

Low supply growth and strong demand drive salmon prices

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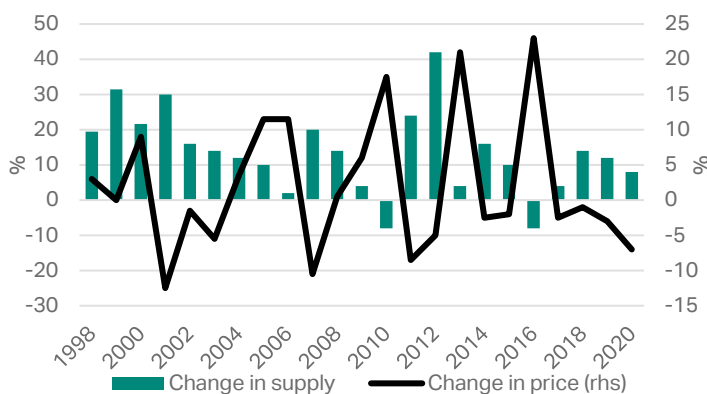
Nordic Credit Rating (NCR) expects strong salmon prices in 2021 and 2022, driven by a combination of low supply growth and increased demand as economies rebound after the COVID-19 pandemic. Our regression model, based on expected global supply and global GDP, forecasts an average salmon price of NOK 68 per kg for 2021. We note that this would be a record price and we are reluctant to take this prediction at face value, given that the standard error is NOK 14 per kg, meaning there is a 17% likelihood of the price being lower than last year's NOK 55 per kg. An upturn in demand may also be delayed by new lockdowns in regions with slower vaccination distribution. However, we believe that the model, which predicts a price increase of 23% in 2021 and 11% in 2022, reflects the correct underlying trend.

While higher prices will have a positive impact on credit metrics, NCR takes a through-the-cycle perspective and normalises margins when it assesses salmon farmers' creditworthiness. A stronger salmon price will lead to stronger cash flow for salmon farmers, theoretically allowing a reduction in net interest-bearing debt (NIBD) and improved credit metrics. However, we also believe that higher salmon prices will trigger more investment in new farming methods such as offshore and land-based farming. The net effect on NIBD is therefore uncertain.

SUPPLY-DRIVEN PRICE VOLATILITY

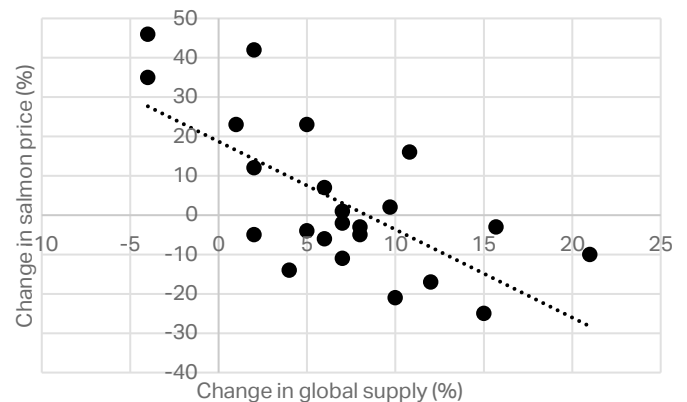
The supply of farmed Atlantic salmon has grown by an annual average of 8% between 1995 and 2020 and 6% since 2010. Just over half of the global salmon supply is farmed in Norway, while Chile is the second-largest producer with 29% in 2020. Chile has seen the strongest average annual growth in the past 10 years at 20%, compared with Norway's 4%, although greater biological challenges in Chile have historically led to more volatility in production. On the basis of available estimates and discussions with sector analysts, we expect average annual supply growth of 4% globally between 2020 and 2023.

Figure 1. Change in supply and EUR price (FCA Oslo) of Atlantic Salmon, 1998–2020



Source: Based on data from Mowi and Fishpool. FCA-Free carrier.

Figure 2. Regression changes in salmon volume and EUR price (FCA Oslo), 1998–2020

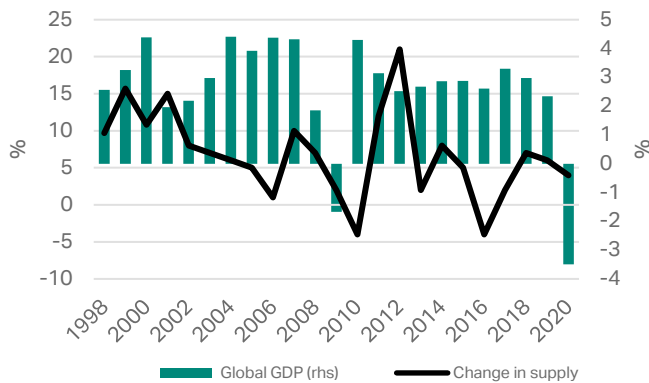


Source: Based on data from Mowi and Fishpool. FCA-Free carrier.

The price of Atlantic salmon has historically been volatile, driven mainly by changes in supply, as illustrated in Figure 1. Linear regression of supply changes versus price produces highly significant results. However, the explanatory power changes over time and the relationship seems to have weakened in recent years. In the period 2001–2011, change in supply explained 84% of the change in price, while between 2010 and 2020 it explained 40%. In both periods, annual supply growth of 6–7% had zero price effect, according to the regression. If we had used the 2001–2011 regression to predict price changes in the following years, the model would have overestimated 2020 prices by 35%.

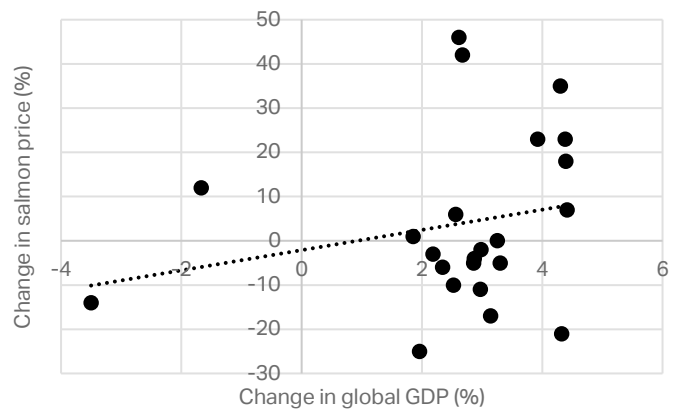
Given the continued uncertainty from the ongoing pandemic, we remain conservative in our view on pricing. In addition, the direct effect of supply changes on prices may be delayed by fixed-price contracts and late repricing of products by retailers. The salmon price may also be affected by changes in supply and prices for substitutes, such as other fish species and poultry, and by changes in demand due to increased health awareness. Branding may have led to reduced price sensitivity, but this should also have led to higher salmon prices or improved processing margins, something we have not been able to verify.

Figure 3. Change in Atlantic salmon supply and global GDP



Source: Based on data from Mowi, Fishpool and Statistics Norway.

Figure 4. Regression changes in global GDP and EUR salmon price



Source: Based on data from Mowi, Fishpool and Statistics.

A clear factor impacting demand for salmon is the change in purchasing power. Global GDP growth is an approximation of changes in purchasing power, which have a low correlation (21%) with changes in salmon supply. Global GDP growth fell from an average of 3% between 2001 and 2011 to 2.2% between 2011 and 2020. While there is little relationship with GDP only in a linear regression model (Figure 4), a linear regression model using both changes in supply and GDP explains 48% of the change in the price of salmon, compared with 44% when using only supply growth (1998–2020). The GDP variable has a relatively high p-value of 11% (we would prefer 5% or lower), indicating a weaker relationship, but we believe it is relevant, since it brings the demand side into the model.

Figure 5. Regression statistics for salmon prices using supply and supply with global GDP

	SUPPLY	SUPPLY AND GLOBAL GDP
Multiple R	0.68	0.72
R-Squared	0.46	0.53
Adj. R-Squared	0.44	0.48
Standard error	14.9	13.9
Observations	23	23
Coefficients/p-value:		
Intercept	18.7/0.001	12.0/0.069
Global supply	-2.2/0.000	-2.3/0.000
Global GDP	N/A	2.7/0.108

Source: Based on data from Mowi, Fishpool and Statistics Norway.

NCR model: change in salmon price = 12.0 - global supply change (%) * 2.3 + change in global GDP (%) * 2.7

Our model above would, for example, predict zero price change in a situation of 8% supply growth and 2.5% growth in global GDP. For 2020, our model would predict a price fall of 7%. A model using only supply growth (4% in 2020) would predict a price increase of 10%. However, prices for Norwegian salmon were down by 14% year on year in 2020, which was due to the impact of the COVID-19 pandemic on the key hospitality markets of hotels, restaurants and catering. Our model predicts a price increase of 23% for 2021, based on a 1% increase in supply and a 5.5% increase in GDP, and 11% in 2022 (5% increase in supply and 4.2% increase in GDP).

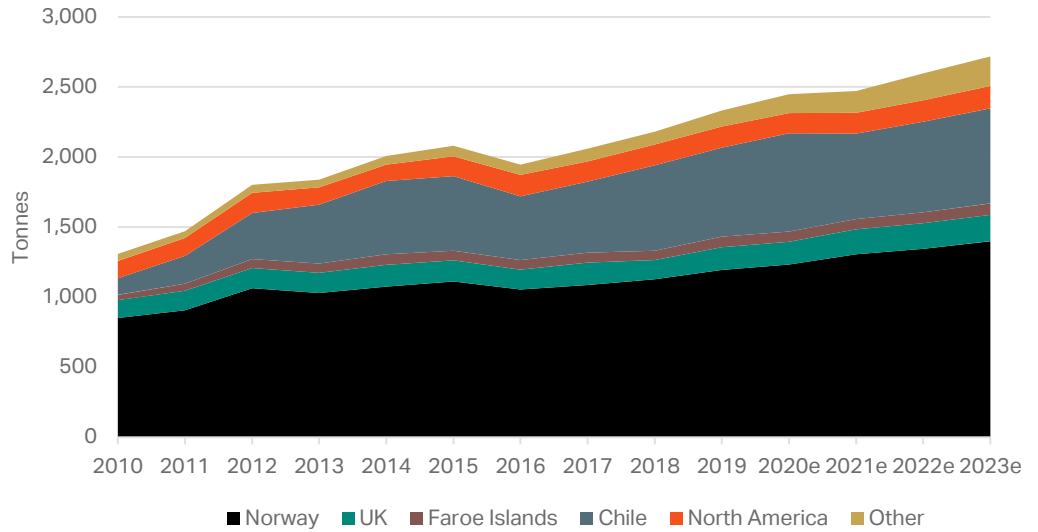
DEMAND IS A LONG-TERM PRICE DRIVER

Demand for Atlantic salmon is increasing, supported by growing demand for healthy food worldwide and an expanding middle class in developing countries. Europe, however, remains the main market for Norwegian salmon. It is sold both to the hospitality industry and to households as fresh, frozen or processed products. The hospitality industry, which primarily buys whole fresh salmon, has been hit hard by the COVID-19 pandemic. In Europe, this has meant that greater volumes are being sold to secondary processors, which distribute salmon products to the retail market.

According to a recent Bank of America (BofA) survey of around 5,000 consumers globally to assess salmon demand, the COVID-19 pandemic has significantly boosted interest: 26% of respondents who eat salmon are more interested in buying it than they were a year ago, compared with only 10% who are less interested. According to BofA, this net increase appears to be driven by the pandemic raising awareness of healthy nutrition (health was cited by 46% of those who are now more interested) and lockdowns leading to people learning to cook salmon at home (26%).

Salmon is an acceptable ingredient in most food cultures. Other salmonids, such as rainbow trout and coho, are farmed and other species are caught wild, but cannot compete in terms of volume, quality, and stability of delivery. Negative media reports of biological issues (disease and sea lice), pollution and escapes by farmed salmon leading to genetic changes in wild salmon have had a limited effect on demand. These issues are, however, among the drivers for the development of new farming methods and technologies aimed at reducing the biological impact on salmon supply, which should improve price stability in the future.

Figure 6. Global salmon harvest, head on and gutted (HOG), 2010–2023e



Source: Based on data from Kontali Analyse, Mowi, and NCR estimates.

Figure 7. Global salmon supply, 2020e

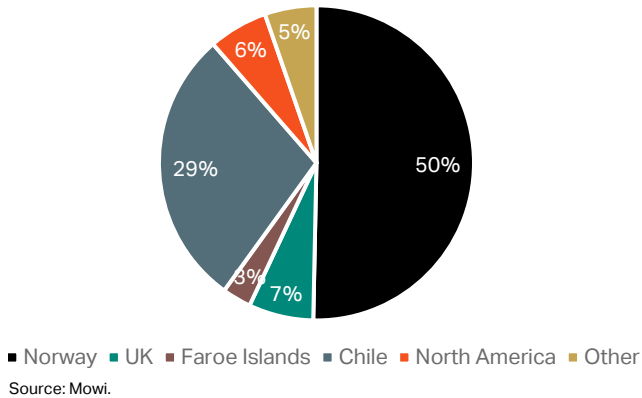
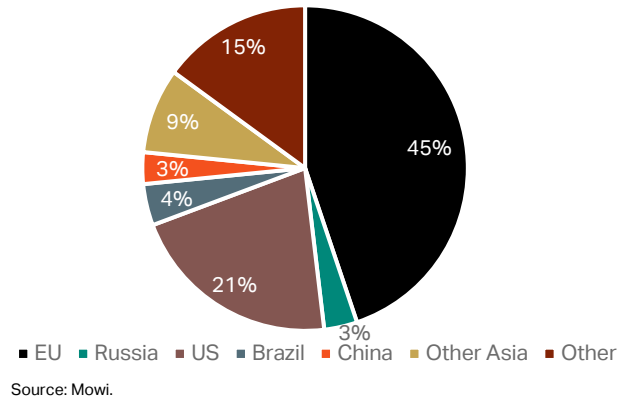


Figure 8. Global salmon demand, 2020e



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