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# Dealing with economic shocks – Corona pandemic in Sweden

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# Introduction

With the outbreak of Covid-19 in late 2019, and its first occurrences in Sweden in early 2020, several decisions were made for how Sweden, and its inhabitants, should tackle the situation. In contrast to many other nations, Sweden never went into a total lockdown, but recommended those who could work from home to do so, and to socially distance themselves from others when on public transportation and in shops. Other recommendations and restrictions for enterprises were limitations for public gatherings at such places as restaurants, night clubs and other entertainment arenas such as sporting events, theatres, and concert halls.

The government also decided that enterprises could apply for subsidies to be able to keep their personnel, such as short-time work allowances, lowered employer contributions, and other subsidies related to reduced income.

Statistics Sweden also made some adjustments to ensure that official statistics could be published during a time with a risk of many employees on sick leave because of the pandemic. For the most important statistics, back-ups were planned and introduced to each topic, to sustain production. The methodologists were on stand-by in case changes in methodology had to be made on short notice. Statistics Sweden also allowed all employees to work from home full-time to reduce the risk of employees on sick leave.

In the beginning of the pandemic Statistics Sweden decided to be proactive and plan to take required measures when needed. A plan for how to satisfy new user needs, such as faster statistics, higher frequency of published statistics in certain areas, clear descriptions of how to interpret the published statistics and so on, was drawn up.

This also included new information to respondents about the necessity of good statistics in a crisis, and a priority order for statistics that had to be published. These measures were to try to reduce negative effects in the production of statistics and its quality. However, the consequences of the pandemic at Statistics Sweden were limited, which can be a result of the proactive measures that were taken.

## Data collection

For most of the surveys at Statistics Sweden, the data collection from enterprises and organisations continued to function as before the pandemic. For all official statistics in Sweden, it is stated by law, that all enterprises in the sample are obligated to respond. If they do not respond, Statistics Sweden can impose a financial penalty. To help respondents and give them better possibilities to submit answers, the use of financial penalties was cancelled during the pandemic. This decision in combination with the enterprises' difficulties in responding to surveys due to personnel working from home with limited access to mail and personnel on sick leave, caused lower response rates.

To deal with lower response rates, some surveys, mainly short-term statistics such as Turnover in the service sector, and Index of Service Production, increased their sample sizes to guarantee quality in published statistics.

The annual statistics did not see this need to increase sample sizes, instead longer response times were allowed before reminders were sent out, to give the enterprises the chance to respond when they could. In a few cases, large, important, enterprises had difficulties responding, but with personal contacts from Statistic Sweden's Large Case Unit, even these enterprises managed to respond in time to have their answers included in the final dissemination of statistics.

The annual statistics regarding output in Sweden, Structural business statistics (SBS), is based on administrative data from the Tax authority, and only a supplementary sample survey is made. The sample survey focuses mainly on net turnover by product (according to CPA), and costs by product. The use of an administrative source is beneficiary during an economic crisis because the legal obligation for enterprises to submit data to the Tax Authority sustains even during a crisis. As a result of this, the data that Statistics Sweden use to compile statistics remained almost unaffected.

## Response rates and imputations

The administrative data used for SBS has a portion of non-response, as all registers have, and this is dealt with by a mean value imputation method based on groups of enterprises (size and industry). This method was used both before and during the pandemic. The un-weighted non-

response in the admin data has been around 15 percent for the last decade, with a slight increase in non-response in the admin data for 2020 due to the pandemic. This did not cause any special actions from Statistic Sweden.

The response rate for the survey gathered data in SBS has been on a relatively high level for the last decade. The un-weighted response rate for the business sector in total were 82.1 percent for reference year 2020, which is the lowest since reference year 2012. This decrease in response rate can in part be explained by the pandemic but decreasing response rates in general has become an increasing problem, and solutions need to be discussed. Reference year 2019 were collected in 2020, and the decrease in response rate is evident for both reference years collected during the pandemic.

**Table 1. Un-weighted response rate for selected industries and the total business sector, percent, 2017-2020**

NACE Rev.2		Un-weighted response rate			
		2017	2018	2019	2020
49.41	Freight transport by road	74,0 %	72,6 %	65,5 %	68,7 %
56.1+56.3	Restaurants and mobile food service activities + Beverage serving activities	71,8 %	73,4 %	67,4 %	62,0 %
69.10	Legal activities (excl. advisory activities concerning patents and copyrights)	91,3 %	91,9 %	87,3 %	86,1 %
71.12	Engineering activities and related technical consultancy	91,3 %	91,0 %	87,2 %	85,9 %
<b>Total 01-96 (excl. 64-66, 84)</b>		<b>86,3 %</b>	<b>87,4 %</b>	<b>83,5 %</b>	<b>82,1 %</b>

Statistics Sweden, Structural business statistics

As table 1 describes, the response rate varies between different industries. The selected industries illustrate the different views on responding to surveys in the business sector. For more traditional service industries, or industries with an office-based activity, such as legal activities and technical consultants, the will to respond has been high. Among these industries the will to respond remained high for 2020 during the pandemic, even though a decrease can be detected for these enterprises as well. For the industries of freight transport and restaurants, the response rates have been significantly lower than for the other two industries in table 1 for several years. The gap of 15-20 percentage points can be in part explained by the different nature of these industries. One explanation can be that restaurants and freight transport enterprises have less persons employed in administration, if any at all depending on size, and that their main focus is essentially separated from responding to surveys.

As a result of decreased response rates, some may argue that an evaluation and possibly a change in imputation methods is needed to remain the quality in the statistics. However, the SBS uses a method of mean value imputation based on groups of enterprises (size and

industry), for the current reference year. Since this method is based on data for the current reference year, the effects of the pandemic in all industries were accounted for in the imputed data, and no adjustments had to be made.

### **Recommendation**

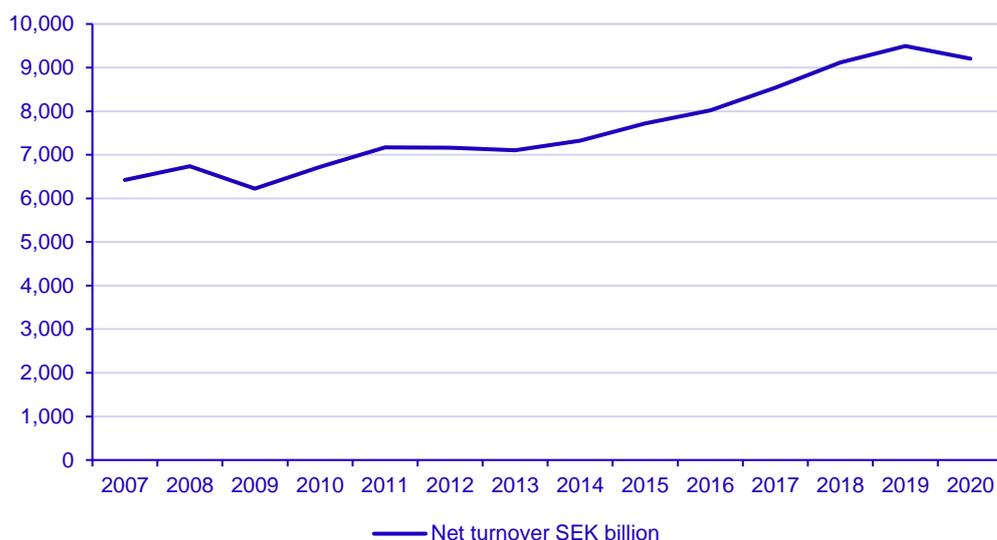
Even during an economic crisis, use of the same methods and measures can be an advantage that makes comparisons with the economy before and after the crisis easier. A change in methodology can cause a break in time-series of their own, and the effect of the crisis can, with a changed methodology at the same time, be depreciated and not regarded with the same gravity.

# Pandemic effects in the Swedish business sector

The effects of the pandemic can be seen in the business sector in several different ways. However, the effects were not as significant as expected, or feared.

The pandemic did not cause a decrease as great as the one during the financial crisis in 2009. Since then, there has been a constant increase in net turnover. The decrease in 2020 was only 3 percent compared with 2019, as shown in figure 1, half the decrease of 2009. Based on this, the first year of the pandemic did not have the same impact on the business sector as the financial crisis.

**Figure 1. Net turnover in the Swedish business sector 2007-2020, SEK billion, NACE A-S (excl. K, O).**

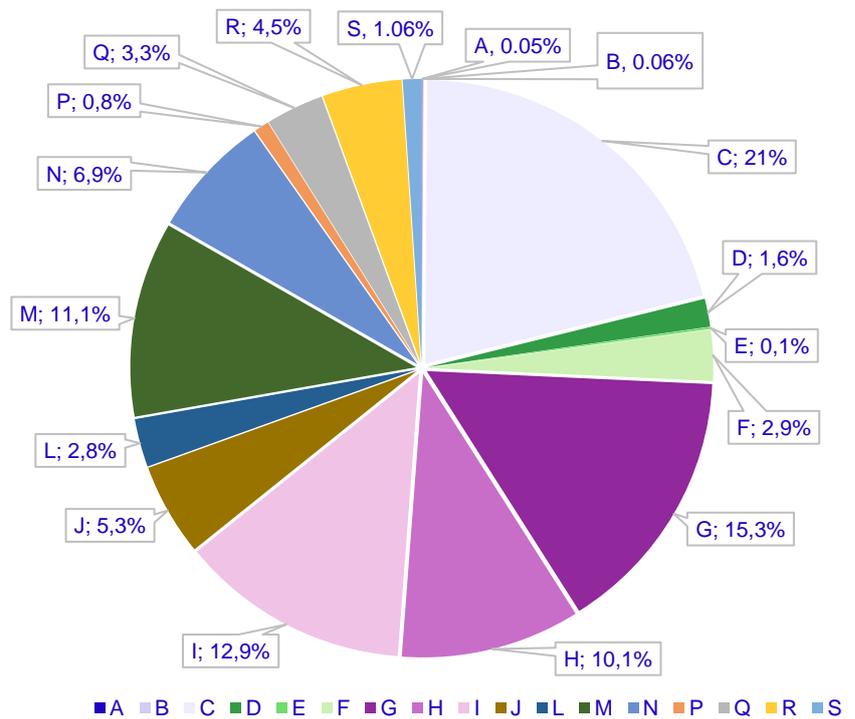


Source: Statistics Sweden, Structural business statistics 2020 (enterprise unit)

Net turnover does not include any subsidies or grants related to the pandemic or any other forms of subsidies and grants.

During the pandemic, the government issued several subsidies that the enterprises could apply for, among these were short-time work allowances, lowered employer contributions, and other subsidies related to reduced income. In figure 2 the total corona related subsidies are shown divided by NACE section.

**Figure 2. Share of corona related subsidies in the Swedish business sector 2007-2020, SEK billion, NACE sections A-S (excl. K, O).**

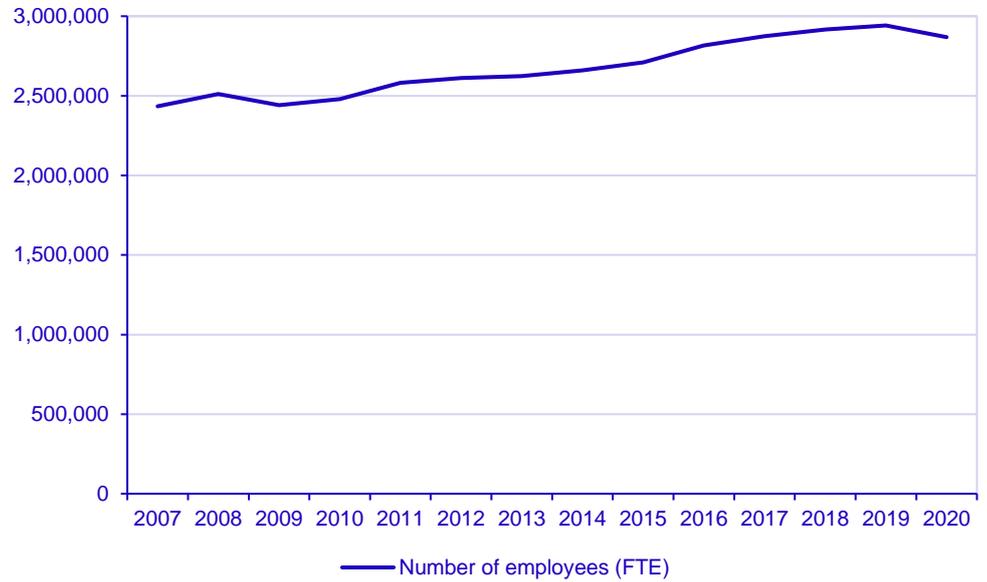


Source: Statistics Sweden, Structural business statistics 2020 (kind-of-activity unit)

It is evident that the most subsidies were paid to enterprises within section C, Manufacturing, with section G, Trade, and section I, Accommodation and Restaurants, close behind. These sections contain the industries with the most personnel employed, and many enterprises received subsidies for short-time work allowance.

Even though the government supported short-time work allowance the number of employees decreased in the total business sector with 2.5 percent compared with 2019, as shown in figure 3.

**Figure 3. Number of employees (full-time equivalents) in the Swedish business sector 2007-2020, SEK billion, NACE A-S (excl. K, O).**



Source: Statistics Sweden, Structural business statistics 2020 (enterprise unit)

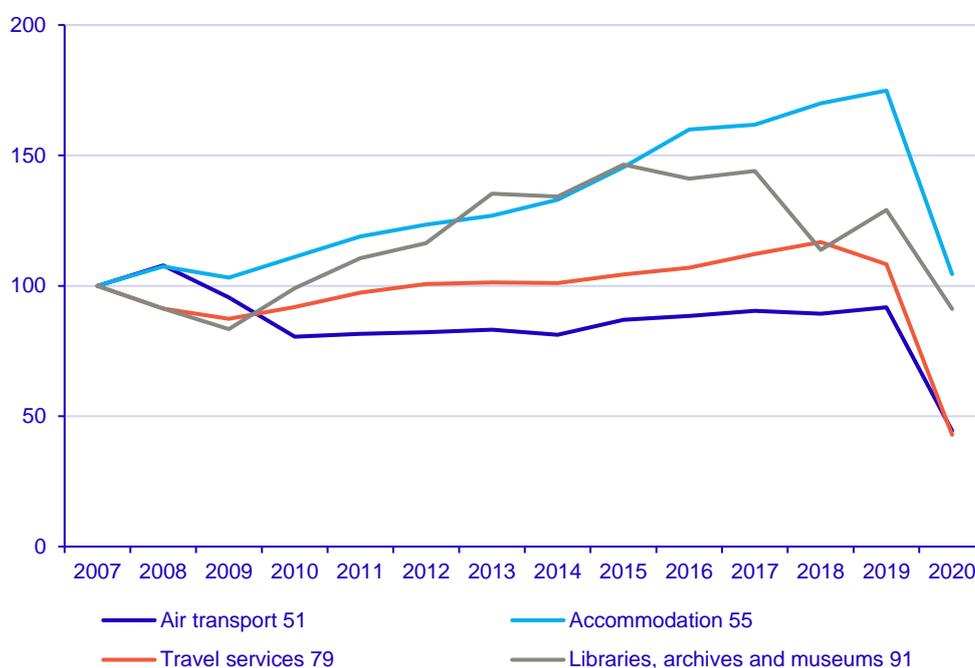
Number of employees does not show the same development as net turnover since 2007 but has still had a continued growth during the time series apart from the decrease in 2009 due to the financial crisis. The decrease in 2020 was at the same level as 2009.

# Short industry analysis

With a more detailed approach, the corona pandemic affected the various industries in different ways. For some industries the effects were very negative, and for others very positive.

In figure 4 and 5 the development of net turnover for a selection of industries is shown, divided by if they had a negative, or positive, development during the pandemic.

**Figure 4. Net turnover, 2007-2020, Index 2007=100, Industries with negative development during the first year of the Corona pandemic**



Source: Statistics Sweden, Structural business statistics 2020 (enterprise unit)

The enterprises within Accommodation have had a positive development during the period in the analysis, with an increase of 75 percent between 2007 and 2019. Due to restrictions during the pandemic, net sales between 2019 and 2020 decreased by 40.3 percent.

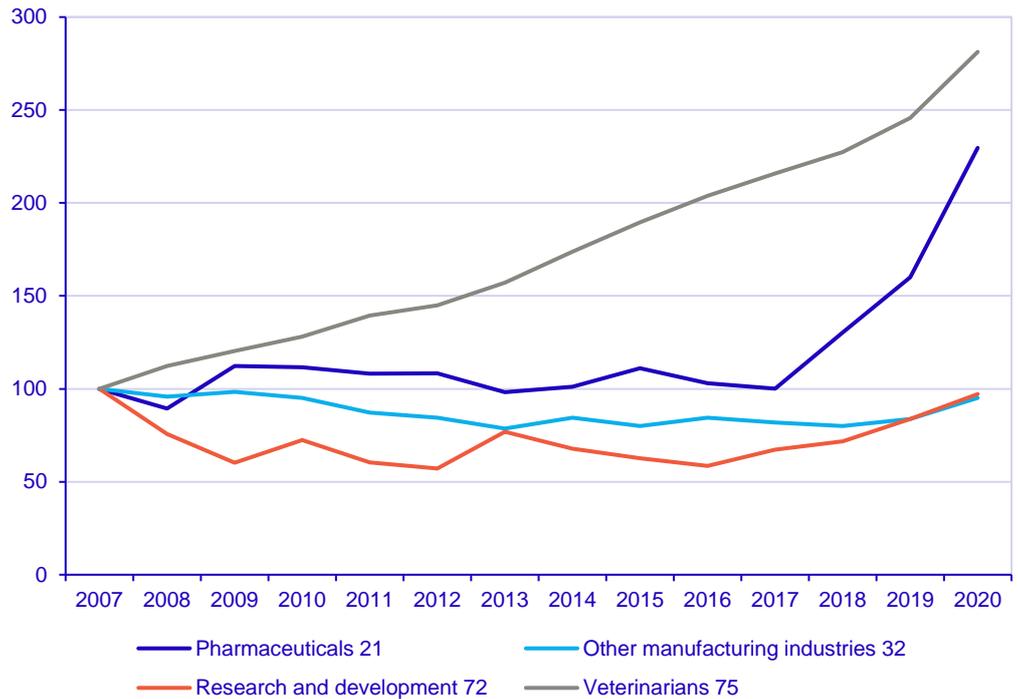
The travel industry decreased by 60.4 percent between 2019 and 2020. The trend since 2007 stops at -57 percent. During the analyzed period, in addition to a slight increase between 2007 and 2008, airlines have decreased to a level about 10 percent below the value for 2007 until 2019. Airlines crash-landed during the pandemic, with a decrease of 51.5 percent between 2019 and 2020.

Libraries and museums had a decrease of 29.4 percent compared to 2019. However, over the course of the period, this industry has shown a

positive development until 2017, where a decline began, and at the end of the period the decrease was 8.9 percent compared to 2007.

There were also industries that had a positive development during the first year of the pandemic as shown in figure 5.

**Figure 5. Net turnover, 2007-2020, Index 2007=100, Industries with positive development during the first year of the Corona pandemic**



Source: Statistics Sweden, Structural business statistics 2020 (enterprise unit)

Demand for veterinary services has increased during the period and thus shows the greatest positive development with an increase of 181 percent between 2007 and 2020. Total net sales for veterinarians in 2020 increased with 14.5 percent compared to 2019.

The pharmaceutical basic products and pharmaceutical industry had an increase of 43.4 percent compared to 2019 and of 129 percent compared to 2007. The industry for other manufacturing has also increased compared to 2019, by 13.5 percent in net sales in 2020. This industry group includes manufacturers of medical equipment such as ventilators and laboratory equipment. The increase in these two industry groups can be seen as an effect of the Corona pandemic. The R&D industry group also increased its net sales between 2019 and 2020, by 16.0 percent. However, turnover in this industry group naturally varies from year to year.

# **New statistics and analysis**

To satisfy the users' needs for information about the pandemic and its effects on society, Statistics Sweden implemented an analysis group that published short analysis and articles regarding corona-related topics regularly.

Previously quarterly statistics on bankruptcies were published monthly as an example of more frequent statistics.