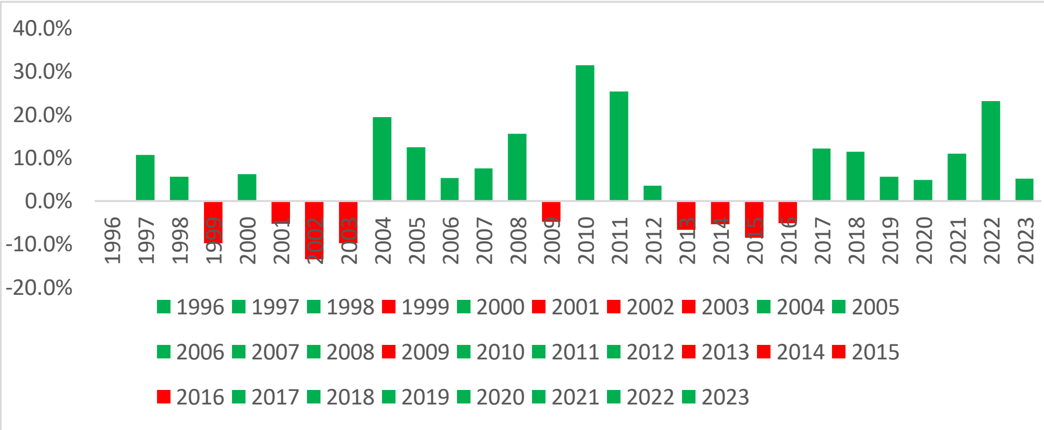
	Year Ended December 31, 2023				
Product Type	PLP-USA	The Americas	EMEA	Asia-Pacific	Consolidated
Energy	63%	74%	52%	73%	64%
Communications	33%	24%	44%	3%	29%
Special Industries	4%	2%	4%	24%	7%
Total	100%	100%	100%	100%	100%

<u>So why is the company shrinking?</u>

So why the company is shrinking? The answer for that question is complex, in general, there is no simple answer for complex questions.

I think the reason PLP is experiencing negative growth is because of number of reasons that together create the current situation, high interest rates, higher prices, crisis, maybe the metal price has surged, those small things can contribute to big changes in a company financials.

On the other hand, this is not the first time PLP is experiencing negative growth:



Between 2013 – 2016, PLP experienced negative growth, a characteristic of a declining company.

In the annual report of 2013, the CEO wrote in the letter for shareholders: "the economic situation is equally bleak, if not worse, through the world, where the negative impact of **utility spending** has been further compounded by devalued currencies……in spite of what gets touted in the media is so called improving economy, a recovery on wall street is not the same as a recovery on Main Street"

I think the CEO makes a **very interesting point** in this statement. Although 2013 seemed a great year for stocks, interest rates were low and the s&p500 yielded a return of almost 30%, the reality was different, by his own words: "negative impact of utility spending".

In the annual report of 2016, the CEO wrote in the letter for shareholders: "it has been a rough several years thanks in large part to a **stubbornly stagnant global economy**. And yes, that has been a central theme of this message for the past several years".

As I already said, I think that's the reason PLP is declining is a mix of several economic reasons, from reading the letters Robert (the CEO) wrote over the years, I believe him when he says that this slowdown is not here to last.

With that being said, I will value the stock price based upon the story where the company is entering yet a again a decline phase where she would decline for several years.

A new CEO – Dennis Mckenna

In the letter to shareholders of 2023, the CEO announced: “In addition to yet another record year, the other big story from 2023 was the shift in top-level leadership, which we are quite proud of. In June, Ryan Ruhlman was promoted to President, and then in November we announced that on 1/1/24 Dennis McKenna would be named CEO. I have assumed the responsibilities of Executive Chairman. The sidebar elaborates on what this means going forward.”

In short, a new CEO will rule the kingdom, and his name is Dennis Mckenna.

Dennis McKenna is a long-standing employee of PLP, joining the company's ranks in 1993 and steadily progressing through various leadership roles over his impressive thirty-year career. Most recently, Dennis served as the company's Chief Operating Officer, where he oversaw PLP's global operations and business development teams.

"PLP's Board of Directors couldn't be more pleased with the appointment of Dennis as PLP's 4th CEO in the company's 76-year history," said Rob Ruhlman, current CEO and future Executive Chairman. "I am especially proud and fortunate that someone like Dennis, who has spent thirty years with the company, has risen through the ranks to become our next Chief Executive Officer – an incredible validation of the emphasis we place on employee retention and development."

"It's an honor and privilege to have the opportunity to serve as CEO of PLP," said McKenna. "Like so many people at this company, I have a passion for helping the people we interact with every day and the critical industries we serve. I look forward to working closely with Rob, Ryan, the Board and the entire PLP organization as we continue to expand our product offerings, diversify globally and provide the unparalleled service that our customers and partners worldwide have come to expect from this great company."

Dennis, like the company, isn’t known to wall street at all, finding information about him was not an easy job.
Dennis is 56 years old, he learned in the university of Florida, and did an MBA at the university of south Florida.

Finding information about what exactly is Dennis going to do different was impossible, there is no interview or anything that can shed some light on the new model or principles he would apply, which is somewhat worrying, but for the sake of this valuation, **I’m going to assume that he will be an average CEO and will perform on average like the former CEO would have.**

Robert, the former CEO

Dennis, the current CEO

The Balance Sheet

The most updated balance sheet of PLP is as follows:

(Thousands of dollars, except share and per share data)	March 31, 2024 *(Unaudited)*	December 31, 2023
ASSETS		
Cash, cash equivalents and restricted cash	$ 45,859	$ 53,607
Accounts receivable, net	111,527	106,892
Inventories, net	141,508	148,814
Prepaid expenses	8,314	8,246
Other current assets	7,053	7,256
TOTAL CURRENT ASSETS	314,261	324,815
Property, plant and equipment, net	203,242	207,892
Goodwill	28,603	29,497
Other intangible assets, net	11,868	12,981
Deferred income taxes	7,379	7,109
Other assets	20,756	20,857
TOTAL ASSETS	$ 586,109	$ 603,151
LIABILITIES AND SHAREHOLDERS' EQUITY		
Trade accounts payable	$ 41,748	$ 37,788
Notes payable to banks	1,487	6,968
Current portion of long-term debt	7,078	6,486
Accrued compensation and other benefits	23,348	28,018
Accrued expenses and other liabilities	26,043	32,057
TOTAL CURRENT LIABILITIES	99,704	111,317
Long-term debt, less current portion	47,928	48,796
Other noncurrent liabilities and deferred income taxes	25,109	26,882
SHAREHOLDERS' EQUITY		
Common shares – $2 par value per share, 15,000,000 shares authorized, 4,918,036 and 4,908,413 issued and outstanding, at March 31, 2024 and December 31, 2023	13,711	13,607
Common shares issued to rabbi trust, 238,641 and 243,118 shares at March 31, 2024 and December 31, 2023, respectively	(10,214)	(10,183)
Deferred compensation liability	10,214	10,183
Paid-in capital	61,408	60,958
Retained earnings	528,733	520,154
Treasury shares, at cost, 1,937,150 and 1,894,419 shares at March 31, 2024 and December 31, 2024, respectively	(123,701)	(118,249)
Accumulated other comprehensive loss	(66,782)	(60,306)
TOTAL PREFORMED LINE PRODUCTS COMPANY SHAREHOLDERS' EQUITY	413,369	416,164
Noncontrolling interest	(1)	(8)
TOTAL SHAREHOLDERS' EQUITY	413,368	416,156
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$ 586,109	$ 603,151

The cash to current liabilities ratio is 0.46, a strong and good sign that the company can right now pay 47% of its current liabilities with its cash.

The cash to total liabilities is 0.27, good value as well, PLP can pay almost 30% of all of its liabilities with her cash, giving her a much lower risk of default in the far future.

The current assets to current liabilities ratio is 3.15, a very strong value that indicates that basically there is almost no risk of defaulting in the near future, or turning into bad funding solutions that will have bad effects in the future, the firm can easily liquidate money to use.

The current assets to total liabilities ratio is 1.82, great value, PLP doesn't even need to liquidate all its current assets to pay all her liabilities, PLP is here to stay.

Total assets to total liabilities ratio if 3.39, very strong value, very low default risk.

The long-term debt portion of the total liabilities is 27%, which also indicates that PLP doesn't have a heavy dent burden on its back, and again, its here to stay in the far long future.

Disclosure of Opening

PLP is a small company that provides building products, it has been tradeable since 1995 but is yet to achieve wall street's spotlight.

Over the years she proved to be able to shift her products towards consumer preferences and trends and was successful in innovating itself and providing quality products.

For the last few quarters, it has been experiencing negative growth for a mix of economic reasons that are hard to pinpoint, although it seems that this negative growth won't stick with the company for the rest of 2024.

It had a shift in management, and got a new CEO, although it's unknown if this change will benefit the company itself. I liked Robert because of his honesty, the need to deliver quality over the table and his passion towards the company, and we can only hope that Dennis would follow as well.

PART 2 – Discounted Cash Flow

Different stories - One company

To compute a fair value per share for a stock by a DCF, there needs to be a story to follow in computing the forecasts. In this valuation I would like to try three different scenarios:

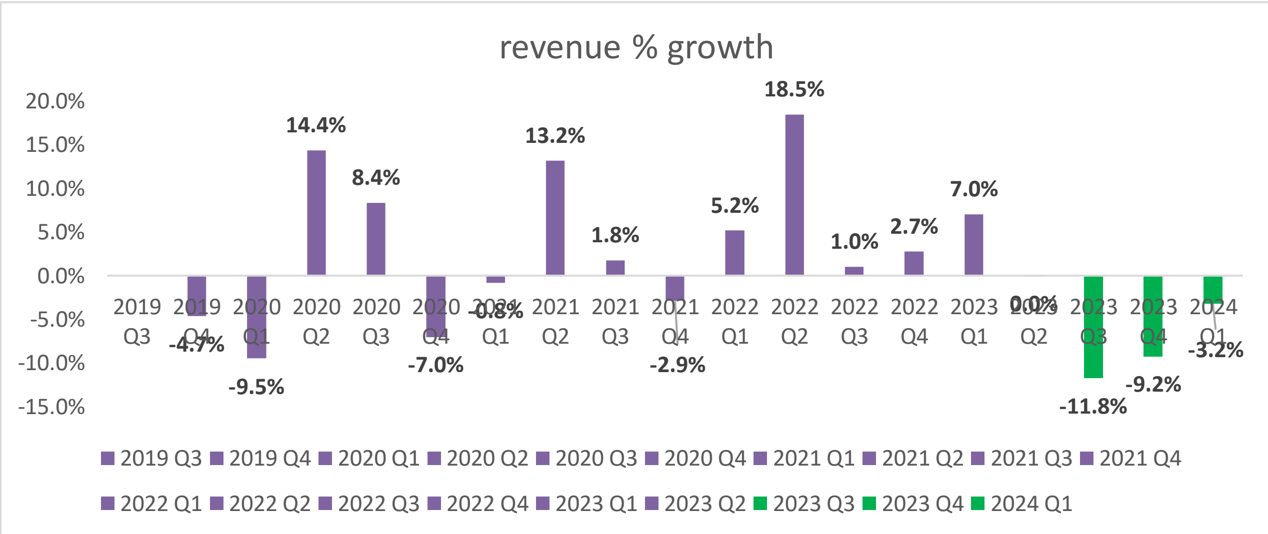
Scenario 1 – my story

In the annual report of 2023, the CEO wrote In the letter for shareholders:" The resultant record year was built on the strength of a very solid first half of the year, tempered by a slower second half which we believe will continue through the first half of 2024."

I tend to believe him when he says that they estimate the demand would only stick around for the first half year of 2024, mainly because of 2 reasons:

First, between 2013 to 2016, when the company was declining and shrinking, he (the CEO) wrote in the letter for shareholders the truth, that the company is in a bad position and the near future doesn't seem less bleak, he was always brutally honest in his letter.

Second, simply by looking at the growth rate by quarter, there is an obvious trend, and by the regression line of the last 3 quarters, the growth rate In Q2 2024 should be around 0%, which lines up perfectly with the CEO's story.



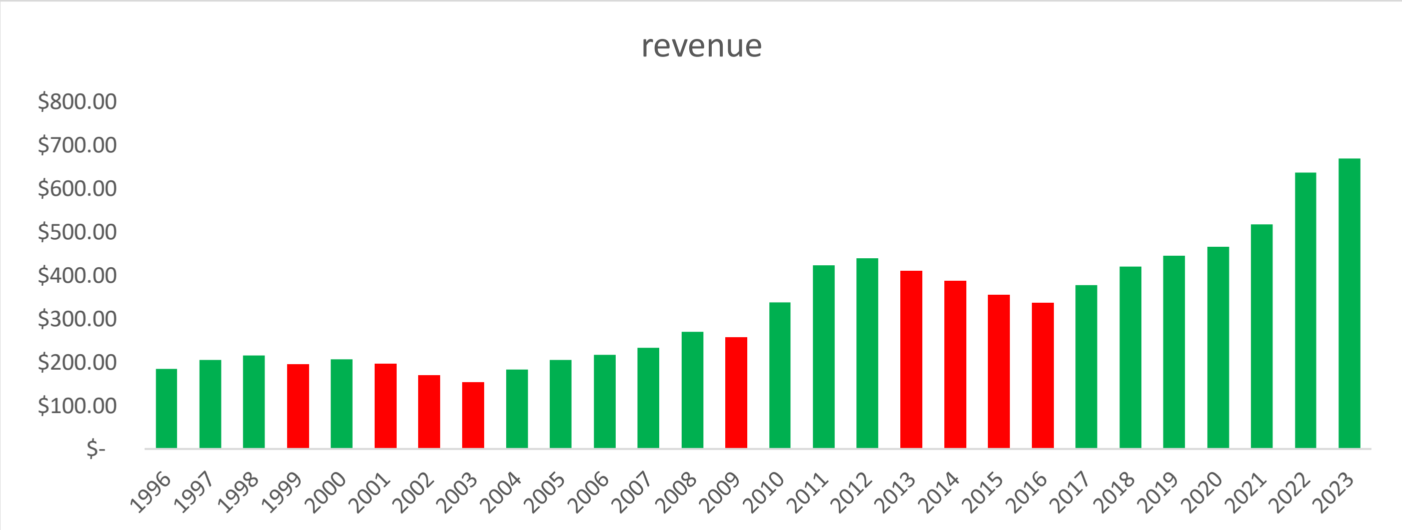
So by my story, PLP have experienced a negative growth for several economic reasons, but the demand has bounced back, although there is a new CEO, PLP would continue to operate as usual, thus achieving about **average growth rates**, she won't need to reinvest much more then what she already does, and she would maintain current margins.

A story of "business as usual".

Key value: average growth, average reinvestment rate, maintained margins

Scenario 2 – recession

As we have already saw, PLP have already experienced recession periods where she experienced negative growth for years:



Over the years since PLP turned public, she experienced negative growth several times. to be specific, she experienced 1 year of negative growth 2 times, and several years of negative growth 2 times.

We already covered a story about a single year of negative growth in scenario 1 – my story, this story is about a several years of negative growth.

On average, every "recession period" took 3.5 years, I'm not going to act like if PLP going to experience a recession period I'm capable of knowing exactly how many years it will be, so I am just going to assume arbitrary the more optimistic route, which is 3 years and not 4.

Because she experiences negative growth, she would have a hard time cutting costs, thus lower margins, around the median industry. but on the bright side she won't have to reinvest much.

Key values: 3 years negative growth then stable growth, 3 years low margins then stable, 3 years of ease reinvestment and then reinvest higher.

WACC – Weighted Average Cost of Capital

Length of the model

Choosing the length of the model depends on the point the company is in at it's life cycle, for one side, PLP's market cap is only around 500mill, on the other side, she operate since the 1950's.

By taking a look at her growth rates, the average growth rate of recent years is about 10%, while the industry grows at about 4%, with gives the impression that PLP is yet to be a mature company (in theory a mature company will grow about the industry growth).

Thus, I feel comfortable making the model 8 years long (where 5 is usually for mature companies and 15 is for absolutely new young companies).

Equity

Risk free rate

The risk-free rate is the rate of return of a theoretical **risk-free investment**.

In my opinion, the most safest country in the world is the us, the safest investment in the world is in form of bonds, thus, the safest investment in the world is us bonds.

The current rate of return on the 30Y us Treasury is 4.40%. I don't feel very comfortable trying to assess the future risk free rate, and it's also doesn't play a big role in the valuation, but in a nutshell, the rate of return can be traced back to the interest rates.

Inflation shows the first signs of cooling down, which will make interest rates fall. I think that the bond rate would get around the historical median of about 3%.

risk free rate

current us 30y bond:	4.40%
average us 30y bond:	3%

risk free rate Assumption

4.40% → 3.00%

Equity risk premium

The equity risk premium is the rate of return in which investors demand for investing in the us equity market, since investing in us equity bears within it more risk than risk free investments, there is some premium investors would demand for doing so.

For that reason, the formula of the ERP is;

ERP = rm-rf

Where:

Rm – return of the market

Rf- risk free investment

Furthermore, because the us is considered the safest market to invest in, there is a premium investors demand for investing in other countries, this premium comes from the risk that the country will default, thus, one way of calculating the equity risk premium for a country is;

ERP country x = ERP of the safest country to invest + country x default risk

= ERP of the us + country x default risk.

To calculate the equity risk premium for a firm, we first want to understand where the firm's risk comes from.

In PLP's case, she specifies the spread by revenue in her notes:

We report our segments in four geographic regions: PLP-USA (including corporate), The Americas (includes operations in North and South America, excluding PLP-USA), EMEA (Europe, Middle East & Africa) and Asia-Pacific, in accordance with accounting standards codified in Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 280, "Segment Reporting". Each segment distributes a full range of our primary products. Our PLP-USA segment is comprised of our U.S. operations manufacturing our traditional products primarily supporting our domestic energy, telecommunications, solar framing products and inspection services. Our other three segments, The Americas, EMEA and Asia-Pacific, support our energy, telecommunications, data communication, solar and other products in each respective geographical region.

	Year Ended December 31,		
	2023	2022	2021
Net sales			
PLP-USA	$ 378,563	$ 366,819	$ 257,602
The Americas	86,059	85,200	70,732
EMEA	102,130	96,126	95,922
Asia-Pacific	102,927	88,876	93,161
Total net sales	$ 669,679	$ 637,021	$ 517,417

Unfortunately, PLP doesn't specify by country, so I will use a rough measure of default risk, by averaging the 3 biggest countries in every region.

The current equity risk premium of the us is 3.97%, the average historical equity risk premium is 4.12%, which we will use it in the terminal value.

currernt

	net sales	% from total sales		us erp	default risk	equity risk premium	weighted avg
us	378.563	57%		3.97%	0%	3.97%	2.24%
america	86.059	13%		3.97%	2%	5.97%	0.77%
europe, middle east & africa	102.13	15%		3.97%	4%	7.97%	1.22%
asia	102.927	15%		3.97%	2%	5.97%	0.92%
total sales	669.679	1		3.97%		3.97%	
						total:	5.14%

In the terminal value, I assume PLP will get closer to be globally, thus I will round the spread by region to about 40% us, and 20% each region.

terminal

	net sales	% from total sales		us erp	default risk	equity risk premium	weighted avg
us	378.563	40%		4.12%	0%	4.12%	1.65%
america	86.059	20%		4.12%	2%	6.12%	1.22%
europe, middle east & africa	102.13	20%		4.12%	4%	8.12%	1.62%
asia	102.927	20%		4.12%	2%	6.12%	1.22%
total sales	669.679	1		4.12%		4.12%	
						total:	5.72%

equity risk premium Assumption

5.14% → 5.72%

Relative risk measure – beta

The last ingredient we need to compute the cost of equity is the relative risk measure, the beta.

To compute the beta, we will create a beta by industry, PLP specifies her revenue by industry in her notes:

	Year Ended December 31, 2023				
Product Type	PLP-USA	The Americas	EMEA	Asia-Pacific	Consolidated
Energy	63%	74%	52%	73%	64%
Communications	33%	24%	44%	3%	29%
Special Industries	4%	2%	4%	24%	7%
Total	100%	100%	100%	100%	100%

To compute a beta for each industry, I will compute an average of all the firms in the industry, thus the standard deviation will get much lower and the value would be more precise.

Sector name	Number of firms	Beta (5Y Monthly) avg
Energy	219	1.401899543

Sector name	Number of firms	Beta (5Y Monthly) avg	D/E Ratio
Communication Services	226	1.18450885	18.93520399

Industry Name	Number of firms	Beta (5Y Monthly) avg	D/E Ratio	Effective Tax rate	Unlevered beta
Shell Companies	3	0.012333333	0.001202624		0.012318519
Biotechnology	486	1.057288066	0.053600779		1.0034997
Farm Products	18	0.886444444	0.433323177		0.618453995

Industry Name	Number of firms	Beta (5Y Monthly) avg	D/E Ratio	Effective Tax rate	Unlevered beta	Cash/Firm value	Unlevered beta corrected for cash
Auto Parts	39	1.780974359	0.434852401		1.241224782	40%	2.074011542
Staffing & Employment Services	24	1.043666667	0.05565214		0.98864638	14%	1.148397411
Electrical Equipment & Parts	37	1.246648649	0.182467837		1.054277005	-4%	1.012584742

		% from revenue		unlevered beta		weighted avg
Energy		64%		1.401		0.89664
communications		29%		1.184		0.34336
special industries		7%		0.8		0.056
total		100%				1.296

Theoretically, in the terminal value, the company gets so big that her relative risk is basically 1, because she moves with the market.

beta Assumption

1.296 → 1

<u>Cost of equity calculation</u>

By the CAPM model: cost of equity = rf+(beta*equity risk premium)

	current	terminal
risk free rate	4.40%	3%
equity risk premium	5.14%	5.72%
beta	1.296	1
cost of equity	11.07%	8.72%

cost of equity Assumption

11.07% → 8.72%

<u>Market value of equity</u>

Mv of equity = shares outstanding * stock price

stock price:	$	119.00
shares outstanding:		4.92 mill
mv of equity:	$	585.48

Debt

Cost of debt

The cost of debt is the rate of return lenders demand for lending money for the firm, thus, riskier firms have higher cost of debt and safer firms have lower cost of debt.

Cost of debt = rf + country default risk*x + company default risk

Where:

rf – risk free rate

country default risk – the default risk of the country the firm is operating in

x – the precent of exposure of the firm to the country

although the country default risk is equal to 0, because PLP is operating in the us.

PLP does not have a rating to its company, so we will make a syntactic one:

For smaller and riskier firms

If interest coverage ratio is			
greater than	≤ to	Rating is	Spread is
-100000	0.499999	D2/D	20.00%
0.5	0.799999	C2/C	17.00%
0.8	1.249999	Ca2/CC	11.78%
1.25	1.499999	Caa/CCC	8.51%
1.5	1.999999	B3/B-	5.24%
2	2.499999	B2/B	3.61%
2.5	2.999999	B1/B+	3.14%
3	3.499999	Ba2/BB	2.21%
3.5	3.9999999	Ba1/BB+	1.74%
4	4.499999	Baa2/BBB	1.47%
4.5	5.999999	A3/A-	1.21%
6	7.499999	A2/A	1.07%
7.5	9.499999	A1/A+	0.92%
9.5	12.499999	Aa2/AA	0.70%
12.5	100000	Aaa/AAA	0.59%

cost of debt = rf + x*country default risk + company default risk
x = 0; the usa has a default risk of 0%
cost of debt = rf+company default risk

PLP has no bonds outstanding

interest coverage ratio = operating income/interest expenses =11559/708 = 16.32627 → 0.59%

cost of debt Assumption
4.99% → 3.59%

Market value of debt

To estimate the market value of the debt, we would treat the future debt as **bonds,** thus, the coupon rate will be the interest payment, and the discount rate will be the cost of debt.

To estimate how many years does this "bond" has before expiring, we would calculate a rough estimate of how many years are there to all interest-bearing debt is to be paid fully by the firm.

We can find the debt information in the companies notes:

Long-term debt, including current portion		
U.S. Dollar denominated at 6.62%, due 2026	22,653	35,444
U.S. Dollar denominated at 2.74%, due 2031	14,692	16,742
Brazilian Real denominated at 8.30% due 2025	1,000	1,800
Poland Zloty denominated at 6.97% due 2026	7,691	5,636
Australian Dollar denominated at 4.06%, due 2026	—	1,350
Austria Euro denominated at 4.90% due 2026	1,387	1,331
Indonesia U.S. Dollar denominated at 3.50% due 2024	4,267	5,067
New Zealand Dollar denominated at 5.78% due 2026	2,538	2,853
Czech Republic Koruna denominated at 3.00% due 2025	191	226
Czech Republic Koruna denominated at 3.69% due 2031	703	989
Czech Republic Koruna denominated at 1.60% due 2026	160	—
Total long-term debt	55,282	71,438
Less current portion	(6,486)	(3,018)
Total long-term debt, less current portion	48,796	68,420
Total debt	$ 62,250	$ 89,536

to calculate the market value of debt we would treat the debt as a bond

due	year until due		total debt
	2025	1	$ 1,191.00
	2026	2	$ 34,429.00
	2031	7	$ 15,396.00
total		10	

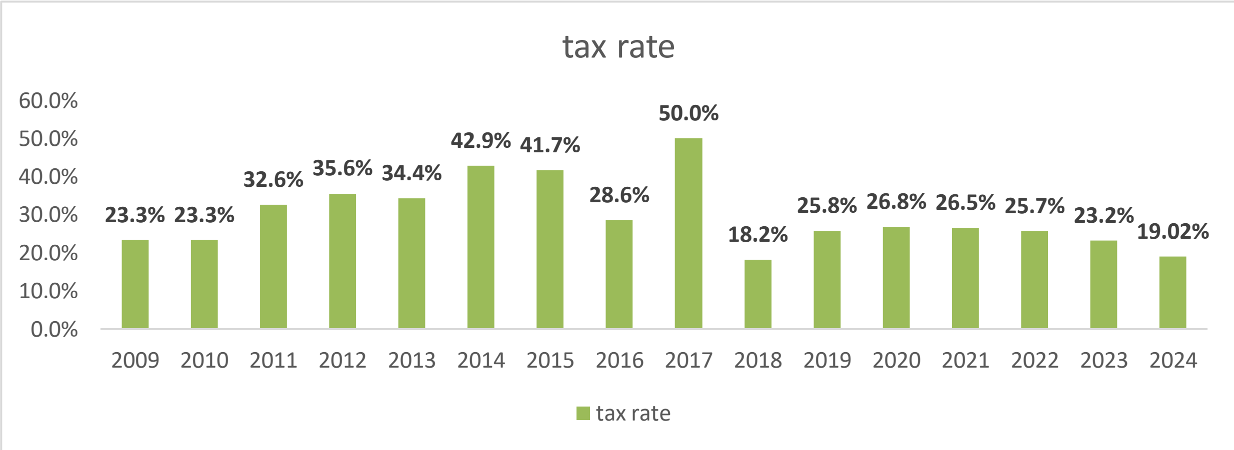
year until all debt is be due - 10

year	1	2	3	4	5	6	7	8	9	10
interest exp	3547	3547	3547	3547	3547	3547	3547	3547	3547	3547
cost of debt	4.76%	4.52%	4.29%	4.06%	3.82%	3.59%	3.59%	3.59%	3.59%	3.59%
present value	3385.96896	3246.685534	3127.083	3025.43004	2940.288	2870.478	2770.998923	2674.968	2582.264	2492.773722

total:	$	29,116.94	in thousands	
total debt:	$	62,250.00		
market value of debt:	$	91,366.94	thousands	$ 91.37 mill

Tax rate

estimating the future tax rate of a firm is quite hard, we don't know what kind of tax benefits the firm can gain and we don't know what her future income will be, but as a rule of thumb, we want to start with the **effective tax rate** and slowly move torwards **corporate marginal tax rate** which currently is 21%.



tax rate Assumption

effective tax rate → corporate marginal tax rate of 21%

19.02% → 21.00%

WACC calculation

Now we have all the ingredients to compute the weighted average cost of capital.

period	current	terminal
cost of equity	11.07%	8.72%
market value of equity	$ 585.48	$ 585.48
cost of debt	4.99%	3.59%
tax rate	19%	21%
after tax cost of debt	4.040%	2.836%
market value of debt	$ 91.37	$ 91.3669
debt porion of capital	13.5%	13.5%
equity portion of capital	86.5%	86.5%
cost of capital (WACC)	10.12%	7.93%

Weight Average Cost of Capital Assumption

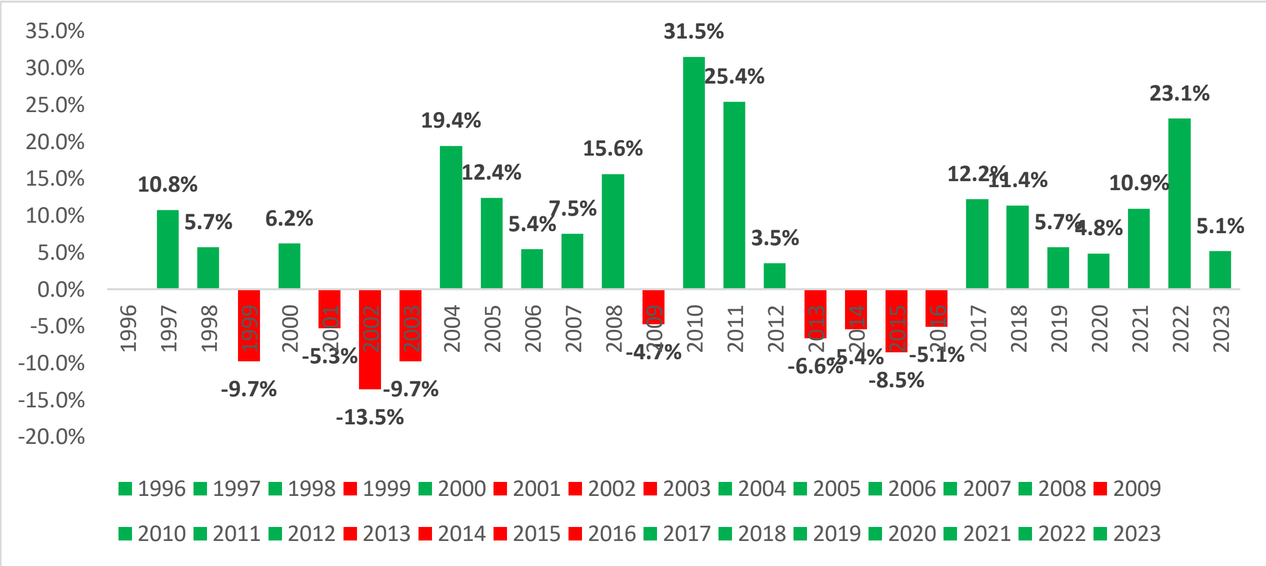
10.12% → 7.93%

current	1	2	3	4	5	6	7	8	terminal
10.12%	9.87%	9.63%	9.39%	9.14%	8.90%	8.66%	8.41%	8.17%	7.93%

Forecasts & Estimations

Growth rates

The historical growth rates of PLP are as follows:



The average historical growth rate is 5.5%, the median is 5.7%.

The average historical growth rate **excluding years of negative growth** is 10.0%, the median 9.1%.

number of firms in the sample: 3896

industry	number of firms in the sample	(5y regression) beta	annual operating margins	(fiscal) year growth	average 3y growth	sales to capital ratio (rough measure)	average 4y sales to capital ratio (rough measure)
Electrical Equipment & Parts	35	mean: 1.19% median: 1.12% stdev:0.9	mean: nan% median: -5.26% stdev:nan	mean: nan% median: 9.88% stdev:nan	mean: nan% median: 18.98% stdev:nan	mean: nan% median: 1.53% stdev:nan	mean: nan% median: 1.53% stdev:nan

The median industry growth rate is 9.88%.

The numbers pretty much line up, and it will be fair assumption to assume that within couple of years PLP will perform about 9.1% growth rate.

The average growth rates in the years of negative growth is -7.6%, the median is -6.6%.

By story 1 we assume a 1-year negative growth, fairly assumed of -7%.

By year 1, because of a weak year, PLP will experience about -7% growth rate, at year 2 demand would bounce back, and slowly adjust itself towards the average.

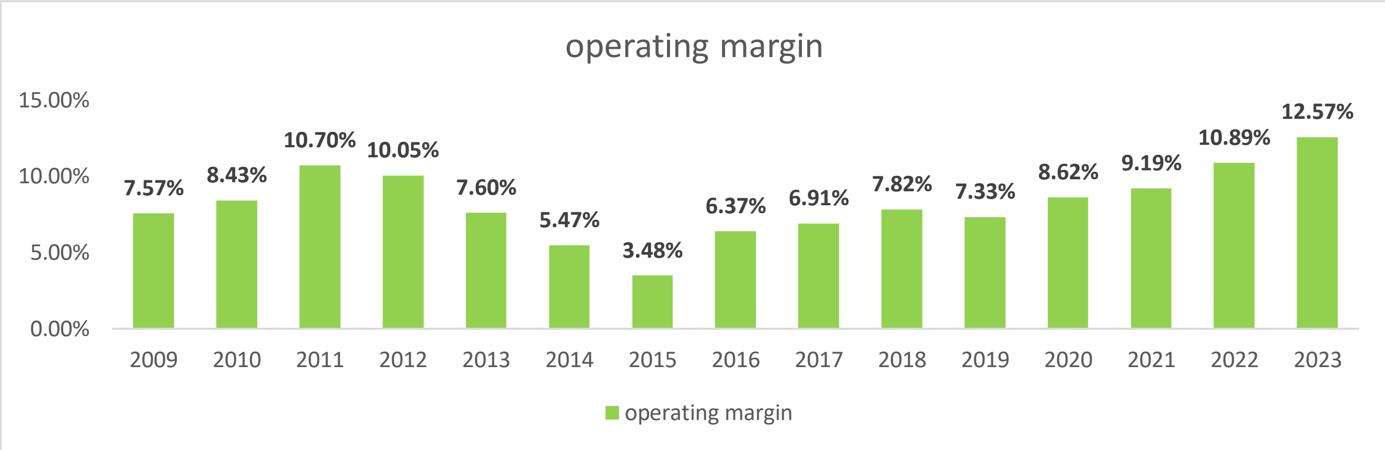
year	1	2	3	4	5	6	7	8	terminal
growth rate	-7.0%	7.0%	7.7%	8.4%	9.1%	9.1%	9.1%	9.1%	9.1%

By story 2, PLP would experience 3 years of consecutive negative growth, on average -7%, and then growth would adjust itself towards the average.

year	1	2	3	4	5	6	7	8	terminal
growth rate	-7.0%	-7.0%	-7.0%	5.7%	7.0%	8.1%	9.2%	9%	9.0%

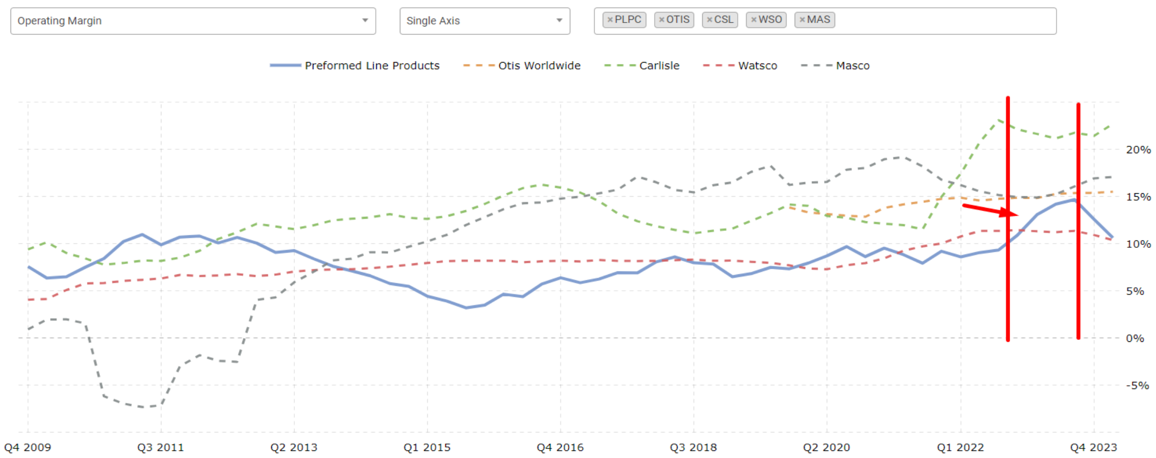
Operating margins

The historical operating margins are as follows:



For the last 8 years, PLP managed to increase its efficiency, although the current operating

A comparison of the operating margins with her biggest competitors are as follows:



The increase in the operating margin of PLP, is not something that happened industry-wide, thus, the efficiency came from within the company, with means it's here to stay.

The median operating margin of the industry is about 12%, which lines up with the current data.

My assumption Is that 2024, as with the growth rate, would be a year of decrease in efficiency, causing the operating margins to fall to its latest current value at about 10%.

Within the years it would adjust itself back towards 12%.

operating margins Assumption
10.00% → 12.00%

year	current	1	2	3	4	5	terminal
operating margins	10.0%	10.0%	10.4%	10.8%	11.2%	11.6%	12%

By story 2, PLP would have a rough time, and margins would fall towards the median industry, but after 3 years she would be able to improve them one again towards 12%.

operating margins Assumption
10.00% → median op margins of 7.82% → 12%

year	current	1	2	3	4	5	6	7	8	terminal
operating margins	10.00%	9.3%	8.5%	7.82%	10.4%	10.8%	11.2%	11.6%	12%	12.000%

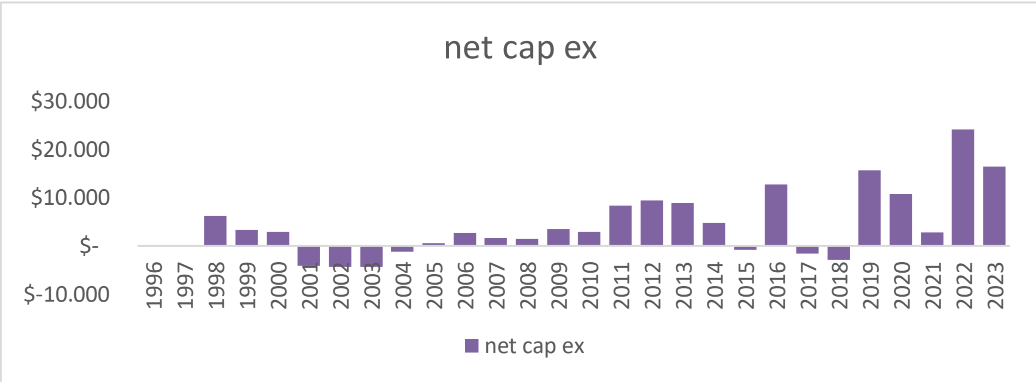
reinvestment

The reinvestment amount is the sum of the net capital expenditure and the change in non-cash working capital.

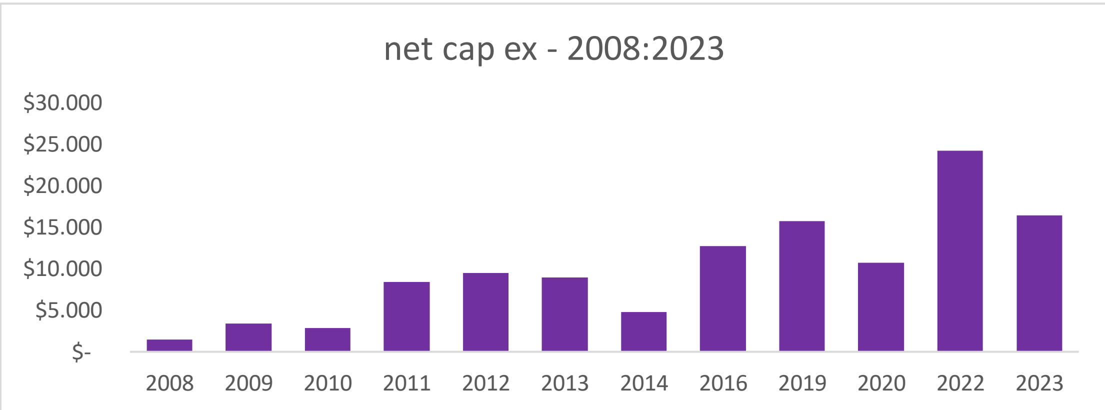
Net capital expenditures

The historical capital expenditures of the company are as follows:

Note that bet cap ex can be negative because it represents the real cash outflow from cap ex, thus high depreciation can cause it to be negative.



Although it is not obvious, there is a visible trendline, especially for the last 20 years:



By making a simple regression trendline, we get a strong R squared of 73%:

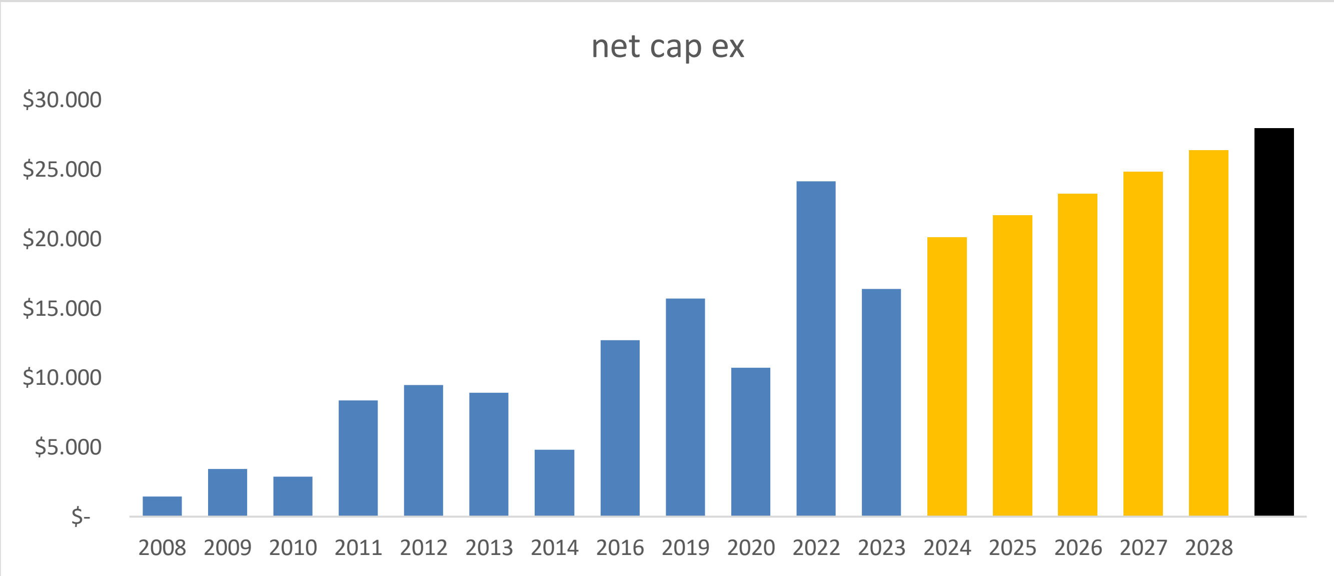
Regression Statistics	
Multiple	0.8555473
R Square	**73%**
Adjusted	**71%**
Standard	3.5884961
Observati	12

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regressic	1	351.6537955	351.6537955	27.30802905	0.000386678
Residual	10	128.7730414	12.87730414		
Total	11	480.4268369			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-0.264439	2.208566666	-0.11973349	0.907065608	-5.18543259	4.656553802	-5.1854326	4.656553802
index	1.5681573	0.300085118	5.225708474	0.000386678	0.899526033	2.236788652	0.899526	2.236788652

Plotting the expected net cap ex by the trendline yields us this graph:



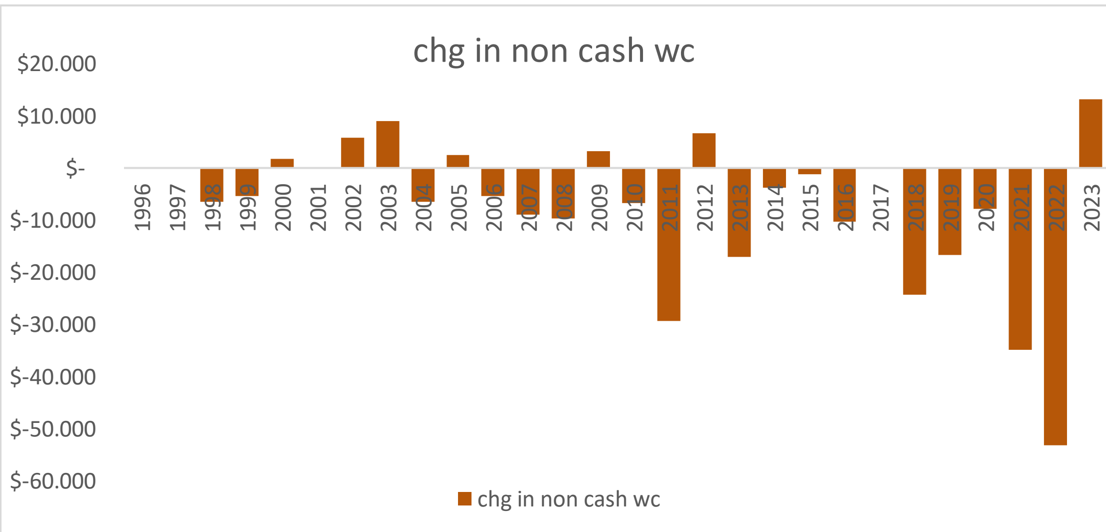
It's pretty obvious that this estimate is **overestimating the expected net cap ex**, but I don't see it as a bad thing, but as a safety approach. The net cap ex is a cash outflow, thus, as the net cap ex gets bigger, the free cash flow to the firm gets lower, and the fair value per share decreases as well. Thus, by overestimating the net cap ex, at the worst-case scenario we compute a lower fair value, which if we still find the company undervalued, would only further protect the investor.

On the other hand, if we underestimate the net cap ex, and the actual future net cap ex would be higher, it will cause the fair value of the stock to be lower then we computed, which in worst case scenario, would cause an investor to buy an overvalued stock thinking its undervalued.

So, I'm perfectly fine with overestimating net cap ex, then underestimating net cap ex.

<u>Change in non-cash working capital</u>

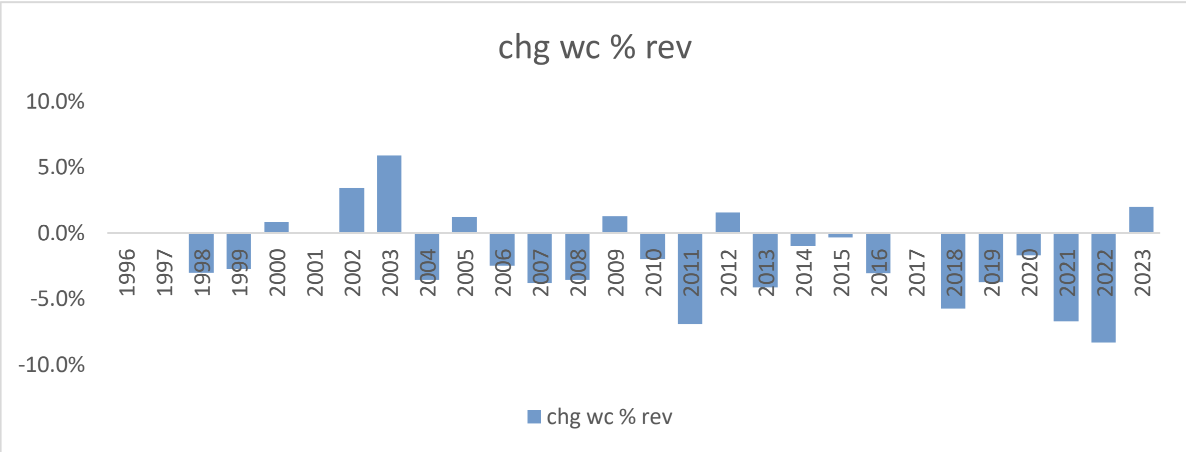
The change in non-cash working capital is equal to the old net WC minus the new net WC, which equals to the actual cash the firm got/used beside the net capital expenditures.



The change in no cash working capital, or for short NWC (net working capital) as in most cases the trickiest part in the valuation, mostly because it's the most volatile.

As a reminder, a **positive**, change in NWC, is because the NWC has decreased, a decrease in NWC, means either current assets have decreased or current liabilities has increased, which is a source of cash, thus, a positive change in NWC is a source of cash, where a negative change in NWC is a use of cash.

The change in NWC as % of revenues is as follows:



Now its much more reasonable predicting the change in NWC, the average is 2.3%, the median 1.8%, the average is more reasonable to use, because its gives more weight to years where the change is positive.

Assuming by my story that PLP would continue a "business as usual" route, using the historical average is a fine estimate.

Its important to note that in the terminal year, the change in NWC should be zero, because assuming that either the change in NWC would be positive or negative in perpetuity is wrong.

By story 1:

year	current	1	2	3	4	5	terminal
chg NWC	-2.3%	-2.3%	-2.3%	-2.3%	-2.3%	-2.3%	0%

By story 2:

year	current	1	2	3	4	5	6	7	8	terminal
chg NWC	-2.3%	-2.3%	-2.3%	-2.3%	-2.3%	-2.3%	-2.3%	-2.3%	-2.3%	0.000%

The DCF

By story 1:

DCF	fiscal 2023	1	2	3	4	5	6	7	8	terminal
Growth rate		-7.00%	7.00%	7.70%	8.40%	9.10%	9.10%	9.10%	9.10%	9.10%
Revenues	$ 669.70	$ 622.8	$ 666.4	$ 717.7	$ 778.0	$ 848.8	$ 926.1	$ 1,010.3	$ 1,102.3	$ 1,202.6
Operating margins		10.00%	10.40%	10.80%	11.20%	11.60%	12.00%	12.00%	12.00%	12.00%
EBIT		$ 62.28	$ 69.31	$ 77.52	$ 87.14	$ 98.46	$ 111.13	$ 121.24	$ 132.27	$ 144.31
Tax rate		19.35%	19.68%	20.01%	20.34%	20.67%	21.00%	21.00%	21.00%	21.00%
EBIT after tax		$ 50.23	$ 55.67	$ 62.01	$ 69.42	$ 78.11	$ 87.79	$ 95.78	$ 104.50	$ 114.01
net cap ex		$ 20.12	$ 21.69	$ 23.26	$ 24.83	$ 26.39	$ 27.96	$ 29.53	$ 31.10	$ 32.67
chg in non cash wc as % of revenue		-2.3%	-2.3%	-2.3%	-2.3%	-2.3%	-2.3%	-2.3%	-2.3%	0%
chg in non cash wc		$ -14.32	$ -15.33	$ -16.51	$ -17.89	$ -19.52	$ -21.30	$ -23.24	$ -25.35	$ -

FCFF		1	2	3	4	5	6	7	8	9
	Unlevered FCFF	$ 15.79	$ 18.65	$ 22.24	$ 26.69	$ 32.19	$ 38.53	$ 43.01	$ 48.04	$ 81.34
	WACC	9.874%	9.631%	9.387%	9.144%	8.900%	8.656%	8.413%	8.169%	7.926%
	Present Value of FCFF	$ 14.37	$ 15.52	$ 16.99	$ 18.81	$ 21.02	$ 23.41	$ 24.44	$ 25.63	$ 40.94
	TOTAL =	$ 201.13								

stable growth rate =	4.00%	
Terminal Value		$ 1,042.91
Present Value of Terminal Value		$ 524.96
Enterprise Value		**$ 726.09**
+ Cash		$ 45.859
- Debt		$ 55.006
Equity Value		**717**
Shares		4.91
Fair Share Price		**$ 146.08**
current price		**$ 128.00**
% gain (loss)		**14.12%**

By story 2:

DCF	fiscal 2024	1	2	3	4	5	6	7	8	terminal
Growth rate		*-7.00%*	*-7.00%*	*-7.00%*	*5.67%*	*7.00%*	*8.08%*	*9.17%*	*9.10%*	*9.00%*
Revenues	$ 669.70	$ 622.8	$ 579.2	$ 538.7	$ 569.2	$ 609.1	$ 658.3	$ 718.6	$ 784.0	$ 854.6
Operating margins		**9.27%**	**8.55%**	**7.82%**	**10.40%**	**10.80%**	**11.20%**	**11.60%**	**12.00%**	**12.00%**
EBIT		$ 57.76	$ 49.50	$ 42.12	$ 59.20	$ 65.78	$ 73.73	$ 83.36	$ 94.08	$ 102.55
Tax rate		**19.35%**	**19.68%**	**20.01%**	**20.34%**	**20.67%**	**21.00%**	**21.00%**	**21.00%**	**21.00%**
EBIT after tax		$ 46.58	$ 39.76	$ 33.70	$ 47.16	$ 52.18	$ 58.25	$ 65.85	$ 74.32	$ 81.01
net cap ex		**$ 20.12**	**$ 20.12**	**$ 20.12**	**$ 20.12**	**$ 21.69**	**$ 23.26**	**$ 24.83**	**$ 26.39**	**$ 27.96**
chg in non cash wc as % of revenue		**-2%**	**-2%**	**-2%**	**-2%**	**-2%**	**-2%**	**-2%**	**-2%**	**0%**
chg in non cash wc (use of cash)		$ -12.46	$ -11.58	$ -10.77	$ -11.38	$ -12.18	$ -13.17	$ -14.37	$ -15.68	$ -
		1	2	3	4	5	6	7	8	9
FCFF	**Unlevered FCFF**	$ 14.00	$ 8.06	$ 2.80	$ 15.65	$ 18.31	$ 21.82	$ 26.66	$ 32.25	$ 53.05
	WACC	**9.874%**	**9.631%**	**9.387%**	**9.144%**	**8.900%**	**7.926%**	**7.926%**	**7.926%**	**7.926%**
	Present Value of FCFF	$ 12.75	$ 6.70	$ 2.14	$ 11.03	$ 11.96	$ 13.81	$ 15.63	$ 17.52	$ 26.70
	TOTAL =	$ 58.38								

stable growth rate =	4.00%	
Terminal Value		$ 680.23
Present Value of Terminal Value		$ 342.40
Enterprise Value		**$ 400.78**
+ Cash		$ 45.859
- Debt		$ 55.006
Equity Value		**392**
Shares		4.91
Fair Share Price		**$ 79.79**
current price		**$ 128.00**
% gain (loss)		**-37.66%**

PART 3 – conclusions and final thoughts

By story 1, the fair value of the stock is 146$, where the market value is 128%, a change of around 15%.

By story 2, the fair value of the stock 79%, a change of around -38%.

In my opinion story 1 is the more likely plotline to happen, the fair value we get from the DCF tells us that if PLP is continuing business as usual, it's already fair valued.

I don't find this surprising at all, old companies tend to be closer to their fair value, talking about PLP specifically, I think the company as a whole is a good one, great intention, great passion, it has a way to go, but by her past achievements, she doesn't seem much attractive, I like finding companies that by their fair value they at least worth 2x then the current situation.

Again, considering the fact that I don't have a crystal ball the helps me predict the future, the fair value I got is more of an area then an exact price, I don't really think the fair value is exactly at 146$, but that the fair value is somewhere about this area.

I call that area the danger area, and as the stock is farther than the danger area, then she is less dangerous, and in PLP case, the stock is just around the danger area, which make the stock in my opinion, unattractive.

FAIR VALUED

Sources of information

Most of the data is from the company's annual/quarterly reports.

A small portion of the data is from macrotrends.net

- Roi Dayan