Nordic Welfare Indicators with timely data

The not too technical halfway report for 2022

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The following list contains the proposed plan for the rest of 2022:

1 The, so called, Matrix will not be developed for short period data

Further explanation: In the plan for our project, it was assumed that the Matrix should be further developed to handle short period data. During the project it has become clear that the challenges of data delivery are to be solved through other mechanisms then the Matrix.

2 The setup of a PX Web solution with API for delivery of uniquely created data

Further explanation: The cooperation is already using the PX system which is the case for all the Nordic statistical institutions. The solution is about finding channels for the data that are created for the monitoring system.

3 Implementation of the NOVI-2016 indicators

Further explanation: The indicators proposed in the NOVI report from 2016 have not been implemented or come to use. Even though we are aiming at using timely data, the use of the proposed yearly data is of value for the monitoring system. Implementation in this case means setting up data delivery, using API: s, and a publishing environment.

4 The capture of relevant timely data (as they are) from national homepages

Further explanation: The stocktaking made clear that there is a substantial amount of timely data that can be collected directly from national homepages. Even if these are not fully comparable, they can be used in a monitoring system at least as change indicators.

5 The capture of, at least, monthly earnings as aggregates from as many member countries as possible

Further explanation: Earnings from labor is a central variable that is probable to change in times of crisis. The majority of the member countries register monthly earnings through their tax authorities. The data is also used by the national statistical institutions for production of statistics.

6 The setup of an embryonic monitoring system with content from 3, 4 and 5

Further explanation: A monitoring system is more than data, tables of indicators or even graphics. A monitoring system is a milieu that leads the user through what can be analyzed and can be taken out for policy deliberations. The embryo for such a system is to be formed and implemented.

7 Cost-benefit analysis for 2023 and forwards

Further explanation: The costs and benefits of a more developed monitoring system will be done for following years since it has no meaning to do such an analysis only for the year 2022. In a coming section, Financing the project 2022, is included.

Content

1 Summary

I have been given the consultancy to explore the possible continuation of the NOVI (Nordic Welfare Indicator) project started nearly a decade ago. The present continuation is about finding out if and how to incorporate timlely, that is short-period data short after the measurement period, into a monitoring system for the Nordic countries.

The general text of this report is mine up to the point of the actual proposals for the rest of 2022. There is consensus within the task force, including myself, on the proposals for the rest of 2022.

After some deliberation it was decided that the work this year should be divided into two parts. The first half of the year has been devoted to clarifying what can be achieved. The second half of the year, and probably thereafter, is devoted to do the (technical) actual work that is the creating of an actual monitoring system. The goal of the first half is to present a report to NOMESCO/NOSOSCO for deliberations and decisions guiding the second half of the NOVI 2 project during 2022.

This project is a continuation of an Icelandic project and a project within the NOSOSCO resulting in a proposal to establish Nordic Welfare Indicators. The proposal from the NOSOSCO project was based on yearly data. The core of the continuation is about the establishing of shorter period data.

The report includes a discussion of the rational to create a Nordic system for monitoring the development of welfare, acknowledging the fact that there are alternative international possibilities and, of course, national alternatives. The report concludes that there are good reasons to build on a Nordic level.

The formulation of visions has been a starting point of this report. Formulating visions and later comparing them to what is at hand in different meanings, is a possible guide for deliberations of what can be realized in terms of monitoring welfare in the shorter and in the long run. It is fair to say that the more far-reaching visions are not to be reached in the near future. There is still need for basic Nordic work to be done creating the actual data aiding the monitoring.

The writing of this report is grounded in several methods. The formation of a task force of experts in the field for the aid of the project is essential. The digital meetings that have been held within the task force has been of core value for the work. Early in the project a stock taking was done in order to clarify if it would be possible to directly utilize data from national websites for at Nordic monitoring system. It stands clear though that, despite that data is plentiful, it is not organized in a way that makes it easily usable. There has been a number of one-to-one meetings with the members of the task force. During the spring of 2022 a Questionnaire was formulated and put to the members of the task force. The questionnaire covered several aspects of the work and answers are used for the writing of the report. The answers in total are in an aggregates form reported in one appendix. During spring and summer of 2022, a testbench for data delivery was established with the aid of Statistics Finland.

Policy making can, and maybe should, be based on data. In order to know which data should form the basis it is also of importance have some sort of model of the reality that is described. The choice of models are guides to which data to collect.

The indicators produced and published for many years now within NOMESCO/NOSOSCO are, in a sense, empty from explicit theory. The indicators on transfers presented for example in the NOSOSCO statistics are measures showing numbers and values for specific transfers. They do not show the systemic interplay between transfers. NOSOSCO in a way shows that interplay when tabulating the life situations. The life situations are not built on real statistics though. These are built on hypothetical data (typetilfaelde, typfall). These are of high value for the understanding of the systems but do not reveal the statistical representation.

If we from a policy making viewpoint decide that disposable incomes are of importance, we should strive for building models defining disposable income and use data that can further be used for the aggregation of disposable income.

In the report I argue for moving to an URL based delivery of data with APIs for at least the data involved in the welfare monitoring system we are concerned with here. I have in mind the so called PxWeb solution, and versions of it. Knowing well that it is not within this commission I choose to state that the cooperation should consider evaluating the possibilities to do that move for all, or at least most, data that are handled within the cooperation.

As can be expected there is a call for a cost-benefit-analysis of the proposals that comes out of the project. Before presenting the proposals for further work we try to create a frame for such an analysis. That frame has several dimensions. One important dimension is that a substantial amount of the work done in the Cooperation is conducted under “the gentleman’s agreement” that the members are to direct work towards the goals of the Cooperation. Another dimension is how to evaluate benefits. One benefit would be lowered costs and are probably not that hard to calculate. It is much harder, though, to quantify benefits that stems from the actual use of the monitoring system for policy purposes or other purposes.

The report ends with proposals for further work. The proposals are divided into three steps in time. The first step is for the rest of the year 2022 and in line with the timeline for my commission. The two steps thereafter are proposals I do to point what I see needs to be done to establish a complete monitoring system.

The first step for the rest of 2022a smaller step. It builds on the knowledge gathered during the writing and the results of work done within the scope of this report:

1 The, so called, Matrix will not be developed for short period data

2 The setup of a PX Web solution with API for delivery of uniquely created data

3 Implementation of the NOVI-2016 indicators

4 The capture of relevant timely data (as they are) from national homepages

5 The capture of, at least, monthly earnings as aggregates from as many member countries as possible

6 The setup of an embryonic monitoring system with content from 3,4 and 5

7 Cost-benefit analysis.

The different points in the plan are explained in more detail in the main text.

The second step involves during 2023 getting in place a richer system with the fundament in the present possible data base structure:

1 Data on transfers to make possible the creation of gross disposable income are to be included

2 The inclusion of data on Subject Wellbeing (SWB) is to be considered

3 The inclusion of health indicators

4 Repeated cost benefit analysis.

The different points in the plan are explained in more detail in the main text.

The third step very much builds on the idea that during the years 2024 and onwards, indicators are to be produced with micro databases as the fundament:

1 Use of developed hypothetical households for forecasting

2 The creation of micro databases for the variables that can give the sum of gross disposable income are to be built

3 The use and development of microsimulation models (MSM).

The different points in the plan is explained in more detail in the main text.

Costs and financing of the project as a whole are discussed and calculated.

Costs and financing for the whole project, that is beyond 2022 is also calculated.

For the different time periods 2021-2022, 2023 and 2024 the total time specific costs are roughly 530 000, 480 000 and 680 000 DKR. The costs are split between costs as a result of the gentleman's agreement and pecuniary costs.

2 Background and introduction

The Nordic cooperation on social statistics was established just a year after the end of the second world war. The Nordic social ministers met in Copenhagen 1945 and decided on a joint development of social statistics to support the post war efforts to build welfare in the Nordic countries. Today the visible heritage of the Copenhagen meeting is the cooperation committees (sv. *samarbetsorgan*) NOSOSCO and NOMESCO connected to the Nordic Council of Ministers. The main work within the committees is the production and publishing of yearly statistics on social and health issues.

The very start of the statistical cooperation can be seen as a reaction to the crisis that the war in fact was, and a statistical approach was mobilized to guide the recovery and creation of the Nordic welfare states.

The financial crisis, with its start in 2008, hit the Icelandic community very hard. An oversized financial sector with high risks led the Icelandic economy into a deep depression with high unemployment. As a response to the crisis, the Icelandic government decided to establish an organizational body that came to be called the Welfare Watch (sv. *Välfärdsvakten*). The purpose with the Welfare Watch was to inform and guide policy to make good choices on policy initiatives to counteract the effects of the financial crisis.

A few years after the financial crisis the Icelandic delegation within the NOSOSCO suggested that, with the Icelandic model as a role model, a Nordic Welfare Watch should be created. The suggestion was discussed for some time and was in 2014 adopted by the plenary meeting of the two committees.

In 2016 the report "A Nordic Welfare Indicator System (NOVI) " [1], was published. The Nordic Welfare Indicators were formulated in order to make it possible to compare people's living conditions and well-being over time in the Nordic countries, with a special emphasis on vulnerable groups. It was initially a three-year project with the aim to develop welfare indicators which would support policy making in the Nordic Countries and was initiated as one of three projects within the Nordic Welfare Watch, during the Icelandic Presidency of the Nordic Council of Ministers in 2014. Focus was to develop an easily accessible system of indicators that in a timely way could be used as early warning indicators for the impact of crisis. The project was also commissioned to find an easy and quick solution for the implementation of the system with the aim to develop the system over time. In the final report by the NOVI project, presented in 2016, the complete indicator system was suggested to consist of three parts. First, a set of ca 30 indicators monitoring yearly changes over 9 welfare dimensions. In order to monitor potential vulnerable groups, the indicators would be able to disaggregate by e.g., gender, age, regional and socioeconomic background. A link to the Nososco work on a development of the typical cases data could be taken under consideration. Second, and at a later stage a limited number timelier (monthly or quarterly) indicators monitoring changes in central benefit system such as e.g., social security payments and beneficiaries was contemplated.

[1] Final report https://www.government.is/media/velferdarraduneyti-media/media/velferdarvakt09/NOVI-project-Final-report-archive.pdf

Third, a limited number of contextual statistics or indicators, such as changes in economic growth and the labour market, should be monitored monthly or quarterly.

Due mostly to different opinions within the cooperation, the implementation of the results of the report has not yet happened. Although it was common to view NOVI as a novel and well-constructed monitoring system, there were also voices saying that there was no need for such a system since other international organisations were provided with the data, and providing data, used and the monitoring could be done at that level. There were also opinions supporting the view that systems like these could be built by the countries themselves, if they wanted. One important drawback of the suggested system in the report from 2016, materialising as an effect of the demand for a quick solution, is on the data that are proposed to be used.

As mentioned, the indicators presented in the report are based on yearly data. The report calls for a development using more timely data in a future monitoring system. An indicator system with timely indicators (based on monthly or quarterly data) would be unique as a transnational indicator system and complement the standard types on indicator system developed in the first phase of the NOVI project but also e.g., within the cooperation of EU and the OECD. During both the financial crisis in 2008 and during the covid-19 crisis, attempt was and are made by these organisations to improve the timeliness of the monitoring, however, with meagre results.

From the start of the NOVI project the intention was that the results of the project should be implemented in a Nordic monitoring system. This still has not happened, and that absence of the implementation can be, and is, explained differently by different actors. One possible explanation is the possibility that not every stakeholder in the cooperation saw the value-added with NOVI and in the consensus-oriented organisation the Cooperation stopped the implementation. It is also possible that the grounding work for implementation was not done. For one thing it was not clear how the NOVI should be integrated in the structure of the Cooperation. One example of these uncertainties is the question if NOVI should be part of the NOMESCO/NOSOSCO cooperation or if it should be placed elsewhere within the Nordic cooperation. Given a decision that NOVI was to be placed with NOMESCO/NOSOSCO it was uncertain how it should be integrated with the already present publication of indicators by those committees. It should here also be mentioned that the planning and reorganisation of the committee's collection and processing of statistics may have been ome of the explanations for non-action.

The covid-19 crisis meant a come-back of interest for NOVI. It was again realised that systems for monitoring welfare during a crisis can be of help for guiding policy in the member countries. After discussions within NOMESCO/NOSOSCO and other bodies within the Nordic cooperation, the present project was set up.

It is obvious that the interest in a monitoring system of the kind we are discussing here stems from the fact that our societies can be hit by different kinds of crises, natural or human made. The idea is that a monitoring system that is "up and running" increases the

possibilities of finding effective remedies early in a crisis. The building and usage of a monitoring system is to be seen as the gestalt with the crises as the background. The possible nature of a crises therefore needs to be described in order to understand the probable background possible crises present.

The project at hand has sprung from the conception that the Nordic countries are at the forefront when it comes to producing and publishing short period data. The project means, in a sense, the reality check of that conception. Can we just reap from the already developed Nordic statistical maturity or do we need to promote, push and speak for a development in the Nordic countries that can make possible timely Nordic monitoring of welfare possible?

During the project it has also become clear to me that the general statistical cooperation within the Nordic countries at least on a technical level can benefit from our efforts. If our cooperation succeeds in building a modern infra structure for data delivery it will mean a leap in connectivity that will benefit all Nordic Statistics.

3 Nordic or other levels

The alternative to a Nordic project is always a project within another international organization or national projects. The are several international organizations that handle data of welfare character. Obviously, every country in the cooperation has, or can create data that can be used for building monitoring systems. So, it is indeed relevant to put forward the question why a Nordic system should be implemented.

When thinking about the alternative to use data on a European level one aspect is the considerably more challenging task to coordinate 25 countries than five or six countries. The coordination being both the decision of what indicators to use and the actual production and distribution of the indicators. The differences between the countries in the European Union is a huge challenge when it comes to common understandings of what indicators to use and then how to interpret them. It is not an easy undertaking to find common ground on how to for example measure poverty in Romania and in Finland.

It is also our understanding that the Nordic countries has more developed system of shorter period statistics on welfare compared to other countries in the world, including our European neighbors.

When thinking of leaving projects like these to the member countries themselves national indicator systems can be built and used with good enough results. The question one can ask in a situation like that is what might be missed out being restricted to national levels.

Crises can of course be national but already a very superficial count of disruptive events in recent history shows that many crises have pan national characteristics. What happens in one country is affected by, or affects, other countries. This in itself speaks for a Nordic monitoring system, but it also speaks for a stretch to include in the analysis other parts of the world.

Doing the monitoring on the Nordic level also makes it possible for a country to gain insight by the imputing of data and other observed conditions from other Nordic countries when data is missing for the own country.

4 Method

We have used several methods during the writing of this report.

At the center has been the taskforce (TF) a group of experts on welfare statistics in the different Nordic countries. During the project the group has had several digital meetings for deliberations and discussions.

Already before the summer of 2021 a so-called stock taking was decided. The stock taking aimed at creating a unified view on what short period welfare data could be collected from homepages in the Nordic countries. The stocktaking was implemented during the summer of 2021.

There have been several meetings with the secretariate and leaders of delegation before and during the project. These meetings were about the timing aspects of the project but also on the connections between different activities within the cooperation concerning the project. Especially the question of the activity of the transformation of the, so called, Matrix[2] has been handled in that context.

There have been several one-to-one meetings with the members of the TF.

One, rather extensive, questionnaire was distributed to the members of the TF[3]. Already the formulation of the questions was in part done in on-to-one meetings with the members of the TF. The answers to the questionnaire were finalized in June 2022. I have chosen to in an aggregated form publish the answers in an appendix.[4]

Experts in IT and especially the digital transfer of data has been consulted. Especially the section describing possible future data delivery systems has drawn from those consultations. The consultation includes the IT section in Government Offices of Sweden, a Power BI consultant and leading specialists in Statistics Finland and Greenland.

One test-bench for the digital transfer of data has been established. Statistics Finland has, ex gratia, provided us with digital space for testing. The project has decided to make public to our community the link to the test-milieu. As it stands right now the content is meagre, but the content will grow over time during the project. The following link connects you to the test database: https://pxweb2.stat.fi/PxWeb/PxWeb/en/NOVI-fi database

The proof of concept (POC) on API: s within PxWeb that has been conducted with the aid of Statistics Finland shows the basic feasibility of this direction.

[2] The Matrix is a template in excel format used for reporting data and will be further handled later in the report.
[3] The name of the appendix is:“Questionnaire to the TF“.
[4] Summary of the answers to the questionnarie to the TF.

5 Visions

It is of value to try to describe the ultimate vision, or visions, of this project. Doing that gives everyone a chance to be involved in a process of what is sought for in the longer run compared to what might be possible in different points of time.

One possible starting point of a visionary pondering would be to try to describe the typical crises in a few dimensions. It is of course not possible to describe every conceivable crisis in any detail but maybe it is possible to find at least some common features to be expected whether the crise is natural or human made.

A first dimension that comes to mind, and that certainly is closely connected to the aim of our project, is the speed of events. Welfare politics in a normal post war (or post wall) world has had a sort of steady growth (or sometimes steady state) character over it. Planning and implementation have not been so complicated. Infrastructural parameters in the economies have been quite stable. Surprises and not foreseen events have been few.

Crises are disruptive not only for the public but also for the political system. The most important disruption is probably the speed of events. The crises means fast changing circumstances that the political system will have problems to fast enough observe and analyze. The political system can end up in a situation of loud demands for action in combination with insufficient data on speedy developments of important conditions.

A high reaching vision of our project could be to try to envision a monitoring system that is able to diminish the gap between demands for action and underlying data of conditions in the society.

During the covid-19 pandemic data on cases, hospitalizations and deaths were created and publicly distributed in our countries. In Norway there was a trial of using daily statistics on welfare data from NAV to follow the employment development for different groups during the pandemic. With high-speed statistics like these there is a potential for the timely informing of the political system.

A vision of creating a daily monitoring system is certainly something for the far future. Presently, though, it must be seen as science-fiction. In parts it can be built on daily data but a comprehensive monitoring system with a full-fledged set of variables changing with that speed is a vision far beyond our present capabilities.

The Nordic countries have reached a situation where monthly and quarterly data on many issues connected to welfare are quite common. The creation of monitoring systems with that periodicity is therefore, at least for that reason, within reach. The question though is if that periodicity is enough for the needs of policy during a crisis.

There are more dimensions to crises than time. Beside the periodicity of data, we need to think through what in connection to welfare can happen in a crisis. What happens probably has impacts on everything from pure survival to the psychic well-being of the populations.

During the financial crises more than a decade ago and during the covid-19 pandemic different international organizations made efforts to measure the effects on disposable incomes with a focus on the dynamics of transfers and market incomes. The core analytical interest has been to describe and, possibly, understand how the state compensate, or not,

for losses of income due to the crise. The disposable incomes of households and individuals are of interest.

In a vision like this it is important to say that a set of variables should be included that makes it possible to make measurements like this possible. Such measurements can clarify the already built-in mechanisms for compensation of loss of earnings and can also give hints to the political system on possible policy-measures.

6 On periodicity

A move towards shorter period data is at the center of the project. Yearly data still has a role as background data in a future monitoring system though.

The social ministers met in 1945 in Copenhagen to set up the Nordic system of social statistics. The first report was published several years later (probably 1952). The long time used can be explained by both the information technical infrastructure of that time but also by the perceived stable economic and social environment of the time.

Today the data are presented yearly with a time lag of one to two years.

When measuring disposable incomes using yearly data is also well in line with how the tax-benefit systems in our countries work. The judicial basis for the rules in the tax-benefit systems are, for the most part, yearly in periodicity. This can be seen as an argument for yearly statistics. One obvious objection is that people do not live their lives in yearly homogeneities. During a year a person's income situation can change radically and the income situation can change drastically during a year in a crisis. The use of yearly data is therefore probably not granular enough for the intended use of data.

In the Nordic countries data on welfare outcomes are nowadays in many cases published, or at least produced, on a monthly or quarterly basis.

The covid-19 pandemic presented new challenges when it comes to the periodicity of data.

There are two dimensions to periodicity that needs to be mentioned here. One dimension is the measurement period, and another dimension is the publication of the data. For the end user of the monitoring system the sum of the two are of primary interest.

7 Policy making on models and data

It is probably wise to stop and think through what policy makers might be interested in in times of crisis. What effects of the crisis would they be interested in to counteract? It is likely that one interest would be the probable downturn of incomes and, more precisely, labor incomes and incomes from enterprises. The welfare state in itself can partly be seen as a continuous counteraction to the outcomes of the market economy. In times of a crises, it is of value to follow the development of the interaction of market-based incomes and transfer incomes. For the possible counteracting of a downturn of incomes it is also of interest to follow how the downturns hits different groups in the society. In the aftermath of the latest financial crisis the EU made calculations in this direction. These where though limited to population aggregates. The guiding information in that is limited. It might tell the aggregated magnitude of a downturn in market incomes and give information on the aggregate counteracting, if any, effects of the transfer incomes.

What is needed is a clear and relevant division of society into groups. The theoretical construction into groups can be seen as a modeling of society. The statistics used within the NOSOSCO cooperation is often grouped in this sense, although the question has to be asked is if these are relevant for policy. The divisions most used are in age classes and the composition of the households. That kind of information is certainly of value for understanding of the effects of specific transfers, but it is doubtful if they are enough for the pondering of counteractions of downturns of market-based incomes in combination with transfer incomes in a crisis.

We probably need further group classifications to be able to, first, find out how certain events impact differently and, second, to make policy to find precise countermeasures. The question is how to make these classifications. Sweden has a population of just over 10 million individuals. These live in, depending on the definition, in around 4,5 million households. If the households where to be divided into 100 classes of households there would be around 45 000 households in each as a mean. For the other Nordic countries, the same proportions probably apply. For the self-governing areas with 100 groups the mean size would be quite small but still statistically relevant. Theoretically it would be possible to find these groups in dimensions like household composition, age, educational level, labor markets status, nationality and geography. The question again is to how to make these classifications policy relevant.

Maybe it should be considered to establish a standard classification that is used for a first display of distributions. This might not suffice in certain situations though. We probably need more dynamic statistical tools to in every situation create relevant classifications. To do that we need microdata to begin with.

We even must model the population. Are we observing individuals or households is one of the first questions. Levels of welfare are dependent of the household situation. Obviously, it is of importance if a certain level of disposable income is to be shared by few or many. So, a certain level of disposable income in a one-person household gives a higher consumption possibility to that person than the same income in a household with several members. So somehow, we need to model the disposable incomes to make them comparable.

Policy can be built on many bases. One possible base is data. Good policies can be made on data and models using data. It is even possible to make bad policies on data. What is important is that data can be thought to be the basis of well-informed policy.

There is however seldom a direct link between data and policy. There is need for a model of "how the world works" to make good use of the data presented. Models of the workings of the world are probably just as important for policymaking as the data themselves. Only from knowing how the interaction of input data effects the working of the world we can predict how the fluctuating inputs affects the outcome(s).

One very simple sketch of the above would be to use a description as in figure 1.

Figure 1 A simple sketch of what could be called the IPO model

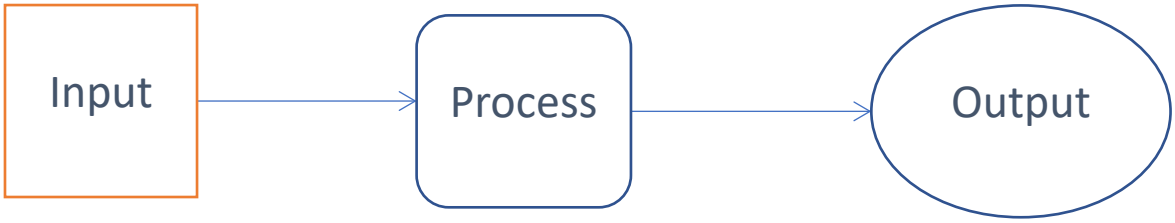

Figure 1 is a possible simple view of parts and flows in a society. Input is the factors that are brought into the system. Process is the actual mechanisms. Output represents the outcome of the process.

The figure can help thought for the further understanding of creating a monitoring system. The figure can help in guiding us in our further construction.

We can view the concept of disposable income through the presentation in figure 1. Obviously, the output of the process is the actual measurement of disposable income. The process is the rules that works on the inputs. The inputs are the different types of income (labor, transfer) that are building stones for disposable income.

What could be our interest when measuring disposable income in a monitoring system? If a crisis hits one possibility is that labor incomes will suffer for different groups. Labor incomes are a part of the disposable income, but the possible question is if the loss of disposable incomes is countered by, say, transfer incomes. We might want to measure how the loss of labor income is compensated by transfer incomes for different groups in the society. So, one created indicator should measure the compensation of loss of labor income.

A policy analysis with all parts (input, process, output) known and fully described then simply would be the simulation of rules (process) to find out the effects on disposable incomes (output).

For other states of possible interest, we may not be able to measure the totality of the three parts in figure 1. Subjective wellbeing (SWB) is one such example. It is of course possible to measure the output, the chosen indicator for wellbeing, but the input and/or process leading up to that outcome may not be (fully) known to us. This has implications for the use of our monitoring when it comes to policy making. We can of course measure the outcome, but it will not suffice to use the indicators monitoring that aspect of welfare for policy making since the mechanisms are not fully understood.

7.1 Possible origins for measures and the measures as such

What data and then which indicators to use in a monitoring system like the one we are contemplating is one central question. In this section I want first to review the work that has been done with the statistics and indicators that can come with that work.

I will end this section with a visionary stretch into what might be a solution in the not too far away future, namely micro databases and micro simulation modeling.

The task here is to be more specific on what can be meant by welfare indicators.

7.1.1 The first NOVI report from 2016

The obvious starting point is to draw on the yearly indicators that were presented in the NOVI report from 2016.

The proposed indicators are grouped under the following 9 headlines:

1. Health

2. Educational skills

3. Employment

4. Work-life balance

5. Income and earnings

6. Housing

7. Social network and participation

8. Personal security

9. Subjective well-being.

Under the headlines are, in total, 30 indicators listed[5]. These are found in the appendix "The proposed indicators in the NOVI report from 2016".

One question asked early in the current project was if it is desirable and possible to transform the proposed yearly indicators into short-period indicators. The desirability is mostly dependent on the perceived stability of the actual indicator. The possibility, on the other hand, is dependent on if the indicator is, or can be, produced in a short-period version.

It is of course depending on the nature of a crisis which yearly indicators are not stable and in theoretical need to be of a short-period nature. It seems though that for many of these indicators a crisis would change the indications. It is even so that several groups of indicators like; health, incomes and earnings, personal security and subjective wellbeing are indicators where indications might change sharply as the result of a crisis.

To me it is clear that the indicators presented in the NOVI report from 2016 at least should be guiding in the creation of shorter-term indicators. At least these should be used as they are presented as far as is possible, considering possible changes over time, as yearly background indicators.

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[5] Appendix:"The proposed indicators in the NOVI-report from 2016".

7.1.2 Data found through the stocktaking during 2021

During spring and summer of the year 2021 the project undertook a stocktaking in the member countries in order to create a detailed picture of the possibilities to directly from the web capture data to our conceived system

The stocktaking was around what measures were published, the classifications used and the periodicity of the publications.

We wanted to investigate if it would be possible to, more or less, directly capture the data and with little, or no, further formatting use the data in our system.

Table 1 sums up the results of the stocktaking.

Table 1

Number of indicators	
Number of timely indicators easily reachable	72
Number of timely indicators easily reachable in Denmark	19
Number of timely indicators easily reachable in Faroe Islands	1
Number of timely indicators easily reachable in Finland	18
Number of timely indicators easily reachable in Iceland	
Number of timely indicators easily reachable in Norway	19
Number of timely indicators easily reachable in Sweden	14

Table 1 gives a very aggregated view of available indicators. Iceland must be considered to be a “missing value” since the project did not get any answers from that country.

In table 2 the results of the stock-taking are divided into four (4) categories.

Table 2

	Health	Emplyoment	Work-life balance	Income earnings
Denmark	4	4	2	9
Faroe Islands	0	0	0	1
Finland	6	4	2	6
Iceland				
Norway	7	4	1	7
Sweden	4	4	1	5
	21	16	6	28

The table shows that the numbers of indicators of “income earnings” are most common followed by indicators of “Health”.

The results shown on this level suggests that it in principle would be possible to create a monitoring system by downloading statistics from national homepages, although with the backlash that data from Faroe Islands would be meagre indeed. What cannot be seen in the presentation, and what would be very laborious to in detail document, is the fact that there are substantial national differences when it comes to the presentation of the statistics. The homepages differ in definitions and classifications when describing similar conditions. This fact makes it very difficult to use the statistics for comparisons of levels between the countries.

The note above on lacking comparability certainly makes the statistics less valuable but does it make them useless for our purpose? Considering the fact that these data probably are easily caught with low costs they should be considered for use as change indicators a Nordic Monitoring system.

7.1.3 The indicators already in use within Nomesco/Nososco

These indicators are of two kinds. One kind is based on actual statistics. The other kind is built on outputs from Life Situations calculations within the framework of hypothetical data.

Statistical indicators

The set of yearly based indicators already in use within Nomesco/Nososco that are published with quite some stability on the homepage should also be on the gross list for possible transformation into short-period indicators.

There is a substantial number of indicators within the Nomesco/Nososco system. To be fair, and on one hand, they all are welfare indicators and as such are possible candidates for timelier indicators. On the other hand, the challenge here is to work out which of these would best contribute to the understanding of levels and changes in welfare and at the same time be possible to produce several times per year.

It is not clear to me how these directly could be used in a monitoring system. They are parts of the whole picture we want to have and certainly can be used as basis for search.

Life Situations with hypothetical data

Disposable income is a possible welfare indicator. The results within NOSOSCOs Life Situations are presented in those terms. Life Situations is about the effects on disposable income when certain changes in a family occurs. It can be unemployment, a new child or sickness.

Life Situations are built on actual rules but on hypothetical data. Calculations can very well be developed to serve as tools in a monitoring system. They can be used for both fast follow up during a crisis as for testing policies in the crisis.

7.1.4 The creation and use of micro databases

Micro databases with individuals and/or households is one possible fundament for indicators in a welfare monitoring system.

I have knowledge of a Swedish database that with micro data describes welfare transfers to individuals. I will describe it shortly here as a possible model for development.

The Swedish database in question contains a sample of around 6 percent of the Swedish population between 16 and 80 years of age. The range of age is explained by the original

interest to capture the “welfare careers” of the part of the population for that are in working age. The variables are different incomes an individual can earn. The variables are:

- Earnings from work
- Social insurance, sick leave
- Social insurance, early retirement
- Social insurance, activity-based transfer
- Establish/ introduction transfer immigrants
- Social assistance
- Unemployment benefits
- Activity based transfers
- Parental benefits
- Study financing

The housing subsidies that are paid to some households are not included. So even if it is not complete the database makes it possible to (at least roughly) calculate the gross disposable income on an individual level each month. The database is updated for each quarter with an approximate delay of 5/6 months. The delay is very much due to the long time for handling final payments in the social insurance administration. In order to shorten the delay, it might be considered to use preliminary payments in a future alternative database.

The Swedish database cannot be directly used for data delivery in a future monitoring system but is clear that it is, at least, a proof of concept (POC) for the idea of using micro databases as a part of such a system. The actual database suffers from delays that definitely would be too long in most crisis situations. In Sweden there were ambitions to use the database during the covid-19 pandemic. And some results certainly were produced within the Government Offices. The delay, though, meant that the results were not easily used as basis for policy.

You may say that the database described above is a proof of concept (POC) for using micro databases as a foundation of a Nordic monitoring system. The data comes from several sources. The periodicity is quarterly.

The use of micro databases as these is that they are to be managed by the NSIs and the actual data deliveries are to be aggregations from the databases. There is to be a standard extraction from the database for deliveries. The strength of the approach is that, when it is needed, alternative aggregations are possible.

As a part of this project the actual database has been used to give an example of what could be achieved with such a database. It can be argued, at least approximately, that the sum of the transfers listed above is equal to the gross disposable income.

At the point in time of writing this, July 2022, the database holds all the needed monthly data for the years 2019, 2020 and the first three quarters of 2021. This fact makes it possible to follow the income effects of the pandemic in Sweden. In figure 2 the gross incomes and earnings are shown for the whole population between 16 and 80 is shown.

In figure 2 we have displayed the development for the total population in question of 7,8 million individuals. The upper line shows the mean gross disposable income, and the lower line shows mean earnings from work.

Figure 2

Gross disposable income being the sum of earnings and other transfers always is always at least on the same level as the earnings line. On this aggregate level you can see only small negative effects on the two lines for the period of the pandemic.

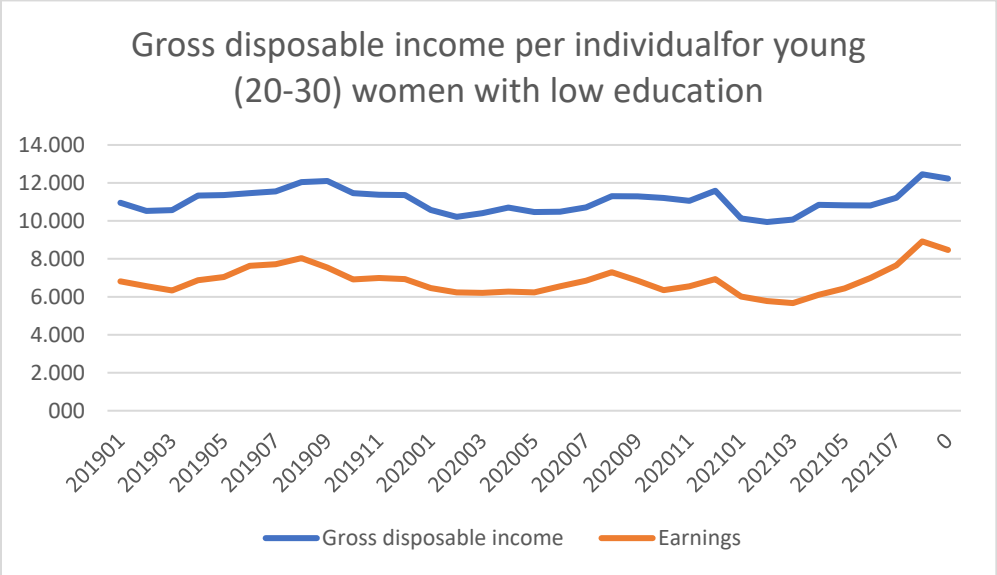
In figure 3 we have chosen to show the same figures as in figure 2 but for the group of individuals in the age from 20 to 30 years of age. There are around 1,4 million individuals in that group.

Figure 3

Figure 3 shows a different picture than the one in figure 2. First the levels are overall lower, which could be expected. Second the difference between the two lines are, at least in an absolute sense, smaller. Thirdly, a downturn during the beginning of the pandemic for both earnings and gross disposable income can be seen.

In figure 4 we show the development during the same time for young (20-30) women with low education. Slightly less than 60 000 individuals are in that group.

Figure 4



The figure shows a downturn of both earnings and gross disposable income starting already before the pandemic. For that reason, it is not clear what during the pandemic should be contributed to the pandemic, and not. Further analysis is needed.

The graphs above are just examples of how this kind of data could be used in monitoring welfare outcomes. For flexibly defined groups it is possible to follow earnings and gross disposable incomes.

It is of importance to calculate the costs and benefits of the presented proposals. The idea of creating databases do not only benefit the system we want to create. It is very probable that such micro databases can benefit other statistical processes. These databases, especially if the design of them is done with that in mind, can be used for example for reporting of welfare statistics to institutions like Eurostat and OECD. When doing a cost-benefit analysis this should be kept in mind.

7.1.5 Looking back at the Nordic microsimulation project within NOSOSCO

A study named "Microsimulation in Nordic Social Policy Analysis "was in 2016 published as a part of the NOSOSCO series of publishing. [6]

The study was in part a policy experiment researching if a taxation of child benefits could be a tool for lowering child poverty. Interestingly the study was performed for four Nordic countries using each countries major tax benefit models, that is for Denmark the LOV model, for Finland the SISU model, for Norway the LOTTE model and for Sweden the FASIT model.

For the NOVI 2 project the interesting part is that it was possible to use the different national microsimulation models for a common analysis. Since one of the basic ideas of using microsimulation models is to analyze the distributional effects of different policies within the tax benefit system it is of interest to ponder over the possibility to use such models in a monitoring system.

One first point of course is, again, the time aspect of using such, at least traditional, models. The example above meant calibrating four (4) different national models. That calibration took time. My recollection is that something like three years elapsed between the first ideas of the project and publication of the report. For use in a developed monitoring system there is need for a much faster moving model.

Disposable income is a key concept used in micro simulation models. Within the Norwegian SSB (Statistisk Sentralbyrå) groundbreaking work has been done to integrate health data into micro simulation models.[7] These aspects of welfare are central, and the use of microsimulation has potential for use in a Nordic monitoring system.

A developed monitoring system does not only follow developments, but it also forecasts developments, and the use of microsimulation models can be a powerful tool in forecasting.

An example, again, from Sweden could be illustrative. During the first half of the 1990's Sweden went through a deep economic crisis. Production fell, unemployment rose dramatically, and public finance underwent a change towards high deficits. The government's policy to counteract the crisis was, in part, to stabilize the public budget

[6] Microsimulation in Nordic Social Policy Analysis. NOSOSCO-Nordic Social Statistical Committee 61:2016

[7] Aaberge, Rolf (et.al): The distributional Impact of Public Services When needs differ, Statistiskk Sentralbyrås Discussion Paper No 621, 2010 and Journal of Public Economics vol94, 549-582

through a combination of tax increases and cost reductions, calibrated to spread the burden “fairly” throughout the population. In that endeavor the Swedish micro simulation model FASIT was used extensively.

8 Capture and delivery of data before and at the present

The digitalization of the work in NOMESCO/NOSOSCO that was completed in 2021 marks the end of a first step change in how the cooperation handles data and publication. In this chapter we will stop and evaluate the change from some different angles.

8.1 Short description of the situation before the digitalization

The handling of data before the digitalization involved a cumbersome process of "copy and paste" in excel documents. The data were organized in a book printing (Gutenberg) fashion. No proper digital databases were created. This meant that a significant part of the working hours of the secretariate was spent on this handling. Other more strategic and planning tasks were many times set aside or at least not given proper attention.

Also, for other parts of the cooperation the book printing style meant a lot of "back and forth" handling of manuscripts in varying degrees of finalization.

8.2 After the digitalization

8.2.1 PX

Already before the digitalization of the work PX[8] was used in the cooperation to present statistics on the website that was used at the time. The difference is that the use was minimal and that most of the indicators instead were published in the form of a book (later PDF). The present situation is that all indicators in the cooperation are presented on the webpage within the PX system.

8.2.2. Matrix

An important part of the digitalization project was to establish a tool to ensure that the data delivered has the format that PX can handle. The tool is a VBA-written[9] application that has come to be called the Matrix. It is a tool for handling of data for delivery to the PX system.

The present work process means that a so-called template is sent from the secretariate to the countries for registering. The template is strict in the sense that certain formats are to be respected in order to lead to correct figures.

8.3 Child diseases or permanent problems

The digitalization meant a radical change from publication in books (rather PDF: s) to publication on a website. The handling of book manuscripts changed into handling of databases and homepage texts. At least for the data handling part the transformation meant disruption of the work process. The Matrix demands a quite precise reporting in order to work well. The new system is recently established, and it is reported that the reporting is not yet working to satisfaction. One problem has been the need for exactness in filling in the template for the Matrix. The system is very sensitive and the demands of strictness on those that do the deliveries seems to be high. The need for exactness seems to have created many faults and delayed processes.

It is not clear to me if we should choose to view these problems as a "child disease" and expect a better functioning over time, or if we should think of the problems as permanent.

To broaden the discussion, I want to recall another aspect of the new situation. Publication on the website has led to a situation, one that was indeed anticipated during reform

[8] PX is a system for creation and presentation of data in tabular form.
[9] VBA is a coding language behind Excel.

discussions, meaning that publications can be made all year round. The former book-oriented publishing meant one-year cycles. Once a year the sum of all work was published in book form. Within the reform work several actors perceived the “freeing” from the one-year cycle as an advantage meaning increased options to do the sum total of the necessary work more evenly distributed over the year.

The foreseen change was seen as an advantage by the reformers. In spite of that it is reported that there is dissatisfaction with the new state of affairs. The dissatisfaction is about the dispersion of work over the year instead of a concentrated work period during the year.

If these problems are permanent the digitalization project has not led to the higher efficiency as was hoped for. It is of course not to be excluded that the reported problems more are “child diseases” of the new system. Either way, when we now plan on including more data and indicators through NOVI, we cannot do that without inhibiting ourselves from increasing volumes of work in a process that at this time is problematic.

It is not within the mission of this commission to address issues outside NOVI. Anyway, I choose to state that it would probably be rational for the cooperation to evaluate the possibility to move to API solutions for all, or at least most, of the data handled within the cooperation. Such solutions will be discussed in the coming section.

9 Capture and delivery of data in the future

Considering the description of the situation when it comes to data capture and delivery in the chapter above, it should be obvious that there is need for radical change when moving from yearly data to shorter period data. How the cooperation is presently organized makes difficult the establishing of shorter period data publication within the organization.

If data are to be reported monthly or quarterly it is obvious that some sort of automized, or scheduled, process needs to be, at least, considered. Several such processes are possible and already used in the area of data transfers. All, though, needs the involvement of a statistical office (or other provider of the statistics).

The general information technical (IT) development the recent decades is very promising in the sense that it gives good opportunities for effective data delivery. Solutions involving URL and API solutions are now the rule for many organizations providing information that are meant to be used by others. The catching of ordered data (information) has therefore, at least in principle, become easy to import for use.

In this section I will try describing some possibilities when it comes to choices of future techniques for data delivery.

The alternatives of course have different characteristics, and they entail differences when it comes to the balances of work done by different parties.

9.1 Different possible more automized alternatives

There is a group of possible solutions that holds different degrees of automation. The possible solutions range from simple appendices to e-mails to the import from databases through different digital bridges.

One theoretical possibility is to continue with the delivery through appendices to e-mails. This is a technically very easy form of data delivery. Depending on the structure of the further needs of the data handling the exact format of the files differ. If, for example, the data are to be used in the PX system the files should be in a template form decided and probably distributed by the receiving organization.

The solution is technically the same as the present one in the cooperation but probably differs when it comes to the choices of the actors.

It serves little purpose to go through every technical possibility in detail. On the other hand, it is of some importance to try to describe the division of labor with different solutions.

Different solutions differ in demand on the exporting and the importing party. So let us try to systemize these different demands.

9.2 Tailors or digital architects

In order to make clearer the different ways to transfer data you can talk about a system of tailors or a system of digital architects.

A system of tailors is close to how the transfers of data presently are conducted within the cooperation. The data transfers are made in tailor-made fashion. The templates that are filled in are done manually meaning that it is a human decision exactly what figure is given. There are of course some general definitions and instructions steering the choice of editing, but they are “fuzzy” and can differ between the humans doing the reporting.

A tailor solution means little, or no, involvement from the data delivery side. The importing side finds and use the data to report. There is of course a possible memory build up when the tailor solution is at hand, but such memories are vulnerable. There are two types of vulnerabilities. One vulnerability is about the fact that the actual statistics changes. The change can take many forms from where data is to be found to the definitions. Another vulnerability is the fact that memories are mostly stored in the heads of persons involved in the importing of the statistics. When newly recruited persons are to do the importing the transfer of memory stands out as a risk.

A system of digital architects shifts the demand on different parties. Firstly, the importing side needs to exactly define and instruct, and the exporting side has to keep the data in an URL solution accessible form.

A system of digital architects means more work done on setting up data delivery but no, or at least little, work on the actual delivery of data. The delivery of data is done through an automated IT-process set up once and for all. The editorial committee, or the equivalent of that, is in fine detail to define the statistics that is to be delivered (that is the architect part) and the actual process of data delivery is to be left to other parts of the cooperation at large.

9.3 API

The dominant trend in general when it comes to data transfers is the use of so-called API: s. API stands for Application Program Integration and is described as a bridge for data when distributed over the internet. With the aid of an API that is set up the data is distributed with little further human involvement.

These solutions means that the importing party defines what is to be imported from an already existing body of information. One example are the databases provided by the Nordic statistical bureaus. A user can, of-course, do a simple down-load from a table in a specific database. Another way would be to import the data indirectly by (so to speak) instructing the database what data to deliver. We are looking at ways to mimic the last-mentioned procedure.

Compared to the present situation within NOMESCO/NOSOSCO this kind of import has the advantage that the risk for errors in delivery nearly disappears. The data in the tables of course must be correct but if they are the corruption risk is small.

9.4 The PX Family

First, I want to state that when I talk about the PX Family I mean the variety of tools that are interconnected and have the same root in solutions that can be grouped, and by name, are PX.

The NOMESCO/NOSOSCO has a PX solution in the sense that the database that is the sum of the data publication of the organizations are delivered on the homepage in a PX solution. The question for this project is if it would be appropriate to continue using the PX system. One obvious advantage doing that would of course be that the integration with the solutions already in place.

The question, though, is if a PX solution would be able to provide a future monitoring system, NOVI, with the demanded functionality.

A, maybe extended, definition of delivery of data could include the delivery all the way to the end-user of the data. Such an extension would include the structuring of the reporting of data. Again, referring to the reporting in place within the NOMESCO/NOSOSCO, that solution essentially means, with some added visualizations, the possibility for the user to read and down-load tables of data. That feature is of course good, but is it good-enough? I would say, probably not. The end-user probably needs more then tables. The speed of the updating of data and the probable complexity of the indicators is calling for presentations that are visualizing data in more ways than tables. It is also of need that these visualizations are not cumbersome for the providing entity (that is NOMESCO/NOSOSCO) to create and maintain.

The last decade has meant a fast development of different tools for the visualization of data. Tools as Power BI, Qlik Sense and Tableau are among the most known of these tools. With tools like these it is possible to create visuals that helps the understanding of the underlying data streams. I am convinced that visualizations are needed as an integrated part of a future monitoring system like NOVI.

PX Graphics is a tool within the PX family. A third version of PX Graphics is on its way. We have not had the opportunity to compare the functionality of this coming version with the functionality of, say, Power BI but from conversations with the developers it seems that the functionality will be at least of the same standard as the leading visualization tools on the market today.

9.5 Proof of concept (POC) of a PxWeb solution with API

In one appendix[10] we have chosen to publish a certification of an expert from Statistics Finland, who conducted an embryonical POC on using PxWeb with API.

We need to extend the tests. The idea of proof of concept (POC) is to give evidence that an idea holds in principle. In our case a POC would be to prove the technical feasibility of a data delivery system through PX Web from every member country to a server in Copenhagen. The proof is not to be on a data content level.

A more precise POC would be a web solution that with time schedules extract precisely defined data from data delivering countries to a server in Copenhagen.

[10] Certification Proof of Concept by Hans Baumgartner, Statistics Finland

10 On cost benefit analyses

Cost benefit analysis is to be considered as a tool for aiding investment decisions especially in the public domain. The purest form of such an analysis means the comparison of present values of a project's total costs and benefits. The idea is to recommend a project if the present value of costs are lower than the present value of the benefits. From this follows that every aspect of an identified effect of a project should, as far as possible, be quantified. It also follows that every cost and benefit should be evaluated discounted to the point in time of the investment decision.

It is nowadays obligatory to call for cost benefit analyses of project proposals. Consequently, there are such calls also concerning this project. It is premature to do it now, but such analysis will certainly be done within the project. In this section I will try to give a broad analytical frame for the coming work on the cost benefit analysis to come.

Firstly, it is important to distinguish between a more business-oriented cost-income analysis and a cost benefit analysis that involves the effects for the whole economy. And of course, there are intermediate analytics that can be made. The ideal for us would lie near an analysis for the whole economy, that is for all of the participating countries. At least we must go somewhat beyond the limited economy of Nomesco/Nososco. We need to include some of the effects on participating organizations and societies.

One question to be answered about how to perform a cost benefit analysis for our project is to decide on a point in time for the investment decision. Discussions and actual work in line with the project has been going on for several years. One conceivable possible starting point for the whole project could be when NOSOSCO decided to launch the NOVI project that resulted in a report 2016. So, the costs of the project could be said to start running at that point in time. But how are we to conceive the duration of the project. The benefits that are created through the project are likely to have a duration of several years or even decades. To be reasonable we can probably not hold that view. For the analysis to be a tool for an investment decision the point of time of decision has to lie in the future, probably in the near future. So, we are probably left with a point in time for investment including 2023 and starting earliest 2022.

It should be remarked that all experience points to the fact that generally costs in contrast to benefits are so much easier to identify and calculate. This is true not least for projects of an infrastructural character, such as ours. Our product is not sold on a market, but the inputs are bought on the labor market and other markets. The evaluation of benefits is therefore difficult and can therefore result in severe both under- and overestimations, depending on the prejudice of the analyst. One way to counteract such miscalculations is through thorough identification and definition of the building stones of the benefits as well as the costs.

Another dimension is the use of the concept of capital. Our interest is capital as a factor of production. It could be machines, knowledge, routines etc. It is of importance to distinguish between capital and labor, since capital has a duration, and the cost of capital is distributed over time. Even though our project will probably not involve machinery it will involve investments in procedures that can be seen as capital. The use of that capital will be distributed over time and the costs of that use should therefore be distributed over time. The difficulties are connected to how to distribute the capital costs over time.

Labor costs for the running of a monitoring system like ours is probably dominating the cost structure. It should furthermore be noted that labor costs are both direct and indirect. From an internal budgetary perspective, that is Nomesco/Nososco:s budget, the labor costs are constituted mostly by the salaries to the secretarial staff. The indirect costs are constituted by the work done by the members of the cooperation. The projects impact on the direct labor costs are possible, if difficult, to calculate. It is of importance though to include possible impact on the indirect costs.

Ther are other costs involved as well. They will be identified and calculated as well.

The benefits of the products created by the project can be divided into two parts. One part is the possibility that other costs within the cooperation are lowered for the same output. Say, as an example, that a procedure for data delivery within the project can be used in other parts of the cooperation and that labor costs as a result are lowered, that should be seen as a benefit. Another part is how the monitoring system makes possible “better” decisions in times of crises, that should also be seen as a benefit. This type of benefit is, of course, extremely hard to calculate and probably has to be considered as an “intangible” and is probably best handled through qualitative descriptions.

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11 Plans for different time horizons

The development of a full-fledged monitoring system takes several years and would do so for any organization. Below we have portioned the future into three parts, what is to be done the rest of 2022, what is to be done during 2023 and what should be achieved during 2024 and even beyond.

11.1 Proposed plan for the rest of 2022

The following list contains the proposed plan for the rest of 2022:

1 The, so called, Matrix will not be developed for short period data

Further explanation: In the plan for our project, it was assumed that the Matrix should be further developed to handle short period data. During the project it has become clear that the challenges of data delivery are to be solved through other mechanisms then the Matrix.

2 The setup of a PX Web solution with API for delivery of uniquely created data

Further explanation: The cooperation is already using the PX system which is the case for all the Nordic statistical institutions. The solution is about finding channels for the data that are created for the monitoring system.

3 Implementation of the NOVI-2016 indicators

Further explanation: The indicators proposed in the NOVI report from 2016 have not been implemented or come to use. Even though we are aiming at using timely data, the use of the proposed yearly data is of value for the monitoring system. Implementation in this case means setting up data delivery, using API: s, and a publishing environment.

4 The capture of relevant timely data (as they are) from national homepages

Further explanation: The stocktaking made clear that there is a substantial amount of timely data that can be collected directly from national homepages. Even if these are not fully comparable, they can be used in a monitoring system at least as change indicators.

5 The capture of, at least, monthly earnings as aggregates from as many member countries as possible

Further explanation: Earnings from labor is a central variable that is probable to change in times of crisis. The majority of the member countries register monthly earnings through their tax authorities. The data is also used by the national statistical institutions for production of statistics.

6 The setup of an embryonic monitoring system with content from 3, 4 and 5

Further explanation: A monitoring system is more than data, tables of indicators or even graphics. A monitoring system is a milieu that leads the user through what can be analyzed and can be taken out for policy deliberations. The embryo for such a system is to be formed and implemented.

7 Cost-benefit analysis for 2023 and forwards

Further explanation: The costs and benefits of a more developed monitoring system will be done for following years since it is hardly meaningful to do such an analysis only for the year 2022. In a coming section, Financing the project 2022, is included.

11.2 Plan for the longer run

Above we have proposed how to direct the work within the project during the second half of 2022. The results of that work can only be seen as a rudiment of a Nordic monitoring system of welfare outcomes. There is need for further development the years after. If the further work takes one or several years depends on ambitions and resources.

We can here only indicate what could, and maybe should, be done in the near future after 2022, say 2023.

The points of the plan are:

1 Data on transfers to make possible the creation of gross disposable income are to be included

Further explanation: Earnings complemented with different kinds of transfer makes up the totality of individual incomes.

2 The inclusion of data on Subject Wellbeing (SWB) is to be considered

Further explanation: Beside on European level at the present only a few member countries do their own studies on SWB. First it is to be considered if and how these could be integrated into the monitoring system. Second it should be considered if and how a broadening to more countries could be done.

3 The inclusion of health indicators

Further explanation: There are several ways to measure health. The indicators to be used are probably several and combinations of these are probably needed.

4 Repeated cost benefit analysis

Further explanation: The experience of a one year longer gone project makes it possible to better estimate both costs and benefits of the monitoring system.

11.3 Plan for the even longer run

There is potential for further development in the even longer run, say from 2024 and longer, of the system for the short period monitoring of welfare in the Nordic countries.

The points of development are:

1 Use of developed hypothetical households for forecasting

Further explanation: The, so called, Life Situations within NOSOSCO are important tools for understanding the welfare systems in our countries. They quantify the change of disposable incomes when households go through changes of different kinds, like unemployment, sickness or childbirth. The same technique developed with quantities of numbers of households could be used to forecast the budgetary effects of changed rules during a crisis.

2 The creation of micro databases for the variables that can give the sum of gross disposable income are to be built

Further explanation: Micro databases gives a fundament for flexible aggregation and reporting. They create the possibility for analysis where groups can be formed in a flexible way.

3 The use and development of microsimulation models (MSM)

Further explanation: There are MSM: s in several member countries. These have been used in a common project within NOSOSCO. The traditional use is calculations of budgetary and distributional effects of changed rules within the tax benefit system. Such models could be used for distributional analysis and forecasting as a result of changes in tax benefit rules during a crisis.

12 Financing the project

There are at least four possible sources of financing the NOVI project. One source is the ordinary budgets of Nomesco/Nososco. Another source is funding from the NMR (that is EK-S). A third source is financing from individual member countries. A fourth source is the work performed under what is often called, the “gentleman’s agreement” (GA).

The four possible sources of financing reveals one particularity of our cooperation; there are two different currencies for nearly all financing, pecuniary and work through the GA.

There are at least two conclusions that can be drawn from that duality.

The first conclusion is that the value a change has in terms of a lowered burden of work through the GA can be viewed as a basis for financing. One example is that the freed-up resources could well be transformed into pecuniary transfers to the cooperation.

The second conclusion is that any change that increases such work should be considered a cost and in extension has financial repercussions. One possibility is to regard the increased work as financing. Another possibility is to find ways to reimburse the members for the increased work.

The original NOVI project was mainly financed by Iceland. Our project is partly financed by NMR (EK-S). Our project is partly financed through work within the GA. The task force that is supporting this work is doing its work under the GA. Another part of financing of our project comes from the ordinary budgets of Nomesco/Nososco. The consultants fee and the work done by the secretariate for the project is included.

The total financing of the present project is the sum of the three last sentences in the paragraph above. It is probably not possible to more precisely calculate the total costs and financing of our project up until 2022, but a rough estimate should suffice for our needs. This means a calculation for the period starting early spring 2021 and ending in December 2022.

The costs of the project for that period, that is for both 2021 and 2022, are roughly 550 00 DKR where 22 400 DKR is work done within the GA. The pecuniary costs can be estimated to be slightly over 527 000 DKR.

The financing of the project from 2023 and onwards have the same possible fundaments as the project up until 2022. The yearly costs will probably be, as year average, higher though.

From 2023 and onwards the basic infrastructure that is needed is supposed to be in place. The work to be done during 2023 is purely data creation. One area is the costs connected to the creation of transfers that build disposable income. Another area are costs connected to the creation data on subjective wellbeing.

The work on data on transfers is core to the work done in NOSOSCO. Even so, the creation of such data means new challenges. It is probable that most of the work best is done within the network of the cooperation, that is through the GA. There is need for recreation of indicators and possibly the implementation of new indicators for the proposed need.

The work on data on subjective wellbeing is new to the cooperation. In some of our countries, like Finland and Norway, such statistics is already produced though. The wellbeing data already produced on a European level, as in our countries, can serve as prototypes for the construction.

For both transfers and subjective wellbeing there will be need for cooperation with the national statistical offices. The balance of such work between work under the GA and pecuniary renumerations are yet to be established.

The total work done during 2023 will probably cost around 480 000 DKR. There will be a split between GA and pecuniary renumerations.

The costs and financing of the project for 2024 and onwards is, of course, hard to estimate. That final period of the project involves research and organizational developments that are demanding on recourses. The further development of hypothetical households is probably best done as a subproject within NOSOSCO and could well be done within the GA. On the other hand, at least when it comes to the development of micro databases it is also probable that the GA style of financing will not be possible, at least not fully. The use and further development of microsimulation models is, even if it is to be associated with NOVI, probably best run as an exclusive subproject.

A very rough estimate of the costs and needs for financing for 2024 is 680 000 DKR.

In table 3 the aggregate of the calculation of estimated costs are presented.

Table 3 Time distributed costs DKR[11]

	Total	GA	Pecuniary
2021-2022	550 000	22 400	527 600
2023	480 000	200 000	280 000
2024	680 000	160 000	520 000

[11] The finer details of the calculations are presented in the appendix:"The costs and financing of the NOVI2 project".

Appendices

Project plan

Introduction

The vision of the project can be described as: the aim to create an analytical tool that can be used to in real time monitor crises in the Nordic counties that can be expected to have negative effects on welfare. The tool shall make possible the division of effects in groups in the population and in different regions. The tool should also make possible the analysis of the effects of different policy measures.

The project has actively been running since May 2021. Important explorative steps have been taken. Of those the probably most important has been the stocktaking of the nature of national publications of short period statistics on homepages. One important conclusion of the exploration is that the state of already reachable data on homepages is far from enough for feeding the future monitoring system.

The meetings of the taskforce have contributed to a common understanding of what the goals of NOVI 2 could, or should, be. Apart from the primary concern to use short period data there is agreement on that a monitoring system should cover aspects of welfare as health, employment, work-life -balance and incomes/earnings.

Blocks

Three blocks of activities for the project during 2022 can be identified. In the following these will be described with the timing of them.

Data sources

There are two separate activities connected to the question of data sources. The first activity is the pursuit of gathering data from now existing sources. The second activity is the long-term work of promoting the creation of national datasets containing relevant microdata.

The first activity is basically the continuation of the stocktaking activity that was started during the summer of 2021.

The activity should be concluded before the summer of 2022.

The second activity means, as a first step, the development of a theoretical concept (a blueprint) of how national databases could be constructed. The second step of the activity means the promotion and negotiation of the concept for implementation in each member country.

The activity starts the beginning of the year and will continue all through the year. It is not probable that the activity can be ended during the year Probably at least also the year 2023 will be needed for the conclusion of the activity.

Further development of the data delivery and data handling tool

During the last few years, the committees have successfully developed and put in place a digital data delivery and data handling system (Matrix). That system is built on the use of yearly data. An activity reforming that tool to allow handling of monthly/quarterly data is therefore of need. This development will be aided by a consultant well acquainted with the tool already built.

The activity will start directly and be concluded during the end of 2022.

Analytical framework

The NOVI 2 analytical tool is to be more than a database of indicators. The aim is to give users an instrument for not only following the welfare effects of a crises but also allowing for the testing of different policies during a crisis. One possible policy field is the changing of rules for transfers to individuals and households. During the pandemic we have for example seen changes in the rules for unemployment benefits. Another field of policy options are the invention of completely new transfers for the direct support of individuals and households. One policy option could be the distribution of lump sum transfers, or “helicopter money”. Other new transfers that are more discriminatory are of course also possible. Another kind of policy would be to support certain enterprises in different branches of industry, and their employees, that are especially affected during a crisis.

To create policy options there is need for both specific data and tools. For the NOVI 2 system it is not possible to create and support a broad covering set of data and tools that allows for the analytical work involved. On the other hand, it is fully possible to create an analytical framework that gives references and pointers to data and tools of this kind. One obvious such reference/pointer are the sets of data that are contained in the databases of NOMESCO/NOSOSCO. The typical cases hosted by NOSOSCO is another possible tool. The different microsimulation models on taxes and transfers that are at work in the Nordic countries can also be mentioned. The demographic data that are produced by the different national statistical offices are of course also important possible tools. There are many more.

It is not possible even to produce references and pointers that covers all possible events or nature of a crisis. Even so an activity that aims at creating references, frames, toolkits, and pointers for the aid of analysis during a crisis is to be undertaken. The aim of the activity is to connect, as seamlessly as possible, with data created directly for the system, a system of references that aids the analysis of policy options during a crisis. The idea is to present a palette of data and tools that are probable within the ecology of knowledge that links to the policies that could be applied during a crisis.

The activity will start directly and be finished during 2022.

Table of activities

Activity Id	Activity text	Time
1a	Stocktaking data	2022.01.01-2022.06.30
1b	National databases	2022.01.01-2022.12.31+
2	Development of Matrix	2022.01.01-2022.12.31
3	Analytical framework	2022.01.01-2022.12.31

Stocktaking directive

The written instruction

At the TF meeting it was decided to perform a stock-taking procedure on the availability of potential timely (weekly, monthly or quarterly) indicators.

The aim of the stock-taking is twofold:

1. For the work during 2021 the TF need to find some readily available timely indicators to present at the Nordic welfare forum in December.
2. For the future work, 2022 – the TF aims at developing further a larger set of timely Nordic indicators and to suggest how these could be collected and published.

To facilitate the stock-taking a template is enclosed to this e-mail. It contains partly filled information for Sweden which should be used as a guide on how to fill in the template for respective country.

Please feel free to comment on the proposed indicators and to suggest additional potential timely indicator. These could be based on traditional register data and even surveys of subjective- well-being.

We are especially interested in:

- Which indicators would be available and delivered in the short-term (October 2021) and in the long term (2022)?
- Which break-downs would be available for respective indicator?

Concerning the time period covered by an indicator we judge at this stage that ca 3 years should be enough.

We are of course aware of differences between our countries when it comes to the content and definition of specific transfers and thus indicators. However, the work of harmonisation and to explain/describe in detail these differences will be done during 2022.

We ask you to cooperate with your national Nososco delegates to fill in the template as thorough as possible – and send it back by 31 august.

Should you have any questions do not hesitate to contact ….

The spreadsheet for reporting

		NUMBER OF RECIPIENTS/PAYMENT		
NOVI welfare dimensions			**National name of the indicator**	**Gender**
Health	**1**	**Health**		**Age**
Educational skills	1a	stock of sickness benefits		**Region**
Employment	1b	payment of sickness benefits		**additional breakdown**
Work-life balance	1c	take up (start) of sickness benefits		**frequency**
Income earnings	1d	disability benefits (stock)		**Lag**
	1d	disability benefits amount paid		**time period covered**
Housing		MORE PROPOSALS		**Published**
Social network and participation				**Source**
Personal security	**3**	**Employment**		**available to collect by october 2021**
Subject well-being	3a	stock of unemployment benefits		**available to collect during 2022**
	3b	take up of unemployment benefits		**Comments**
	3c	reported vacancies		
	3d	unempoyed who have been employed		
		MORE PROPOSALS		

	4	**Work-life balance**		
	4a	parental leave		
	4b	care of sick child, number of recipients		
		MORE PROPOSALS		
	5	**Income earnings**		
	5a	earnings		
	5b	total income from transfers		
	5c	housing supplement to elderly		
	5d	payment of pensions		
	5e	granted housing benefits		
	5f	social assistance individual		
	5g	social assistance houshold		
		MORE PROPOSALS		
		Additional aspects?		
		GDP		
		subjective well-being		
		evictions		
		crime statistics		

Questionnaire to the TF

Name of the respondent:

Questions to the TF in NOVI 2

First it is of importance to clarify the main plan of the work in NOVI 2 during 2022. For different reasons we are now working with a two-step plan. The first half of the year is devoted to clarifying what can be achieved. The second half of the year, and probably thereafter, is devoted to do the actual work and create the actual monitoring system. The questions now put are part of the first half of the plan. The goal of the first half is to present a report to NOMESCO/NOSOSCO for deliberations and decisions guiding the second half of the NOVI 2 project.

The following list of questions has been created as a result of and response to the first year of the work in the project. Several common meetings and one-to-one meetings have taken place and discussions and views presented during those events has given the material for the list.

During the first months of 2022 the work, including focused one-to-one meetings, have especially aimed at creating this list of questions to the delegates in the task force. The answers given by each delegate will form the basis for the report that will be presented midyear 2022.

Some questions are divided into sub questions. Please try to answer on that level.

The underlying format for answering the questions is of course up the individual delegate. It would be of value if the answers mirror the situation in respective country when it comes to views and capabilities in the country. The involvement of several national actors in answering the questions would probably be of value.

I would very much like answers organised under the headings. I also invite you to more freely give separate comments outside the box. After each of the seven (7) questions, with subquestions, I have formatted space for answers. So I would very much appreciate if you choose to give your answers in this document.

Use the lovely month of May to think about and write down your answers. I will then use the time up until the beginning of August to write and with you discuss the report that we should aim to have finalised so that it can be presented and acted upon during the plenary meeting in Iceland this autumn.

Now to the questions:

1 On the Nordic advantage of the project

Whenever a project is imagined, and later proposed, within the Nordic cooperation it is important to ask the question if the project has potential to deliver added value compared to leaving the subject to the countries.

In our case there is obviously room for national projects and some of the issues are also dealt with on other international arenas. You can say there is a potential competition from both a national and international level.

What we are aiming at here, creating a welfare monitoring system with short period data, can probably be achieved also on country levels.

The question here is if it is reasonable to believe that our Nordic project can bring added value to the Nordic countries. If the answer is positive, it would be interesting if the answer included some detail on in what way there is an added value.

Q1

2 On data capture and data delivery (dacdadel)

One of the first things that was done in the project last year was to take stock on what short period data could be captured from websites in our countries. The underlaying question was if downloading data from webpages would suffice as underlying data for our monitoring system.

The stocktaking gave the answer that there is such data in that way but that differences in definitions and groupings made the data not directly usable for our purposes. And we probably need data beside what can be captured that way.

a

The Nomesco/Nososco cooperation has recently concluded, at least, the first stages of a digitalisation project. It has radically changed the way data is handled and presented. The situation though seems to be that the groups (editorial and other) have not quite found the new setup fully satisfying. This is of concern when we now are reaching for a development to a situation where we not only handle yearly data but also more short period data (monthly, quarterly etc).

It is obvious that the question of data capture and data delivery is about more than a technical setup. It is also very much an organisational question that somehow can involve the above-mentioned groups within the cooperation.

It is obvious that the present setup of “dacdadel” would be impossible in a situation with a monitoring system built on, say, monthly, or even quarterly, data. This is the more obvious since the present situation with yearly data already proves to be problematic.

The above said, it is also possible to imagine a “dacdadel” that does not include any of these groups. It is, at least in theory, possible to set up a system that that, after definitions and specifications, only involve the statistical agencies owning relevant data for the monitoring system.

So, the big question here on “dacdadel” is which way to go, through the groups or directly through the statistical offices.

With both solutions though, it might be fruitful to have the groups involved in deciding on definitions and specifications.

b

The cooperation is using the PX system, and so do the Nordic national statistical offices. Within our cooperation a data handling tool, sometimes called Matrix, has been developed to carry data to the PX system. One important question for our project is if the Matrix should be developed to carry more than yearly data as it does now.

The answer to the later question is intimately connected to the one before. If we want a solution where we involve the groups, we might be in a situation where Matrix needs to be developed. If we think of a solution involving only the statistical offices, there are possibilities including different kinds of scheduled updates, where there is no need for a developed Matrix.

Q2a

Q2b

3 On periodicity

a

Timeliness is a keyword used to overarchingly describe data streams that are more actual than the traditional yearly data. It has come to mean data on a monthly or quarterly data. The use of timely data is at the core of our project, and we need a thorough investigation on what is needed and on what can be achieved.

One reason for using yearly data is the fact that our tax-benefit systems mainly are grounded in yearly periods. The rules on income taxes are, as an important example, are based on yearly incomes and other circumstances. Another reason has been the technological and organisational constraints in the handling of data.

There is a development in our countries towards developing benefits that are based on shorter time periods. As an example, there are proposals in Sweden to base housing benefits on monthly time periods in order to better meet the probably differing needs during a year.

During the covid-19 pandemic it also stood out clearly that policy to counteract the effects had to be based on poor data. In one article from Norway, it is described how researchers during a period in the pandemic got hold of even daily data in order to get a data basis for developing counteracting policies. Those kinds of data where not generally available in the Nordic countries. And supposedly it is today not possible to create a permanent monitoring system with such a short periodicity.

b

Furthermore, the data periodicity problem is not only a measurement problem, but also a publication problem. It is a question of how long after the actual measurement period the data can be organised and brought forward for use.

There is an interesting Swedish database that can be used to describe the issue. The database holds monthly data on incomes and transfers for a sample of six percent of the grown-up population. The database is not official statistics, instead a special delivery to the Ministry of Health and Social affairs. The data is at the present updated every quarter. Due to the complexity of data that is gathered from several agencies with statistical responsibility, there is a delay of up to half a year from the month of measurement to the actual publication of the data. This fact makes it less likely that it can be used to aid policy making during an ongoing crisis. It is probable that we need data much closer to the actual event to make it possible for policy to counteract.

Q3a

Q3b

4 On measures of welfare

a

During the very first meeting of the task force, we discussed what kind of measures we should aim to develop. The minutes from the meeting shows that we decided on incomes and health being central for indicating welfare.

I suppose disposable income is a concept of importance. If we can measure disposable incomes for groups of households/individuals, we will be able to indicate the importance of the welfare state in counteracting a crisis that hits unequally in the population. That would mean a tremendous help for policy makers.

b

For several decades now we have experienced low rates of inflation. It seems now that we are entering, at least temporarily, times when inflation rates are high again. Is it necessary and possible for us to consider inflationary pressures when thinking of the construction of the monitoring system?

c

Health is one important aspect of welfare. The question is how to find good measures that are indicative and enough fastmoving to capture changes during a crisis.

d

One possibility would be to aspire to create short period statistics out of the already present yearly statistics, especially, in the NOSOSCO publication.

e

Subjective wellbeing (SWB) has been discussed in the task force as one possible aspect of welfare that could be included in the monitoring system. There are advantages and disadvantages of using such measures. One advantage is that these measures tend to be volatile. Or maybe it could be seen as a disadvantage as well. There is discussion on if these measures really measure what we want them to measure.

f

A central task for Nordic comparisons of data is to somehow make data comparable. It has proved to be a gigantic task and it can often be doubted if the data presented for comparison fully can be compared.

Also, NOVI 2 has the challenge of comparability. The question that can be asked though is what can be meant by comparability in different circumstances. Comparability can only be determined in the context of for what comparisons a measure is used. If you want to compare absolute levels, you are in another situation then if you want to compare relative change.

What would you say are the challenges of comparability for NOVI 2?

Q4a

Q4b

Q4c

Q4d

Q4e

Q4f

5 On use of the monitoring system

The pandemic was a trigger in the Nordic cooperation for to develop a monitoring system with short period data. A well-functioning monitoring system with timely data of course is a good tool for policy making in a crisis. The question though is if the aim should be to use such a monitoring system also in other times and even as a steadfast system over all periods regardless of the societal situation.

Q5

6 On coverage

The founding ambition is that all the countries, and self-governing areas, should be represented in the work to build the monitoring system and to implement it. It is another ambition that every country should have data covering every indicator in the system. The question is if it is possible to live up to the two ambitions.

a

Especially for smaller countries, areas, it can be a monumental undertaking to take part in an effort like this.

Is it acceptable to develop a monitoring system that does not involve every country and self-governing area?

b

The presence of statistics that we find interesting for the monitoring system can also have a varying coverage in different countries.

Measures on SWB are produced periodically produced and published in Finland. This is not the case in our other countries. Are we to accept this difference and publish in our system or are we to try to build equivalent measures in the other countries?

The question here is if we should have an absolute ambition for full coverage or is there value, Nordic value, also in a situation where not everything is fully represented everywhere.

Q6a

Q6b

7 On MVP

I have learned that there is a concept Minimum Viable Project (MVP) which I interpret as meaning a project result that at least can pass as acceptable. We have, not least me, all kinds of goals, but maybe we should stop and think through what the MVP of the project would be. It is not that I am saying we should aim for the MVP but if we have established what it should be we can, if every other effort is fruitless, maybe steer towards that in the final stages of the project.

So, state your views on what our MVP is!

Q7

Comments outside the box

Summary of the answers to the questionnaire to the TF

I have asked every member of the TF and staff in the secretariate to give answers. We have decided not to give a full record of every person's answer to the questionnaire. The reasons are that a full record would be very voluminous. Such a registration might also not be in the in the interest of the single respondent. Instead, we have decided to use the answers imbedded into the general text and a summary of the answers will be presented in the following.

Q1

The question is about the possible Nordic value of establishing a Nordic value of establishing a Nordic monitoring system as planned.

The general sentiment is that it at least is possible that a Nordic level project brings Nordic value. The answers diverge between weak belief to strong belief in Nordic advantage. One comment is that there should have been put more effort into implementing the results of the original NOVI report from 2016. One comment is that it would draw on the Nordic countries unique registers and administrative data to refine comparisons.

Q2a

The question is about data capture and data delivery. More specifically it is about the involvement of the groups in the cooperation versus the involvement of the statistical offices.

For different reasons the respondents tend towards pushing the process of capture and delivery in the direction of the statistical offices. One reason is the already high workload for the editorial groups already and the fact that it is improbable that they would be able to handle an added task. It is also obvious that there is a balance between the “gentleman’s agreement” to provide free data and other financing. One respondent also remarks that there can be several authorities in each country that can be considered to be statistical offices.

Q2b

The question is about the further development of Matrix versus other more automatic solutions within the PX system.

The respondents answer quite differently. There are answers saying that it undoubtedly would be preferable to for NOVI move to automated solutions. There are also doubts when it comes to the availability of, say, APIs making that route uncertain. Some refrain from answering.

Q3a

The question is about timeliness of data.

Even if some respondents do not find a question to answer there are comments. The comments variate between saying that timelier data is the essence of the project to answers saying that it would be an advantage if such data could be implemented in a monitoring system.

Q3b

The question is about the problem of the lag of publication of data.

Every respondent agrees to the desirability of short lags. On the other hand, the respondents differ in what they consider to be good enough. One respondent argues that when doing Nordic comparisons, the question of comparability becomes even more difficult and that, it is argued, tends to increase the time lag.

Q4a

The question is on what measures of welfare to use. Especially disposable income is mentioned in the question.

Nearly every respondent puts up disposable income as an important welfare indicator. Transfers and earnings are also mentioned.

Q4b

The question is about the possibility to include the effects of inflation into the monitoring system.

There is consensus that inflation is of importance. The views differ, though, on the possibility to include inflation in the system. There is mention of the fact that Consumer Price Indices (CPI) are published monthly in some countries. One view is to leave inflation out.

Q4c

The question is about finding good measures of health.

There seems to be consensus on the importance of health indication(s). At the same time there it is agreement on the difficulty of getting such data especially short term. There are suggestions, though, on variables like sickness absens, prescriptions of medicine, visits to health services and self-declared health.

Q4d

The question is about using NOSOSCO indicators and try to transform them into short period indicators.

One comment is that it is good practice to use already existing data. There is consensus that the existing NOSOSKO data should be considered somehow. There are warnings, though, that such a process would be time-consuming. There is also mention that the editorial groups needs to be involved.

Q4e

The question is on the desirability and possibility to include measures of subjective wellbeing (SWB) into the system.

Firstly, there are different views on the desirability of including such a measure. There is hesitance but also enthusiasm. It is made clear that there is such data on the European level and some national statistics but all on a yearly level. There are suggestions to do more frequent surveys if funding could be raised.

Q4f

The question is on the need for making data comparable.

The respondents, of course, supports the thought that data should be as comparable as possible. But every respondent says that making data fully comparable is a gigantic task. One idea that is put forward is to think of some indicators as change-indicators, in contrast to level-indicators, thus making the comparability problem less demanding.

Q5

The question is on whether the system should be considered to be a monitoring system for crises only or if it should be built for continuous use.

All the respondents think that a continuously producing system is the right way to go, in principle. One respondent suggests that it might be an idea to have a flexible system in the sense that the content could change depending on if there is a crisis or not.

Q6a

The question is about the need for coverage of countries in the monitoring system.

The respondent's view is that although the ideal of course would be full coverage, it is not probable that the ideal will be met, at least not from start. One remark is that already for the original NOVI project there was a challenge to get data from smaller countries. Another remark is that one could start with fewer countries and stretch for full coverage over time.

Q6b

The question is about the coverage of data. Especially data on subjective wellbeing (SWB) is mentioned.

The answer are diverging. One respondent thinks that with only small coverage the possibilities of comparing are scant. On the other hand, one respondent argues that even with data from only two countries there could be some possibilities to compare.

Q7

The question is about what should be considered to be the minimal viable project (MVP) for this work. That is, what is the least that we should achieve in order to be able to say that we have a good enough result?

As could be expected the details of the answers diverges widely. The respondents agree, though, that, considering that this project ends by the end of 2022, an MVP is quite modest. The respondents mention that only a few indicators needs to be established. There is also mention of that the solution on data creation and data delivery, in some detail, should be established.

Certification Proof of Concept (POC)

In the POC we clearly showed that downloading data from different PxWeb servers using the PxWeb API and combining them to a single table is automatically possible using the PxWin (API downloading) and PxEdit (combining the tables) programs. It is also possible to do calculations and transformations of the tables before they are combined both in PxWin and PxEdit, but this is a hard thing to maintain.

To be able to do this in the real word it is important to have compatible data and metadata in the downloaded tables. At the moment it is not easily possible to download and combine tables from the statistical PxWeb databases of the Nordic statistical offices. The tables have to be harmonized before this is possible.

Of course, it is possible to create entirely new harmonized databases for this purpose in all Nordic statistical offices.

Setting up a file based PxWeb database in a statistical office can be done rapidly. This is handy also for the statistical offices that don't have PxWeb API available.

Setting up this combining service is only a part of the work to be done. The tables have to be harmonized.

Statistical tables methods, metadata and data change regularly, and this adds to the work of the combining service, so maintaining the service is important.

Hans Baumgartner

Planning officer and PxWeb product owner

Statistics Finland

The costs and financing of the NOVI2 project

In this appendix I present a closer but still rough calculation of the multiyear costs of the whole project. The calculation for 2021-2022 is more specific on institutional distribution of the costs. In the years thereafter I only try to split between GA and pecuniary costs.

Hourly wage	400						
2021-2022	Cost	Cost GA	Cost pecuniary	Total hours	GA total hours	Pecuniary total hours	
Working hours	100 000	22400	77600	250	56	194	
cost consultant	200 000						
Statistics Finland	150 000						
Other NSA's	100 000						
Sum	**550 000**						
GA cost	**22 400**						
Pecuniary cost	**527 600**						
2023	Cost	Cost GA	Cost pecuniary	Total hours	GA total hours	Pecuniary total hours	
Working hours transfers	160 000	80000	80000	400	200	200	
Working hours swb	200 000	40000	160000	500	100	400	
Working hours health indicators	120 000	80000	40000	300	200	100	
Sum	**480 000**						
GA cost	**200 000**						
Pecuniary cost	**280 000**						
2024	Cost	Cost GA	Cost pecuniary	Total hours	GA total hours	Pecuniary total hours	
Working hours micro databases	200 000	40000	160000	500	100	400	
Working hours hypothetical households	120 000	80000	40000	300	200	100	
Working hours MSM's	360 000	40000	320000	900	100	800	
Sum	**680 000**						
GA cost	**160 000**						
Pecuniary cost	**520 000**						

The proposed indicators in the NOVI report from 2016

1. Health				
1.1	Self-reported health status	Self-perceived health is surveyed through a question on how a person perceives his/her health in general, using one of the following answer categories: very good, good, fair, bad or very bad. Measure: percentage	Age Gender Work Status	Eurostat: EU-SILC
1.2	Self-reported unmet need for medical care (examination)	Total self-reported unmet need for medical examination for the following three reasons: financial barriers + waiting times + too far to travel. Person's own assessment of whether he or she needed examination or treatment for a specific type of health care, but didn't have it or didn't seek for it. Measure: percentage	Age Gender Income level	Eurostat: EU-SILC

1.3	Self-reported unmet need for dental care (examination)	Total self-reported unmet need for dental care for the following three reasons: financial barriers + waiting times + too far to travel. Person's own assessment of whether he or she needed examination or treatment for a specific type of health care, but didn't have it or didn't seek for it. Measure: percentage	Age Gender Income level	Eurostat: EU-SILC
1.4	Deaths from circulatory diseases	Deaths from circulatory diseases per 100 000 inhabitants by gender, age standardized rates.ICD-9: 390-459 and ICD-10: I00-I99. NOMESCO definition.	Age Gender	NOMESCO
1.5	Cancer mortality rate	Death rates from malignant neoplasms per 100 000. ICD-9: 140-208 and ICD-10: C00-C97. NOMESCO definition.	Age Gender	NOMESCO
1.6	Deaths from suicide	Deaths from suicide per 100 000 inhabitants. For children - ICD-10: X60-X84. NOMESCO definition.	Age Gender	NOMESCO

2. Educational skills				
2.1	Early leavers from education and training	Early leavers from education and training denotes the percentage of the population aged 18 to 24 having attained at most lower secondary education and not being involved in further education or training. Measure: percentage	Age Gender Work status Country of birth	Eurostat: EU-LFS
2.2	Educational attainment	The distribution of the share of the population (18-24, 25-54) who have successfully completed education that equals International Standard Classification of Education (ISCED) level (0) 1-6, Focusing on those with either low (0-3) or high (5-6). Measure: percentage	Age Gender Work status Education	Eurostat: EU-LFS
3. Employment				
3.1	Employment rate	Employed persons (age 20-64) as a proportion of total population in the same age group. Measure: percentage	Age Gender Country of birth	Eurostat: EU-LFS
3.2	Unemployment rate	Unemployed persons as a percentage of the labour force. Measure: percentage	Age Gender Country of birth	Eurostat: EU-LFS
3.3	NEET	Young people Neither in Employment nor in Education and Training. Measure: percentage	Age Gender Country of birth	Eurostat: EU-LFS
3.4	Long-term unemployment rate	The share of unemployed persons since 12 months or more in the total active population. LFS variable: Total long-term unemployed population (≥12 months' unemployment; ILO definition) as a proportion of total active population aged 15 years or more. Measure: percentage	Age Gender Country of birth	Eurostat: EU-LFS

3.5	Involuntary part-time	Involuntary part-time employment as percentage of the total part-time employment. Persons working on an involuntary part-time basis are those who declare that they work part-time because they are unable to find full-time work. Measure: percentage	Age Gender	Eurostat: EU-LFS

4. Work-life balance				
4.1	Childcare	Percentage of children (0-3 and 3-cumpulsory school-age) cared for by formal arrangements by weekly time spent in care. By duration (less than 30 hours a usual week; 30 hours or more a usual week). Measure: Percentage	Hours of child care Age of child	Eurostat: EU-SILC
4.2	Parental leave	Number of days in which maternity benefits were drawn per new-born - days with daily cash benefits in connection with pregnancy, childbirth or adoption during the year. And of which men in percent. Measure: days and percent	Maternity days Men's days	NOSOSCO
4.3	Average number of actual weekly hours of work	Average number of actual weekly hours of work in main job, by sex, professional status, full-time/part-time and occupation (hours). Measure: days per week	Gender Working time Work status	Eurostat: EU-LFS

5. Income and earnings				
5.1	Mean and median net income	Median net income after taxes and transfers. Equivalised, nominal in PPS, Euro and nat. currency. Eurostat applies an equivalisation factor calculated according to the OECD-modified scale. Measure: income (mean, median) in euro, PPS and national currency	Household type	Eurostat: EU-SILC
5.2	Distribution of disposable income	Distribution of equivalised household net disposable income by quintiles. Measure: percent	Quantiles (population by income level)	Eurostat: EU-SILC
5.3	Relative at risk of poverty rate	Share of persons with an equivalised disposable income below 60% of the national equivalised median income. Measure: percent, poverty threshold and income threshold	Household type Income status	Eurostat: EU-SILC
5.4	Persistent low income	Having an equivalised disposable income below the at-risk-of-poverty threshold in the current year and in at least two of the preceding three years'. The 'at-risk-of poverty threshold' is taken, as 60% of the national median. Measure: percent	Age Gender Income status	Eurostat: EU-SILC

5.5	Material deprivation	Share of population living in households lacking at least 3 and 4 items out of the following 9 items: i) to pay rent or utility bills, ii) keep home adequately warm, iii) face unexpected expenses, iv) eat meat, fish or a protein equivalent every second day, v) a week holiday away from home, or could not afford (even if wanted to) vi) a car, vii) a washing machine, viii) a colour TV, or ix) a telephone. Measure: percent	Age Gender No. of items Income status	Eurostat: EU-SILC
5.6	Arrears on payments	Percentage of the population reporting arrears (mortgage or rent, utility bills or hire purchase). Measure: percent	Household type Income status	Eurostat: EU-SILC

6. Housing				
6.1	Median share of housing cost in income	Median share of housing cost in disposable income. Measure: percent	Household type Income status	Eurostat: EU-SILC
6.2	Self-reported financial burden of total housing cost.	The financial burden of the total housing cost refers to the percentage of persons in the total population living in a dwelling where housing costs consist a financial burden, based on the following levels of financial burden: 1. Households with heavy financial burden due to the housing costs, 2. Households with financial burden due to the housing costs. 3. Households without financial burden due to the housing costs. Measure: percent	Household type Income status	Eurostat: EU-SILC

7. Social network and participation				
7.1	Social network	How often socially meet with friends, relatives or colleagues. Present distribution focusing at those reporting once a month or less. Measure: percent	Age Gender	European Social Survey
7.2	Social support	Anyone to discuss intimate and personal matters with (2004 and 2008), How many people with whom you can discuss intimate and personal matters (2012). Measure: percent	Age Gender	European Social Survey
7.3	Social participation	Worked in political party or action group last 12 months and/or worked in another organisation or association last 12 months. Measure: percent	Age Gender	European Social Survey

8. Personal security				
8.1	Crime, violence or vandalism in the area	Share reporting crime, violence or vandalism in the area. Measure: percent	Household type Income status	Eurostat: EU-SILC
8.2	Deaths from accidents	Causes of death per 100000 inhabitants. Accidents and/or assault. ICD-10 =V01-X59. NOMESCO definition.	Age Gender	NOMESCO

9 Subjective well-being				
9.1	Life satisfaction	How satisfied with life as a whole (European survey), Overall life satisfaction (EU-SILC from 2017). Measure: Distribution by low (0-5), high (6-8) and high (9-10) and mean.	European Social survey: Age, Gender EU-SILC: Age, Gender, Socio-economic status	European Social Survey and EU-SILC from 2017