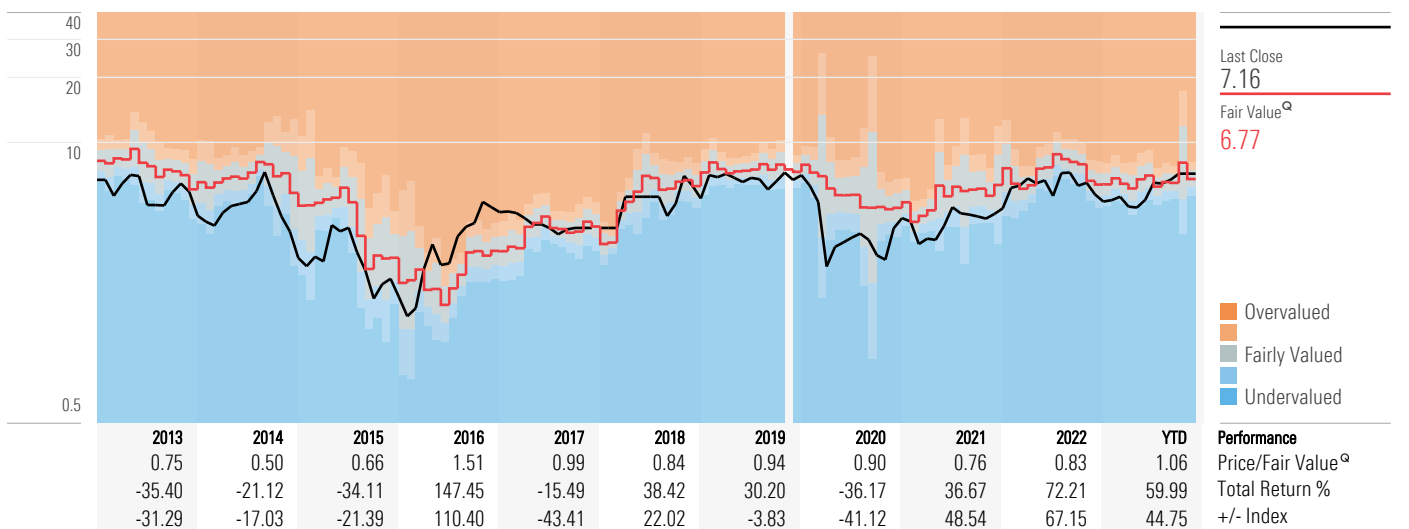


# Petroleo Brasileiro SA Petrobras XPBR ★★★ Q 29 Nov 2023, 23:40 UTC

<b>Economic Moat</b> <sup>Q</sup>	<b>Uncertainty</b> <sup>Q</sup>	<b>Price/Fair Value</b> <sup>Q</sup>	<b>ESG Risk Rating Assessment</b> <sup>1</sup>	<b>Trailing Dividend Yield %</b>	<b>Market Cap</b>	<b>Investment Style</b>	<b>Sector</b>	<b>Industry</b>
None	High	1.1	1 Nov 2023 05:00, UTC	18.90	89.2581 Bil	Large Value	Energy	Oil & Gas Integrated



<sup>1</sup>The ESG Risk Rating Assessment is a representation of Sustainalytics' ESG Risk Rating. Lee Davidson, Chief Analytics Officer for Morningstar, Inc, oversees the methodology that supports Quantitative Fair Value Estimates and Quantitative Star Ratings. Mr. Davidson is guided by the Morningstar, Inc. Code of Ethics in carrying out his responsibilities. For information regarding Conflicts of Interests, visit <http://global.morningstar.com/equitydisclosures>.

## Key Metrics as of 27 Nov 2023

Metrics	Value	Percentile in Sector
Earnings Yield (%)	27.1	91.0
Sales Yield (%)	106.4	61.0
Book Value Yield (%)	77.9	54.0
Return on Assets (%)*	14.1	86.0
Revenue(Bil)*	105.5	96.0
Market Value (Bil)	97.2	97.0
Enterprise Value (Bil)	144.8	98.0
EV/MV Ratio	1.5	71.0
Volatility TTM (%)	29.4	37.0
Drawdown TTM (%)	17.7	20.0
Volume (Mil)	22.1	95.0

\*30 Sep 2023

## Business Description

Petrobras is a Brazil-based integrated energy company controlled by the Brazilian government. The company focuses on exploration and production for oil and gas in Brazilian offshore fields. Production in 2022 was 2.7 million barrels of oil equivalent a day (80% oil production), and reserves stood at 10.5 billion boe (85% oil). At year-end 2022, Petrobras operated 11 refineries in Brazil with capacity of 1.9 million barrels a day and distributes refined products and natural gas throughout Brazil.

## Valuation <sup>Q</sup> as of 30 Nov 2023

Morningstar affirms a 3-star quantitative rating for Petrobras Brasileiro. We calculate this outcome using the company's underlying model-driven valuation and uncertainty scores.

The stock's last closing price was 7.16, a premium of 5.83% to its Quantitative Fair Value estimate of 6.77. The stock has been trading between a 26.97% discount and 12.62% premium to its quantitative fair value over the past year. The stock's price to fair value ratio is at the 95th percentile in our global equity coverage universe for this methodology and at the 95th percentile relative to its peers in the energy sector.

Petrobras Brasileiro furthermore holds a High quantitative uncertainty rating. The company's quantitative star rating dates to after 10/02/2023, before which it was 2-star. Similarly, the firm's uncertainty rating changed from Very High to High after 11/23/2023.

We examine the financials and market statistics for Petrobras Brasileiro to determine these ratings. Its earnings yield is 27.14% and its trailing 12-month average volume (primary share) is 22,001,297 shares. These fall at the 95th percentile in the equity universe and at the 91st and 95th percentiles in the energy sector, respectively.

## Economic Moat <sup>Q</sup> as of 29 Nov 2023

Morningstar maintains a quantitative moat rating of None on the company. The firm's quantitative moat score of 0.07 sits at the 17th percentile in the energy sector. This is a decrease from 0.6, the maximum of its moat scores over the past year. The quantitative financial health rating for Petrobras Brasileiro is Moderate. Its financial health score, termed Distance to Default, sits at the 30th percentile in the universe and 39th percentile in the sector.

The significant drivers of these ratings are the company's book value yield and annualized trailing 12-month volatility. The book value yield for Petrobras Brasileiro is 77.99%, and its annualized trailing 12-month volatility is 29.18%. They sit at the 59th and 44th percentile in the global equity universe, respectively.

## Fundamentals as of 29 Nov 2023

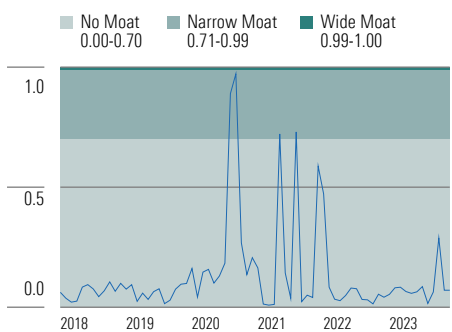
The earnings per share for Petrobras Brasileiro is 2.07. The company earns a return on invested capital of 22.19%, falling at the 85th percentile in the energy sector. The firm maintains a dividend yield of 23.92%. We calculate the above figures over a trailing 12-month period.

Examining valuation further, we find Petrobras Brasileiro holds a price-to-earnings ratio of 3.79, a figure greater than 17% of its sector peers. The company's price-to-free cash flow ratio is 2.54, greater than 13% of its sector peers. These values are calculated using the stock's price at last market close.


## Contact

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## Economic Moat <sup>Q</sup> History as of 29 Nov 2023



# Petroleo Brasileiro SA Petrobras XPBR ★★★ Q 29 Nov 2023, 23:40 UTC

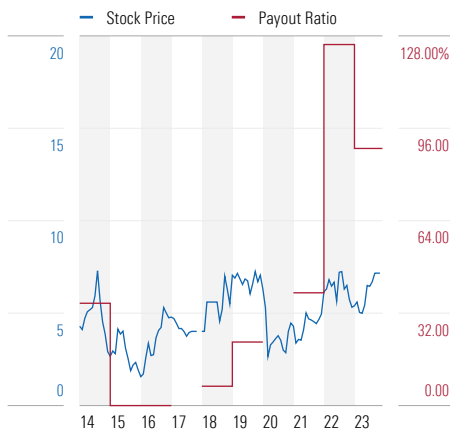
<b>Economic Moat</b> <sup>Q</sup>	<b>Uncertainty</b> <sup>Q</sup>	<b>Price/Fair Value</b> <sup>Q</sup>	<b>ESG Risk Rating Assessment</b> <sup>1</sup>	<b>Trailing Dividend Yield %</b>	<b>Market Cap</b>	<b>Investment Style</b>	<b>Sector</b>	<b>Industry</b>
None	High	1.1	 1 Nov 2023 05:00, UTC	18.90	89.2581 Bil	Large Value	Energy	Oil & Gas Integrated

## Earnings as of 27 Nov 2023

Earnings	%	Percentile in Sector
Dividend Yield*	23.9	96.0
Payout Ratio*	123.7	93.0
Price to Earnings	3.8	17.0
Price to Cash Flow	2.5	13.0
ROIC**	22.2	85.0

\*31 Oct 2023  
\*\*30 Sep 2023

## Dividends as of 29 Nov 2023



## Valuation <sup>Q</sup> as of 29 Nov 2023

Last Close  
**7.16**

Fair Value <sup>Q</sup>  
**6.77**

Uncertainty <sup>Q</sup> :  
High

XPBR is Over Valued at a 6% premium.

**Economic Moat** <sup>Q</sup>  
None

**Financial Health** <sup>Q</sup>  
Moderate

**1-Star Price** <sup>Q</sup>  
> 8.13

**5-Star Price** <sup>Q</sup>  
< 5.63

## Contact

<https://www.petrobras.com.br>

## Financials as of 29 Nov 2023 (Fiscal Year End 31 Dec 2023)

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD	Fiscal
141	144	97	81	78	85	77	54	84	124	75	Revenue (Bil)
15	14	15	16	11	23	21	18	33	56	32	Operating Income (Bil)
10.75	9.95	15.11	19.28	14.33	27.43	27.21	34.0	39.09	44.65	41.98	Operating Margin (%)
11.09	-7.37	-8.45	-4.84	-0.09	7.17	10.15	1.14	19.88	36.62	18.63	Net Income (Bil)
0.85	-0.56	-0.65	-0.37	-0.01	0.55	0.78	0.09	1.52	2.81	1.43	Diluted Earnings/Share
26	27	26	26	27	26	26	29	38	50	—	Operating Cash Flow (Bil)
-45.11	-34.81	-21.65	-14.09	-13.55	-11.91	-23.90	-5.87	-6.33	-9.58	—	Capital Spending (Bil)
-18.82	-8.06	4.33	12.03	13.57	14.45	1.70	23.02	31.47	40.14	—	Free Cash Flow (Bil)
13	13	13	13	13	13	13	13	13	13	13	Avg Shares Outstand(Bil)

## Valuation as of 29 Nov 2023

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Current	Calendar
0.75	0.50	0.66	1.51	0.99	0.84	0.94	0.90	0.76	0.83	1.06	Price/Fair Value <sup>Q</sup>
0.58	0.33	0.25	0.80	—	0.87	1.15	1.20	0.99	0.62	0.97	Price/Sales
6.79	5.29	—	—	—	16.56	15.48	—	2.85	2.17	3.80	Price/Earnings
3.03	2.16	1.09	2.57	—	3.21	4.11	2.45	2.05	1.61	2.05	Price/Cash Flow
0.54	0.28	0.38	0.82	—	1.13	1.40	1.63	1.08	1.07	1.32	Price/Book

## Operating Performance as of 29 Nov 2023 (Fiscal Year End 31 Dec 2023)

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Q3	Fiscal (%)
3.4	-2.38	-3.19	-2.03	-0.04	3.03	4.49	0.54	10.91	20.26	2.66	Return on Assets
7.01	-5.56	-9.31	-6.81	-0.12	9.48	14.01	1.72	30.87	52.73	7.09	Return on Equity
4.33	-2.16	-2.09	-0.2	1.6	5.45	9.16	3.32	17.8	30.57	4.46	Rtn on Invested Capital

## Dividends as of 29 Nov 2023

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Current	Calendar (%)
0.27	1.06	—	—	—	0.25	0.50	0.24	7.26	16.77	1.35	Dividend Per Share
2.23	6.02	—	—	—	1.02	1.73	0.86	23.3	58.84	18.9	Trailing Dividend Yield
—	—	—	—	—	—	—	—	—	—	—	Buyback Yield

# Appendix

**Economic Moat** <sup>®</sup>History as of 29 Nov 2023 (No Moat: 0.00-0.70, Narrow Moat: 0.70-0.99, Wide Moat: 0.99-1.00)

Year	January	February	March	April	May	June	July	August	September	October	November	December
2023	0.05	0.08	0.08	0.07	0.06	0.06	0.09	0.02	0.06	0.29	0.07	—
2022	0.47	0.08	0.03	0.03	0.05	0.08	0.08	0.03	0.03	0.01	0.05	0.04
2021	0.16	0.01	0.01	0.01	0.72	0.14	0.04	0.73	0.02	0.05	0.04	0.59
2020	0.16	0.04	0.15	0.16	0.10	0.13	0.18	0.89	0.97	0.27	0.14	0.21
2019	0.08	0.09	0.02	0.06	0.03	0.06	0.08	0.01	0.03	0.08	0.10	0.10
2018	0.06	0.04	0.02	0.03	0.08	0.09	0.08	0.04	0.07	0.11	0.07	0.10

## Quantitative Equity Report Overview

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### Quantitative Equity Ratings

Morningstar's quantitative equity ratings consist of: (i) Quantitative Fair Value Estimate, (ii) Quantitative Star Rating, (iii) Quantitative Uncertainty, (iv) Quantitative Economic Moat, and (v) Quantitative Financial Health (collectively the "Quantitative Ratings").

The Quantitative Ratings are calculated daily and derived from the analyst-driven ratings of a company's peers as determined by statistical algorithms. Morningstar, Inc. ("Morningstar", "we", "our") calculates Quantitative Ratings for companies whether or not it already provides analyst ratings and qualitative coverage. In some cases, the Quantitative Ratings may differ from the analyst ratings because a company's analyst-driven ratings can significantly differ from other companies in its peer group.

i. **Quantitative Fair Value Estimate:** Intended to represent Morningstar's estimate of the per share dollar amount that a company's equity is worth today. Morningstar calculates the Quantitative Fair Value Estimate using a statistical model derived from the Fair Value Estimate Morningstar's equity analysts assign to companies. Please go to <http://global.morningstar.com/equitydisclosures> for information about Fair Value Estimate Morningstar's equity analysts assign to companies.

ii. **Quantitative Economic Moat:** Intended to describe the strength of a firm's competitive position. It is calculated using an algorithm designed to predict the Economic Moat rating a Morningstar analyst would assign to the stock. The rating is expressed as Narrow, Wide, or None.

**Narrow** – assigned when the probability of a stock receiving a "Wide Moat" rating by an analyst is greater than 70% but less than 99%.

**Wide** – assigned when the probability of a stock receiving a "Wide Moat" rating by an analyst is greater than 99%.

**None** – assigned when the probability of an analyst receiving a "Wide Moat" rating by an analyst is less than 70%.

iii. **Quantitative Star Rating:** Intended to be the summary rating based on the combination of our Quantitative Fair Value Estimate, current market price, Quantitative Uncertainty Rating, and momentum. The rating is expressed as One-Star, Two-Star, Three-Star, Four-Star, and Five-Star.

★ – the stock is overvalued with a reasonable margin of safety.

*Log (Quant FVE/Price) < -1\*Quantitative Uncertainty*

*Micro-Caps: Log (Quant FVE/Price) < -1.5\*Quantitative Uncertainty*

★★ – the stock is somewhat overvalued.

*Log (Quant FVE/Price) between (-1\*Quantitative Uncertainty, -0.5\*Quantitative Uncertainty)*

*Micro-Caps: Log (Quant FVE/Price) between (-1.5\*Quantitative Uncertainty, -0.75\*Quantitative Uncertainty)*

★★★ – the stock is approximately fairly valued.

*Log (Quant FVE/Price) between (-0.5\*Quantitative Uncertainty, 0.5\*Quantitative Uncertainty)*

*Micro-Caps: Log (Quant FVE/Price) between (-0.75\*Quantitative Uncertainty, 0.75\*Quantitative Uncertainty)*

★★★★ – the stock is somewhat undervalued.

*Log (Quant FVE/Price) between (0.5\*Quantitative Uncertainty, 1\*Quantitative*

*Uncertainty)*

*Micro-Caps: Log (Quant FVE/Price) between (0.75\*Quantitative Uncertainty, 1.5\*Quantitative Uncertainty)*

★★★★★ – the stock is undervalued with a reasonable margin of safety.

*Log (Quant FVE/Price) > 1\*Quantitative Uncertainty*

*Micro-Caps: Log (Quant FVE/Price) > 1.5\*Quantitative Uncertainty*

After the initial calculation for the star rating, there is a final filtering step based on the momentum of the company. We rank the companies based on their 12-1 month momentum, then restrict those below the 30th percentile to a maximum of 3 stars.

iv. **Quantitative Uncertainty:** Intended to represent Morningstar's level of uncertainty about the accuracy of the Quantitative Fair Value Estimate. Generally, the lower the Quantitative Uncertainty, the narrower the potential range of outcomes for that particular company. The rating is expressed as Low, Medium, High, Very High, and Extreme.

**Low** – the interquartile range for possible fair values is less than 10%

**Medium** – the interquartile range for possible fair values is less than 15% but greater than 10%

**High** – the interquartile range for possible fair values is less than 35% but greater than 15%

**Very High** – the interquartile range for possible fair values is less than 80% but greater than 35%

**Extreme** – the interquartile range for possible fair values is greater than 80%

v. **Quantitative Financial Health:** Intended to reflect the probability that a firm will face financial distress in the near future. The calculation uses a predictive model designed to anticipate when a company may default on its financial obligations. The rating is expressed as Weak, Moderate, and Strong.

**Weak** – assigned when Quantitative Financial Health < 0.2

**Moderate** – assigned when Quantitative Financial Health is between 0.2 and 0.7

**Strong** – assigned when Quantitative Financial Health > 0.7

### Other Definitions

i. **Last Close** – Price of the stock as of the close of the market of the last trading day before date of the report.

ii. **Quantitative Valuation** – Using the below terms, intended to denote the relationship between the security's **Last Price** and Morningstar's quantitative fair value estimate for that security.

**Undervalued – Last Price** is below Morningstar's quantitative fair value estimate.

**Fairly Valued – Last Price** is in line with Morningstar's quantitative fair value estimate.

**Fairly Valued – Last Price** is in line with Morningstar's quantitative fair value estimate.

**Overvalued – Last Price** is above Morningstar's quantitative fair value estimate.

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Sustainalytics analyzes over 1,300 data points to assess a company's exposure to and management of ESG risks. In other words, ESG Risk Ratings measures a company's unmanaged ESG Risks represented as a quantitative score. Unmanaged Risk is measured on an open-ended scale starting at zero (no risk) with lower scores representing less unmanaged risk and, for 95% of cases, the unmanaged ESG Risk score is below 50.

Based on their quantitative scores, companies are grouped into one of five Risk Categories (negligible, low, medium, high, severe). These risk categories are absolute, meaning that a 'high risk' assessment reflects a comparable degree

of unmanaged ESG risk across all subindustries covered.

The ESG Risk Rating Assessment is a visual representation of Sustainalytics ESG Risk Categories on a 1 to 5 scale. Companies with Negligible Risk = 5 Globes, Low Risk = 4, Medium Risk = 3 Globes, High Risk = 2 Globes, Severe Risk = 1 Globe. For more information, please visit [sustainalytics.com/esg-ratings/](https://sustainalytics.com/esg-ratings/)

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