

Water is a necessity. Across the globe, countries are working to supply drinking water to its people, through taps or subsidising bottled water. However, there are increasing calls for government to tax bottled water instead, since these plastics are not biodegradable and cause pollution.

Brand of Natural Mineral Water (500 ML)	Retailer/Country	Price (SGD)
Volvic	NTUC/Singapore	\$1.50
Evian	Giant/Singapore	\$1.75
Suisai no mori	Epermarket/China	\$3.05
Volvic	Tesco/UK	\$0.89

Accessed on: Various websites, 10 July 2017

Discuss the possible reasons why prices of bottled water differ across firms and countries. [25]

Suggested Answer

Reasons why prices differ across firms

Demand and supply

- Differing DD
 - o differences in number of consumers
 - o caters to different taste and preferences → Differences in composition → mineral, alkalinity, oxygenation, bubbles
 - o future expectations → possibility of hurricanes, war etc, may lead to households hoarding bottled water
- Differing SS → differences in costs of production
 - o Differences in costs of advertising/packaging
 - o Differences in state of technology eg: desalination vs filtration
 - o Differences in government intervention: subsidy vs taxation
- Competitive demand → water required for irrigation or other forms of industrial needs eg: agriculture
- Differing Ep
 - o Firms facing price elastic demand are likely to lower prices to earn higher total revenue as quantity demanded increases more than proportionately eg: supermarkets which face extensive competition from other retailers
 - o Firms facing price inelastic demand are likely to raise prices to earn higher total revenue as quantity demanded falls less than proportionately. Eg: 24 hours convenient stores which face less competition after nightfall

- Differing Es
 - o Availability of factor inputs/stocks. With a price inelastic supply, any shift in demand will bring about a more than proportionate change in prices compared to changes to quantity.

Possible market structures firms are operating under

- Retailers like supermarkets → Oligopolies → Able to harness internal EOS → lower unit costs as scale of production increases, therefore able to pass on costs savings to consumers through lowering of prices
- Oligopolies may display price rigidity due to mutual interdependency, hence there might be evidences where prices of water are sold within a similar price range.
- Firms may attempt to increase their respective market shares through pricing competition, thus resulting in differing prices.
- Firms choose to pursue sales revenue maximization in the short run, and set production at $MR=0$, and charge a lower price.
- Possibility of government intervention where firms charges MC/AC pricing
- Cafes/Restaurants → MPCs → unable to harness internal EOS → higher unit costs which may translate to higher prices
- MPCs generally set prices independently, hence prices set by MPCs may differ vastly.
- Possibility of firms conducting price discrimination
 - o 2nd degree PD: 1-for-1 promotion will lower the average price of bottled water
 - o 3rd degree PD: Elderly/low-income concession may apply in certain countries where bottled water could be sold at a discounted rate.

Water as a merit good/necessity/equity concern

- subsidy to water → fall in costs of production → increase in SS → lower prices

Plastic bottles as a source of negative externality

- Taxation → $\text{tax} = \text{MEC} @ Q_{\text{soc}}$ → raises MPC to same level as MSC → higher prices

Reasons why prices differ across countries

Differing/fluctuating exchange rates

- Bottled water which are imported may be subjected to volatility of the exchange rates, and thus resulting in prices which may deviate greatly from the price found in the country of origin

Differing tax rates

- Countries may have different tax rates. Eg: GST in SG is 7% while VAT in UK is 20%. Higher taxes will translate to higher costs of production resulting in differences in prices

Differing tariffs/Presence of FTA/Protectionism

- Imports are subjected to tariffs which may lead to higher prices of bottled water
- Should there be an existing FTA, the countries involved will charge a preferential tariff to each other and therefore different prices of bottled water

- For a country that is exporting bottled water, the government may apply protectionism to safeguard interests of the home industry. Therefore prices of bottled water may be higher

Possibility of inflation

- Costs-push inflation: wage-push inflation, rising wages leading to rising costs of production within the country. SRAS falls, GPL rises.
- Import price-push inflation: depreciation/devaluation of currency which makes import more costly, prices of imported water will increase
- Demand-pull inflation: Country experiencing rapid growth as AD shifts into intermediate/classical range of AS → increases in GPL along with increases to real NY. → increases in GPL will lead to higher prices of bottled water

Factors affecting Patterns of Trade

- Taste and preference for imported mineral water
 - o Consumers in China may have a preference for imported bottled water due to reports on their domestic sources being contaminated.
- Differences in factor endowment/Lack of portable water
 - o Countries which face water shortage will be importing water from other countries

Conclusion

- Depends on government's/country's perception of water
- And whether country has a ready supply of portable water
- Ultimately, water is a scarce resource. There has to be efforts to conserve it, otherwise with increasing scarcity prices of water will only increase.
- Penalty should be levied on water pollution/contamination → worsens the scarcity of water
- R&D efforts should be directed to supplying portable water to households in an efficient manner rather than developing a bio-degradable material for bottles.

Level of response	Descriptor	Marks
L3	Response with rigorous analysis of factors resulting in both firms and countries having differing prices for bottled water with points spanning both micro and macro L3-16m: For a scripts with a total of 5 points/only micro or macro considerations.	15-20
L2	Response citing factors for differing prices of bottled water, lacking scope or only consider firms or countries. L2-10m: requires at least 3 factors for both firms and countries.	9-14
L1	Response that listed factors with some errors in analysis.	1-8

H2 Economics Prelim

Essay 1

E3	Insightful comments pertaining to the 3 stakeholders and how they may be affected.	4-5
E2	Comments on possible development on prices of bottled water.	2-3
E1	Unsubstantiated judgment	1