CSX Corporation analysis

Introduction

Rail transportation in the United States consists mainly of freight shipments, with well-established railroads extending to Canada and Mexico. U.S. freight railroads are recognized in the industry as the best in the world and play an important role in the country's economy. Following the passing of Staggers Rail Act in 1980, the industry began to change. Bigger players, for instance, Union Pacific, purchased smaller companies to expand their operations, while others merged forming major systems like CSX or Norfolk Southern.

In this paper, I will look into CSX Corporation. With oil prices averaging over $100/bbl during the second quarter of 2022 and on pace for $101/bbl on average in the second half of 2022 **[1]**, railroads may be an attractive investment in freight as they are three-to-four times more affordable than trucks, hence also more environmentally friendly. To gain data, I have reached out to CSX Investor Relations Team and asked for weekly metrics since 2012 as well as downloaded quarterly and annual reports from CSX website. All links can be found in Appendix and scripts as well as data in document's repository on GitHub.

Company overview

"CSX, based in Jacksonville, Florida, is a premier transportation company. It provides rail, intermodal and rail-to-truck transload services and solutions to customers across a broad array of markets, including energy, industrial, construction, agricultural, and consumer products. Its network serves some of the largest population centers in the United States and has access to over 70 ocean, river and lake port terminals along the Atlantic and Gulf Coasts, the Mississippi River, the Great Lakes and the St. Lawrence Seaway. The company also has access to Pacific ports through alliances with western railroads. Nearly two-thirds of Americans live within CSX's service territory **[2]**."

The quote above is abbreviated CSX company overview from their website. CSX is one of the two major Eastern System operators (the other one being Norfolk Southern). The company is a parent entity for the following subsidiaries **[3]**:

- ***CSX Transportation*** is CSX's principal operating company. CSX Transportation operates on approximately 20,000 route-mile rail network. Moreover, CSX Transportation serves thousands of production and distribution facilities through connections to more than 230 short line and regional railroads.
- ***CSX Intermodal Terminals*** operates as a supporting entity. It provides and arranges for the intermodal terminal services and trucking services for CSX Transportation's intermodal business. CSX Intermodal Terminals operates more than 50 terminals across the eastern United States.
- ***CSX Technology*** offers wide range of IT solutions and support services, including freight scheduling, tracking and monitoring, as well as network and data resource management along with network architecture.

- ***CSX Real Property Inc.*** manages the company's real estate by sales, leasing and acquisition. CSX Real Property enables customers to buy or lease land, as well as providing them with rail corridors.
- ***TRANSFLO*** offers solutions for materials management, logistics and transloading. The company focuses mainly on six segments of products: Chemicals, Plastics, Energy, Food Grade Products, Dry Bulk and Waste Materials.
- ***Total Distribution Services Inc.*** works closely with automotive industry. The company operates distribution centers and storage locations within CSX Transportation rail system.

Most recent acquisitions

On 12th of May 2021, CSX announced the acquisition of **Quality Carriers, Inc.** for $546 million in cash and completed it on 1st of July 2021. Quality Carriers is the largest provider of bulk liquid chemicals transportation in North America. Quality Carriers provide transportation services to many of the chemical producers and shippers in North America, through its network of over 100 company-owned and affiliate terminals throughout the United States **[4]**.

On 26th of March 2021, CSX entered into $525 million agreement with the Commonwealth of Virginia to sell interests in three CSX-owned line segments over three phases. The agreement relates to *Washington, DC to Petersburg, VA* corridor and line segments from *Petersburg, VA. to Ridgeway, N.C.,* as well as *Doswell, VA. to Clifton Forge, VA*. As of 20th of July 2022, CSX expects to collect the remaining proceeds during the fourth quarter of 2022 **[5]**.

On 30th of November 2020, CSX announced the acquisition of **Pan Am Railways** for $601 million and completed the transaction on 1st of June 2022. Pan Am Railways operates nearly 1,200-mile rail network and has partial interest in over 600-miles Pan Am Southern network. The transaction has expanded CSX's reach in Connecticut, New York and Massachusetts, while adding Vermont, New Hampshire and Maine to its existing network **[5] [6]**.

Stock performance

There are seven Class I railroads in North America, out of which one is focused on passenger transport (Amtrak) and BNSF, which is owned by Berkshire Hathaway, so it doesn't trade as a separate company, therefore only five companies were plotted on the chart with SPDR S&P 500 ETF used as a benchmark (all data as of **5th of August 2022**).

Based on the adjusted stock price data **[7]**, every company, except for Canadian National Railway, has outperformed broad market index ETF. The adjusted annual returns, CAGRs and total returns since 2012 for each company are stated in the tables below:

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022 YTD**
CSX	-6.32%	45.82%	25.93%	-28.37%	38.46%	53.10%	12.94%	16.47%	25.41%	24.30%	-10.71%
UNP	18.67%	33.63%	41.82%	-34.36%	32.58%	29.34%	3.08%	30.79%	15.17%	20.99%	-7.73%
CP	50.17%	48.91%	27.34%	-33.78%	11.89%	28.01%	-2.81%	43.54%	35.98%	3.75%	11.53%
CNI	15.85%	25.30%	20.85%	-18.91%	20.62%	22.40%	-10.17%	22.05%	21.45%	11.84%	4.12%
NSC	-15.12%	50.11%	18.08%	-22.83%	27.76%	34.08%	3.20%	29.82%	22.40%	25.29%	-14.14%
SPY	15.84%	32.21%	13.53%	1.34%	11.80%	21.69%	-4.45%	31.29%	18.40%	28.59%	-13.45%

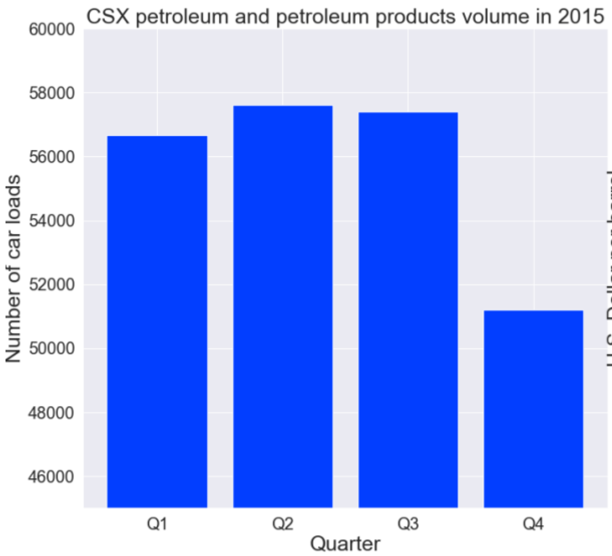
Table 1: Annual returns

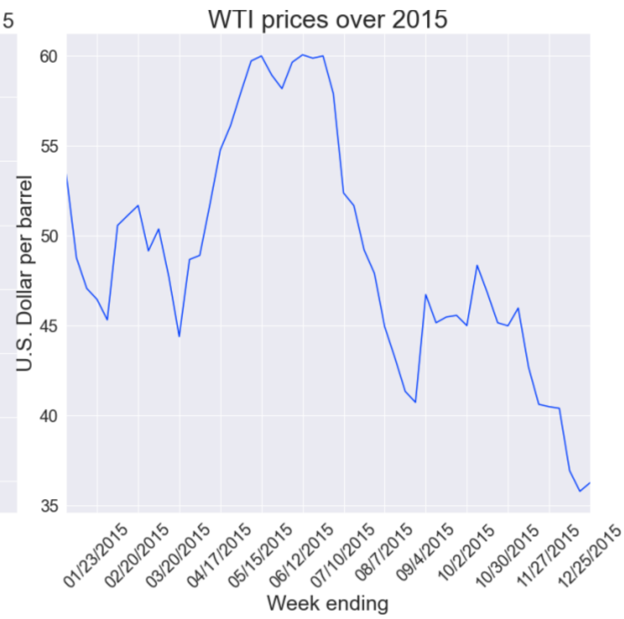
	CSX	UNP	CP	CNI	NSC	SPY
Total return	445.62%	429.65%	547.42%	273.51%	334.64%	295.67%
CAGR	17.38%	17.05%	19.29%	13.25%	14.88%	13.87%

Table 2: Total returns (without dividends) and CAGR

As mentioned before, every company, except for Canadian National, has outperformed S&P 500 in the long run. Overall, railway companies usually behave similarly in the market, although there are some notable exceptions. CSX was the best U.S.-based performer out of the peer group and the second best overall.

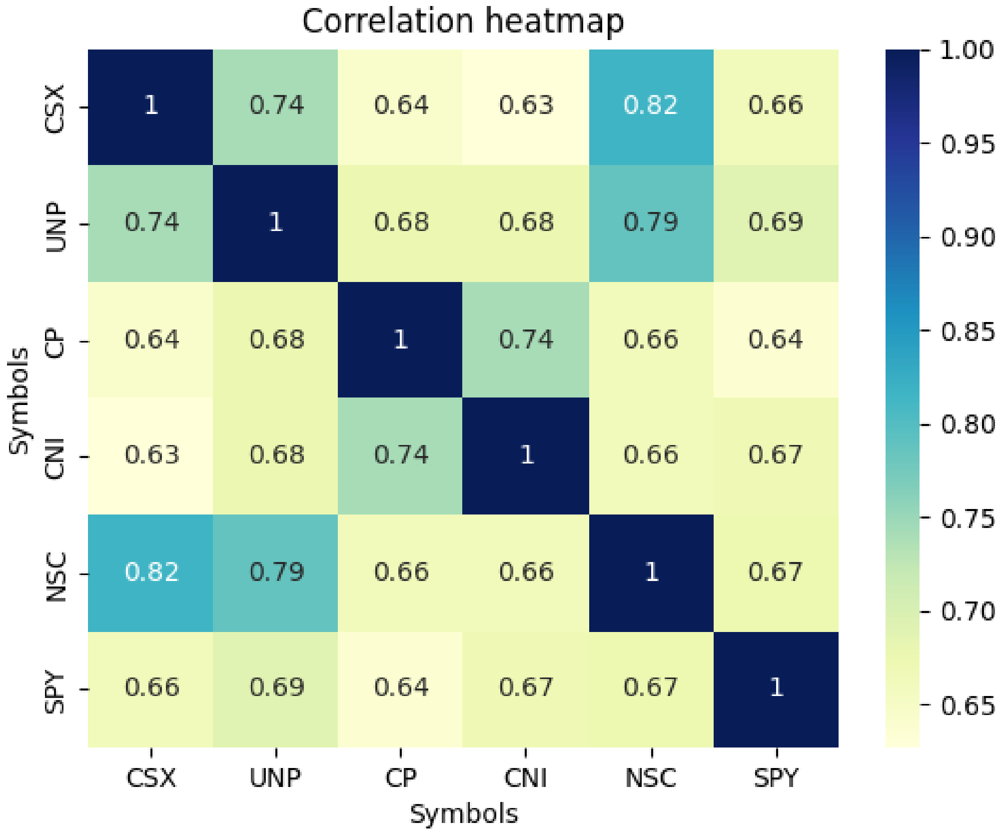
2015 was the worst year for railways over the last ten years. Greek debt default, falling oil prices and slowing GDP growth in China resulted in the whole industry falling on average 27.65%. Charts below show oil prices and CSX's petroleum and petroleum products volumes during 2015:





Even though there is a visible drop in petroleum and petroleum products volume between the fourth and the third quarter, for the full year 2015, CSX increased petroleum and petroleum products volume by 3.8% y/y. The biggest decreases in volume y/y were in *Iron & Steel Scrap* (-22.4%), *Coal* (-18%), which accounted for about 25% of total carload in 2014 as well as in 2015, and *Primary Metal Products* (-12.9%). Overall, total carloads decreased by 6.6% y/y and total traffic decreased by 2.4% y/y. As the result, the revenue has declined by 7% y/y **[8]**.

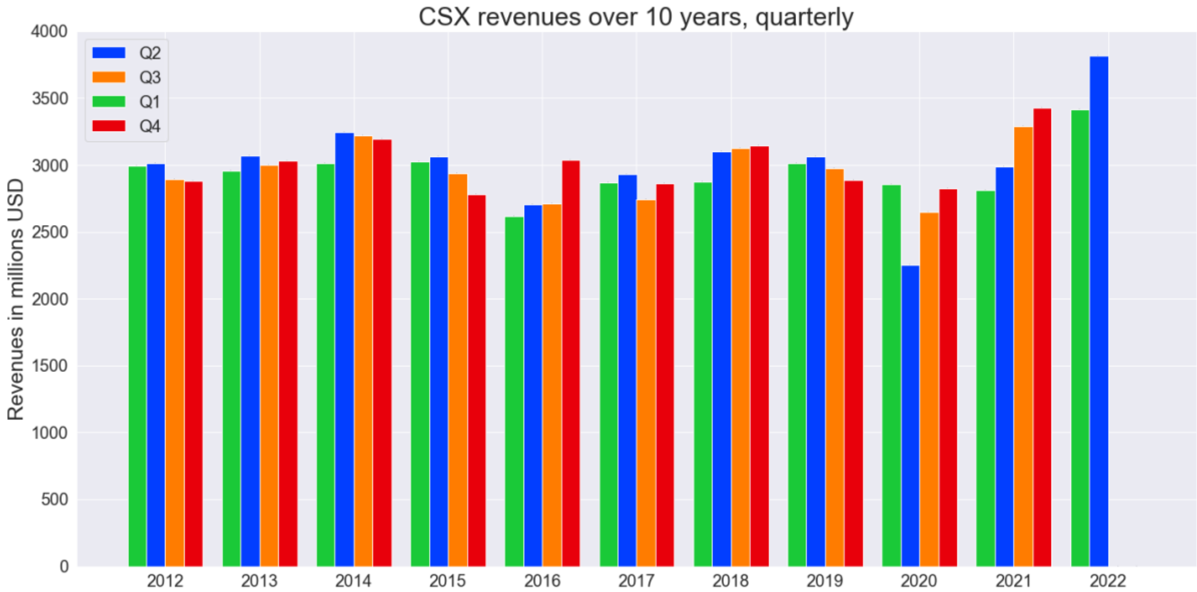
The interesting thing about the stock prices chart above is how all railway stocks tended to behave in the same way during the shown period. Especially CSX and Norfolk Southern look closely correlated. Heatmap below uses Pearson correlation to plot linear correlation coefficients between stock prices data:



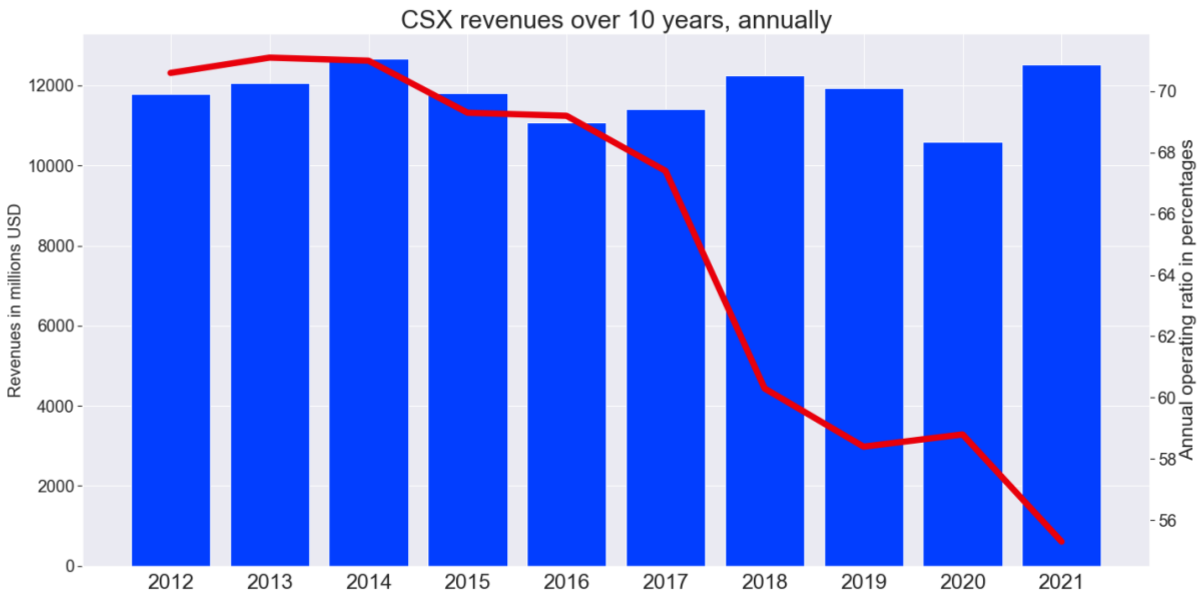
Examination of heatmap reveals that companies which operate in the same areas, for instance Union Pacific, CSX and Norfolk Southern (United States) tend to have a stronger relationship between them. The strongest correlation out of the five railway companies is between CSX and Norfolk Southern. An in-depth comparison of them will be provided in a separate section in the latter part of the paper.

CSX Fundamentals

Revenues



On average, CSX had the highest revenue during Q4 of each year and the lowest In Q1, during 2012-2021 timeframe. The biggest decline in revenue was in the second quarter of 2020 (-21%), driven by the breakout of the COVID-19 pandemic. The highest increase in revenue was a quarter later – in the third quarter of 2020 (+17.4%). CSX's revenue over the 2012-2021 period was volatile. Over the years, the company's CAGR of revenue on annualized basis was merely 0.61%.



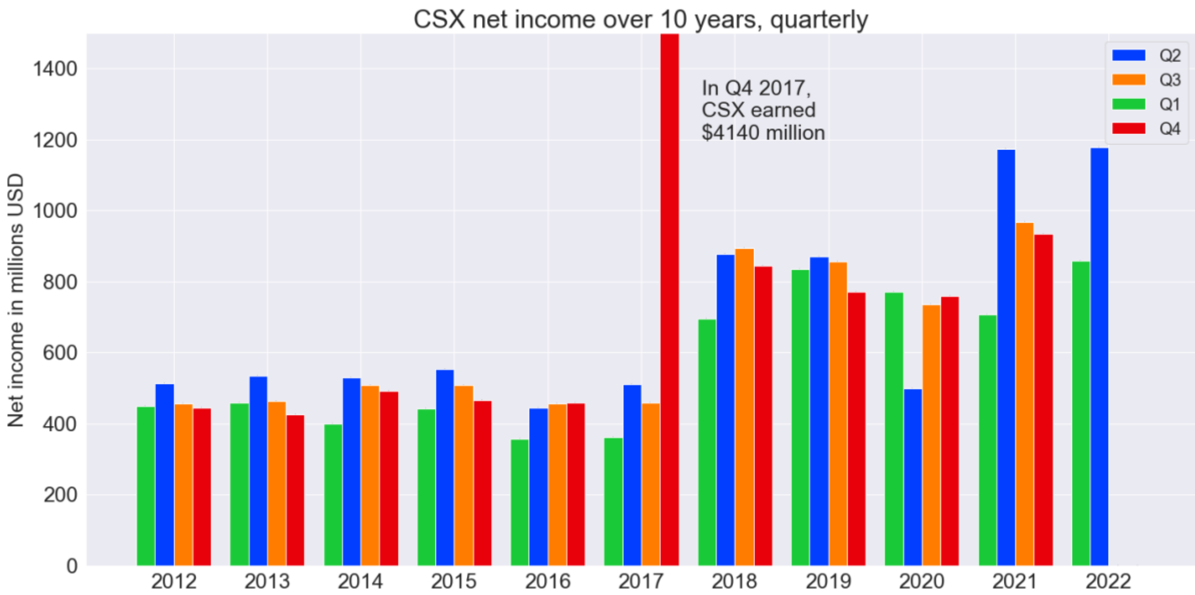
In 2016, the company took a big hit from declining fuel surcharges of $646 million and smaller Coal volume, which was a result of low natural gas prices – a more favorable power generation source **[9]**. In 2020, each volume category declined, except for Intermodal, as U.S. was facing tightening trucking capacity and inventory replenishments in the second half of the year. Similarly to 2016, Coal volume decreased as natural gas still was a favored energy generation source **[10]**.

In 2021, the revenue increased by 18% y/y, including revenue generated by Quality Carriers' acquisition. The Intermodal, Coal and most of the Merchandise volumes increased, driven by the reopening of the economy, higher international coal shipments and tight trucking capacity **[11]**.

Overall, CSX provides stable, yet very slow revenue growth. However, the company managed to improve its operating ratio substantially over the last ten years. Ever since the pandemic started, the company has been increasing its revenue nearly every quarter (with Q1 2022 being an exception) and targets double digit revenue growth in 2022 excluding impacts from the last phase of Commonwealth of Virginia agreement **[12]**.

Net income

Net income for the timeframe 2012-2015 was flat for CSX. In late April 2016, the company announced "CSX of Tomorrow" strategy, which called to make CSX less coal dependent and optimize its volume potential **[13]**. By the second half 2017, the new model started to take hold and delivered positive results as soon as last the quarter of 2017. The fourth quarter of 2017 also included a huge benefit from the enactment of the Tax Cuts and Jobs Act ($3.5 billion non-cash reduction in income tax expense).

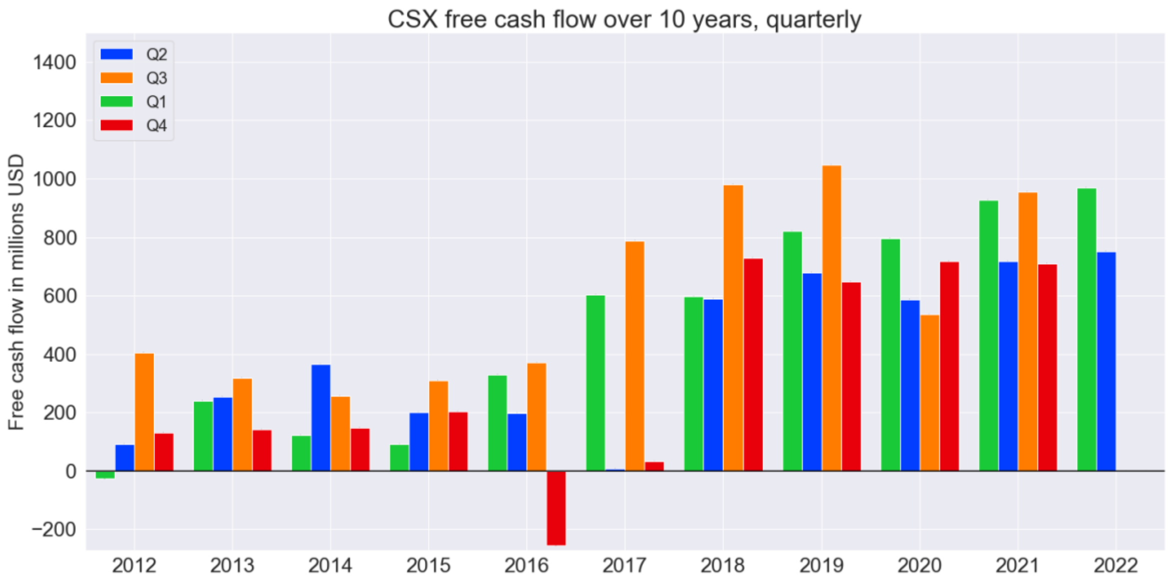


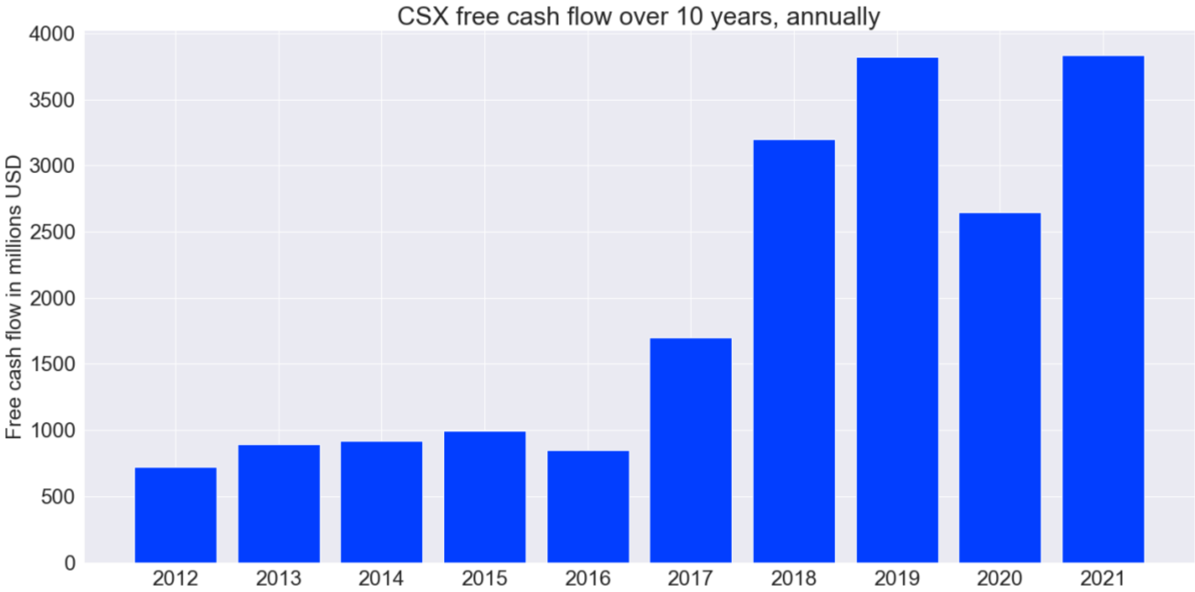
On average, CSX's best quarter income-wise was Q4 (tax benefits from the fourth quarter of 2017 were excluded from calculations) and the worst one was Q1. The biggest decline in net income happened in the second quarter of 2020, when the COVID-19 pandemic began. CSX noted lower volumes in every segment of their business, slightly offset by lower expenses in Labor, Fuel and Materials. The second quarter of 2020 net income declined by 35% q/q . The fourth quarter of 2017 saw the biggest increase of net income q/q, excluding tax benefits. Net income rose from $459 million to $983 million, which was about 114% increase q/q.

The company's 7.36% CAGR in net income is the second-best among the peers, worse only than Canadian Pacific's 17.24% net income CAGR. After years of stagnation, "CSX of Tomorrow" strategy made a big impact on CSX's fundamentals. Growth in net income during 2017-2021 was fueled by structural changes, as well as changing volume mix and improved efficiency **[14]**. Ever since 2017, the company started to turn into the more promising direction. An in-depth description of the strategy can be found in a separate section of this paper.

Free cash flows

CSX's free cash flow in 2013 grew by nearly 24% y/y. Since then, up until 2016 the company managed to deliver high single digit growth. In 2016, the company reported a decrease in free cash flow for full year, driven mainly by voluntary pension plans contribution of $250 million **[9]**. In the years 2017, 2018 and 2019 CSX generated solid free cash flows, each year better than the previous one. In 2020, which was visible in *Net Income* section, CSX reported worse free cash flow, mainly because of Q2 2020. In the second half of 2020, the company saw volumes returning to normal, as well as further reducing expenses.

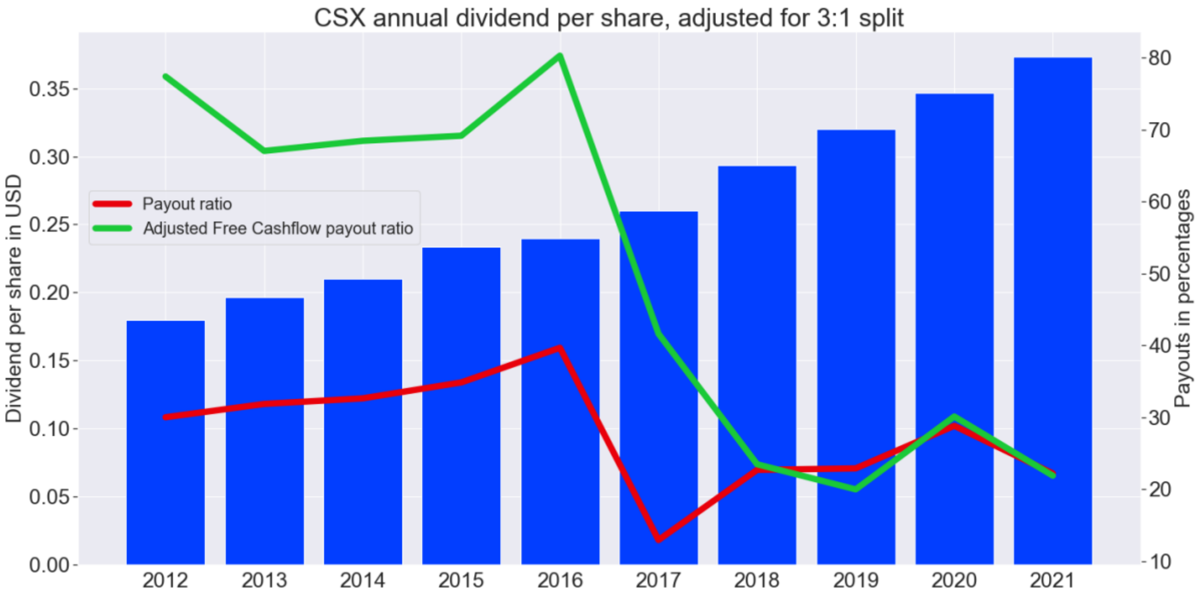




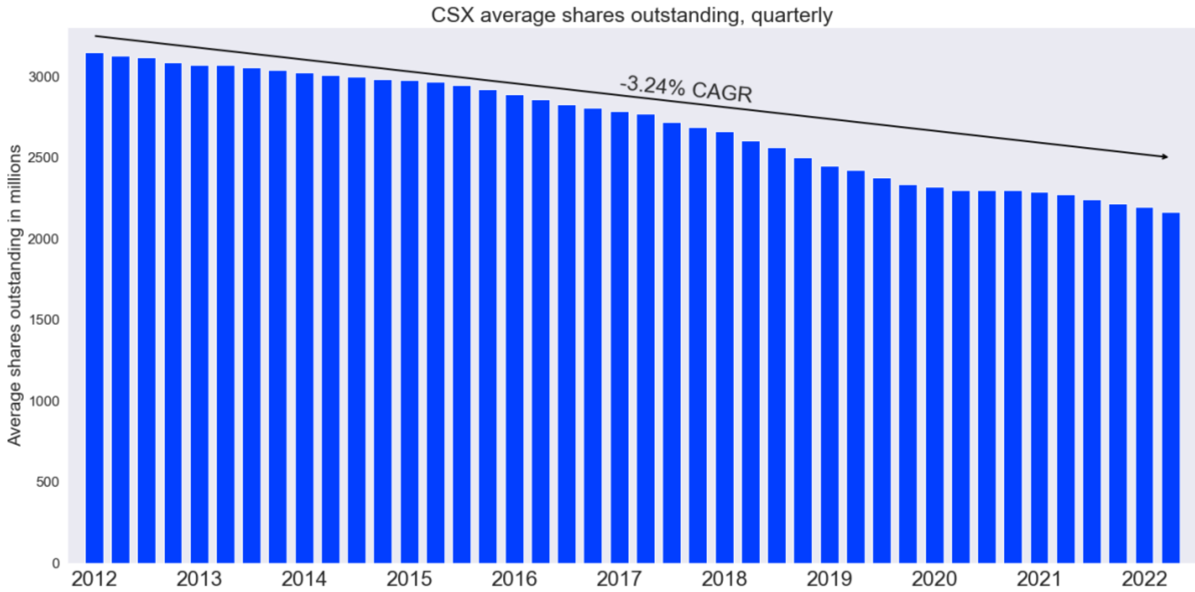
Despite quite volatile free cash flow numbers over the last ten years, CSX managed to grow it at a whopping 18.18% CAGR and already on-track to deliver even the highest free cash flow numbers in the company's history in 2022. Because of the rising free cash flow, CSX started to aggressively buyback stock, increase dividends and pay down debt. More about it can be found in the next section.

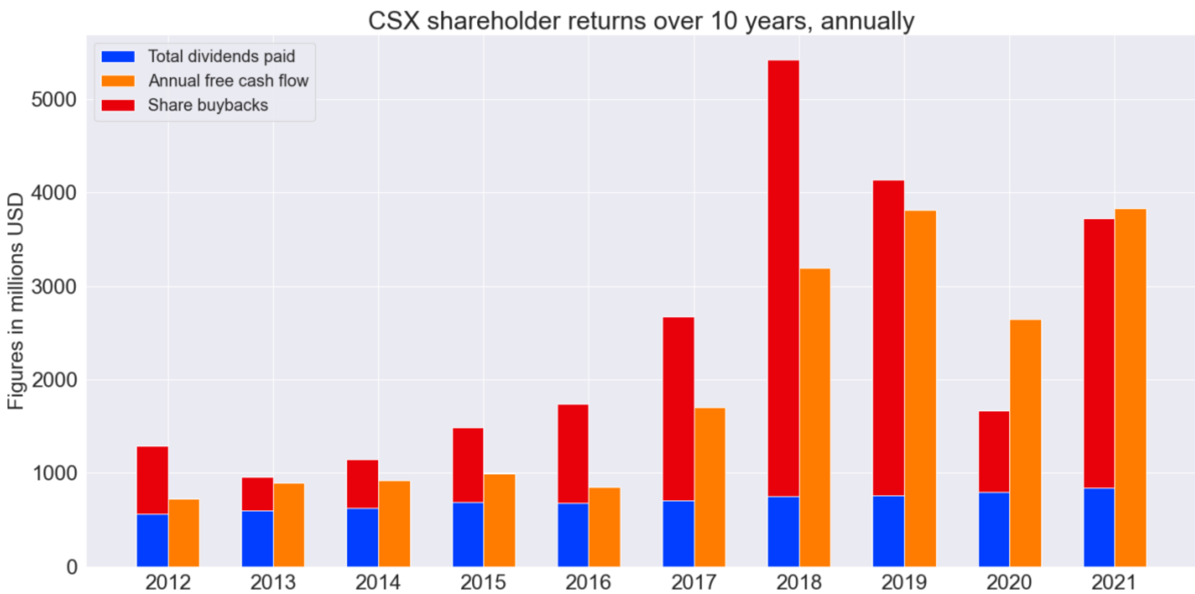
Shareholder returns

Before the implementation of "CSX of Tomorrow" strategy, the company returned a high percentage of free cash flow to shareholders in the form of dividends. Starting from 2016, the free cash flow payout ratio fell from about 80%, to mid-20% in 2021, with slight increase in 2020. During the 2012-2021 period, the dividend per share grew by 7.57% CAGR.



Shareholder returns aren't measured only in dividends paid, but also share buybacks. CSX was very generous in this aspect, to the point where it could seriously hurt the company during 2012-2019 period when it was paying out more than its free cash flows allowed to. 2020 was a turning point, when free cash flow fully covered all shareholder returns. Since then, shareholder returns have always been covered by free cash flow and had a reliable safety margin.



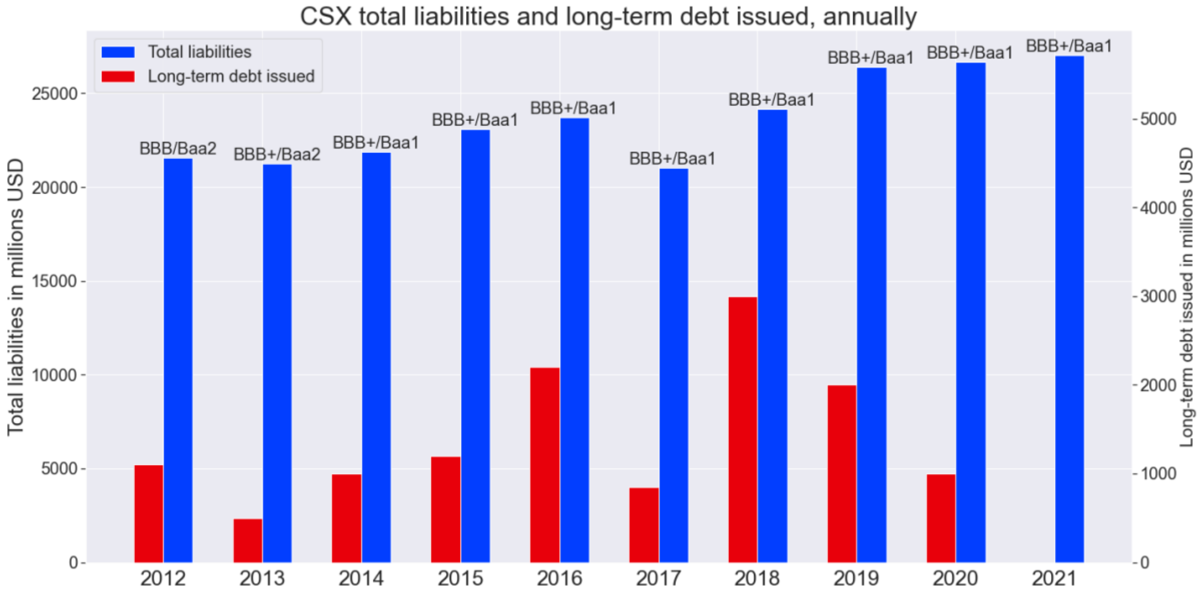


Overall, the company grew total dividends paid by about 50% and spent on average $1723 million on share buybacks annually during 2012-2021 period.

In February 2018, CSX announced an increase to the $1.5 billion share repurchase program first announced in October 2017 (ended in January 2019), bringing the total authorized to $5 billion. Share buyback program was funded by cash on hand, cash from operations and debt issuances **[9]**. The company didn't provide any reasons on why the share repurchase program was increased, even though to complete it, CSX had to issue debt.

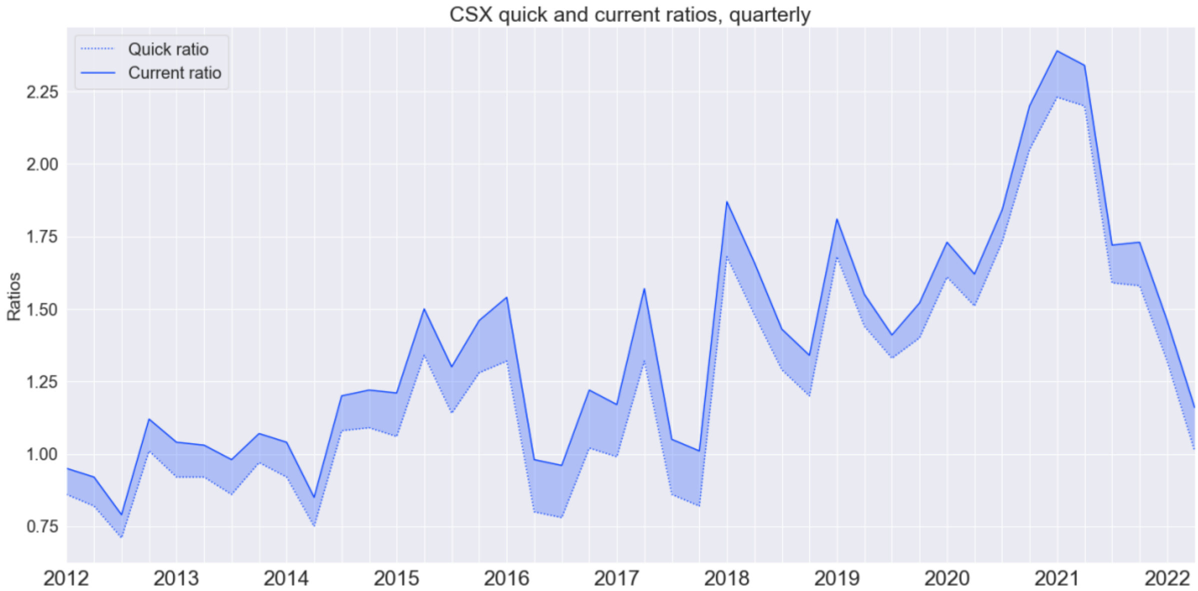
Liabilities

Since 2012, CSX received three long-term upgrades: one from S&P and two from Moody's. In 2012, the company was upgraded from Baa3 to Baa2 by Moody's, one year later BBB+ from S&P and finally, Baa1 rating in 2014 from Moody's **[15][16][17]**. Ratings of BBB- and Baa3 or better by S&P and Moody's, respectively, reflect ratings on debt obligations that fall within a band of credit quality considered to be investment grade. If CSX's credit ratings were to decline to below investment grade levels, the Company could experience significant increases in its interest cost for new debt.



During the presented ten-year period, CSX managed to decrease its total liabilities only twice: in 2013 and 2017. In 2018 and 2019 the company issued total $5 billion in long-term debt, while repaying only $537 million. 2021 was the only year, within the 2012-2021 timeframe, when CSX didn't issue any new long-term debt. However, total liabilities increased by $348 million due to increase in income, deferred tax, accounts payable, labor and fringe benefit and the assumption in debt as a result of Quality Carriers acquisition.

The company has total $14163 million in long-term debt maturities after 2026 and total $2203 million in maturities between 2022 and 2026. As of the end of the second quarter of 2022, CSX hasn't issued any debt in 2022 so far and total liabilities fell by $32 million between Q1 and Q2 of 2022 **[5]**.



To measure short-term liquidity, one can use quick and current ratios. CSX had a volatile history of them, but starting 2018 up to 2021, it managed to keep them at levels greater or equal to *1*, which meant they could cover short-term liabilities easily. The 2018 spike was caused by big debt issuance and lower operating costs. Another big spike happened in 2020, when the management took a conservative approach and decided to keep more cash on hand in case of emergency. However, since the second half of 2021, when the company generated less cash from financing operations, ratios began to fall back to 2017/2018 levels.

CSX of Tomorrow

Introduction

Declining coal volumes hurt CSX. Coal revenues had been decreasing since 2011 and were expected to lose as much as $2 billion by the end of 2016 **[13]**. As mentioned before, low natural gas prices made it a favorable power generation source. In 2016 Annual Report, the company described "CSX of Tomorrow" as following:

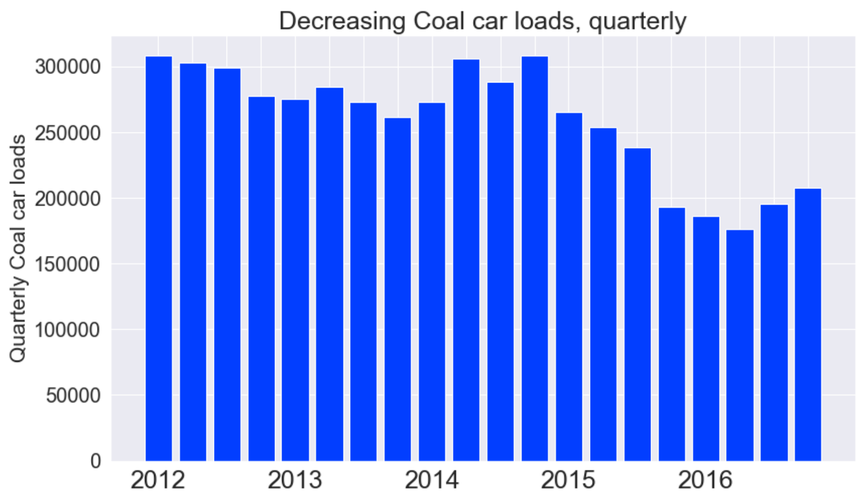
"To support long-term growth and value creation consistent with the evolving trends in freight transportation, CSX has launched a new strategic initiative known as the CSX of Tomorrow: a safe, highly automated, resource-efficient railroad enabling Service Excellence, profitable growth and improved cash flow. The CSX of Tomorrow is comprised of four distinct strategic pillars and builds on the Company's vision, purpose and core values **[9]**. "

The first pillar was *Network of Tomorrow*, a rail network which through safety and efficiency would provide flexible and demand-meeting service for customers. To make it possible, CSX divided its existing railroad into two new and connected networks: a primary network and local network. The primary network was supposed to handle longer and heavier trains, while the local network was supposed to be operated at lower density and speed and to allow better new customer site development. The company also laid out plans to invest more money in multi-year infrastructure projects, such as the National Gateway, which was jointly funded by CSX and its government partners and increased intermodal capacity by clearing key corridors between mid-Atlantic ports and the Midwest for double-stack intermodal trains.

The second pillar was *Service Excellence*. CSX reassured that it would continue its exceptional customer service, as well as seek new volume growth opportunities. For instance, the company announced a new terminal in eastern North Carolina, to capture intermodal freight movement opportunities in the mid-Atlantic market.

The third pillar was *Highly Automated Railroad.* CSX decided to increasingly leverage rapidly developing technology, focusing on automation, advanced analytics, use of mobility tools, as well as innovation and process improvement. CSX vowed to continue to implement specific workforce and regulatory strategies to ensure safe, effective adoption of new technologies.

The last pillar was *Team of Tomorrow*. The company announced enhancing their staff training program.



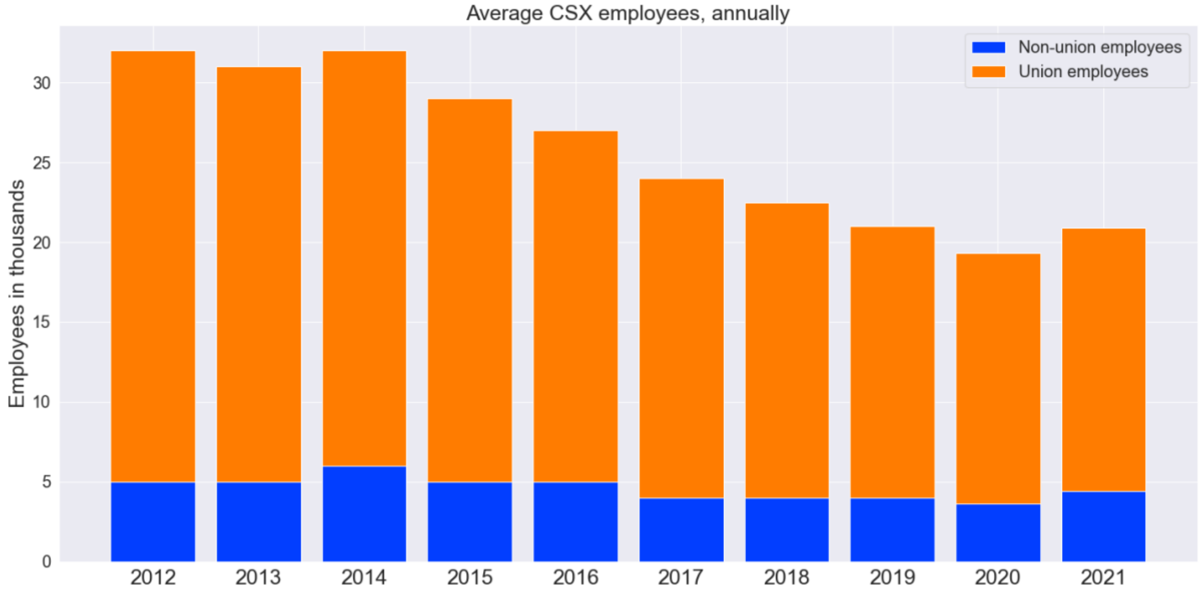
However fancy and ambitious the above-mentioned statements sound, probably the most important aspect of the new strategy for shareholders was cash allocation. “CSX of Tomorrow” assumes a balanced approach to cash deployment. CSX reaffirmed commitment to high shareholder returns, as well as spending necessary funds on improvement of infrastructure and debt repayment. The table below shows simplified cash deployments by CSX in 2016.

Dividends paid	$680 million
Shares repurchased	$1.1 billion
Debt repaid	$1.4 billion
Safety, infrastructure, capability improvements	$2.7 billion

Table 3: Simplified cash deployments in 2016

Numbers

While the initial announcement of a new strategy and its objectives may have been impressive, the numbers will tell whether it turned out good or bad.



To start total employee count, CSX has started decreasing its workforce in 2015. Over the next years the workforce numbers were falling significantly, with the lowest-in-years number in 2020, when total workforce was about 19300 people. The company started hiring again in 2021, when labor shortages and increased volumes began to be a problem.

Although I wasn't able to find median salaries in CSX over the years, I would like to point out an additional fact about them. On August 17th 2022, The National Carriers Conference Committee (NCCC), which represents railroads including Union Pacific, Berkshire Hathaway-owned BNSF and CSX, said it was ready to meet with the unions and reach agreements regarding salaries and benefits.

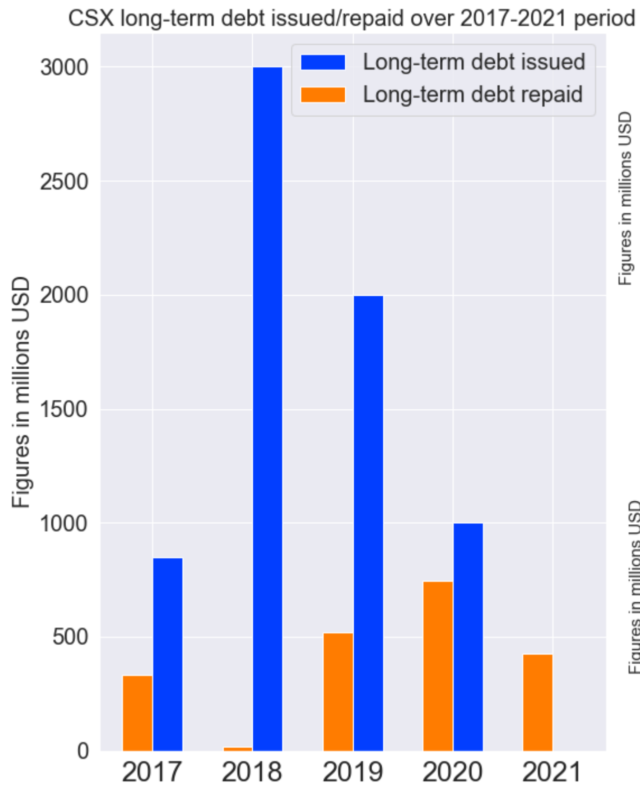
"The NCCC said the recommendations would increase wages by 24% during the five-year period through 2024, with a 14.1% wage increase effective immediately."
Reuters reports that recommendations also include five annual $1000 lump-sum payments, adjustments to healthcare premiums, and limited changes to work rules. Factoring in healthcare, retirement and other benefits, employees' total compensation would average more than $150000 per year **[18]**.

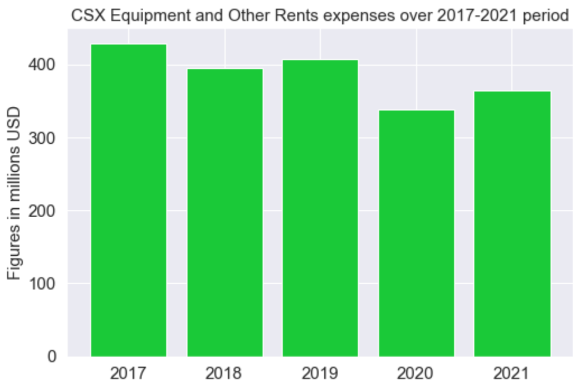
On September 15th, one day before the union strike deadline, railroads and unions reached tentative agreement on wages, medical care and working hours. Unions are expected to vote on the deal and even if they don't accept it, the strike will be averted for several weeks **[19]**.

Another smaller, yet interesting observation is that over the years, non-unionized employees count varied less than unionized count. At the top, CSX employed 27 thousand unionized (2012) and 6 thousand non-unionized (2013) workers and 15.7 thousand (2020) unionized and 3.6 thousand (2020) non-unionized employees at the lowest.

CSX’s objective from “CSX of Tomorrow” worth looking at are expenses connected to Labor & Fringe and Equipment, as well as looking at debt issued during 2017-2021 timeframe, to see if the money was invested into business or just returned to shareholders.

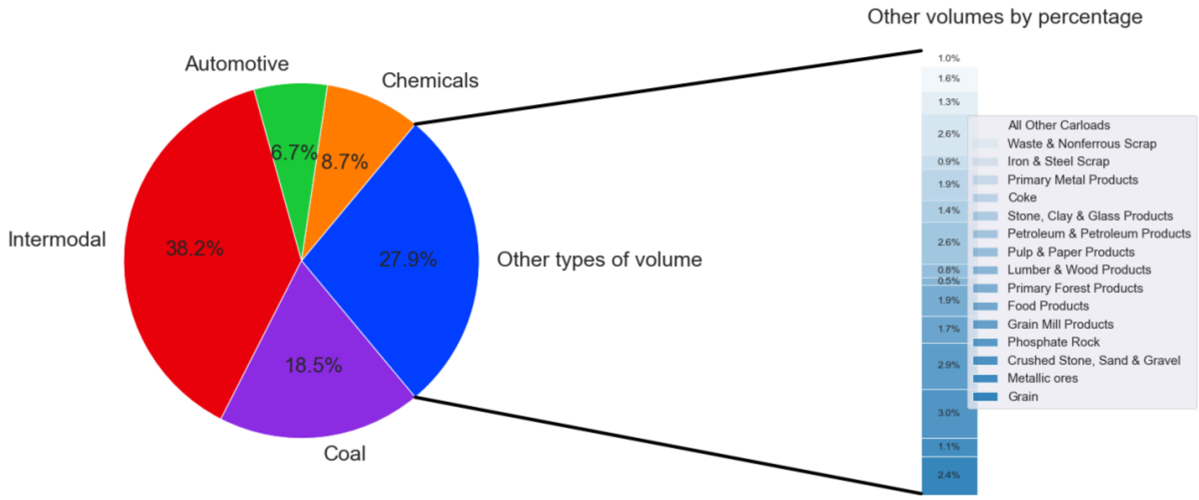
The chart below shows long-term debt issued and repaid, as well as Labor & Fringe and Equipment & Other Rents expenses. CSX issued total $6.85 billion long-term debt while repaying $2.041 billion of the existing debt. Labor and Fringe expenses went down significantly, however in-line with the total amount of employees, meaning the cost-efficiency improvements were made not only by improving infrastructure, new equipment and advanced analytics, but also by cutting their workforce. Annual Equipment and Other Rents expenses during 2017-2019 period stayed on levels similar to historic ones, with the decrease in 2020 caused by volume savings, partially offset by higher days per load for automotive and other merchandise markets that resulted in increased car hire costs.





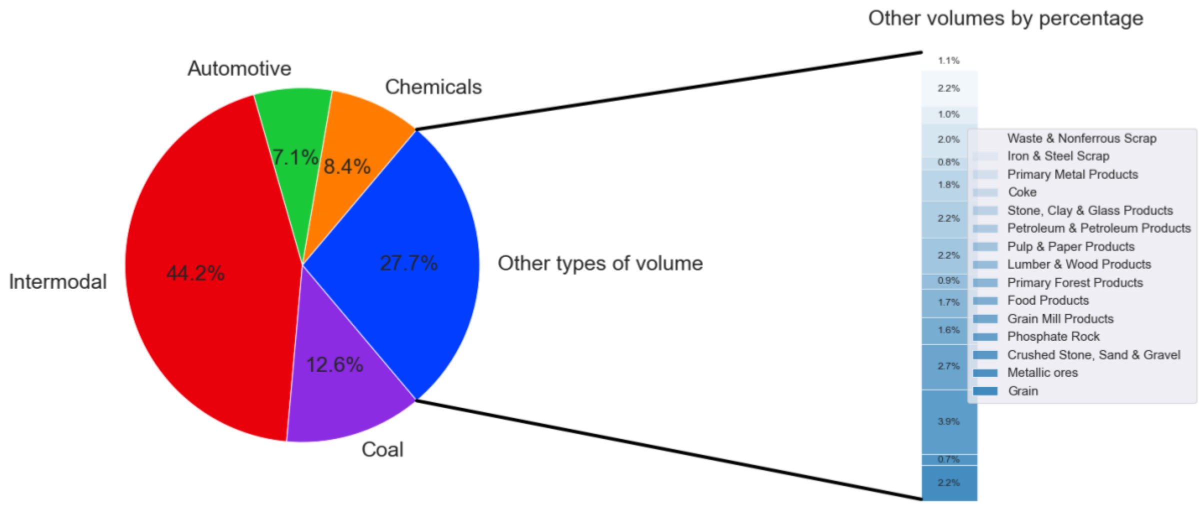
In annual reports from the 2017-2021 period CSX states that continued lower expenses related to Labor and Fringe are due to implementation of scheduled railroading, structural changes and lower incentive compensation.

CSX volumes in 2012

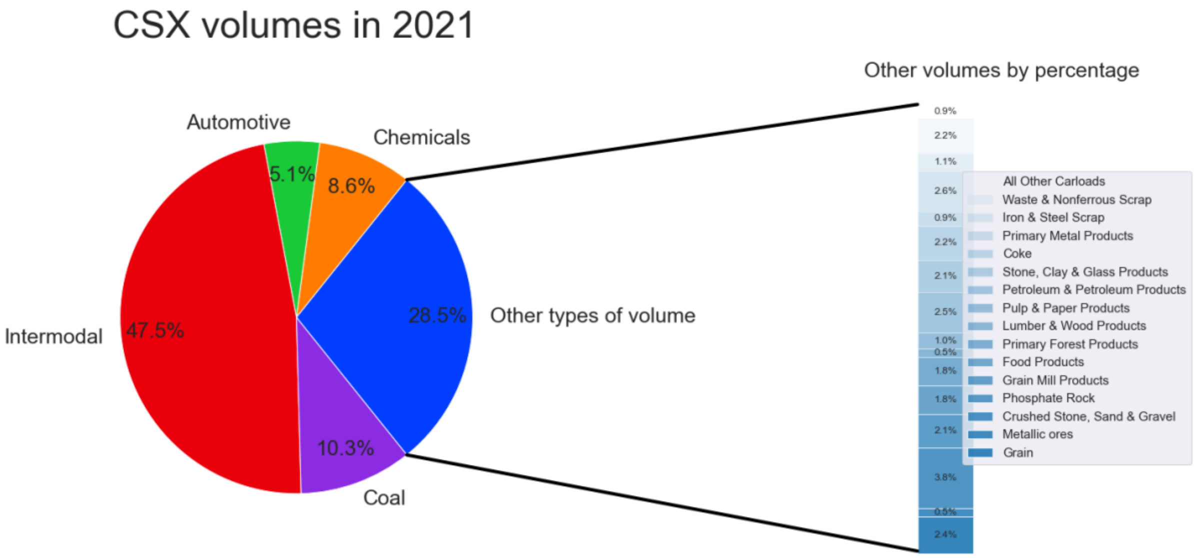


Farm Products (ex. Grain) accounted for 0.3% of total volume in 2012 and were excluded from the chart to provide better transparency.

CSX volumes in 2017

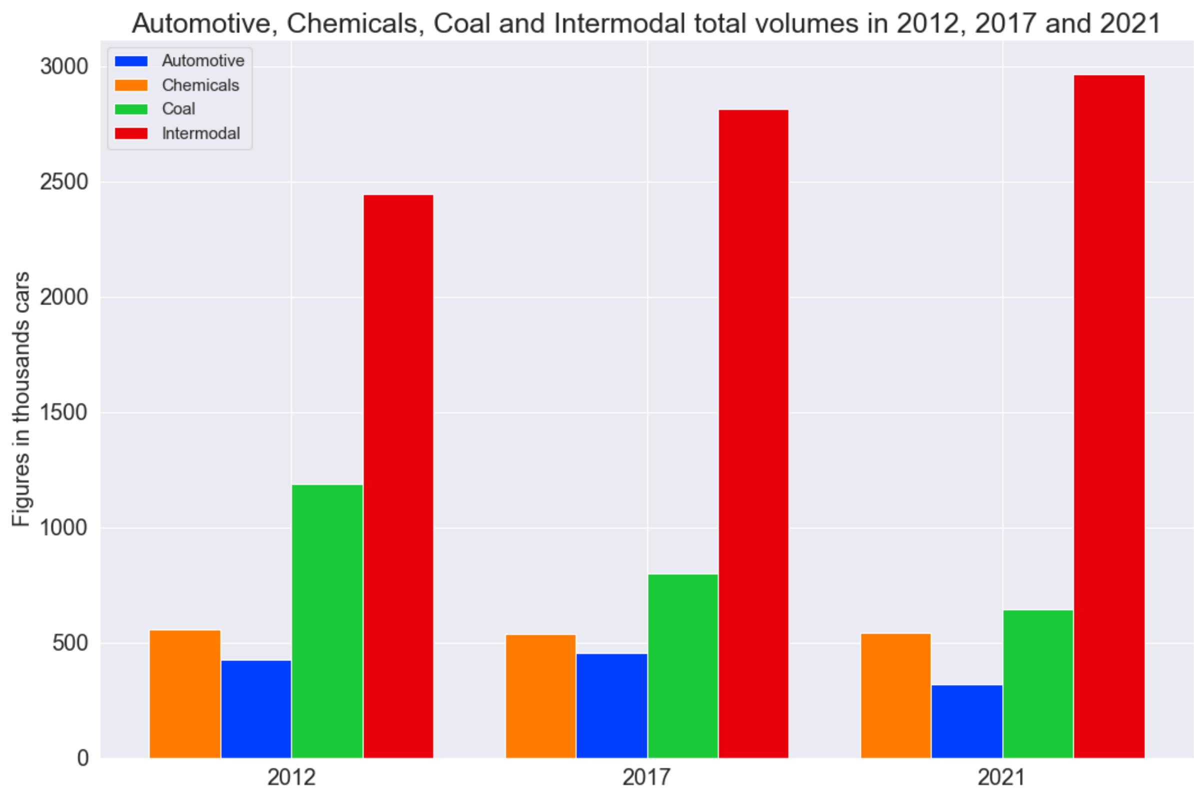


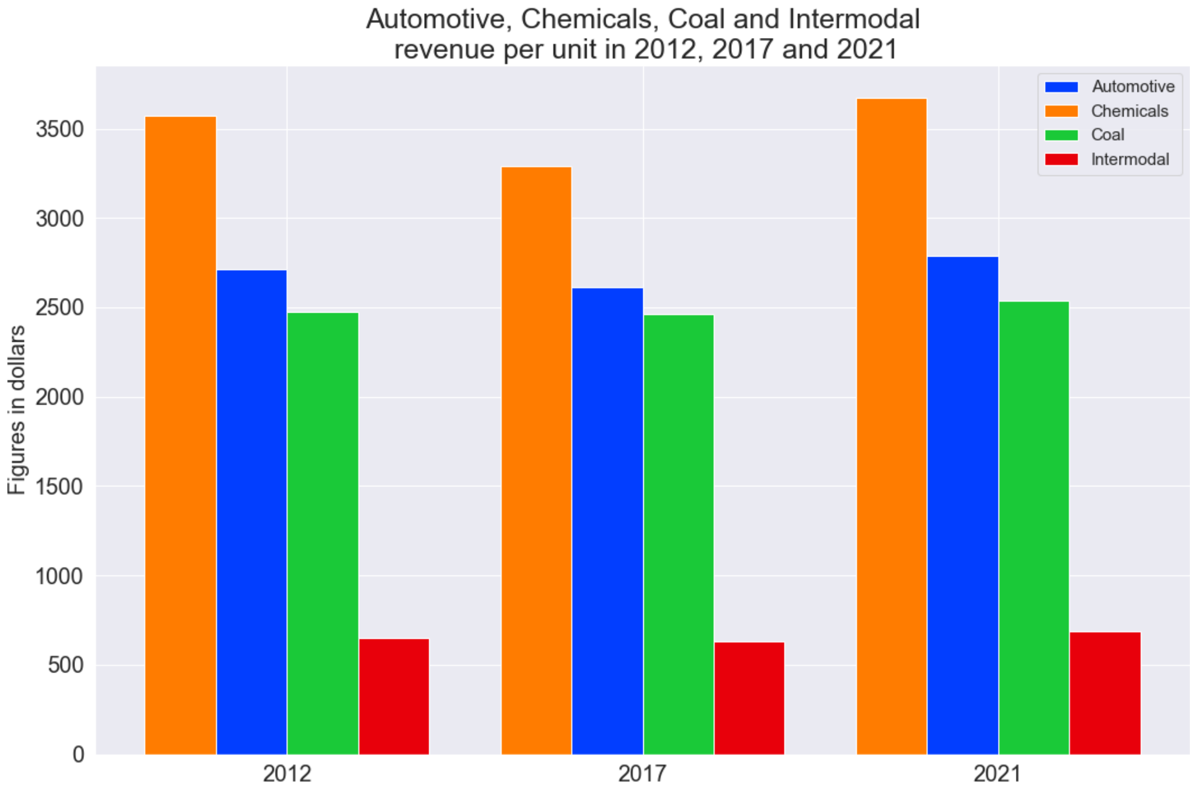
Farm Products (ex. Grain) and Primary Forest Products accounted for 0.2% and 0.4% of total volume in 2017 respectively and were excluded from the chart to provide better transparency.



Farm Products (ex. Grain) accounted for 0.1% of total volume in 2021 and were excluded from the chart to provide better transparency.

The charts above show volume percentages by categories. I selected 2017 as the first year after which the implemented changes could be seen. The company managed to grow its Intermodal business while decreasing Coal volumes. Other important components of CSX's volume mix are Automotive and Chemicals. Accounting for about 15 percent of total volume, these volume types began falling during the presented period. Automotive decreases are caused mainly because of chip shortages and overall production declines in the United States. Chemicals generate on average 20.2% of total CSX revenues, however since 2017 the Chemicals revenues and volumes have remained on flat level.





The chart above visualizes revenue per unit in 2012, 2017 and 2021. As expected, revenues per unit stayed fairly consistent during the years, however Chemicals and Automotive vary slightly in the selected years, while Coal and Intermodal revenues remained flat. Chemicals and Automotive bring a lot of money, but development of infrastructure to transport those type of volumes is expensive, as companies often demand building special rail lines to their manufacturing sites.

Bottom Line

"CSX of Tomorrow" was a well-thought and executed plan. The company needed to fit their business model to keep up with the changes in the industry. Reliance on coal in today's world is in the long-term a bad idea. Volume mix changed over time in such a way that Intermodal volume takes up nearly 50% of total volume.

Through acquisition of Quality Carriers, CSX made an important step to develop better Chemicals network and, as a result, has gained a bigger share of lucrative chemicals market. Automotive revenues, which play an important part in CSX's revenue are declining. However, one can't blame the company for the decline, since it mostly depends on the manufacturers' capacity and the market demand for new cars. Cutting workforce was well-timed and made the company a lot of money in savings. On the other hand, now when the railroad volumes are picking up, it may be tough for CSX to find new employees. Both already trained, and new ones that need to receive training.

One concerning aspect of the management's moves during 2017-2021 was issuance of a new long-term debt. Looking at the shareholder returns over the 10-year period in the CSX Fundamentals section, between 2017 and 2019 the company bought back too much stock to be covered by the free cash flow. Moves like that may be hurtful for the company and its shareholders. Money from debt issuance should be invested back into business, not returned to shareholders.

In the foreseeable future, I expect Coal, Chemicals and Petroleum and Petroleum Products segments to grow, as the energy crisis in the world is spreading and 2022's winter may hit the economy the hardest in the years. As mentioned before, another thing to consider while evaluating the CSX's future, will be rising employee compensations, which are on track to rise substantially.

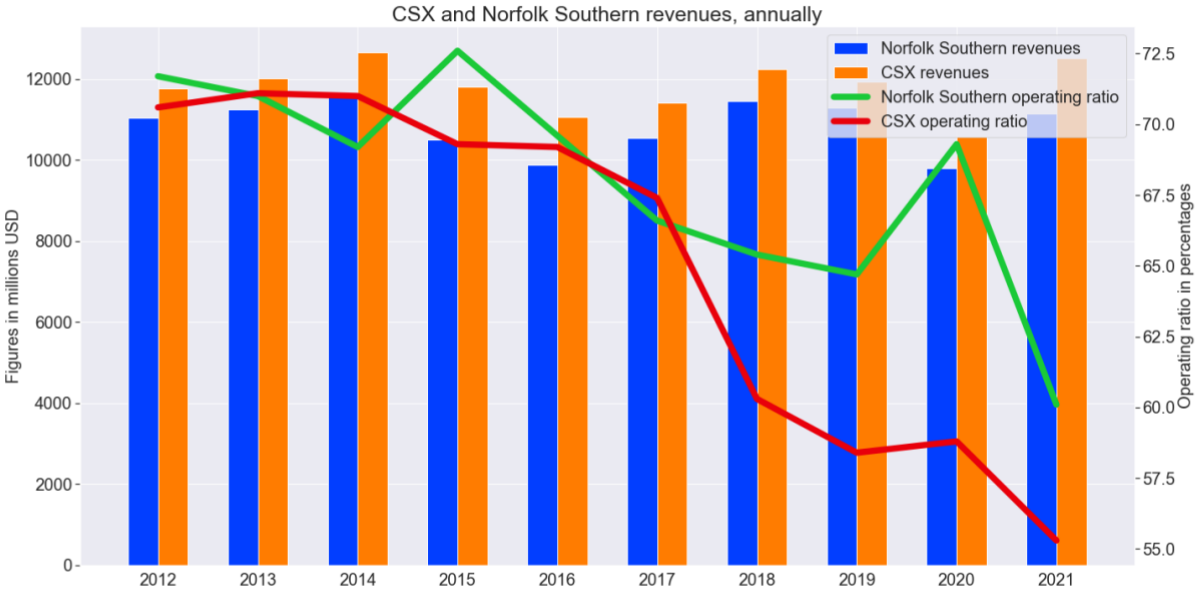
CSX and Norfolk Southern comparison

As pointed out in multiple sections of this paper before, CSX and Norfolk Southern share some similarities. Firstly, their share price had the highest correlation coefficient out of all benchmarked companies and S&P 500 ETF. Secondly, both CSX and Norfolk Southern operate in similar areas:

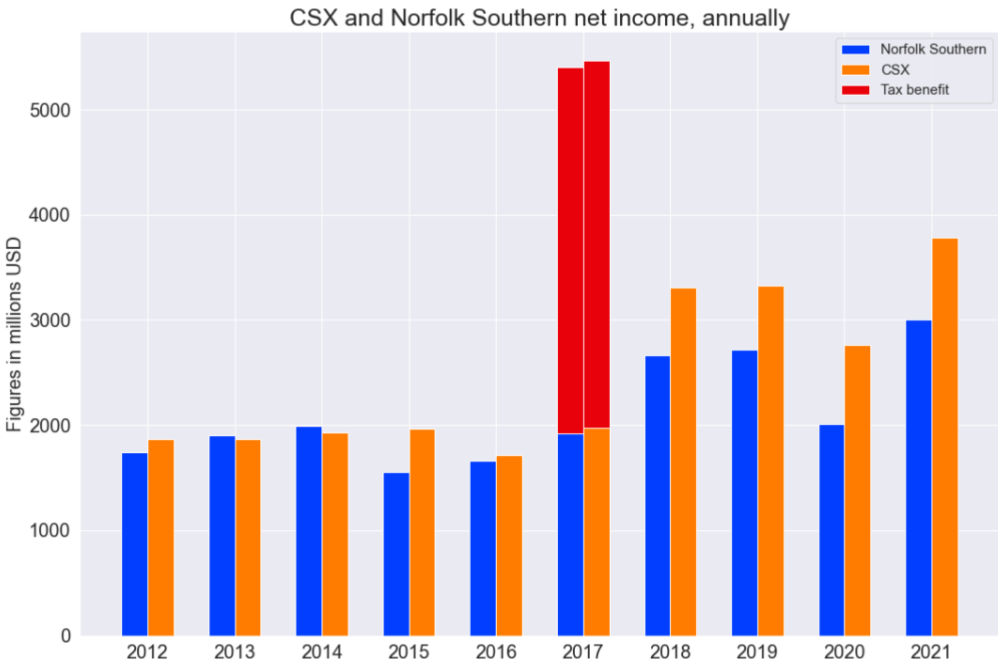
Maps taken from 2021 Annual Reports of both companies

Even though both CSX and Norfolk Southern operate on the east coast, some areas are covered only by one of them. For instance, CSX penetrates Florida deeper, while Norfolk Southern has better outreach to the Midwest than CSX. CSX along with Norfolk Southern have a duopoly on transcontinental freight rail lines in the eastern United States. Lastly, CSX and Norfolk have always been considered cutthroat competitors. CSX and Norfolk have met multiple times in court regarding jointly operated rail lines or planned acquisitions by competitor.

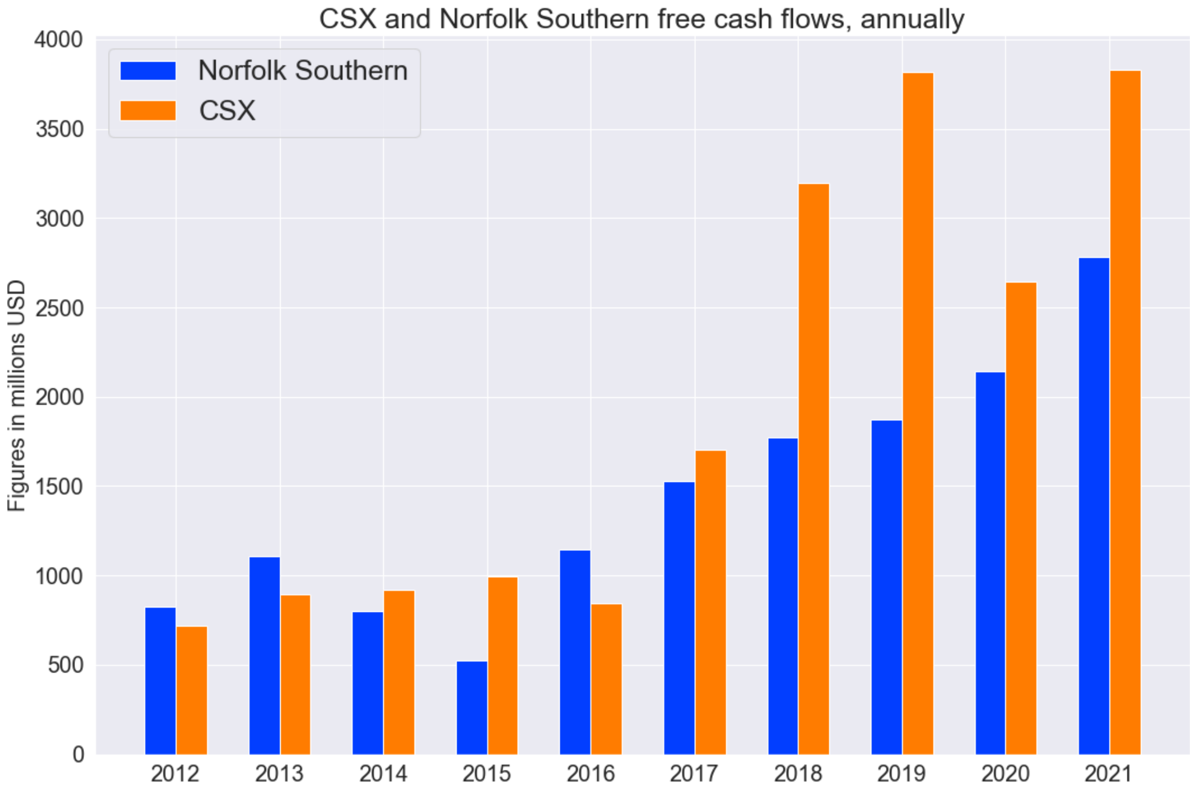
Fundamentals comparison



CSX and Norfolk Southern are respectively, the third and the fourth biggest U.S.-based railroad companies. During the presented timeframe, CSX generated higher annual revenues than Norfolk Southern. Operating ratios of both companies have decreased since 2012. CSX notably outpaced Norfolk in decreasing operating ratio, as the latter announced implementing scheduled railroading in 2019 **[20]**. Similar to CSX, Norfolk Southern had volatile revenues during 2012-2021 period and generated less than $10 billion in annual revenues twice.

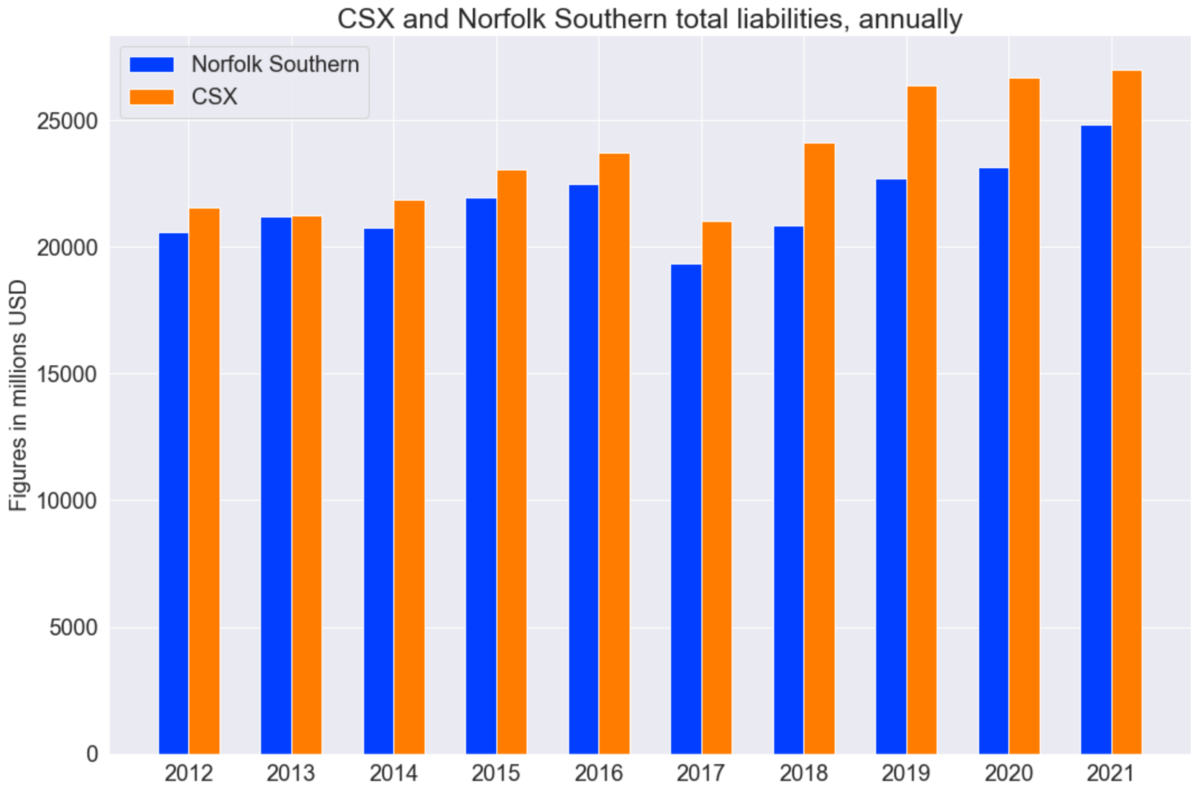


Even though CSX always generated higher revenues than Norfolk Southern in the past ten years, they didn't always make more money. In 2013 and 2014 Norfolk Southern announced higher annual net income than CSX. Both companies reported similar tax benefits in 2017: $3.5 billion and $3.482 billion respectively for CSX and Norfolk Southern.



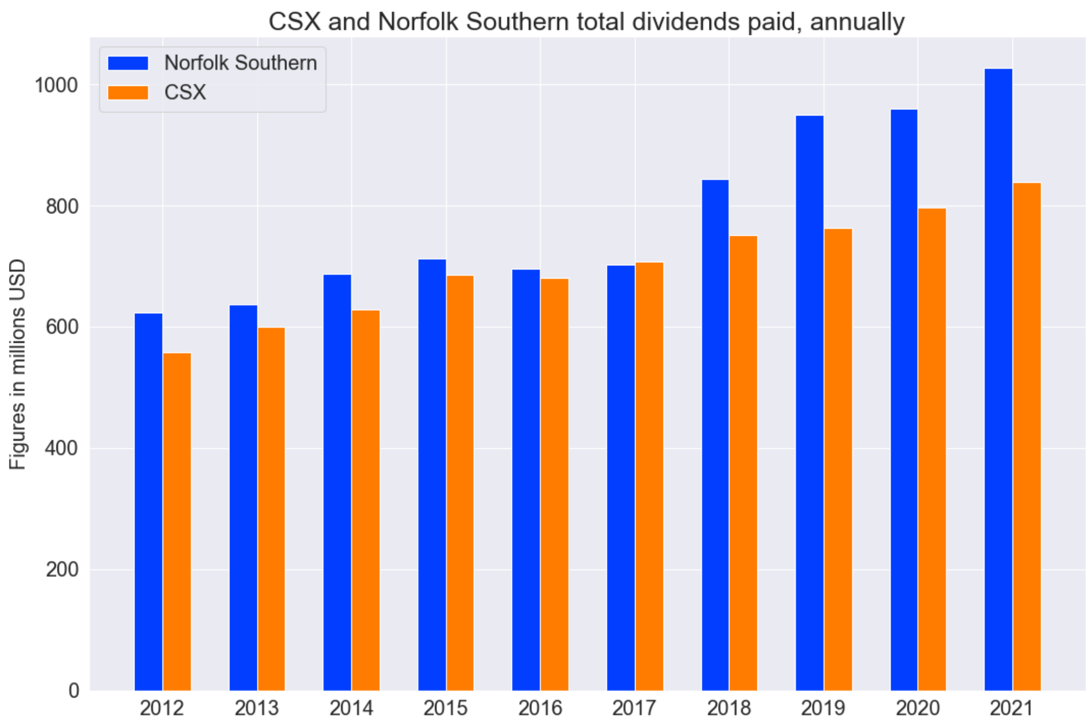
While net income is an important metric for most investors, free cash flows tell a real story what's happening in the company. Both CSX and Norfolk Southern made a significant improvement in increasing their free cash flows. Norfolk grew their FCF much slower than CSX – in 2019 CSX generated about two times as much money as Norfolk. Overall, CSX has 18.18% CAGR during presented timeframe, whereas Norfolk Southern – 12.95% CAGR.

The exceptional similarities between the two companies can be observed again on total liabilities chart, which is located on the next page. Again, CSX always reported higher total liabilities in annual reports than Norfolk Southern. In 2013 CSX managed to pay down debt and had $21.278 billion in total liabilities, while Norfolk Southern reported $21.194 billion for the same period. In 2017, both companies announced big decreases in total liabilities mainly due to received tax benefits. CSX's total liabilities fell by 11.4% and Norfolk's total liabilities slid 14%. Ever since then, both companies had to increase their total liabilities each year to implement "CSX of Tomorrow" and Norfolk's "Reimagine Possible" plan.

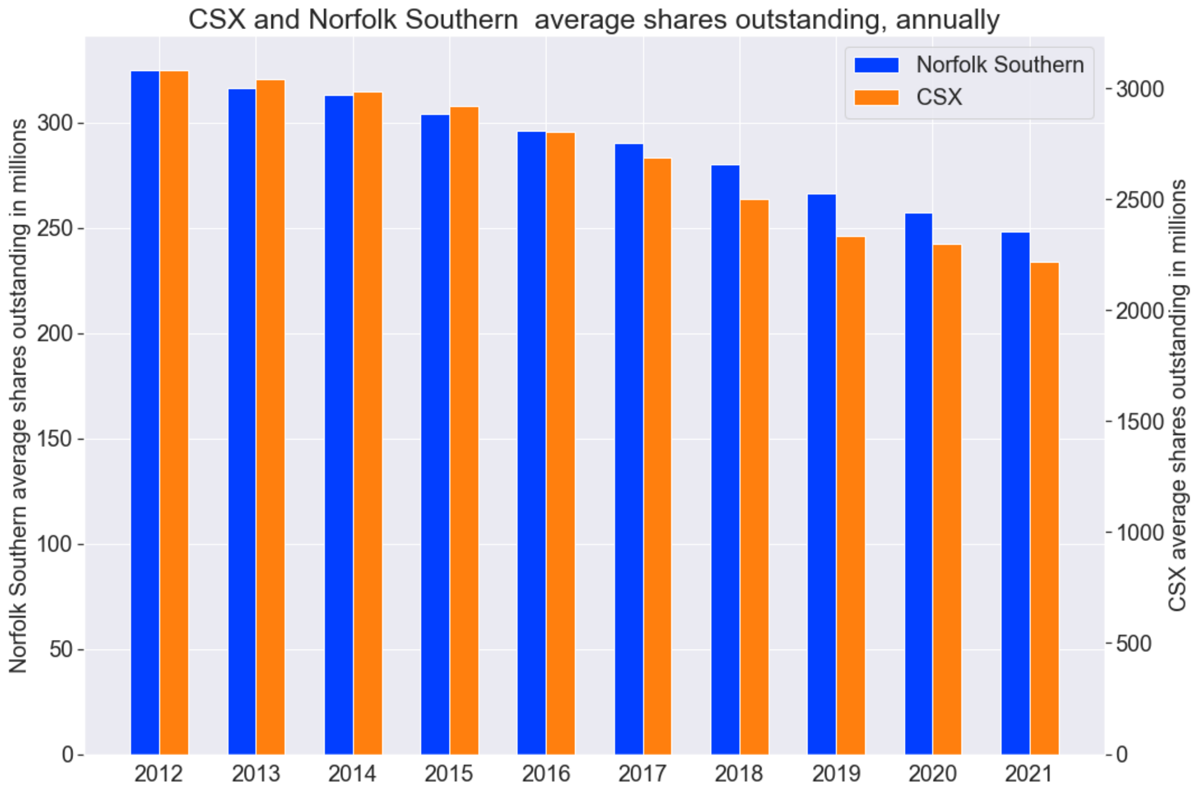


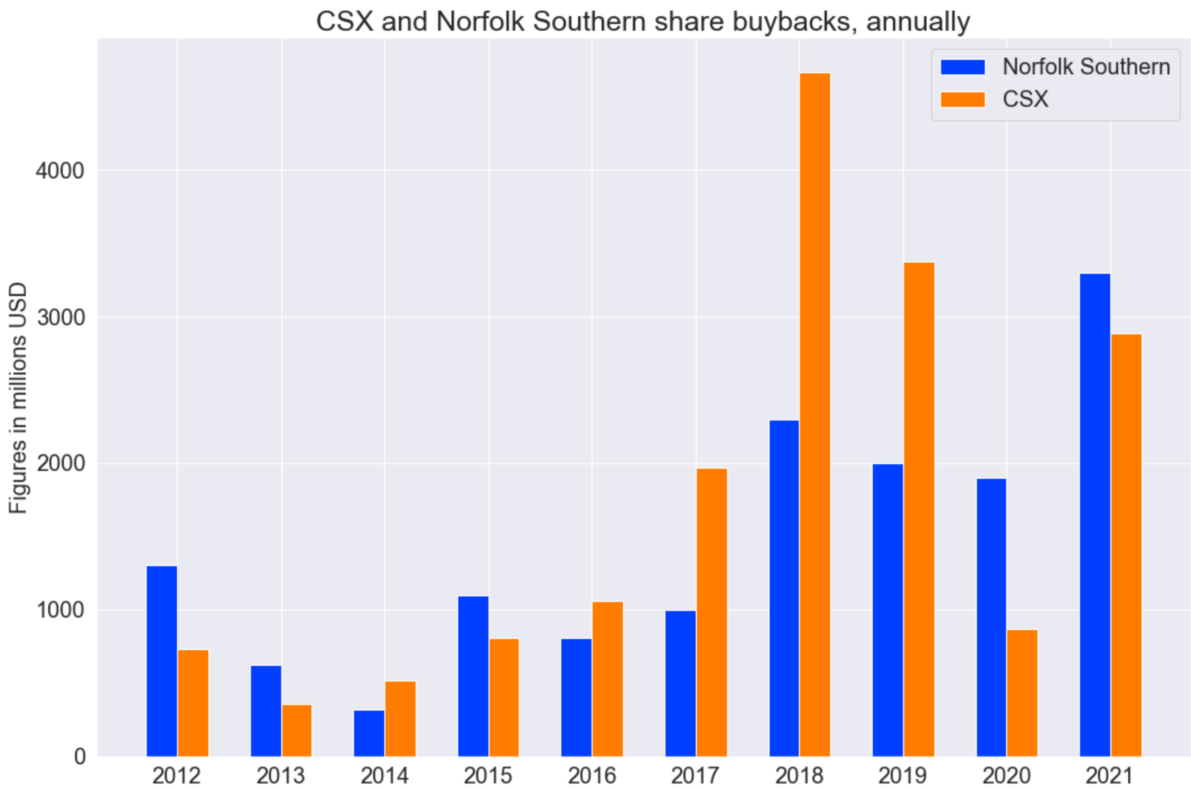
Comparison of shareholder returns

As a long-term investor, I look for companies that reward me for believing in them. What I like to see is dividend growth and stock buybacks, as well as strong fundamentals of the business. Railroads are a mature industry, however very capital intensive and not immune to cycles in economy. Charts placed below reveal whether CSX and Norfolk kept their commitments to shareholder returns during 2012-2021 period. Starting with total dividends paid each year.



Norfolk Southern grew their total dividends paid during the presented years at the 5.11% CAGR, while CSX at 4.16% CAGR. Even though it may be considered as a low number, CSX increased its dividend per share at much more respectable 8.44% CAGR and Norfolk at 8.85% CAGR. Both companies returned much more money to shareholders in form of stock buybacks.



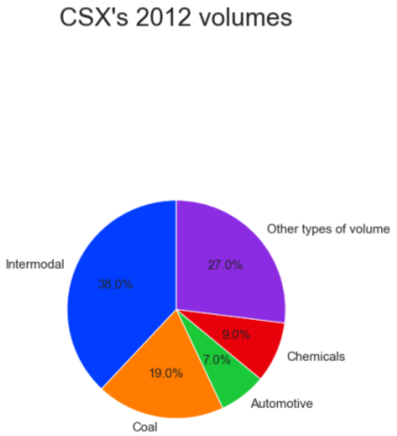


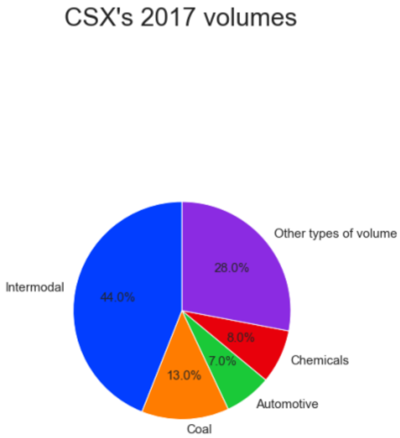
During the shown period, CSX reduced its average shares outstanding at -3.24% CAGR and Norfolk Southern at -2.66% CAGR. Money spent on buybacks by both companies varies vastly every year, so the table below presents a clearer image of the total shareholder returns during the shown ten-year period.

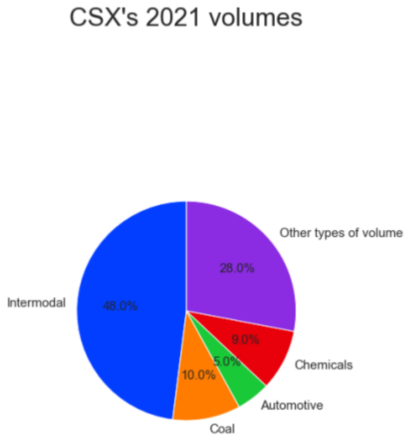
	CSX	Norfolk Southern
Dividends paid	$7011	$7840
Stock buybacks	$17231	$14648
Total	$24242	$22488

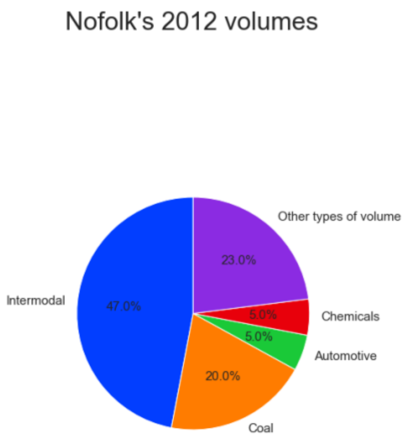
Table 4: Total shareholder return from 2012-2021 period, figures in millions

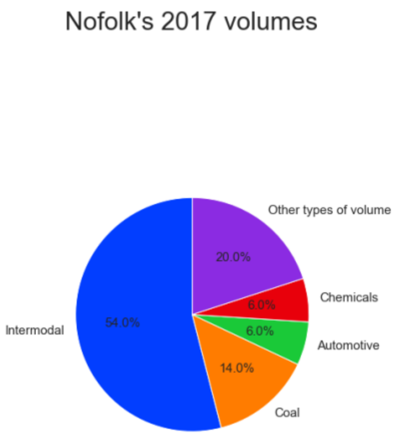
Volumes

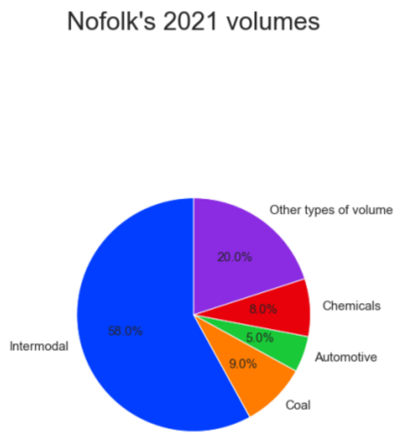












I've selected 2012, 2017 and 2021 as the benchmark years, because they reflect well the changes that happened in CSX. Over the years, both companies started transporting less coal and increased the Intermodal volumes. In case of CSX, Automotive and Chemicals volumes were responsible for bigger share of the whole volume mix than in Norfolk Southern. During the 2012-2021 timeframe, Intermodal volume accounted for nearly 50% of total transported volume by Norfolk Southern. The shift into increased Intermodal volumes can be observed in case of both companies, however, during the years other types of volumes remained nearly unchanged.

Summary

This section wasn't written to dive deeply into Norfolk Southern's business, rather to visualize big similarities between them and CSX. The reason for strong correlation coefficient goes beyond the fact that the companies operate in similar areas. Just by looking at the first chart one can observe how the differences between annual revenues stayed on approximately constant level. Both companies received nearly the same amount of the tax benefits in 2017. Both companies started taking on more debt to pursue their new strategic plans. There is no need to go on, however they differ in two aspects: approach to shareholder returns and volume mix.

While CSX spends more money on stock buybacks, Norfolk Southern prefers to pay out more dividends. One of the reasons why CSX was the best U.S.-based performer on the stock market during the period shown in the Stock performance section, was the scale of the buybacks. Both companies have an impressive average share outstanding decrease CAGR and during 2012-2021 period increased total shareholder returns significantly.

Secondly, the volume mixes. Decreasing dependance on coal is clearly visible on volume charts of both companies. Both companies also grew the Intermodal share of total volume. Norfolk is much more dependent on Intermodal, than CSX which has more diversified volume mix.

More about Norfolk Southern business can be found on their website, however I recommend visiting SEC EDGAR system page, since their annual reports are tough to access and sometimes don't load.

Valuation

In this section, I would like to go through two of the most popular valuation metrics: Discounted Cash Flow method and The Comparables approach. For Discounted Cash Flow method, I've selected average metrics going five years back necessary to conduct calculations. Additionally, Bear, Base and Bull scenario fair value prices were computed, from which weighted average share price was calculated.

	Bear scenario	Base scenario	Bull scenario
FCF growth rate	1.5%	5%	8%
5Y average WACC	8.43%	8.43%	8.43%
5Y average P/FCF	24.75	24.75	24.75
5Y average shares outstanding growth	-3.74%	-3.74%	-3.74%
Probability	15%	70%	15%
Share Price	$34	$40.28	$46.37
Weighted average share price		$40.25	

Table 5: Five-year Discounted Cash Flow model prices

Please bear in mind that DCF is very sensible to variable changes, hence everyone should compute their fair value themselves. However, I can make an argument for the metrics that I've chosen. I selected five-year averages, because of CSX of Tomorrow implementation and the COVID-19 pandemic. The averages helped to smooth the irregularities in those metrics. FCF growth rate in Base scenario is somewhat optimistic, yet quite possible to achieve. If CSX can overcome problems with employee compensation, high fuel prices and manage to keep their volume mix consistent with the one from 2021, 5% FCF growth rate is within their reach. Lastly, probability – it's a scompletely subjective variable and I wanted to keep it low in Bull and Bear scenarios, but one has to be prepared for everything.

Analyst Firm	Target Price
Cowen & Co.	$37
Barclays	$40
Stephens & Co.	$35
Susquehanna	$35
Raymond James	$36
Wells Fargo	$30
Loop Capital	$38
JP Morgan	$33
Citigroup	$35
Credit Suisse	$35
Stifel	$37
Bernstein	$32

Table 6: Latest analyst price targets

Table above shows the latest analyst price targets of CSX. Most of the values fall between Bear and Bull scenario fair value prices. Data used to compute the prices was gathered on gurufocus.com **[21]** and calculations were performed on stockunlock.com **[22]** website.

The comparative method of stock valuation will include four peer companies: Union Pacific, Norfolk Southern, Canadian National and Canadian Pacific. The Comparables method will reveal whether CSX's metrics resemble those of the peers, as well as industry's average.

Company	CSX	Union Pacific	Norfolk Southern	Canadian Pacific	Canadian National	Average	Median
Share price	$32.63	$231.88	$249.85	$78.29	$122.01	-	-
Market capitalization	$68.97	$143.84	$56.2	$68.43	$79.92	-	-
Shares outstanding	2140	624.48	234.87	929.92	683.4	-	-
Enterprise value	$84.84	$176.62	$69.99	$83.6	$90.73	-	-
Revenue	$13.95	$23.43	$11.87	$6.33	$12.85	-	-
EBITDA	$7.1	$12.02	$5.94	$4.29	$8.61	-	-
Free cash flow	$3.38	$5.59	$2.49	$0.82	$3.14	-	-
Net income	$3.94	$6.85	$3.03	$4.29	$5.12	-	-
EV/Revenue	6.08	14.88	2.99	13.2	7.06	8.84	7.06
EV/EBITDA	11.95	14.69	11.78	19.49	10.54	13.69	11.95
P/E	17.51	21.00	18.55	15.95	15.61	17.72	17.51
P/B	5.25	11.39	4.27	2.54	4.83	5.66	4.83
P/FCF	20.41	25.73	22.57	83.45	25.45	35.52	25.45

Table 7: Selected financial metrics and ratios TTM, all figures in billions USD except for Share price, Shares outstanding and ratios ***[23]***

All of the CSX's financial metrics fall below the average of the peer group, three metrics medians of the group, one fall below median and one is above the median of the whole group. I would like to highlight one financial ratio that concerns dividend investors – P/FCF. CSX has the lowest P/FCF ratio out of the group, which again shows that the changes in the company are already materializing and fulfilling the objectives of the "CSX of Tomorrow".

Overall, I think that CSX is undervalued. Selected methods of valuation indicate that, relative to the peer group, the company has good fundamentals and valuation ratios that fall below the averages and medians. Discounted Cash Flow model, while sensitive to variable changes, shows that the stock still has over 20% upside to its price right now.

Summary

CSX has changed during the last decade. The company focused on reducing coal share of total volume mix, improvement of operating ratio and in the second part of the decade – shareholder returns. Recent headwinds from possible union workers strike, have faded away for some time and with the announcement of James Foote retirement, the company is stepping into future with strong fundamentals and volume mix adjusted to modern industry standards.

The biggest risk that CSX will face in the future, in my opinion, is labor shortage. The before mentioned possible union workers strike is a big problem, as railroads couldn't reach an agreement with unions for the three years. Judging by the sentiment on Facebook, Twitter and Reddit, employees aren't happy with the deal and most of them will vote against it. Midterms are coming and Biden's administration had to keep the situation under control until then. Other than things discussed above, below are bullet points that sum up this document:

1. CSX was the second-best performer among the peer group, as well as beating broad market ETF, with 17.38% CAGR and 445.62% total return since 2012.
2. Ever since the implementation of "CSX of Tomorrow" strategy, the company has generated higher net income and free cash flow while keeping the revenues on fairly same level:
    - CSX made big staff cuts from over 30000 employees in 2012 to slightly over 20000 in 2021.
    - To achieve its goals, the company issued $6.85 billion in long-term debt during 2017-2019 period.
    - Through the acquisition of Quality Carriers, CSX can gain a bigger share in Chemicals volume segment, which generates high revenue per cart.
    - Net income rose at 7.36% CAGR and free cash flow rose at 18.18% CAGR since 2012.
3. CSX returns a lot of cash to shareholders through buybacks and dividends:
    - Throughout 2012-2021 period, average shares outstanding decreased at -3.24% CAGR.
    - Since 2012, CSX grew total dividends paid by about 50%.
    - In 2018, which was the record year shareholder-returns-wise, the company returned over $5 billion to shareholders.
    - It wasn't until 2020, when the free cash flow fully covered shareholder returns. Before that, the company had to burn its cash on hand on issue debt.
4. Share price of CSX and its rival, Norfolk Southern, behave similarly on the stock market, with 0.82 Pearson Correlation coefficient. Both companies operate on the East Coast of the United States, have similar financial metrics and reward their shareholders handsomely.
5. Current credit ratings for CSX from S&P and Moody's, are respectively, BBB+ and Baa1, which are considered to be investment grade ratings.

More numbers, information and charts can be found in sections corresponding to each bullet point.

Appendix

[1] EIA.gov website, access 5th of August
[2] CSX website company overview
[3] CSX operations website
[4] Quality Carriers acquisition press release
[5] Second Quarter 2022 Earnings Report
[6] Pan Am Railways acquisition press release
[7] Yahoo Finance metrics explanation
[8] 2015 Annual Report
[9] 2016 Annual Report
[10] 2020 Annual Report
[11] 2021 Annual Report
[12] Second Quarter 2022 Investor Presentation
[13] Progressive Railroading "CSX of Tomorrow" overview
[14] 2017 Annual Report
[15] 2012 Annual Report
[16] 2013 Annual Report
[17] 2014 Annual Report
[18] Reuters report about union and railroads talks
[19] Reuters report about unions and railroads reaching tentative agreement
[20] Norfolk Southern "Reimagine possible" strategy announcement
[21] CSX data at gurufocus
[22] StockUnlock DCF calculator
[23] Yahoo Finance CSX metrics

Disclosure

I have a beneficial long position in the shares of CSX either through stock ownership, options, or other derivatives. I wrote this analysis myself, and it expresses my own opinions. I am not receiving compensation for it. I have no business relationship with any company whose stock is mentioned in this paper.

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