

Self Test

Monopsony - Japan and the Asia Pacific LNG Market

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Click on True or False to test your knowledge of the chapter.

1. **True False** Japan and Indonesia were the largest exporter and importer of LNG in 1999, respectively.
2. **True False** If a monopsonist faces an upward sloping supply-curve, as she buys more of the product she will pay a higher price just for the last unit.
3. **True False** Dead Weight Tons (DWT) measure the capacity of a ship and include the total weight of the cargo fuel (bunkers), fresh water, crew and provisions.
4. **True False**. For transport to markets, natural gas is cooled to -250°C , which is equal to -328°F ; at this point it is called LNG.
5. **True False** Japan has had four types of energy policies since WWII with all of them focusing on developing energy supplies to improve their balance of payments.
6. **True False** To convert nautical miles to statute miles, one has to multiply nautical miles by 0.87 (i.e. Statute mile = 0.87 x nautical miles).
7. **True False** Five ships of 135,000 cubic meters of capacity will be required for an LNG project that is expected to deliver 5.5 million metric tonnes per year to a destination 3935 nautical miles away. Assume the ships travel 19 knots per hour, there is no down time for any ship, and it takes 12 hours to load and 12 hours to unload, and 1 tonne of LNG = 2.47 cubic meters.
8. **True False** A banker before loaning you money may want to know any or all of the following before granting a loan for large scale projects like LNG: why you are in business, management's roles and responsibilities, financial information and controls, performance statistics, and hedging strategies.
9. **True False** Lenders require long term contracts to be in place when considering financing of LNG projects.
10. **True False** Regasification is a process of reintroducing natural gas to the grid system from high deliverable storage.
11. **True False** The marginal revenue product (MRP_I) for a competitive firm buying input I is the extra revenue earned from buying an additional unit of I.
12. **True False** The MRP_I is the supply of I for a competitive firm.
13. **True False** The marginal cost curve of I is the supply curve of I for a competitive firm.
14. **True False** Suppose the LNG market is competitive. Marginal revenue product in the market is given by $\text{MRP} = 100 - 2I$ and marginal factor cost in the market is given by $\text{MC} = 2I$. The optimal quantity purchased is 25.

15. **True False** Marginal revenue product is demand in a competitive input market. If a monopolist sells in such a market, he optimizes by setting marginal revenue product equal to marginal cost.
16. **True False** Suppose an LNG producer is a monopolist, faces a marginal revenue product or demand curve $P = 100 - L$, and her total cost is given by $30L + 2L^2$. (Note that the input is L in this example.) Then the optimal quantity and price are 24.5 and 76.66, respectively.
17. **True False** A monopsonist operates where the MRP equals the price of an input.
18. **True False** Suppose that a monopsonist electric utility takes the price, $P_E = 8$ cents per kilowatt hour, as given by the public utility regulator. Its input is LNG and the production function is $E = \text{LNG}^{0.5}$. The marginal revenue product for this firm measured in cents is $\text{MRP} = 4L^{-0.5}$.
19. **True False** Suppose that a monopsonist electric utility takes the price, $P_E = 8$ cents per kilowatt hour as given by the public utility regulator. Its production function is given by $E = 12.5L - 0.125L^2$ and L is LNG supplied according to $P_L = 2L$. Where P_L is measured in cents. Then the monopsonist should purchase 20 units of LNG.
20. **True False** Compared to the equilibrium in a competitive market with many buyers and sellers, a market with a monopsonistic buyer has a lower equilibrium price and lower equilibrium quantity.
21. **True False** A perfectly price discriminating monopsonist pays each supplier their reservation prices, thus harnessing the entire producer surplus.
22. **True False**. It is always a good idea to watch for dirty tricks in a negotiation.
23. **True False** The four common types of interveners are facilitator, rules manipulator, mediator, and arbitrator.
24. **True False** For Indonesia, the energy equivalence of a barrel of crude oil is 5,740,000 BTU/bbl and for natural gas it is 1,100,000 BTU/Mcf. If LNG cost \$4.31 per MM BTU, the equivalent cost of a barrel of oil is \$15.50 and \$4.74 for a Mcf of natural gas.
25. **True False** New LNG exporters coming on line since 1998 include Nigeria, Oman, Yemen, and Trinidad-Tobago.
26. **True False** Suppose the MC of a monopolist is $P = 30 + 2L$. His reservation price for sales of L_0 is $P_{\text{res}} = 30 + L_0$, where L_0 is the negotiated quantity of input.
27. **True False** The reservation price for a monopsonist with $\text{MRP} = 100 - 2L$, buying L_0 is $P_{\text{res}} = 100 - 2L_0$.
28. **True False** In a bilateral monopoly, the seller and buyer would like the same quantity and price.
29. **True False** If Japan has monopsony or buyer market power, it can minimize its costs of LNG by buying where marginal factor cost is equal to marginal revenue product.
30. **True False** To be successful in a negotiation, it is critical that a person not only know their material thoroughly but also have a good understanding of their reservation price. (Contributed by Kevin DeGeorge)

31. True False In the case of an integrated firm, the transfer price paid between divisions of output and supply for a given product with an internal consumption of the product, will have no impact on the profitability of each division of the firm. (Contributed by Clay Terry)

32. True False For a linear supply equation, marginal factor cost is twice as steep as demand.

33. True False Negotiating over the purchase of an item is the classic distributive game. (Contributed by Oksana Chernenko)

34. True False Suppose the input LNG (I) market is competitive. Marginal revenue product in the market is given by $MRP = 100 - 2I$ and marginal cost in the market is given by $MC=2I$.

The optimal quantity purchased is $I=25$.

35. True False Suppose that in the Ukrainian market for LNG, there is a bilateral monopoly. The monopolist has a cost curve $MC = 80 + 2Q$, and the monopsonist has an inverse demand curve $P = 50 - Q$. They are negotiating the price for 10 tons of LNG. Then, the monopolist's reservation price is 90. (Contributed by Ganna Bielenka)

36. True False The temperature equivalent of 30° Celsius in Fahrenheit is 86° F.

37. True False You have purchased an LNG ship from a Korean builder that carries 135,000 cubic meters of LNG. Since 1 metric ton of LNG = 2.47 cubic meters of LNG and 1 cubic meter of LNG = 590 cubic meters of natural gas at 20 degrees Celsius, your ship carries the equivalent of about 54656.87 cubic meters of gas at 20 degrees.

38. True False For two firms facing the same market demand and having different cost curves, the solution determined by Stackelberg model yields lower supplied quantities and higher market price compared to the solution obtained using dominant firm model. (Contributed by Ali Albinali)

39. True False There is a cartel organization of gas producers similar to OPEC. (Contributed by Ali Albinali)