Elasticity and Export Risk

Elasticity: the change in sales due to a change in price. If elasticity is negative, price and sales move in opposite directions; lower the price, increase sales. Increase the price, reduce sales. If elasticity is positive, price and sales move in the same direction; lower the price, reduce sales; increase the price, increase sales.
The amount of change is indicated by the number. Therefore, elasticity (E) of -1 means that the change will be the same. A 10% increase in price will lead to a 10% loss of sales. With E-2, then sales will change twice as much as price. Reduce the price by 10% and sales will increase by 20%.

Exercise A

What happens in the following cases when I change the sales price in € of my product? (production in € and sales in €)

Elasticity	Sales	Unit Price	Revenue	Change in Price	New Sales	New Revenue
-1	150	35€	150*35 = 5,250	+10% 35+3.5=38€50	150-10% 150-15 = 135	135*38€50 = 5,197€50
-2	3,500	12€50		+5%		
-2.5	25,750	8,350€		-15%		
-3	450	3,000		-20%		
+1	13,300	167€		+12%		

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Export example

Example of what happens in following export cases when I **do not change** the price of my product in €s but, due to a change in the exchange rate between the € and the $, the **sales price in $ changes.** The Elasticity of my product is 0.8. The value of the € in dollars are the real rates for 2000 and 2008.
October 2000: 1€ = 0$84
January 2008:1€ = 1$48

Unit Price (does not change in €)	Sales 2000	Export Revenue (€)	Change in Price in $ (%)	Sales 2008	Export Revenue (€)
850€	750,000	750,000*850 = 637.5m€	1.48 / 0.84 = 176. (check: 0.84*76%+ = 1.4784) 76% increase	E=0.8 Price increases by 76% Sales decrease by 76% * 0.8 76% *0.8 = 60.8 750,000 * 60.8 = 456,000 750,000 – 456,000 = 294,000	294,000 * 850€ = 249.9m€

Exercice B

(Real and forecast exchange rates)
June 2020: 1€ = 1$10
Jan. 2024: 1€ = 1$25
Elasticity = 0.8

Unit Price (does not change in €)	Sales 2020	Export Revenue (€)	Change in Price in $ (%)	Sales 2024	Export Revenue (€)
100€	5,000				

Elasticity and Export Risk

Exchange rates. Company value and takeover risk

If we go back to our 2000 and 2008 Euro / dollar exchange rates
October 2000: 1€ = 0$84
January 2008:1€ = 1$48
We can see that the Exporter from the Eurozone to the USA has a massive loss of sales (60.8% down) due the increase of value of the Euro against the dollar. His goods now cost much more in dollars.
Whaty can he do? Well one problem of a weak currency (the dollar in this case) is that it can lead to your US company being bought by its competitors (which is what happened around 2008 with a weak dollar)

Exercise C

Your company: EuroPC (laptop computers)
Company value 12m€ (unchanging from 2000 to 2008 to keep things simple)

What is the value of your company in $ in 2000 _____ What is the value of your company in $ in 2008 _____

Your competitor: USPC (laptop computers)
Company value 15m$ (unchanging from 2000 to 2008 to keep things simple)
To help you: If 1€ = 0$84, then 1$ = 1€19
If 1€ = 1$48, then 1$ = 0€67

What is the value of your company in € in 2000 _____

What is the value of your company in € in 2008 _____

Question 1: If we go from 1€ = 0$84 to 1€ = 1$48, is the € strengthening or the $ weakening?

Question 2: Can we foresee currency value changes and hence exchange rate changes? (N.B. 2000-2008 a 76% exchange rate change in 7 years!)

Note: A weakened currency gives you export advantage but import weakness and capital weakness

Note: The double whammy: If your currency value increases, you lose exports **and** your home market as imports become cheaper

Note: Your production is probably based on multiple currency imports and your exports on multiple currency exports. It is essential to follow currency changes.