BEHIND THE NUMBERS
EARNINGS QUALITY & DIVIDEND SUSTAINABILITY RESEARCH

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Mowi ASA (MHGVY)
Initiate at BUY

Mowi (MHGVY - $23.41) is the world's largest salmon farmer (Formerly called - Marine Harvest). It is a $12 billion company with a dividend yield of over 5% that few people have heard much about. **We are initiating it with a BUY recommendation.** What we look for in a Long idea is something that has minimal or declining leverage (Debt is 1.2x EBITDA here and the trailing EBITDA is a depressed figure in our opinion) with long-term growth drivers and several catalysts that are already working but are being masked or are tougher to immediately see. At the same time, it pays an above-average dividend to compensate investors for waiting.

This is a company that has transformed from a commodity company to one getting half its revenues from value-added product and that percentage could continue to rise. Mowi has kept revenues growing even when volumes and pricing work against it. However, volume and pricing are what make the headlines. Mowi is committed to paying a high dividend of at least 75% of free cash flow and often exceeds that depending on expected capital needs in the future and balance sheet considerations. The free cash flow should rise with earnings growth and completion of some large capital spending plans. Demand for all protein is rising and salmon demand is growing even faster off a small base. The market may continue to grow volumes at a 4%-5% CAGR for decades.

Another area that masks some of the gains is Mowi's performance is being offset because the stock trades in NOK (Norwegian Krone) even though it also trades in dollars in the US. Norway's currency often trades up and down with the health of the oil market. Many of its larger companies are associated with oil, offshore oil infrastructure, and shipping. Historically the NOK has traded between 5-6 to the dollar. The drop in oil prices from $100 to $30 in 2014 hurt the NOK and caused reorganizations of many of Norway's companies such as Seadrill and the exchange ratio rose as high as 9 to 1. With oil back in the high $50s and much of the infrastructure companies in better shape, the NOK is still at 8.5 to 1. Without trying to time the NOK to USD exchange, we're just going to say the macro doesn't

look as bad as it did in 2015 and the exchange rate seems unlikely to weaken to levels worse than 2015-16. Having the NOK appreciate to 7.5 or 6.5 to 1 over time, adds 13%-30% to the return of owning Mowi.

In our view, the accounting is conservative and the company has a desire to pay an above average dividend that should rise over time. It is trading for 17.6x trailing EPS and about 15x forward EPS. There is some seasonality to results and small changes in operations can positively or negatively impact earnings that are unforeseen even a quarter in advance. This would be a difficult position to track looking at +/- a few pennies in quarterly EPS given variables on pricing, volumes, operating costs, that routinely impact its multiple operating regions differently. However, a long term view should give a consistent yield and capital appreciation in our opinion:

- **Demand for salmon is growing and should continue to rise for decades.** This trend has been driven for decades already as more people enter the middle class and eat more protein overall and seafood has taken more share. At only 4.4% of the seafood market, salmon is growing off as a smaller base and seen as a luxury item. The wild catch is flat to down and farming is making up the difference between wild supply and growing demand.

- **Farmed salmon can grow faster than other fish and protein.** It has higher health benefits per serving. It uses less land, water, and feed to create. There has been considerable consolidation into stronger players who are developing end markets. The companies and regulations are focusing on growing the market with an improved product.

- **Mowi's salmon is not the commodity it was years ago trading solely on spot prices and weight. Its higher quality certifications are earning it premium pricing even when pricing is already rising.**

- **Mowi has down-played commodity issues by breeding healthier fish and using fewer antibiotics and getting over half its sales from Value Added products and another sizeable percentage from contracts with large customers rather than the spot market.**

- **Even when in periods when pricing and volumes have declined, Mowi has managed to grow revenues which should not be possible for a commodity product. It has been beating its goals on ROE and salmon quality and price achievement handily.**

- **Sea lice and other parasites remain the largest risk to volumes and margins**. When fish are attacked, they eat less and gain weight more slowly – that impacts volumes and boosts operating costs. **The problems tend to work together to pull down or push up all the metrics at the same time:** pricing, quality premiums, volume, operating costs, treatment costs.

- **As the largest producer, Mowi avoids some of these problems simply by diversifying operations with multiple pens, in multiple regions, in multiple countries.**

- **Vaccines have been developed for several salmon health issues. Mowi's R&D efforts have reduced parasite impacts and they have bred healthier fish to start with. The negative costs of fish costs have started to decline.** Many of the recent investment to prevent these issues are now coming online and should help Mowi's volumes and income.

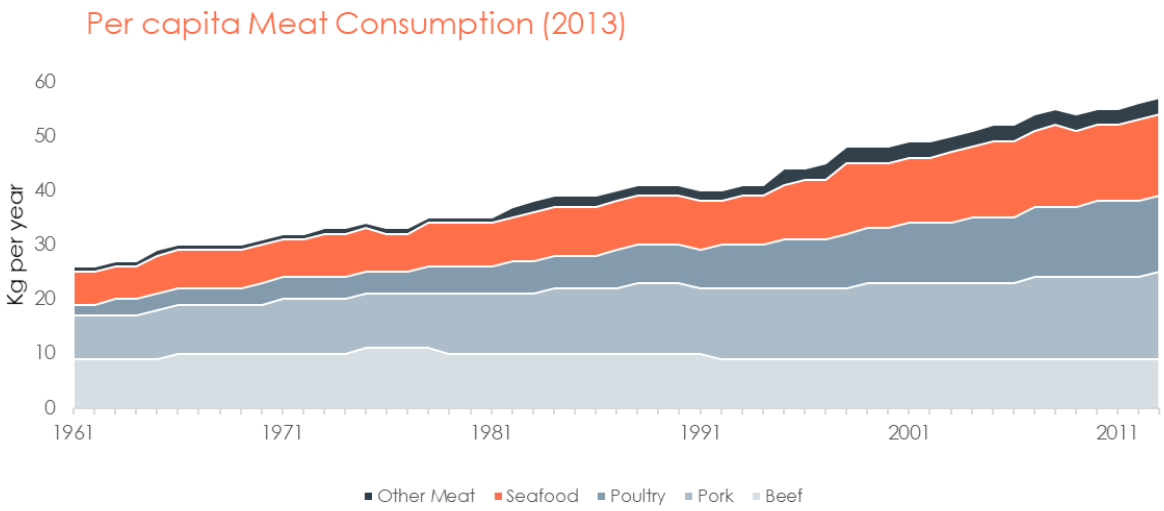
- **As these positives can now be unmasked as new fish grow longer in freshwater and non-medical treatments are in place to control lice – Mowi has started 2019 with guidance for a sizeable jump in volume.** It has had the capacity in place, but with fish taking 3-years to grow, it has not had as many fish to harvest under the new technology.

- **Free cash flow should rise as volumes increase. Less parasite control issues and costs should also drive earnings. The company is also 100% self-sufficient in producing feed at this point too. That will reduce capital spending as that investment is completed.** It also gives the company another area to tout higher quality because it can show customers exactly what a fish ate and how it was raised for its entire life. That should help support higher pricing too.

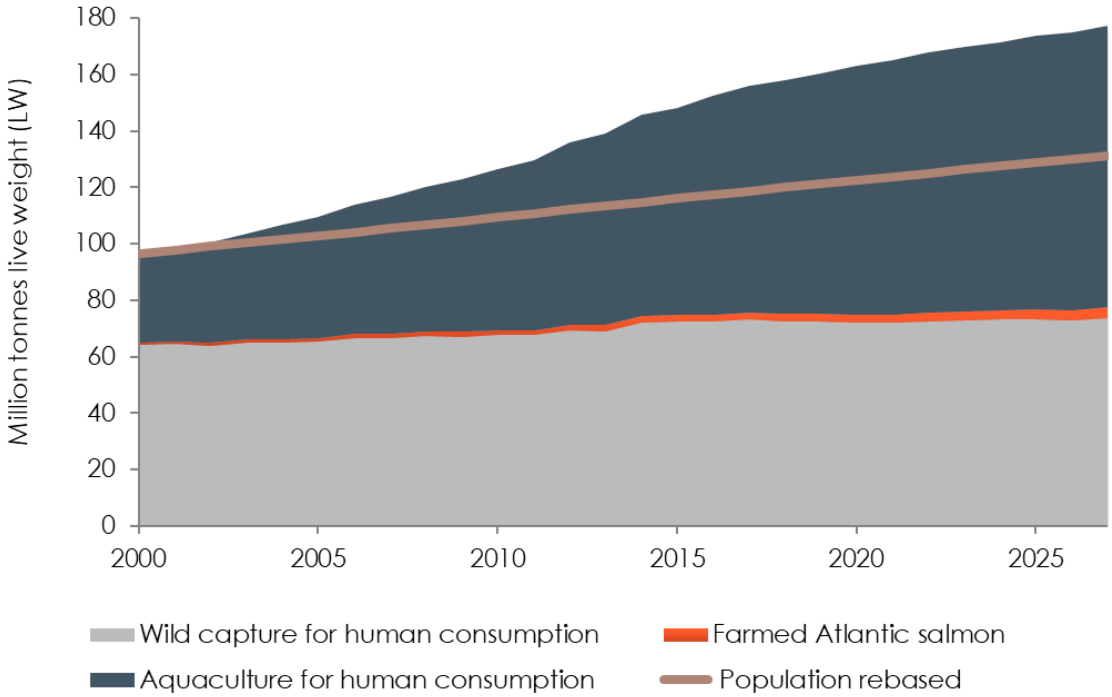
- **Mowi has already rolled out new Value-Added product to the US and the higher volumes will help support that and higher pricing. It believes the US can become the next Germany.** Mowi saw the per capita consumption of salmon double in Germany and the sale of value-added product rise 12-15 fold. Looking at the US market, it is starting at the same volume in demand that Mowi produced in 2018 and the US is still only about 1 kg per capita. If their new facilities can drive demand up to 2 kg, it should post considerable growth in the coming years for sales and income.

Salmon Is a Growing Market

In general, as the world's population has grown more prosperous – it eats more protein. So not only is the population growing and driving more protein consumption, but per capita protein demand is rising too. This trend has been well established for 50-years. As the graph below shows – per capita meat consumption in the world has doubled:



The other part to notice within this graph is that seafood and poultry have been the primary sources of growth. The problem for fish is the total wild catch level has been flat as demand is growing. Fish farming has picked up the difference:



Forecasts by the FAO – Food and Agriculture Organizations of the UN – are expecting a 3% growth through 2027 for world per capita fish consumption. There are two things to keep in mind about this. First, of the 21kg per capital in fish consumption, only 4.4% of that is salmon – that is less than 1kg per person. Second, the market is trading up to salmon. The bulk of farmed fish around the world are carps, tilapia, oysters, snails, and shrimp. That means that the demand for salmon is growing faster than the market as a whole with large regions like the US growing at 6%, Asia at 9%, Europe at 4%, and Brazil at 9%.

Farmed Salmon Has Other Reasons to Grow Faster than Other Protein and Other Fish

As people want more salmon and the demand is starting from a low base – the wild salmon supplies are flat to down. For the last 10-years, wild salmon has been producing between 700,000 to 1 million tons per year. Moreover, much of the wild catch is drum or pink salmon which tend to be smaller in size, less oil content, and much of that is canned. Farmed salmon has picked up the slack between rising demand and the flat wild catch. Farmed salmon is now producing 2.3-2.4 million tons.

Against other farmed fish, salmon has several advantages: It has much more omega-3 fatty acids than the same portion of shrimp or tilapia. Salmon farming is more remote in its

location and less exposed to land-based pollutions and water quality issues. Salmon is viewed by many as a luxury product – filet vs. hamburger - and can command a higher price. Sushi demand has increased around the world and is more likely to use salmon than carp or tilapia. It does not have to take much market share starting at under 1 kg/per person to have a meaningful growth rate in total demand.

There are also fewer places to develop a salmon farming operation. Whereas catfish, carp or shrimp can be raised inland with rice paddies – salmon need colder water. Also, the pens need to be sheltered from storms and still have significant ocean current. That limits it to fjords in far northern or southern countries. Much of the potential for growth remains in Chile and Norway. With governments focused on quality production combined with the fact that the industry has consolidated significantly in recent years, the market should be successful in gaining both volume and pricing in the coming years.

Salmon has a health edge against many other forms of protein like beef or chicken based on the heart-healthy omega-3s and lower cholesterol. Salmon is also more likely to draw demand because of its efficiency in production. It simply converts feed into edible protein better than a cow or chicken – 68% of a salmon can be eaten vs. 41% for a cow or 46% for a chicken. It takes only about 1.1kg of feed to produce 1kg of salmon. For a chicken, it takes 1.9kgs and for a cow 4-7kg. It also consumes less freshwater and produces less CO2 to produce salmon.

Mowi Salmon Is Not Much of a Commodity Any More

Going back 10-20 years, salmon farming was a very disjointed market with mostly small producers that often lacked capital. There was little known about some of the problems that affect salmon such as sea lice. The primary product coming out of the industry was called HOG – Head On Gutted salmon. It was not frozen and had a short shelf life. Others could process it further – freezing, canning, smoking. Quality varied widely and often showed up in bulk. Also, new supply facilities had the problem of growing in a stair-step manner while demand grew in a linear fashion. Thus, pricing could be very volatile year to year and higher supply lowered prices. There wasn't much drive to develop an end market.

Looking at some Mowi plans from several years ago, the company was still talking about viewing results over a 5-year cycle and with the goal of posting a 12% ROE during that

period. Within that 5-years, investors were expected to see years with losses or very low returns and some stellar years that averaged it out.

Much of that is not the case anymore. First, the consolidation of the industry has been significant. Norway has gone from 70 producers to 22, Chile from over 30 to 13. Other markets have 1-3 and Mowi shows up six times as a producer by operating in six different countries in the final total. The government has boosted monitoring of the industry as well including testing fish, being more stringent on preventing escapes and overfeeding that impacts wild fish, licensing new technologies, watching for sanitation concerns, approving new operating licenses for additional fish pens more sparingly and conducting more research with the industry. Both the industry and the government have worked to control and mitigate parasites that impact fish health. Chile was literally the wild-west with few rules about five-ten years ago and had been expanding supply rapidly only to be hit hard by ISA (Infectious Salmon Anaemia). Mass mortality could result and treatment used to be destroying most of the fish, often not using the area to farm for some time, and then farming with fewer fish per pen. Earlier detection is now available to pull fewer fish. There are also vaccines available now. Chile has now moved to clean up many operating problems, consolidate, and regulate salmon production in a way that mirrors Norway.

Here is what happened to Chile supply before consolidation and regulations:

Chile Volume	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
in 000s of tons	110	210	360	310	330	350	310	250	230	215	150	98

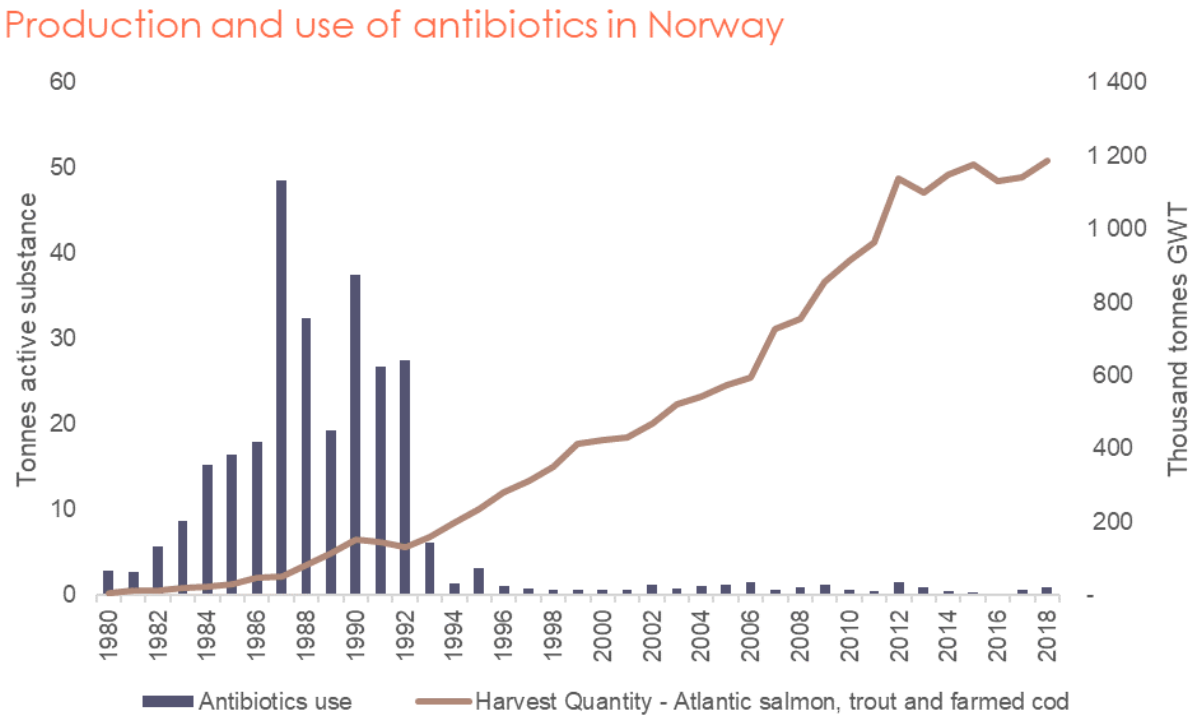
Notice the rapid growth in supply early on, followed by a crash after 2008. After 10-years, they were almost back to 1999. The rapid increase in supply caused salmon prices to fluctuate significantly on the spot market as Chile grew. A year like 2001 saw prices in Oslo fall 25%, in 2008 as the peak was being reached, pricing only rose 1%, but in 2010, it rose 35%.

It took a few years to bounce back and the fast growth returned in 2014. A toxic algae bloom in 2016 led to a surge in fish mortality. During this time Chile began to focus more on fixing production issues and health risks by requiring reductions in the density of fish in pens and having pens located further apart. It also insisted on having pens certified to comply with known practices to prevent farm fish escapes. Producers were fined for poor sanitation policies and the goal is to boost the quality of Chilean salmon by using fewer antibiotics.

The government believes that growth will continue, but at a slower pace of 3%-6% after 2018. WE see that as a positive to avoid volume surges and crashes as Chile was the huge swing producer.

Chile Volume	2018	2017	2016	2015	2014	2013	2012	2011
in 000s of tons	605	510	450	530	510	420	310	200

Chile has adopted many of the same reforms from Norway. Thirty years ago, Norway had the heath issues and responded with enormous amounts of antibiotics:



Norway went for better breeding of fish, developing vaccines, and improvement in sanitation and fish management. The supply of fish has risen considerably faster simply by raising healthier fish and not focusing on overcrowding pens and using more antibiotics.

The healthier fish and higher quality allow Mowi to enter long-term contracts with major retailers and other customers to supply fish. We will discuss below that producing its own feed and performing more processing itself to produce value-added product also moves Mowi further away from the commodity swings in the market for HOG – Head On Gutted Salmon. Mowi is the leading producer of ASC Certified farm-raised salmon. ASC stands for Aquaculture Stewardship Council that checks facilities for meeting the standards for fish

health and quality. Their goal is to have 100% of Mowi facilities certified, in the few years since starting that program, Mowi is at 78 facilities with that rating which is 34% of its total.

Mowi Stats	2018	2017	2016	2015	2014	2013	2012	2011
ROE	25%	27%	28%	13%	21%	19%	4%	17%
VAP %	51%	48%	46%	45%	43%	36%	35%	n/a
Contract %	36%	38%	42%	34%	36%	37%	33%	43%
Superior %	91%	93%	92%	92%	93%	89%	91%	92%
Price Achvmt	99%	103%	91%	105%	102%	98%	105%	110%

- ROE is the Return on Common Equity – the company's goal is to maintain a long-term ratio over 12%. There are still some ups and downs with some short-lived items, but they are consistently beating that goal.

- VAP is the percentage of salmon sold that is Value-Added Products such as smoked salmon, smaller frozen portions, sushi, marinated and packed…
- Contract % is the percentage of salmon sold under a longer-term contract with large customers.

- Superior % is the volume that is graded highest quality, the non-superior having paler color, damaged skill, scales missing…

- Price Achievement is how much above or below Mowi salmon sold for vs2.75-year-old Salmon Price Index based on the Spot price for superior salmon. Keep in mind, contract sales are done over average prices and tend to rise and fall slower than the spot market. So, when pricing is rising, contracts tend to lag and when pricing is down, contracts tend to outperform.

It looks clear at this point that Mowi is consistently producing 90%+ superior quality salmon and achieving at 100% or better in most years vs. the market's premium pricing metrics. Over half the sales are coming from value-added products now too. Mowi does not appear to be suffering from commodity swings anymore. Even with volume being down in several recent years and pricing having some negatives – it is still seeing total revenues rise consistently – as it diversifies into contract sales and value-added product.

Mowi Stats	2018	2017	2016	2015	2014	2013	2012	2011	2010
Vol. change	1.3%	-2.7%	-9.4%	0.3%	21.8%	-12.4%	14.4%	16.2%	-9.8%
Price change	-1.9%	-6.1%	46.1%	-4.2%	-5.3%	40.8%	-9.3%	-16.9%	34.3%
Rev change	4.5%	4.0%	12.8%	1.9%	24.3%	18.7%	0.1%	8.4%	14.0%

The Risk Comes from Sea Lice and Fish Health

As noted above, recent history has shown too different fish health problem in Chile that caused salmon stocks to drop off noticeably. The biggest risk for salmon farming is the fish take 3-years to grow and there is a snowball impact when things go bad.

If fish start to get impacted by parasites and health issues, they don't eat as much. That means they do not grow as quickly. It can also mean that many fish are harvested early. The impact is that negatively impacts volume and fish are sold on volume and price. In places like Asia, they want large fish of 5-6kg and early harvesting means fewer large fish and they don't simply buy two smaller fish instead – they eat something else. If fish are harvested early, they also aren't replaced very quickly as they take 3-years to grow. Thus, the impact means lower volumes in the following year too.

When fish are treated for parasites and health issues, they also may slow their eating. Even though the fish are treated and not harvested early, they still may not grow as rapidly. This has the impact of boosting costs for the treatments, extra manpower, extra food used that the salmon didn't eat and for the longer time it takes the fish to grow. That also cuts harvest weight and/or increases the cost of production. Either way, it impacts profit per kg. On pricing, treatment for health issues can lower price too and smaller fish do not command premium pricing.

As a side-bar to this story – one thing that really has to be endured in salmon investing is news stories that simply are not possible or are seasonal in nature. Just like journalists believe any spring rain is weather and many will even report that too many nice days in a row is a problem too – they are continually "shocked" to hear that the wild catch for salmon arrives in July and August and write, "Will this glut the market and destroy pricing?" Also, all the salmon companies report their biomass in the pens every quarter and unlike computer chips, someone cannot work overtime and suddenly create a huge amount of new 2.75 year old fish in a few weeks. But, there will be stories talking about how the supply in the pens has suddenly surged or dropped as the news extrapolates some random event

relating to one pen in one sub-region of the world. So be aware – there is definitely headline risk here in the short term.

A big reason to own Mowi is it is the largest salmon producer. It operates in Norway, Scotland, Ireland, Faroe Islands, Canada, and Chile. It operates in multiple regions in those countries with multiple fish pens too. It is very much like a stock portfolio – some pens are doing better than others at various times. Also, the life-cycle of the fish can have impacts both positive and negative for multiple years. Let's look at a few examples of regions and sub-regions in the last three years:

Scotland	2018	2017	2016	2015
Harvest Vol.	38.4	60.2	45.0	50.1
EBIT/kg Euro	2.00	2.20	0.91	0.35
Price Achievement	113%	108%	88%	113%

In Scotland, Mowi faced biologic problems with Sea lice in 2015 and 2016. The company noted that biologic issues lowered fish survival rates and the cost per kg rose 22.9% in 2016 due to higher treatment costs and 11.7% from higher feed costs as the fish did not process food into more weight as well. However, they saw lower harvests drive up pricing in the market, which helped EBIT per kg rise despite the higher costs. In late 2016 and early 2017, most of the affected pens were harvested. In 2017, volume rose and costs for feed declined as the normal economies of scale returned. With higher volume, pricing was weaker – but the company still achieved a noticeable bounce in profitability and contract share and price achievement remained strong. In 2018, they saw volume down again – why? Because they didn't stock as many young fish during the health issues in 2016. The lower volume again unwound some of the economies of scale in operating the pen and feed costs.

Chile	2018	2017	2016	2015
Harvest Vol.	53.2	44.9	36.9	62.5
EBIT/kg Euro	1.40	1.30	0.11	-0.82
Price Achievement	100%	96%	99%	109%

In 2015, Chile operations were impacted by a volcano which resulted in more culling of fish and a faster harvest. The prices fell in the area with more fish coming to market and there were increased expenses related to the clean-up. In 2016, the algae bloom boosted fish mortality and unwound economies of scale. That drove up costs per kg, but the lower harvest was offset with higher pricing. In 2017, the pricing stayed high with another

smaller harvest and the costs per kg fell 13% as fish were healthier so fewer biologic costs and better economies of scale on feed. In 2018, Chile had a solid year again with lower biologic costs and more normalized volumes leveraged other costs.

The point to understand is that there will often be a market or sub-region with some issues. Those make several wildcards work in tandem and can result in volume falling 38% one year and rising 33% another with pricing working inversely with that volume change and biologic costs rising and falling with other operating costs leveraging or deleveraging with volume. However, the second point to remember is Mowi is diversified and has a larger scale so huge positives or negatives in one area do not overwhelm the whole company. We showed in the prior section that Mowi's overall volume and pricing are not moving this rapidly.

The Impact of Sea Lice and Fish Health Costs May be Falling Consistently

The company has spent considerably on R&D – again another reason to buy the biggest player in the group. It has developed vaccines for some fish issues and it has continually worked to breed healthier fish that are more resistant to the problems. For example, salmon are not as smooth on their skin like a halibut. That gives lice places to attach themselves more easily. Mowi has worked on breeding fish with smoother skin that are less susceptible to lice.

At the same time, it has studied lice and what attracts them. The result is adding lights deep below the salmon to attract lice there. Smaller fish eat the lice off salmon. These cleaner fish have proven to be effective too at controlling lice without using chemicals and medications. Mowi now produces its own cleaner fish and is 100% self-sufficient on that front. They have added more skirts to the pens to prevent lice from getting in as well as they experiment with new pen designs and have had several approved by Norway's regulatory staff.

Overall, Mowi has found that the best way to avoid lice and other problems is to have healthier and stronger fish. That works with the breeding program as well to focus on stronger strains and the company supplies its own smolts (small fish) too. Also, it realizes that many of the health issues arise when the fish are in the ocean. Therefore, it has been building larger freshwater and closed systems to raise the fish for a longer period away from the wild ocean water. The result is fish go into the ocean pens as larger fish, stronger fish,

with better health. They also spend less time exposed to the various parasites. The stronger breeding program has been found to effectively combat other diseases and parasites. Plus, vaccines have been developed for anaemia as discussed above, pancreas diseases and septicaemia, which is a bacteria issue.

As shown earlier, Norway has already moved away from aggressive use of antibiotics to curb fish health issues. For Mowi, they have seen considerable movement away from medicines in dealing with sea lice already. Since 2015, the percentage of lice treatment using non-medical means has risen from 12% to 62% in 2018. Cleaner fish are in 76% of the company's pens and medicine use has fallen 18% in the last 3 years. Spending on health issues fell last year even on higher volumes. The company believes many of the new changes can keep this improving more.

The Reduction of Health Issues Should Allow Volumes to Rise

What surprised us at first about Mowi is the demand appears to be there for more salmon and yet its volume figures have been very flat for years. It has built new pens in some markets and acquired other smaller companies in other markets. Yet, the volumes have not risen much since 2014 and 2015:

MOWI stats	2018	2017	2016	2015	2014	2013	2012	2011	2010
Harvest Vol.	375.2	370.3	380.6	420.1	418.9	343.8	392.3	342.8	295.0
EBITDA Euros	906.2	942.5	842.7	486.6	624.3	508.5	176.7	433.7	480.0
EBIT/kg Euros	2.01	2.14	1.84	0.83	1.21	1.20	0.22	1.02	1.35

The problems in Chile and some of the lice issues in other markets causing early harvests prevented some of the new capacity from registering total net growth in volumes. Still with the higher costs for operations per unit as economies of scale were not fully achieved and biologic costs that were elevated at times – overall profitability per unit has risen significantly. That is the underlying increasing demand for salmon at work helping on pricing.

The move to longer freshwater pens that has been developed in the last few years should help volumes increase. The forecast for 2019 is for 430,000 tons at Mowi, which would be a new record. Also, there has been a surge in capital spending relating to freshwater pens

designed to be able to avoid sea lice by putting larger healthier smolts at sea for a shorter period of time:

MOWI stats	2018	2017	2016	2015	2014
Total capX	346.2	254.9	211.6	215.8	210.6
Farming CapX	230.3	166.8	175.8	169.0	128.4
Feed CapX	78.5	58.4	10.8	9.5	42.7

In 2019, the company will complete the Scotland feed plant and that capital spending should start declining. Also, at some point, the build-out of additional freshwater raising pens will level off and decline too. That should help ramp of Free Cash Flow as the Volume increases, cost is controlled more on the biologic side, and economies of scale ramp up.

MOWI stats	2018	2017	2016	2015	2014
Cash Ops	620.9	632.4	693.2	233.3	471.5
CapX	346.2	254.9	211.6	215.8	210.6
Free Cash	274.7	377.5	481.6	17.5	260.9

The two key things are, the company is self-funding and doesn't need to borrow money. Plus, it will pay out at least 75% of free cash flow toward the dividend if debt remains under 1.4 billion euros and it currently is about 1.1 billion. The company's sensitivity analysis from 2018 was that 10,000 tons was worth about 20 million Euros in operating income. Let's say 2019 comes in below guidance at 50,000 tons of growth – that is 100 million euros and if they can pick up 0.1 per kg in Euros in better cost control – that is 42 million euros. Just those items would boost income by $109 million and EPS from 1.15 to 1.37.

Adding 109 million to cash from operations via higher income and cutting investments in feed and freshwater facilities by 100-150 million would almost double free cash flow.

Vertical Integration Should Help Drive Better Pricing and Cost Control

Part of the vertical integration movement for Mowi is to make its own salmon feed. This a blend of wild fish meal, fish oil, vegetable oil, and various grains. By producing its own feed, Mowi can control what the fish eat and influence omega 3 levels and flesh color. It also helps stabilize costs. The company can also buy feed components in bulk and control costs. In the last year, it has been building an additional feed facility in Scotland that is starting up in 2019. They will have the capacity to produce 520,000 tons of feed per year with

Scotland. At a 1.1 feed conversion ratio, Mowi's feed operations should be able to fully serve 470,000 tons of fish.

Making their own feed is also key in getting contracts with customers, ASC certification, and premium pricing for its fish. Mowi can show customers a full chain of custody and fish lifespan- where and when it was hatched, what it ate, where it was raised, did it have medications, when it was harvested, when and how it was processed… It has QR codes that customers can scan and see all the history.

This goes further into the vertical chain as the company sells more consumer products like smoked salmon, smaller frozen portions and value-added fresh salmon products. The company uses its own salmon so it can track even further as the fish moves higher up the supply chain. The recent move to roll out consumer products in the US is one of the bigger growth catalysts in our view:

Mowi has four plants in the US and is building distribution nationwide. It did this same plan in Germany with very strong results. Germany was a small salmon market with people eating about 1.1 kg of salmon per capita per year in 2007. By 2015, the per capita salmon in Germany was 2.1 kg, essentially doubling the size of the market. More importantly, value-added product was about 500-600 tons per year in Germany and reached nearly 7,000 tons by 2015. So, the growth occurred at higher price points. Over that same time, the US without much of a push only saw salmon consumption per capital rise from 1.0 kg to 1.2 kg.

Mowi sees the US as untapped and believes it can push per capita consumption to over 2 kg in the US too. The opportunity is the US is a much larger market. Germany was now over 150,000 tons of salmon consumption after the surge reached 2015. The US market is starting at 375,000 tons and could double based on prior results. By comparison, all of Mowi's harvest in 2018 was 375,000 tons.

They see great potential for salmon in the US as surveys show 78% of the population likes salmon already and only 6% are eating the right about of seafood now. Younger consumers like healthier food options and the infrastructure in retail is already developed to handle more fresh salmon choices – it just has not been available. The plants in Dallas and Miami have now been in place for a couple of years and early results are showing strong demand. The Miami plant will double in size in 2019. This should be a good source of long-term growth for pricing and volume at Mowi if it keeps working this way.

Accounting – Low Leverage, Be Aware of Biological Asset Assumptions

We are satisfied with the accounting quality overall for Mowi. While the company makes a few modest acquisitions, it largely grows organically. When it does buy something else, it is normally a distressed purchase so a low price and is directly related to what Mowi does. Thus, low prices and buying a growing into a growing industry – it's not dependent on cost-cutting to make deals work.

The company is continually working to reduce costs. However, it doesn't have red flags here either. The goals are very modest and are well defined. The company sees some of them coming from R&D and developing new technology and assets that will reduce costs and is very clear how it all works and the timing – such as building out the new sea lice systems. Or the costs come from the vertical integration programs. This is not like many of the companies we are bearish on that after four multi-year restructuring programs magically announce a fifth that will save more money than all the past ones combined and magically not cost much or require any new capital spending.

Leverage is 1.2x EBITDA and we expect the EBITDA figure to be rising. We don't see leverage as an issue. The dividend payment currently exceeds free cash flow – essentially 550 million vs. $362 million TTM after 1Q19. We believe higher volumes and lower capital spending going forward will bring that into balance. Also, the company's debt figure is below its target.

Accounting for the Biological Assets is a new area to keep in mind. They have fish that are growing for three years and each year some are harvested and new fish are added. So, there is an account on the balance sheet called Biological Assets that is currently about 1.6 billion euros. There are multiple assumptions that make up the value of this asset.

- The number of new smolts released into the sea adds to the value
- Each smolt is estimated to have a value based on its future harvest level weight of 4.8kg

- The value is set using prices of fish and quality levels – so if pricing is rising in the market, the value of the biomass can increase and if pricing is falling the biomass can decline

- Offsetting the value is the cost to grow the fish to that size over an assumed amount of time – if feed costs are changing – that impacts the biomass

- Offsetting the value is also estimated mortalities and other operating costs

The key thing is changes to the biomass are non-cash. They are removed from cash from operations and Mowi reports operating income with the change in asset value and also with it removed. The second method is called Operational EBIT as opposed to Reported EBIT.

Even though it is noncash income or losses – it flows through the income statement and impacts the equity balance. With the company carrying a low debt figure to EBITDA (which also adjusts for out the change in biomass), we're not as concerned with the impact it as on equity. Also, we are pointing this out because the company does report two figures for Operating Income and this is the reason.

The company makes minor adjustments to its estimates during the life of the fish. If they are growing faster that may add to value or growing slower may reduce value. Pricing changes also impact it too. The bigger changes are when a large problem hits like mortality rises far above estimates. Minor changes that one would expect to price or changes in quality or weight do not impact the biomass very significantly.

Explanation of EQ Rating Scale

6- "Exceptionally Strong"	Indicates uncommonly conservative accounting policies to the point that revenue and earnings are essentially understated relative to the company's peers. Higher possibility of reporting positive earnings surprises
5- "Strong"	Indicates the company has no areas of concern with its reported results and we see very little risk of the company disappointing due to recent results being overstated from aggressive reporting in recent periods.
4- "Acceptable"	Indicates the company may have exhibited a minor "red flag", but the severity of the issue is not yet a concern. Minimal risk of an earnings disappointment resulting from previous earnings or cash flow overstatement
3- "Minor Concern"	Indicates the company has exhibited either a larger number of or more serious warning signs than companies receiving a 4. The likelihood of an immediate earnings or cash flow disappointment is not considered to be high, but the signs mentioned deserve a higher degree of attention in the future.
2- "Weak"	Indicates the company's recently reported results have benefitted materially from aggressive accounting. Follow up work should be performed to determine the nature and extent of the problem. There is a possibility that upcoming results could disappoint as the impact of unsustainable benefits disappears.
1- "Strong Concerns"	Indicates that the company's recent results are significantly overstated and that we view a disappointment in upcoming quarters is highly likely.

In addition to the numerical rating, the EQ Review Rating may also include either a minus or plus sign. A minus sign indicates that our analysis shows the overall earnings quality of the company has worsened since the last review and there is a possibility the numerical rating will fall should the problem continue into the next quarter. Likewise, a positive sign indicates that the overall earnings quality is improving, and the company may see an upgrade in its numerical rating should the trend continue.

Key Points to Understand About the EQ Score

The EQ Review Rating is much more than a blind, quantitative scoring method. While we utilize proprietary adjustments, ratios, and methods developed over decades of earnings quality analysis, the foundation of all of our analysis is reading recent SEC filings, press releases, conference call transcripts and in some cases, conversations with managements.

The EQ Review Rating is not comparable to a traditional buy/sell rating. The Rating is intended to specifically convey the extent to which reported earnings may be over/understated. Fundamental factors such as forecasts for future growth, increasing competition, and valuation are not reflected in the rating. Therefore, a high score does not in itself indicate a company is a buy but rather indicates that recent results are a good indication of the underlying earnings and cash generation capacity of the company. A low score (1-2) will likely result in us performing a more thorough review of fundamental factors to determine if the company warrants a full-blown sell recommendation.

Disclosure

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