

Nasdaq Salmon Index



THE NASDAQ SALMON INDEX

Nasdaq is committed to deliver a high quality commodities benchmark for the European salmon market. In cooperation with salmon farmers and exporters, Nasdaq has since 2008 delivered weekly spot prices covering the European salmon market, currently branded The Nasdaq Salmon index, *NQSALMON*. The index is widely accepted as the best assessment of the spot prices in the market. It is currently used by analysts, academia, journalists and as 85% of the underlying price for the Fish Pool derivatives contracts. It has also become the industry standard as a price reference in the bilateral physical contracts. *NQSALMON* is also the key performance indicator for buyers and sellers and works as a decision tool for financial investors in the salmon industry.

The *NQSALMON* reflects the weekly market spot price for Fresh Atlantic Superior Salmon, Head on Gutted (HOG). *NQSALMON* is calculated based on actual physical transactions and is reported to Nasdaq by a panel of ten Norwegian salmon exporters. Prices are reported in Norwegian kroner (NOK) and calculated to FCA Oslo. Nasdaq is the administrator responsible for providing IT solutions, validating input data and methodology, calculating and distributing the *NQSALMON* in accordance with the public reporting procedures "Rules for the Construction, Maintenance and Use of the Nasdaq Salmon Index" ([NQSALMON Rules](#)).

Nasdaq is in a process to ensure compliance of *NQSALMON* with the new EU regulations on financial benchmarks.

Product

- ✓ Fresh Atlantic Superior Salmon, Head On Gutted (HOG)
- ✓ Weight Classes 1-2 kg, 2-3 kg, 3-4 kg, 4-5 kg, 5-6 kg, 6-7 kg, 7-8 kg and 9+ kg
- ✓ Transported by truck
- ✓ FCA Oslo, standard transport fees, currencies, export fees and toll

Weekly Benchmarking (Prices in NOK/Kg)

- ✓ The volume weighted average price across weight classes (Index Value)
- ✓ Volume weighted average price per weight class from 1-2 to 9+
- ✓ The % weight distribution per weight class
- ✓ *NQSALMON* average of 3-4kg, 4-5kg and 5-6kg (weighted 30/40/30) - 85 % of the FPI (Fish Pool Index™)

2016 PERFORMANCE

- ✓ Total volume reported: 219 015 tonnes (HOG).
- ✓ Avg. price per kg: NOK 62,68/EUR 6,75 (2015: NOK 41,44/EUR 4,63)
- ✓ Contributors: 10 exporters, representing 50-60% of all Norwegian salmon exports
- ✓ Average standard deviation between panelists per kg 3-6 kg: NOK 0,972/ EUR 0,104

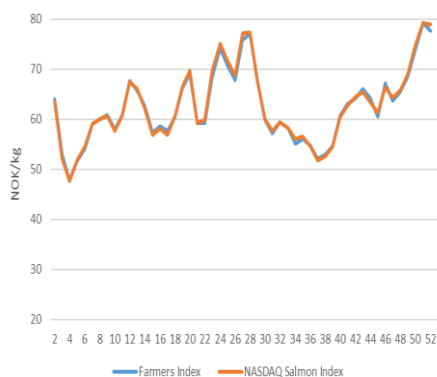
Standard Deviation

In 2016, the average standard deviation between the panelists for 3-6 kg was NOK 0,972. The low figure verifies that *NQSALMON* is a solid representation of the actual spot price of the market. The number means that 68% of the panelists reported prices were within NOK 0,972. The number is slightly above last years' NOK 0,64. However, one should take into account that the average prices in 2016 were 51% higher than the year before, and that the price volatility in 2016 was higher than in 2015. Our interpretation is that all ten panelists clearly operate in the same market, competing in the same segments, and that *NQSALMON* is a solid representation of the weekly European spot prices for Norwegian salmon.

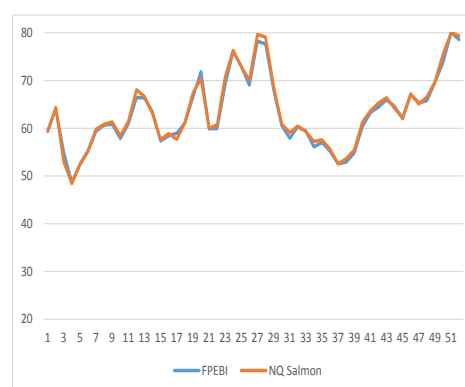
Correlation with other Indices in the Salmon Market

Every year we do an external quality control by comparing *NQSALMON* with other relevant available salmon prices. This year we have chosen to compare *NQSALMON* 3-6kg with the Kontali Farmers Index, an independent benchmark which reflects the weekly sales prices from Norwegian salmon farmers and exporters. We have also compared *NQSALMON* 3-6 with Fish Pool Buyers index reported from European buyers. The results are shown below:

NQSALMON - Farmers Index (source Kontali Analyse)



NQSALMON – Buyers Index (source Fish Pool ASA)



These two correlation checks mainly represent different sources (companies/panelists), and the result is a very strong indicator that the *NQSALMON* is a good representation of the actual underlying spot market.

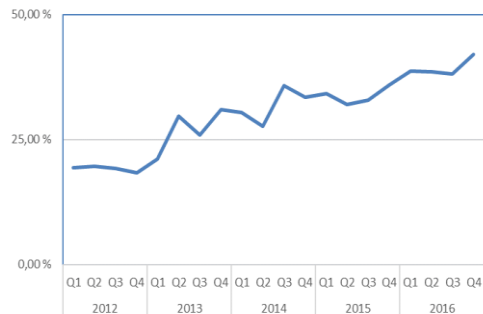
Representation

Our ten panelists represent integrated companies, farmers and pure exporters, which is representative for all segments of Norwegian salmon exporters. Their export volumes represent 50-60% of the total Norwegian export, giving *NQSALMON* a solid statistical basis. The reported volumes has gone down with 23% from 2015. This a natural effect of at least 3 factors reducing the size of the market that is the basis for the index:

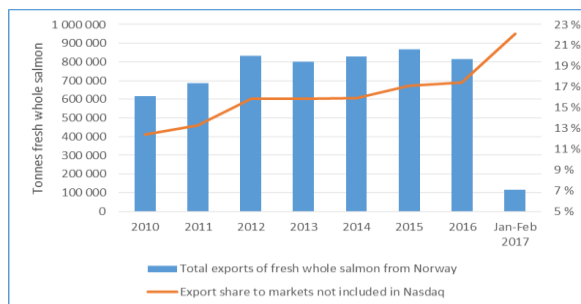
- ✓ 7% reduction of total Norwegian fresh exports
- ✓ Increased share of physical contracts
- ✓ Increased share of exports by plane (not included in *NQSALMON*)

The last two are illustrated by the analysis by Kontali Analyse shown below:

Physical contract share of export



Export by plane



Nasdaq concludes that there are strong indicators that the volumes reported to *NQSALMON* are stable, when compared with the spotmarket that *NQSALMON* targets.

Regulatory Compliance

On behalf of all index users and contributors, Nasdaq is committed to assuring compliance of *NQSALMON* with the upcoming EU regulation for benchmarks. We are looking at various aspects of the *NQSALMON* and are prepared to make modifications to the reporting procedures and routines if necessary.

Audit and Controls

Nasdaq has since 2014 contracted Kontali Analyse as our external auditor of the *NQSALMON*. Kontali Analyse is an independent and leading analyst firm for the aquaculture and fishing industry with 20 years of experience in the salmon market. Kontali also has detailed knowledge about the daily operations of salmon exporters. We consider them to be well suited to deliver high quality audits and general assistance in delivering the best possible benchmark to the salmon market. The annual audit is one part of a robust mix of quality control routines administered by Nasdaq which include:

- ✓ Each panelist operates an IT based reporting system, supported by analysts, sales managers and controllers. They enter data into Nasdaq IT-based reporting system after quality controls performed during Monday and Tuesday every week
- ✓ Nasdaq monitors system alarms and performs a detailed QA every week. Weekly quality control of input data is done in close cooperation with panelists. Normally 4-6 panelists are contacted every week for making sure all numbers are correct.
- ✓ External annual audit of Index Contributors, organized by Kontali Analyse:

System Audits	Standard Parameter Audits:	Random Audits
<ul style="list-style-type: none"> • Procedures for identifying and eliminating contract sales • Procedures for identifying sales to integrated companies • Handling of credit notes 	<ul style="list-style-type: none"> • Foreign exchange rates • Deduction/addition of transportation costs • Deduction of customs clearing • Products included in reporting • Weight class categorisation • Destination markets (Delivery address) 	<ul style="list-style-type: none"> • Random control of methods, routines and procedures related to reporting

Audit Results 2016

Kontali states in their report that they are comfortable after auditing contributors. According to Kontali, the index contributors continues to show satisfactory knowledge of the reporting procedures and demonstrated detailed expertise on internal procedures and systems created to meet the reporting criterias.

System Audit Results

Minor deviation was found related to weight class categorization, with minimal effects on prices reported by Nasdaq.

Standard Parameter Audit Results

Minor deviations were found related to standard parameters and new tradable products, with minimal effects on prices reported by Nasdaq

Random Audit Results

A few minor deviation was found related to random audits, with minimal effects on prices reported by Nasdaq

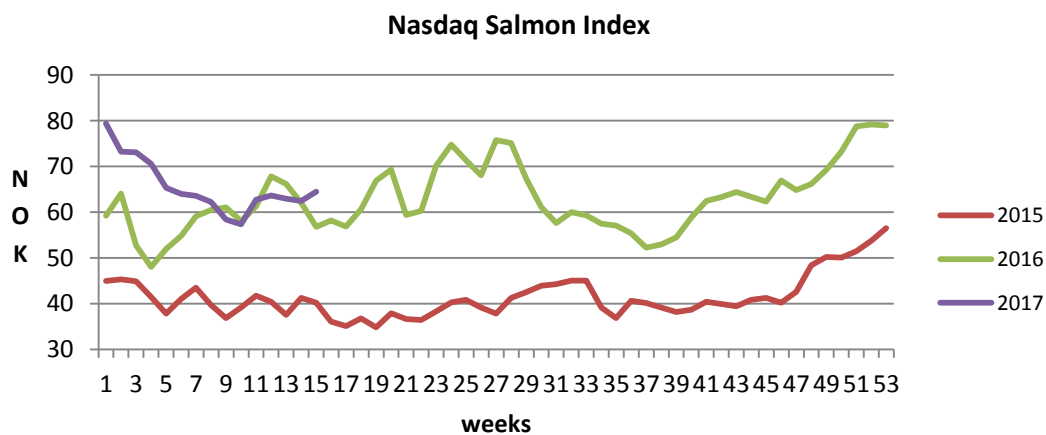
The deviations discovered during audit where all corrected at site. Kontali reports that the deviations only represented an insignificant volume. Calculations done by Kontali assure that the deviations had no significant effect on the *NQSALMON* price.

Conclusion

Nasdaq is committed to produce a high quality benchmark to the European salmon market. We strive to ensure a transparent, reliable and representative *NQSALMON*.

Our commitment is strengthened by our audit agreement with Kontali. They will continue to assist Nasdaq in governing the *NQSALMON* and audit panelists during 2017. Additionally, Nasdaq will continue preparations to make sure *NQSALMON* will comply with the upcoming EU benchmark regulations.

The third annual audit again confirms that *NQSALMON* is a high quality benchmark. Low standard deviation on reported prices and high correlation with other benchmarks in the seafood market, indicates that the *NQSALMON* represents a correct picture of the salmon spot price.



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