



Performance audit report

Encouraging business investments

Views of four sectors



Performance audit report
Encouraging business investments
Views of four sectors

LÖNNBERG PRINT & PROMO
HELSINKI 2017

Performance audit report of the National Audit Office

Registry no. 237/54/2015

As part of its audit plan, the National Audit Office has carried out an audit in which the efforts to encourage business investments is examined from the perspective of four different sectors. The audit has been carried out in accordance with the performance audit guidelines issued by the National Audit Office.

Based on the audit, the National Audit Office has issued an audit report, which will be submitted to the Ministry of Education and Culture, the Ministry of Economic Affairs and Employment, the Prime Minister's Office and the Ministry of Finance. Copies of the report will also be submitted to the Parliamentary Audit Committee and the Government financial controller's function for their information.

Before the issuing of the audit report, the Ministry of Education and Culture, the Ministry of Economic Affairs and Employment, the Prime Minister's Office and the Ministry of Finance were provided with an opportunity to ensure that there are no factual errors in the report and give their views of the opinions of the National Audit Office contained in the report.

In the audit follow-up, the National Audit Office will determine which measures have been taken on the basis of the opinions presented in the audit report. The follow-up will take place in 2019.

Helsinki 3 April 2017

Marko Männikkö
Deputy Auditor General

Vesa Koivunen
Principal Performance Auditor

The purpose of the audit was to determine how companies would like central government to encourage business investments.

From central government perspective, making investments is not an end in itself. However, a national economy that provides a good environment for business investments, also provides a good environment for economic growth.

According to the Programme of Prime Minister Juha Sipilä's Government, the aim is to make Finland a competitive country where entrepreneurship, ownership and investment are more profitable than at present. The aim in the audit was to assess how making investments in Finland is viewed by business executives and to obtain new information and new perspectives on the matter by interviewing individuals making the investment decisions in companies (senior management).

A total of 53 interviews were conducted in four countries for the audit. A total of 16 company-specific interviews were conducted in Finland and they were supplemented by interviews with government officials and experts as well as research information and literature. The results of two workshops attended by about 50 experts from companies and public administration were also used in the audit. The audit findings were collected from the following four sectors: mining, pharmaceutical industry, software industry and retail trade.

The experiences of companies are extensively discussed in this audit report and they highlight the need to improve central government decision-making processes and procedures. The best practices for encouraging business investments can be strengthened by encouraging the authorities and individual companies to engage in a more active dialogue so that there can be more exchange of information and mutual understanding.

Central government is competing for investments in global scale

The impacts of global competition are also felt in central government. Many companies are familiar with administrative practices in different parts of the world and many countries are planning to introduce reforms aimed at improving customer service and speeding up the decision-making process in public administration. Even though structural change and macroeconomic instruments are important, Finland and its reference countries already provide companies with an operating environment that meets many of their requirements. For this reason, consideration in the encouragement of investments and competition for investments should also be given to more nuanced criteria.

A number of important factors serving as general criteria for companies' operating prerequisites have been identified in several studies. They also have an impact on investment decisions, which are based on company-specific criteria. Individual companies evaluate the importance of each of the general factors when making investment decisions. For example, in their own criteria, pharmaceutical companies may not put a great deal of emphasis on Finland as a pharmaceutical market, as from their perspective, it is the potential for pharmaceutical research that makes Finland an attractive investment location.

Even though the overall efficiency of public administration is a criterion for general operating prerequisites, many companies also consider other public administrative performance functions when making investment decisions. For example, for a mining company, the speed of the permit process may be one such criterion. At the same time, corporate legislation or the transport infrastructure may serve as the overall criterion for operating prerequisites. This means that in many cases, the measures and decisions taken by central government are important as investment criteria at several levels.

When deciding on changes impacting companies' operating prerequisites, central government should not only identify the impacts spreading through the business ecosystem or cluster but also the criteria determining investment decisions by individual companies. In the companies' view, central government actors do not always remember that business investments are based on project-specific calculations and not on the size or profitability of a company as a whole. In global business, no investment is self-evident and no operating location is secure.

Improvements in general operating prerequisites should have priority over direct business subsidies

Different companies had widely differing views on how general operating prerequisites should be improved. However, most companies had a more negative attitude towards direct business subsidies and considered improvements in general operating prerequisites a better way of encouraging investments. However, the view was that there is a need for direct business subsidies at some point of a company's or product's life cycle.

The level of corporate taxation in Finland was considered reasonable and competitive. From the perspective of operating prerequisites and investments, predictability was considered an important factor in all areas of taxation.

Permit processes should be speeded up while at the same time, it should be ensured that the decisions are made on a long-term basis

Permit processes and the appeals processes accompanying them attracted the largest number of negative comments in the interviews with business executives in the mining, pharmaceutical and retail sectors. Fewer permits are needed in the software industry and the experiences with permit processes did not come up in the interviews with the industry representatives.

Extensive rights of appeal, inadequate advance guidance, overlapping work by permit authorities in different countries, non-implementation of the one-stop shop principle and the slowness arising from the complexity of the building permit process and the appeals process accompanying it were seen as problems.

In permit matters, companies value the traditional strengths of public administration, such as reliability and adherence to legality. However, for business customers, the quality of the permit administration is also largely a matter of what is achieved and how quickly the decisions are made. In business operations, the windows of opportunity are becoming narrower and for this reason companies also expect public administration to act more quickly.

In permit administration and changes to legal provisions, companies expect politicians and the authorities to react more quickly and to make quicker decisions, but also to act in a more predictable manner and on a more long-term basis. Predictability of central government decision-making allows companies to plan and carry out their business operations and make their investments on a more long-term basis. At the same time, quick reaction by public administration allows companies to seize opportunities.

There is broad consensus of the importance of a high-quality education, training and research system

All business executives interviewed for the audit agreed on the importance of a high-quality education and training system in the efforts to encourage investments.

The representatives of the mining companies emphasised the need to offer vocational training for the sector in areas close to the mines. In the pharmaceutical companies, educational and training inputs were seen as a Finnish strengths and the interviewees emphasised the role of a high-quality research environment in attracting investments to Finland. In the view of the software industry, Finland must have a world-class ICT training infrastructure, which will not become reality if such subjects as coding cannot be studied at pre-university levels. The retail companies were of the opinion that as the tasks in the retail sector are changing and becoming more complex, vocational training provided by the public sector is important for ensuring the supply of skilled workforce.

A good business operating environment includes intangible needs that must be met through interaction and not by introducing new regulations

Soft and abstract issues are gradually becoming critical issues. Public administration must take into consideration new matters that are important for companies in today's world.

The new criteria applied by companies may involve cultural, experience-based and emotional matters, such as customer experience, experimental culture, distinctive street scene, authority services, trust in the authorities and fellow citizens, partnerships between companies and the authorities, and permissiveness.

Such matters cannot be achieved by legislation alone, as they require continuous interaction. There is every reason to emphasise the role of a continuous dialogue between companies and the authorities because business investments involve decisions by human beings based on the best available information.

The National Audit Office recommends that

1. Permit processes should be streamlined through cooperation and simplification, such as advance negotiations and transfer of routine permits under the notification procedure. The permit administration should be a provider of concrete customer service, in which interaction plays an important role. Ongoing streamlining projects should proceed without delay.
2. The Ministry of Finance should help to ensure that in administrative development projects, efforts are made to meet companies' expectations of new partnership thinking in which business investments are jointly encouraged through active communication, while at the same time impartiality of the authorities is preserved.

Contents

Conclusions	4
1 Scope of the audit	13
2 How should central government procedures and processes be improved?	17
2.1 Permit and appeals processes should be speeded up	17
2.2 Companies expect predictable and long-term decision-making from central government	24
2.3 When decisions are made, consideration should be given to individual companies and the sector as a whole	26
2.4 Central government should foster experimental culture, Finland's distinctive character and seize opportunities	29
3 How should education, training and research be developed?	33
3.1 Mining: Training opportunities for the sector should be available in the areas close to the mines	33
3.2 Pharmaceutical industry: Finland should make use of its unique competitive advantages in the research field	33
3.3 Software industry: Compact education and training opportunities are needed	37
3.4 Retail trade: In the provision of training, Finland should prepare for the upturn following the current period of slow economic growth	40
4 How could funding and other resources provided by central government be developed?	43
4.1 Mining: Central government inputs in logistics are important	43
4.2 Pharmaceutical industry: Central government should listen to companies, focus its resources and provide authority services	44
4.3 Software industry: Central government resources should help Finnish companies to become global players	46
4.4 Retail trade: Domestic market companies should be considered in the focusing of central government resources	47
5 How should the procurement and tax legislation be developed?	49
5.1 Software industry: Procurement competence in public administration should be improved	49
5.2 Pharmaceutical industry: Public administration should act as the pilot customer	50
5.3 Retail trade: Consideration should be given to the impact of tax competition and VAT	51
6 Strengths, weaknesses, opportunities and threats in the individual sectors	53
6.1 Mining	53
6.2 Pharmaceutical industry	54
6.3 Software industry	55
6.4 Retail trade	56
Appendix: Audit method	58
References	62



1 Scope of the audit

The purpose of the audit was to examine how companies would like central government to encourage business investments.

The following issues were audited: Which are the existing strengths of the investment environment that in the companies' view should be preserved, which factors prevent business investments, how could central government remove or lower these investment obstacles and are there any other (existing or new) ways for central government to promote business growth in individual sectors and investments in them?

In the audit, the emphasis was on the development-oriented perspective. The audit produced information that can be used in the allocation and development of central government resources and the work of the authorities.

The auditors did not make any direct assessments of macroeconomic instruments, such as fiscal, monetary, foreign trade, income and business policy as the aim was to examine issues and determine operating practices that would allow central government to encourage business investments irrespective of the economic policy.

The aim in the audit was to obtain new information and new perspectives by interviewing individuals that make the actual investment decisions (senior management). The importance of this perspective is highlighted by the paradox that in many international competitiveness rankings and comparisons of business operating prerequisites Finland has done well as a country, while at the same time, investment levels have been low and the Finnish economic growth has been disappointingly slow.

To obtain the audit information, the auditors turned directly to companies and the sight was set towards the future, which is also the perspective in companies when they are planning investments. The interviews conducted in companies were supplemented by interviews with government officials and experts as well as research information and literature.

The auditors reviewed tangible and intangible investments made inside Finland's national boundaries, while financial investments (investments in securities) were outside the scope of the audit. Investments in the following four sectors were examined: mining, software industry, pharmaceutical industry and retail trade.

Investments by the public sector were outside the scope of the audit.

The audit report "Encouraging business investments - overall assessment" (3/2017) will be published simultaneously with this audit report. The auditors compared investment environments in Finland, Sweden, Denmark and the Netherlands.

Interviews with the individuals making investment decisions (senior management) produced new information and provided new perspectives

Four sectors were included: mining, software industry, pharmaceutical industry and retail trade

Business investments are important to the national economy and central government finances because they help to promote economic growth. Investments create economic activities that provide job opportunities and strengthen the national economy. Investments generate economic growth because they often lead to productivity improvements (investments in new

technology are one example of this). Productivity improvements are the most important factor contributing to economic growth in Finland.

Business investments provide a basis for growth in production, which in turn leads to higher turnover. Value added taxes account for about one third of all central government revenue.¹

Furthermore, in many companies, wisely made tangible and intangible investments are a major element in the strategy aimed at ensuring profitable growth and business success².

In addition to central government measures, there are also many other factors affecting investment growth. However, as a result of a prolonged downturn in the Finnish economy, there is little room for manoeuvre in central government finances, which means that central government should do everything that can be done now or in the short term to improve the situation.

Even though making investments is not an end in itself, a national economy that provides a good environment for business investments is also an environment where economic growth mechanisms can function properly. Encouraging investments is rarely in conflict with a policy aimed at promoting economic well-being.

After the 2008 financial crisis, many Finnish companies, unlike companies in many of the reference countries, have been unable to achieve their pre-crisis production and investment levels. Furthermore, Finland has also done worse than many of the reference countries in the efforts to attract foreign investments.

In 2014, investments by Finnish companies (including research and development expenditure) totalled about 21 billion euros, compared with nearly 28 billion in 2008.³

The audit covered the central government measures that have an impact on business investments. Broadly speaking, encouraging investments should be the responsibility of all twelve administrative branches. The Ministry of Economic Affairs and Employment is the most important of them. It is responsible for matters concerning enterprises and for providing them with funding, as well as for the promotion and regulation of business activities.

A good environment for business investments is also a good environment for economic growth

Encouraging investments should be the responsibility of all twelve administrative branches

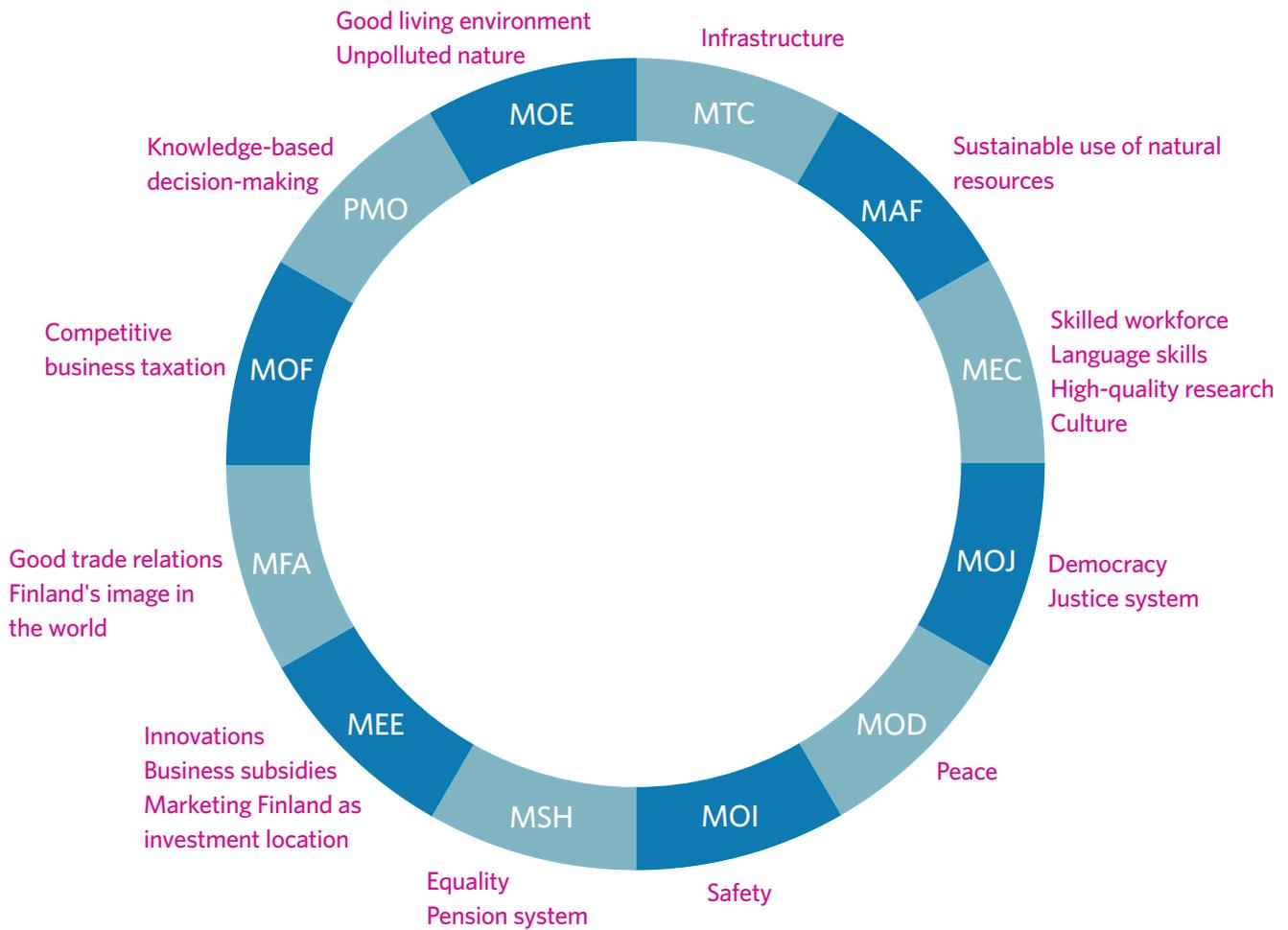
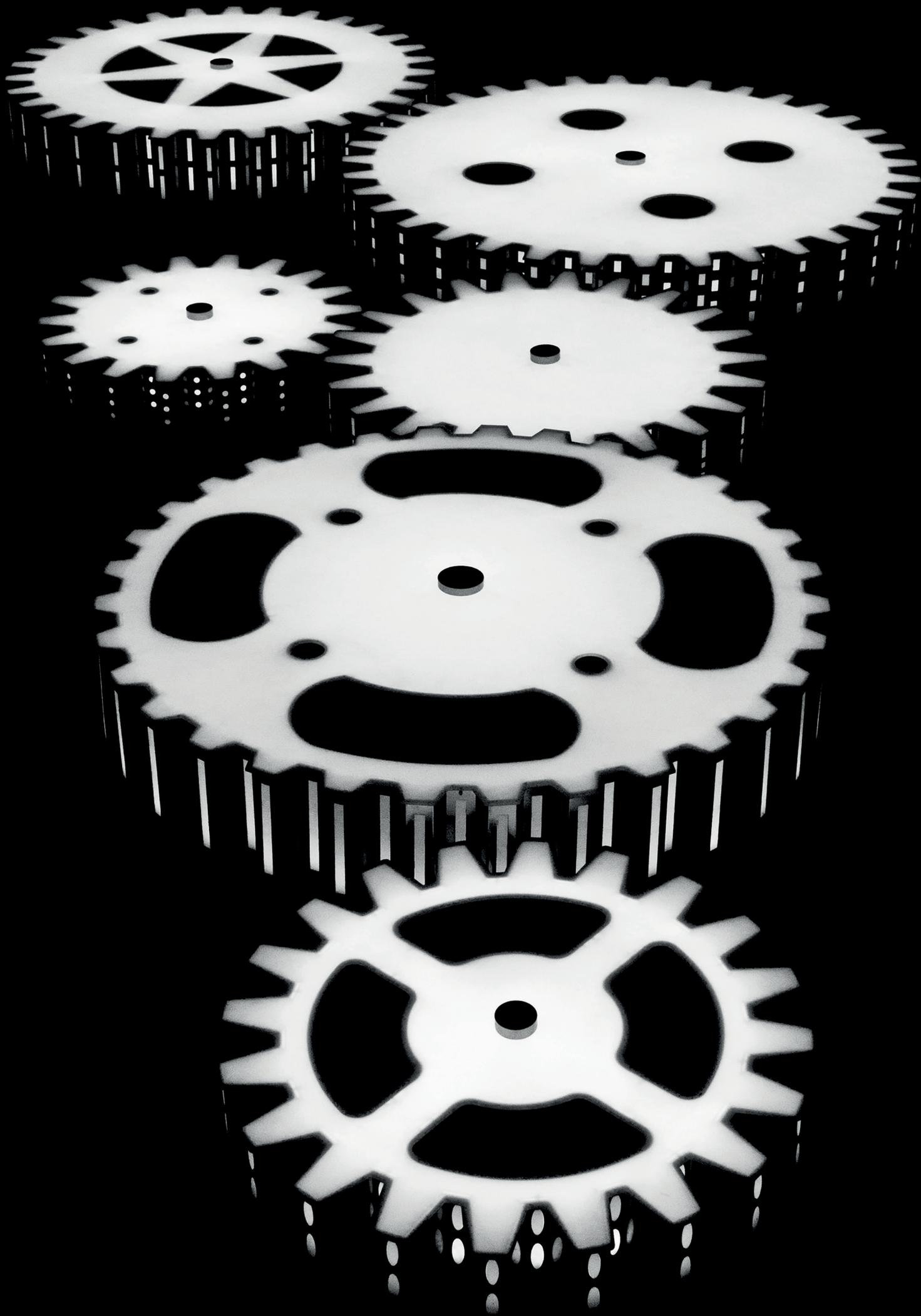


Figure 1: The decisions made in all administrative branches have an impact on companies' operating environment and on encouraging investments

- Ministry of Transport and Communications (MTC)
- Ministry of Agriculture and Forestry (MAF)
- Ministry of Education and Culture (MEC)
- Ministry of Justice (MOJ)
- Ministry of Defence (MOD)
- Ministry of the Interior (MOI)
- Ministry of Social Affairs and Health (MSH)
- Ministry of Economic Affairs and Employment (MEE)
- Ministry for Foreign Affairs (MFA)
- Ministry of Finance (MOF)
- Prime Minister's Office (PMO)
- Ministry of the Environment (MOE)



2 How should central government procedures and processes be improved?

According to the interviews with the business executives, companies have great trust in the correctness and impartiality of the Finnish permit and appeals processes but feel that that drawn-out processes slow down or even prevent investments and business operations. The interviews produced a large number of proposals for speeding up the processes. In the audit, the proposals were divided into three groups: better cooperation, simplified processes and mandatory regulations.

Many of the problems concerning permit and appeals processes have already been identified in public administration and speeding up the permit and appeals processes and giving a service pledge concerning them, as well as minimising the number of appeals between the authorities, are included in one of the Government's key projects.

On the one hand companies would like to see faster processes and decision-making, while on the other hand, they expect more predictable and longer-term decisions and measures by central government.

The business executives interviewed for the audit also emphasised the need for central government to consider the big picture in its decision-making. When decisions are made, their impacts on individual companies and on the relevant group of companies should be assessed.

The business executives also encouraged central government to embrace experimental culture and show self-initiative and seize opportunities as soon as they emerge.

2.1 Permit and appeals processes should be speeded up

Companies have trust in the correctness of the processes but they should be speeded up

According to the audit findings, companies have trust in the correctness and impartiality of the permit and appeals systems but their slowness is considered a problem. Competition between countries on investments will increase. Many European countries are planning to introduce reforms aimed at speeding up and streamlining decision-making in the permit administration, clarifying project approval procedures and making the processes more customer-friendly.⁴

In the interviews conducted with the business executives, permit processes and the appeals processes accompanying them attracted a large number of negative comments in the mining and pharmaceutical industries as well as the retail trade. Fewer permits are needed in the software industry and the experiences with permit processes did not come up in the interviews in this sector.

In the mining industry, the extensive rights of appeal, inadequate advance guidance, changing requirements by the authorities during the process and the absence of a contact person guiding the parties through the process are seen as the most serious problems. In the pharmaceutical industry, overlap-

An unbureaucratic permit process is an important competitive advantage

ping work by the authorities in different countries and the non-implementation of the one-stop shop principle are seen as problems. The retail trade sees the slowness arising from the complexity of the building permit process and the appeals process accompanying it as the most serious problems.

A large number of proposals for speeding up the permit processes were presented in the interviews with experts and business executives and proposals are also contained in a number of other reports⁵. In the list below, the proposals are divided into three categories, cooperation, simplification and regulations.

Central government is a service provider and permit administration should be a provider of concrete customer service, in which interaction plays an important role. For this reason, NAOF's view is that in the proposals listed below, priority should be on the measures promoting cooperation and simplification and not on those involving mandatory procedures.

The proposals are not prioritised within the individual categories. Some of the measures are, as such or in modified form, already included in the Ministry of the Environment's performance agreement and action plan for the period 2017-2020.

A summary of the proposals for streamlining permit and appeals processes presented in the audit interviews and in other reports:

A. Cooperation and coordination between the authorities and between the authorities and companies

- The authorities should act in a customer-oriented manner.
- The parties should, from the outset, take into account the differences between the time horizons of central government and companies. Positive impacts will arise if each party is able to understand the critical time factors of the other party and consider them in its own work to the extent possible.
- A central government contact person (process owner in central government or "pilot") should be appointed for each process and the one-stop shop principle should become reality. Even if several authorities were involved in the permit process, a single authority should represent central government in the process and the company should be able to manage all permit-related matters with this authority.
- There should be mandatory conciliation between the authorities before an authority takes legal action against another authority.
- In large projects, the authorities should be obliged to have a dialogue and agree on the central government aims concerning the project for which the permits are sought.
- The authorities and the permit applicant should conduct preliminary negotiations.
- There should be guidelines and a preliminary ruling on what is expected of the company and how the matter should be dealt with.
- All procedures (reviewing the application, hearings, comments and decision-making) should take place simultaneously.

Instead of applying mandatory measures, the emphasis should be on cooperation and simplification

Electronic services should be developed across administrative boundaries while at the same time processes should be reformed

B. Simplifying and streamlining permit procedures

- The work done as part of the permit process in another EU country should not be repeated by the Finnish authorities.
- The number of permits should be reduced by reviewing whether an official permit is required for so many projects.
- Routine permit matters should be transferred under the notification or registration procedure.
- It should be possible to apply permits for a project with environmental impact separately.
- The same authority should be able to make the decisions on ex-ante control and the permits.
- There should be a single appealable decision on the project.
- The authority or a court of appeal should be able to decide that the permit decision can be implemented in full or in part.
- Permit legislation should be codified so that the legislation can be made into a more workable and uniform entity.
- Electronic services should be promoted /a centralised electronic system introduced.

C. Regulations, sanctions, fees and resources

- An authority should not be allowed to appeal against a decision of another authority to a court or at least the threshold for doing so should be higher.
- There should be (stricter) deadlines for the permit administration and for the decisions made by the authorities.
- The number of appeals could be reduced by introducing a fee that the appellant would have to pay if certain conditions are met.
- Certain permits should be considered as having been issued if no decision has been made by a specified deadline.
- More resources should be provided for case-by-case ex-ante control of projects in permit processes involving nationally important investment projects.

Reduction in the number of matters requiring environmental permits has already shortened permit waiting times

The number of matters requiring a permit and subject to control has decreased from 21,000 to 14,700 since the year 2000, which has helped to shorten permit waiting times. Of these matters, about 7,000 come under central government environmental permits and control and about 7,700 under environmental permits issued by municipal authorities. A total of about 740 environmental permit are processed in Regional State Administrative Agencies each year, while the figure at local government level is about 900.⁶

The number of permits decreased by about 3,000 in 2010 as fuel distribution points, asphalt mixing plants and small energy production facilities were transferred under the registration procedure. Removal of certain types of animal shed from under the permit procedure in 2015 decreased the number by another 3,300.⁷

There are a total of 7,000 matters requiring environmental permits and each year about 740 environmental permit applications are processed in Regional State Administrative Agencies

Sector-specific issues highlighted in the interviews with business executives

Mining

According to mining companies, the slowness of the mining and environmental permit processes is the main factor slowing down and even preventing investments. Even if the permit processes proceed without delay, they are often followed by protracted appeals processes.

“Environmental permit issues make project implementation almost impossible if appeals are filed. Otherwise the environmental permits are more or less a technical exercise containing calculations of whether profitable business operations are possible if the required environmental standards are observed.”

- excerpt from an interview with a business executive

According to the mining companies, there is sometimes a huge backlog of appeals at different court instances. Protracted processes usually mean additional costs for the companies, which makes the planned investments less profitable. The drawn-out nature of the process, the scope of the matters that can be appealed against and the individuals and groups that may submit appeals as parties concerned are the main concerns of the mining companies.

In the companies' view, one factor preventing the permit process from proceeding smoothly is that before the process, the authorities do not state clearly what is expected of the companies. The fact that the expectations and requirements are revised during the process is considered one weakness of the existing system.

In the companies' view, central government does not have any contact persons engaged in active cooperation with the companies. There are no authorities prepared to assume overall responsibility for individual mining project processes. As part of the permit process, a company prepares reports and assessments that the authorities require for their decisions and the preparation of the documents may take several years. In these administrative processes, companies will have to negotiate with a large number of authorities and other parties and take into account their views.

Companies feel that they have been left alone in permit matters

"We help companies to identify the right issues in bureaucracy. We call this pilot work."

- excerpt from an interview with a Swedish government official

A mining project carried out in Canada was mentioned as a positive example in one interview. Investissement Québec, the authority involved in the project, had provided information and guidance, funded reports and provided assistance throughout the project.

In the companies' view, central government organisations should also be able to jointly coordinate the matters concerning the permit process and agree on them and not manage them through already overworked courts by appealing against each other's decisions.

Pharmaceutical industry

According to the pharmaceutical companies, determining the reimbursement status of a pharmaceutical product takes about six months, which in their view is too long. After a pharmaceutical product has been granted a basic reimbursement status, it will take another two years before the product is granted special reimbursement status. In the companies' view, the benefits of the pharmaceutical product have already been demonstrated when the marketing authorisation has been granted and the application for the reimbursement status is submitted.

In their own view, companies must still spend too much time on determining how different central government authorities can be made to work together. The system of central government actors should be presented to a company as a single entity irrespective of which agency does what.

In the companies' view, as international pharmaceutical companies allocate pharmaceutical research resources between different countries, the speed of the administrative processes becomes a major competitive factor behind the investment decisions. For this reason, smooth access to the services provided by the authorities would help to attract pharmaceutical investments to Finland.

Smoothness of the permit process becomes a competitive factor when companies are deciding where to invest

Retail trade

According to the retail companies, the overall complexity and slowness of the building permit process and the extensive rights of appeal accompanying them are often the most important obstacle to investments. This may lead to a situation where a Finnish-based subsidiary of a globally operating group is unable to remain within its investment budget.

"If investments projects in Finland don't make any progress, money can be taken from the Finnish subsidiary as profit distribution and transferred to another country where investments proceed more quickly and the money can be used in a manner that helps the company to grow."

- excerpt from an interview with a business executive

The construction of a large retail unit requires a special building permit under which a more extensive project assessment must be carried out. From 16 April 2015, all retail shops larger than 2,000 m² in gross floor area have been considered as large retail shops, irrespective of the retail sector (section 71 a of the Land Use and Building Act). Obtaining a building permit for a large retail shop takes longer and is more difficult from the company's perspective, which according to interviewees can slow down investments. Furthermore, according to retail companies, there are differences between municipalities in the manner in which the building permit applications are processed and what is required for them.

An example: A grocery company has a new outlet concept under which the floor area of the sales premises (1,400 m²) is more or less the same as in the previous concept. However, in the new shops, the warehouse is larger and the staff and training facilities are better than under the old concept. The problem is that the gross floor area is 2,500 m². There are differences between municipalities: In some of them, obtaining a building permit for a large retail shop is extremely difficult, whereas in other municipalities it is easier. For many years, the company has budgeted more money that it has been able to use because the building permit matters are not making any progress.

In the view of speciality trade companies, the lack of good trading locations is the most serious obstacle to investments. On the other hand, the view was that in the Helsinki region, there are signs of overinvestments in the construction of shopping centres.

The companies were also of the view that the authorities responsible for land use planning play a major role in the encouragement of competition. They are responsible for deciding on the location of shops in different residential areas. In the companies' view, more flexible land use planning and building regulations would help to encourage investments in the retail sector.

Good operating practices

In the companies' view, there are also numerous strengths in the official procedures:

- Even though the interviewees said that they would like to see speedier processes, in other respects cooperation with the Pharmaceuticals Pricing Board has proceeded smoothly (pharmaceutical industry).
- Environmental authorities lay out strict conditions in their permit decisions but they are professionals and always endeavour to act in the right manner (mining).
- Even though the appeals process should be speeded up, one can trust the legal system and the services provided by the authorities (retail trade).

There is strong trust in the professionalism and fairness of the authorities

Permit process development projects under way

Streamlining of regulation is a key project in "Digitalisation, experiments and deregulation", one of the priority areas of Prime Minister Juha Sipilä's Government. Two of the four measures laid out in the key project have direct impact on the efforts to streamline permit and appeals processes, while one of the measures has indirect impact. The measure with indirect impact involves deregulation and reforming the appropriate regulations. Making permit and appeals processes less unbureaucratic and issuing a public service pledge on these processes as well as minimising the number of appeals by the authorities against the decisions made by other authorities are the measures with direct impact. The Government expects to present the final results and the necessary legislative amendments by December 2018.⁸

In June 2016, a report on the implementation of the one-stop shop principle in environmental matters was published in the publication series of the Finnish Government's analysis, assessment and research activities⁹. A model combining different alternatives of the one-stop shop principle was presented in the report as the solution for improving procedures. Based on the report, the Ministry of the Environment has started drafting an act that would streamline permit procedures in the ministry's sector. The reform would apply to environmental permits, permits issued under the Water Act, environmental impact assessment and building permits. A Government proposal on the matter is expected to be submitted to Parliament in spring 2018.

In October 2016, the Ministry of Economic Affairs and Employment submitted its proposal for improvements in the Mining Act for comments. The draft is based on the comments on the workability of the existing act received by the ministry at the start of the year. It is proposed in the draft that in a number of permit procedures, the mining authorities should be provided with more discretion while other official procedures should be streamlined.

On 24 November 2016, the Government submitted a proposal to Parliament on amending the Land Use and Building Act. Under the proposal, there will be several amendments to the act, which are aimed at simplifying the land use planning and building permit procedures. The aim is also to provide companies with better operating prerequisites. Under the Government proposal, the lower limit for the gross floor area of a larger retail shop would be increased from 2,000 to 4,000 m².

2.2 Companies expect predictable and long-term decision-making from central government

The different time spans of companies and central government sometimes leads to conflicts

A process that is deemed slow by a company, may be considered normal in central government. At the same time, the normal time horizon for political-administrative planning and action in central government may be considered a short-term and unpredictable approach by a company.

The problem is that in the permit administration and regulatory changes, companies would like the politicians and authorities to react more quickly and make quicker decisions, while at the same time they also expect politicians and the authorities to make long-term and predictable decisions.

The conflicts between companies and public administration can be alleviated through dialogue and interaction. When each party endeavours, intentionally and rationally, to put itself in the other party's position, it will be easier to have productive interaction. Recommendations for concrete approaches include the following:

- Companies should be more closely involved in the drafting of legislative amendments from the start of the process.
- The transitional periods for legislative amendments should be long enough so that companies are able to adjust their operations to the new situation.
- The often long payback period for business investments should be taken into account and decisions with short-term impacts on companies' operating prerequisites should be avoided.
- Central government should act in a consistent and fair manner when assessing a sector in public statements; the sector should not be judged on the basis of the failure of a single company.

One difference between investment decisions and ordinary business decisions is the long period of commitment and impact of the former. Investments play an important role in commercial activities and new large-scale investments in particular may have a crucial impact on the company's future. For this reason, the predictability of central government operations is an important factor in a company's operating environment.

Sector-specific issues highlighted in the interviews with business executives

Mining

According to mining companies, sudden changes in political will are one factor causing problems. For reasons beyond a company's control, the sector may become so sensitive politically that decision-makers are unwilling

The challenge in decision-making is to combine speed and predictability

to strengthen its operating prerequisites. The problems involving the Talvivaara mining company and their negative impacts on the entire sector were mentioned as an example. Mining companies have noted that the political atmosphere may put the authorities making the permit decisions under considerable additional pressure, which may further slow down permit processes.

“When the political will is not there, the authorities may also lack the will to make decisions and to cooperate with companies.”
– excerpt from an interview with a business executive

The 2015 energy taxation reform under which the mining industry lost the tax refund that it had received as an energy-intensive industry was mentioned as an example of an unexpected and unwelcome legislative change. However, the refund scheme will probably be reinstated and from 2017, the mining sector will again belong to the lower energy tax category laid out for energy-intensive industries.

Mining companies feel that there is a discrepancy between central government talk and action concerning the promotion of foreign investments in Finland. There is a great deal of talk of attracting foreign investments to Finland, of the need to attract investments to less developed regions and of the need for investments that create permanent jobs and that cannot be taken away from the country. In the opinion of the mining companies, the jobs that they provide meet the above criteria and the purpose of the foreign mining investments is to benefit Finland. Nevertheless, according to the interviewees, there is a reluctance to promote mining activities in Finland.

Pharmaceutical industry

Some of the pharmaceutical companies were of the opinion that political decisions are unpredictable and that the introduction of the reference price scheme in 2009 came as a surprise and was a step backwards. From the perspective of these companies, Finland decided to make use of the distinctive features of its patents legislation. Finland included patented products in the reference price scheme, which led to a situation where products that were still patent-protected at the time, could be replaced with generic products.

The Government introduced the reference price scheme in order to slow down the growth in medical reimbursement expenditure and to encourage the use of lower-price generic products. It was estimated that the scheme would generate total savings of about 85 million euros each year and that direct central government savings would account for about 26 million euros of this total (HE 100/2008).

Some of the companies felt that the international pharmaceutical industry may even view Finland as a country hostile towards innovation. The manner in which the reference price scheme was introduced, frequent cuts in wholesale prices paid as part of the medical reimbursement scheme and the view among companies that the authorities refuse to include pharmaceutical innovations in the reimbursement scheme were mentioned as reasons for this attitude.

Unpleasant decisions that come as a surprise to companies might weaken Finland's attractiveness as an investment location and its reputation as an innovative country

In some of the companies, the manner in which the change was introduced and other market-related problems led to cuts in operations and personnel. Decision-making powers were transferred from Finnish subsidiaries to the Nordic organisations and other parties. In the view of these companies, Finland's position as a recipient of investments made by global pharmaceutical companies weakened as a result.

Software industry

According to the software companies, a longer-term and more predictable approach by central government would be a positive signal to companies that they can invest in Finland and develop products here on a long-term basis.

The concrete problems listed by the interviewees included the fact that different authorities do not have clear policies concerning the requirements for payroll information systems. Furthermore, the transitional periods of some of the new legal provisions have been too short. Software companies must be able to make the necessary changes in the customer companies' software and information systems well in advance of the entry into force of the new provisions.

Retail trade

There were differing views among the retail companies on the deregulation of shopping hours. Most of the representatives of the groceries sector considered the deregulation an important step that will have a positive impact on the operating environment.

Some of the interviewees representing the speciality trade considered the deregulation of shopping hours detrimental, especially for small companies and shops outside large retail chains. In the view of one company, in speciality shops, where professional service is a competitiveness factor, any increases in sales will not cover the higher cost arising from the change. Even though deregulation was considered necessary, the interviewees also emphasised that deregulation or the relaxation of regulations should not be considered an end in itself.

Each piece of legislation is only good or bad in relation to its objectives and deregulation should not be considered an end in itself

2.3 When decisions are made, consideration should be given to individual companies and the sector as a whole

The impacts spreading through the business ecosystem or cluster should also be identified in the decisions

A simplified model on how the impacts affecting companies should be considered in central government decision-making is presented below. The model is based on the interviews with business executives.

Identify the current situation and assess the future

- Identify the current problem or the future challenge to which the central government should react by introducing measures or by taking decisions.
- Identify the business cluster, business ecosystem or other relevant group of companies on which the decision will have a direct impact.
- Identify the connections and dependencies between the companies and other organisations belonging to the group and the indirect impacts.
- Try to find a common vision as a trendsetter (based on national strengths) that can be shared by companies and central government.
- Remember that each company acts independently based its own needs and faces the consequences of its decisions in its own business operations.
- Try to identify, as early as possible, the opportunities and threats that are connected with the decision from the perspective of central government and the companies.

Decisions must be based on an up-to-date situational picture but future-oriented evaluation information is also needed

Sector-specific issues highlighted in the interviews with business executives

Mining

According to the mining companies, the absence of an overall central government vision and hesitation in mining matters have a negative impact on the operations of the mining cluster as a whole. Many of the large Finnish export companies develop and manufacture mining industry machinery and equipment. Higher education institutions are also involved in the development of the mining sector and they generate expertise that helps the sector and the cluster to grow. In the companies' view, research and innovation taking place in technical universities provide the mining industry and the cluster with substantial development potential.

"I noticed in Australia, that people working in mines there could not believe that many of the machines they use are from Finland."
– excerpt from an interview with a business executive

In the companies' view, when planning and deciding on changes impacting companies' operating prerequisites, central government should try to produce a better overview of the situation from the perspective of the sector or the cluster and individual companies.

In the companies' view, the authorities and politicians do not always seem to understand that investments are based on project-specific calculations and not on the overall size or profitability of the company. In global mining operations, the will of the parent company is the crucial factor and none of the operating locations is secure.

In the companies' view, when investments are encouraged, it is important that both the company and central government identify the business opportunities involved early enough. In that case, the potential benefits to the state arising from the investments strengthening the company's business can be created quickly. A slow launch of the investments may mean lost business opportunities and thus also lost tax revenue.

The figure below presents the views of a mining company (whose representatives were interviewed for the audit) of the "big picture" of the investment prerequisites.

Investments are based on project-specific calculations and not on the overall size or profitability of the company



Figure 2: Prerequisites for a mining company investment project

Pharmaceutical industry

According to the pharmaceutical companies, Finland currently has a good growth strategy for its health sector, which is supported by companies and which should be strengthened. However, the pharmaceutical companies are of the view that there is still room for improvement in the coherence of the innovation ecosystem formed by companies, universities and the authorities. Creating a joint vision and goal and the establishment of an efficient innovation ecosystem around it could also make Finland increasingly attractive for investments by foreign companies.

According to the companies, we need determination in our efforts to make Finland the number one country in the pharmaceutical sector. The prerequisites for this already exist. There is substantial top expertise required for pharmaceutical research in Finnish universities and the data registers collected by the authorities provide a good basis for successful pharmaceutical research.

In the companies' view, the problem in Finland is that the potential described above is not fully utilised. Universities, companies and the author-

Finland has a good health sector growth strategy but more cooperation is needed

ities mainly work in their own segments and there is not enough coordination of the work between different parties.

The companies have noted that in many other countries there are substantially more inputs into the cooperation between universities and companies.

Software industry

According to the software companies, the Finnish ICT sector is fragmented and it is not guided by joint visions or policies.

During Nokia's heyday, the Finnish ICT sector was focused on the expertise required in the communications technology and it became a world leader in this field. During those years, the entire ICT cluster was leading the way and taking the sector to the chosen direction. At the moment, there is no such situation and the Finnish ICT cluster lacks a clear vision of its own national strengths.

In the companies' view, the sector should be and should allowed be a trendsetter because central government actors have limited chances of dictating guidelines for companies in the sector and other actors in the cluster. The public administration should, however, provide more support so that Finland could develop areas where it can be strong. This could be done by, for example, developing systems for public administration.

In the companies' view, the doubled infrastructure, which helps to improve the reliability of data communications links, should be a consideration in the sector's infrastructure.

The submarine fibre optic cable laid between Helsinki and Germany in early 2016 means that Finland is no longer dependent on a single data communications connection. It was also an important central government investment that improves the companies' operating prerequisites and encourages them to make investments.

In the companies' view, when issues are discussed and decisions made, it is important to differentiate between the overall challenges in highly developed Western countries and the challenges specific to Finland. Globalisation has impacted the sector so that lower-cost countries will inevitably gain a larger market share in less sophisticated standard products.

The software industry should be and should allowed to be a trendsetter

The new submarine fibre optic cable between Finland and Germany was an important central government investment in the operating prerequisites of software companies

2.4 Central government should foster experimental culture, Finland's distinctive character and seize opportunities

Issues highlighted in the interviews with representatives of the pharmaceutical companies

According to the companies, the cultural and street scene in Finland should be more distinctive. An example of this is the annual restaurant day, which the interviewees considered a right type of experimental culture: New innovative things can be freely tested without any fear of sanctions.

“In Finland we need more dialogue and compromises than bans.”
- excerpt from an interview with a business executive

In the companies' view, Finland could be made into a model country for open data. The public sector could adopt an active hackathon culture and develop its services as part of the innovation ecosystem.

Hackathon is an event where a group of people meet for a specific period to process new solutions to challenges given to them. For example, experts in different fields meet to set up a team whose aim is to create new service innovations. All central government organisations could continuously search opportunities for flexible cooperation with a hackathon community and adopt the smartest solutions straight away.

A hackathon is not enough, as the good solutions must also be put into use without delay and, if necessary, improved. The Kutsuplus taxi service used in Helsinki was mentioned as an example. The service, which was also praised outside Finland, was terminated instead of being developed into an open source response to Uber in cooperation with a hackathon community. In the companies' view, the service failed because the user experience was not quite in accordance with today's requirements and not because there was insufficient demand for it. The entire start-up community could have been harnessed to develop it.

In the companies' view, Finland has high-quality patient data resources and using them for Big Data, development of artificial intelligence or clinical research would be an extremely attractive prospect. Making them available for business in an anonymised form has been under way for years but it is still not fully possible. For companies, opening data resources in stages is not as attractive as a combination of individual resources.

“When such opportunities arise, we should be quicker and more agile and have the will to make Finland number one in the world.”
- excerpt from an interview with a business executive

In the companies' view, companies should be more actively invited to take part in projects of this type from the outset so that they can bring insight to them. Companies also urge public administration to boldly seize opportunities when they arise.

In the companies' view, Finland could be made into a model country for open data

Companies also urge public administration to boldly seize opportunities



3 How should education, training and research be developed?

All companies whose representatives were interviewed for the audit emphasised the importance of high-quality education and training.

For the mining companies, the physical location of the training institutions is important and there should be vocational training opportunities for the sector in areas close to the mines.

The representatives of the pharmaceutical companies saw continuous investments in education and training and a policy supporting innovation as Finland's strengths. However, they also strongly emphasised the role of a high-quality research environment as a factor attracting pharmaceutical investments to Finland.

In the view of the software industry, Finland must have a world-class ICT training infrastructure, which will not become reality if such subjects as coding cannot be studied at pre-university levels. According to the companies, more courses in information technology should be offered at all educational levels.

Retail companies noted that in the training of workforce for the sector, Finland must prepare for the economic upturn coming after the current period of slow economic growth even though the downturn has provided a temporary solution to the workforce availability problem.

There was broad consensus of the importance of a high-quality education and training system

3.1 Mining: Training opportunities for the sector should be available in the areas close to the mines

According to mining industry companies, it is difficult to attract skilled workers to the northernmost parts of Finland. Northern Finland is not particularly attractive to Finns, let alone foreign mining experts. The interviewees emphasised that vocational training for the sector should be available in areas close to the mines. This would provide local residents with training opportunities in the mining sector.

3.2 Pharmaceutical industry: Finland should make use of its unique competitive advantages in the research field

Making use of Finland's competitive advantages in research and, consequently, in business operations was highlighted in the interviews with representatives of the pharmaceutical companies. The view was that Finnish universities have top-level expertise required in research and that Finland provides excellent prerequisites for pharmaceutical research based on Finnish registers.

For the pharmaceutical industry, Finland is not an attractive country in terms of medicine sales but in terms of product development

A summary of the proposals for strengthening Finland's competitive advantage presented by pharmaceutical companies:

- Making use of the comprehensive health data collected by Finland's health care services in register-based pharmaceutical research (real world research).
- Making use of Kela's registers.
- Establishing a nationwide biobank for Finland.
- More extensive cooperation between universities and university hospitals.
- Ensuring that research funding provides incentives for cooperation.
- Universities should focus on specific fields, such as cancer research, diabetes research or neurological research.
- More cooperation between ministries so that pharmaceutical research could be encouraged and the pharmaceutical industry strengthened in a way that benefits both parties.
- More effective commercialisation of innovations by involving commercial actors in the process.
- Expanding cooperation between public sector health care (university central hospitals) and pharmaceutical industry.

The pharmaceutical industry sees continuous investments in education and training and the policy supporting innovation as Finland's strengths

There should be more cooperation between different parties

Even though there is now better cooperation between companies and ministries, the interaction between ministries is too compartmentalised

In the companies' view, ministries do not always have adequate understanding of each other's views and the interaction and decision-making between ministries is too compartmentalised. There should be more cooperation between ministries (Ministry of Social Affairs and Health, Ministry of Economic Affairs and Employment and Ministry of Education and Culture) so that pharmaceutical research could be encouraged and pharmaceutical industry strengthened at the same time. On the other hand, the view was that there is now better cooperation between pharmaceutical companies and the Ministry of Economic Affairs and Employment and that cooperation with the Ministry of Social Affairs and Health is also on a strong basis.

Research potential makes Finland attractive to pharmaceutical companies

As pharmaceutical companies are competing at global level, the cost structure in individual countries is an essential factor when investment locations are considered. In the companies' view, Finland has a high level of expertise but the sector's costs are high, compared with many other countries. Expertise gaps between different countries have also narrowed, which means that Finland may lose some of its competitive advantage. However, there is substantial top expertise required for pharmaceutical research in Finnish universities.

Finland's attractiveness as an investment location is not based on cost or price levels or on sales growth. Finland is a small market area, which means that, unlike in many other countries, investments in Finland do not have any direct or significant impact on country-specific sales. The research potential is the factor making Finland attractive to pharmaceutical companies. In the global markets, achieving even a small market share means large sales volumes and, from the companies' perspective, there is a vast potential in the development of new pharmaceutical products. A research environment generating good results provides significant potential for attracting investments.

There is significant research potential in health information registers

According to all pharmaceutical companies whose representatives were interviewed for the audit, Finland has a number of factors supporting pharmaceutical research and investments in the production of pharmaceuticals that are almost unique in global scale. Finland has a relatively homogeneous population, which makes it possible to study the effects of pharmaceuticals on the genetic variation without weakening the reliability of the conclusions. Finland's health care services also maintain sizeable data registers into which health data of the population has been collected over many decades.

In the companies' view, the extensive data resources on people's health provide a substantial potential for pharmaceutical research in Finland because there is still a great deal of unused potential in the data resources. Register-based pharmaceutical research (real world research) is becoming increasingly important as it is cost-effective and it can help to show the effects of pharmaceuticals and treatments. In the companies' view, the registers cannot be adequately used for medical research at the moment. Especially Kela's registers should be made more extensively available for research purposes.

Finland has unique factors supporting pharmaceutical research and investments in the production of pharmaceuticals

There should be more cooperation between Finnish biobanks

In the companies' view, there are still problems in the cooperation between Finnish biobanks. Biobanks established in different cities are operating as separate actors. In the companies' view, Finland needs a joint biobank (Biobank of Finland); a similar establishment was set up in Denmark five years ago. If it becomes reality, cooperation between Finnish biobanks may become an important competitive advantage for pharmaceutical research in Finland as it would speed up pharmaceutical research. In the companies' view, the cost of developing new pharmaceuticals could even be halved, which would provide pharmaceutical companies with a huge incentive to invest in Finland.

Companies would like to see the establishment of the Biobank of Finland

There should be more cooperation between universities and between universities and companies

In the companies' view, universities and university hospitals do not yet have enough cooperation in pharmaceutical research, such as cancer research. They compete with each other for pharmaceutical research funding. The system of research funding should be overhauled so that it can provide incentives for cooperation.

In the companies' view, Finnish universities should also focus more strongly on specific areas. For example, one might think that the University of Helsinki is large and other Finnish universities are small. From the perspective of the global pharmaceutical industry, even the University of Helsinki is small and it should team up with other Finnish universities.

Finland should be a top player in specific research fields so that we can compete successfully for investments. In the companies' view, Finland could be even better in such fields as cancer research, diabetes research and neurological research if Finnish research actors were engaged in goal-oriented cooperation.

Even though the companies were satisfied with the smooth and un-bureaucratic cooperation with many Finnish hospitals, they felt that Finland is still losing opportunities as some of the public health care providers have a fairly rigid approach to cooperation with the pharmaceutical industry. As a small and agile country, Finland could serve as a pioneer but it seems that such countries as Sweden have a larger number of concrete cooperation projects between health care and pharmaceutical industry, in which the aim is to make treatments more cost-effective and successful.

Innovations developed in universities should be commercialised more effectively

In the companies' view, the problem is that Finnish actors do not have enough skills or capacity to convert high-quality pharmaceutical research into successful business. Innovations produced in universities and research institutes should be commercialised more effectively by involving commercial actors in the process. In the companies' view, tech transfer from Finnish universities to commercial players is in a small scale compared to our competitors.

“Instead of maximising the value of such factors as patents, we should maximise future business profits. When inventions are successfully commercialised, the public sector will receive the compensation in the form of tax revenue.”

– excerpt from an interview with a business executive

Development projects

Strengthening cooperation between higher education institutions and business life so that innovations can be brought to the market is one of the key projects of Prime Minister Juha Sipilä's Government. A total of 59 million euros has been allocated to Tekes and 30 million euros to the Academy of Finland for the years 2016-2018 for implementing this key project.

In early 2017, the Ministry of Economic Affairs and Employment, the University of Helsinki and the University of Tampere will launch the development programme SPARK Finland, in which the aim is to enhance the commercialisation abilities of researchers and research-based companies in the health sector and build internationally competitive, growing business in Finland. The aim in the programme is to speed up the growth and internationalisation of 10-15 research-oriented health sector companies.¹⁰

Cooperation between universities is needed because in global scale, even the University of Helsinki is small

3.3 Software industry: Compact education and training opportunities are needed

The sector will only remain strong if high-quality education and training is available

Software companies operate on a global scale and they weigh carefully where to invest and where to develop products. They also decide on a case-by-case basis, which operations can be run profitably in high-cost countries such as Finland. For example, basic coding can be easily transferred from Finland to other countries. Decisions on what could be relocated in the EU to Poland or the Czech Republic and what could be outsourced globally to India or China are based on detailed assessment.

In the view of the National Audit Office, the sector will only remain a strong player in Finland, if high-quality education and training opportunities are offered.

A summary of the educational development needs in Finland highlighted in the interviews with software industry representatives and how the improvements should be achieved:

- The quality and appeal of software education and training should be enhanced and children could already be introduced to simple software techniques in day care centres.
- There should be a shift from a funding model emphasising the number of degrees and qualifications to a model emphasising the content (labour market demands) and quality (competence) of degrees and qualifications.
- In software training, there should be more focus on applied content.
- Both students studying for their first degree or qualification and individuals that have been in working life for some time should have access to the latest technologies as part of their studies.
- Central government should not be a party to training schemes that are tailored to the needs of a single actor.
- On-the-job learning should be supplemented with up-to-date continuing training schemes for people that are already in working life.
- Short-cycle degrees and qualifications and compact precise training should be developed.

The emphasis should be on up-to-date and compact education and training

Companies weigh carefully, which operations can be run profitably in Finland, which is a high-cost country

Issues highlighted in the interviews with representatives of software companies

Quality of training must be improved at all levels

According to the software companies, Finland can only attract investments if we can offer more high-quality university training. Expanding ICT training is not enough as the quality and appeal of the training must also be improved.

In the companies' view, Finland must have a world-class ICT training infrastructure, which will not become reality if such subjects as coding cannot be studied at pre-university levels. There are countries where children are already practising simple software techniques in day care centres. Finland can only succeed in global competition if it goes through a training re-orientation in which the quality of information technology training is improved at all levels.

Children could already be introduced to simple software techniques in day care centres

There should be improvements to the universities' incentive and funding model

In the companies' view, one of the most important factors in the building of Finland's strengths is the education and training system and the incentive system incorporated into it. Under the current funding model, universities are rewarded for the number of degrees taken. Quality factors are not a consideration in this funding model and it does not encourage higher education institutions to develop the content of the degrees in accordance with the current labour market requirements or to develop competence, which would be one of the main strengths of Finland's ICT sector.

Finland must preserve its strengths

In the companies' view, it is essential to consider the strengths that Finland should preserve when improvements are discussed and introduced.

Interdependent, mutually supportive and high-quality education, training and competence, are Finland's strengths

"High-quality education and training, high-quality business and technology consultancy services, which produce a great deal of added value, in-depth software understanding, high-quality expertise in architecture, and new software technologies are the strengths that we have and that we should foster."

– excerpt from an interview with a business executive

Applied software training would provide opportunities for new innovations

According to the software companies, software training should be expanded and refocused. Over the past few years, the number and quality of software students has decreased, partly because the problems faced by Nokia have made the sector less attractive for students. In the companies' view, the contents of the training offered in the past were largely determined by Nokia's needs. The demand for the competence achieved through this training has decreased, which will remain a problem for some time.

According to the software companies, more applied training should be offered and it should be more cross-sectoral in nature. The training is too theoretical and there is too much focus on the technical aspects of programming. There is not enough teaching of basic functions. Applied training would provide opportunities for new innovations. Applied special training could be provided in cooperation with companies and education institutions. The banking sector, information security sector and payroll administration legislation and schemes are some of the areas where the applications could be used.

Students should have access to the latest technologies

According to the companies, both students studying for their first degree or qualification and individuals that are in working life should have access to the latest technologies as part of their studies. In the companies' view, the challenge is to provide life-long learning in a sector where employees may have to familiarise themselves with new fundamental technologies every five years. In software industry, the skills that you possess may become rapidly outdated. At the same time, there may be a shortage of specific new skills and a surplus of experts on methods and tools that are no longer at the cutting edge.

For example, substantial training inputs were made into the Symbian technology before it was realised that it was no longer commercially viable. The demand for end products and employees collapsed. The result was an oversupply of individuals that had effectively learned a technology used by a single company.

Central government should not be a party to training schemes that are tailored to the needs of a single actor

According to the companies, central government should not be a party to training schemes that are tailored to the needs of a single actor. Companies and universities could have joint programmes in which no single actor could specify the technologies. The parties could jointly determine that certain network solutions are the trend of the future, not only for a single company but for a large number of companies. The individuals taking part in this training would have the competence to work in more than one company.

Publicly funded training must provide the competence for work in a broad range of different companies

"People often ask why we don't train those people that we have to lay off when at the same time we are seeking new employees. The gap is really too wide. During the time when we need new people and skills, the existing employees don't have any time or ability to train themselves."
- excerpt from an interview with a business executive

According to the companies, the working environment in the technology industry is changing and some of the people want to have their own business or work as experts for more than one company. They want to be their own masters, train themselves and work with the latest tools. A corporative approach is not attractive to these people. They do not want to join a company for the next five years and the promise that the company will provide training as necessary is not enough for them.

Even though the training provides the basic skills, much of the competence is acquired at work

According to the software companies, even though the training provides the basic skills, much of the competence is acquired at work. For example, while working for a company, a software engineer has to learn a new technology and the new way of working required by that technology. Such peo-

ple need continuing training allowing them to keep up to date with the latest technologies and that is provided as continuous short-cycle precise training.

According to the software companies, Finland needs a model for the future in which traditional training exists side by side with more compact training mechanisms. We need short-cycle degrees and qualifications and more compact ways of training.

Compact ways of training and short-cycle degrees and qualifications are needed in the software sector

Developing funding models

New funding models for Finnish universities and universities of applied sciences were introduced in spring 2016 and the aim of the reform was to strengthen the quality of the activities. A working group appointed by the Ministry of Education and Culture submitted a proposal in March 2017 under which the funding criteria concerning employment in the funding models for universities and universities of applied sciences would be replaced by new criteria measuring the quality of employment. The aim with the introduction of the quality of employment criterion is to increase the relevance of education for the working life and thus promote the employment of higher education graduates.

3.4 Retail trade: In the provision of training, Finland should prepare for the upturn following the current period of slow economic growth

According to the retail companies, in the training of retail sector employees, Finland should prepare for the upturn following the current period of slow economic growth. Even though the economic downturn has temporarily solved the workforce availability problem, companies must nevertheless work continuously to make themselves attractive as employers.

A fairly large number of immigrants has found work in the retail sector. Many of them cannot work in customer service duties during the early stages of their careers because they do not speak enough Finnish but they have been placed in such jobs as warehouse tasks.

According to the retail companies, the companies themselves should and must train their own personnel. However, as the jobs in the retail sector are changing and becoming more complex, vocational training provided by the public sector is also becoming increasingly important for ensuring the supply of competent workforce.

Training must be provided by the public sector and the retail sector itself



4 How could funding and other resources provided by central government be developed?

According to the audit findings, most companies had a more negative attitude towards direct business subsidies and considered improvements in and maintaining of overall operating prerequisites a better way of encouraging investments. However, companies in different sectors have different priorities concerning how the operating prerequisites should be improved.

For the mining sector, infrastructure improvements are a priority area.

The pharmaceutical companies would like the public administration to provide more extensive authority services and tighter focusing of central government resources as well as to engage in a more active debate with companies when such issues as legislative changes are considered.

For the software industry, in a small country like Finland the strategic objectives of the companies and central government should be sufficiently identical. The chances of individual sectors and companies to become world leaders with the help of central government funding should be considered as a criterion when central government funds are used to encourage business investments.

In the retail companies' view, when exports are promoted, work-intensive retail companies operating in the domestic market should not be ignored. During a period of slow economic growth, when exports are stagnating, the domestic market (private consumption) may support the national economy and contribute to economic recovery.

4.1 Mining: Central government inputs in logistics are important

Issues highlighted in the interviews with representatives of mining companies

According to the mining companies, logistics costs are an extremely important factor in mining operations as a whole and in Finland in particular. This is because our country has a logistically unfavourable location.

In the logistics thinking of a mining company, all transports at the mining site are the responsibility of the company. The construction of the transport infrastructure outside and between individual sites should be a central government responsibility because the railway lines and roads can and should also be used for other transports.

The mining companies are of the view that when central government plans its own infrastructure investments and the manner in which their costs are shared between central government and companies, the costs arising from investments in the improvement of the existing infrastructure should be separated from the costs arising from new investments. Mining companies' expectations concerning infrastructure improvements are often connected with the development and upgrading of the existing infrastructure, such as railway electrification and the condition of roads and bridges.

In the mining companies' view, corporate social responsibility is also becoming increasingly important in logistics solutions.

"Changing over from rail to road transports may be problematic to our company in terms of social acceptability."
- excerpt from an interview with a business executive

4.2 Pharmaceutical industry: Central government should listen to companies, focus its resources and provide authority services

According to the pharmaceutical companies, central government should engage in a more active discussion with companies and provide more extensive authority services. In authority services, a government minister, the head of a diplomatic mission or another senior government official takes part in an event arranged by a company. The purpose is to "open doors", especially in countries and events where the presence of a government representative is required to provide the company with credibility and visibility.

The companies also feel that central government should focus its resources more carefully.

Summary of the proposals presented by the pharmaceutical companies for better use and allocation of central government resources:

- Finland must be prepared to focus its resources and to identify its own strengths. A small country with limited resources cannot develop and produce everything.
- State-funded projects must involve international actors and companies. This helps to ensure that we do not fund activities that only mean the nationalisation of existing international expertise but that we provide funding that helps to generate new creative activities at international level.
- Central government should support the creation of private start-up clusters with critical mass and not create projects competing with them.
- Authority services are needed for promoting exports and for attracting foreign investments to Finland. Ministers should take part in more company visits and bilateral meetings focusing on specific issues are also needed.
- The authorities should ask companies what they could do to enhance the business operating environment.
- When legislative changes relevant to companies are introduced, the companies should be consulted during the early stages of the law-drafting process, and not when the Government proposal is ready.

There should be discussions with companies when legislative changes are introduced and central government resources allocated

Issues highlighted in the interviews with representatives of the pharmaceutical companies

A small country must be prepared to focus its resources on its own strengths

According to the pharmaceutical companies, the innovation ecosystem of Finland's pharmaceutical sector should stand out from similar systems in other countries. Finland is a small market and cannot succeed in international competition by developing the same strengths as its competitors. Instead, Finland must be prepared to focus its resources. Otherwise, there is a danger that the projects competing for the same resources will have little impact.

According to the pharmaceutical companies, Finland needs start-up clusters with critical mass. There is still fairly little venture capital available in Finland and many start-up innovations fail to grow beyond their initial stages because there is not enough ability or willingness to take risks. Central government should support existing private clusters so that they can reach critical mass instead of creating public-sector projects competing with them.

According to the pharmaceutical companies, there are many start-up clusters in the Helsinki region that have been established by private actors. The success of these clusters is critical to the small Finnish start-up ecosystem, which is still at its initial stages. Pharmaceutical companies have noticed that occasionally there are public sector projects that needlessly compete with the private sector.

The aim of the projects receiving funding must be to create new international concepts and products

According to the pharmaceutical companies, research and development incentives play an important role in Finland's investment environment. For example, the funding grants provided by Tekes and the skills subsidy provided by VTT have played a major role in narrowing the cost gaps between Finland and other countries and cuts in funding by Tekes and VTT has caused concern.

According to the pharmaceutical companies, it is important that more state-funded projects could attract international companies and that these actors would also be accepted as partners. This would ensure that we do not fund activities that only mean the nationalisation of existing international products or expertise or their introduction to Finland but that we provide funding that helps to create new internationally attractive concepts and products.

In central government authority services, demand exceeds the supply

According to the pharmaceutical companies, authority services are needed for promoting exports and for attracting foreign investments to Finland.

Biobanks and digital health care systems are two of the areas where Finland could stand out from its competitors

"When a company is among the largest in the world, its top management expects that the top government leadership of a small country like Finland is available when the dialogue is opened."
- excerpt from an interview with a business executive

The demand for central government authority services exceeds their supply

Many large international companies are of the view that if Finland wants build partnerships, it must be prepared to support this through authority services. Such high-level support helps substance actors to get forward in their cooperation. According to the pharmaceutical companies, there has been progress in this field in Finland but there is still work to do.

According to the pharmaceutical companies, attracting foreign investments and investments of subsidiaries of foreign companies in Finland would require more active participation by Finnish government ministers in company visits made to other countries. There is a need for bilateral meetings between key figures. Instead of or in addition to large delegations, there should be events involving key figures so that demand and supply could meet and win-win situations could be created: For example, ministerial-level support could be arranged so that Finnish expertise and the needs of a foreign company could be made to meet.

Opening and maintaining a dialogue

Pharmaceutical companies have noticed that the discussions between Finnish political decision-makers and business actors are mainly conducted at the highest level in central federations where foreign companies are rarely represented. In such situations, the international business community does not have any voice in the building of Finland's growth policy.

According to the pharmaceutical companies, central and local government should be more active and ask directly what they could do for companies so that the prerequisites for business operations could be improved. The authorities should take a more active approach to the understanding of companies' needs and a continuous dialogue. At the same time, the pharmaceutical companies were of the view that when the dialogue is under way, Finnish authorities are open to cooperation and the interaction with them is unbureaucratic.

As soon as the dialogue is under way, interaction is unbureaucratic and cooperation open

4.3 Software industry: Central government resources should help Finnish companies to become global players

Issues highlighted in the interviews with representatives of software companies

According to the software companies, the training system, providers of funding and other public sector inputs in the ICT sector should help to provide the sector with a clearer direction and support such expertise in the sector that helps the Finnish software industry to gain a foothold in the international markets and to become a global player.

According to the software companies, it is important that in a small country like Finland the strategic objectives of the companies and central government are sufficiently identical.

“Finland should work to ensure that this country possesses competence in the production of services with high added value and that we don't waste our resources on protecting jobs that would otherwise be somewhere else.”

- excerpt from an interview with a business executive

According to the pharmaceutical companies, even though central government must be a partner in creating good operating prerequisites for all companies, central government should not waste its resources on artificially supporting sectors or companies that are no longer commercially viable.

“In Denmark, retraining works and it is extensively supported. This is important because there are always sectors that will not survive.”

- excerpt from an interview with a Danish government official

According to the software companies, the chances of individual sectors and companies to become world leaders with the help of central government funding should be considered as a criterion when central government funds are used to encourage business investments.

4.4 Retail trade: Domestic market companies should be considered in the focusing of central government resources

Issues highlighted in the interviews with representatives of the retail sector

According to the retail companies, promoting exports is important and higher exports and economic growth are also welcome developments from the perspective of the retail sector, which operates in the domestic market. However, when exports are promoted, companies operating in the domestic market should not be ignored. During a period of slow economic growth, when exports are stagnating, the domestic market may support the national economy and help the economy to get to the growth path. The retail companies are of the view that there is also potential for internationalisation of companies in the retail sector and such items as Finnish food products have export potential. Creating quality certificates for Finnish food products could be of help in these efforts.

According to the retail companies, the growing role of the service sector in the Finnish economy also underlines the need to give more consideration to services and their operating prerequisites in the national business policy.

It became clear in the interviews with the business executives that retail companies are significantly less willing to seek central government subsidies and funding for their development projects than the ICT sector for example. However, Tekes has also provided funding for retail companies and in particular it has supported the development of retail service concepts, service design and sustainable development in the retail sector. The lack of workable and competitive service concepts has been seen as the weakness of Finnish retail companies in their efforts to expand internationally.

Quality certificates could help Finnish food products to become export items

Seeking central government subsidies for retail sector development projects is fairly rare



5 How should the procurement and tax legislation be developed?

It became clear in many of the interviews that in the companies' view, many other countries defend the interests of their business sector in the EU single market and the global market, whereas Finland does not. Even though Finland could consider the business-promoting perspective of the companies located or planning to locate in Finland, this opportunity is not used.

According to the companies, central government should, in the national implementation of EU directives, pay more attention to the investment and operating prerequisites of the Finnish business sector and work to reduce the companies' administrative burden arising from the participation in public contracts.

According to the software companies, improving the procurement expertise of central government actors in ICT contracts would be in the interest of both the supplier and the customer. Both the software and pharmaceutical companies noted with concern that Finnish actors are too often forced to go to other countries to pilot their concepts because Finnish central government actors are unwilling or unable to act as pilot customers or do not have the necessary expertise.

Many of the representatives of the sectors interviewed for the audit expressed the view that the level of corporate taxation in Finland is reasonable and competitive. Other areas of tax legislation were only discussed in detail in the interviews with the representatives of retail companies.

Retail companies emphasised that the purchasing power of Finnish consumers is a central factor for the retail sector and its investments and that increases in value added taxation have a negative impact on purchasing power. Even though it was stated that tax increases are always a bad thing for retail business, predictability of taxation was considered the essential factor.

Procurement and tax legislation were not discussed in detail in the interviews with the representatives of mining companies.

According to the companies, central government does not adequately defend the interests of Finnish companies in the EU single market and in the global market

Developing public sector procurement expertise is in the interest of the supplier and the customer

5.1 Software industry: Procurement competence in public administration should be improved

"Central government procurement expertise has become better but there is still room for improvement."
- excerpt from an interview with a business executive

According to the companies, more use should be made of the negotiated procedure in public contracts - especially in extensive and complicated ICT purchases where it is difficult to specify the desired end product.

More use should be made of the negotiated procedure in extensive and complicated ICT purchases

Even though the negotiated procedure requires substantial work inputs, the companies are of the view that in such projects it will usually produce a better commercial end result from the perspective of the customer and the supplier. This would help to avoid a situation where the customer does not quite know what to buy and the supplier does not quite know what to sell. According to the companies, developing public sector procurement expertise is in the interest of the supplier and the customer. According to the software companies, a situation where the customer does not know what to buy is not a good thing for the seller from the perspective of a longer-term customer relationship.

Finnish companies are of the view that in defence and security-related contracts, it is difficult for Finnish companies to access the markets of other EU countries because they protect their own defence industries. At the same time, however, it is easy for companies operating in other EU countries to access the Finnish market because Finland complies with all EU provisions on non-discriminatory treatment of defence suppliers.

According to the software companies, it is also important for Finland to influence the drafting of procurement legislation at EU level so that the administrative burden arising from the participation in public contracts can be reduced.

5.2 Pharmaceutical industry: Public administration should act as the pilot customer

According to the pharmaceutical companies, public administration should act as the pilot customer for innovations more often. Central government could provide a boost to innovations by using the public procurement appropriations for purchasing pioneering products and for developing them in cooperation with companies.

In the companies' view, Finnish actors are too often forced to go to other countries to pilot their concepts because Finnish central government actors are unwilling or unable to act as a pilot customers or do not have the necessary expertise. In such cases, carrying out the piloting in other countries also means that the potential jobs go elsewhere. In piloting, the workability of a product or service is tested in cooperation with the customer. Pilots are an important reference for start-ups when they seek funding from international investors for commercialising their products. Piloting and testlab operations, functioning as the development platform for innovative products and services, could be the strength of the Finnish public sector. Commercial successes of the start-ups would generate tax revenue and jobs.

There have been few innovative public contracts in central government

Most of the innovative public contracts have been made by municipalities

Innovative public contracts and cooperation between public and private actors as part of them are also seen as one way of reforming the public sector. The aim is to ensure that public sector demand oriented towards innovative procurement could also benefit companies, which would be provided with op-

portunities to develop and commercialise new solutions.¹¹ According to the audit “Innovation strategy in public contracts” carried out by the National Audit Office, there has only been a limited number of such contracts so far. Most of the innovative public contracts have been made by municipalities. In central government, innovative contracts have mainly involved projects.¹²

5.3 Retail trade: Consideration should be given to the impact of tax competition and VAT

According to the retail companies, the high level of consumers’ purchasing power is a major factor for the retail sector and its investments. In the companies’ view, the impacts of VAT increases on purchasing power are negative and the dynamic impact arising from the purchasing power is not adequately considered when decisions on VAT levels are made.

According to the companies, in addition to having an impact on purchasing power, the value added tax also has a major impact on international competition between companies. Goods move freely in the EU single market and taxes are also a major competitive instrument in the Union. In the retail sector, online commerce has made competition global (especially in non-food sales), which means that value added taxation has become an increasingly important factor in price competition between companies. For example, no value added tax needs to be paid for shipments of goods valued under 22 euros that are purchased from outside the EU value tax area, which in the companies’ view provides an unfair competitive advantage.

According to the retail companies, Finland should become less naive in the national implementation of the public procurement and other directives and defend more strongly the interests of its business sector in the single market and in global trade.

Level of corporate taxation in Finland is reasonable and competitive

“In Finland, directives are implemented in accordance with the strictest approach and on top that there is also an additional obstacle as a national extra.”

– excerpt from an interview with a business executive

According to the business executives interviewed for the audit, Finnish companies are in a weaker competitive position in the EU single market because the directives are more strictly enforced in Finland than in other countries. Even though this view is not supported by comparative research, in the projects aimed at improving the quality of regulation, a small number of cases have been identified in which directives have been implemented in Finland in a manner that negatively affects business operations¹³.



6 Strengths, weaknesses, opportunities and threats in the individual sectors

The SWOT analyses have been produced on the basis of the interviews with business executives and literature.

6.1 Mining



Figure 3: Strengths, weaknesses, opportunities and threats in the mining sector

6.2 Pharmaceutical industry



Figure 4: Strengths, weaknesses, opportunities and threats in the pharmaceutical industry

6.3 Software industry



Figure 5: Strengths, weaknesses, opportunities and threats in the software industry

6.4 Retail trade



Figure 6: Strengths, weaknesses, opportunities and threats in the retail trade

This appendix describes how the findings presented in the audit were produced and what are the limitations concerning the findings.

Audit objective and use of the audit findings

The objective of the audit was to produce information and development proposals for central government on how it could encourage business investments.

Audited entity

Tangible and intangible investments made inside Finland's national boundaries. Public sector investments were outside the scope of the audit.

Comments on the draft audit report were requested from the following ministries: Ministry of Education and Culture, Ministry of Economic Affairs and Employment, Prime Minister's Office and the Ministry of Finance. The Ministry of Education and Culture submitted comments on the report and the feedback contained in its comments has been considered in the preparation of the final audit report (Chapters 3.2 and 3.3). The comment and the abstract based on it can be viewed on the website of the National Audit Office.

Audit questions, criteria, material and methods

The audit provides answers to the following questions:

1. Which are the strengths in the investment environment that companies think should be preserved?
2. Which are the factors that prevent companies from making investments?
3. How could central government eliminate or alleviate these obstacles?
4. Are there any other ways (new or existing) for central government to encourage the growth of companies in the sectors and their investments?

In the audit, the issue is examined from a development-oriented and future-oriented perspective. Thus, the main aim of the audit was not to examine the performance of individual authorities or the success of individual policy measures but to determine how central government could more effectively encourage business investments. A similar development-oriented perspective is gaining ground in the audit of central government finances, in addition to the traditional attestation engagement¹⁴.

Evaluations of the sectors of the companies' operating environments, surveys of their investments, and international competitiveness indices were used as written material in the audit¹⁵. For the audit, the National Audit Office also commissioned a survey by the consulting firm Ramboll in which the following factors are evaluated: role of the investments made by the companies in the national economy, economic growth in Finland, Sweden, Denmark and the Netherlands, different sectors of the investment environment in the reference countries and the process of attracting foreign investments¹⁶.

Table 1: Interviews for the audit were made in four countries (by background group)

	Finland	Sweden	Denmark	Netherlands	Total
Authority / public organisation	10	7	5	3	25
Company	15	-	1	-	16
Business organisation	4	2	-	-	6
Other expert	4	-	-	2	6
Total	33	9	6	5	53

The companies whose representatives were interviewed for the audit were from the following four sectors: mining, pharmaceutical industry, software industry and retail trade. The companies were as follows: Aditro Oy, Bayer Oy, FQM Kevitsa Mining Oy, GE Healthcare Finland Oy, Insta Defsec Oy, Kesko Oyj, Lidl Suomi Ky, MSD Finland Oy, Novartis Finland Oy, Orion Oyj, Oy Samlink Ab, Santen Oy, Tieto Oyj, Tokmanni Oy, Veljekset Halonen Oy and Yara Suomi Oy.

The interviews conducted in Sweden, Denmark and the Netherlands were extensively used in the audit “Encouraging business investments: Overall assessment” (audit report 3/2017) published simultaneously with this report.

Results of two workshops were also used in the audit. The workshops were held in April and September 2016. A total of about 50 experts took part in the workshops and they included both business executives and government officials. The authors presented their preliminary conclusions at the workshops and collected views of the participants. The workshops also produced new ideas and perspectives.

Knowledge formation in the audit has been mostly material-based, which means that the material has determined the content of the audit. The following methods were used: The notes taken during the interviews were carefully read through several times, interpretations were made on the basis of the interviewees’ answers, links were sought between the statements, and observations were grouped under different headings. Consideration was given to matters that were frequently repeated but at the same time, individual observations may have been considered important in accordance with the qualitative audit approach. Source criticism was applied in the interview analysis, which means that the impacts of the interviewees’ aims and interests on their answers were assessed.

The following parties were consulted in audit design issues during the planning of the audit: Ministry of Economic Affairs and Employment, Prime Minister’s Office and the Ministry of Finance.

Audit process

The audit was carried out between 29 October 2015 and 3 April 2017. The audit interviews were conducted between 5 March 2015 and 10 November 2016.

Auditors

The audit was carried out by Principal Performance Auditor Vesa Koivunen and Principal Performance Auditor Auri Pakarinen. The audit was directed by Director for Performance Audit Leena Juvonen. Esa Tammelin, Deputy Auditor General, was responsible for the quality assurance of the audit report.

- 1 2016 state budget (does not include net borrowing).
- 2 Investointeja Suomeen - Ehdotus strategiaksi ja toimintaohjelmaksi Suomen houkuttelevuuden lisäämiseksi yritysten investointikohteena [Investments in Finland - proposal for an investment strategy and action plan for making Finland more attractive for business investments]. A report by Jorma Eloranta for the Ministry of Economic Affairs and Employment (TEM 9/2012).
- 3 Statistics Finland.
- 4 Yhden luukun periaatteen toteuttaminen ympäristöasioissa. [The implementation of the one-stop shop principle in environmental matters. Publications of the Government's analysis, assessment and research activities] 29/2016. Prime Minister's Office 22 June 2016. Authors: Antti Belinskij, Matias Warsta, Ari Ekroos, Niko Soininen, Tapio Määttä, Ismo Pölönen, Hilikka Keinonen and Kimmo Malin.
- 5 Yhden luukun periaatteen toteuttaminen ympäristöasioissa. [The implementation of the one-stop shop principle in environmental matters. Publications of the Government's analysis, assessment and research activities] 29/2016. Prime Minister's Office 22 June 2016. Authors: Antti Belinskij, Matias Warsta, Ari Ekroos, Niko Soininen, Tapio Määttä, Ismo Pölönen, Hilikka Keinonen and Kimmo Malin.
- 6 Ympäristöluvat ja lainsäädännön uudistaminen [Environmental permits and reforming the legislation] Ministry of the Environment 7 March 2016.
- 7 Ympäristöluvat ja lainsäädännön uudistaminen [Environmental permits and reforming the legislation] Ministry of the Environment 7 March 2016.
- 8 Finnish Government website: <http://valtioneuvosto.fi/en/implementation-of-the-government-programme>
- 9 Yhden luukun periaatteen toteuttaminen ympäristöasioissa. [The implementation of the one-stop shop principle in environmental matters. Publications of the Government's analysis, assessment and research activities] 29/2016. Prime Minister's Office 22 June 2016. Authors: Antti Belinskij, Matias Warsta, Ari Ekroos, Niko Soininen, Tapio Määttä, Ismo Pölönen, Hilikka Keinonen and Kimmo Malin.
- 10 Newsletter of the Ministry of Economic Affairs and Employment 2 February 2017
- 11 Innovaatiostrategian toteuttaminen julkisissa hankinnoissa [Innovation strategy in public contracts] Draft audit report of the National Audit Office.
- 12 Innovaatiostrategian toteuttaminen julkisissa hankinnoissa [Innovation strategy in public contracts] Draft audit report of the National Audit Office.
- 13 Prime Minister's Office 2015: EU-sääntelyn toimivuuden kartoitus - Havaintoja ongelmista kansallisella tasolla [Survey of the functioning of EU regulation - observations of problems at national level] Memorandum.
- 14 OECD 2016: Supreme Audit Institutions and Good Governance – Oversight, Insight and Foresight.
- 15 See especially, World Economic Forum: Global Competitiveness Report and International Institute for Management Development: World Competitiveness Yearbook.
- 16 Ramboll 2016: Selvitys yritysten investointiympäristöstä ja investointien edistämisestä. [Report on companies' investment environment and encouraging investments]

Photos

pages 12, 16, 32, 42, 48 and 52

iStock

Suomi
Finland
100

NATIONAL AUDIT OFFICE OF FINLAND
ANTINKATU 1, P.O.BOX 1119, FI-00101 HELSINKI
TEL. +358 9 4321, WWW.VTV.FI/EN