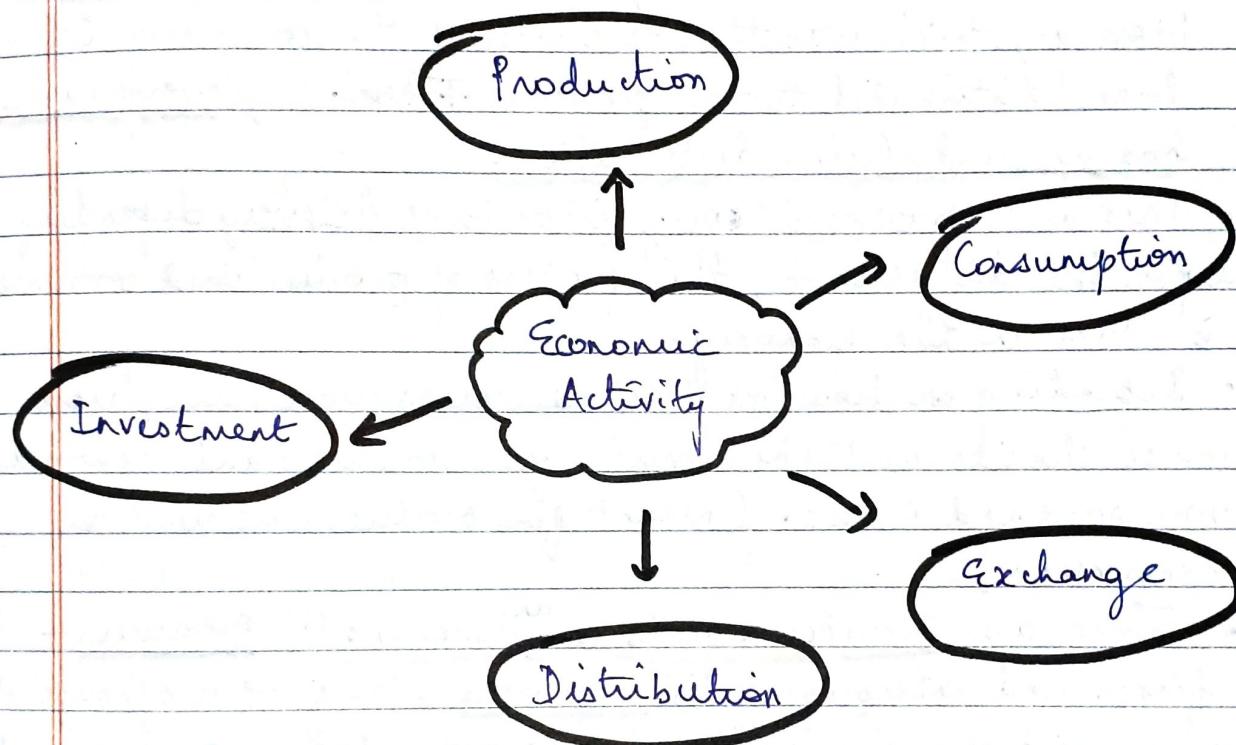


BUSINESS DATA MANAGEMENT

WEEK 1

MICRO & MACRO ECONOMICS : THE ROLE OF DATA

* Consumption and Demand :-



- These 5 activities drive the economy at any point in time.
- For production & consumption of goods, there should be ~~a~~ continuous exchange of goods & services.
 - * Exchange - Whatever is produced will be consumed by the consumer and in return the value of the product is given by the consumer to the producer.
- Producers can also be consumers and even consumers can be producers!
- When exchange happens, distribution takes place.

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- When goods & services are changing hands, so are the resources.

Eg; when a household purchases something that has been produced by a firm. Here "firm" is the "producer" and the "household" is the "consumer". When the purchase is done, the consumer (i.e. household) gives money (in exchange) for the product. This is the process of resource distribution.

Money, which was the resource of the consumer has now been distributed to the producer. Therefore, every exchange has an underlying distribution.

- This distribution is very important because depending upon the distribution, this process of production & consumption is there in the economy.
- Depending on how much of resources you have, you make choices as to how much you consume and how much you save and invest. (meant for producers as well as consumers).
- There are 3 major agents in an economy: (i) producers - firms and enterprises (ii) consumers - here we use households as an unit of analysis (iii) government - both a producer and a consumer.

(For now, we'll be dealing with 2-agent model).

- Distribution & its implications:

→ Depending on the type of distribution, there will be implications on investments and consumption.

→ Investments are a part of Savings!

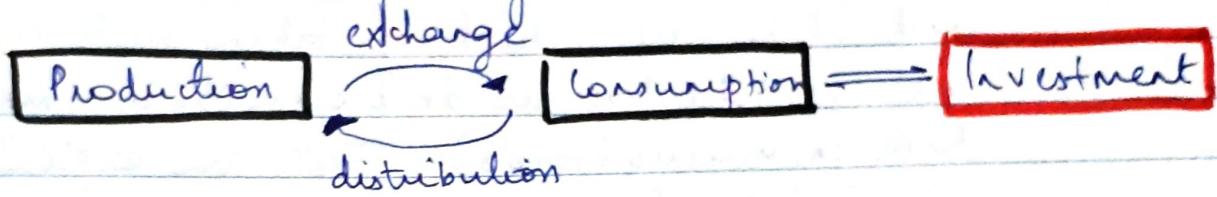
* Savings - Consumption postponed!

→ Household as an agent → Should I consume now at a time "T" or should I postpone my consumption to time "T+1"?

* If postponed to $T+1$, then saving the resource.
(reason - Valuation of consuming higher in $T+1$ compared to T^{th} period)

→ Important thing to characterize economy :- Depending on this distribution, whether it is skewed to households or to producers, are these decisions, in terms of consumption, savings & investment.

- This investment again goes back to production at a point of time so this is actually a cycle.



- All these 3 processes are inter-related.
(If one of the 3 activities is stopped, then all the other activities also slow down or eventually stop.)

- We can view this at 2 levels:

(i) Micro-decision making level - Organizing production and consumption and the distribution mechanism at a micro-level. This is the subject matter of "micro-economics".

(ii) Macro-decision making level - Organizing production and consumption and the distribution mechanism at a macro level. This is the subject matter of "macro-economics". They are aggregated at various levels - eg: state level, national level or international level economy.

- Eg: Macro issue/concept \rightarrow GDP

Price is both micro/macro concept. Price is the variable that maps all micro concepts with macro concepts.

- Role of data in consumption & demand:-

* If we have to understand the decision making process in a

firm (we need to think of this firm as a set of contracts with certain resources), we need to look at the production data in terms of how the firm is allocating resources, the basis on which it is allocated. This is because it answers 2 important questions:

- (i) Efficiency & its utilization.
- (ii) Trade-offs

* In households, there is limited income (resource). Taking decisions on a mundane level is an everyday task and there are 2 levels of taking such decisions. One: we use data but we don't organize it (MRP comparison between various brands), Two: We explicitly go out to collect data (Buying a car - Models, discounts, exchange rates)

- Producer also needs data about the consumer - what to produce & how much to produce. Producers collect these using various methods - market surveys, demand estimations.

PRODUCTION, CONSUMPTION AND EXCHANGE

* Production:

- Production is the process of converting raw materials into useful good / service. Goods / services become useful as they acquire utility value in the process of production.
- Producers have limited capital resources while they have a wide range of goods and services to choose from for their firms and factories to produce.
- With the given prices of inputs, they choose such combinations

which minimise cost of production so that they earn maximum profit.

→ Price, in economy, is a coordinating mechanism between producers and consumers. It is a mechanism for coordinating decisions taken by them.

* Consumption:

- Consumption is that economic activity which is concerned with the goods and services for the direct satisfaction of individual and collective wants.
- A consumer is a person who consumes goods and services for the satisfaction of his/her wants.
- Consumption activity is the base of all production activities.
- There would be no production if there was no consumption.

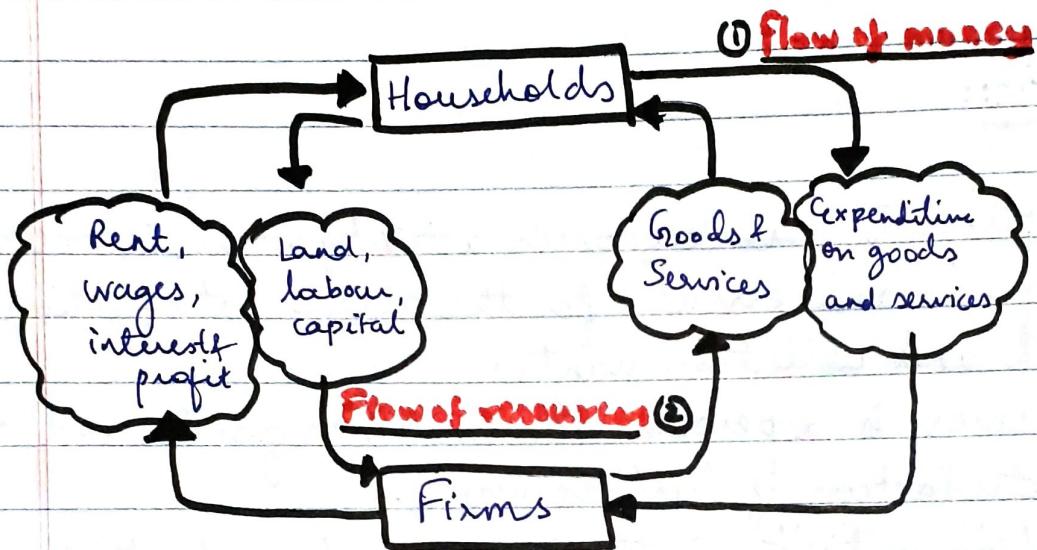
→ Data regarding consumption can show different patterns, observing them is very important for a producer.

- As a consumer, people have limited means (income) while their wants are unlimited.
- Study of consumption behaviour is concerned with the question "How people use their given/limited means for the purchase of different goods and services, so that their satisfaction is maximised?"
- In Consumption Theory, we formulate a set of standard relationships explaining how consumers tend to behave -

* Exchange:

- Exchange is that economic activity which is concerned with sale and purchase of commodities.
- In simple terms, barter or buying and selling.

The circular flow of income



- This keeps resource's flow in an economy. It is this flow that determines the level of production & consumption in the economy and from the kind of exchanges taking place, we can draw certain generalisations in terms of consumption.

CONSUMPTION BASKETS

- We represent consumption in the form of consumption baskets.
- All that we consume in a particular unit of time (day, week, month) we call it consumption basket.
- Consumption basket for a household (for a month) is a useful data in terms of assessing the demand.
- Income → total money available, household budget monthly

It is the upper limit in terms of the resources available.

SURVEY DATA

- * NSS - National Sample Survey
 - ↳ represents whole population of India as samples (not whole)
- * NSDP - Net State Domestic Product (for all states)
- * Sampling → (stratified sampling)
 - ↳ from different strata (income / region / occupation)
- * head count ratio → % of people below poverty.
- * No. of people covered in NSS depends from survey to survey.
 - / This is done in ~~rurally~~ & urbanly areas.
- * Over time, as income increased, the consumption behaviour has changed. Earlier times, data was very robust. Now, consumption has become very dynamic and so the type of inferences that we can draw from then & now has limitations. (Choices set for the consumer has expanded)
- * This has added "high frequency consumption data". Certain commodities are consumed higher in terms of frequency (repeated consumption) which causes a bias.
- * Two types of biases could occur here - (i) timing of the survey
(ii) Recall bias
 - ↳ Not remembering exactly what you have consumed in the last 3 months (or any past consumption).

To minimize this recall bias, NSS takes surveys for a day, a week, a month separately. (consumption in day, week, month)

UTILITY & PRICES

* What drives consumers' choice? Utility

- When economists talk about consumer choice, what they are referring to is the combination of goods & services a consumer purchases.
- To understand how a household will make its choices, economists look at what consumers can afford, as shown in a budget constraint and the total utility or satisfaction derived from those choices.
- Utility is the term economists use to describe the satisfaction or happiness a person gets from consuming a good or service. (Utility is subjective but a function of price)
- For example ; Mr. Raj obtains utility from consuming T-shirt and consuming movies. Like all consumers, we assume Raj wishes to choose the combination of T-shirts and movies that will provide him with the greatest total utility.

* Prices:

- The fact that goods have value can be ascribed ultimately to the limitations in the world's material endowment.
- That is why goods have prices ; if they were available in unlimited supply they would be free.
- Price usually serves as the rationing device whereby their use is kept down to the available supply.
- In a market economy, the relationship between the price of a good and the quantity supplied depends on the cost of making goods , and that cost , ultimately , is the cost of not making other goods. The market mechanism

enforces this relationship.

OTHER SOURCES OF SURVEY DATA

- * Consumer Pyramids Household Survey
 - ↳ Continuous survey - over time know households consume
 - ↳ Longitudinal data - same household gets surveyed again & again
- * Two kinds of data to observe the phenomenon
 1. Timeseries data - change in variable over time
 2. Crosssection data - snapshot of a variable at a particular time.
Eg.: NSS use cross sectional data ; GDP use Timeseries data.

↳ 3rd kind of data - mixture of both timeseries & cross sectional data - Panel data (pooling observations over time)
(Longitudinal data is a type of panel data where the same household gets surveyed over time multiple times)
- * Mobility of households → in terms of
 - i) Economic mobility
 - ii) Consumption
 - iii) Income
 - iv) Diversity of Consumption basket
 - v) Goods that have become inferior
- * Consumer pyramids are divided into 4 types:
 - ① People of India: The People of India database provides a moving kaleidoscope of the attributes and peculiarities of the Indian people.
 - ② Aspirational India: Explore household assets and amenities, their perceptions and decisions regarding purchase of assets or to make investments.

③ Income Pyramid: Enables the study of seasonalities of household incomes, volatility of incomes, growth in incomes, changing composition of household incomes and a lot more.

④ Consumption Pyramid: Consumption pyramid fills a serious gap in the official Indian statistical system. It delivers fast-frequency data on consumption expenditure of households.

* Why are surveys important? These surveys are important for making strategies in firms - in terms of where they should position themselves in the market.