

Selected country examples on Data Solutions

The following country examples are indicative of the types of responses to COVID-19 that national statistical offices (NSOs) have employed. The examples are not intended to be an exhaustive list but only represent a small sample. The experiences were compiled from information collected by international organizations and from websites of the cited NSOs.

Australia

- A dedicated task force has been established to identify and secure new data sources to supplement the production of existing Australian Bureau of Statistics (ABS) products, address emerging policy questions and data needs in response to COVID-19, and deliver novel and innovative products in the future. New statistical releases will provide information on:
 - Business impacts such as cash flow and turnover
 - Additional monthly analysis on hours worked, including reasons for working less hours, and quarterly hours worked analysis by industry
 - Preliminary retail turnover data
 - Interactive employment maps
 - Preliminary import and export data
 - Confidentialised microdata for Australian businesses will be made available for researchers through Table Builder so they can produce tables, graphs and maps.
- Business Indicators, Business Impacts of COVID-19 - Impacts from COVID-19 experienced by businesses operating in Australia. Topics included in this release include business response to the announcement of the JobKeeper Payment scheme, anticipated adverse business impacts due to COVID-19 and business capital expenditure intentions. This publication provides information on the incidence and nature of impacts due to COVID-19, as experienced by businesses operating in Australia. Topics covered in this release include:
 - Operating conditions of businesses;
 - Changes in revenue and finance arrangements;
 - Changes in employee arrangements;
 - Future business impacts and conditions.
- The ABS is now publishing fortnightly information about Australian jobs and wages utilizing data sourced from the ATO's Single Touch Payroll system.

- ABS Information Note to Respondents to the Corona Virus Survey: <https://www.abs.gov.au/websitedbs/D3310114.nsf/Home/Survey+Participant+Information>
- The ABS COVID-19 portal: <https://www.abs.gov.au/covid19>

Canada

- The impact of COVID-19 on the gig economy: Short- and long-term concerns by Statistics Canada. Analysis based on historic data from a 2019 study. <https://www150.statcan.gc.ca/n1/pub/45-28-0001/2020001/article/00021-eng.htm>
- Running the economy remotely: Potential for working from home during and after COVID-19. To provide new insights into this important issue, this article estimates the number of jobs in Canada that can plausibly be performed from home under normal circumstances—the “telework capacity” of the economy—and compares that estimate with actual telework activity reported early into the pandemic. Note Then, it considers which types of jobs can be done from home, where they are located and who holds them. <https://www150.statcan.gc.ca/n1/pub/45-28-0001/2020001/article/00026-eng.htm>
- In order to better understand the impact of COVID-19 on businesses, employers and employees, communities and our economy, Statistics Canada and the Canadian Chamber of Commerce collaborated to launch the Canadian Survey on Business Conditions. Fully cognizant of the extreme challenges that businesses in Canada are currently facing as a result of this crisis, our innovative partnership with the Chamber was essential to leverage their extensive network to reach out to businesses across Canada to complete this survey. From April 3 to 24, 2020, representatives from more than 12,600 businesses visited Statistics Canada's website and took part in the online questionnaire about how COVID-19 is affecting their business. Please note that unlike other surveys conducted by Statistics Canada, crowdsourcing data are not collected using a probability-based sample design. As a result, the findings reported cannot be applied to the overall Canadian economy. <https://www150.statcan.gc.ca/n1/pub/45-28-0001/2020001/article/00018-eng.htm>
- Trade in medical and protective goods (thru March 2020). Statistics Canada is monitoring the impact of the COVID-19 pandemic on Canada’s international merchandise trade statistics. There is particular interest in trade in products required for the prevention, testing and treatment of the illness, such as disinfectants and sterilization products, personal protective equipment, medical equipment and products, and diagnostic products. A review of recent trends in exports and imports of these goods provides a basis for understanding the potential impact of the pandemic on Canada’s international merchandise trade. The categorization of goods used in this article was developed by Statistics Canada for the purpose of analysis. It was developed based on the Harmonized System (HS) classification guidelines produced by the World Customs Organization and the World Health Organization. <https://www150.statcan.gc.ca/n1/pub/45-28-0001/2020001/article/00006-eng.htm>
- Canadian Economic Dashboard and COVID-19. This dashboard presents selected data that are relevant for monitoring the impacts of COVID-19 on economic activity in Canada. It includes data on a range of monthly indicators – real GDP, consumer prices, employment, merchandise exports and imports, retail sales, hours worked and manufacturing sales - as well as monthly data on aircraft movements, railway car loadings, and travel between Canada and other countries. Estimates are presented from January 2019 to the current reference month for each data series. The information will be updated continuously as new data becomes available, and additional series may be added to the dashboard as circumstances warrant. <https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2020009-eng.htm>

Finland

- Statistics Finland Etna Economic Research is Nowcasting Finnish real economic activity, using automatic information on truck traffic. <https://aineistot.vayla.fi/lam/>

France

- Etalab of the French Government is producing a National Dashboard with daily updates, which in addition to health data also displays the government's aid to businesses. <https://www.gouvernement.fr/info-coronavirus/carte-et-donnees>

Denmark

- Statistics Denmark, in collaboration with other members of the national statistical system, has been using new data sources and methods to provide faster indicators of development. These Experimental Statistics, whose methodologies are subject to continuous development and are not part of the official statistics production, can nevertheless be of great value when users demand fast, innovative and reliable measures of development. In the context of the COVID-19 situation, they provide valuable information to understand the pandemic's impact on consumption, industry, employment, transportation, trade, etc. Further information on the effect of COVID-19 on consumption are available from [this website](#). The figures are updated weekly. Daily statistics on unemployment are compiled based on the number of cash benefit and unemployment benefit recipients, and the total number of unemployed and newly registered unemployed persons. Statistics on the number of total vacancies and new vacancies are also produced as an indicator of the demand side of employment.
- From a daily count of vehicles passing through 30 measurement points across the country, transport statistics are compiled which contain figures on total road traffic, passenger car and van traffic, and truck traffic. More information is available from the [Danish Road Directorate website](#).
- Daily statistics on number of commercial flights from Copenhagen Airport are compiled in collaboration with Denmark's Nationalbank, based on data from the [OpenSky Network](#).
- Using AIS data available from the Danish Maritime Authority, a ship index is compiled to measure the number of cargo and container ships that have entered Denmark's ports. Daily figures are available which are updated weekly. More information is available from [this website](#).
- To measure the impact of COVID-19 pandemic on external trade, information from the Customs is used to compile daily indicator of exports to non-EU countries. For more details, see this [working paper](#) and the source data.
- Statistics Denmark's model group has developed a module for their economic model (ADAM) to estimate the macroeconomic effects of the COVID-19 pandemic. The module allows users to input their assumptions about the length and severity of the pandemic to estimate the impact on the economy accordingly. Relief and crisis packages are considered in the model. More information is available from the [ADAM](#) website.

Ireland

- The Central Bank of Ireland has published a study, '[SME liquidity needs during the COVID-19 shock](#)', in which the authors use a combination of sector- and bank-level data to estimate Small and Medium Enterprises (SME) liquidity needs over a three month period, under a range of scenarios. The paper discusses each type of intervention from a theoretical perspective, noting that each type of intervention incorporates very complex and delicate trade-offs in its optimal design and execution. In Ireland, such supports include the pre-existing Irish Credit Guarantee Scheme, and the SBCI, Enterprise Ireland and MicroFinance Ireland schemes are involved in direct lending to firms.
- The Central Bank of Ireland has published another study, '[COVID-19 and the transmission of shocks through domestic supply chains](#)', in which the authors find that linkages through the supply chain represent an important potential transmission mechanism for the COVID-19 shock in Ireland due to the substantial economic activity that occurs between businesses across sectors in Ireland.
- <https://www.centralbank.ie/news/article/press-release-central-bank-publishes-research-on-understanding-smes-in-the-covid-19-pandemic-23-april-2020> and [https://centralbank.ie/docs/default-source/publications/financial-stability-notes/no-3-covid-19-and-the-transmission-of-shocks-through-domestic-supply-chains-\(mccann-and-myers\).pdf?sfvrsn=4](https://centralbank.ie/docs/default-source/publications/financial-stability-notes/no-3-covid-19-and-the-transmission-of-shocks-through-domestic-supply-chains-(mccann-and-myers).pdf?sfvrsn=4)

Italy

- Italy's list of "essential" economic activities that could keep on operating under the current circumstances included some 80 ATECO 2007 2-digit codes (the Italian version of the EU NACE Rev. 2 activities) originally, but the list was reduced to a smaller number of 4-digit codes, due to objections from Trade Unions. <https://www.linkiesta.it/2020/03/italia-coronavirus-accordo-sindacati-produzioni-non-essenziali-chiuderanno>

Lithuania

- Statistics Lithuania has produced an interactive map displays COVID-19 information including detailed (pointed) data of the private and public sectors, directly affected by the quarantine, enterprises and their affiliates (local units), directly affected by quarantine. <https://osp.maps.arcgis.com/apps/MapSeries/index.html?appid=79255eaa219140dfa65c01ae95ed143b>

New Zealand

- Stats New Zealand is collecting and providing new data to help decisions around COVID-19. For the first time, Stats NZ has been able to provide weekly rather than monthly trade data. We also publish provisional weekly travel data. This has become of much greater public interest during the COVID-19 outbreak, and we will do our best to continue to innovate during this time.

Romania

- Institute of National Statistics (INS) of Romania is making available a series of ad-hoc studies measuring the impact of the COVID-19 pandemic on the Romanian economy, including rapid estimates for the decreases in economic activity, employment, and exports.

- A first study, carried out during the first days of the pandemic outbreak in March, assessed the impact of COVID-19 on the economy using an ad-hoc survey by the regional statistics directorates. Over 800 respondents gave a first picture of the magnitude of the economic disaster that was expected to occur in March and likely to continue in April.
- A second ad-hoc study aimed to evaluate the reduction of the economic activity as well as the negative impact on employment. Qualitative and quantitative data collected from a representative, nationwide sample of over 8000 companies was used to assess the overall impact and the impact by economic sectors.
- A third study estimated the reduction of foreign trade activity by enterprise characteristics including size, number of employees, legal form, etc. The study was carried out using a representative sample of more than 1700 companies and with a combined coverage of 70 percent of the regular foreign trade activity.

South Africa

- Statistics South Africa has conducted two surveys on the impact of the pandemic on South African business. Some limitations of the survey are that micro businesses are excluded; results are based on perceptions due to the qualitative nature of the survey; and interpretation is based on limited responses. The strengths of the survey are that close to real-time insight is provided; the respondents' experiences and insights are communicated quickly; and the experimental study can be used to supplement reliable statistics produced according to statistical value chain processes. The businesses affected by the national lockdown are those that are not regarded as providing essential services. These industries include, amongst others, those reliant on the movement of goods (supply chain disruptions), the telecommunications sector, selected mining activities due to a decrease in demand for minerals, accommodation and tourism due to travel bans, construction, transport, and various services. Measuring the impact of the pandemic on the economy will depend heavily on information and related facts provided by businesses who complete surveys conducted by Statistics South Africa (Stats SA). The pandemic has highlighted the need to obtain accurate information as close as possible to real time. Accordingly, Stats SA has set out to determine the impact on businesses and the economy at large by conducting an experimental study. The business impact study is administered through a basic survey focusing on financial performance related to the trading status, business impact, turnover, import and export of goods, purchases, price changes, financial burden and assistance, business survival, and workforce.

South Korea

- Korea released an Open API dataset for the availability of public masks for each vendor and region based on address and coordinates. The official daily public mask stock information of each vendor (pharmacy, post office and designated mart) is provided including mask stock, address of vendor, warehousing of mask stocks etc. Datasets are available based on address and coordinates (latitude / longitude) by vendor and region. <https://www.data.go.kr/dataset/15043025/openapi.do?lang=en>

United Kingdom

- Office for National Statistics (ONS) of the United Kingdom has created a page on the latest COVID-19 data and analyses, as well as its effect on the economy and society.

- The Business Impact of Coronavirus (COVID-19) Survey (BICS) is voluntary and responses are qualitative. The survey was designed to give an indication of the impact of the coronavirus on businesses and a timelier estimate than other surveys. The business indicators are based on responses from the voluntary, fortnightly Business Impact of Coronavirus (COVID-19) Survey, which captures businesses' views of impact on turnover, workforce prices, trade and business resilience. The survey questions are available in Business Impact of Coronavirus (COVID-19) Survey questions: 20 April 2020 to 3 May 2020. Estimates from the Business Impact of Coronavirus (COVID-19) Survey (BICS) are currently unweighted and should be treated with caution when used to evaluate the impact of the coronavirus across the UK economy. The industries covered are:
 - non-financial services (includes professional, scientific, communication, administrative, transport, accommodation and food, private health and education, and entertainment services)
 - distribution (includes retail, wholesale and motor trades)
 - production (includes manufacturing, oil and gas extraction, energy generation and supply, and water and waste management)
 - construction (includes civil engineering, housebuilding, property development and specialised construction trades such as plumbers, electricians and plasterers)The following sectors are excluded from the survey:
 - agriculture
 - public administration and defense
 - public provision of education and health
 - finance and insurance
- All businesses with an employment of greater than 250 employees and included within the three monthly surveys (MBS, RSI, Construction) are included in the BICS sample with a random sample of 1% for those with employment between 0 and 249. This gives a total of 18,506 businesses in the sample; with a split of 7,326 in employment for 250 or more employees and 11,180 for employment between 0 and 249. This breaks down further for 1,816 for employment between 0 and 99 employees; and 9,364 for employment between 100 and 249. Based on the achieved response rates for the different size bands, the data for the smaller sized businesses should be treated with caution. Response rates for these size bands are available in the detailed Business Impact of COVID-19 Survey (BICS) dataset.
- Early experimental data on the impact of the coronavirus (COVID-19) on the UK economy and society, including online price changes data. These faster indicators are created using rapid response surveys, novel data sources and experimental methods. Due to the rapid development of the new indicators there is less reliance on statistical process control and a higher degree of expert judgement in reviewing and challenging the data. This is particularly the case for price data for High Dependency Products and the BICS data on business impacts. The quality of the shipping indicators has been checked against subsequent imports data and shows a reasonably high level of correlation. However, there is seasonal variation in the shipping data that cannot yet be adjusted for until a longer time series of data has been established. As the data collection process matures ONS might seek to develop its quality assurance to incorporate some further checks on the data.

United States

- The United States Government has partnered with the Allen Institute for AI, Microsoft, and the Chan Zuckerberg Initiative to launch an open research resource on Covid-19. <https://www.semanticscholar.org/cord19>
- The [COVID-19 Hub](#) presents selected Census Bureau demographic and economic data to help guide decision making during the COVID-19 pandemic. The data are presented in interactive maps and downloadable resources that users can directly incorporate into their research and data products. The Hub was built in collaboration with the Environmental Systems Research Institute (ESRI) and leverages many features of the ArcGIS platform and solution templates. The data hub provides four interactive features:
 - The COVID-19 Impact Report allows users to browse dashboards with demographic and business data for the nation, states and counties. Information is presented in an interactive visualization that allows for further exploration and downloading.
 - The Demographic and Economic Analysis feature provides selected statistics in an interactive map that can be incorporated into users' own maps.
 - The Highlighted Datasets allow users to access even more of these key data in an interactive map that includes further details down to the census tract level.
 - The U.S. Census Bureau provides access to this and all of its resources in support of the coronavirus response effort at www.census.gov/coronavirus and <https://covid19.census.gov>
 - Business Formation Statistics (BFS) are an experimental data product of the U.S. Census Bureau developed in research collaboration with economists affiliated with Board of Governors of the Federal Reserve System, Federal Reserve Bank of Atlanta, University of Maryland, and University of Notre Dame. The BFS provide timely and high frequency information on new business applications and formations in the United States. The weekly data provide timely and granular information on the state of the economy but appropriate caution is required in interpreting fluctuations since high-frequency weekly data are subject to fluctuations from seasonal factors including holidays and beginning and end of calendar year effects. The quarterly BFS also includes projections for business formations in the near future.
 - The new Small Business Pulse Survey measures the changes in business conditions during the coronavirus (COVID-19) pandemic. Results are released on a weekly basis. Business Pulse complements existing U.S. Census Bureau data collections by providing high-frequency, detailed information on small business-specific initiatives such as the Paycheck Protection Program. We plan to publish survey results by sector and state and for the 50 most populous Metropolitan Statistical Areas. Business Pulse includes information on location closings, changes in employment, disruptions in the supply chain, the use of federal assistance programs, and expectations concerning future operations.
- U.S. Census Bureau - Data on Employer Businesses from County Business Patterns and Data on Nonemployer Businesses. <https://livingatlas.arcgis.com/policy/browse/?loc=-101.082,40.198,4&col=e4e0104e872d4ffcafc40ecdc4a307c2,063474dec9134526b8e4c3a300abfb e8,40ecbebb3b4b492dbc1f6479c95e0127,2e2248339c4f44949d051ed252e62870,8358f4bb7df84 d71b6de2f5b567dc4cb,02a82293e2dd475391cb3699b5e82d61,625fa3879bc84ff9a1b3e3271575b 962,2c8fdc6267e4439e968837020e7618f3&viz=e4e0104e872d4ffcafc40ecdc4a307c2&hs=1>