MENON ECONOMICS

SUMMARY

THE VALUE OF THE NORWEGIAN HEALTHCARE INDUSTRY 2020

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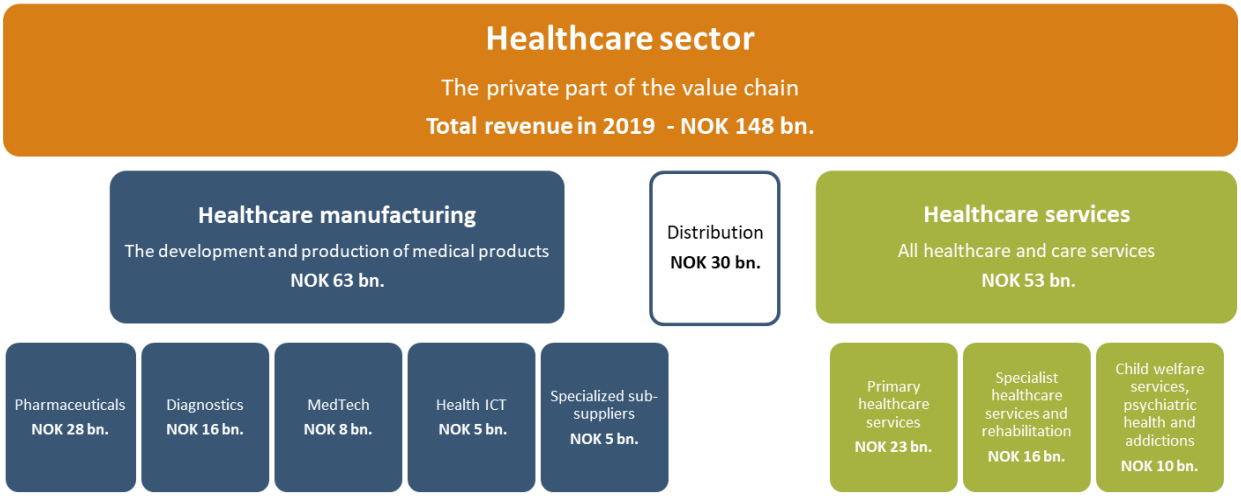
Summary

This report provides an overview of the entire value chain in the Norwegian healthcare sector, including public and private operators. The report focuses on the healthcare sectors contribution to the mainland economy in terms of *value creation, employment, and exports.*

The societal contribution of the healthcare sector is greater than the value creation measured solely in terms of tax revenues or employment creation. These wider benefits are achieved through better health outcomes, increased quality of life, longer life spans and reduced sick leave.

Though the report documents the development and status of the health industry today, our focus is primarily on the future. The welfare state will increasingly come under pressure in the coming years. In the short term, the primary concern is the Covid-19 pandemic and its consequences for the Norwegian economy. However, looking beyond Covid-19 the coming decades will be challenging for the Norwegian welfare state as the population rapidly ages. This will be exacerbated by increases in diseases such as cancer and dementia. Future-proofing the Norwegian healthcare sector will not only be an answer to the health and care challenges that Norway faces in the coming years. The development of the sector also provides an important economic opportunity going into a couple of decades where several important Norwegian industries are projected to shrink. The large and strongly growing global healthcare market provides an opportunity for this industry to also become a a major industry in Norway. The report deals with nine important themes relating to the future of the Norwegian healthcare sector:

1. Covid-19 – consequences and opportunities for the health industry
2. Increased growth rates and positive growth expectations among businesses, but how will Covid-19 impact growth in 2020 and 2021?
3. Differences in growth rates among different company size segments



4. Healthcare manufacturing – the most entrepreneur intensive industry in Norway.
5. The importance of development and production in Norway for future growth
6. A high level of equity issuance in the health industry, but how will Covid-19 impact the industry's access to capital and hence its ability to innovate and grow?
7. The growth in the industry's investments in R&D continues
8. Access to risk capital remains the biggest hurdle for growth in the health industry.
9. The industry had health related exports of NOK 25,1 billion in 2019

1. Covid-19 – consequences and opportunities for the healthcare industry

At the time of writing (April 2020) the Covid-19 pandemic has already had severe implications on both the Norwegian and the global economy. A considerable share of businesses is struggling with significant shortfalls in demand or have had to temporarily shut down their activities as government-mandated bans on certain commercial activities have been introduced. Though the entire healthcare sector is affected by the Covis-19 crisis, different parts of the industry are affected in different ways. While some segments, such as pharmaceuticals, experience increased demand, others are in full or partial shutdown.

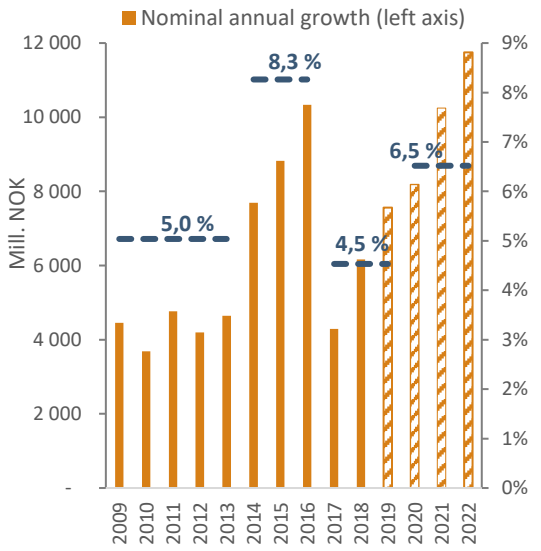
Though it is challenging to predict the consequences for the Norwegian healthcare sector of the current crisis, some tentative lessons are already being learned. The crisis has created a new understanding of the value of emergency preparedness in healthcare. There is an acknowledgement that Norway, in a crisis, must have a minimum of self-sufficiency with regards to critical medical equipment, pharmaceuticals and associated production capacity. This may lead to initiatives from authorities to increase production capacity in Norway. However, if there is an increased global focus to onshore healthcare production, we may see a reduction in demand from key export markets.

Though a long-term consequence for some segments in the Norwegian health industry may be a reduction in demand from export markets, other segments could well expect the opposite. At the time of writing Norway appears to be of the countries in the Western world that best handles the pandemic. At the same time Norway is also one of the most digitised societies in the world. The experiences that are made during this crisis, with regards to use of digital tools and communication solutions by both patients and healthcare personnel may help position the Norwegian health ICT industry towards international expansion in the post-crisis world.

2. Increased growth and positive expectations among businesses

From 2009 to 2013, the Norwegian healthcare sector experienced an annualised growth rate in revenue of 5 percent. From 2014 to 2016 there was a "change of pace" in the industry with an increase in the annual growth rate to 8.3 percent. However, in 2017 revenue growth rate fell back considerably, to 3.4 percent. As financial records covering 2018 now is available, we can conclude that 2017 appears to have been an exception, and that it did not constitute a "new normal". The industry as a whole experienced growth in revenue of 4.7 percent in 2018. A survey conducted among companies in the industry indicates that the Norwegian healthcare sector are returning to annual growth rates close to the levels we experienced in the period from 2014 to 2016. The forecasts for 2020-2022 were collected in January, 2020 and thus do not incorporate the market development related to the Covid-19 pandemic, which has only since become apparent. As such, these growth forecasts might have changed considerably if the companies were to be polled again.

Figure 0-1: Nominal annual revenue growth in the Norwegian healthcare sector and average annual growth rates in selected periods (estimate for 2019 forecast for 2020-2022). Source: Menon



Pharmaceuticals is the segment in the health industry that has had the biggest variation in annualised growth rates in recent years. As pharmaceutical companies make up close to 45 percent of revenue in the healthcare manufacturing sector and almost 20 percent of the health industry, growth patterns observed in Figure 0-1 is in large part driven by this segment. Pharmaceutical companies experienced revenue growth of one percent in 2017, following years of annualised growth rates of more than 9 percent between 2014 and 2016. However, in 2018 pharmaceutical companies experienced the highest growth rate among all segments in the Norwegian healthcare manufacturing sector, with a growth of 9.6 percent.

Healthcare services have had a declining, though still positive, growth rate in all years since 2015. This growth pattern can in part be attributed to the slowing of the biggest single segment in the sector, namely primary healthcare services. Norwegian municipalities are by far the most important market for these service providers and a possible partial explanation for the falling growth may be that several large municipalities over the years have reduced the use of private providers of healthcare services.

Explanation of terms used in the report

Health sector = health sector in this report means all private, state, and other public organisations in the entire value chain including supporting functions. This is a narrower definition than that used in Statistics Norway's healthcare and care statistics, which includes municipal and county administration, care without housing and healthcare services that are not required to be registered (sole proprietorships/self-employed etc.).

Healthcare sector = the private part of the value chain. Does not include support functions.

Healthcare manufacturing = the development and production of all types of medical products, technologies, and solutions. It is subdivided into five sub-groups.

- **Pharmaceuticals** – all biological and chemical products that are used to prevent and treat physical and psychological conditions and diseases.
- **Diagnostics** – all biological, chemical, and technological products which are used to arrive at a diagnosis in the health sector.
- **Health ICT** – all ICT products and services used to monitor, prevent, and treat diseases and for health sector administrative systems and processes.
- **MedTech** – all medical-technical products which are used to prevent and treat diseases, injuries, and wear.
- **Specialised sub-suppliers** of raw materials, equipment, and services.

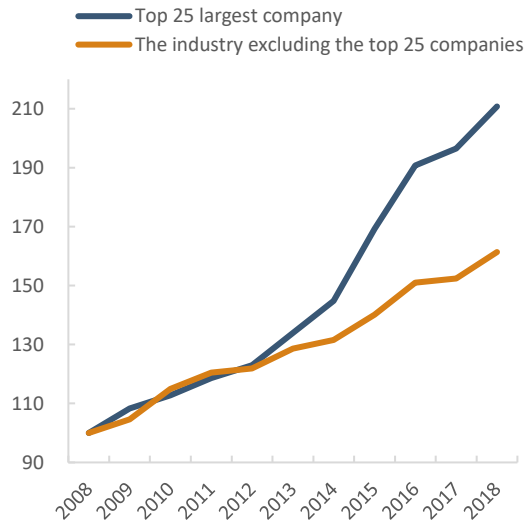
Healthcare services = All healthcare and care services from conception to death associated with prevention, treatment, and rehabilitation. Healthcare services is subdivided into four groups.

- **Primary healthcare services** – are healthcare services which are provided to the local community in everyday life. Primary healthcare services include general practitioners, home care, health visitors, physiotherapists, occupational therapists, speech therapists, dentists, other healthcare personnel such as chiropractors, company healthcare services and institutions such as nursing homes and residential care facilities for the aged.
- **Specialist healthcare services and rehabilitation** – includes somatic and psychiatric hospitals, policlinics and healthcare service centres, recovery training and rehabilitation institutions, institutions for cross-discipline specialised healthcare services for intoxicant abuse, pre-hospital services, private practising specialists, the ambulance services and laboratory and X-ray service providers.
- **Child welfare services, psychiatric health, and addictions** – includes services for protection and intervention where normal care of children is not provided and for mental health and addiction.
- **Other healthcare services**– includes health services not included in the three categories above.

3. The large companies in healthcare manufacturing delivers the highest growth rates

The figure below shows the growth profile of the top 25 companies in healthcare manufacturing in 2018. These are defined as the five largest companies by revenue in each of the five sub-industries. It is clear from the chart, that the top 25 companies have experienced higher growth rates in all years since 2012. The top 25 companies represented close to 47 percent of the healthcare manufacturing total revenue in 2019.

Figure 0-2: Indexed revenue growth for segments within Norwegian healthcare manufacturing. The 5 largest companies in each of the five sub-categories compared to the rest of the sector. Source: Menon



The wedge in growth rates has been particularly evident since 2014. In addition, we find that if we exclude the *top 50* largest companies the remaining Norwegian healthcare manufacturing sector experienced a *decline* in revenue from 2016 to 2018.

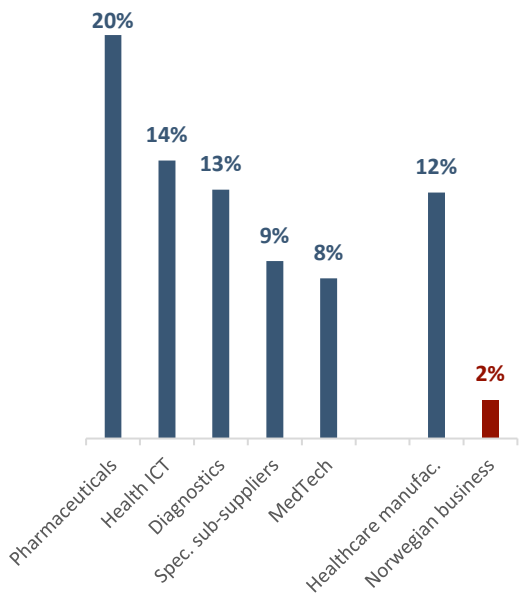
One possible explanation for this divergence in growth rates is that the healthcare manufacturing sector is characterized by particularly long development processes and great uncertainty. At the same time though, the potential for international growth and profitability is great if one succeeds. Hence, it is natural that the growth among companies that have reached such a market breakthrough are higher than for those who have not. One indication of this is that the largest companies have a high share of their income coming from export markets. Another possible explanation is an increase in prices of pharmaceuticals. The Norwegian state's cost of pharmaceuticals has increased significantly in recent years (increase in costs of close 40 per cent in the period from 2013 to 2018).[1] many of the largest companies in the Norwegian healthcare manufacturing industry produce and sell pharmaceuticals and several of these companies have experienced considerable revenue growth in recent years. A third possible explanation is that there has been a consolidation in the healthcare manufacturing sector over the last ten years.

4. Healthcare manufacturing: The most entrepreneur intensive business sector in Norway

The healthcare manufacturing sector is characterised by significant innovation and a high density of firms in the entrepreneurial phase. This trend has only increased in recent years. We define an entrepreneurial company – which we also refer to as a J-curve company – as a company with no sales revenue or with an operating profit margin of -100 percent or less, and with total wage costs of at least NOK 500,000. A J-curve company is thus a company that has not yet reached commercialisation.

[1] *The Norwegian Prescription Database, Norwegian Institute of Public Health (FHI)*

Figure 0-3: Share of J-curve companies in the Norwegian healthcare manufacturing sector. Source: Menon



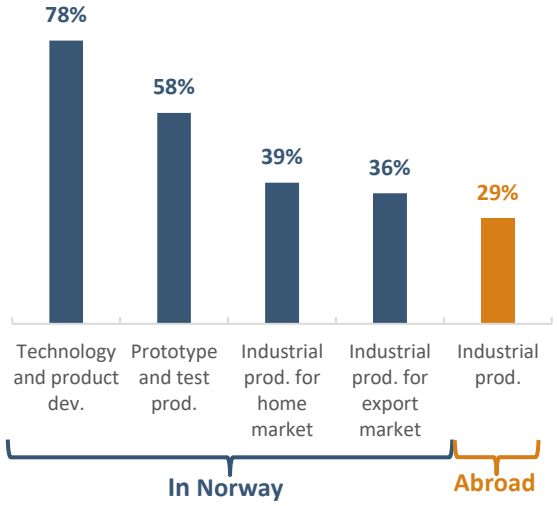
We find that as many as 12 percent of companies in the Norwegian healthcare manufacturing sector met the criteria for being a J-curve company in 2018. This represents an increase from 10 percent in 2017. Comparing healthcare manufacturing to the full range of other industries we find that the healthcare manufacturing sector is the most entrepreneurial intensive business sector in Norway. In comparison, the share of J-curve companies nationwide is around two per cent.

Neither the high number nor the growth in entrepreneurial businesses is surprising. The entrepreneurial phase is longer, more costly, and riskier in healthcare manufacturing than for most other industries. This is because the development of pharmaceuticals and diagnostic products requires research, pre-clinical- and clinical testing, as well as approval from health regulatory authorities. However, if a company in healthcare manufacturing survive the phase at the "bottom of the J-curve", the potential for revenue growth and profitability is very high. This is because they usually offer unique products that cannot be easily copied or that do not have obvious rivals on the market.

5. Innovation and production in Norway correspond to higher growth rates

In conjunction with this report there was conducted a survey among businesses in the Norwegian healthcare sector. The survey confirms that the Norwegian healthcare manufacturing sector is comprised of a high share of entrepreneurial companies. In the survey, we asked the companies to rate their current level of production, in terms of maturity. As the figure below indicates, a high proportion of companies report that they are in a phase of technology and product development or in the prototype and test production phase. These shares are somewhat higher than those of companies reporting that they currently have production for either the Norwegian or foreign markets.

Figure 0-4: Share of companies in the healthcare manufacturing sector who classifies their activities in different phases (multiple answers possible). Source: Menon



As many as eight out of ten companies state that they are currently pursuing technology and product development in Norway. This explains the large proportion of J-curve companies in the Norwegian healthcare manufacturing sector in Norway. The road from these phases to commercialisation and industrial production is traditionally long and capital-intensive. Access to risk capital at an early stage can reduce time from research to

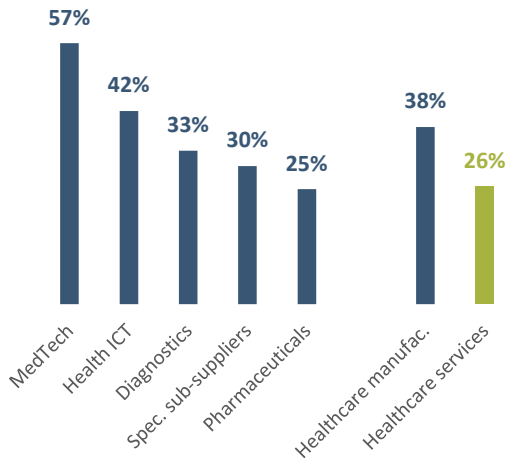
commercialisation – the so-called "time to market". This is done because companies can go through processes in parallel rather than sequentially. Reduced time to market will also increase the likelihood of commercial success since it provides better odds for hitting the markets before potentially competing products.

We find that companies that have industrial production in Norway have higher growth than those that do not. We also find that companies that have technology and product development as well as prototype and test production in Norway expect growth to accelerate in years to come. The latter, though, often requires succeeding with market introduction and raising capital to build or scale up industrial production.

6. A high level of equity issuance in the health industry

One out of three respondents to this year's survey reported that they raised new equity in 2019. In aggregate, the companies that responded to the survey raised close to NOK 570 million in 2019. There is considerable variation between the industries in terms of both the proportion of companies that raised new equity last year and the volume of capital that was raised. Especially among companies in the MedTech segment there has been significant new equity finance, with just short of 60 percent of companies reporting that they raised new equity in 2019. It was also the MedTech segment that had the highest total equity issuance, among respondents in the survey, with about NOK 190 million raised.

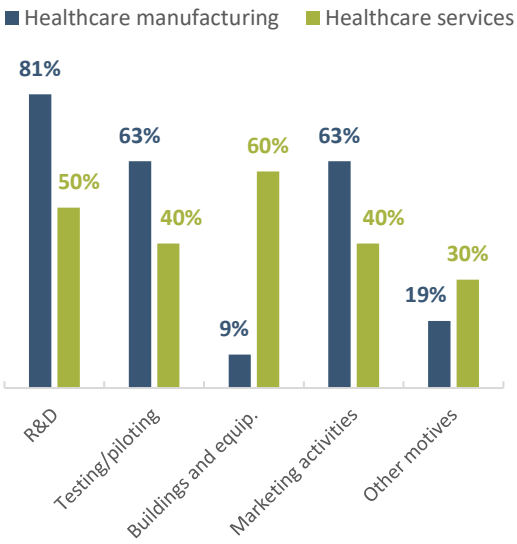
Figure 0-5: Share of companies that raised equity capital in 2019 (survey data). Source: Menon



One in four companies in healthcare services stated that they raised new equity in 2019. Although this is lower than for the industry at large, the average size of the issuance was considerably higher among healthcare service companies, with around NOK 15 million in 2019. This compares with that of companies in the healthcare manufacturing sector which reported an average of NOK 8.5 million.

As shown in the figure below, a high proportion of the companies in healthcare services indicate that the capital raised through issue of stock should be used for investments in buildings and equipment. Such outlays are typically large, and this can thus be part of the explanation that the companies in the healthcare services sector have raised large quantities of capital in 2019. In contrast, it appears that companies in healthcare manufacturing are using the capital for research and development. A high proportion of companies in this sector is also spending the fresh capital injections to finance testing and pilot production, as well as marketing activities.

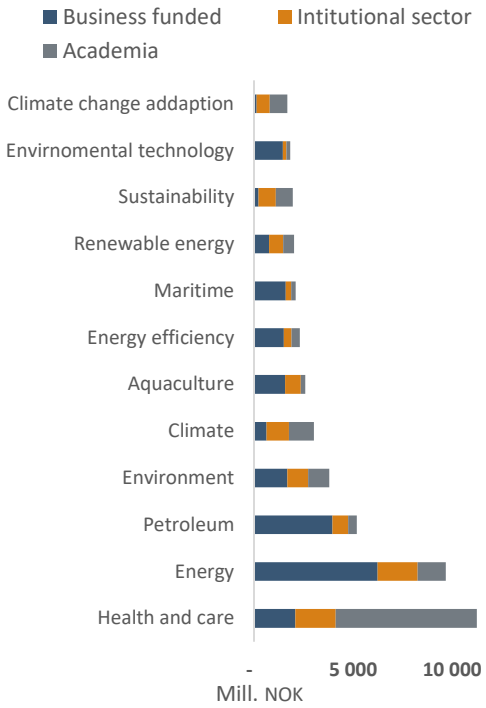
Figure 0-6: Share of respondents that confirmed the use of newly raised equity capital to different activities. (multiple answers possible). Source: Menon



7. R&D activity in the Health industry in 2019

Health and care is the research area with the overall highest R&D expenditure in Norway. This is documented in the Indicator Report 2019, a report prepared by the Norwegian Research Council, Statistics Norway and NIFU. The report finds that almost NOK 11.3 billion was spent on R&D in the health and care sectors in 2017. This represents almost 20 per cent of total Norwegian R&D expenditure in 2017.

Figure 0-7: R&D expenses in different research areas in 2017. (million NOK)). Source: Indicator report 2019 (NIFU, 2019) and Menon



Though largest measured by total R&D, the research area of health and care lack when it comes to R&D funded by businesses. As shown in the figure above, the areas of energy and petroleum have significantly larger volumes of private R&D. Specifically, more than 40 per cent of all business-financed R&D expenditure in 2017 was spent in these two sectors. The corresponding number for health and care was nine percent.

New data from the Norwegian Research Council, on the scope and size of approved R&D projects through the SkatteFUNN scheme, reveals that health and care was the sector with the highest growth in R&D expenditure in 2019. Budgeted costs for health-related R&D projects, reported in connection with applications to SkatteFUNN, increased by more than NOK 500 million in 2019. In comparison, NIFU estimates that the total business-financed expenses for health and care projects in 2017 amounted to NOK 2.1 billion.

In this report, we document that there has been considerable growth in R&D activity in the Norwegian health industry over the past six

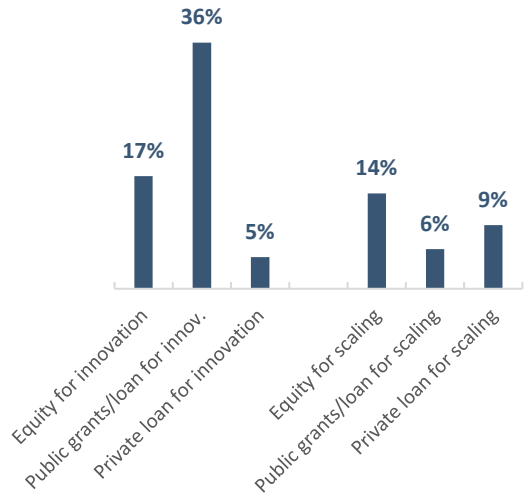
years. We also find that around 90 percent of this R&D activity can be linked to companies in the healthcare manufacturing sector. Furthermore, the analysis points to the fact that companies in diagnostics and MedTech sectors in particular have had large R&D expenditures.

8. Bottlenecks for further growth in the healthcare industry

The survey reveals that companies perceive market access as the most important challenge for growth. In particular, respondents point to access to public tenders and competition on equal terms as challenging. Similarly, companies in the healthcare manufacturing sector also point to access to capital as a constraining factor.

More than half of the companies in the healthcare sector state that the access to capital hampers development and growth. It is in particular small-sized companies that regard access to capital as a challenge. This is reported by 70 per cent of companies with less than NOK 10 million in revenue. The corresponding share is only 30 per cent among companies with more than NOK 10 million in revenue.

Figure 0-8: Share of companies that regard access to different types of capital for use in innovation and scaling as good. (Only respondents who regard access to capital as a bottleneck for growth is included). Source: Menon



Among the companies that regard access to capital to be an important challenge, 36 percent believe that the access to public grants/loans for innovation is good. This stands in contrast to the share of only 6 percent who believe that access to public grants/loans for scaling is good. These results are in line with other empirical studies, including a recent review of policy measures targeted at businesses (Menon, 2019). Here it was documented that the companies perceive the current emphasis of available policies to be innovation, rather than scaling (growth and internationalisation).

The experience of different companies of access to government grants and loans depends on the type of activities they carry out in Norway. Companies that carry out technology and product development in Norway are generally more satisfied with the access to government grants and loans for innovation. We find the opposite in terms of funding for scaling. No companies that have industrial production in Norway reported that they believe the access to grants and loans for scaling is good.

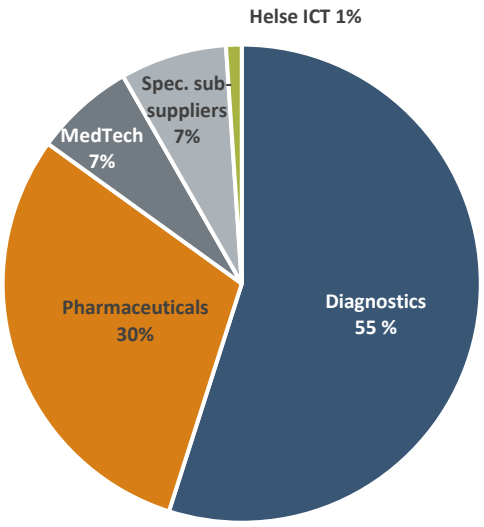
9. Health related exports of NOK 25.1 billion in 2019

A majority of the Norwegian healthcare sector is dependent on the Norwegian market, mainly through demand from public healthcare services. At the same time, the majority of growth potential lies in global markets. There is a mutual dependency between these two markets. The better Norwegian companies do in developing and selling products in international markets, the better the industry will be able to serve hospitals and other healthcare providers in Norway. Similarly, the more the major customers in the health sector (hospitals and municipalities) in Norway can contribute to demand-oriented innovation and productivity growth in the Norwegian health industry, the better the basis for the industry to succeed internationally.

The health industry's total exports in 2019 are estimated to be around NOK 25.1

billion. Companies in the healthcare manufacturing sector accounts for virtually all export revenues.

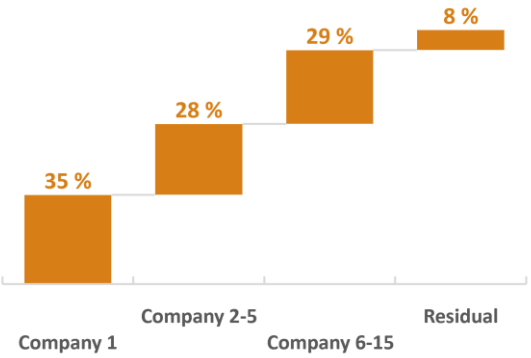
Figure 0-9: Export revenue in healthcare manufacturing – NOK 24,5 billion – broken down among segments. Source: Menon



There is an uneven distribution of exports in the healthcare manufacturing sector. As shown in the figure above, diagnostic companies account for more than half of the sector's total export revenues. Diagnostics and pharmaceutical companies, who account for approximately 70 percent of all revenue in Norwegian healthcare manufacturing, account for as much as 85 per cent of the sector's exports.

Zooming in further, we find that exports are highly concentrated among a few large companies. Specifically, in 2019 the top nine exporting companies, who all had more than NOK 1 billion in export revenue, accounted for close to 85 percent of the health industry's total export revenues (see Figure 0-10).

Figure 0-10: The health industry's export volume in 2019, ranked by individual companies and clustered. Source: Menon



This concentration in export value illustrates that the size and development of the Norwegian health industry is very sensitive to the strategic decisions of individual companies. If only a few of the major industrial producers in the Norwegian health industry (which tend to be part of large international corporations) choose to move production out of Norway, the size and export value of the Norwegian health industry will be affected in a major way.

The corona crisis will be a test of the robustness of the health industry. In the short term, the crisis has resulted in several companies producing at near full capacity. This is a consequence of the fact that hospitals and health authorities domestically and abroad want to build up stocks of critical drugs and medical devices, entering an unpredictable time in international trade relations. In the longer term, however, there is a risk that more countries will want to reduce their dependency on imports. This may mean that some large producers in Norway will see their export opportunities reduced. Ultimately, there is also a risk that companies currently producing in Norway choose to move their production to other countries.

Menon analyzes economic issues and provides advice to companies, organizations and authorities. We combine economic and commercial expertise in fields such as industrial organization and competitive economy, strategy, finance, organizational design and social profitability. We use research-based methods in our analyses and work closely with leading academics in most disciplines.

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