Gross Fixed Capital Formation (GFCF)

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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
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
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 through purchase, barter, capital transfer and final own used are considered 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)
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 destination 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
Output construction at current price → Ratio of output construction that become fixed capital → GFCF of construction at current price → GFCF at current price

GFCF other than construction from 2006 EC (as benchmark) → growth value based on surveys and financial statements → GFCF of machineries, transports, and other fixed capital at current price
Flowchart (2)

1. Output construction at constant price
2. Ratio output construction that become fixed capital
3. GFCF of construction at constant price
4. GFCF of machineries, transports, and other fixed capital at current price
5. Implicit index of GFCF
6. GFCF of machineries, transports, and other fixed capital at constant price

GFCF at constant price
Thank you