

Facts that matter



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Facts that matter



Multi-annual Programme

# 2019 – 2023 | Contents

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## Chapter 1

# Facts as foundation

**Society-oriented,**

**reliable,**

**innovative**

Growing amounts of data, increasing citizen demand for openness and the rising importance of evidence-based policymaking will define our future.

Society-oriented, reliable and innovative: CBS is the data hub for the Netherlands.

## Society-oriented, reliable, innovative

The demand for reliable data to underpin and substantiate decisions is growing in every section of society. Citizens require transparent, factual information. Public authorities and businesses need up-to-date, accurate and detailed information for the purpose of evidence-based policies and governance. Scientists use data as a basis for research.

Meanwhile, the quantity of data available is growing explosively. The volume of detailed, real-time data generated by sources such as social media, sensors in roads, smartphones and the Internet is increasing all the time. With the significant decline in the cost of storage, these data can also be saved. With new technologies, the data can be analysed more rapidly and in greater depth. These developments create unprecedented possibilities for the government and other actors in society to develop better, more targeted and more effective fact-based policies: from

formulating new policy measures and legislation and implementing smart city concepts to individual decisions by businesses and private citizens, for example on investments.

At the same time, the growing 'information overload' makes it increasingly difficult to determine what information is qualitatively good and reliable. Statistics Netherlands (CBS) occupies a unique position in this dynamic environment. This position is based on its statutory task of creating an independent and objective map of society by producing reliable statistics, reporting on its findings and performing its work efficiently and accurately.

In order to produce reliable statistics while simultaneously reducing the administrative burden for citizens and businesses, CBS has been granted access to government data by law. It is therefore able to reuse, enrich and consolidate data that have already been collected by other government organisations for statistical purposes. The major advantages of this access are that it saves money, increases the degree of detail of

the figures, enables CBS to deliver information more rapidly, reduces the administrative burden and improves the quality of the data and the statistics. CBS has essentially become the government's data hub for statistical information. In the process, CBS has also acquired considerable knowledge and experience of data processing and privacy issues.

The growing public demand for accurate and up-to-date statistics and the changing data landscape compel CBS to continue evolving in order to produce statistics with ever more efficiency and less administrative burden. Innovation is playing a major role in this. By employing innovative methods, CBS can tap into new data sources (including Big Data) and deliver the right information to the right person at the right time and in the right form. Increasingly, the purpose of that information is to describe social phenomena on the basis of interrelated indicators.

The Ministry of Economic Affairs and Climate Policy provides CBS with funding to perform its statutory duties. Once every five years, CBS' Director General draws up a multi-annual programme with an outline of the activities CBS will carry out during the succeeding programme period. The programme must permit CBS to fulfil its statutory duties within the financial parameters.

The contribution from the Ministry of Economic Affairs and Climate Policy will decline during the period of the Multi-annual Programme 2019–2023. CBS is also starting that period with negative equity as a result of a series of recent cutbacks, which have caused CBS' budget to shrink by more than a quarter since 2011. Accordingly, the financial framework for the Multi-annual Programme for the period 2019–2023 is tight, not only because of the growing demand for statistics and data services, but also in light of the substantial investments that are needed to upgrade or replace ageing and vulnerable ICT systems.



Within the budgetary boundaries for the 2019–2023 period, CBS will be able to continue producing the statistics which in 2018 are being funded through the contribution from the Ministry of Economic Affairs and Climate Policy. However, this will only be possible with measures designed to further increase efficiency. These will include the use of new data sources (including Big Data), new methods and new technology for the data infrastructure, as well as automated processing systems, which will require investments in data access, technology and methods. The negative equity capital will also have to be reduced in the first few years of the new Multi-annual Programme.

A third challenge facing CBS is the need to invest in ageing ICT systems. CBS had little financial scope to upgrade its processes during the 2014–2018 planning period. Consequently, it was unable to implement a number of planned ICT projects, with the result that many systems are now outdated. In light of the ensuing risks, investments in ICT are urgently required in the 2019–2023 period. Given the limited budget, the risks,

costs and benefits will have to be weighed carefully in deciding which projects relating to ICT and the redesign of processes will be carried out.

For projects to implement the innovations that are needed to further improve its statistics and services, CBS will look for partners and explore possibilities to secure subsidies and European grants. By definition, the outcome of that strategy is uncertain.

New requests made by users during the consultations with external stakeholders can be met if the costs are paid by interested parties.

The evaluation of CBS' efficiency and effectiveness in the period 2010–2015, which was sent to both Houses of Parliament by the Minister of Economic Affairs in 2017, showed that users are extremely satisfied with the quality of the statistics and services provided by CBS. CBS has also become far more efficient.

This Multi-annual Programme describes how CBS intends to continue meeting the growing demand for reliable and socially relevant information, subject to the financial resources available to it. For the purposes of the Multi-annual Programme, CBS carried out a business environment analysis by consulting more than sixty users and other stakeholders. The analysis also addressed their satisfaction with CBS' existing products and services, as well as any additional requests they might have. Their wishes have been included in this Multi-annual Programme in order to highlight the choices that have been made within the prescribed financial parameters.

CBS also consulted the various user councils. Finally, the Advisory Council, whose tasks include providing advice to CBS' Director General on the Multi-annual Programme, gave its opinion on the basis of preparations made by the Programme Council, the Audit Committee and the ICT Committee.





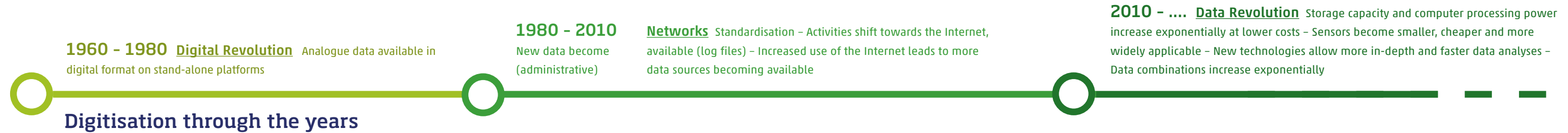
## Chapter 2

### Data revolution

# CBS as data hub

Increasingly, statistics are compiled by using data from digital sources. CBS is a data hub where data are collected, combined and processed into usable, society-oriented statistics.





## Data revolution

**Effective long-term strategy and policy planning depends entirely on a description of reality that extends beyond the specific features of individual cases. That is the only way of exposing underlying characteristics and trends, stripped of incidents and exceptions that distort the overall picture. This is why statistics form the basis of all policy-making.**

**For a long time, CBS gathered the information required to produce statistics by distributing questionnaires to businesses, citizens and the government. Nowadays, most of the data come from registers and new data sources, which make it possible to produce far more intricate statistics that are also more identifiable. To meet the public demand for statistics, CBS is endeavouring to further expand its role as data hub and producer of statistics from and for the entire government.**

At a time of exponential growth in the generation, storage and analysis of data with a view to increasing our knowledge and aiding decision-making, CBS' task is more relevant than ever. This section describes developments in the collection of data (data capture) and the progress CBS has made in that context. The review clearly illustrates the climate in which CBS will be operating in the coming years.

### Digitisation

From the 1960s, CBS joined the digital revolution and started using computers for the electronic processing of the data it collected. Its computing capacity grew rapidly, it was able to link databases, it standardised its concepts and in the meantime, the Internet came into being. The Dutch government created the system of key registers based on digital data collected by government organisations for administrative purposes. Since the mid-1990s, wherever possible CBS has switched from the system of conducting sample surveys to assembling data from the administrative sources of other public institutions and using the

existing data in those registers rather than collecting the data it needed by distributing questionnaires. The registers often contain far more detailed information than sample surveys can provide, thus generating new information. Combining data from a variety of registers also creates new possibilities, which expand exponentially as the number of sources available to CBS increases. The Statistics Netherlands Act in 1996 required CBS to minimise the administrative burden it caused and provided for use of government registers by CBS for statistical purposes. This transformed CBS into a data hub where information from a diverse range of sources can be combined and processed into useful statistical information.

In addition to government registers, in the last few years CBS has also started using business records, for example scanner data from supermarket checkouts to calculate price developments and information concerning energy consumption from energy companies.

A positive effect of the modern method of mechanical data collection is that the administrative burden caused by CBS has declined significantly

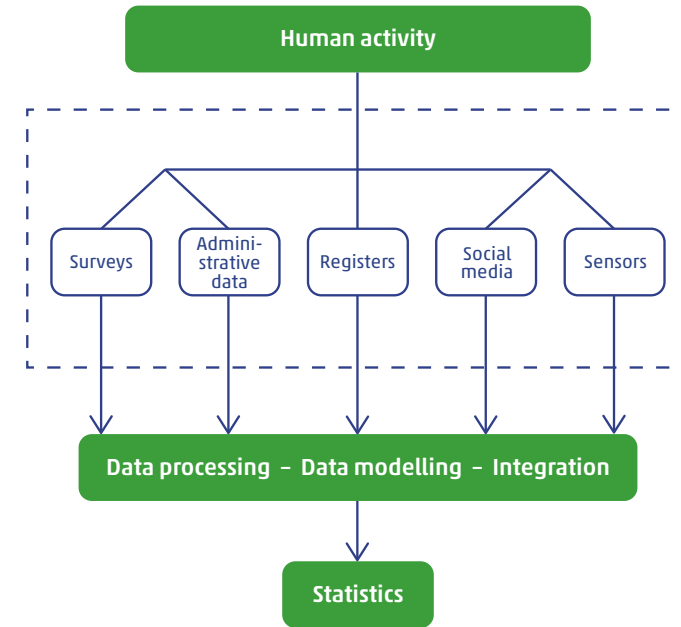
in the last few decades and the business community has enjoyed the benefits. However, the limits have almost been reached. To maintain the positive impression of the administrative burden, it is essential to remain constantly alert to the actual administrative burden and how it is perceived.

### Revolution in new data (and Big Data) sources

New sources of data are emerging all the time. People provide information themselves, for example through their use of social media. Human activities are recorded on smartphones and smartwatches. More and more of the information on the Internet can be captured by webscraping robots. The use of sensors that automatically collect data, such as records of information sent and received by mobile telephones, details of energy consumption recorded on smart meters or traffic information measured by detection loops in the road, is becoming increasingly common.



## Data collection

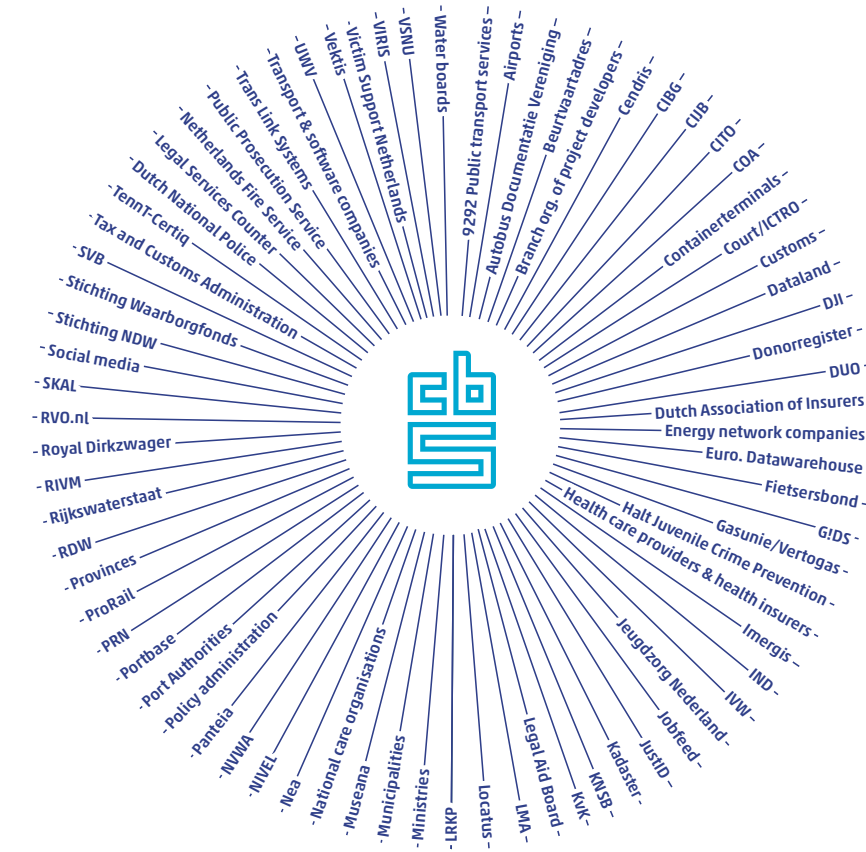


CBS' influence on the content of the data that is captured is steadily diminishing. The technological possibilities increasingly determine what data are collected, and producing statistical information from these sources is becoming more complex in conceptual and methodological terms. More importantly, however, modern developments create tremendous opportunities. By combining sources, there are greater possibilities to produce new, more detailed statistics.

CBS has benefited greatly from the use of new data sources. A lot of money has been saved in the production of statistics, the degree of detail of the figures has increased, the speed with which information becomes available has accelerated and the quality of both data and statistics has improved. Now that the data revolution has taken hold, in the 2019-2023 period CBS will endeavour to exploit new sources and employ innovative methods of processing the data they provide with the aim of increasing its value for society by generating new and more up-to-date statistics and/or producing them more efficiently.

CBS' innovation strategy focuses on collaboration, in the form of open innovation with public and private parties and cooperation with end users. CBS will explore possibilities for additional sources of financing and collaborative arrangements, for example with academic institutions and the business community. By forming strategic alliances with third parties we can help each other to achieve our objectives and make each of the parties stronger. Cooperation provides CBS with access to additional data, infrastructures and knowledge.

## Overview of data suppliers to CBS



## CBS and innovation

CBS has always possessed considerable innovative potential. More than a century ago, in 1916, CBS was the first organisation in the Netherlands to use the card punch, to process import and export statistics.

In the 1980s, CBS was the first statistical office to carry out a population census on the basis of government registers and existing surveys. This method is a factor of 100 cheaper per capita than the traditional census, where the population is counted by interviewers going from door to door.

The Netherlands was also the first country to use online observation in compiling the unemployment figures and supermarket scanner data and details of prices of frequently purchased products collected online to compile the inflation rate. With this type of innovation, CBS has become an efficient organisation that produces high-quality statistics.



## Chapter 3

### Data collection

# New data sources & observation techniques

We are facing a decline in survey response. New data sources offer a partial solution to this problem. Surveys completed by persons and companies will remain important to maintain a healthy response rate. CBS is developing new techniques to help in this process.



## Data collection

**Producing statistics begins with the collection of data. New data sources and new observation techniques, but also trends in the willingness of the public to participate in CBS surveys, call for an innovative and flexible approach. In the 2019–2023 period CBS will intensify its efforts to tap into new secondary sources (registers, machine-generated data, social media), to improve methods of conducting online surveys on tablets and smartphones, and to sustain response rates.**

During the new planning period, CBS will constantly look for new data sources to enable it to continue producing relevant information and presenting it in a coherent form, but also with a view to minimising the burden on businesses and individuals from surveys and increasing efficiency. In the forthcoming period, these new sources will include sensor data, transaction data and satellite data. The CBS Centre for Big Data Statistics (CBDS) plays an important role in innovation in relation to

observation. The use of Big Data should minimise the burden on society from the collection of data for CBS and generate new highly detailed and real time statistics. The activities of the CBDS combine product development, data scouting and the creation of knowledge and new methods, in collaboration with external partners.

CBS uses registers of public institutions, but also of private actors, such as businesses, in principle on a collaborative basis. At European level, an investigation is underway into the possibility of giving national statistical institutes a broader mandate for access to private data sources in order to produce statistics for which there is a public demand. CBS will follow developments in this area closely in consultation with the Ministry of Economic Affairs and Climate Policy.

### Additional surveys

CBS constantly reviews whether questionnaires can be replaced or shortened by using alternative sources such as registers or sensor data. However, the information it requires cannot all be furnished by data from registers. It will continue to be necessary to conduct additional surveys of businesses and individuals on some subjects or because greater detail is required. CBS also makes optimal use of a mix of observational techniques. CBS secures most of the additional data it requires by means of online observation. It will also continue to use a team of field interviewers and telephonists to guarantee the necessary response rate. In the period 2019–2023, the procedure for conducting additional surveys will be improved by making it more flexible and faster. This will make it possible to employ a variety of data collection methods with diverse quality profiles and costs. These options will also be offered as part of the services, on payment of the costs.

To sustain the response rate, CBS will continue to improve the respondent-friendliness of the surveys. It will also continue to respond to further technological and social developments in the collection of data, for example with observation via smartphones, tablets and social media, but also by using short, well-designed questionnaires tailored to the target group. Furthermore, CBS will engage in a dialogue with businesses and citizens to make it clear to them why their participation in CBS surveys is useful. Whenever possible, participants will receive feedback on relevant information. In this respect, CBS chooses to adopt a target group approach.





## Chapter 4

## Statistics

# Forward-looking with a solid foundation

Continue to implement the regular statistics programme for 2018, at the same time responding to new statistical requirements in a smart and phenomenon-oriented way. This is what CBS is aiming for in the coming years.



# Statistics

**The statutory task of CBS is to conduct statistical research for the government for practice, policy and science purposes and to publish statistics compiled on the basis of that research. CBS is responsible for producing the statistics required by the European Union (European statistics). Since 2010, its duties have also included publishing statistics for the Caribbean part of the Netherlands, the special municipalities of Bonaire, St Eustatius and Saba.**

## Regular programme

The law provides that the costs of performing CBS' statutory tasks are paid from the government's budget. In practice, this means that CBS receives a multi-annual contribution from the Ministry of Economic Affairs and Climate Policy for its activities. This contribution forms CBS' basic budget. The activities financed from the basic budget constitute CBS' regular programme.

The regular programme consists of two components: statistics required by EU legislation and additional statistics that are relevant for practice, policy and science purposes. Every year, the Director General of CBS draws up the regular programme.

The vast majority (95 percent) of the basic budget is devoted to complying with EU obligations. These statistics encompass various domains and are used not only to support the formulation and monitoring of the European Union's policies, but also to address national policy issues. CBS uses the remainder of the basic budget to meet demand for additional statistics. The criteria for including statistics in the regular programme are:

1. the statistics are of great social value and are widely used;
2. the statistics constitute a building block of CBS' data infrastructure;
3. the statistics should preferably be compiled and published by CBS in light of its position and capacity.

The package of non-European statistics in the regular programme has declined in recent years due to targets that have been set. There was also little financial scope to respond to new demands. Consequently, the part of the regular programme comprised of non-European statistics can only meet the additional demand for statistics to a limited extent. The non-European statistics in the regular programme are widely used.

The external consultation with more than sixty stakeholders revealed a deep and widely shared level of satisfaction with the content of the regular programme in 2018. In view of the importance of continuity in these statistics, CBS will continue this regular programme without changes during the period of the new Multi-annual Programme.

However, the growing demand for data and statistics in various domains also led to requests for new statistics. The basic budget is insufficient to fully meet the demand for statistics, so users, usually ministries, increasingly directly finance the statistics they need. These include larger, long-term statistical programmes, but also incidental supplementary

statistical surveys. Because CBS possesses extensive knowledge and a good infrastructure and has access to numerous data sources, it can supply these statistics on payment of the costs. Wherever possible, CBS concludes multi-annual agreements on these statistical programmes to guarantee their continuity and coherence and to avoid gaps in time series that could never be remedied later.

The supplement starting on page 28 of this Multi-annual Programme contains a summary of all the statistics produced by CBS on a regular basis, arranged under twenty themes. For each theme, there is a description of the output financed from the basic budget and the statistics financed by other organisations, including government organisations, as well as a summary of new statistics requested by users.

## Innovation

Because the basic budget will shrink in the period 2019–2023, the statistics in the regular programme will have to be produced more efficiently. The statistics in the regular programme will also have to continue providing an accurate and up-to-date description of the rapid changes occurring in society with the necessary quality (for example, with the smallest possible adjustments). Innovation will be required in relation to each of these aspects. CBS is constantly looking for new and relevant sources. Smart methods are needed to generate the maximum return from the collected data sources, and to exploit new sources of Big Data for statistical purposes. Retrieving (data extraction), assessing (distortion, representativeness) and editing (dealing with erroneous or missing data) data from new sources and integrating these sources in existing processes will take time and effort and will require further development. CBS will therefore also endeavour to find external sources of co-financing for these activities.

## Dutch Caribbean Statistical System

Since 2010, CBS has also been responsible for producing statistics for the Caribbean Netherlands (the special municipalities of Bonaire, St Eustatius and Saba). In addition to offices in The Hague and Heerlen, CBS also has an office on Bonaire. In February 2017, the directors general of the statistical offices of the countries of the Kingdom of the Netherlands (Aruba, St Maarten, Curaçao and the Netherlands) decided to establish a system of structural cooperation in the form of a Dutch Caribbean Statistical System.

The partnership is designed to improve the quality of statistics and enhance the comparability of the figures for the various islands, as well as ensuring the consistent and efficient implementation of Kingdom-wide and international initiatives. These activities include measuring the indicators used to evaluate the progress being made in achieving the United Nations' Sustainable Development Goals.

## New European obligations

The European statistics work programme runs until 2020 and largely corresponds with the EU's policy priorities, in particular the Europe 2020 strategy for smart, sustainable and inclusive growth. Much of the information produced under this programme is also used to formulate, monitor and evaluate national policy.

The European statistics work programme in the fields of social policy, sustainability, economic and monetary policy and the internal market will probably be revised for the period 2019–2023:

- The principal change in the domain of social policy will be a demand for more and, above all, timely data on aspects such as the distribution of income, spending and capital (both among population groups and within regions), social exclusion, vulnerable groups and welfare.
- On sustainability, more data will be required in particular about air emissions, energy consumption, use of raw materials, the circular economy, water and the monitoring of ecosystems.

- Further efforts will also be required to improve the quality of the European statistics in terms of comparability and timeliness and to strengthen the regional and spatial dimension, for example by investing in geo-information.

The following European developments in relation to statistics are certainly expected to have an impact on CBS' regular programme in the period 2019–2023:

- An initiative to improve the efficiency and flexibility of the European social statistics is the Integrated European Social Statistics (IESS), a new framework regulation designed to consolidate all existing European legislation relating to social statistics.
- The European framework directive INfrastructure for SPatial InfoRmation in Europe (INSPIRE) obliges government organisations to make available certain geo-information in accordance with the standards laid down in the directive. As required by the directive, CBS will publish the geo-datasets on statistical classifications, soil use, demographics and health before 2020.



- Agreement is likely to be reached during this programme period on a new EU regulation, the Framework Regulation Integrating Business Statistic (FRIBS), which will consolidate a number of existing regulations relating to business statistics and harmonise the definitions of variables. There are also proposals to expand the statistics provided on service sectors and on international trade under the FRIBS.

Once agreement has been reached, a substantial budget will be required to comply with the new obligations. The budgetary framework for 2019–2023 does not take into account any of these additional activities. If the new EU legislation creates additional work for CBS, it will seek funding for it from the Ministry of Economic Affairs and Climate Policy.

## Annex

# Regular statistics produced by CBS

**This section contains an overview of the regular statistical output of CBS. The statistics are grouped under twenty themes. It describes the output on each of the themes covered by the basic budget (the regular programme) and the statistics that are financed by other government organisations under a multi-annual arrangement. Finally, it contains the requests for new statistics made by users during the consultation with external stakeholders.**

**As explained earlier in this Multi-annual Programme, CBS can only meet requests for new statistics if they are financed by the parties that use them. If the statistics meet a more general public interest, CBS can also receive financing for them from the government or from other central parties.**

**This list was compiled in October 2017, and it was therefore impossible to include new or additional wishes ensuing from the new government's coalition agreement in the Multi-annual Programme. If the funding of statistics produced under a multi-annual financial agreement is ended during the 2019–2023**

**period, it will not be possible to continue producing those statistics. CBS will give notice of any changes that have occurred in its portfolio of statistics in the annual working programmes.**

## Labour and Social Security

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

This theme embraces statistics that describe the situation on the labour market. They include characteristics of the working population, wages and labour costs, employment, unemployment, absenteeism, social security benefits, vacancies, jobs and redundancies. Statistics are also published about jobs and commuting distances at the regional level , labour migration (broken down by background characteristics) and the flexibilisation of the labour market.

Multi-annual statistics financed directly by government organisations:

Additional statistical studies cover topics such as persons receiving benefits, pension and statutory pension (AOW) entitlements, regional labour market projections, the use of the Social Support Act (WMO) per municipality, detailed figures for the Ministry of the Interior and Kingdom Relations' models for budgetary allocations to municipalities, the impact of reintegration programmes, statistics on trade unions, resumption of work by people who have been receiving unemployment benefit, information about labour, care and child care.

New needs of users:

The flexibility of the Dutch labour market has increased rapidly in the last few decades. This creates the need for a clearer picture of the hiring of flex workers by organisations and the work they perform, the hourly rates and billable hours of self-employed persons, the duration of flexible jobs and the combination of a job as an employee with work as a self-employed person. There are also requests to expand the information about social security with information on aspects such as pension entitlements and benefits (including third-pillar pensions).

## Businesses

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

The key statistics for this theme are the figures for the EU's harmonised business registers, which CBS uses to describe the business demographics in the Netherlands. They also encompass the figures for revenue development, industrial revenue by product group, corporate revenue and expenditure, stocks, production index figures, investments, use of ICT and research & development and innovation by businesses.

**Multi-annual statistics financed directly by government organisations:**

Detailed figures on business demographics and economic developments (more frequent and with a further breakdown by region). Figures for innovation in specific sectors, information about the economic impact of ICT and about the ICT sector. Development of revenue from online sales in the retail sector, purchases by consumers via international websites. Websites, cyber security, internet platforms (Airbnb, Uber, etc.). The publication The State of SMEs.

**New needs of users:**

The growth of online shopping, the expansion of international chains, the ageing population and the blurring of sectors are all having a huge impact on the retail trade. There are more vacant stores and offices in inner cities and in villages. There is a need for extra information about online commerce, sector blurring and vacancy rates and their effects on the retail trade. Key figures per square metre of floor space, insight into the dynamic of outlets in each sector. Details of applications for suspension of payments and debts in the event of bankruptcies. Robots and ICT are playing an increasingly important role in production processes. More information is needed about the impact of robotisation and ICT on the labour market in various business sectors and their influence on productivity.

## Population

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

This theme focuses on the current state and the development of the population in the Netherlands due to births, deaths, immigration and emigration, trends in households, ageing, changes of nationality, the formation and dissolution of relationships, urban development, projections for population growth and life expectancy (once every three years) and a population and housing census (once every ten years).

**Multi-annual statistics financed directly by government organisations:**

Information about changes in the living situation, the Emancipation Monitor, relationships between parents and children, the consequences of flexible working relationships for family life, level of education, the Migrant Monitor, immigration and integration.

**New needs of users:**

Policy themes are inequality in society, vulnerable groups and changes in the living situation of children. It is important to form an impression of the growing diversity of household and family relationships and the life course of children and vulnerable groups in society, also across generations. As government involvement in many areas is decreasing, family networks are becoming more important and there is a need to learn more about them. Urbanisation is leading to growth in some regions and contraction in others. More information is needed about the distribution of human capital, migration streams and segregation. There is also a demand for projections about life expectancy and health by level of education, insight into the daytime and night-time population, for organisers of events and the tourism industry for example, and up-to-date data on the composition of the population at regional level. On the subject of migration and integration, information is needed about refugees and other migrants, including their settlement pattern, housing situation and socioeconomic characteristics.

## Building and housing

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

The focus of this theme is statistics on the nature and size of the housing stock and changes in them. Information about building permits that have been granted and building costs, the productive hours per employee in civil and utility construction, price indices for existing owner-occupied homes, new-build homes, costs of home ownership, trade in real estate, production of homes, buildings and civil engineering. Details at district and neighbourhood level.

**Multi-annual statistics financed directly by government organisations:**

Data about the housing market around gas extraction areas, the capacity of municipalities to raise revenues on the basis of the rateable values of properties (WOZ values), changes in the ownership structure of the housing stock, research into transformations. Additional detailed information about the housing market (the WoON survey), National Vacant Property Monitor (Landelijke monitor leegstand).

**New needs of users:**

The current trend towards more sustainable building and renovation creates a need for information about the sustainability of the existing stock of housing and other properties and about developments in sustainable building and renovation. That would also cover aspects such as energy labels and a breakdown of the housing stock according to the physical features of dwellings.

While the large cities are growing, in various regions, particularly rural areas, the population is shrinking. This calls for an understanding of the dynamics of supply and demand in the housing market broken down by region and by specific group of housing consumer. Information is also needed on the reasons people move house broken down by region, partly in the context of issues of inequality, further development of the figures on vacant properties, detailed information about house buyers and people with skewed rent-to-income ratios and the production of new homes broken down by rental and purchase. With the growing demand for indicators of financial instability, users would like the feasibility study into a price index for commercial property to continue.

## Financial and business services

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

The core of this theme is formed by information about holdings (production and group services), the finances of large companies and annual statistics on developments in the financial markets and among investment funds. Other statistics concern the development of the revenues of car dealerships and the wholesale, services and transport sectors.

**Multi-annual statistics financed directly by government organisations:**

The State of SMEs, multi-annual analyses of key financial figures and interest paid by care institutions, research into the Financial Relations Act (Financiële Verhoudingswet).

**New needs of users:**

Because of the stricter capital requirements and tighter supervision, banks have become more critical in their lending. There is a need for information about the development of credit provision and for monitoring of new forms of lending to large companies and SMEs, from the perspective of the recipient.

## Health and welfare

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

This theme encompasses the health of persons, such as perceived health, the use of care (GP care, medicines, hospital care, mental health care, long-term care, etc.), lifestyle and causes of death. It also describes the health care sector by means of indicators such as the costs of care, employment in the health care sector and the revenues, costs and personnel of health care institutions and medical practices.

**Multi-annual statistics financed directly by government organisations:**

Additional statistical studies relate to subjects such as the use of facilities in the social domain, information for youth policy, the Youth Monitor, long-term care, persons with a disability, social cohesion and welfare, voluntary work, defaulters on health insurance premiums and standardised figures for mortality rates in hospitals.

**New needs of users:**

The decentralisation of health care calls for more figures at sub-regional level for monitoring purposes. Insight into trends in the quality and outcomes of health care is essential for effective competition in the health care sector and to monitor policy. There is also a demand for more information about the health and well-being (in a broad sense) of the elderly and the organisation of care for the elderly (availability of personnel, informal care, private care). There is also a need to expand the availability of linked microdata for research and statistical purposes, subject to the protection of privacy, and to exploit the possibilities to conduct longitudinal research and link the findings to personal data outside the health care domain.



## Energy

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

The Dutch Energy Balance Sheet: extraction, imports, exports, stocks, conversion and consumption of energy per energy carrier; means of production of electricity; details of production and consumption of renewable energy; regional data on energy consumption by households and businesses derived from customer records; energy saving by business; energy prices, turnover and annual financial figures of energy companies.

**Multi-annual statistics financed directly by government organisations:**

For the purposes of the National Energy Outlook, data are provided from the Energy Balance Sheet and economic indicators are formulated for energy-related activities.

**New needs of users:**

The Netherlands faces the challenge of making the transition from a fossil-based economy to an economy based on renewable energy, i.e., the energy transition. This calls for information about the energy supply to buildings, alternatives to natural gas, energy saving and efficiency; information about energy consumption by mode of transport and by region; insight into progress with the energy transition at local level in terms of energy consumption and CO2 emissions; the financing of the energy transition and its consequences for households, businesses and the government, as well as the consequences for employment; monitoring of acceptance of the energy transition.

## Income and spending

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

This theme covers statistics describing the status and development of the wealth of individuals and households, incomes in relation to living conditions and consumer spending by households, consumer confidence, the tax burden on incomes and economic independence.

**Multi-annual statistics financed directly by government organisations:**

Determination of purchasing power parities, a Poverty Monitor for various municipalities, the number of low-income households (for the purpose of the allocation of money from the Provincial and Municipal Funds), detailed data on poverty, welfare and quality of life, budget research.

**New needs of users:**

Purchasing power, income, poverty and social exclusion, social inequality and the gap between the rich and poor are still topical themes. There is a demand for information about child alimony, payments to children who are studying, transfers to and from other countries, types of pension income, capital in savings- and investment-based mortgages, credit card debt, payment arrears and debt to (online) stores, mortgages and affordability of home ownership, distribution of social transfers in kind, intergenerational streams; the effect of ageing: differences in income between men and women, the distribution of pension entitlements (particularly the so-called third pension pillar) and a better breakdown at sub-regional level.

## International trade

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

International trade in goods and services, details of international transport flows by mode of transport, statistics on international value chains, internationalisation and globalisation, socioeconomic effects of globalisation.

**Multi-annual statistics financed directly by government organisations:**

The Internationalisation Monitor, with recent developments and analyses of international trade, international integration and globalisation. This monitor provides facts and insights to support the public debate about internationalisation. Studies are also conducted into themes relating to globalisation: the Netherlands as a manufacturing or a trading country, the relationship between imports and business performance, capital structure and internationalisation and the influence of globalisation on employment.

**New needs of users:**

In addition to the above priorities, there is also a need for information about the role of internationalisation (and in particular the consequences of cross-border business activity) in the processes of financialisation, digitisation and urbanisation and the impact of internationalisation on economic growth (share of GDP) and employment.

## Agriculture

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

This theme covers statistics on estimated crops, livestock herds, animal production, fisheries and aquaculture, organic farming and pesticides. There is also information about the number of businesses and workers, the area devoted to crops, the number of animals, types of business and economic scale.

**Multi-annual statistics financed directly by government organisations:**

Additional statistical studies focus on information concerning the finances of agribusinesses and on agricultural raw materials that contribute to deforestation, primarily the production of beef, soya, palm oil, cocoa and coffee. Sustainable production can prevent deforestation.

**New needs of users:**

Farming is the first link in the agro/food chain. There is a need for qualitative information for the monitoring and periodic evaluation of policy measures in this domain, for example by linking agricultural businesses to the System of Social Statistical Datasets (SSB) and VAT data. There is also considerable demand for statistical mapping of the entire food chain in order to find solutions for problems connected with the relationship between food production and climate and food consumption and health, as well as issues such as sustainable food production, the food transition, food wastage and food safety.

## Macroeconomics

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

The core of this programme comprises national accounts, regional accounts, monthly indicators for the Dutch economy, figures on productivity and calculations of economic growth. Key macroeconomic indicators in the national accounts include economic growth, the government deficit and the disposable income of households. The national accounts also provide data on consumption, investments, imports and exports and employment. Economic reports cover industrial output, bankruptcies, international trade, consumption, investments, owner-occupied homes, producer and consumer confidence, employment agencies and the hospitality industry and the Business Cycle Tracer.

**Multi-annual statistics financed directly by government organisations:**

The Business Survey Netherlands (COEN), which measures the expectations of businesses in order to gauge the business climate; the Monitor of Well-being. The discussion of welfare has traditionally been dominated by a country's gross domestic product (GDP), but this instrument was never intended to measure the concept of well-being in a broad sense. A broad definition of well-being encompasses not just income, but also aspects such as education, health and the environment. The current state of well-being also impacts on other parts of the world and on the future. In April 2016, the House of Representative's Temporary Committee on a Broad Definition of Welfare published a report entitled Mapping Welfare (Welvaart in Kaart), in which it advised the government to ask CBS to publish a Monitor of Well-being every year in preparation for the House's annual Accountability Debate with the government in May.

The government adopted the committee's recommendations, and asked CBS to produce an annual Monitor of Well-being.

**New needs of users:**

The Sustainable Development Goals (SDGs) are a set of objectives for future international development. They were adopted by the United Nations and are promoted as the global targets for sustainable development. The SDGs will be in force from 2015 to 2030. They include 17 goals and 169 specific targets relating to poverty, inequality, injustice and climate change. The national reports on progress on the SDGs will be shaped in consultation with partners, including the Ministry of Foreign Affairs. CBS will work with national and international partners to further develop and expand the set of SDG indicators and will explore how the SDGs can best be incorporated into the Monitor of Well-being. The Netherlands Court of Audit concluded in September 2017 that measuring all the relevant SDG targets and sub-targets will create a lot of additional work each year.

## Nature and environment

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

This theme covers information about sustainability and well-being in a broad sense, indicators of green growth, the costs and financing of environmental policy and the environmental costs for businesses. Statistics are also published on greenhouse gases, the use of pesticides in agriculture and by the government, water consumption and water bills, waste and material flows, and financial data on all these aspects.

**Multi-annual statistics financed directly by government organisations:**

Additional statistical research on this theme focuses on providing more specific information about the broad concept of well-being, the SDGs, quality assurance in the monitoring of nature for the purpose of international agreements, trends in indicators for species and biodiversity, manure and mineral accounts, water, the country's natural capital and municipal waste.

**New needs of users:**

Policy is aimed at creating a circular economy that produces less waste and so brings us closer to a carbon-neutral society. Information is needed about the high-value use of raw materials in existing chains; the replacement of fossil, critical and non-sustainable raw materials with raw materials that are sustainably produced, renewable and widely available; the labour market effects; the development of new production methods and new products; area redevelopment; and promotion of new methods of consumption. Key terms in this context are climate change, biodiversity, avoidance of waste and quality of life.

## Education

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

This theme focuses on statistics about educational institutions, teaching staff, pupils and students, early school leavers, student careers, vocational education and training, lifelong learning, the financing of education, international comparison of education.

**Multi-annual statistics financed directly by government organisations:**

Youth Monitor, Emancipation Monitor, financing of educational institutions, input for Onderwijs in Cijfers, a website published jointly with the Ministry of Education, Culture and Science and the Dienst Uitvoering Onderwijs (DUO).

**New needs of users:**

Permanent education is becoming increasingly important, as is the question of whether the right subjects are being taught and whether children have equal opportunities. Children already receive appropriate education and have equal opportunities from a young age in the form of child care and pre-school education. Evaluation of this education requires information (at a sub-regional level) about the number of children receiving early and/or pre-school education, their socioeconomic background, the course of their school careers and the highest level of education they attain. Teachers are equally important actors in education. An increasingly relevant question is who becomes a teacher today and what shape does a teacher's professional career take.



## Government and politics

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

Statistics on this theme relate to the government finances. They cover income and expenditure, tax revenue by type of tax, social benefits, social insurance data, spending by function, the government's balance sheet, government debt and deficit (EMU criteria, EDP) for each tier of government. The theme also encompasses details of the budgets of municipalities, provinces and water boards.

**Multi-annual statistics financed directly by government organisations:**

Municipalities and provinces can receive additional funding from the government to implement specific policies. These are earmarked payments. The spending of the money is accounted for in the Single information, Single audit (SiSa) system. CBS provides the logistics for the necessary information.

**New needs of users:**

The drive to increase innovation, cooperation and digitisation in the public sector creates a demand for information about public sector productivity, measurement of the effects of efficiency and austerity operations and an overview of investments in infrastructure and major IT projects. Detailed information is also needed about the financing by the Netherlands of international aid programmes and country programmes.

## Prices

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

Figures for the consumer price index and inflation, producer prices in industry, service prices, rent survey, average prices of energy for end users, fuel prices, price indices for the cost of home ownership, price indices for new and existing owner-occupied homes; production of housing and other buildings, civil engineering and construction.

**Multi-annual statistics financed directly by government organisations:**

European price comparisons and determination of purchasing power parities (ESTAT ECP-PPP), development in prices of inland waterways transport services.

**New needs of users:**

Data from scanners can be used to analyse the proportion of food sold that can be regarded as sustainable and/or healthy and determine the price levels and price developments for these products. There is also growing demand for regional and sub-regional data to highlight differences in patterns of consumption, for example between neighbourhoods or between urban and rural areas. With the increased demand for indicators of financial instability, there is a need to proceed with the study into the feasibility of a price index for commercial real estate.

## Security and law

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

This theme focuses on information about registered crime and personal information relating to prosecution, trial, prison sentences, victim support, debt restructuring and legal aid. The statistics also register personal experience as victims of crime and public perceptions of safety. This category also includes statistics on asylum and residence.

**Multi-annual statistics financed directly by government organisations:**

Additional statistical studies financed by third parties include contributions to research and publications on the subjects of security, Big Data, people in custody, juvenile delinquency and sub-regional data and open data about police figures and crime. There is also information about juvenile protection, juvenile probation, the fire services and security regions. Long-term research is also being conducted into the residence status and integration of asylumseekers and status holders.

**New needs of users:**

Efforts have been underway for a number of years to improve the performance of the criminal law chain. More and better information is needed about suspects and perpetrators so that they can be monitored throughout the chain. There is also a need for a reliable estimate of non-registered crime and for new indicators of feelings of insecurity. Cyber crime also needs to be monitored: the offences and incidents with which citizens, businesses and organisations are confronted and an inventory of preventive measures.

## Traffic and transport

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

Freight and passenger transport by modality, transport operations and traffic intensity, emissions from road traffic, the vehicle fleet, the revenues of the transport sector, production statistics for transport companies.

**Multi-annual statistics financed directly by government organisations:**

The Survey of Mobility in the Netherlands (Onderzoek Verplaatsingen in Nederland, OViN), the length of the road network, detailed data on freight transport, transport by vans, price development of inland waterways transport services.

**New needs of users:**

The constant growth of transport and mobility creates a need for more detailed information to analyse the environmental burden they cause, and there is a need to form a clearer picture of the transport of hazardous substances in order to monitor the risks.

## Recreation, culture and religion

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

Statistics on overnight accommodation, holidays taken by Dutch citizens, short-stay recreational and business trips abroad by Dutch citizens, sports accommodation, sports clubs and fitness centres.

**Multi-annual statistics financed directly by government organisations:**

Tourism accounts (contribution to GDP, employment, spending), recreational facilities, research into recreational activities, reports on trends in tourism, recreation and leisure activities, sports accounts, cultural accounts, statistics on cultural activities: museums, libraries, performing arts and arts and cultural education.

**New needs of users:**

Insight is needed into the connection between the perceived quality of life and recreational activities; the money devoted to philanthropy, including donations made by households; a five-yearly study of the time spent using media; regional information about tourists and their stay in the Netherlands; regional information about the affordability and proximity of sports facilities and the climate for sport; a central framework for cultural statistics and an analysis of gaps in the existing statistics; an inventory of the possibilities of using Big Data to generate statistics on cultural activities; insight into the impact of digitisation and globalisation on culture; the distribution of cultural activities and the labour market and incomes in the cultural sector. Finally, better information about religious diversity, participation in religious activities, secularism and other ideologies, including demographic and socioeconomic background information.

## Regional and spatial statistics

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

This theme focuses on information at local and neighbourhood level (CBSinUwBuurt.nl), statistics about proximity to amenities, key data broken down at different regional levels, statistics per square metre, statistics on rural and urban development; the issue of urbanisation.

**Multi-annual statistics financed directly by government organisations:**

Spatial data for the purpose of the standards in the Financial Relations Act, data on changes in land use in the Netherlands, the spatial effects of planning policy (Infrastructure and Spatial Planning Monitor (MIR), The National Environmental Vision Document (NOVI) Monitor. Developing and providing access to regional economic indicators.

**New needs of users:**

The population in border regions is contracting and these regions are economically vulnerable because of their peripheral situation in the Netherlands. There is a need for sub-regional data (at municipal level) about the border regions in the Netherlands and in the neighbouring countries of Belgium and Germany (the states of North Rhine-Westphalia and Lower Saxony). Decentralisation and the consolidation of municipalities in recent years has led to greater demand for data to formulate policy and to measure the impact of decentralisation and other policies.

This calls for sub-regional information about the economy, mobility, segregation, jobs, incomes, debt, health, (youth) care, unemployment, quality of life, loneliness, culture, tourist spending, homes (type and ownership), local generation of energy, accessibility of public transport and data in relation to the new Environment and Planning Act. Research is also being conducted into how the indicators of the national Monitor of Well-being (and the SDGs) can be made available at sub-regional level, so that sustainability can be measured locally at provincial, municipal, district and neighbourhood level.

## Caribbean Netherlands

Programme financed with the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy:

CBS publishes statistics on subjects such as population, labour, safety, prices, tourism, health and culture in the Caribbean Netherlands. A separate Multi-annual Programme is produced for the Caribbean Netherlands (see Multi-annual Programme Caribbean Netherlands 2017–2019).

**Multi-annual statistics financed directly by government organisations:**

Up to the end of 2017, long-term additional statistical research on a number of topics was financed by the Ministries of the Interior and Kingdom Relations, Social Affairs and Employment and Health, Welfare and Sport, but also by the Tax and Customs Administration of the Caribbean Netherlands. This additional statistical research encompasses gross domestic product, income and purchasing power, jobs and wages, a price index for housing, a price level measurement and the Caribbean Netherlands Youth Monitor. Some parts of the research will be permanently financed from 2018 (GDP, incomes/purchasing power and jobs/wages).

**New needs of users:**

More detailed and timely figures for tourism, the degree of poverty, growth/decline in the number of businesses, vulnerable groups, nature and population projections. The new Dutch Caribbean Statistical System can also meet a need for international comparative statistics, for example regarding the Sustainable Development Goals and purchasing power (participation in the International Comparison Programme (ICP)).





## Chapter 5 Convenience for users

### Accessibility and use of (open) data and statistics

Ask CBS a question and receive the right answer immediately. This is our aspiration.

In the years ahead, CBS will cluster data around social issues and phenomena to an even greater extent. In addition, data will become more accessible through the creation of a single data portal.



# Accessibility and use of (open) data and statistics

**CBS’ mission is to compile and publish reliable and cohesive statistical information that meets the needs of society. Independently produced and published statistical information of a high quality assists in the policy- and decision-making process at every level of society. The information also makes it possible to monitor developments. CBS also plays an important role in fostering empirical research, for example by making available microdata for scientific purposes.**

To be of social value, statistical information must be known and directly usable. High-quality statistics that are not known or are not used optimally have limited value, which is why CBS shares its wealth of information with other public authorities, politicians, the scientific community, media, the business community and citizens every day, and publishes its statistics and other information in user-friendly and

contemporary formats. The more CBS succeeds in this, the more public debate, research and decision-making can be based on reliable and relevant statistical information. The communication strategy that CBS has been employing recently, which embraces dissemination of information directly via its own communication platforms and indirectly via news media, has driven a substantial increase in the use of the information it provides. This successful strategy will be continued in the period 2019–2023.

There is growing demand among users for reporting on specific phenomena. What the public needs is not isolated numbers, but coherent information. In the coming years, CBS will increasingly organise its publications around a number of specific social issues. As far as possible, connected indicators will be presented in a coherent manner so that complex social phenomena are charted comprehensively and reliably.

Almost all the figures produced by CBS are published in the StatLine database at [cbs.nl](https://www.cbs.nl). In the period 2019–2023, CBS will replace StatLine

with a Content Data Bank, an up-to-date output channel which will form part of the broader CBS Content Bank. The CBS Content Bank is CBS’ open architecture platform where it publishes all of its output, including figures, reports, animations, monitors, dashboards, visualisations and videos. The core of the CBS Content Data Bank will be the statistics that CBS makes available as open data.

When it is up and running, the Content Data Bank will provide even more options for accessing CBS statistics. The output will be presented in various formats, for example. It will also facilitate automated reuse of data, thus allowing CBS itself, but also external parties to produce real time monitors. It will be easier to develop apps using statistics and information from CBS and statistics will be significantly easier to find and use.

As part of the CBS-wide innovation strategy, the organisation will improve the interaction with users so that questions from the public can be answered quickly and accurately. Users must be able to find and access CBS information with modern techniques such as mobile applications

without too much difficulty, supported by accessible and user-friendly publication forms, such as visual storytelling, social media and audio-visual devices. Besides data in the form of numbers, infographics and visualisations are also important instruments for further expanding the reach of the information provided by CBS.

CBS’ ambition is that every single question from a user yields a single, complete answer on the basis of the content available from CBS (text, image, data, audio visuals and data visuals). The ultimate challenge is to automate this information dialogue between CBS and the user.



An aerial photograph of a retail store, likely a luggage or travel accessories shop. The floor is covered with numerous rows of colorful suitcases in shades of red, yellow, orange, blue, and black. Several people are seen from above, browsing through the displays. Some are standing near the suitcases, while others are looking at items on a display stand. The store has a clean, modern aesthetic with a light-colored floor.

## Chapter 6

### Customised research and statistics

# User-focused statistics

There is a growing need for policies to be supported by facts. CBS wants to help investigate topical issues. It always does so with a clear eye for factual, independent and objective research. Moreover, CBS publishes all its information on CBS.nl, freely accessible to everyone.

# Customised research and statistics

**Statistical information is widely used in society and is essential for formulating policy, accounting for the effects of policy and monitoring and evaluating policy. With timely access to objective statistical information, more effective policy tailored closely to the target group can be formulated. CBS provides customised research and statistics which are financed in various ways.**

CBS asked users about the statistical services they would like it to provide. Since they cannot be covered by the basic budget, CBS can only meet their wishes if it is reimbursed for the costs of providing those services. Collecting, combining and managing data from many sources in one place for general use yields significant economies of scale. The value to society of CBS consolidating all that knowledge, infrastructure and data sources is greatly enhanced by the statistical services it provides.

With these services, CBS expressly positions itself as a partner of government bodies. CBS reflects with the user on current issues and how data analysis can meet specific information needs. The research conducted by CBS is always factual, independent and objective. The results of the additional statistical studies are published so that society as a whole can learn from the results.

## Customised research and statistics

CBS can compile additional statistical information, using the data sources already available and, if necessary, by combining them with additional sources. This method is ideal for one-off policy questions. Customised research and statistics usually result in a report or a table. Depending on the wishes of the users, CBS can also present the findings in other formats, such as visualisations, fact sheets, open data, maps and interactive monitors and dashboards. If necessary, innovative research can also be carried out with data using new sources and technologies.

## Microdata services

CBS provides its microdata – data that can be linked to persons, businesses or addresses – for statistical research by third parties, often scientific researchers. These data are extremely privacy-sensitive, and research with microdata is therefore subject to strict conditions and stringent security requirements. In consultation with research institutes, CBS is investigating the possibilities of removing financial obstacles to the use of CBS microdata for purely scientific research through grants from the Royal Netherlands Academy of Arts and Sciences (KNAW) and the Netherlands Organisation for Scientific Research (NWO), for example in the context of the Open Data Infrastructure for Social Science and Economic Innovations (ODISSEI) programme. The findings from research conducted with microdata are published.



## Surveys

CBS offers users the possibility of piggybacking on the surveys it conducts, provided the collaboration reduces the total burden of surveys for the public and the outcomes are presented in a coherent fashion.

One option is to include more respondents in particular regions in a survey than are necessary to produce a national picture, known as oversampling. By making effective use of existing surveys in this way, more detailed information can be generated, which allows for benchmarking with regional scenarios or with national information. Existing surveys can also be supplemented with additional questions that fit in with the subject matter of the survey, making it unnecessary for other institutions to conduct their own survey and preventing duplication. It is also a way of deepening or expanding the information generated. A final additional service CBS can provide is to produce, distribute and process an entirely new survey.

The entire upgrading of the automation of the data collection process will be completed during the period of this programme, and CBS will then be able to provide these services more efficiently.

## Data centres

CBS can provide quantitative underpinning of the entire policy process, from preparation up to and including evaluation of its implementation. CBS has established data centres to enhance the value of this service. The data centres provide answers for questions of policy by combining the data sources of the partner, another government organisation, with CBS' own sources. In this way, CBS' knowledge of data infrastructure, data processing and privacy can be used to help its strategic partners with their ambitions of becoming data-driven organisations. The data centres can provide all the customised research and statistics that CBS offers. Once again, the results of statistical research conducted in a data centre are always published. There are data centres for municipalities (Urban Data Centres; UDCs), provinces (Provincial Data Centres; PDCs), ministries

(Departmental Data Centres; DDCs) and their services are financed by the relevant municipality, province or ministry. Data centres may be established with other institutions in the future.

Data centres are an essential component of an efficient data infrastructure for the government in the Netherlands. They ensure that CBS' existing data sources can be used for statistical purposes on behalf of other government organisations. These organisations can in turn supply their own data, thus further enhancing the value of the joint data hub and enabling statistical analyses to be performed quickly. The centres prevent a situation where different government organisations all separately save, manage and process the same data, all using their own definitions, protocols and infrastructures. Another important advantage is that security can be arranged centrally for the data (which is often privacy-sensitive). The data centres form a national network in which statistical information is compiled and published to a consistently high standard. Consequently, management information at every level of government is streamlined, which enhances the effectiveness of policy. In the Urban Data Centres,

CBS helps municipalities to compile indicators for the international World Council of City Data (WCCD). Those indicators are linked to the Sustainable Development Goals (SGDs) adopted by the United Nations in 2015. The network of data centres will be expanded, possibly in the form of regional alliances, until it provides practically national coverage.



## CBS as data hub

Users of CBS data have asked CBS to expand its role as data hub and producer of statistics for and from the government as described in Chapter 2. CBS uses its knowledge and experience to provide a range of services. New innovative developments could enable those services to be expanded or deepened.

### CBS als trusted third party

CBS possesses a growing volume of microdata to carry out its mission. Most of the data come from other government bodies. To make these data available for other statistical and scientific purposes, CBS has put in place a future-proof data management system, ensures that data are easy to find with clear metadata and employs a diligent process for approving their reuse. The advantage for the suppliers of data is that a file only has to be delivered to CBS once. The delivery of the data can also be automated. CBS retains the files for its own purposes, but they can also be released for statistical and scientific research.

This makes CBS a government-wide shared service centre for statistical information and for the management of government data for statistical and scientific purposes. Scientific institutions are also willing to deposit data with CBS in order to increase the supply of statistical information. To perform these activities efficiently and safely, new, advanced data technologies are needed.

### Providing access to open data for other government bodies

CBS is one of the few parties in the Netherlands that receives data from other parties and disseminates them as open data, alone or in combination with other data, via a combination of channels. An important step in this process is to convert privacy-sensitive data into secure data using statistical methods and techniques in order to ensure that information cannot be traced to individual persons, households or businesses. The data are made available as a downloadable file or can be accessed with an Application Programming Interface (API) or widgets on internet sites.

CBS can help other government bodies to realise their ambitions in the domain of open data. In the period 2019–2023, CBS will continue to campaign, together with the Land Register, to improve the open-data landscape in the Netherlands, through statistical services and technical innovation and in other ways. For example, CBS can contribute to the further development of linked open data and to the central unlocking of open data from the government in the Netherlands and so make that data more useful and accessible, thus meeting the needs of society.

## Blaise

Surveys will continue to be a necessary part of efforts to meet all of the demand for information in the future. To support this method of observation, CBS has introduced Blaise, an advanced statistical software program for performing both straightforward and complex surveys. Users can modify and expand the software's functionality themselves. Blaise is as an essential tool in CBS' overall observation process and is also used by other statistical offices and universities around the world. Features of Blaise are its platform-independence and compatibility with both iOS and Android. These are important characteristics that enable data to be captured from smartphones and tablets, as well the devices of the future.

Technological advances follow one another rapidly and CBS will continually improve and expand Blaise in order to keep pace with those developments and meet the latest technical standards.

An aerial photograph of a beach with a line of red umbrellas. The umbrellas are arranged in a diagonal line from the bottom left towards the top right. The beach is dark and wet, and the ocean is visible in the top left corner. The text is overlaid on the image.

## Chapter 7

# Fully ISO and privacy certified

## Quality, privacy and information security

CBS has to manage huge volumes of data. This means it has to have top level privacy protection and information security in place.

In terms of methodologies, CBS applies the highest possible standards and the latest technological advances in order to conduct research of the highest quality.

## Quality, privacy and information security

**The information published by CBS must be reliable. That demands constant attention to quality. Because of the enormous volume of data it manages, it is crucial that CBS continually meets the required standards in terms of privacy protection and information security. CBS adheres to transparent and demonstrable standards in these areas and seeks external validation and certification of its compliance with them.**

Meeting the stringent requirements imposed on CBS with regard to quality, information security and privacy is essential for the trust in the organisation and its products, so although the measures that need to be taken are expensive, they receive the highest priority.

To maintain the quality of its statistics, CBS will continue to endeavour to reduce measurement errors, adjustments and revisions, using international best practices in terms of methodology and exploiting new technological possibilities. To minimise the risk of errors, wherever possible manual operations in data processing are being automated.

The CBS management system is designed to ensure compliance with prescribed standards through continuous improvement on the basis of risk analysis and the so-called Plan-Do-Check-Act cycle (PDCA), with a view to constantly learning from successes and avoiding repetition of mistakes. Client experience is an important indicator in the check phase of the cycle, which is not confined to CBS' own processes, since CBS' process chain is usually part of a longer chain that extends to external parties. CBS will

devote further attention to integration and coordination with external chain partners, suppliers and customers. Collaboration and integration will yield gains not only in quality, but also in efficiency.

Attention to quality and efficiency are combined by applying the management principles of Lean Six Sigma and Lean Operational Management. Compliance with ISO 9001 standards guarantees the quality of all the primary processes and the secondary processes of methodology and information technology. The necessary preparations to become fully ISO 9001 certified in 2019 were carried out in the 2014–2018 period. During this planning period, CBS will continue with its activities designed to make continuous improvements in its processes in accordance with ISO standards. As part of the PDCA cycle for ISO certification, processes are subjected to internal audits, while some statistical processes are validated by external experts, for example the determination of the government deficit as a percentage of gross domestic product. As part of the agreements made within the European Union in relation to the Stability and Growth Pact to safeguard the stability of the European Monetary

Union, every two years the European Commission arranges a dialogue visit to assess CBS' methods, processes, revision policy, etc. The European Commission also carries out a continuous gross national income (GNI) verification process.

Every year Eurostat requests various reports on the quality of the European statistics. These reports contain information about a great many variables relating to a diverse set of quality criteria with respect to completeness (relevance), accuracy, reliability, timeliness, accessibility, transparency, coherence and comparability. The quality reports also include a separate section with information about revision policy, metadata, publication methods and sources, and the length and composition of the time series.

While endeavouring to maintain a high level of quality, CBS also explores possibilities to operate more quickly and cheaply. In the period 2019–2023, it will investigate the possibilities of creating more differentiation within the quality parameters on aspects such as accuracy, up-to-dateness and level of detail, particularly in the additional statistical studies.



## Privacy and information security

In view of the large volume of data possessed by CBS, it is of the utmost importance that it continues to comply with the requirements for privacy protection and information security. The point of departure for information security at CBS is compliance with the Government Baseline Information Security policy. CBS also complies with the standards drawn up by the joint European statistical offices and Eurostat (the European Statistical System, ESS), the ESS IT security framework. CBS has both privacy audit proof certification and ISO 27001 certification.

The internal monitoring of the protection of personal and business data is performed primarily by the line management. CBS has also appointed a data protection officer and a security officer, both of whom have a supervisory and an advisory role.



## Chapter 8

### ICT

# Focus on infrastructure

ICT is the cornerstone of our work and hence our ambitions as set out in this multi-annual programme.

Over the next few years, CBS will need to invest heavily in ICT structure and development, in response to the emergence of Big Data and other current developments.

# ICT

**ICT has become a critical infrastructure for CBS over the years. The production of statistics, but also the security and integrity of the data, are entirely dependent on that infrastructure. In the programme period 2014–2018, there was only limited financial scope to modernise the ICT. As a result, systems were not replaced and/or upgraded, with all the risks that entails. In light of those risks, investment in ICT is urgently required in the period 2019–2023. A number of upgrades also had to be postponed. The anticipated benefits ensuing from those upgrades were therefore not realised. Those benefits relate to stability, efficiency in the performance of CBS’ regular programme, new output, greater flexibility and a better service for users and for businesses that supply data.**

Converting large volumes of data into useful statistical information is impossible without an advanced ICT infrastructure. Work processes at CBS are largely automated and the level of expertise in the field of ICT demanded of staff members who perform statistical work is increasing all the time. To compile up-to-date statistics describing phenomena in society efficiently, CBS has to constantly innovate and keep pace with the technological revolutions, in terms of collecting data (Internet of Things, mobile devices), processing data and publishing information (social media, open data). In short, ICT is the cornerstone of CBS’ work and therefore of the activities covered in this multi-annual programme.

Investment will be essential during the new planning period to safeguard the continuity of the production of statistics, to meet the efficiency targets and to respond to new social and technological developments. Because of the limited financial scope, CBS was forced to make clear choices in its priorities for projects to modernise processes and upgrade the ICT landscape in the programme period 2014–2018. A number of modernisation projects were therefore deferred, with the result that

systems are becoming outdated and envisaged benefits have not been realised.

Ageing systems create risks, which means that investment in the upgrading of ICT is urgently needed in the period 2019–2023. CBS’ financial framework will not permit all of the necessary upgrades to be carried out, which means that the envisaged benefits will only be realised later than would preferably be the case, or not at all. The remainder of this chapter describes the investments in ICT that are needed and the choices that have been made in light of the budgetary constraints.

## Data collection

In the case of data collection, the Phoenix+ IT modernisation programme will continue into the new programme period. This programme is needed to safeguard and future-proof CBS’ data collection processes and enable them to adapt flexibly to changes in technology and in the demands of consumers, businesses and government institutions that supply data.

Among other things, this refers to being able to complete CBS surveys on mobile devices, something that proves difficult with the current outdated software. The frequent disruptions in ICT systems that occur at present, which sometimes even lead to the loss of responses, threaten the timeliness and quality of the statistics produced by CBS. Phoenix+ is essential for further innovation in the data collection process. The fundamental point is that CBS must have access to all the data it requires to produce statistics and must be able to process them. There is no room in the budget for an internet portal where businesses can log on and find all their surveys clearly arranged together or find a link to general government services such as Berichtenbox and SBR.



## Data infrastructure

CBS' data infrastructure will have to be upgraded in the period 2019–2023. The volume of data possessed by CBS is growing rapidly and it must continue to ensure that the data are stored safely and sustainably in accordance with the highest security standards. A growing number of statistics and analyses are based on a combination of sources. To produce them efficiently and effectively, an accessible, integrated data infrastructure is needed.

There is huge demand from other government organisations and research institutions to use the shared services that CBS' data infrastructure provides for producing statistical information. These organisations can also combine their own sources with CBS data. Naturally, in that event CBS complies with the requirements relating to privacy protection and information security.

The data infrastructure also has to be modified to make it possible to combine CBS data with data from external parties or data sets that are too large to send to CBS. Techniques such as virtualisation, hashing (encoding) and Trusted Third Party constructions will have to be supported. Modifications are also needed to enable the processing of new types of Big Data, such as data sets that are so large that they cannot be stored at CBS or data in a different format to the types of data source that CBS can currently process.

CBS' objective in the period 2019–2023 is to upgrade the existing data infrastructure to the extent necessary to provide maximum support for the reuse of data. This will enable CBS to continue performing its role as a data hub and producer of statistics for the entire government within the statutory parameters. The benefits for society are likely to be substantial: data from government organisations can be permanently stored and managed at a single location, and then quickly made available by CBS for statistical analyses and research at national, regional and local level. This will enable many government institutions to achieve their ambitions to

become data-driven organisations, while using existing facilities for data storage and data management. The result will be lower costs for society.

CBS will be unable to finance all the investments needed to upgrade the data infrastructure itself. It will raise the share that is required to properly support its own statistical output, but the remainder will have to borne by external parties that profit from the new and improved data services.

## Processing

Processing data to produce statistics is complex and constantly has to be adapted in response to changes in the phenomena that CBS measures, the sources and the necessary output. This calls for systems that are flexible and adaptable. CBS is faced with a substantial legacy problem with respect to its processing systems. In the new planning period CBS will further standardise and increase the efficiency of its processes by using open source tools such as R and Python, as well as new generic tools for sub-processes that can be used for a wide variety of statistics. Standardisation will make the application landscape less diverse and reduce the management costs. The systems will also become more adaptable. CBS intends to achieve this with short-cycle projects, in which ICT specialists, methodologists and statisticians will form multidisciplinary teams to develop and maintain software.

Because CBS will continue to produce all of the statistics included in the regular programme in 2018 during the period of the Multi-annual Programme 2019–2023, it will have to further increase the efficiency of the data processing during the planning period. This will require investment in redesigning these processes, and in many cases the redesign of the supporting ICT systems. Changes in ICT systems will also be needed to reduce the number of revisions, particularly with regard to forecasts of economic growth.

A further reason to invest in processing software is the risk that the ageing ICT processing systems pose for the continuity of the statistical output, as well as security, ease of maintenance and operational agility. As in the period of the previous Multi-annual Programme, CBS will have to make clear choices in its investment agenda and will not be able to carry out all of the projects that ensue from the points made above. This means that some envisaged benefits will not be realised and some of the risks will have to be accepted and mitigated through changes in processes and other measures.

### Statistical output

In the period 2019–2023, CBS will deliver all of its output via an open architecture in the CBS Content Bank. This applies to the statistical information, but also texts, videos, graphics and visualisations. This open data structure will allow for automated reuse of the output by CBS itself and by external parties. The basic budget leaves no room for further investments to improve the open data landscape in the Netherlands.





## Chapter 9

### International

# Leading the way

As a leading statistical office, CBS attaches a high value to knowledge sharing at the national and international level. This is why, in the years ahead, CBS will continue to make further investments in this area.



## International

**CBS is internationally recognised as a leading statistical office and is regarded as a pioneer in terms of modernisation and innovation, for example in developing new methodologies for new data sources like Big Data. CBS intends to actively participate in and influence the drafting of legislation on standards for the production of statistics in European and other international forums.**

Most of CBS' regular programme consists of statistics that are required by EU regulations. Many economic statistics, including indicators from the National Accounts, are subject to worldwide standards. The increasing internationalisation and the agreement reached in the UN on 17 Sustainable Development Goals (SDGs), with 169 specific targets and more than 240 indicators, underlines the importance of the availability of reliable and comparable international statistics.

### Cooperation

CBS benefits from collaborating with other statistical offices and learning from developments that are occurring elsewhere. The European Commission finances projects and collaborative networks within the European Statistical System. The advantage to CBS of participating in these networks is that it profits from methods and techniques developed with or by other countries. The development costs associated with implementing new European obligations can also be partially subsidised. CBS also shares knowledge and collaborates in development programmes with countries outside the European Union, particularly under the auspices of the United Nations and its Economic Commission for Europe (UNECE).

### Sharing knowledge

CBS has an outstanding reputation in many areas of statistics and is therefore frequently asked to provide training and consultancy services in countries in Europe and elsewhere. It is happy to share its knowledge and experience in this way, provided it is reimbursed for the costs of providing the assistance.



## Chapter 10

### Human resources

# Desirable employer

CBS aims to continue to be among the most desirable employers within government. This is why it prefers to recruit and retain well-qualified people at the earliest possible stage.

Furthermore, CBS trains its people, so they remain future-proof in a world with increasing integration of ICT, data and statistics.

## Human resources

**CBS' human resources policy will focus on training and rejuvenation in the coming years. Employees will leave, often due to retirement, and new employees will replace them. Statistics and ICT are becoming increasingly intertwined because of new methods and technologies for processing data. This calls for continuous innovation and adaptation of the training provided for employees and management and for a smart recruitment strategy. It also demands a modern style of leadership and the continuous development of the competences of staff members.**

CBS' human resources policy in the 2019–2023 planning period will focus on training and rejuvenation. Every year, around 60 employees will leave CBS due to natural wastage, most of them because they have reached retirement age. This represents a considerable loss of knowledge. Those employees will be replaced by new staff members whose knowledge and experience matches the new requirements.

Most of the work at CBS involves statistics and ICT, disciplines that are becoming increasingly intertwined with the emergence of new data technologies and new, efficient methods of processing data. Data processing often involves complex steps, with large volumes of data having to be cleaned and enriched in a controlled manner. CBS' future employees will have a different profile, one that combines the disciplines of the statistician, the ICT specialist and the data scientist. This calls for continuous updating of the training provided for employees and management.

As already mentioned, most of the data used by CBS is sourced from registers that are not primarily intended to be used for statistical purposes. To make practical use of these data, employees must have sufficient knowledge of the relevant domain. The reporting by CBS on specific phenomena also requires knowledge of social issues. For these reasons, and because of the closer cooperation with other parties, for example in the data centres, CBS will invest more in improving the skills the employees need.

Existing staff members will have to keep their knowledge and experience up to date. CBS will continue to ask its employees to work efficiently and help identify possible improvements in the work, as part of a continuous dialogue with the staff about their performance, their potential and their personal development. An annual staff survey provides insight into the potential of the existing personnel and allows for flexible deployment of the staff, which in turn means that internal talent can be used to the best effect.

CBS will continue to be circumspect in hiring external staff. The policy is to hire in people only if their competences are temporarily required. Generally speaking, these are persons who are required to perform specific ICT functions or temporary staff to collect data during peaks in the workload, for example if large additional statistical studies are being carried out.

Personnel with the right skills to work in the domains in which CBS operates will become scarcer in the coming years. CBS must therefore adopt a smart and targeted recruitment strategy. CBS will attract people at an early stage by offering an internship programme, graduation projects and a traineeship for ICT professionals, data scientists and statisticians. Existing relationships with universities and universities of applied sciences will be expanded so that CBS can hire and retain people with the very latest knowledge and expertise. CBS will retain its position as an attractive employer by offering employees sufficient opportunities for personal development.

The Civil Servants (Normalisation of Legal Status) Act is expected to enter into force during the period of this Multi-annual Programme. The implications of the law for CBS and its employees were not yet known when the programme was being written.





## Chapter 11

## Finance

# Efficient and effective

CBS is facing structural budget cuts. All our work must be carried out as efficiently and effectively as possible, using the necessary resources.



## Finance

**The Ministry of Economic Affairs and Climate Policy provides funding for the performance of CBS' statutory tasks. Every five years, the Director General of CBS drafts a multi-annual programme setting out the main points of CBS' activities in the succeeding period. The programme must permit CBS to fulfil its statutory duties within the financial parameters.**

**The contribution of the Ministry of Economic Affairs and Climate Policy will decline during the period of the Multi-annual Programme 2019–2023. CBS is also starting that period with a negative working capital that will have to be eliminated with additional measures in the first years of the programme period. The financial framework for the period of the new Multi-annual Programme is therefore tight.**

This means that CBS – as in the period of the previous Multi-annual Programme – has only limited scope to make the changes in the ICT landscape that are needed to prevent risks to production and quality and to keep pace with the data revolution taking place in society. To remain within the financial framework, some of the important investments required in this area will have to be postponed.

The financial constraints also mean that CBS can only accept new requests for statistical information or for additional services from users if the costs are paid by the interested parties.

### Current situation

In the period 2011–2018, the contribution CBS received from the Ministry of Economic Affairs and Climate Policy to carry out its regular programme fell sharply. Due to successive targets set by the first two governments of Prime Minister Mark Rutte and the Spring Agreement, during that period

the basic budget declined by 50 million euros, over 25 percent of the original budget of 188 million euros in 2011.

CBS has achieved most of the targets that were set with a series of efficiency measures, which have led to a structural reduction in the costs. Examples include the completion of some major redesigns, the organisation-wide introduction of Lean Six Sigma and Lean Operational Management and the Agile and SCRUM methods in ICT projects.

Because of the lead time of the efficiency projects, the Multi-annual Programme 2014–2018 proposed paying for them from the accumulated capital reserves. The Multi-annual Programme 2014–2018 made no provision for the target set by the second Rutte government and CBS also suffered a number of other setbacks in the last few years. CBS has therefore had to take additional measures. Material expenditures and the costs of employees' fringe benefits have been reduced. The remainder of the spending cuts have been achieved by postponing or cancelling necessary investments in the ICT infrastructure and with reductions in the

statistics programme. Since the vast majority of the regular programme comprises European statistics, CBS had to make those reductions in the part of the regular programme devoted to non-European statistics. Consequently, in 2014 and 2017 production of some statistics was terminated and the frequency or scale of others was reduced. Some of those statistics could eventually be saved because ministries decided, in view of the importance of the information to them, to pay for the statistics outside the basic budget.

The Multi-annual Programme 2014–2018 projected a capital position of zero in 2018. As a direct consequence of additional cutbacks and a number of other budgetary shortfalls, CBS temporarily has a slightly negative working capital with effect from 2018.

### Multi-annual contribution 2019–2023

The spending cuts by the first Rutte government, in the Spring Agreement and by the second Rutte government are incorporated in the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy to carry out CBS’ regular programme in the period 2019–2023. Of the total target of 12.9 million euros set by the second Rutte government, 7 million euros was structurally realised by means of a reduction of the regular programme with effect from 2017. This means that a further 5.9 million euros in structural savings still have to be made.

CBS received an additional contribution from the Ministry of Economic Affairs and Climate Policy in 2017 to strengthen its capital. This contribution relates to the remainder of the target set by the second Rutte government for the period from 2016 until 2019. The contribution from the Ministry of Economic Affairs and Climate Policy to CBS will then be temporarily reduced by 2 million euros for a period of six years, from 2021 to 2026.

For 2019 and 2020, the Ministry of Economic Affairs and Climate Policy has given CBS permission to budget for a slightly negative equalisation reserve.

Table multi-annual contribution

	2019	2020	2021	2022	2023
Contribution (in € 1,000) <sup>1)</sup>	141,185 <sup>2)</sup>	139,185	137,185	137,185	137,185

<sup>1)</sup> This is the basic budget that CBS receives from the Ministry of Economic Affairs and Climate Policy. In 2019, including the additional grant to strengthen the capital. From 2021, including the temporary reduction of the ministry’s contribution. The amounts are exclusive of compensation for new European obligations and exclusive of compensation for any wage and price increases.

<sup>2)</sup> This amount includes the contribution received in 2017 for the part of the remainder of the Rutte II target relating to 2019 (€2 million).

The current situation in 2018 is that 95 percent of the basic budget is required to produce statistics required by the European Union. The remaining 5 percent of the basic budget can be used to meet demand for additional statistics. The Multi-annual Programme 2019–2023 is based on the premise that the statistics that are financed from the basic budget from the Ministry of Economic Affairs and Climate Policy in 2018 will be continued. Barring further setbacks, CBS will produce a positive result over the period of the Multi-annual Programme as a whole and will again have a positive capital position at the end of that period. Until then, CBS has permission from the Ministry of Economic Affairs and Climate Policy to budget for a slightly negative capital. Liquidity is expected to remain positive throughout the period of the Multi-annual Programme. CBS also still has an extra credit facility of €10 million.

Because the remainder of the target set by the second Rutte government has to be realised, the basic budget will decline further, the capital has to be strengthened and the necessary upgrades of the ICT infrastructure have to be carried out all at the same time, CBS can only implement the above plans with another substantial increase in efficiency in the period 2019–2023.

Because of the strong growth in demand for statistical information and services from government organisations and the anticipated growth of demand for microdata services from research institutes, CBS also expects the number of additional statistics services to increase further in the period 2019–2023. This growth calls for new investment in the data infrastructure. CBS will charge the associated costs to the users, because they cannot be paid from the multi-annual contribution from the Ministry of Economic Affairs and Climate Policy.





## Chapter 12

### Risks

# Care

By careful prioritising and investing in ICT and human resources, CBS will achieve the aimed efficiency improvements.

# Risks

**The starting point for carrying out the Multi-annual Programme is that the Ministry of Economic Affairs and Climate Policy will provide the basic budget. The efficiency improvements that are needed to meet the structural targets and return to a positive capital position can only be realised with investment in personnel and ICT.**

## ICT

As in the period of the previous Multi-annual Programme, the basic budget leaves little room for important changes to the ICT landscape that are needed to avoid risks to continuity and quality. The costs and benefits of ICT and process redesign projects will therefore have to be weighed carefully. Important investments in this area will therefore have to be deferred: replacement projects will not start and the scope of other projects will be reduced or the projects will be delayed. The ultimate effect of this is that systems will become even more outdated. Many of them have been upgraded time and again over many years to meet the continually changing circumstances. This threatens the continuity of the statistical production and creates risks in terms of the costs of managing these systems. Those risks can be mitigated by taking measures to manage processes and by closely monitoring the performance of systems.

New sources of data (including Big Data), new methods and new technologies for the data infrastructure and automated processing systems will have to be used to achieve greater efficiency. Besides improving efficiency, these investments will also yield benefits in the form of new output, greater flexibility and better service for users and for persons and businesses that supply data to CBS. Deferring investments in ICT will lead to delays in realising these benefits, thus creating the risk that planned efficiency gains will not be achieved.

CBS will carefully set priorities at central level, with precedence being given to projects that are essential for the continuity of the statistical processes and for managing risks or which make an important contribution to improving efficiency. In addition, the organisation will use Scrum and Agile techniques to generate the highest possible return on the available capacity.

## Human resources

Because of the anticipated natural staff turnover as employees reach retirement age in the coming years, CBS faces the major challenge of recruiting new staff members with the right qualifications. This challenge is particularly great in relation to ICT staff because the labour market for ICT specialists is tight at the moment and will probably remain so. Consequently, the competences required to carry out the statistical programmes could be in short supply. A smart and targeted recruitment strategy is in place to attract new employees at an early stage by offering internships, graduation projects and traineeships for ICT specialists, data scientists and statisticians.

Investment will also be needed to improve the competences of existing staff members and match them to the knowledge and skills that are needed. An annual employee survey provides insight into the potential of existing personnel and makes it possible to deploy staff flexibly, which in turn means that internal talent can be used to the best effect.

Arrangements will be made early on with employees who are leaving to pass on and document their knowledge. In addition, training budgets will be used efficiently by getting those who have already been trained to pass on their new knowledge to others. For example, employees who have been trained to the level of Lean Six Sigma Black Belts will provide internal training for Green and Orange Belts. New developments in CBS in the area of Big Data research and new observation techniques will be used to enhance CBS' profile as an attractive employer for ICT personnel.

### Changes in the budget framework

Any reduction of the budget during the 2019–2023 planning period can only be absorbed by making changes in the Multi-annual Programme or finding alternative financing for some of the statistics in the regular programme. Less than full compensation for wage increases agreed in collective agreements, pension costs or inflation can also not be absorbed without consequences for the statistical programme. In that event, CBS will consult the Ministry of Economic Affairs and Climate Policy to come to appropriate solutions.



# Colophon

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