**Term 4 Assessment 2020**

**Department of Economics**

**ECON90077 Economics of Markets and Organisations**

**Take Home Exam (Final Exam Part 1)**

**This paper has 5 pages (including this page)**

**Instructions to students**

This examination paper contributes **20%** to the assessment in ECON90077.

This exam consists of 4 questions. You must answer all questions.

Total marks for the exam are 40.

**Due: Wednesday 7th December at 11.59pm.**

**Question 1**

1. In September 2019, drone attacks on Saudi Arabia’s large oil production facilities caused a large spike in the price for crude oil. In Australia, around 75% of petrol consumption is accounted for by the transport industry and constitutes a significant proportion of their production costs. Assuming the transport industry is perfectly competitive, analyse the impact this increase in crude oil prices would have on the cost structures for transportation firms. Make sure you draw and explain all relevant cost curves. 3 marks.
2. Using the model of a firm in perfect competition, analyse how the increase in crude oil prices will affect the transport industry in the short run and long run, and from both a firm and market perspective. Explain your answer fully and include all relevant diagrams. 7 marks.

**Question 2**

BHP and the Chinese Steel Association are negotiating over sales of iron ore by BHP to Chinese steel producers. Iron ore can be sold by long-term contract, or on a spot market. BHP must make choices about whether to seek to sell a ‘Small’ or ‘Large’ proportion of its iron ore on the ‘spot’ market for iron ore, and about whether to seek a ‘Low’ or ‘High’ price for the iron ore it sells by long-term contract. The Chinese Steel Association must decide whether to ‘Block’ or ‘Not Block’ BHP from selling its iron ore on the spot market.

Payoffs from this game involving BHP and the Chinese Steel Association are shown in the game table below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | **Chinese Steel Association** |  |
|  |  |  | Block | Not block |
| **BHP** | Sell on spot market | Price for long-term contract sales |  |  |
|  | Small | Low | $70b, $80b | $80b, $40b |
|  | Small | High | $60b, $30b | $40b, $60b |
|  | Large | Low | $60b, $30b | $120b, $40b |
|  | Large | High | $40b, $20b | $60b, $10b |

Suppose BHP and the Chinese Steel Association make their choices simultaneously:

a) Does either player have a strict dominant strategy? Explain your answer. 1 mark

b) What are the Nash equilibria? Explain your answer. 3 marks

Suppose this game is played sequentially. First, BHP chooses whether to try to sell a ‘Small’ or ‘Large’ quantity of iron ore on the spot market. Second, having observed this choice, the Chinese Steel Association decides whether to ‘Block’ or ‘Not block’ BHP from selling on the spot market. Finally, having observed the choice made by the Chinese Steel Association, BHP decides whether to ask for a ‘Low’ or ‘High’ price for long-term contract sales.

c) What is the rollback equilibrium in the sequential version of the game? Explain your answer. 4 marks

d) Explain how and why your answer to part (c) differs from your answer to part (b). 2 marks

**Question 3**

Please refer to Extract 1

a) Use the supply and demand model with international trade to analyse the impact of tariffs in the US market for steel on the market outcomes (price and quantity) and economic surpluses. 6 marks.

b) The article states that the price of steel has increased by 30% in the last year. Given the tariff is only 25%, can you think of any reasons why the US price has increased by more than the tariff amount? (No research is required for this question). 2 marks.

c) Could the tariff on steel in the US have an impact on the world price for steel? Make sure you clearly state any assumptions you are making in answering this question. 2 marks.

**Question 4**

Refer to Attachment 2 ‘The Monsanto Monopoly’ and ‘The Growing Global Challenge to Monsanto's Monopolistic Greed’ and answer the following questions:

a) Monsanto has considerable market power in the US seed market. What barriers to entry might be important in establishing and maintaining Monsanto’s market power? 3 mark

b) What if the US Department of Justice’s investigation into Monsanto’s patents and practices in the industry had found against Monsanto. Suppose it cancelled Monsanto’s patents on GM seeds and decided that Monsanto’s practices were anticompetitive in the seed industry. What would be the likely effects of this action on the seed market in the US? 3 marks

c) There has been considerable public debate about the costs and benefits of patents. If the government were to introduce legislation to provide for lower levels of protection of intellectual property in the seed industry, how might this affect Monsanto’s incentives to develop new products? Discuss the implications of such legislation for economic efficiency. 4 marks

**EXTRACT 1**

Workers at two of the biggest US steelmakers are demanding higher compensation as tariffs on foreign metal push prices and profits to their highest point in years in a buoyant economy.

Leaders for some 30,000 members of the United Steelworkers union say US Steel and ArcelorMittal aren't passing those benefits to their workers, who have gone without raises in recent years even as wages have started to climb more broadly.

US President Donald Trump has said the 25 per cent tariff his administration placed on steel imports earlier this year aimed to bring back good-paying blue-collar jobs.

"The steel industry is one of the great things to be talking about," Mr Trump told a crowd in North Dakota last week. "The manufacturing jobs are back." US steel companies are some of the clearest beneficiaries of the Trump administration's tariffs on foreign goods. The trade action has enabled them to raise prices in a strong economy that has boosted orders for steel.

The union's demands could put a damper of the sector's new-found fortune. Higher costs for wages and benefits would pressure steelmakers' profit margins that are only beginning to improve after many years of being squeezed by cheap imports US manufacturers in general are facing rising costs, even as they benefit from lower corporate taxes. Higher input prices, including for steel, have weighed on their business. Also, wages are rising across the US workforce as factories compete for a shrinking pool of available labour. Inflation is also picking up after years in low gear, putting pressure on employers to pay workers more.

The price of steel has risen by more than 30 per cent this year, as the Trump administration's tariffs on foreign steel have taken effect.

(Steel workers want pay rise as tariff lifts profits) The Australian, Bob Tita, September 13th, 2018.

**EXTRACT 2**

The Monsanto Monopoly

http://www.gmeducation.org/latest-news/p207220-the-monsanto- monopoly.html

Control of the seed industry is passing into fewer and fewer hands and Monsanto's are the biggest. But if you consider that Monsanto - the largest and the best known – licenses its genetically modified traits to other seed companies and as a result, more than 80% of US corn and more than 90% of soybeans planted each year are attributable to Monsanto then monopoly comes to mind.

In fact, The US Department of Justice (DOJ) investigated Monsanto’s dominance of the seed market after holding public meetings in 2010. But at the end of 2012, DOJ announced it had “closed its investigation into possible anticompetitive practices in the seed industry.”

The monopolisation of the seed supply by a few companies has led to two major problems for farmers. The first is the removal of choice…. The second major change that farmers are feeling is the hike in seed prices- and this is a very serious consequence for famers of GMOs globally, and because non-GM seeds are phased out by Biotech seed companies, these higher prices are unavoidable.

Industry domination is also aided by weak antitrust law enforcement, and court decisions that allowed GM crops and other plant materials to be patented, while prohibiting seed saving by farmers. The companies, particularly Monsanto, are well known for their aggressive methods of enforcing the protection of their ‘intellectual property’ by suing farmers.

The Growing Global Challenge to Monsanto's Monopolistic Greed

By Kevin Zeese and Margaret Flowers, Truthout ,22 May 2013 By Kevin Zeese and Margaret Flowers, Truthout | Op-Ed

http://truth-out.org/opinion/item/16516-the-growing-global-challenge-to-monsantos-

monopolistic-greed

Jill Richardson describes how aggressively Monsanto uses their market power "to get seed dealers to not stock many of their competitors' products ... they restrict the seed companies' ability to combine Monsanto's traits with those of their competitors. And, famously, farmers who plant Monsanto's patented seeds sign contracts prohibiting them from saving and replanting their seeds." They promised rebates to farmers who ensured that Monsanto products made up at least 70 percent of their inventory to keep competitors out of the market. As a result of this, through either purchases or forcing competitors into bankruptcy, the number of independent seed producers has dropped from 300 to under 100 since the mid-90s. Monsanto also required that their Roundup Ready seeds be used only with Roundup, thereby keeping generic, less expensive competitors out of the market.

The result has been increased prices for farmers and consumers. Since 2001, Monsanto has more than doubled the price of soybean and corn seeds and farmers have been told to expect prices to keep increasing. According to a March 2013 report, from 1995 to 2011, the average cost to plant one acre of soybeans has risen 325 percent; cotton prices spiked 516 percent and corn seed prices are up by 259 percent.

**END OF EXAM**