AN OVERVIEW OF 2008 SNA

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Outline of Presentation

- Institutional Units and Sectors
- Transactions and other flows
- Accounting rules
- Valuation of output
- Production
- Boundaries of SNA
- Sequence of accounts
- Other accounts of SNA
- Measurement of output
- Intermediate consumption
- Gross fixed capita formation
- Measurement of GDP

Units- Introduction

In order to collect economic data from businesses, it is necessary to define the business units to which the data relate

- an enterprise is the “financing unit “
- an establishment is the “producing unit”

Can also have units relating to government and households

Different types of units interact by engaging in transactions

- 2 units involved in a transaction
- for example, an enterprise selling to a household

Collectively, the SNA refers to these units as “transactors”

The SNA allocates transactors to institutional sector based on their characteristics

What is an institutional unit?

Definition: an economic entity that is capable of

owning assets,

incurring liabilities,

carrying out economic activities taking decisions on all aspects of economic life and

engaging in transactions with other entities.

A foundational premises of the SNA framework:

All economic transactions take place only through institutional units.

Institutional units are, thus, the basic units, for compilation of national accounts.

Categories of Institutional units

Institutional units can be considered as being one of three broad types:

(a) *corporations*, which are businesses established under a country's laws,

(b) *government,* which includes all government activities other than those in which the unit is producing or selling goods and services at market prices, and

(c) *households*, which consist of persons, or groups of persons, who live together.

Institutional Units and types of activity

Corporations undertake production and/or accumulation

General government units may undertake production and/or consumption and/or accumulation

All households undertake consumption on their own behalf

Non-profit institutions (NPIs) are a special type of unit, which can be part of corporations or of government or they may serve households

- most NPIs are part of government or serve households
- classifying an NPI to institutional sector depends on who owns, controls and finances the NPI

Corporations, general government

Corporations are businesses that are incorporated in their country of operation in accordance with the company law in that country

- they aim to run at a profit
- the owners of an incorporated business have their liability for losses limited in accordance with company law
- corporations can be either private or public sector
- some unincorporated businesses may be considered to be corporations (called "quasi-corporations") if they meet certain criteria

Government units are not intended to run at a profit

- activities are financed mainly from tax revenue

Households

A household is a group of persons who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food

- there are also other types of households ("institutional households") that comprise groups of persons staying in hospitals, retirement homes, convents, prisons, etc

Some households run businesses whose accounts are mixed in with those of the household (unincorporated enterprises)

The 2008 SNA classification for institutional sectors actually defines five institutional sectors for the domestic economy

1. Non-financial corporations
2. Financial corporations
3. General government
4. NPIs serving households (NPISHs)
5. Households

Including cooperatives

Engaged in non-market production

Includes unincorporated enterprises without complete set of accounts

There is a sixth (the *Rest of the world*) for foreign residents who interact with the transactors resident in the domestic economy via purchasing exports and by providing imports, or through financial transactions

Institutional sub-sectors – Non-financial corporations

Each of the five resident institutional sectors are subdivided of units into sub-sectors

For the corporations sector, the full classification is:

Non-financial corporations

- **Public non-financial corporations**
  - Public non-financial corporations – NPIs
  - Public non-financial corporations – FPIs
- **National private non-financial corporations**
  - National private non-financial corporations – NPIs
  - National private non-financial corporations – FPIs
- **Foreign controlled non-financial corporations**
  - Foreign controlled non-financial corporations – NPIs
  - Foreign controlled non-financial corporations – FPIs

Institutional sub-sectors – Financial corporations

Nine sub-sectors are identified within the financial corporations sector:

1. Central bank
2. Deposit-taking corporations, except the central bank
3. Money market funds
4. Non-money market investment funds
5. Other financial intermediaries, except insurance corporations and pension funds
6. Financial auxiliaries
7. Captive financial institutions and money lenders
8. Insurance corporations
9. Pension funds

If necessary, each can be further split in the same way as corporations (i.e. Non-profit institution or For-profit institution; and Public or Private national or Private foreign-controlled)

Institutional sub-sectors – Government

Countries have different systems of government, ranging from a single level covering the whole country to more complicated models of national/state/local government

The 2008 SNA caters for different governmental structures:

- Central government (including Social security funds)
- State government (including Social security funds)
- Local government (including Social security funds)

An alternative is where social security is at a single level

- Central government
- State government
- Local government
- Social security funds

If there are less than 3 levels of government then the redundant level(s) is omitted (e.g. State government)

Institutional sub-sectors – Households

Households can be classified into one of four sub-sectors, with one being further sub-divided into 3 more categories

Employers

Own-account workers

Employees

Recipients of property and transfer incomes

- Recipients of property income
- Recipients of pensions
- Recipients of other transfers

Households are allocated to sub-sectors based on which of the four major categories of income is largest for the household as a whole

- it may not account for more than half of total household income

Institutional sub-sectors – NPISHs

The SNA provides for NPISHs to be sub-sectored into national private and foreign-controlled components

In practice, many countries have difficulty separately identifying NPISHs to allocate them to a separate NPISH sector and so they are often included as part of the household sector

NPISH final expenditures can be classified by function according to the Classification of the purposes of non-profit institutions serving households (COPNI)

Transactions and other flows

A transaction is an economic flow that is an interaction between institutional units by mutual agreement

- SNA also treats certain economic actions involving only a single institutional unit as transactions. (own-account fixed capital formation)

Not all economic flows are transactions. For example, certain actions undertaken unilaterally by one institutional unit have consequences on other institutional units without the latter's consent.

- SNA records such actions only to a limited extent

Unilateral economic actions bearing consequences, either positive or negative, on other economic units (externalities) are not recorded in the SNA

Main types of Transactions and other flows

Four main classification of transactions and other flows in the SNA.

Transactions in goods and services (products) describe the origin (domestic output or imports) and use (intermediate consumption, final consumption, capital formation or exports) of goods and services.

Distributive transactions consist of transactions by which the value added generated by production is distributed to labour, capital and government and transactions involving the redistribution of income and wealth (taxes on income and wealth and other transfers).

Main types of Transactions

Transactions in financial instruments (or financial transactions) refer to the net acquisition of financial assets or the net incurrence of liabilities for each type of financial instrument. Such changes often occur as counterparts of non-financial transactions. They also occur as transactions involving only financial instruments.

Other accumulation entries cover transactions and other economic flows not previously taken into account that change the quantity or value of assets and liabilities. Includes

- Acquisitions less disposals of non-produced nonfinancial assets,
- Other economic flows of non-produced assets, such as discovery or depletion of subsoil resources or transfers of other natural resources to economic activities,
- Effects of non-economic phenomena such as natural disasters and political events (wars for example) and
- Holding gains or losses, due to changes in prices,

Accounting Rules

Terminology for the two sides of the accounts

Resources - transactions which add to the amount of economic value of a unit or a sector.

- Shown on the right-hand side of the current accounts

Uses – transactions that reduce the amount of economic value of a unit or sector

- Shown on the left-hand side of the current accounts

Balance sheets are presented with *liabilities and net worth* (the difference between assets and liabilities) on the right hand side and *assets* on the left-hand side.

The accumulation accounts and balance sheets being fully integrated, the right-hand side of the accumulation accounts is called *changes in liabilities and net worth* and their left hand side is called *changes in assets*.

Accounting Rules

Double entry or quadruple entry accounting

For a unit or sector, national accounting is based on the principle of double entry, as in business accounting.

Each transaction is recorded twice, once as a resource (or a change in liabilities) and once as a use (or a change in assets).

The total of transactions recorded as resources or changes in liabilities and the total of transactions recorded as uses or changes in assets must be equal, thus permitting a check of the consistency of the accounts.

Recording of the consequences of an action as it affects all units and all sectors is based on a principle of quadruple entry accounting, because most transactions involve two institutional units.

Accounting Rules

Time of recording

Transactions, or other flows, are recorded at the same point of time in the accounts for both units involved.

The general principle is that transactions between institutional units have to be recorded when claims and obligations arise, are transformed or are cancelled.

This time of recording is called an accrual basis

In principle, national accounts record actual transactions on an accrual basis, not on a cash basis.

Conceptually national accounts follow the same principle as business accounting.

Valuation

General Principles

Transactions are valued at the actual price agreed upon by the transactors. Market prices are thus the basic reference for valuation in the SNA.

In the absence of market transactions, valuation is made according to costs incurred (for example, non-market services produced by government)

Assets and liabilities are recorded at current values at the time to which the balance sheet relates, not at their original valuation.

Internal transactions are valued at current values at the time these transactions occur, not at the original valuation.

- Internal transactions include entries into inventories, withdrawals from inventories, intermediate consumption and consumption of fixed capital

Method of Valuation

Various methods exist of treating the effect of taxes on products, subsidies and trade and transport margins on the valuation of transactions on products (goods and services).

The preferred method of valuation of output is at basic prices,

- producers' prices may be used when valuation at basic prices is not feasible.

The distinction is related to the treatment of taxes and subsidies on products.

Basic prices are prices before taxes on products are added and subsidies on products are subtracted.

Producers' prices include, in addition to basic prices, taxes less subsidies on products other than value added type taxes including non-deductible VAT.

Method of Valuation

Purchasers' prices are the amounts paid by the purchasers, include, in addition to producer's prices, trade and transport margins excluding the deductible part of value added type taxes.

Purchasers' prices are the actual costs to the users.

Prices paid by purchasers are different from what the producers perceive as their receipts, because:

the taxes on products that are passed on to government are not receipts of the producers.

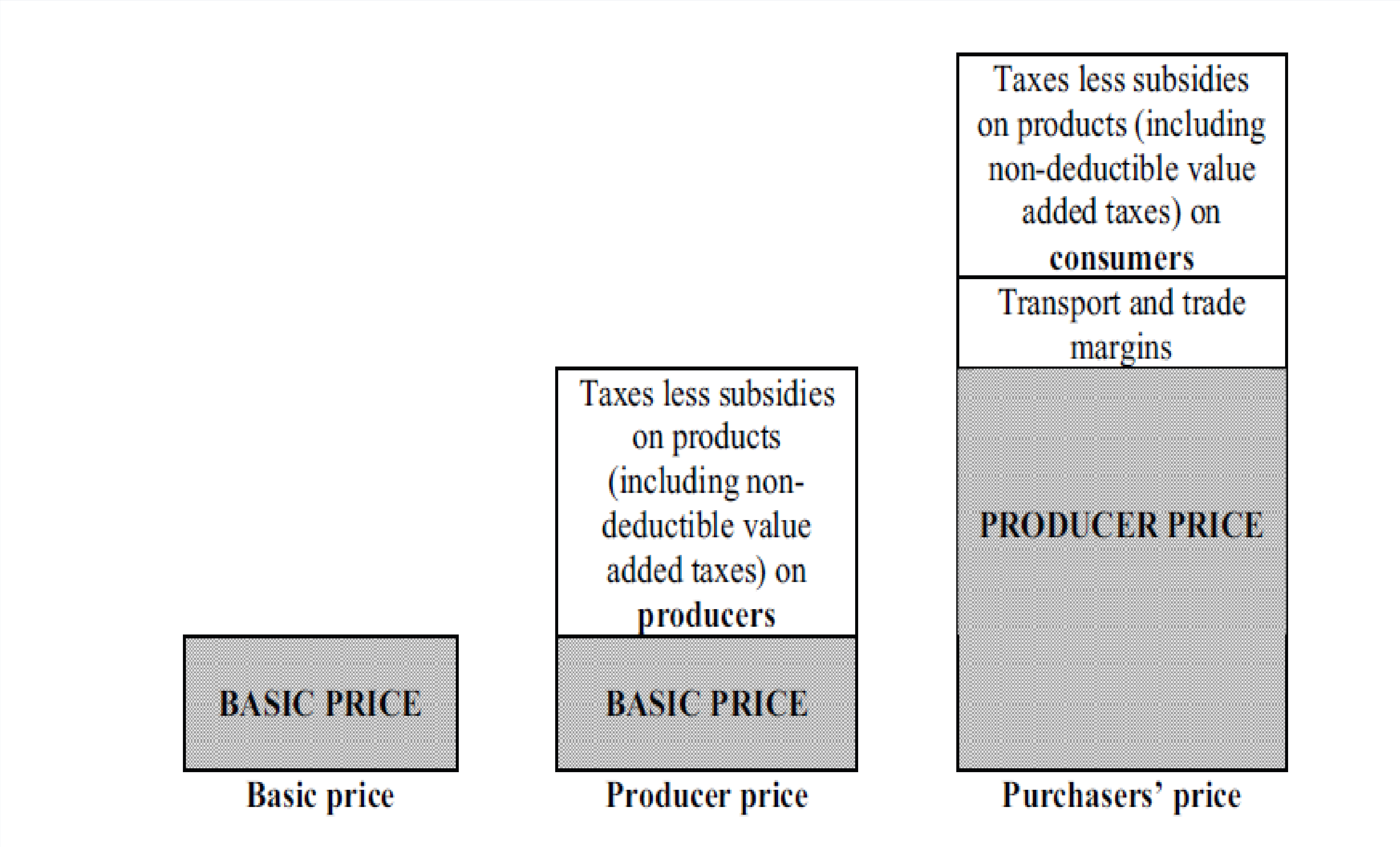
trade and transport margins, which forms part of the traders and transporters income.

Thus, in the SNA:

use of products are recorded at **purchasers' prices,**

output of products are recorded at **basic prices**.

Valuation of transactions



Valuation of transaction

Prices of a loaf

Take the example of a loaf of bread.

Consumers buy from the traders at 140.

The traders purchase each loaf at 110 from the bakery.

The bakery pays product tax of 10 to the government.

In this example,

Purchasers' price of a loaf = 140

trade & transport margin (TTM) = 30 [= 140 – 110]

Producer price of a loaf = 110 [= 140 – 30]

Basic price of a loaf = 100 [= 110 – 10]

From the margin of 30 (=140 – 110), the traders pay production taxes (less subsidies) to the government and transport charges to the transporters.

Production

- An activity in which an enterprise uses inputs to produce outputs
- A physical process, carried out under the responsibility, control and management of an institutional unit, in which labor and assets are used to transform inputs of goods and services into outputs of other goods and services
- Does NOT cover purely natural processes without any human involvement or direction
- All goods and services produced as outputs must be such that they can be sold on markets or at least be capable of being provided by one unit to another, with or without charge

Production boundary

- Production of all goods or services that are supplied to units other than their producers, or intended to be so supplied, including the production of goods or services used up in the process of producing such goods or services
- Own-account production of all goods that are retained by their producers for their own final consumption or gross capital formation
- Own-account production of knowledge-capturing products that are retained by their producers for their own final consumption or gross capital formation but excluding (by convention) such products produced by households for their own use
- Own-account production of housing services by owner occupiers
- Production of domestic and personal services by employing paid domestic staff

Extensions of production boundary in 2008 SNA

- Research and development undertaken by market producers on their own behalf
  - Not ancillary activity
- Activities of moneylenders
  - Provide financial services by lending using own funds or funds provided by sponsors

Exclusions from production boundary

- Factors that affect quality of life
- Most services produced for own use by households
  - Minor do-it-yourself repair and maintenance of household durable goods and dwellings
  - Preparation and serving of meals
  - Care, training and instruction of children
  - Care of sick, infirm or old people
  - Transportation of members of the household or their goods
- Goods and services produced and used by the same producer (establishment) in the same accounting period

Consumption boundary

- Includes household final consumption expenditure and actual consumption
- Determined by production boundary
- Includes
  - Estimated values of the agricultural products consumed by households that they have produced themselves
  - Values of the housing services consumed by owner occupiers
- Excludes
  - Values of “do-it-yourself” repairs and maintenance to vehicles or household durables, the cleaning of dwellings, the care and training of children, or similar domestic or personal services produced for own final consumption.
  - Only expenditures on goods utilized for these purposes, such as cleaning materials, are included

Asset boundary

- Consists of entities that must be owned by some unit, or units, and from which economic benefits are derived by their owner(s) by holding or using them over a period of time
- Includes
  - Non-financial assets
    - Produced assets
    - Non-produced assets
  - Financial assets
- Excludes
  - Consumer durables
  - Human capital
  - Natural resources which are not owned (for example, mineral or fuel deposits that have not been discovered or that are unworkable)

National boundaries

- Accounts of the SNA are compiled for resident institutional units grouped into institutional sectors and subsectors
- An institutional unit is said to be resident within the economic territory of a country when it maintains a centre of predominant economic interest in that territory, that is, when it engages, or intends to engage, in economic activities or transactions on a significant scale either indefinitely or over a long period of time, usually interpreted as one year
- GDP (production side)
  - Includes production abroad (for example, installation of some exported machinery or equipment or a consultancy project undertaken by a team of expert advisers working temporarily abroad)
  - Excludes production taking place within a country attributable to non-resident institutional units
- GDP (expenditure side)
  - Allowance has t be made for goods and services produced by non-residents but consumed by residents as well as for goods and services produced by residents but consumed abroad
  - All transaction with the rest of world should be identified

Sequence of Accounts

- Describes sequence of interconnected flow accounts linked to different types of economic activity taking place within a given period of time, together with balance sheets that record the values of the stocks of assets and liabilities held by institutional units or sectors at the beginning and end of the period
- Each flow relates to a particular kind of activity such as production, or the generation, distribution, redistribution or use of income

Sequence of Accounts

- Current accounts
- Accumulation accounts
- Balance sheets

Sequence of Accounts

Organization of Accounts

- Current accounts
  - Left hand side – Uses
  - Right hand side – Resources
- Accumulation accounts
  - Left hand side – Changes in assets
  - Right hand side – Changes in liabilities and net worth
- Balance sheets
  - Left hand side – Assets
  - Right hand side – Liabilities and net worth

Integrated Transaction Accounts of 2008 SNA – in Brief		
	Uses / *changes in liability & net worth*	Resources /*changes in assets*
Production Account	Intermediate Consumption (P.2) *GVA / GDP (B.1)*	Output (P.1), *of which*: Market output (P.11); Output for own final use (P.12) and 'Other' non-market output (P.13). (Taxes-subsidies) on products & imports (D.21 – D.31)
Generation of income Account	Compensation of employees (D.1) (Taxes – subsidies) on production & imports (D.2 – D.3) *Mixed income(B.3) +Operating surplus (B.2)*	*GVA / GDP (B.1)*
Primary Distribution of Income	Property Income (D.4) *Gross National Income (B.5)*	*Mixed income (B.3) +Operating surplus (B.2)* Compensation of employees (D.1) (Taxes – subsidies) on production & imports (D.2–D.3) Property Income (D.4)
Secondary Distribution of Income	Taxes on income & wealth payable (D.5) Social contributions & other social benefits payable (D.6) Other current transfers payable (D.7) *Gross Disposable income (B.6)*	*Gross National Income (B.5)* Taxes on income & wealth receivable (D.5) Social contributions & other social benefits receivable (D.6) Other current transfers receivable (D.7)
Use of Income Account	Final Consumption Expenditure (P.3), *of which*: Household FCE; Government & NPISHs FCE Adjustments for hhds' pension funds (D.8) *Gross Savings (B.8)*	*Gross Disposable income (B.6)* Adjustments for hhds' pension funds (D.8)
Capital Account	Gross Fixed Capital Formation (P.51) Change in Inventories (P.52) Acquisition less disposal of valuables (P.53) Acquisition less disposal of non-produced non-financial assets (K.2) *Minus* CFC (K.1) *Net lending / borrowing (B.9)*	*Gross Savings (B.8)* Capital transfers receivable *minus* capital transfers payable (D.9)
Financial Account	Net acquisition of financial assets (F.1 to F.7) *Net lending / borrowing (B.9)*	*Net lending / borrowing (B.9)* Net incurrence of liabilities (F.2 to F.7)

Sequence of Accounts

Balancing items

- Difference between total resources and total uses in each account
- Shown on left hand side of account
- Carried forward to right hand side as resources of next account
- Net (excluding consumption of fixed capital) or gross

Sequence of Accounts

Current Accounts

- Production Account
  - Describes production process
- Generation of Income Account
  - Describes components of value added
- Allocation of Primary Income Account
  - Describes income allocation (compensation of employees, taxes and subsidies on production and imports, and property income) on the basis of claims
- Secondary Distribution of Income Account
  - Describes redistribution through current transfers
- Use of (Adjusted) Disposable Income Account
  - Describes use of (adjusted) disposable income/saving

Sequence of Accounts

Accumulation Accounts

- Capital Account
  - Describes capital formation and redistribution of wealth through capital transfers
- Financial Account
  - Describes financial transactions
- Other changes in Volume of Assets Account
  - Describes impact of non-economic events
- Revaluation Account
  - Describes changes in value of assets and liabilities arising from price changes

Balance sheets

- Show the value of the stock of assets and liabilities at the beginning and end of an accounting period

Measurement of Output

Output - Definition

Output is defined as the goods and services produced by an establishment, <u>excluding</u> the value of any goods and services

a) used in an activity for which the establishment does not assume the **risk** of using the products in production,

b) consumed by the same establishment,

except for goods and services used for **capital formation** (fixed capital or changes in inventories) or **own final consumption**.

[refer to 6.89 2008 SNA]

Measurement of Output

Principle of Recording Transactions

2008 SNA recommends that

- Transactions in services be recorded when they are provided;
- Transactions in goods be recorded when there is a change in **economic ownership** rather than the legal ownership; and
- Assets be recorded on the balance sheets of the **economic owner** rather than the legal owner.

Measurement of Output

Treatment of within-enterprise transactions for Further Production

Two Cases:

- **Not involving change in economic ownership**
  - Receiving establishment does not take on responsibility for the consequences of the continuation of the production process.
  - The 2008 SNA recommends: Output of the receiving establishment is only the processing services.
- **Involving change in economic ownership**
  - The receiving establishment sells the product in the market and takes other production-related decisions.
  - The 2008 SNA recommends: output is the product (goods).

Measurement of Output - Examples

1. ***A*** is a tea garden and ***B*** is the tea processing unit for the garden.

   Output of ***B***: only the processing services and not the value of the processed tea.

   IC of ***B*** does not include the value of raw tea leaves.

   Since the 'economic' ownership of tea leaves is assumed to have been retained by A.

2. ***A*** is a coal mine and ***B*** generates electricity and sells. ***B*** decides the amount of electricity to be generated and thus amount of coal to be obtained from ***A***.

   Output of ***B***: Value of electricity sold in the market

   IC of ***B*** includes the value of coal received from ***A***.

Measurement of Output

Recording of output

Output is recorded if the goods and services being produced

- are provided (sold or given free) to other institutional units
- are used for **capital formation** of the same establishment;
- enter **inventories**
  - even if eventually are withdrawn from inventories for use as intermediate consumption in the same establishment in a later period;
- by a household unincorporated enterprise (growing maize, for example) are used for the **household's own consumption**;
- remain unfinished (**work-in-progress**) at the end of the accounting period - recorded as being produced and entering inventories.

Measurement of Output

Disposal of output

- Output of an enterprise is disposed of in the following three ways:
- ***Sales*** - Sale of goods and services for cash, credit, or barter
- ***Change in inventory*** (***CII***) - addition/reduction to inventory of finished goods, goods in process, or goods for resale (closing inventory - opening inventory)
- ***Own final use*** - goods and services used for own final consumption and own capital formation

Three way distinction of Output

The 2008 SNA makes a three way distinction of output

- **Market output**: Those sold in the market at economically significant prices.
- **Non-market output**: Those provided free or at prices that are not *economically significant* to other institutional units
  - These are mainly services produced by the Government and NPISHs.
- **Output for own final use**: Those used for own final consumption and own capital formation.

Economically Significant Prices Prices that have a significant effect on the amounts that producers are willing to supply and on the amounts purchasers wish to buy.

Intermediate Consumption

Coverage

- Goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital.
- The intermediate consumption (IC) of a good or service is recorded at the time when the good or service enters the process of production, and the time of it was acquisition by producer.
- A good or service consumed as an intermediate input is valued at the purchaser's price prevailing at the time it enters the process of production
- In general, all goods and services that are produced and used by the same establishment are excluded from the measure of output and intermediate consumption

Gross fixed capital formation

Coverage

- Gross fixed capital formation is measured by the total value of a producer's acquisitions, less disposals, of fixed assets during the accounting period plus certain specified expenditure on services that adds to the value of non-produced assets.
  - improvements to existing assets and the cost of ownership
  - transfer of assets
- The asset boundary for fixed assets consists of goods and services that are used in production for more than one year.
- Two exclusions from the asset boundary:
  - Consumer durables, and
  - Small tools

Measuring GDP

Gross Value Added (GVA) at basic price

An enterprise's earnings from production is the GVA at basic prices

= Receipts from sale of its productions

minus (all product taxes – all product subsidies)

plus Change in inventory *plus* output for own final use

minus payments made for purchase of inputs

= Gross value of output at basic prices (GVO_{bp})

minus ***IC*** at purchasers prices (IC_{purp})

= *GVA* at basic prices, $GVA_{bp} = GVO_{bp} - IC_{purp}$

Which gets distributed as

CE + ***OS*** + ***MI*** + other production (*t*-*s*)

Measuring GDP

GDP at market price

GDP – the measure of production – is valued at market prices.

GDP at market prices is defined as (1993 / 2008 SNA),

$$GDP_{mp} = \Sigma GVA_{bp} + \text{product } (t\text{-}s) + (t\text{-}s) \text{ on imports}$$

GDP_{mp} represents the primary income generated from the production undertaken within the domestic economy.

In the SNA publications, when only ***GDP*** is mentioned it is for "*GDP* at market prices".

Thank You