Estimating Real GDP
Production approach

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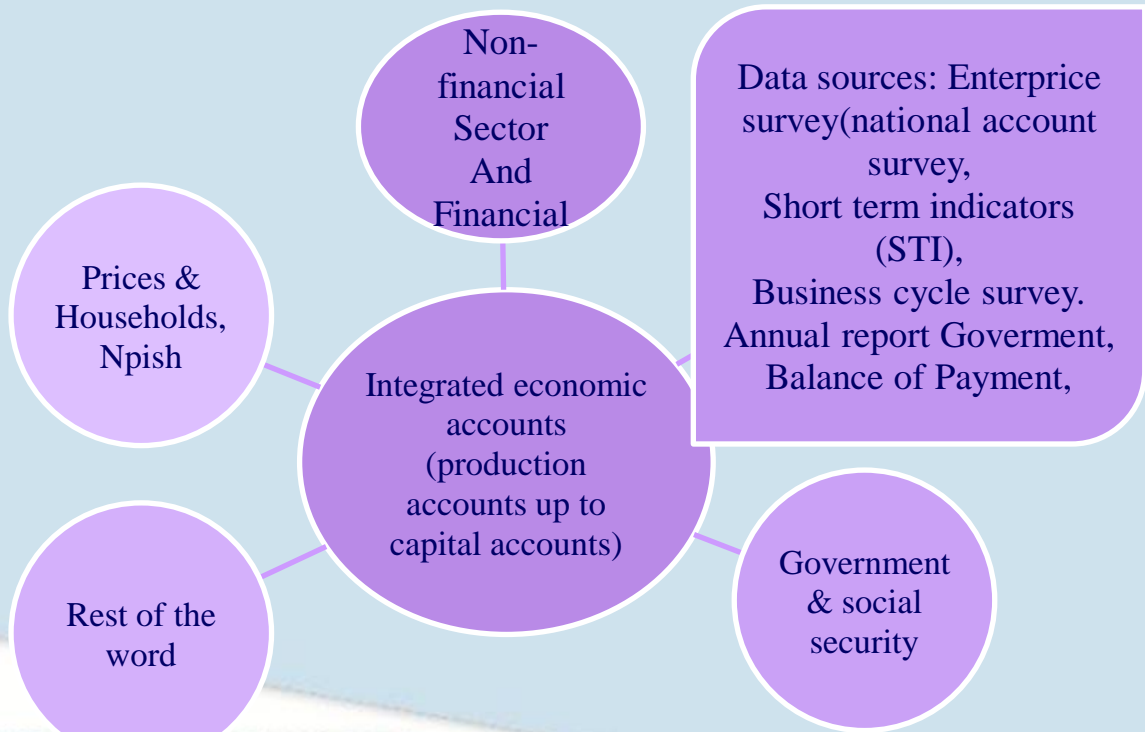**Economic Statistic Division**
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Overview of current system

CBS
Central Bureau of Statistics

Non-financial Sector And Financial

Data sources: Enterprice survey(national account survey,
Short term indicators (STI),
Business cycle survey.
Annual report Goverment,
Balance of Payment,

Prices & Households, Npish

Integrated economic accounts (production accounts up to capital accounts)

Rest of the word

Government & social security

Overview current system

Data sources:

- Primary data source: Enterprise survey (National accounts survey)

- Secondary (administrative) data sources:
  - Consolidated income statements of commercial banks (Central Bank of Curaçao)
  - Annual report Government and social security
  - Population Census, Household Budget survey
  - Labor Force survey (AKO)

Processing of data

Enterprise survey and secondary data

- Adding the ISIC codes to the different enterprises
- Data of corresponding enterprises grouped to industries to arrive at sample totals
- These totals inflated with 3 years average of number of employees as measured by the labor force sample survey to arrive at total population
- Data corresponding industries are then grouped to arrive at data by sector
- Add other data from administrative data sources

Processing of data

Results of enterprise survey and secundary data sources:

- Accounts for each sector (production account up to capital account)
- Set of macro-economic data, such as
  - Gross Domestic Product (table 6 in the annual publication) by industry and sector

Calculation of GDP

GDP Production Approach:

- Value added by sector and industry is gross output less intermediate consumption
- GDP = Total Value added plus Taxess less subsidies minus Fisim
- Real growth rate= GDP deflated with total CPI

Calculation of GDP

- **Because data from IEA are lagging behind and we want to inform the community on timely basis with recent developments on economic growth, CBS uses a combination of 2 other methods to estimate GDP:**
  - Business cycle survey
  - Short term indicators

Short Term Indicators

- A set of volume data (quantity) by industry by means of which it is possible to provide an estimate of developments in real GDP in the first quarter/half year of current year.

- The quantitity data are indexed.

- Need for refinement of the indicators.

Short Term Indicators

Sources by activity

- Agriculture, fishing and mining: Most important for Curaçao in Mining branch. Production indicator is of sand and blocks from the Mining company. Agriculture is minimal. Most agriculture for consumtpion are imported. Need to add crops produced. Also prices from agriculture in CPI

- Manufacuring: Indicators refining fee of the refinery and man hours worked in ship repair.

- Utility: Indicators are cubic metres water and kWh for electricity production. Need to be improved due to decreasing use of electricity due to sustainable environmental developments e.g. New buildings/houses have solar panels.

Short Term Indicators

Sources by activity (quantity)

- **Construction:**
  - Production quantity of sand and blocks,
  - building permits and investments of finished works (opgeleverde woningen)
  - Loans/mortgage for construction
  - Need for improvement in this industry: adding of employment data in this industry
- **Trade:**
  - import of merchandise from the balance of payment
  - Need to improve with prices from consumption of certain main components of CPI

Short Term Indicators

Sources by activity (quantity)

- **Horeca:**
    - **Best indicator is total number of overnights stays**
    - **Tourist arrivals (montly)**
- **Transport & communication:**
    - **Port and airport activities**
    - **Container movements in TEUs (twentyfoot equivalent unit's) for loading and unloading**
    - **Cruise calls, number of passengers**
    - **Call minutes**
    - **Need to refine, new telecommunication developments (more data use).**

Short Term Indicators

Sources by activity (/quantity)

- **Finance (weighted index for):**
  - **Loans from commercial banks**
  - **Balance of foreing exchange inflow and outflow resulting from offshore activities.**
  - **Need for improvement:**
    - other indicators now less offshore activiiities,
    - also new approach of calculating Fisim (SNA 2008)
- **Real estate, renting and business activities:**
  - **Rented industrial spaces by square metres**
  - **Car rentals**

Short Term Indicators

Sources by activity (quantity)

- **Public administration, Health & social work and other community, social and personal service activities:**
  - **Main inidcator for these industries are employment data**
  - **Need for improvement:**
    - **Public administration: to add wages and salaries**
    - **Health: number of treatments at hospitals**
    - **Other community: gaming activities (Lottery)**

Example of one branch

Transport/Communication					
yr	2010	2011	2012	2013	2014
Total yr (indic.)	122.6	125.4	132.6	138.6	130.7
VA ka	326.9	334.4	353.6	369.7	348.5
VA ca	326.9	598.8	617.8	631.0	634.5
Defl. Index	100.0	179.1	174.7	170.7	182.0

Work in progress

- Refine the methods CBS are using (STI) to calculate constant prices of value added and GDP

- Enhance the indicators/data sources

- Developed a GDP deflator for each branch:

  - A rough method approach used (deflator)

  - Different developments of prices and quantity indicators are noticed

  - To make more use of price indices (PPI or CPI)

Thank you

Gracias

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