1 Introduction and summary

1.1 Introduction

Norway offers natural advantages for salmon and trout farming in the sea. Norwegian waters are characterised by benevolent sea currents and oxygen-rich water of favourable temperature, which are also adequately sheltered against inclement weather.

Aquaculture production has increased steadily for several decades. The industry has seen considerable technological development since the farmed salmon production breakthrough in the 1970s. Improved production technique and technology, breeding programmes and vaccine development are examples of fields marked by major progress. Technological development in the industry has served to significantly increase production volumes.

The aquaculture industry has from the early 1970s to the present been transformed from a «sideline business» with many small owners to become one of Norway's key export industries, supplying products to a global market. Both ownership and company structures in the industry are much more concentrated than before.

Aquaculture industry profitability has been very high in recent years. It has, however, varied over time, reflecting that aquaculture, like other natural resource-based industries, is a cyclical industry. The significant increase in profitability in recent years must be seen in connection with demand growth, biological conditions and regulations that have inhibited global supply growth, reduced costs due to improved regulation and other market conditions, such as for example exchange rate developments.

Natural advantages as well as regulations have given rise to pure profit in the aquaculture industry. Pure profit or supernormal profit is the profit a business is left with after all factors of production, including capital and labour, have received their market-based remuneration. Pure profit may arise due to scarcity of a factor of production. Pure profit may arise for several reasons. It may for example be related to location-specific natural resources, government-imposed regulations, market power or enterprise-specific knowledge and technology. The term resource rent is used as a joint term for all sources of pure profit.

Salmon farming licences, trout and rainbow trout are limited in number and are awarded in perpetuity. Each licence is limited to a certain number of tonnes of fish (maximum permitted biomass). The licences, which are issued by central government, confer a protected right to conduct business operations and have thus far predominantly been awarded free of charge or well below market value. This implies that the resource rent from aquaculture has predominantly accrued to the holders of aquaculture licences. Aquaculture licence ownership has over time become concentrated in the hands of fewer and larger companies.

For natural resource-based industries such as the petroleum sector and the hydropower sector, there has over time been a broad consensus that a large proportion of the resource rent shall accrue to the public. The reasons for this are, inter alia, that:

- Capturing resource rent in the petroleum sector and the hydropower sector has high legitimacy because the high returns have their origin in resources which belong to Norwegian society.
- Resource rent is a supernormal profit which allows for the raising of tax revenues without efficiency loss. Revenues from neutral taxes, such as resource rent taxes, reduce, when taken insolation, the need for taxes that entail suboptimal resource use.

– International capital markets and mobile tax bases mean that a greater share of the tax burden must be carried by the more immobile factors, with natural resources representing a completely immobile factor.

The principle that the public shall have a stake in the return on the exploitation of public resources has served Norway well. There would have been no petroleum fund (Government Pension Fund Global) in the absence of such a principle. The petroleum industry has for several decades contributed significantly to the increase in prosperity in the Norwegian economy. Norway has managed the revenues from its oil and gas resources in a sound manner. High natural resource revenues have in many countries not resulted in a permanent increase in welfare, and only benefited certain groups in society. The petroleum resources belong to Norway, and a major portion of the revenues from petroleum activities are channelled to the public. This has facilitated investment in, inter alia, education and infrastructure, expansion of public welfare schemes and high household income growth.

Hydropower plant taxation has also contributed considerable tax revenues to the central, regional and local governments in recent years. Power values have increased in the wake of the power market deregulation under the Energy Act of 1991. This deregulation constitutes, together with the principles underpinning the general tax reform in 1992, the backdrop to the appointment of a committee (Norwegian Official Report NOU 1992: 34 *Tax on Power Companies*), which resulted in the power taxation reform in 1997. Power plant taxation revenues have increased significantly in the last 20 years.

There has been a broad consensus in Norwegian society that a large proportion of the resource rent from the petroleum sector and the power sector shall accrue to the public. The Confederation of Norwegian Enterprise (NHO) has recently advocated better utilisation of the potential for taxation of resource rent (NHO, 2018). It notes that while produced capital, such as machinery and buildings, may be used in different countries, natural resources have a fixed location and can only be utilised in the countries in which these resources are located. The Government states in its political platform, the Granavolden platform, that it will tax natural resources in such a way that the profit accrues to the public and structure the tax system such as to bring about economically profitable investments.

Location-specific resource rent industries may be subject to a high tax level without displacing investment abroad. The hydropower industry and petroleum industry are good examples of the viability of such an approach. A neutral resource rent tax on the return on location-specific resources, such as hydropower and petroleum, does not prevent profitable investments from being made.

Norway offers natural advantages for salmon and trout farming in the sea. The attractiveness of sites is a matter of, inter alia, climatic conditions, seawater properties and shelter against inclement weather. Like in petroleum operations and hydropower generation, it is use of a limited resource made available by society that gives rise to the resource rent in the aquaculture industry. Production is limited by nature, through limited availability of favourable sites both globally and in Norway, as well as by government-imposed limitations in the number of licences.

The Committee's analyses confirm that there is resource rent in the industry. The resource rent calculations reflect the cyclicality of the aquaculture industry and the resource rent therefore varies considerably over time, but is estimated to have been in excess of NOK 20 billion annually over the period 2016 to 2018 (Greaker and Lindholt, 2019). The high revenues from the auction of new production licences in 2018 is an indication that the industry itself is expecting resource rent to be generated in the years to come.

Thus far, the public sector has captured a marginal portion of the aquaculture industry resource rent. About 80 percent of the aquaculture licences have been awarded free of charge. For the power industry and the petroleum industry, special tax rates have been increased in line with the reductions in the corporate tax rate. Such has not been the case with the aquaculture industry, which has benefitted in full from the corporate tax rate reduction. Furthermore, the industry has received significant public subsidies to innovation and investments.

The aquaculture industry exploits sea resources which belong to the public. Aquaculture licences are issued by central government and confer a perpetual protected right to conduct business operations. It is therefore reasonable that the public obtains a share of the supernormal profit generated by exploiting this resource.

1.2 Summary

1.2.1 Developments in the aquaculture industry and the international competition situation

The aquaculture industry has from its inception in the early 1970s to the present undergone a formidable transformation from a «sideline business» with many small, local owners to become one of Norway's key export industries, supplying products to a global market. Both ownership and company structures in the industry are much more concentrated than before. In recent years, a number of the major companies have become publicly traded, with their ownership thereby becoming diffused across a broad range of both Norwegian and international investors. International funds also hold significant ownership stakes in several companies. However, most of the roughly 100 Norwegian aquaculture companies have Norwegian majority ownership concentrated in the hands of a small number of key shareholders. About 50 percent of total production capacity is held by four companies, which are themselves dominated by four groups of owners. In comparison, the ten largest aquaculture companies accounted for about 8 percent of total production in 1990.

In the salmon farming value chain, it is primarily the sea phase production stage which is subject to a high degree of regulation. This is also the stage which exploits the sea resources and the natural advantage represented by the Norwegian coast. Regulations have evolved since the provisional Aquaculture Act in 1973, and are now focused on how operations are run rather than on who runs them. Growth in the industry has been rationed throughout, by way of licence awards. Licence award rounds have previously taken place at irregular intervals and been based on changing sets of discretionary criteria.

Following the introduction of a new capacity adjustment system in 2017, growth assessments are made every other year and the growth criterion is based on environmental considerations, i.e. the effect of salmon lice on wild salmon stocks. If the environmental effect is acceptable («green light»), the industry may be offered growth. If the environmental effect is moderate («yellow light»), capacity may be frozen, and if the environmental effect is unacceptable («red light»), capacity may be reduced. This system is often referred to as the «traffic light system».

It is also strictly regulated what locations, also termed sites, salmon farming operations may be conducted in. Getting a site approved for aquaculture will as a main rule require the endorsement of both the municipal administration and a number of sectoral bodies. Availability of sites is therefore also a major bottleneck for the industry.

It was only in 2002 that government bodies were authorised to start charging for awarding licences. The licences were awarded free of charge prior to that. This reflected a political desire to develop a new rural industry during a period characterised by high risk and a major development effort. Licences have since 2002 mostly been awarded at a fixed price. About 80 percent of licenced capacity in the industry has been awarded free of charge, with only 3 percent being awarded at market price by auction. The remainder of licenced capacity has been awarded at a fixed price. The authorities have in some licence award rounds made use of auctions in addition to a fixed price. In the 2018 licence award round, two thirds of capacity were awarded by auction. It is likely, based on calculations from various sources, that the market value of current licenced capacity is about NOK 200 billion. In comparison, the total consideration paid by the industry to central government is NOK 6.8 billion at 2019 prices, i.e. about 3 percent of the value of the licences.

In addition to Norway, the countries which currently have the largest farmed salmon production are Chile, Canada, the UK and the Faroes. Although most of these started salmon farming at about the same time, development rates have diverged, as the result of both regulatory differences and biological challenges. Although there have been short-term fluctuations in both costs and prices, the sales price has increased for the last 15 years. Production volumes have also increased considerably over time in the main producer countries.

Global demand for farmed salmonids is on the increase. Production volumes have increased by more than 90 percent since 2005, while the price has increased by close to 50 percent in real terms. However, there is under the current conventional technology only a limited number of locations worldwide where conditions are appropriate for efficient farming of salmon in the sea. Lack of access to suitable areas, biological challenges or regulatory limitations as the result of political preferences for curtailing the scale of the aquaculture industry are examples of factors that limit the scope for establishing increased production with conventional technology in these locations.

High demand and limited scope for growth under conventional production methods have stimulated an increased effort on alternative forms of production. The development of new technology means that more areas may be used for salmon farming, both in Norway and internationally. Both onshore and offshore aquaculture may compete with the system of open pens in the sea which currently dominates, but production costs will determine which technologies and operating methods will be used in future, and to what extent. Conventional aquaculture has turned out to be highly cost effective and competitive. Hence, there is much to suggest that conventional open-pen aquaculture will continue to account for a major portion of Norwegian aquaculture for a long time to come.

1.2.2 The tax system, resource rent and resource rent taxation

Public sector revenues need to be raised in a manner constituting the least obstacle to efficient use of society's resources. In order for resources to be utilised as efficiently as possible, the tax system should be structured in conformity with certain fundamental principles. The tax system has since the tax reform in 1992 been based on the principles of broad tax bases, low rates and equal treatment of various investments, industries, business types and funding methods.

Most taxes affect the behaviour of individuals and businesses. When behaviour is determined by the imposition of tax or the scope for tax savings, taxes are *distortionary*. In practice, this applies to most taxes. Some taxes do not affect the decisions of individuals and businesses, and entail no economic loss. Such taxes are termed *neutral taxes*. When a company is operated such as to maximise the value of its business activities, a tax on that value will not change the

decisions of the company. Investment and operational decisions that are profitable before tax will then also be profitable after tax.

A correctly structured tax on resource rent associated with location-specific resources will for example be neutral. As long as one is able to correctly define the tax base, there are several resource rent tax models that will be neutral. Both an accrued profit-based tax and a cash flow tax would be able to meet these requirements if correctly structured. Norway has predominantly opted for an accrued profit-based method for capturing resource rent in the petroleum sector and the power sector. In the petroleum sector, a significant portion of central government revenues is also captured through the State's Direct Financial Interest (SDFI). SDFI does in practice have the same properties as a field-by-field cash flow tax.

In order for the tax system to have a minimum impact on the decisions of individuals and businesses, it is desirable to use neutral and efficiency-inducing taxes to the extent possible before resorting to distortionary taxes. Revenues from neutral taxes may be used to reduce distortionary taxes, thereby contributing to more efficient use of resources.

Unlike other business activities, the concern that a high Norwegian corporate tax rate may induce businesses to relocate abroad does not apply to resource rent industries that are heavily reliant on natural resources. These resource rent industries are based on natural resources which belong to society, and their activities are location-specific. Correctly structured resource rent taxes do not inhibit investment, and also reduce the need for distortionary taxes. All in all, this can contribute to more efficient use of resources. In an open economy with mobile tax bases it is therefore especially important to capture resource rent tax revenues from location-specific sources.

Pure profit is the profit a business is left with after all factors of production, including capital and labour, have received their market-based remuneration. Pure profit may arise due to scarcity of a factor of production. If such scarcity is caused by limited availability of a natural resource, such as oil, fish or land, the pure profit is normally referred to as resource rent. Ecosystem services such as sheltered fjords and coastal areas, as well as good water circulation and absorption of waste materials, may also give rise to resource rent. If government regulations are what give rise to the resource rent, the pure profit may alternatively be called regulatory rent. Pure profit may also be related to market power or technology. The term resource rent is used as a joint term for all sources of pure profit.

There are several ways of capturing resource rent. A distinction can be made between profit-based models and gross production-based models. Profit-based models are structured such as to depend on the profitability of the operations, while gross production-based models are independent of profitability. However, the various methods will differ greatly in their effects on the investment incentives of companies and also differ greatly in how precisely they capture resource rent. A gross production tax imposed on the quantity or value of specific goods will cause less efficient resource use. Such a tax will result in lower purchase and production volumes for the goods in question than would be optimal from an economic perspective. This will entail lower investment and employment in the production of such goods, as well as suboptimal resource use.

A profit tax on resource rent is normally labelled a resource rent tax, and will be neutral when it is correctly structured. Projects that are profitable before resource rent tax will also be profitable after resource rent tax. Hence, the resource rent tax will not inhibit investment or affect which projects investors would like to carry out. Consequently, a resource rent tax is consistent with an efficient tax system, which is characterised by having a minimum impact on the choices of individuals and businesses.

Pure profit in the aquaculture sector can partly be considered a classic resource rent related to the existence of a limited number of sites worldwide that are suited for aquaculture activities. The attractiveness of sites is a matter of, inter alia, climatic conditions, seawater properties and shelter against inclement weather. It is also partly a regulatory rent, inasmuch as there are limitations on the number of licences that may be awarded, as the result of environmental regulations. Finally, the interaction between regulation and natural advantages may in itself enable the resource rent to be generated.

The Committee has relied on a number of different analyses to calculate the amount of the aquaculture industry resource rent. In order to estimate the resource rent, it is necessary to determine the income originating in the exploitation of a natural resource, after deducting all expenses on necessary factors of production, including labour and capital costs. There are several ways of doing this. Greaker and Lindholt (2019) have been commissioned by the Committee to prepare a report calculating resource rent in aquaculture and other natural resource-based industries in Norway on the basis of national accounts data. The Committee has also considered Flåten and Pham (2019), which is based on the Directorate of Fisheries' profitability survey for farming of salmon. In addition, the Committee has made use of tax data, as well as price data from the aquaculture licence auction in the summer of 2018, to estimate the amount of the aquaculture resource rent.

The analysis of Greaker and Lindholt shows that the generated resource rent was not particularly high, and in some years negative, until the turn of the millennium. Over a period from 2000 to 2012, the resource rent was on an upward trend, but with major fluctuations from one year to the next. The aquaculture resource rent has increased significantly from 2012, and has been in excess of NOK 20 billion per year over the period from 2016 to 2018. Flåten and Pham estimate the resource rent in the companies included in the Directorate of Fisheries' profitability survey at about NOK 17 billion in 2016. If the estimate is scaled up to include all aquaculture companies, the resource rent may be estimated at NOK 25 billion in 2016. The Committee's estimate based on tax data also shows significant resource rent.

Irrespective of method, the analyses confirm a significant resource rent in the industry. The magnitude of the resource rent has, however, varied over time, reflecting that aquaculture, like other natural resource-based industries, is a cyclical industry. The significant increase in resource rent in recent years must be seen in connection with demand growth, improved regulation and other market conditions, such as for example exchange rate developments. Production volumes have increased by more than 90 percent since 2005, while the price has increased by close to 50 percent in real terms. The high revenues from the auction in 2018 are in themselves an indication that the industry itself is expecting not insignificant resource rent to be generated in the years to come.

1.2.3 Structuring of a profit-based aquaculture resource rent tax

The Committee has examined two variants of a profit-based resource rent tax. The Committee has started out from a traditional accrual-based resource rent tax, as currently applied to both the power industry and the petroleum industry, and adapted it to the aquaculture industry. In addition, the Committee has examined a cash flow tax based on the actual payments to and from companies. Many of the issues of relevance under an accrual-based tax are also of relevance under a cash flow tax, and the Committee has therefore focused on describing the modifications that must be made to an accrual-based tax in order for the model to function as a cash flow tax.

The Committee proposes that the entity liable to resource rent tax shall be the entity engaged in business operations based on an aquaculture licence for commercial farming of salmon,

trout and sea trout in seawater for food. It is proposed that the tax base be limited to income from commercial farming of salmon, trout and rainbow trout for food in the sea, in both coastal waters and further offshore. The Committee has not specifically addressed whether a resource rent tax should apply to farming of salmon for food in onshore facilities.

A resource rent tax on the aquaculture industry should be calculated on the basis of a special tax base (resource rent income). It should, as with the calculation of resource rent income for hydropower plants, be expressly stated in laws or regulations which income shall be included and how this shall be determined, as well as which costs may be deducted from such income.

In principle, the tax calculation point, i.e. the point in time for calculating income liable to resource rent tax, should be when the fish is removed from the pen. It is until that point in time that the industry participants exploit scarce natural resources and licences generating resource rent, respectively. There will not normally be any market price at that point in the value chain. The challenge is to identify the most suitable price with reference to that point in time.

The Committee has considered whether actual prices for traded salmon, trout and rainbow trout may be used to calculate the income or whether administratively determined norm prices are better suited. The Committee finds that norm prices must be considered a more robust alternative. Norm prices are, inter alia, well suited for determining ongoing income, while also leaving less scope for tax planning.

All costs incurred in the tax year that are related to the aquaculture activities liable to resource rent tax should be deductible against gross sales income. The Committee has, in accordance with its mandate, examined whether there is a need for considering special regulation of certain costs. It would appear, based on the information gathered by the Committee, that an alternative solution with a norm price or standard allowance on the cost side would not at the present time be better than relying on actual costs.

Under an accrual-based tax model, tax depreciation of operating assets that are related to the aquaculture activities liable to resource rent tax should be deductible in the relevant tax year. The licences for farming of fish for food, which are perpetual, do not qualify for depreciation. An allowance should also be granted in the form of uplift, to provide interest compensation for the fact that the investment cost is not immediately deductible, with deductions being deferred and effected by way of annual depreciation. A majority, *all members with the exception of Moen*, proposes that the value of licences be excluded from the uplift base, with the exception of licences auctioned in 2018. A minority, Committee member *Moen*, is of the view that a standard allowance should be granted in respect of licence consideration paid prior to the auction in 2018, irrespective of whether such licences are acquired in the primary or secondary market.

It should be permitted to carry forward, with interest, any resource rent income loss in the tax year (negative resource rent income) for deduction against positive resource rent income in subsequent years. For companies liable to resource rent tax in the same tax group it should be permitted to consolidate negative resource rent income in one group company against positive resource rent income in another group company (intra-group consolidation). In addition, any negative resource rent income should be refunded upon termination of aquaculture activities. This will provide full certainty with regard to utilisation of tax deductions. In principle, the uplift rate should therefore be determined as a risk-free rate before tax, as under the resource rent tax on hydropower plants. One might consider an arrangement for annual distribution of the tax value of negative resource rent income after the resource rent tax on the aquaculture industry has been in operation for a while and it has been established how the tax works in practice.

A profit-based resource rent tax might alternatively be structured as a cash flow tax, which would also be a neutral tax. The Committee's outlined resource rent tax in the form of a cash flow tax has not been tried in the Norwegian tax system. Under a cash flow tax, the income will be the same as in the accrual-based resource rent tax model. The same costs will be deductible. The difference is that investment costs are directly deductible on an ongoing basis under a cash flow tax, while investment costs are deductible through depreciation under an accrual-based resource rent tax. In order to compensate for the net present value of depreciation over time being lower than that of direct deduction, an allowance in the form of uplift is granted under the accrual-based resource rent tax.

1.2.4 Structuring of an aquaculture production tax

The Committee has discussed several potential ways of structuring a tax if resource rent is to be captured through a production tax. Two different principal types of such tax are outlined, both an unmodified gross production tax and a profitability-adjusted production tax.

A gross production tax does not depend on the profitability of the operations. This means that projects that are profitable without production tax may become unprofitable upon the introduction of a tax. The tax may thus reduce investment incentives on the part of the entities liable to tax.

This may also imply that it becomes challenging to keep a tax stable over time if market conditions change. This creates an unstable tax regime on which industry interests will be prone to exert pressure.

An advantage of a gross production tax is that it may be easier to practice than other profitability-based alternatives. If the tax is to be kept as simple as possible, one may opt for a unit tax with an administratively determined tax base, for example maximum permitted biomass specified in the licences. Gutted weight might also be a practical base for a unit tax. This is better aligned with actual production than maximum permitted biomass in the licences, but may entail certain verification needs in relation to weighing in the slaughtering plant.

It is also feasible to structure a production tax such as to take profitability into account. A profitability-adjusted production tax will better reflect the cost side of production than a gross production tax. It will therefore be more neutral. The decisive factor will be which costs are made deductible. The income base should be the same, irrespective of whether the tax is profitability-adjusted or not. This income is thereafter adjusted for costs, either in the form of a standard allowance or by deduction of actual costs, including operating costs and/or investment costs. The more costs are made deductible against the tax base, the more the tax will resemble a profit-based resource rent tax.

1.2.5 Local government finances and distribution of tax revenues from a resource rent tax

The Norwegian welfare system is committed to all inhabitants having equivalent access to services, irrespective of where in the country they live. Most government revenues are therefore channelled to central government, which then allocates these to prioritised areas via the fiscal budget.

The local government revenue system shall also serve to enable municipalities and counties to provide inhabitants with equivalent access to services by compensating for involuntary cost differences, as well as to ensure equal opportunities and welfare provision all over the country, irrespective of where people live. The revenue system also includes a mechanism

whereby municipal tax revenues are partly equalised by way of the tax revenues being redistributed from municipalities with tax revenues above the national average to municipalities with tax revenues below the national average.

The Committee has considered how the government resource rent revenues from aquaculture activities should be distributed. The Committee has examined three revenue distribution models:

- through the fiscal budget and the Government Pension Fund Global or a corresponding administrative model
- through the current Aquaculture Fund and potential adjustments by way of changes to distribution keys
- through a profit-based resource rent tax combined with a deductible production tax (natural resource tax), as under the hydropower plant taxation

The Committee has considered various aspects of the models. Important model selection criteria are promoting equal welfare for all inhabitants, irrespective of municipal affiliation, as well as providing municipalities with incentives to facilitate business activities.

Most tax revenues are channelled to central government and are not earmarked for special purposes. In principle, this facilitates maximisation of overall welfare in Norway and is also a prerequisite for equal distribution of revenues between municipalities. The main rule in Norway is therefore currently that tax revenues from business activities are channelled to central government, in line with the main rule for government revenues. A potential model for distribution of government revenues from the aquaculture industry would be to start out from this main rule and let the revenues be distributed via the fiscal budget.

Aquaculture licences are perpetual. Under current practice, 80 percent of the revenues from awarding new licences are channelled to the local government sector (municipalities and counties) via the Aquaculture Fund. The remaining 20 percent of the revenues are channelled to central government. The Aquaculture Fund does not function as an actual fund, since the revenues are disbursed in their entirety shortly after having been collected. The Aquaculture Fund is therefore in practice a scheme that distributes revenues from the sale of licences to aquaculture municipalities.

Upon each new licence award round in the aquaculture industry, expected future resource rent on these licences is distributed. In other words, government revenues from awarding licences represent a share of the net present value of expected future resource rent, and should be managed such as to also benefit future generations. A somewhat simplified way of putting this is that one should only spend the return on the funds captured upon awarding licences. This would correspond to the management of the revenues from petroleum activities, where revenues are channelled into the petroleum fund on an ongoing basis and only the return thereon is spent in any given year.

The current management of government resource rent revenues from the aquaculture industry implies that one might spend the entire resource rent in one generation, which is precisely what one has sought to avoid in the management of the petroleum revenues. One option would be to channel the aquaculture licence auction revenues into the Government Pension Fund Global or a corresponding model, with the spending of such revenues being addressed through the deliberation of the fiscal budget. Such a model attaches more weight to more equal distribution between municipalities and between generations.

Another model would be to start out from the current Aquaculture Fund, and channel government revenues from the aquaculture activities to said Fund. At present, the local government

sector's share of the revenues from awarding new capacity are channelled to the Aquaculture Fund. The aquaculture municipalities currently receive, through the Aquaculture Fund, large revenues from awarding new capacity (auctioning licences) every other year. It may be argued that the current orientation of the Aquaculture Fund creates a close link between host municipalities and the aquaculture industry. A disadvantage of the Aquaculture Fund as currently structured is that the revenues will fluctuate significantly from year to year since capacity increases and accompanying auctions are planned every other year. The distribution of the revenues between the aquaculture municipalities is also highly unequal, and the Aquaculture Fund serves to exacerbate the differences between aquaculture municipalities and other municipalities.

A third model for distributing revenues between central and local government is to introduce a production tax corresponding to the natural resource tax applicable to hydropower plants in combination with the introduction of a profit-based resource rent tax in the aquaculture industry. The use of a gross production tax in this context does not affect operational decisions or investment decisions because the tax is fully deductible (1:1) against the income tax assessed by central government. The aquaculture businesses will therefore not be affected by the actual production tax. The distribution of the production tax revenues between the municipalities may for example be based on the existing distribution keys for the Aquaculture Fund. This implies, briefly summarised, that the revenues are distributed on the basis of cleared biomass in each municipality. Such a model seeks to balance consideration for proximity between host municipalities and the aquaculture industry and consideration for equal opportunities and welfare for all inhabitants, while at the same time ensuring stable and predictable revenues for municipalities.

1.2.6 The Committee's assessments and proposals

1) Choice of tax model and the public share of the resource rent

The Committee is of the view that both consideration for an efficient tax system and legitimate distribution of the resource rent from the exploitation of public resources suggest that industries where such resource rent is generated should be subject to special tax. The Committee finds, based on discussion of fundamentals and empirical analyses, that natural advantages as well as regulations have given rise to considerable aquaculture industry resource rent.

The aquaculture industry enjoys a protected right to conduct business operations under licences issued by central government and exploits sea resources which belong to the public. The resource rent has also become concentrated over time. At the same time, consideration for efficient taxation suggests that we should focus on location-specific tax bases. The Committee is of the view that both efficiency considerations and distributional considerations suggest that the public should also obtain a share of the resource rent in the industry. This can create headroom for a reduction in distortionary taxes, contribute to redistribution and serve to fund the welfare state.

The Committee is of the view that the aquaculture tax system should to the extent possible contribute to investments which are economically profitable before tax to also be profitable after tax. Correspondingly, investments that are unprofitable before tax should also be unprofitable after tax. This will give the companies incentives to go ahead with profitable investments. In order to achieve this, the Committee is of the view that it is important for the aquaculture industry resource rent to be captured in a manner paying maximum heed to profitability variations.

The majority proposal

A majority of the Committe members, the Committee Chair *Ulltveit-Moe* and the members *Andvord, Armstrong, Christiansen, Noss* and *Nøstbakken,* proposes that the aquaculture industry resource rent be captured through an accrued profit-based resource rent tax. A profit-based resource rent tax will ensure that investments which are profitable before tax are also profitable after resource rent tax. A profit-based resource rent tax will be a precise policy tool for capturing a share of the resource rent for the public, especially from existing licences. The current auctioneering model will capture a share of the net present value of expected future resource rent from new licences, but will not be able to capture resource rent from licences which have already been awarded.

A profit-based resource rent tax will pay heed to profitability variations over time and between companies, and thus will not have the negative effect on investment entailed by a gross production tax. Technological development, biological conditions and international competition make it uncertain how much resource rent will be generated in aquaculture in the years to come. The majority is of the view, against this background, that it is a key consideration that a neutral resource rent tax will pay heed to profitability variations over time and between companies in the industry.

A gross production-based tax will be a less precise policy tool for capturing a share of the resource rent for the public, compared to a resource rent tax. A gross production tax will not pay heed to profitability variations, and may have highly negative implications for the aquaculture industry in Norway. A gross production tax will represent a cost on the part of companies, which has to be covered irrespective of whether profitability is low. A gross production tax may also result in economically profitable investments becoming unprofitable after tax. This may divert investments away from Norway and result in less activity and fewer jobs. Biological risk, regulatory risk, market risk and technological change are all better accommodated by a profit-based resource rent tax.

The majority is of the view that it is especially unfortunate to have a gross production tax which is only levied when the auction revenues are in decline. The auction revenues will typically decline when the industry is facing major environmental challenges and incurring costs in the form of either reduced capacity or remedial environmental costs. The auction revenues may also be low when profitability in the industry is low or it incurs major losses for other reasons. The introduction of a production tax would impose higher costs on the industry, and this may especially in such circumstances result in reduced investment and a loss of jobs.

A profit-based resource rent tax might alternatively be structured as a cash flow tax, which would also be a neutral tax. The Committee's outlined resource rent tax in the form of a cash flow tax has not been tried in the Norwegian tax system. The immediate deductibility of investments makes the model administratively simpler inasmuch as there will be no need for setting an uplift rate, calculating an uplift base or depreciation. However, the Committee's proposal for an accrued profit-based resource rent tax is based on a model with which the Norwegian authorities have extensive experience and which is thus tried and tested.

The model proposed by the majority is structured on the basis of the resource rent tax for hydropower plants. The majority has therefore deemed it appropriate to seek guidance in overall hydropower taxation with regard to the choice of tax rate under a resource rent tax for the aquaculture industry as well. The majority therefore proposes that the aquaculture resource rent tax rate be put at 40 percent.

It is estimated that a resource rent tax at a rate of 40 percent will generate revenues of about NOK 7 billion. However, the majority emphasises that aquaculture is a cyclical industry with

major profit fluctuations, which will also mean that the resource rent tax revenues may fluctuate considerably from one year to the next.

The minority proposal

A minority of the Committee members; the members *Fossli*, *Haugen* and *Moen*, is of the view that the current model for resource rent taxation by auction of new production capacity should be continued. If aquaculture industry growth declines, and revenues from awarding new capacity do not generate predictable and stable revenues for the host municipalities, it is the view of the minority that one would have to consider whether to also generate revenues for the Aquaculture Fund through a moderate production tax.

2) Methods of awarding new licences

Salmon farming licences are scarce goods of considerable value. Priorities therefore have to be set when the authorities are to allocate licences. For society, it is generally desirable for licences to be awarded in a transparent and cost-effective manner, and for the licences to be awarded to those industry participants that are able to create the most value from these. Auctions are, generally speaking, sound allocation mechanisms because they are efficient and transparent, compared to alternative licence awarding methods. In addition, auctions are well suited for capturing the value of the awarded resource. In 2018, one third of capacity growth was awarded at a fixed price, while two thirds were awarded by auction.

Earlier licence award rounds have largely been conducted at a fixed price, and in recent years also by way of various sealed-bid processes. When the Ministry of Trade and Industry held an auction of salmon farming licences in 2018, it generated considerably higher overall revenues than earlier licence award rounds had done. That auction demonstrates that this is a more effective method for capturing licence revenues, compared to fixed price awards and competitive applications. For 2018, it is estimated that fixed price awards generated at least NOK 600 million less in revenues for central government than if the licences had been auctioned off.

It has previously also been argued that fixed price awards are a suited policy tool for favouring minor industry participants. However, small and medium-sized industry participants have increased their relative share of production capacity after the auction in 2018. A majority of the Committee members, the Committee Chair *Ulltveit-Moe* and the members *Andvord*, *Armstrong*, *Christiansen*, *Noss* and *Nøstbakken*, also notes that the resource rent tax regime proposed by the majority will have a positive effect on competition in the auctions and make it easier for new industry participants with less capital to prevail. This is achieved by capturing a larger share of the aquaculture industry resource rent through ongoing resource rent taxation, while the willingness to pay at the auction will be reduced by the amount of expected resource rent tax. Hence, industry participants will not have to commit as much capital through the auction.

The Committee is of the view that it is difficult to see how one would ensure efficient awarding of licences in the absence of auctioneering. The experience from 2018 shows that fixed price awards instead of auction may entail a major loss of public revenues. The Committee is therefore of the view that one should stop awarding part of the growth at a fixed price and instead use auctions to award all new aquaculture industry licences.

The Committee is of the view that all capacity should be awarded in a predictable manner, and not through special short-term schemes. Awarding capacity by way of development licences or other special schemes does, in the view of the Committee, crowd out the awarding

of licences via the traffic light system. The Committee notes that such awards undermine the new capacity adjustment system, while at the same time causing a major loss of revenues for society.

Even if one wanted to stimulate technological development in aquaculture, awarding discounted commercial licences that are conditional upon testing of a specific type of technology would not be a well-suited policy tool. It stimulates the development of technology which would not necessarily otherwise be considered a profitable investment and promotes suboptimal resource utilisation. If the purpose is to stimulate technological development, consideration for efficient resource utilisation suggests that one should rely on the general research grant schemes.

The Committee is of the view that one should not award capacity through development licences or other special schemes, but adhere to the general capacity adjustment system in the form of the traffic light system. The Committee is of the view that research and innovation project grants should be supported by more targeted policy tools which ensure knowledge sharing. A minority of the Committee members, the members *Fossli*, *Haugen* and *Moen*, would expect the development licence scheme to be evaluated as previously announced.

3) The overall taxation of aquaculture

A majority of the Committee members, the Committee Chair *Ulltveit-Moe* and the members *Andvord*, *Armstrong*, *Christiansen*, *Noss* and *Nøstbakken*, proposes to abolish the property tax on fish farms in the sea, provided that additional taxation of the aquaculture industry is introduced. Property tax on production equipment and installations is inconsistent with professional recommendations. Besides, equal treatment considerations suggest that these facilities should be accorded the same tax status as those of other industries and that the property tax on fish farms in the sea should be abolished. A minority of the Committee members, the members *Fossli*, *Haugen* and *Moen*, proposes a continuation of the property tax on fish farms in the sea.

The aquaculture industry also pays an export tax. The export tax is comprised of a market tax which funds, together with an annual tax on exporters, the activities of the Norwegian Seafood Council and a research tax which funds the activities of the Norwegian Seafood Research Fund (FHF). The export tax is applicable to exports of, inter alia, salmon, trout, whitefish, shrimps and pelagic fish.

The tax is payable irrespective of the profitability of the business and the market in general. This may make it unprofitable for private industry participants to utilise resources that it would be profitable for society to have utilised. Moreover, less efficient industry participants may find it more challenging to pay the tax during a slump as the result of weaker liquidity. Besides, the tax favours domestic sales over exports. The Committee notes that export taxes are incompatible with a growth-promoting tax system.

The market tax and research tax represent distortionary taxation of exports and should in the view of the majority be abolished. If it is desirable to continue to fund the activities of the Norwegian Seafood Council and the Norwegian Seafood Research Fund, respectively, this should be included in the ordinary fiscal budget process to enable it to be considered in the context of other priorities. The minority is of the view that the market tax and research tax need to be considered in a separate and individual evaluation.

4) Distribution of revenues between the central and local government sectors

Government revenues from the aquaculture industry are currently channelled into the Aquaculture Fund, which also serves as a distribution mechanism. The aquaculture municipalities currently receive revenues through the Aquaculture Fund by awarding new capacity (by auction or fixed price award of perpetual licences) every other year. However, the Aquaculture Fund does not function as a fund in the true sense of the word, since the revenues are distributed in their entirety to the municipalities shortly after having been collected. A disadvantage of the Aquaculture Fund as currently structured is that the revenues will fluctuate considerably from one year to the next since capacity increases and accompanying auctions are planned every other year. Furthermore, the current structure implies that the net present value of expected future resource rent on perpetual licences is disbursed immediately. This puts future generations at a disadvantage from a distributional perspective.

The Committee notes that the current Aquaculture Fund arrangement does not ensure stable and predictable annual revenues for host municipalities. The Committee emphasises, furthermore, that the host municipalities will under the current Aquaculture Fund arrangement only receive revenues when the number of licences is on the increase. If developments were to tend towards lower capacity growth, the result would be reduced auction revenues and thus lower revenues for the host municipalities.

The majority proposal

A majority of the Committee members, the Committee Chair *Ulltveit-Moe* and the members *Andvord*, *Armstrong*, *Christiansen*, *Noss* and *Nøstbakken*, recommends the introduction of a profit-based resource rent tax in order to thereby ensure that the public obtains a share of the resource rent generated in the aquaculture industry for both existing and new licences. The majority recommends that the profit-based resource rent tax be combined with a production tax to be channelled to the host municipalities on the basis of the distribution keys currently applied to the Aquaculture Fund. The majority notes that such a production tax will maintain a close link between host municipalities and the aquaculture industry by giving these municipalities a direct stake in the resource rent revenues, while at the same time providing such municipalities with stable annual revenues from the aquaculture activities, which is not the case under the current Aquaculture Fund arrangement. The majority notes, moreover, that such a combination model will provide these municipalities with revenues from existing licences, irrespective of future growth, which is not ensured by the current system.

A combination of a production tax to the municipalities and a central government resource rent tax will mean that aquaculture enterprises pay a first-hand production tax which is channelled directly to the host municipalities, but this is fully deductible (1:1) against the tax assessed on ordinary income. The revenues from the production tax are received by the municipalities, while central government tax revenues are reduced correspondingly. The production tax will thus serve purely as a distribution mechanism between central and local government and will not impose any additional burden on the companies.

The majority is of the view that a production tax to the municipalities should be premised on site biomass, which is also the basis for Aquaculture Fund distribution. The majority notes that such a tax will ensure stable and predictable annual revenues for the host municipalities.

The majority is of the view that to contribute to equal welfare and equal opportunities all over the country, it is of major importance that a production tax on aquaculture activities, like the natural resource tax under power plant taxation, is included in the tax equalisation under the local government revenue system.

The majority is of the view that there is every reason to reconsider the distribution of revenues from the sale of aquaculture licences. In principle, auctions may capture a major share of the net present value of expected future resource rent in the form of a lump sum, and it may be argued that the revenues should therefore also benefit future generations, and not be disbursed immediately. The majority proposes that auction revenues from awarding new capacity be channelled to central government and that such revenue accrue to the Government Pension Fund Global or be managed under a corresponding model. The majority emphasises that one will thereby ensure that the part of the resource rent captured by awarding capacity also benefits future generations. One thereby also ensures revenues for central government and lays the foundations for equal and fair access to services across municipalities. This means that revenues from public natural resources will benefit all parts of the country.

The majority notes that the current Aquaculture Fund arrangement serves to exacerbate differences between aquaculture municipalities and other municipalities. The Aquaculture Fund may thus serve to impede equal opportunities and equal welfare for all.

The majority is of the view that the combination of a central government resource rent tax, a production tax for the host municipalities and auction revenues channelled to the Government Pension Fund Global, or managed under a corresponding model, balances and attends to a number of considerations. The public, and thereby people all over the country, obtains a share of the resource rent generated on the basis of the use of a common natural resource, the host municipalities get incentives to make areas available and future generations get a stake in the revenues originating from the auctioning of perpetual licences.

If a resource rent tax is *not* introduced, the majority proposes a change in the distribution of the revenues between central and local government. To ensure equal and fair access to services across Norwegian municipalities, the majority will in this scenario propose a significant increase in central government's share of revenues upon capacity adjustment. Furthermore, central government's share of the revenues should accrue to the Government Pension Fund Global or be managed, under a corresponding model, to ensure that only the return on the auction revenues is spent. This means that the revenues associated with the auctioning of perpetual licences will also benefit future generations. The majority is not proposing changes to the principles guiding distribution between the aquaculture municipalities. This implies that the aquaculture municipalities' share will continue to be distributed through the Aquaculture Fund. Under the assumption that central government receives a significantly larger share of the revenues, the Committee proposes that the municipalities' share of the revenues not be earmarked for accumulation in a fund. Local government autonomy principles also suggest that municipalities shall themselves manage revenues as they see fit, in a manner enabling future generations to also benefit from these revenues. The majority proposal seeks to balance a number of objectives. The proposal will serve to make all municipalities better placed to provide equivalent access to services for their inhabitants, while at the same time giving the aquaculture municipalities incentives to facilitate the industry.

The majority notes that the resource rent revenues from the aquaculture industry may be significant over time. The majority therefore emphasises the importance of establishing institutions and systems which facilitate management of the resource rent from the industry for the benefit of all. Norway has positive experiences with this through its management of the petroleum resources and the establishment of the petroleum tax regime. Effective management of our joint power resources in the power industry has also been established in the wake of the power market deregulation and subsequent power taxation reform in the 1990s. Under the majority proposal, one will also for aquaculture establish a tax system which ensures sound resource utilisation while at the same time giving the public a share of the resource rent.

The minority proposal

A minority of the Committee members, the members *Fossli*, *Haugen* and *Moen*, refers to its proposal for continuation of the current model for special taxation of the aquaculture industry through the sale of new capacity and, if growth declines, consideration of potential revenue generation for the public, represented by the municipalities, through a moderate production tax. The minority is of the view that revenues raised specifically from the aquaculture industry should not be included in the tax equalisation under the local government revenue system, as this would impair the incentives for host municipalities to make areas and infrastructure available to the aquaculture industry. The current Aquaculture Fund model serves to ensure a strong link between the aquaculture municipalities and the aquaculture industry operating in these municipalities.

This minority is of the view that the current distribution key shall be maintained as applied through the Aquaculture Fund. The minority would warn against a solution in which central government's share of the revenues is increased at the expense of the aquaculture municipalities. This will impair aquaculture municipalities' incentives to facilitate the industry and inhibit the aquaculture industry, and national interests, in an undesirable manner.

1.2.7 Summary of recommendations

There is a consensus in the Committee with regard to the factual description of the industry and the various models used. However, there is not a consensus in the Committee with regard to the introduction of a new tax base and which model to use. In the summary below, the majority is comprised of the Committee Chair *Ulltveit-Moe* and the members *Andvord, Armstrong, Christiansen, Noss* and *Nøstbakken,* while the minority is comprised of the members *Fossli, Haugen* and *Moen*.

The Committee is of the view that both consideration for an efficient tax system and legitimate distribution of the resource rent from the exploitation of public resources suggest that industries where such resource rent is generated should be subject to special tax.

The Committee finds, based on discussion of fundamentals and empirical analyses, that natural advantages as well as regulations have given rise to considerable aquaculture industry resource rent. The resource rent amount has varied over time, reflecting that aquaculture, like other natural resource-based industries, is a cyclical industry. Technological and regulatory changes and global market conditions mean that the resource rent amount may also fluctuate considerably in future.

The Committee is of the view that both tax system efficiency considerations and social distributional considerations suggest that the public should also obtain a share of the resource rent in the industry. This can create headroom for a reduction in distortionary taxes, contribute to redistribution and fund the welfare state.

The Committee is of the view that one should use auctions to award all new aquaculture industry licences and stop awarding part of the growth at a fixed price. This ensures efficient awarding of licences and means that the public receives a larger share of the resource rent.

The majority proposal:

– The majority proposes that aquaculture industry resource rent be captured through an accrued profit-based resource rent tax. A profit-based resource rent tax will ensure that investments which are profitable before tax are also profitable after resource rent

tax, and will not inhibit investment in the aquaculture industry in Norway. Such a tax will also accommodate profitability fluctuations in the industry.

- The majority is of the view that one should capture, for the public, more or less the same share of the profit in the aquaculture industry by way of a profit-based resource rent tax as in hydropower and petroleum. The resource rent tax is structured on the basis of the resource rent tax for hydropower plants, and the majority has therefore deemed it appropriate to seek guidance in the hydropower tax regime in the choice of tax rate. The majority proposes that the aquaculture resource rent tax rate be put at 40 percent.
- The majority proposes that a central government profit-based resource rent tax be combined with a production tax to be channelled to the host municipalities based on the same distribution key as is currently applied for the distribution of auction revenues through the Aquaculture Fund. This will ensure stable and predictable revenues for municipalities, a close link between host municipalities and the aquaculture industry, as well as give the municipalities incentives to accommodate the industry. The companies can deduct the production tax from the tax assessed on ordinary income. The tax will thus serve purely as a distribution mechanism between central and local government and will not impose any additional burden on the companies. The majority is of the view that it is of major importance that a production tax on aquaculture activities, like the natural resource tax under hydropower plant taxation, is included in the tax equalisation under the local government revenue system to contribute to equal welfare and equal opportunities all over the country.
- The majority proposes that auction revenues from awarding new capacity be channelled to central government and that such revenue accrue to the Government Pension Fund Global or be managed under a corresponding model. This also ensures that the part of the resource rent captured by awarding capacity will benefit future generations.
- If a resource rent tax is *not* introduced, the majority proposes a change in the distribution of the revenues between central and local government. The majority proposes a significant increase in central government's share of revenues upon capacity adjustment to ensure equal and fair access to services across Norwegian municipalities. Furthermore, central government's share of the revenues should accrue to the Government Pension Fund Global, or be managed under a corresponding model, to ensure that only the return on the auction revenues is spent, and that the revenues from the sale of perpetual licences will also benefit future generations.
- The majority proposes to abolish the property tax on fish farms in the sea, provided that additional taxation of the aquaculture industry is introduced.
- The majority is of the view that the market tax and research tax represent distortionary taxation of exports and should be abolished.

The minority proposal:

- The minority is of the view that no resource rent tax should be introduced for the aquaculture industry in Norway. The minority is of the view that the current model for capturing resource rent by auctioning of new production capacity should be continued. The minority is of the view that one would need to consider whether revenues should also be channelled into the Aquaculture Fund through a moderate production tax if aquaculture industry growth declines and revenues from awarding new capacity do not generate predictable and stable revenues for the host municipalities.

- The minority is of the view that the current distribution keys between the central and local government sectors should be maintained, and does not propose changes to the distribution keys between municipalities under the Aquaculture Fund either. The minority is of the view that revenues raised specifically from the aquaculture industry should not be included in the tax equalisation under the local government revenue system.
- The minority proposes to maintain the property tax on fish farms in the sea.
- The minority is of the view that the market tax and research tax need to be considered in a separate and individual evaluation.