

Aging Population Thinking and Innovation

Nepal Team 1

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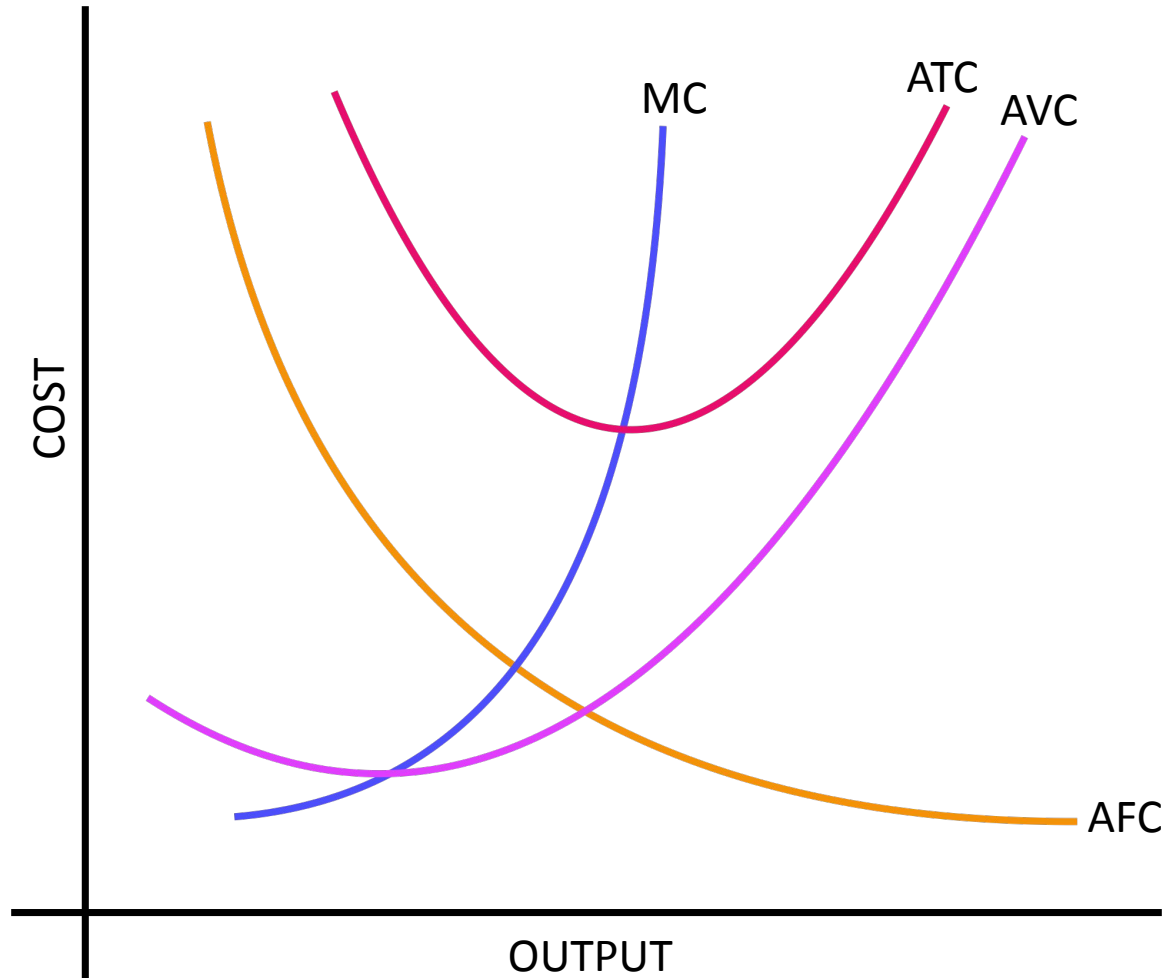
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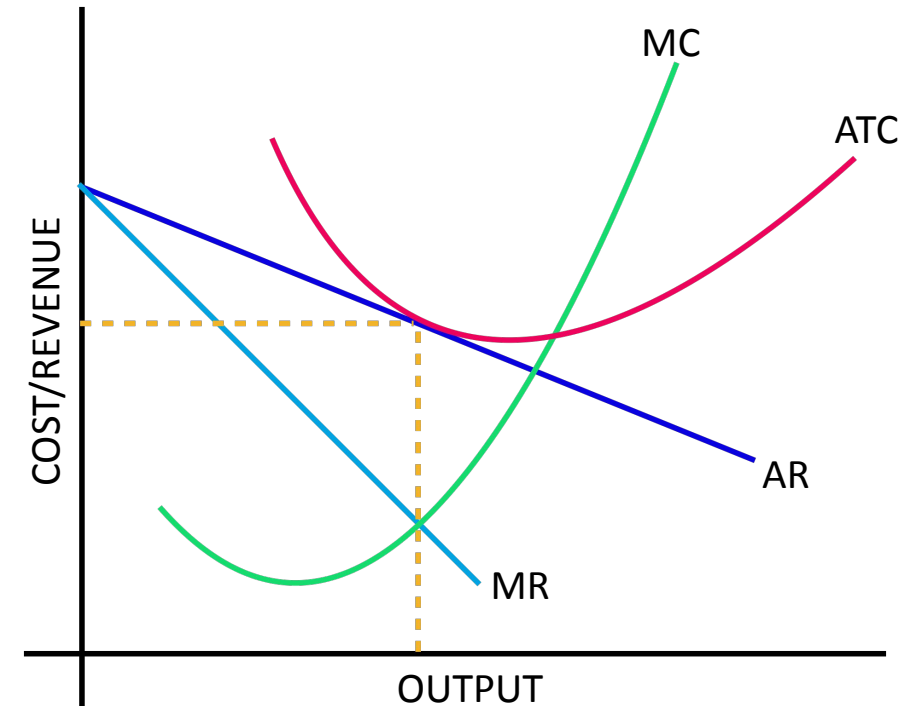
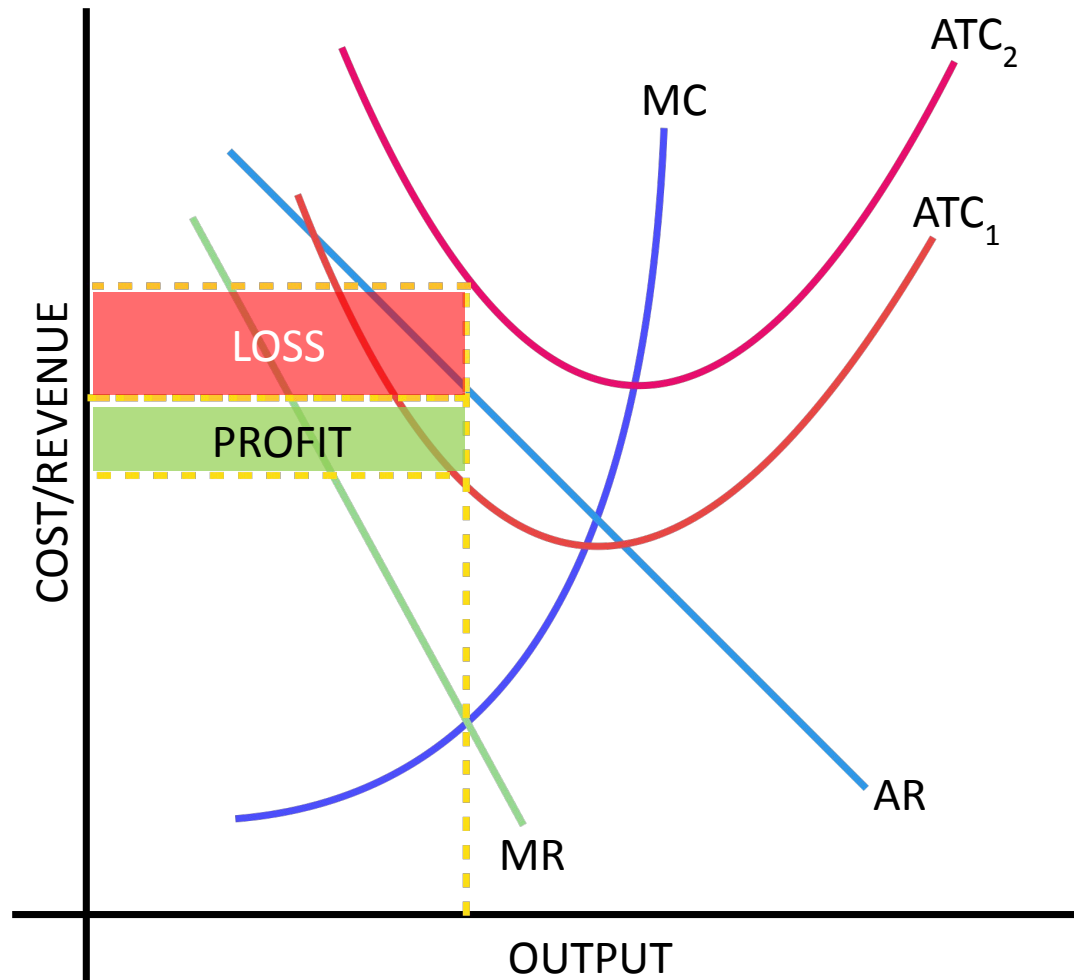


Q1: MC, ATC, AFC, AVC. What decisions should Company W make in short and long term?



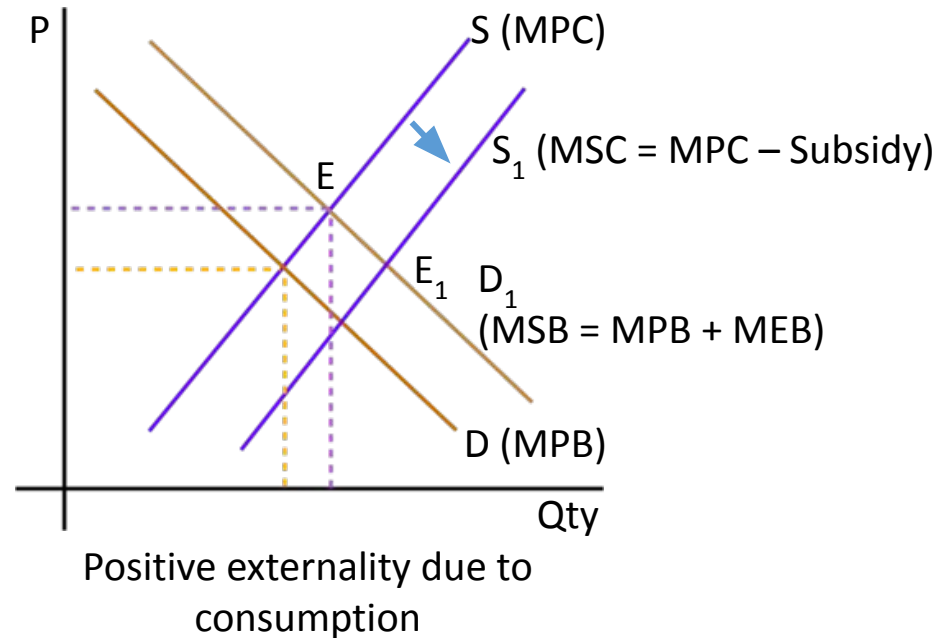
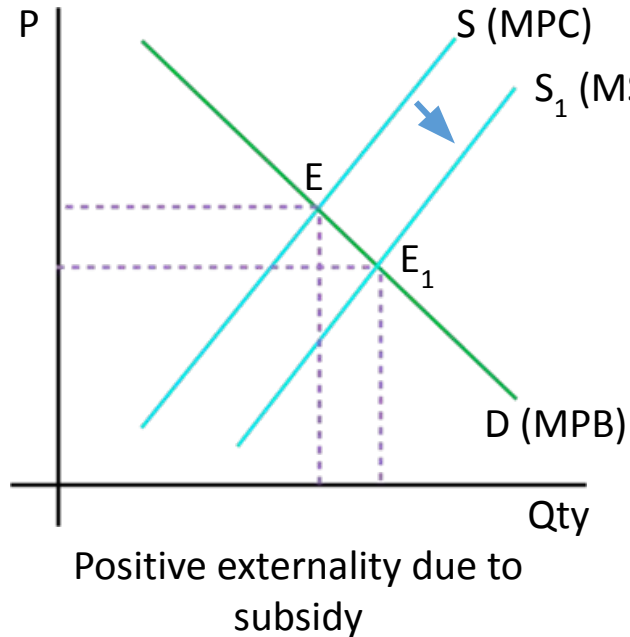
- Short-run decisions
 - Production at: $MR = MC$
 - Promotion and Advertisement
 - Specialization
- Long-run decisions
 - Service Differentiation
 - Research and Development
 - Equity Finance

Q2: Market Structure? Losses, profits, and long-run profits. Why will the firm stay?



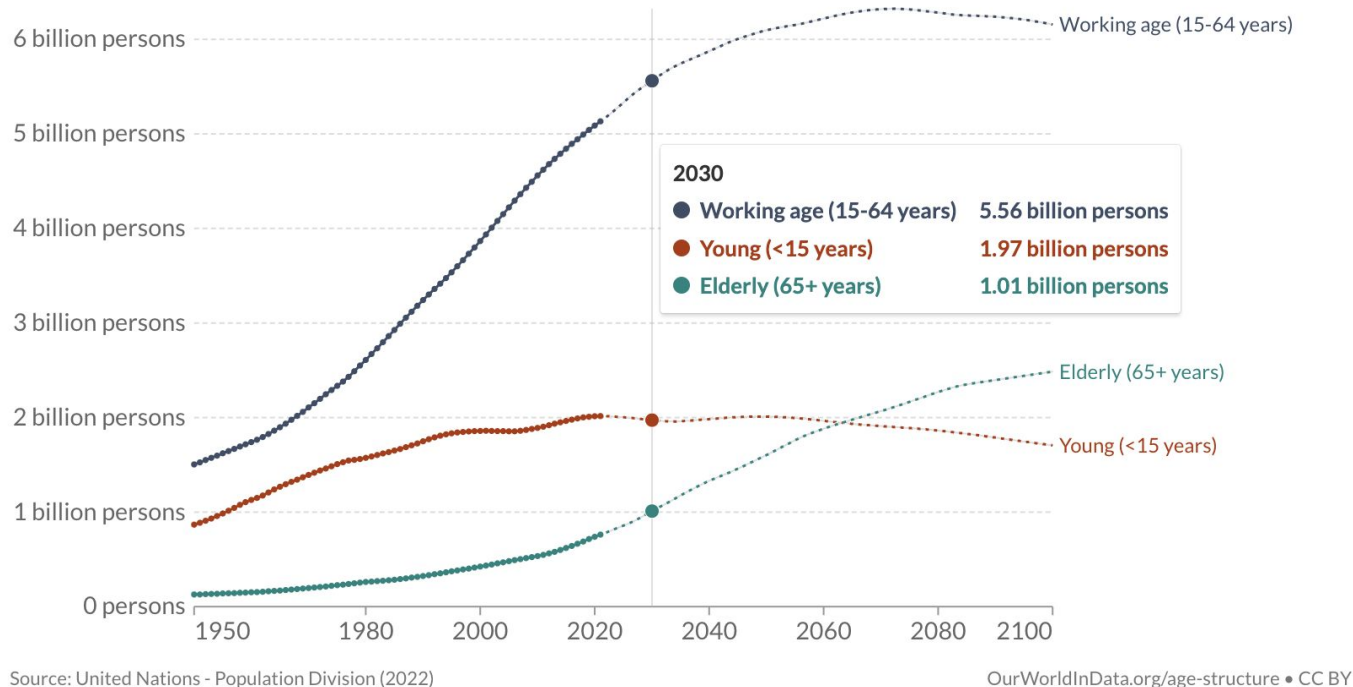
- A monopolistic market structure
- Breakeven condition: AR equals AC
- Still enjoys accounting profit

Q3: Nursing homes, type of good? Characteristics? Externality, its consequence, and it's solution



- Private Good
 - Excludability and Rivalry
- Results in positive externality
 - $MSB > MPB$
- Underallocation of merit goods
- Measures to solve the externality:
 - Nudging
 - Provision of Subsidy
 - Provision of Information

Problem: Increase in elderly population is likely to overburden healthcare system with increase in the consumption of healthcare resources in long-term



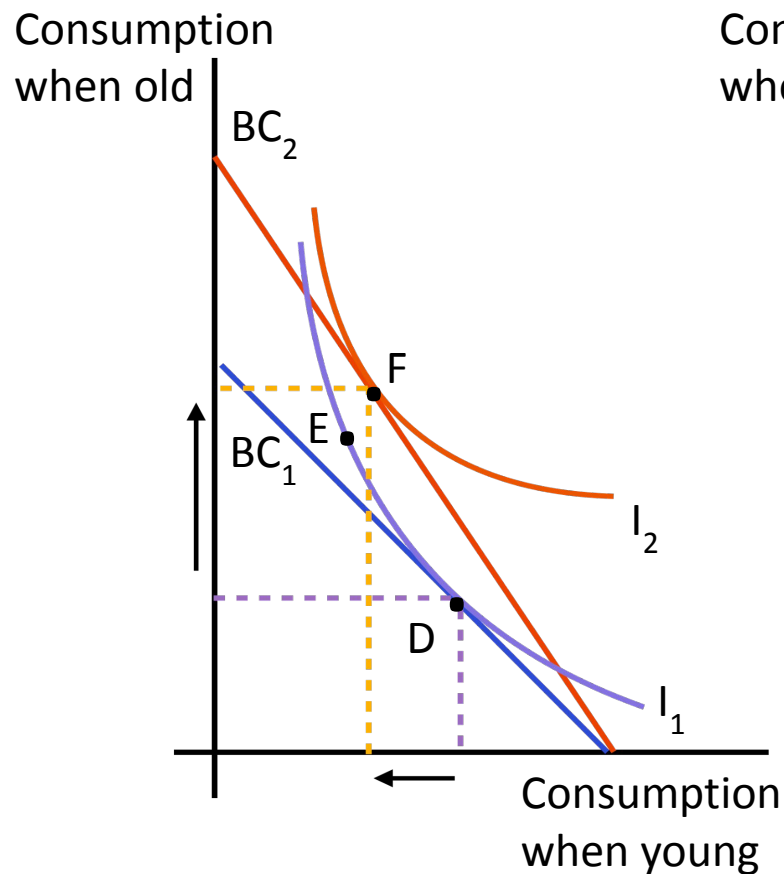
- Theory of demographic transition is applicable
- Developed countries tend to have a lower fertility
- Mortality rates are low, birth control is easily accessible
- Children considered as economic drain
- Women have children late in life
- Workforce expected to fall by 8 million by 2030
- Increase in dependency ratio
- Younger population need to be overworked, giving them less time and making having children more and more unattractive
- Leads to decline of young and working people in contrast to increasing old; creating creates a viscous cycle

Solution 1: Voluntary awareness of good health practices

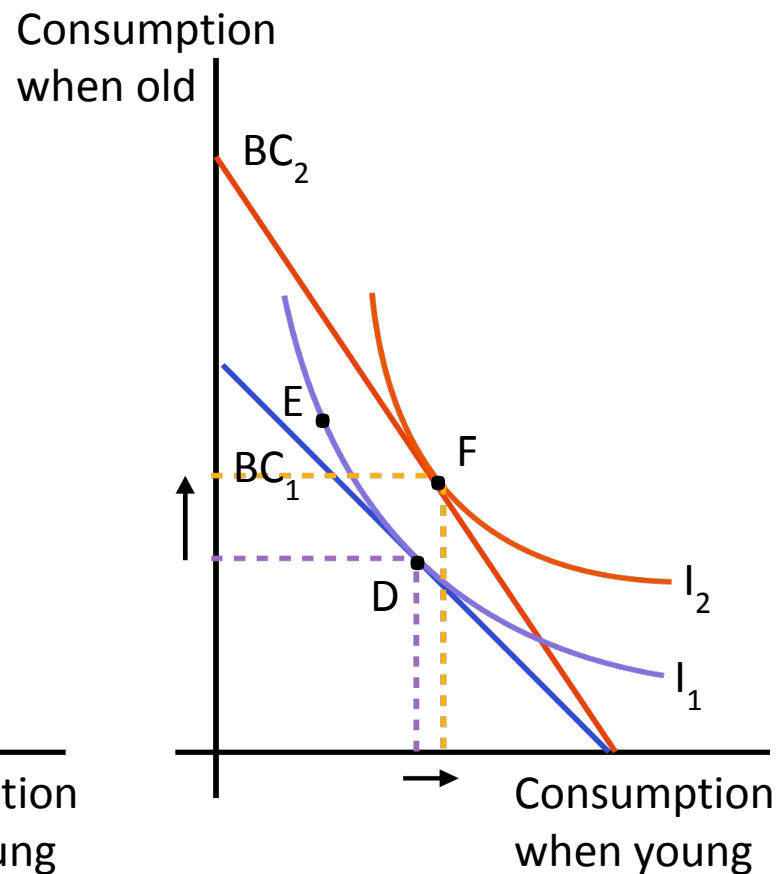


- Redesigning daily routine incorporating more physical activity and necessary supplements
- Developing a positive social well being
- Being focused on Healthy Aging
- Reducing the consumption of synthetic chemicals
- Consuming a balanced diet
- Keeping the mind active by engaging in social activities and learning new skills

Economic Theory: Theory of Consumer Choice



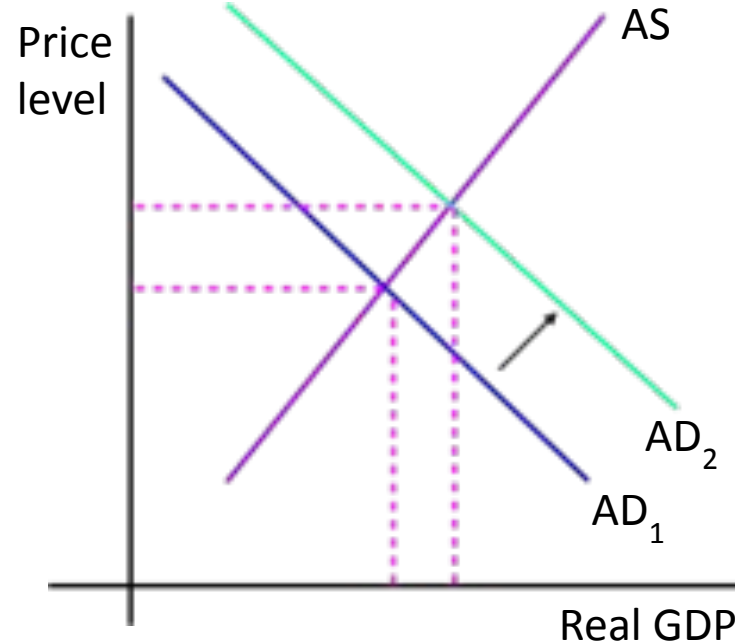
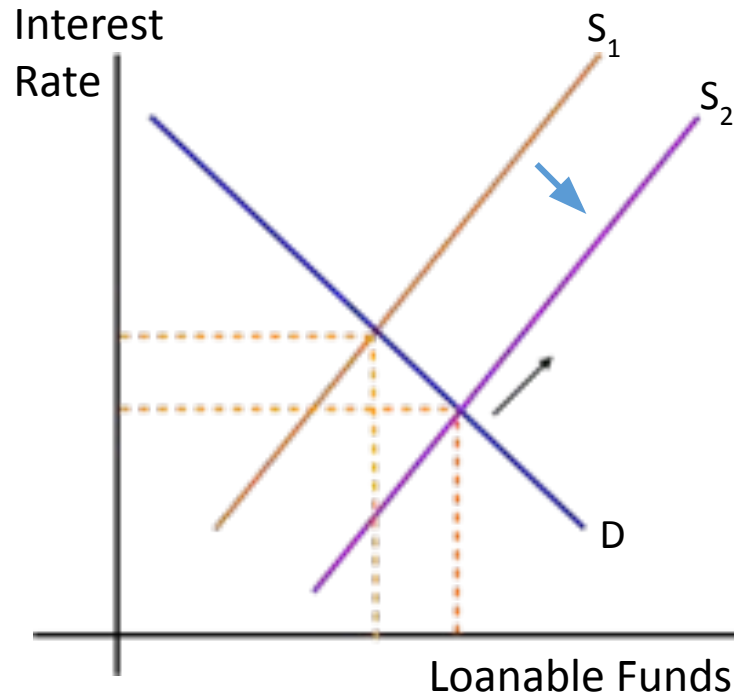
D: initial optimum



F: final optimum

- Employers provide employer matching contributions.
- Contributing a certain amount of income to such retirement plans will lead to greater income to consume when old.
- More access to health services when old.
- Can be explained based on:
 - Substitution effect
D to E
 - Income effect
E to F

Economic Theory: Aggregate Demand



- At macro level, this will increase the supply of loanable funds in the loanable funds market which will cause interest rates to fall down and hence as a result increases investment.
- The Increase in investment will increase the aggregatedemand at any given price level (right shift in AD curve) increasing the output.

Solution 2: Company should invest in new technologies that aids productivity



- **Introduction of Internet of Medical Things (IoMT)**

Collection of medical devices and applications communicating with health care information technology system via online computer networks.

The overall IoMT market is expected to grow from \$41 billion in 2017 to \$158 billion by 2022 (Deloitte survey).

The scope includes In-home IoMT, On-Body IoMT, Community IoMT and In-Hospital IoMT.

Government can subsidize such new innovations and create **incentive** for the producers.

Solution 2: Telehealth services as an alternative

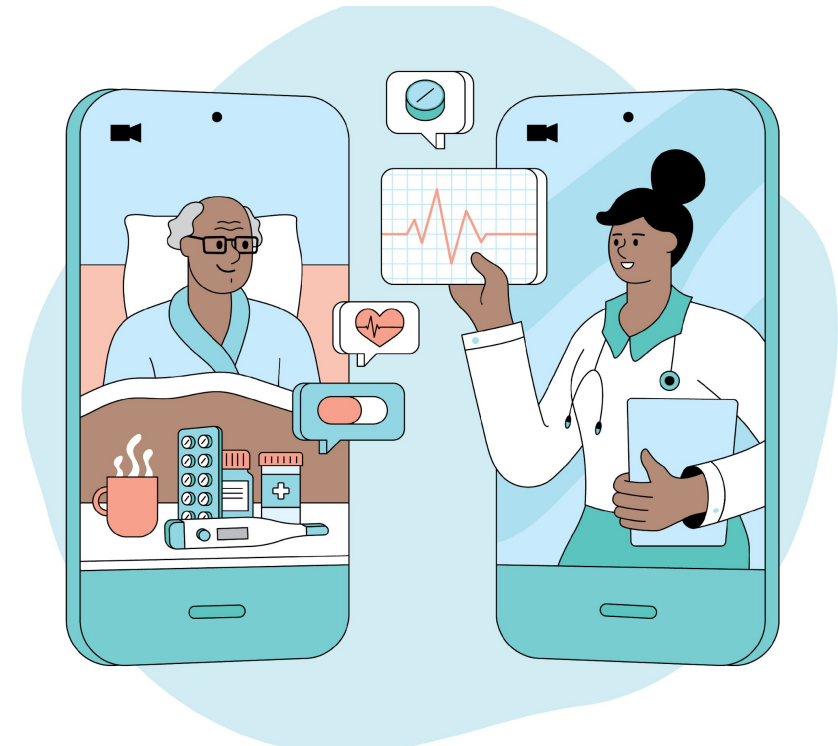
- **Telehealth services as an alternative**

Connecting with your health care provider online is a great way to get the health care you need from the comfort and safety of your own home.

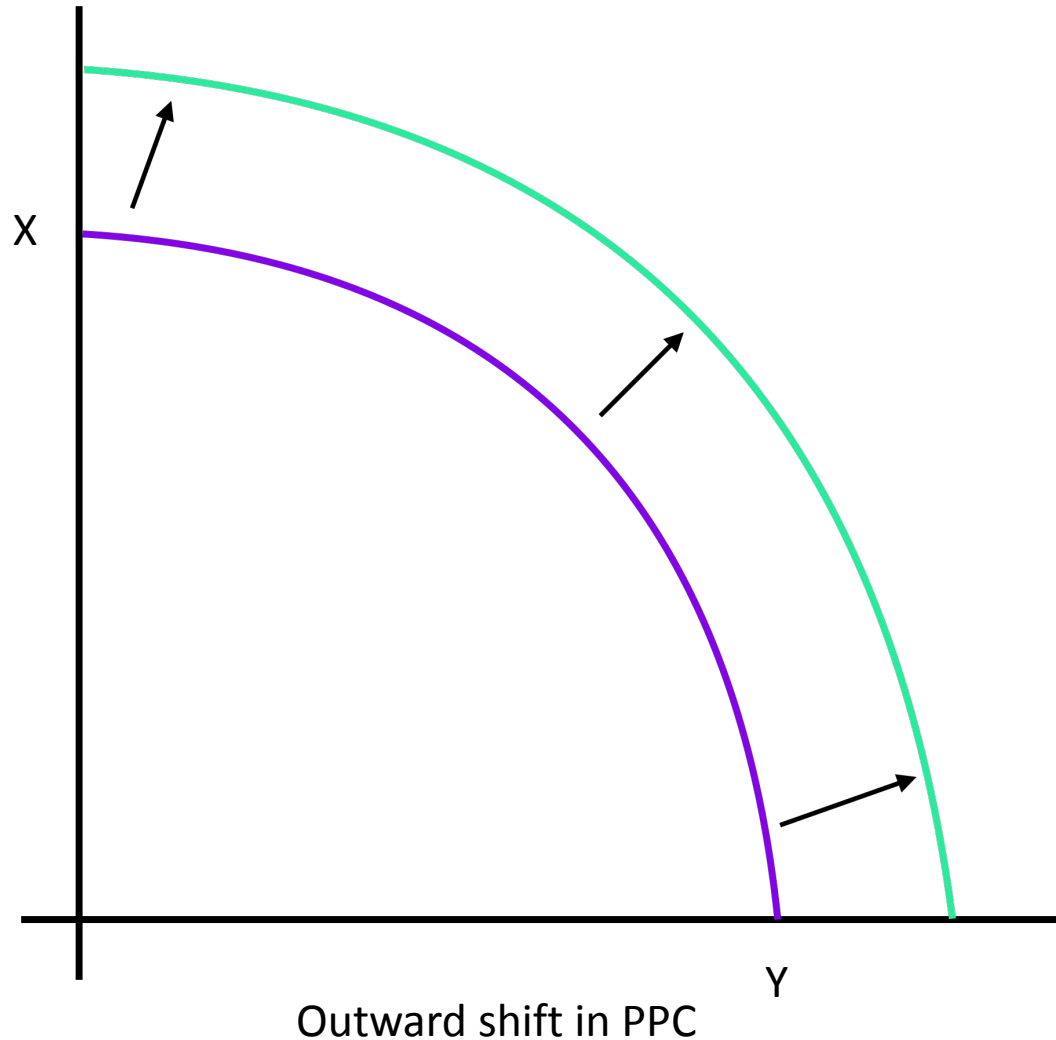
The global telehealth market size was valued at **USD 83.5 billion** in 2022 and is projected to expand at a compound annual growth rate (CAGR) of 24.0% from 2023 to 2030.

- **Frictionless financial transaction ecosystem**

Spend less on less on administrative spending and more on delivery of care. Here companies can build a frictionless financial transaction ecosystem that cuts administrative costs of health care

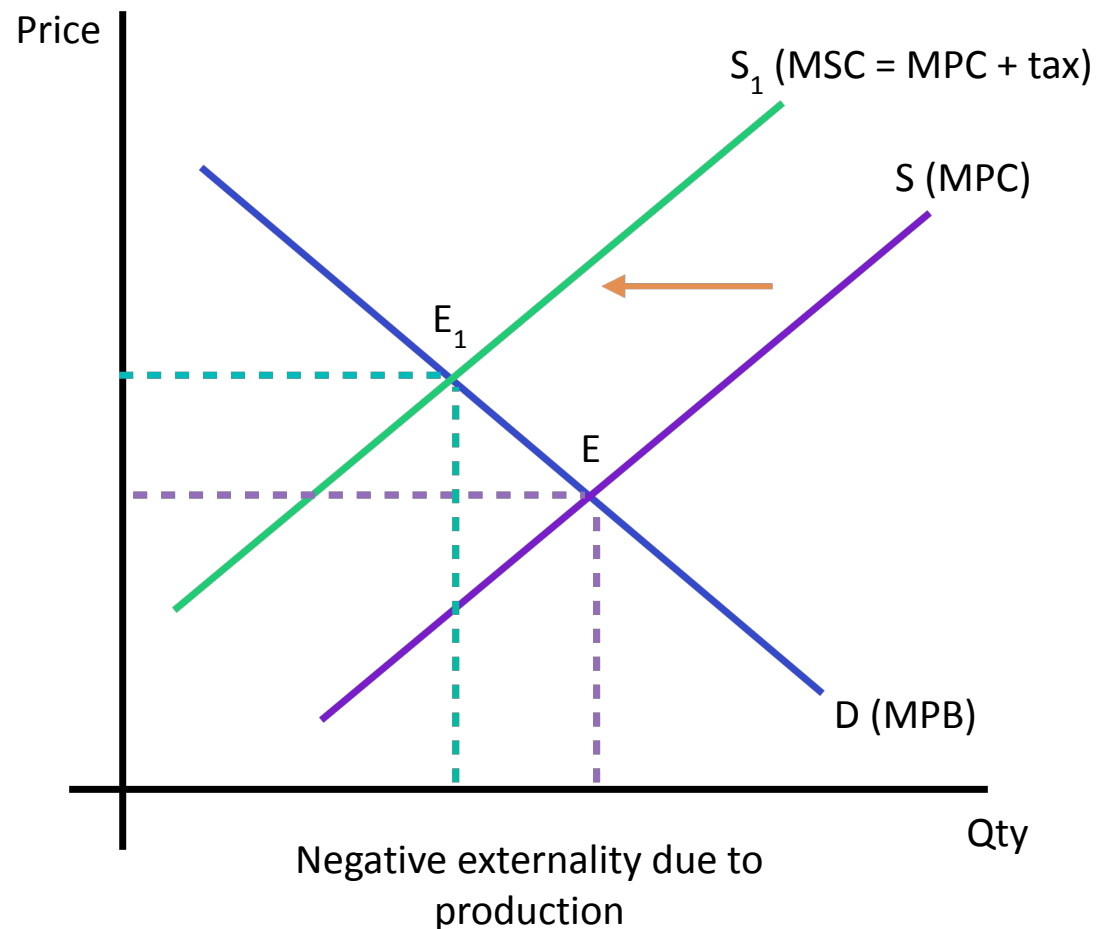


Economic Theory: PPC Shift



- Technological investment boosts the productivity of healthcare delivery systems.
- New technologies installed the delivery systems are now more efficient and requires less human capital.

Solution 3: Tax negative externalities that expose elderly population to disease and use the proceeds to fund and strengthen health care



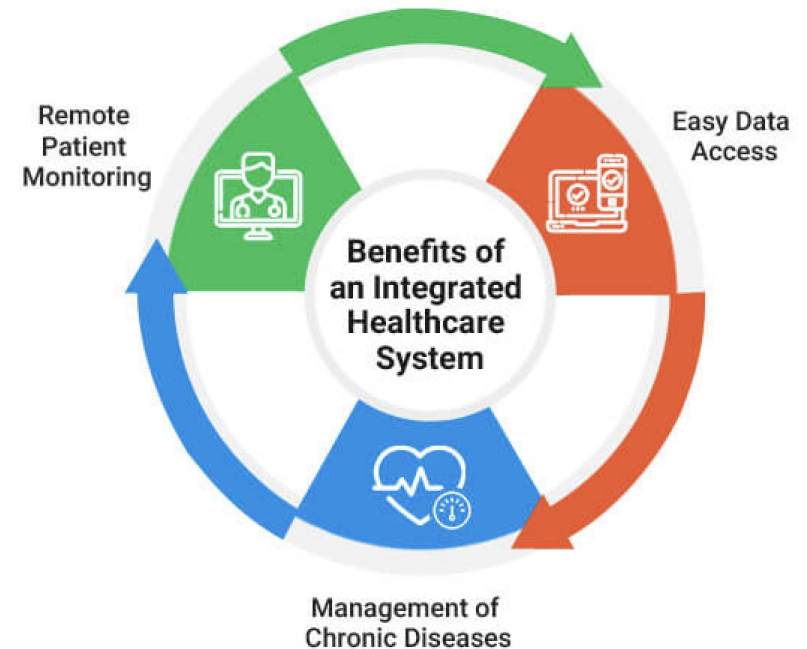
- Negative externality exists when the services have additional cost to the third party.
- Air pollution can aggravate heart disease and stroke, lung diseases such as chronic obstructive pulmonary disease and asthma, and diabetes.
- Industry that produces pollution that expose risk of diseases to the elderly population should be taxed. (Internalizing the externality)
- The tax collected can be utilized by Government to fund and strengthen health care

Solution 3: Changing Traditional System to Integrated Health care

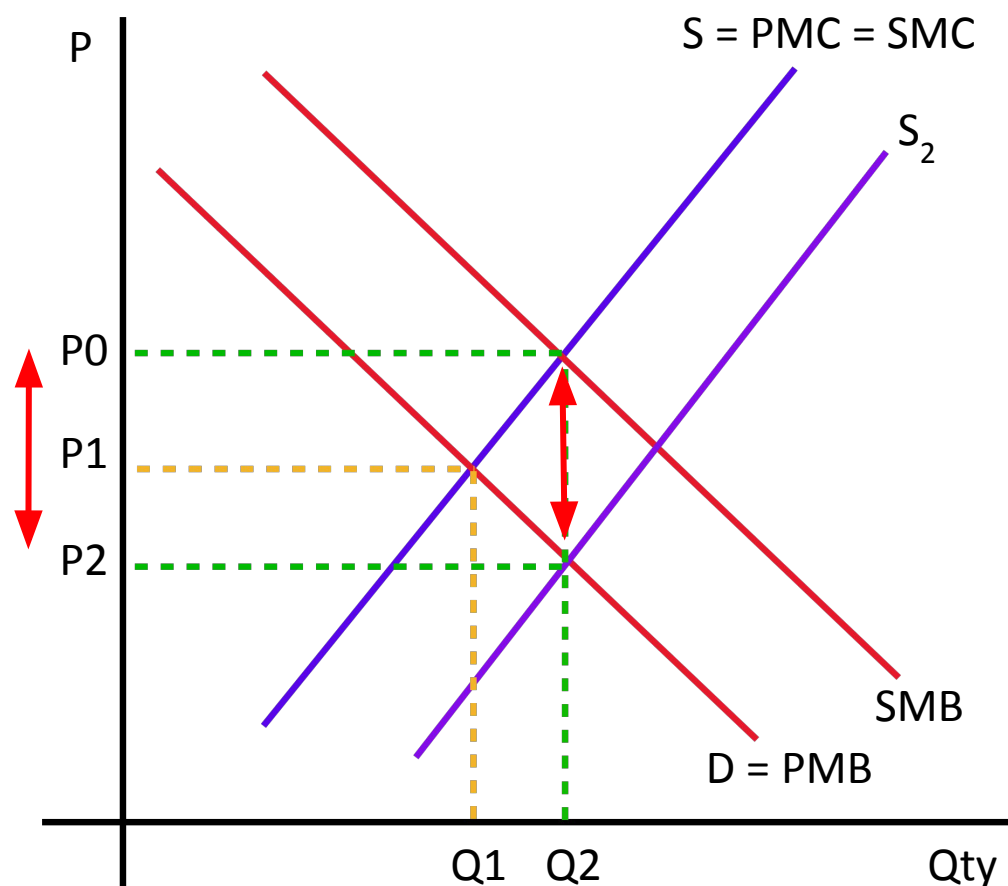
- Integrated approach focused on building and maintaining older people's physical and mental capacity.
- Assessment of the older person's goals and their capacity and their physical and social environments.
- This assessment enables health and social care professionals together with the older person and their caregivers to develop a care plan.

It leads to:

- Your physical and mental health needs being addressed,
- Better collaboration between your health providers, and
- Less stress navigating the complicated health care system.



Economy Theory: Externality



- A positive externality exists if a good or service has benefit to the third party
- Medical Education creates a positive externality:
 - Increases health awareness of individual
 - Sanitation and Awareness increases in society
- Subsidy = $P_0 - P_2$
- The supply curve shifts to S_2 and price falls from P_1 to P_2
- People will consume more; Quantity increases from Q_1 to Q_2
- The output (Q_2) is social efficient: because here Social marginal cost (SMC) = Social marginal benefit (SMB)

Conclusion:

- **Solution 1:** When individuals (employees) participate in employee matching contribution, it reduces government pressure to fund public health care services to aging population

Economic Theory: Theory of Consumer Choice

- **Solution 2:** Company should invest in new technologies that aids productivity

Economic Theory: Production Possibility Curve

- **Solution 3:** Tax negative externalities that expose elderly population to disease and use the proceeds to fund and strengthen health care

Economic Theory: Internalizing the externality

Limitations of suggested solutions:

- The protocols and security standards for these types of integrations change constantly which causes problem of compatibility.
- Standarization is hard to achieve in Integrated health care system with differences in system and format for storing data.

References:

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