INTRODUCTION TO ECONOMICS

BUSINESS ADMINISTRATION DEGREE - YEAR 2016

PRACTICE SHEET 3

1. In his book `The Undercover Economist`, Tim Harford explains in a simplified way the incidence in world markets of a frost in Brazil. Answer the following questions, assuming that all markets are competitive and are initially in equilibrium.

   Imagine now that the coffee market is not only free but extremely competitive, that entrepreneurs are always starting new firms with fresh ideas and entering the market in an attempt to undercut the incumbent companies. The competition will force the price of coffee down to the marginal cost- the cost the coffee bar incurs when making one more cappuccino. In a perfect competitive market, the price of coffee would equal the marginal cost of coffee. If the price were lower, firms would go out of business until it rose. If the price were higher, new firms would enter or old firms would expand their output until it fell. What if other industries were also perfectly competitive? That would mean that for every product, the price equaled the marginal cost. Every product would be linked to every other product through an ultra-complex network of prices, so when something changes somewhere in the economy (there is a frost in Brazil, or a craze for iPods in the U.S.) everything else would change maybe imperceptibly, maybe a lot- to adjust. A frost in Brazil, for example, would damage the coffee crop and reduce the worldwide supply of coffee; this would increase the price coffee roasters have to pay to a level that discourages enough coffee drinking to offset the shortfall

   (a) Illustrate graphically the effect of a frost in Brazil both in the roasted coffee market and in the coffee bar market. What does the author refer to with discourages enough coffee drinking, to a change in demand or to a change in quantity of coffee demanded?

   Demand for alternative products like tea, would rise little, encouraging higher tea prices and extra supplies of tea.

   (b) Illustrate graphically the effect of a frost in Brazil on the tea market. What does the author refer to with extra supply of tea to a change in supply or to a change in the quantity supplied of tea?

   Demand for complementary products like coffee creamers would fall a little.

   (c) Illustrate graphically the effect of a frost on Brazil in the coffee creamer market.

   In Kenya, coffee farmers would enjoy bumper profits and would invest the money in improvements like aluminum roofing for their houses; the price of aluminum would rise and so some farmers would decide to wait before buying.

   (d) Illustrate graphically the effect of a frost in Brazil on the market for aluminum roofing in Kenya.

That means demand for bank accounts and safety deposit boxes would rise, although for the unfortunate farmers in Brazil with their failed crops, the opposite may be happening. That may seem like a ridiculous hypothetical scenario. But economists can measure and have measured some of these effects: when frosts hit Brazil, world coffee prices do indeed rise, Kenya does buy aluminum roofing, the price of roofing does rise, and the farmers do, in fact, time their investment so that they dont pay too much. Even if markets are not perfect, they can convey tremendously complex information.

2. Consider the market for good X, which is competitive. Demand and supply curves are given, respectively, by: $X^D = 45 - 2P_X$ and $X^S = 5 + 2P_X$.

   (a) Assume that the market price is $P_X = 5$. Is there excess supply or excess demand? Of how many units? What is the amount that is exchanged on the market?

   (b) Assume that the market price is $P_X = 15$. Is there excess supply or excess demand? Of how many units? What is the amount that is exchanged on the market?

   (c) Determine the equilibrium price and quantity.

3. Do exercises 6, 7, 12 and 16 from KWG's Chapter 3 book.

4. Read the following article from The Economist, and answer the following questions: Note: Assume that the cereal and livestock markets are competitive in Niger, with increasing and decreasing supply and demand curves, respectively, and that they were initially in equilibrium. Illustrate your answers graphically.

   (a) What is the effect on the cereal price in Niger of Nigerias controls on imports of rice and wheat products? And the effect of Nigeria, Burkina Faso and Malis grain export restrictions to Niger?

   (b) What is the effect on livestock prices of emaciated animals arriving at the market? C. Illustrate the pastoralist's supply curve bend back on itself proposed by Mr. Sen, representing the supply curve with the relative price of livestock, in terms of grain, on the vertical axis.

   (c) Assume that international aid considers giving free cereals to the population of Niger. What would be the short term effect on the cereal market? And in the long run, if Nigers farmers think that this type of aid will keep coming?

   (d) What will be the effect on the cereal market of offering employment, at a suitable wage, on public works, as the article suggests?

   Destitution not dearth − Aug 18th 2005, from `The Economist` print edition.

   Niger's harvest last year was not so terrible. Why is the country now so hungry? Much about poverty is obvious enough wrote Amartya Sen, one of the world's best-known and most respected economists, in his 1982 classic, Poverty and Famines. One does not need elaborate criteria, cunning measurement, or probing analysis to recognise raw poverty

and to understand its antecedents. But the thesis Mr Sen propounded in that book was not obvious at all: some of the worst famines, he argued, have taken place without any significant fall in the supply of food.

One of the examples Mr Sen chose to illustrate his thesis was a famine that gathered force from 1968 to 1973 in the Sahel region of Africa. The Sahel, from the Arabic word for shore, typically refers to a group of six countries on the western fringes of the Sahara, where the desert sands lap up against the vegetation of Africa's semi-arid zones. The countries worst affected by this disaster 30 years ago were Mauritania, Mali, Upper Volta (now called Burkina Faso)and Niger. Niger is once again in the grip of a food crisis, if not a full-blown famine. The distress sales of livestock, the heavy migration and the deprivation the country suffered in the early 1970s have all revisited it again this year. How well does Mr Sen's thesis explain the country's latest encounter with mass hunger? Much about Niger's current crisis appears obvious enough: the rains last year ended early; the locusts were rampant. Who can be surprised that the country is short of food? But Niger's harvest last November was merely mediocre, not disastrous. Although the rains ended early, the country's cereal production was only about 11% below its five-year average, according to the UN's Food and Agriculture Organisation (FAO). It was 22% greater than the harvest of 2000-01, a year that passed without alarm. The locusts did more damage to the region's fodder than to its food, prompting pastoralists and their herds to begin an early migration to greener pastures in Niger's coastal neighbors.

Purchasing powerlessness Niger's distress shows up most clearly in prices, not quantities. A pastoralist's terms of trade depend on two prices in particular: the price of what he can sell (his livestock) and the price of what he must buy (food). In Niger this year, the latter has soared; the former has plummeted. According to one report, the price of millet and sorghum rose to 75-80% above its average for the last five years. By June, the sale of one goat bought half as much millet as it had six months earlier. It is precisely this kind of cruel twist in the terms of trade, Mr Sen argued, that can bring a community to its knees. These unfortunates will suffer a lack of power to purchase food, even if there is no lack of food to purchase. Why did prices move against Niger's pastoralists so far and so fast? The spike in the food price may have reflected high foreign demand as much as low domestic supply. Traditionally, during the lean months before their harvest, Niger's farmers import cereals that are cheaper to grow in wetter, coastal neighbouring countries than in their own country. But according to CILSS, an intergovernmental body responsible for the region's food security, significant amounts of grain have this year been flowing in the opposite direction. Ghana, Benin, Cte d'Ivoire and Nigeria have all been buying up grain in the region. This is partly because these countries' own harvests were disappointing. But in Nigeria's case, the FAO thinks that government policies were also to blame. Nigeria has imposed controls on imports of rice and wheat products; it has also taken steps to protect and promote its millers and poultry farmers. Both of these policies have raised demand in the country for millet and sorghum, which provide alternative sources of flour as well as chicken-feed. As a result, Nigerian cereals that might have found their way to Niger are instead being consumed at home. Nigeria has twice Niger's income per head

and more than ten times its population. Its powerful market pull may have helped to undermine the purchasing power of Niger's pastoralists. In the fight for market command over food, Mr Sen noted in his book, one group can suffer precisely from another group's prosperity, with the Devil taking the hindmost. Nigeria, with Burkina Faso and Mali, has also restricted grain exports to Niger this year, violating its trade treaties with the country. Such restrictions have often played an ignoble, supporting role in the history of famine. A ban on cereal exports between India's provinces, for example, condemned Bengal to ruinously high prices in its great famine of 1943.

What of the other term in the terms of trade? Livestock prices have fallen in the past year, partly because northern pastures were damaged and animals were emaciated as a result. But the deterioration in the terms of trade can also generate its own momentum. Higher cereals prices prompt herdsmen to sell more of their livestock. These distress sales drive the price of animals down further, forcing pastoralists to sell still more of their herd. In his book, Mr Sen raised the theoretical possibility that a pastoralist's supply curve might actually bend back on itself: as the relative price of livestock falls, a hungry pastoralist might supply more animals to the market, not fewer as elementary economic principles would imply.

If mass hunger were simply the result of there not being enough to eat, the remedy would be obvious: more food. The emergency rations now being shipped, flown and trucked into the Sahel are indeed necessary and urgent by the time hunger and destitution are acute and widespread. But if mass hunger begins with a collapse in purchasing power, rather than a shortage of food, it does not take an airlift to prevent it. What is needed is a way to restore lost purchasing power by, for example, offering employment, at a suitable wage, on public works. The market respects demand, not need. But give the needy enough pull in the market and the market will do most of the rest.

5. A long strike in coal mines could:

   (a) Raise the price of other energetic products.

   (b) Increase the quantity exchanged in the coal market.

   (c) Reduce the quantity exchanged in the market of other energetic products.

6. A market research gave the following information about beverages market:

   (a) Beverages demand curve can be represented by the equation $B^d = 1600 - 300P_B$, where B^d is the quantity demanded for beverages and P_B is its price.

   (b) Beverages supply curve can be defined as $B^s = 1400{+}700P_B$, where B^s is the quantity supplied for beverages. Get the price and quantity demanded for the beverages market in equilibrium.