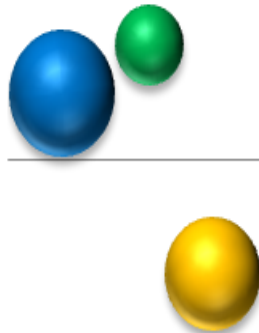




# **Gross Fixed Capital Formation (GFCF)**

*Buyung Airlangga*

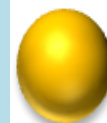




## **Coverage of Gross Domestic Capital Formation (GDCF)**

❖ GDCF consist of:

- *GFCF = Gross fixed capital formation*
- changes in inventory
- acquisition less disposals of valuables, or net acquisition of valuables

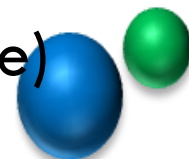




## **Gross Fixed Capital Formation (GFCF)**

### **Coverage :**

- ❖ Non-financial fixed capital formation, such as:
  - purchase/barter/transfer of fixed capital (new and imported second-hand)
  - Owned final use of fixed capital
  - Fixed capital acquired from leasing (financial lease)
  - Major repair & improvement of fixed capital and historical monuments





## **GFCF... (2)**

- Natural growth of cultivated assets which is harvested repeatedly (raising of dairy cattle, growing of perennial crops, etc.)
- ❖ Major repair & improvement of tangible non-produced assets
- ❖ Costs incurred in transfer of ownership of non-produced assets



## **GFCF ... (3)**

- ❖ Dispositions of GFCF consist of:
  - Sold of fixed asset
  - Internal transaction (barter)
  - Capital transfer



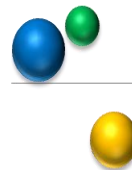
## **Some notes:**

- ❖ Fixed capital used repeatedly in production process includes: animals, crops, etc.
  - Treated as inventory while growing
  - Treated as fixed asset as soon as they produced output
  - Death or decreased productivity treated as consumption of fixed capital (CFC)
- ❖ Fixed capital obtain trough purchase, barter, capital transfer and final own used are consider as GFCF



## **Notes ... (2)**

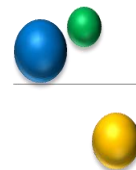
- Capital formation on non-produced asset is cost of ownership transfer
- Household durable goods used for household unincorporated enterprise must be allocated to Gross Domestic Capital Formation (GDCF)
- Household durable goods used for own-final consumption is treated as Household Final Consumption Expenditure (HFCE), except for dwelling





## **Types of GFCF**

- ❖ **Tangible assets:**
  - Residential House
  - Dwelling other than residential house
  - Machinery and equipment
  - Cultivated assets, such as crops and livestock
- ❖ **Intangible assets:**
  - Mineral Exploration
  - Computer software
  - Entertainment, literary or artistic originals
  - Other intangible asset
- ❖ **Major improvement on non-produced tangible assets (particularly land)**
- ❖ **Cost related to transfer of ownership on non-produced assets (such as land, patents, etc.)**







## Border line cases

### ❖ GFCF includes:

- Boathouse, caravan and other structure such as garage etc. which is use as shelter
- Structure and tools/equipment used by military (also civilians) such as airport, helipad, shipping dock, road and hospital.
- Small weaponry, vehicle used by military and civilians
- Addition to livestock used repeatedly/ simultaneously for production (such as dairy cattle, sheep raised for its fur, laying hens, etc.)
- Addition to cultivated crops harvested repeatedly, such as fruit crops, rubber plants, coconut plants, etc.
- Major repair and maintenance that prolong economic live of assets
- Addition to fixed assets acquired from leasing (*financial leasing*)



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## **Border line cases**

### ❖ Not includes GFCF:

- Transaction intended as intermediate consumption: acquisition of auxiliary equipments (small tools); minor/routine maintenance or repair; fixed asset acquired from operational leasing contract
- Transactions as part of changes in inventory: feedlot animals intended for slaughtered, including poultry; perennials cultivated for timber wood(work-in-progress)
- Machinery and equipment intended for household final consumption expenditure
- Holding gains and losses on fixed assets as other changes in assets
- Losses due to natural disaster (flooding, forest fire, etc.), damage or plague of productive plants, etc.



## ***Intangible fixed assets***

- ❖ Mineral exploration, actual cost of test drilling, field survey (aerial or other surveys), transportation cost, etc.
- ❖ Computer software and database used in production more than a year.
- ❖ Literary and artistic originals of manuscripts, renderings, models, films, sound recordings, etc.
- ❖ Cost of changing ownership such as:
  - Cost incurred in delivering asset (new or second hand) to destined location, such as: transportation cost, installation cost, etc.
  - Professional or commission fee, such as: fees related to surveyors, engineer, lawyer, appraisal, etc., and commissions to broker, auction committee, etc.
  - Taxes paid by owner related to transfer of ownership



## **Land improvement**

- Land reclamation, construction of waves barrier, dam, etc.
- Forest, hill, mountain clearings for production of agriculture, plantation, etc.
- Construction of sewerage, irrigation, etc.
- Construction for flood management, erosion control, etc.



## Timing and valuation of GFCF

### ❖ Time recording

- As transfer of ownership of fixed assets
- Modification needed if:
  - Assets acquired through leasing (financial lease)
  - Own-account fixed capital formation

### ❖ Valuation

- Recorded at purchaser's price, including installation and other transfer ownership costs
- Recorded at basic price or at costs plus mark-up for net operating surplus or mixed income if own production assets



## Methodology

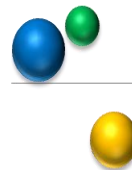
### ❖ Two approaches:

- Conventional approach by collecting information from business and public sectors – mainly based on commercial accounting practices
- Commodity flow – estimate supply (output plus net imports of products that allocated to final demand components. Caution on the difference between Parts of capital goods and Partly capital goods.



## **Data sources**

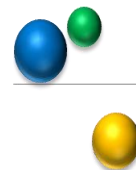
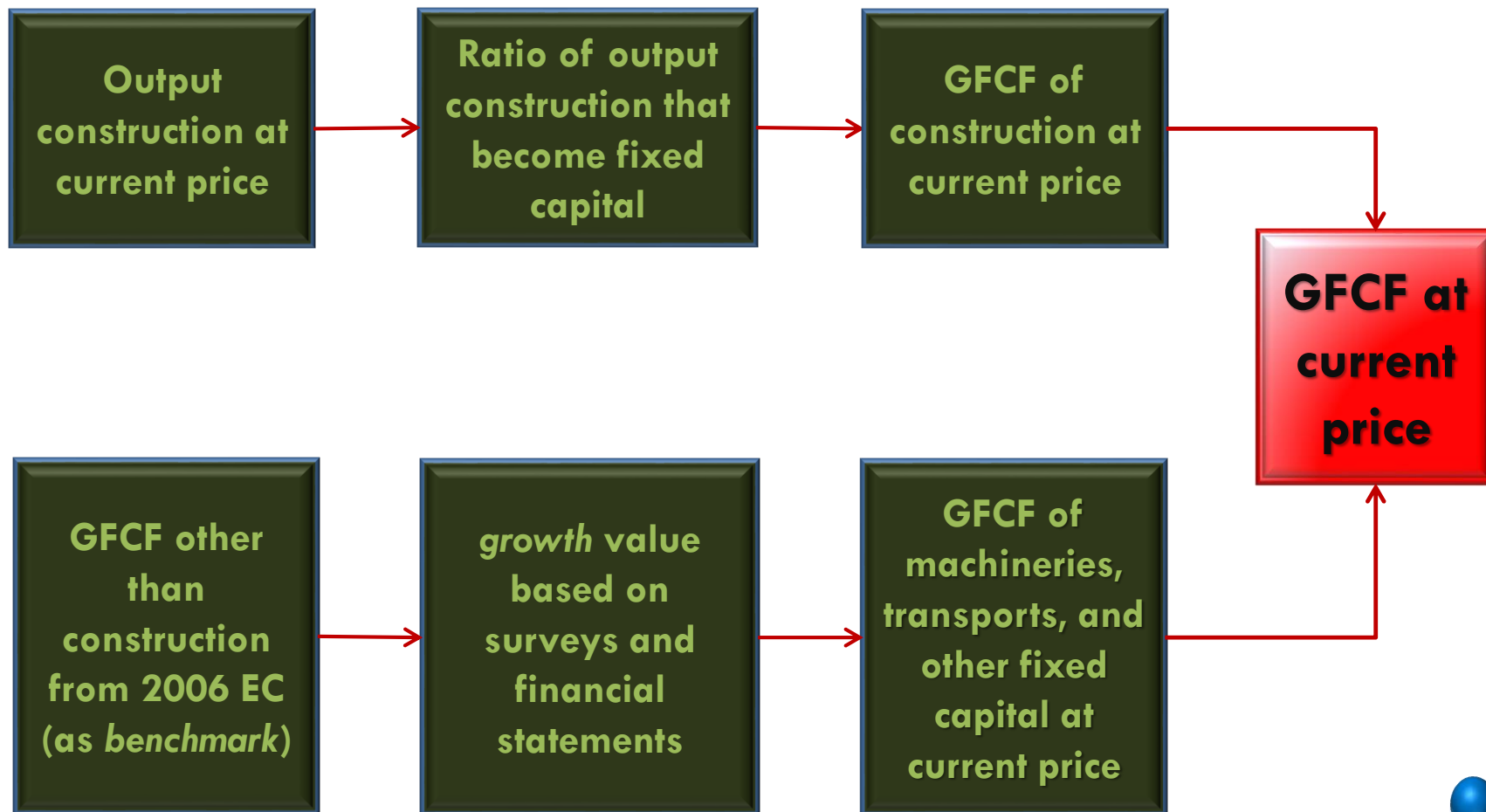
- **Output of construction at current & constant prices;**
- **GFCF in the forms of machineries, transports, and other fixed capital from 2006 economic census;**
- **Survey on fixed capital;**
- **Implicit index of GFCF in the forms of machineries, transports, and other fixed capital**





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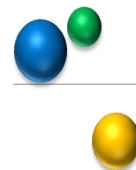
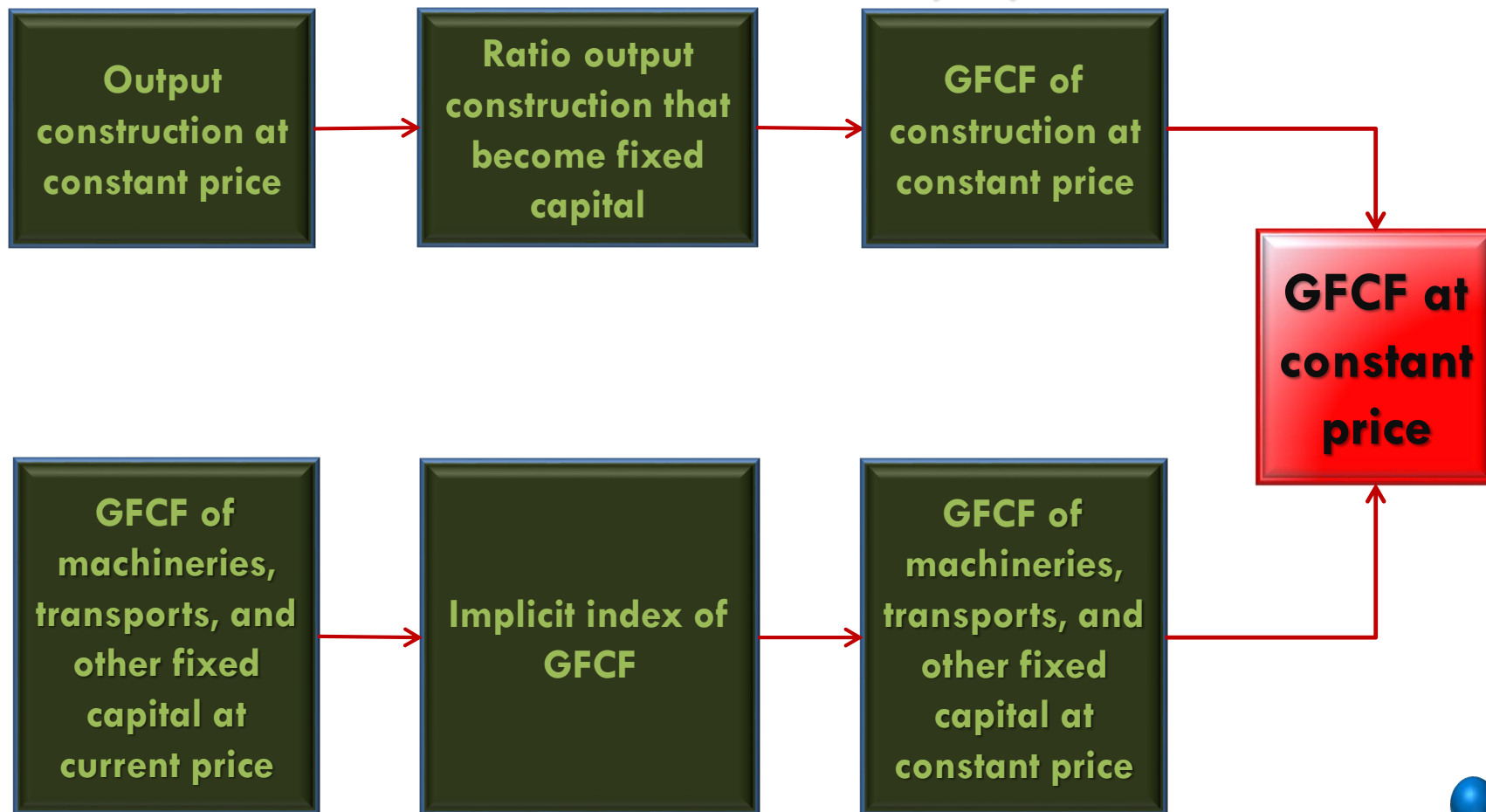
## **Flowchart**

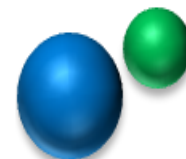






## Flowchart (2)





Thank you

