

# Summary

The coronavirus pandemic was a global crisis between 2020 and 2022 that had serious consequences for the world economy. Like other countries, Sweden was hit hard, and a number of policy measures were introduced to mitigate the negative impact of the pandemic on businesses and households.

Effective policymaking in times of crisis such as the outbreak of the pandemic requires up-to-date information about the state of the economy. Unfortunately, official economic statistics contain significant time lags when it comes to real economic data. Data on economic outcomes such as firm turnover and individual income levels and distribution are typically reported on a quarterly or annual basis. The household income distribution income is presented only on an annual basis and with a delay of more than one year. It cannot be excluded that these time lags have impaired the design and effectiveness of the government's support measures during the coronavirus pandemic.

This report analyses the economic consequences of the coronavirus pandemic and support policies using underutilized data sources from the Swedish Tax Agency's tax register, which provides real-time information on companies' turnover and employees' income. The register is based on a continuous collection of information from companies on taxes paid and monthly income from employers for all companies and employees in the country. The periodicity is normally each month, which is considerably more frequent than that of most short-term statistics.

The report's findings focus on two outcomes during the coronavirus pandemic: business turnover and employee income. In both cases, we measure the impact of the pandemic at the level (how large was the impact on average?) and the distribution (how was income inequality affected?). The empirical approach to measuring

the impact of the pandemic utilises information provided by inter-year trends, intra-year variations and regional differences in the spread of COVID-19.

## **The pandemic caused a drop in business turnover and tax revenues**

Our empirical analysis shows that the average pandemic effect on firms' turnover was 6.1 per cent. This decline in activity is one of the most severe economic recessions that Sweden has experienced in modern times. The effect was greatest among firms registered in municipalities where the spread of COVID-19 was the largest.

Tax revenues decreased as a result of the pandemic. We analyse the impact on a number of excise taxes. Industrial electricity, measured as special deduction fields from the declaration form for energy tax on electricity, is of particular interest as it provides an alternative picture of the level of activity in the manufacturing industry as electricity is needed in the manufacturing process. The results show that the pandemic caused a decrease in industrial electricity in 2020, by five per cent in March-May and by over eight per cent in June-August. Revenues from the aviation tax decreased by almost 95 per cent in 2020, reflecting the fact that international air traffic almost completely stopped during a significant part of the first year of the pandemic. By contrast, revenue from the alcohol tax increased by 7 per cent, which can probably be explained by the fact that travel restrictions encouraged Swedes to consume alcohol in Sweden rather than abroad during holidays.

Our analyses show that the impact of the pandemic varied across industry branches. The largest negative effects are found in the hotel and restaurant industry: turnover fell by 25 per cent, employment by just over 10 per cent and among employees who had income from employers throughout 2019 and 2020, wage income fell by around 11 per cent.

Payroll tax revenues decreased very strongly, by more than 8 per cent largely due to the government's reduction of payroll tax rates in 2020. Furthermore, the amount of sick pay increased very strongly as a result of the pandemic (67.7 per cent on average in March-December 2020). According to our assessment, this effect is partly

due to the pandemic itself, and partly due to changes in the incentives in the health insurance system in connection with the pandemic in the form of the government's reimbursement of companies' sick pay costs and the abolition of the qualifying period deduction for individuals.

## **Wage earners' incomes fell and income inequality increased slightly**

We estimate that the effect of the pandemic on employees' pre-tax labour income was almost 5 per cent on average in the first year of the pandemic in 2020, which is large but not extreme compared to previous economic crises. Most of this effect seems to be explained by increased unemployment, especially among part-time workers under 30 and over 65.

Income dispersion in monthly wage income among employees increased slightly during the pandemic. The Gini coefficient rose by a couple of per cent in 2020, likely due to the increase in unemployment among low-paid part-time workers, mainly in the private sector. The labour income of middle and high earners did not change much. The analysis of annual income from both labour and capital cannot, for methodological reasons, capture the effects of the coronavirus pandemic as clearly, but here too a similar increase in pre-tax income inequality is seen. The change in 2020 was relatively modest, while 2021 shows a more significant increase in income inequality. However, the latter can mainly be explained by increased capital gains from the sale of housing and securities.

## **Government support measures curbed the fall in labour income and the rise in income inequality**

The report carries out policy simulations to study the impact of the government support measures in the form of short-term work support (*korttidsstöd*) and transition support (*omställningsstöd*). The results show that the support measures helped contain the reduction in income for wage earners: the fall in wage income would have been almost twice as large during the initial phase of the pandemic

without the short-term work support and transition support. We also note that without the government support measures, unemployment would have increased more than it did.

The policy simulations are also used to give an indication of what the income distribution would have been in the absence of the support measures. We find that a situation where employees in failing firms had been guaranteed full-time work and unchanged wages, but where some workers had been laid off, would have increased income inequality more than in an alternative scenario where everyone had kept their jobs but worked slightly fewer hours and thus had slightly lower income.

*The lessons learnt from the report's analysis* relate to various aspects of labour market organisation, economic policy design and future data collection arrangements.

## **More flexible working hours can reduce the impact of crises on the income distribution**

Our observations of the development of wage income during the pandemic, combined with simulations of different choice scenarios for crisis management in the labour market, suggest that the degree of flexibility in working hours and income can affect the trajectory of income inequality during recessions. The traditional 'Swedish model', which prioritises employees' right to full-time employment, is associated with a higher risk of increased unemployment and income dispersion in times of economic downturn compared to a more modern 'German model', which promotes flexible working time while maintaining employment.

## **Short-term work support can be a useful crisis measure, but should not be expanded to deal with normal downturns**

Short-term work support is a government subsidy intended to counteract firms being forced to lay off employees during crises. In a labour market where companies can easily reduce the number of

hours worked as a response to an economic downturn, a government short-term work subsidy would not add anything. In a labour market where full-time employment has instead been the norm, even in times of crisis, a severe economic downturn can lead to increased unemployment and then a government short-term subsidy could be a model for bridging the effects of the crisis. Our analysis shows that the short-term work support had a large impact on employees' wage incomes, especially among employees who can be assumed to have permanent employment and with incomes in the upper three quarters of the distribution (with the exception of those with top incomes). We lack data on disposable income, but it is reasonable to assume that the short-term support had a similar, though much smaller, impact in terms of disposable income. It is important to point out that our analyses are short-term and we cannot comment on the possible impact of short-term work support after the more acute crisis of the pandemic. In the longer term, there is a risk that a system with short-term work support can discourage a necessary structural transformation and for this reason, the support should not be used during normal economic downturns.

### **Implicit support to the public sector should be analysed**

The downturn in the private sector during the pandemic led to increased unemployment and reduced income. In the public sector, employment or wage income were not significantly affected during the pandemic, although the fall in demand affected some of its activities. Some areas of activity, such as parts of the health sector, experienced a sharp increase in demand, but this is unlikely to be the case across the whole public sector. Maintained employment and wage income in those parts of the public sector that faced reduced demand during the pandemic can be considered as an indirect short-term work support. Such indirect support has not been discussed in the context of the Corona pandemic. We therefore raise the question of how these differences in direct and indirect support policies during crisis periods to the private and public sectors affect the economy in the short and longer term. In a country like Sweden, where the public sector is relatively large and some activities are carried out in both the public and private sectors, this question

should be of particular importance. In the private sector, output is measured by how much is sold in competitive markets. Since public sector output is largely based on the size of wage income, reductions in output in the public sector are not captured in an economic downturn to the same extent as in the private sector. We therefore also wonder whether the analysis of government support measures would be affected by also considering the implicit support to the public sector. It is not clear how such an analysis would be carried out, but we believe that the question is important and should be investigated in future studies.

### **Increase the use of real-time economic data, in particular the Tax Agency's records**

Measurements of outcomes in the private sector can already be made with high frequency by using the Swedish Tax Agency's register data on firm turnover, tax payments, and wage payments. By actively including these data in official statistics, the time lag in economic analysis and income distribution analysis could be significantly reduced. In addition, the quality of the analyses would be improved.

### **Introduce reporting of working time and type of employment in the monthly employer declarations**

There are no comprehensive data on employees' working hours in Swedish registers. This makes it difficult to analyse how economic fluctuations and labour market reforms affect labour income and its distribution between different groups of employees. The monthly data should therefore be supplemented with information on the percentage of full-time work, after an impact assessment of the administrative burden this may cause for employers.

### **Introduce accounting for sick pay at the individual level**

Short-term sick pay for employees is currently reported as a lump sum at firm level in the monthly data from employer declarations, not specified per employee. This makes it difficult to analyse how

cyclical fluctuations and policy reforms affect sickness absence. It is therefore important to change the registers such that short-term sick pay is registered also at the individual level, as is already the case with paid wage income from the employer.