Holmes Postgraduate Degrees

Assignment Cover Sheet

This cover sheet must be attached to your assignment.

(to be used for all Master of Business Administration assignments)

Subject	Economics for Business	Subject Code	HI 5004
Lecturer	Dr. Nancy Kong	Due Date	9^{th} June 2009

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FLU PANDEMICS

A bombing-like impact that affecting global economy

Individual Paper

News affected the World

City news on 13th April 2009 has stunned the whole world when Mexico rung up the death toll of Epidemic Flu. The flu of Mexico was raging through the whole country heading towards United States without mercy. On 29th April 2009, the flu has already swept through 13 countries and Mexico recorded 2498 confirmed cases and 176 deaths; United States adjacent of Mexico recorded 93 confirmed cases and 1 death; other countries have had 26 confirmed cases. The flu has driven the Mexico Authority to shut down most the public facilities and non-essential government services on 24th April 2009 in order to slow down the spread of virus. This significant action will surely deprive the Mexico Economy. And, it is also a metaphor of forthcoming economic fall of other countries if the flu keeps on without control. However, the utmost impact is not its spreading ability but the **FEAR** it cause to the crowd.

Flu History

The flu is lethal to lives; it is also cause lethal impact to countries' economy. Although flu is not today's crisis we have ever known, we still do not know much about them. Since, Influenza is a disease of mixture quick mutating viruses or by crossbreeding between human form of the influenza virus with some related virus of birds or animal origin (Cartwright *et al.* 2000). The diagnosis is not certain because of its rapid mutation. Its history can be traced back to 16 century each time cause devastating lives and communities damages. A common feature is the flu more prevalent to transmit in highly populated community. We also learn from the Spanish flu of 1918-9 during the World War 1 that the flu has spread rapidly in the army. The soldiers have stayed long in overcrowded and filthy war trench. Recent flu seemed to be airborne also. There is a table which show each Influenza's pandemic impact past hundred years:-

Year of Eruption	Virus Type	No. of Casualty
1918-1919	Influenza A (H1N1), Spanish flu	40 to 60 millions
1957-1958	Influenza A (H2N2), Asian flu	2 millions
1968-1969	Influenza A (H3N2), Hong Kong flu	1 millions

2002-2003	Influenza A (H5N1), SARS	744
2009-	Influenza A (H3N1), Mexico flu	?

The above table has reckoned the lesser casualty after sequence of flu eruption. It curious me much and there are areas for further analysis. Maybe, we have advance pathology and better sanitary.

By the way, flu epidemical occurrences four times in sixteen century whereas the one happened in 1528 called 'the English Pestilence'. Then, there have been three re-occurrences in eighteen century after a hundred years of chill out. Another four epidemic influenzas have been identified in nineteen century. The most serious is the one erupted in 1891-2 nearly a million casualty. There is nothing in curious why we have H3N1 today. Our ancestors deal with them before and they come for us today.
The average flu epidemical occurrence rate within these five decades is 3.2 times per century. However, we have not discovered any reliable economic analysis of damages to the relevant communities until H5N1 eruption. The economists just have roughly estimated the Asian flu or Hong Kong flu deprived 1% GDP reduction of supply and 0.5 % of demands, nothing more.

"A US$675 billion hit to the economy during SARS."(Murphy 2006) This is what the economists have reported to Senator Bill First. They all finally agree systematic research and precautionary procedure can exhilarate the potential economic damages by flu attack. On the other hand, there is a necessity that we should depict the feature of economic change and probable location of eruption during the flu epidemic.

Mob Hysteria, an indirect cause of economic shock

In fact, the utmost of adverse affecting economy is not flu itself but the FEAR within the crowds. FEAR has contagious and hysterical feature. Fear amount us may cause Mob Hysteria (mass fainting). A best example occurred on 24th September 2008, soon after weeks of global market turmoil. A rumour through the mobile phones to the public falsifies The Bank of East Asia in financial trouble. The customers have been panic that they fear the forthcoming bankruptcy. Thousands of customers lined up outside the bank branches to withdraw money (BBC News 2008). This kind of Mob Hysteria has also leading to the bank's share price reduce 11%. You can see a rumour spread just several days. It can cause thousands of customers' withdrawal hits to the bank. If this withdrawal hits could have triggered the bankruptcy, Mob Hysteria will further affect community in depth. So, you can imagine the impact of FEAR when the influenza spread. It can cause huge economic damages.

Most economists call this adverse effect as economic shock (Murphy 2006). It causes damage on both side of supply and demand in very short interval. The economic shock instantly aroused sudden disposition of the company which put the company into a very unfavorable condition. We cannot deny the consequence of FEAR spread between people magnifying the shock's damage. The table 1 show below is the summary of probable SARS and its relevant countries for reference.

Table 1: Summary of Probable SARS Cases with the Intervals and Countries from November 1, 2002 to July 31, 2003 (Revised September 26, 2003).

Areas	Total of Cases	No. of Death	Fatality Ratio (%)	No. of imported case (%)	Date of first probable case	Date of last probable case
Canada	251	43	17	5(2)	23-Feb-03	12-Jun-03
China (PRC)	5327	349	7	NA	16-Nov-02	3-Jun-03
Hong Kong	1755	299	17	NA	15-Feb-03	31-May-03
Macao	1	0	0	1(100)	5-May-03	5-May-3
Taiwan	346	37	11	21(6)	25-Feb-03	15-Jun-03
Singapore	238	33	14	8(3)	25-Feb-03	5-May-03
Vietnam	63	5	5	1(2)	23-Feb-03	14-Apr-03

Source: http://www.who.int/csr/sars/country/table2003_09_23/en/,accessed on 18 Feb 2004.

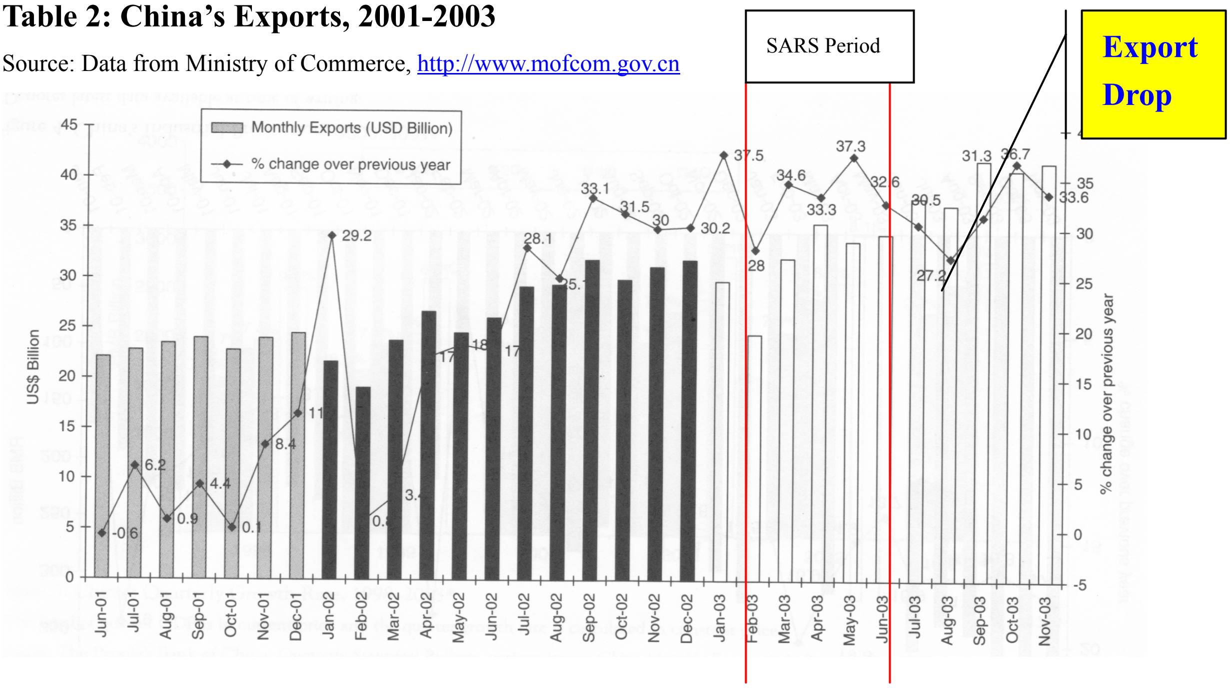
From table 1, we can conclude the information as follows:

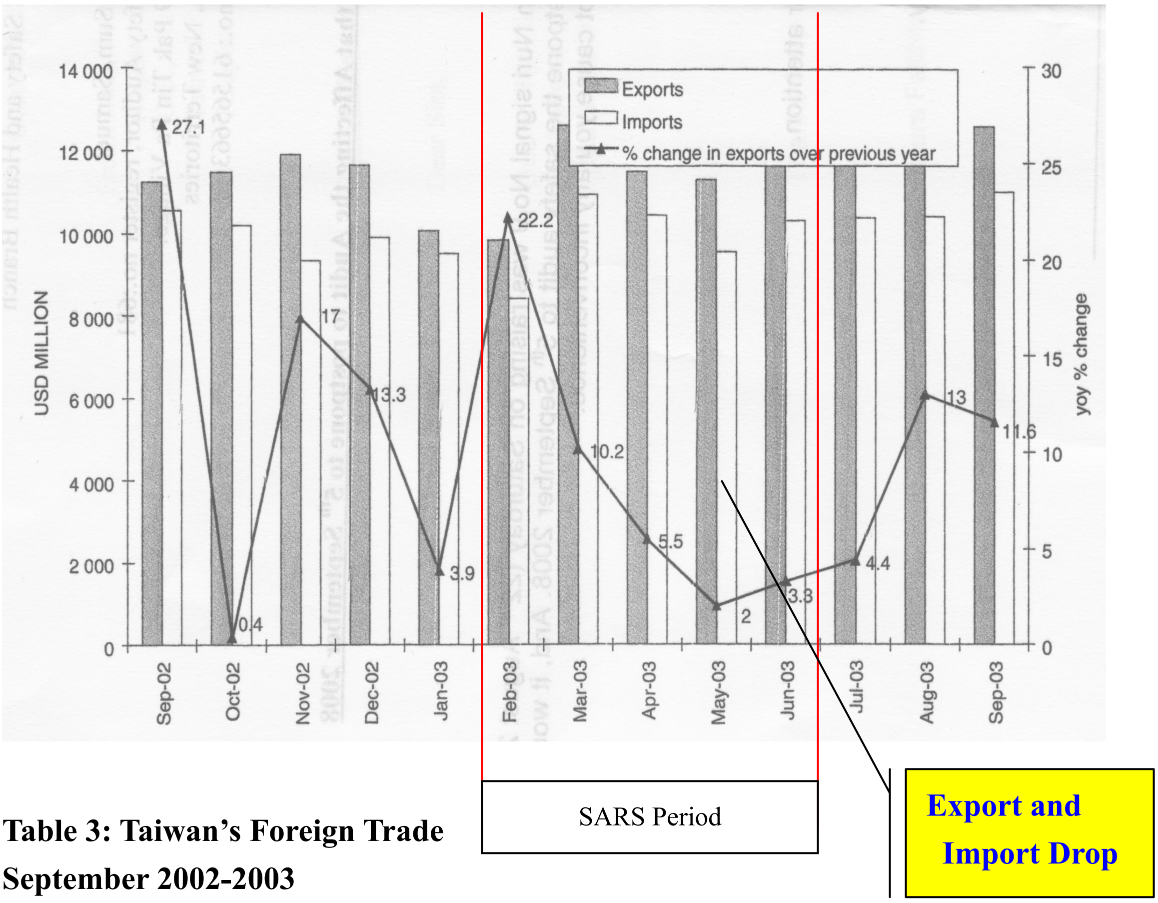
1. The SARS affecting intervals within these countries: *February 2003 to June 2003.*
2. Countries of SARS oriented: *China and Hong Kong*.
3. The countries of highest cases and fatality: *China, Hong Kong and Taiwan.*

As China, Hong Kong and Taiwan are the most SARS attacking countries, we may take a look of how their economic change during this period.

Table 2: China's Exports, 2001-2003

Source: Data from Ministry of Commerce, http://www.mofcom.gov.cn





SARS Period

Table 3: Taiwan's Foreign Trade September 2002-2003

Source: Ministry of Economic Affair, http://www.moea.gov.tw

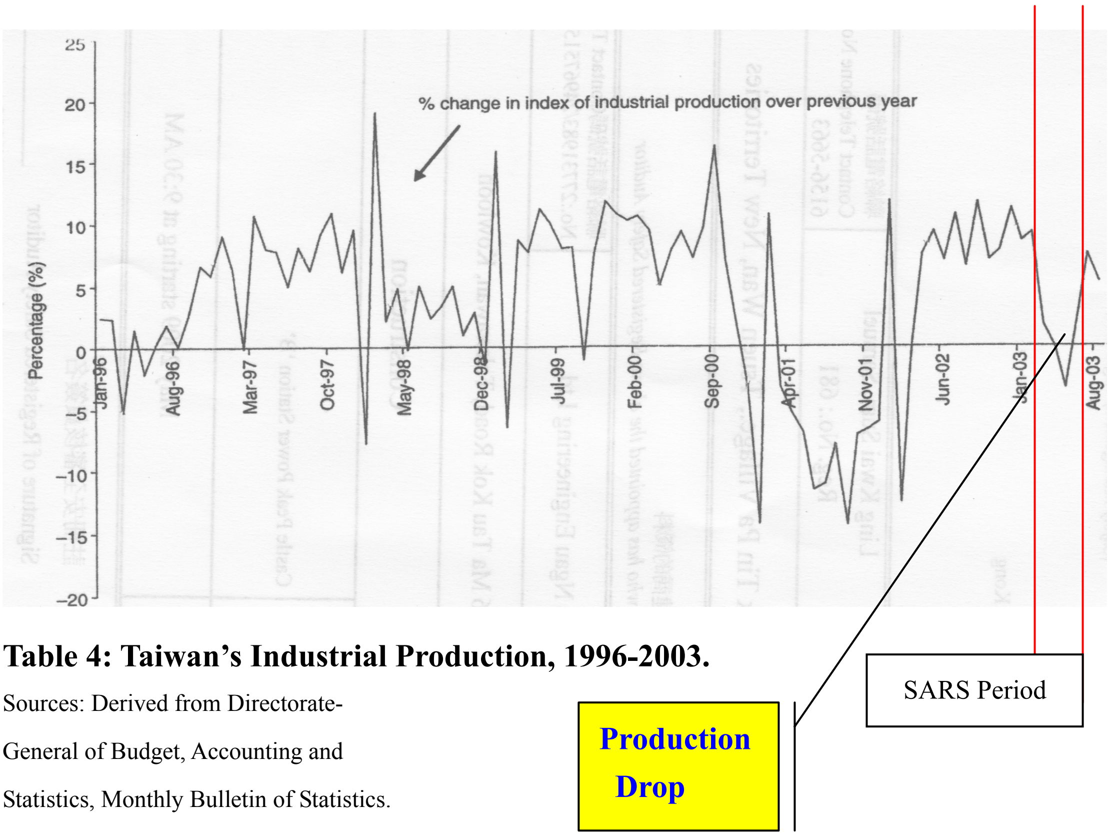


Table 4: Taiwan's Industrial Production, 1996-2003.

Sources: Derived from Directorate-General of Budget, Accounting and Statistics, Monthly Bulletin of Statistics.

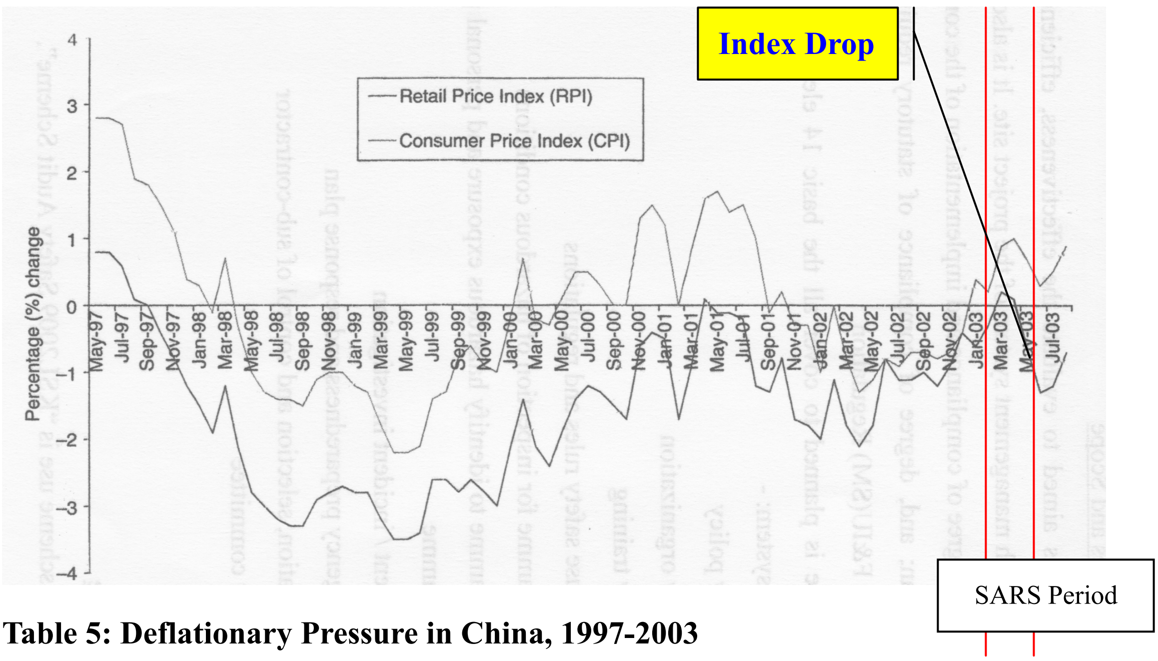


Table 5: Deflationary Pressure in China, 1997-2003

Source: The People's Bank of China Statistical Bulletin, various issues; China Monthly Statistics, various issues.

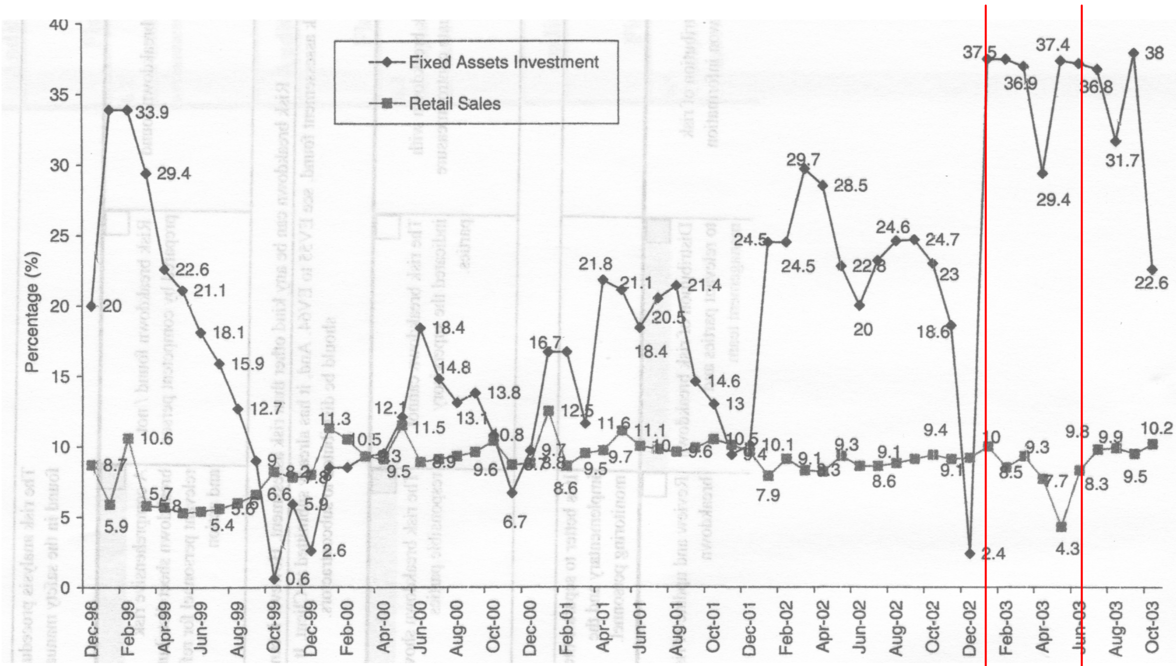


Table 6: China's Domestic Consumption and Investment, 1998-2003.
Source: China Monthly

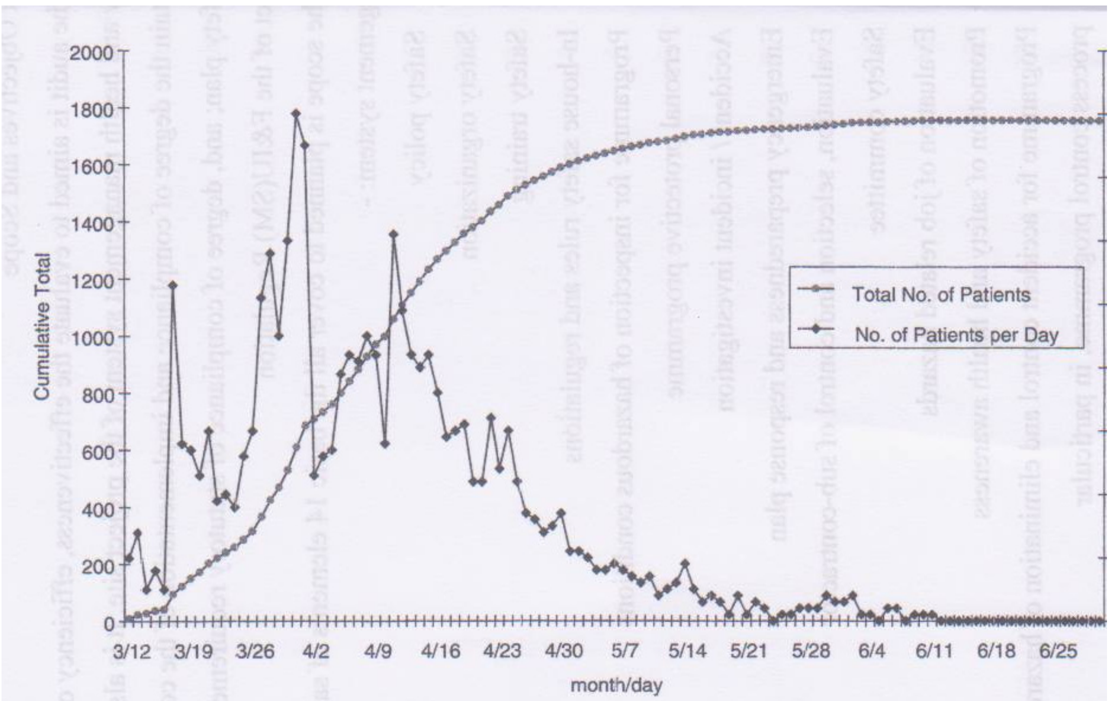


Table 7: Officially Confirmed SARS Patients in Hong Kong as of June 2003.

Source: "SARS updated charts and figures in Hong Kong", Hong Kong University of Science & Technology, at http://ihome.ust.hk/-bo_cckae/kivin/sars.html.

From all parts of information, we believe the most serious period of SARS has to be the end of March 2003 to mid of April 2003 and end up in June 2003 (Table 6 for reference). The SARS negative effects are rapid that we can see in Table 1 the export rate begin to drop at June 2003. Taiwan also record the rapid dwindle of Import and export trade during the SARS period, see Table 2. At the same time, Taiwan's industrial production was reducing within this period.

According to the US Congressional Budget Office's information (Murphy 2006), the most influence industry during SARS epidemic is as follows:-

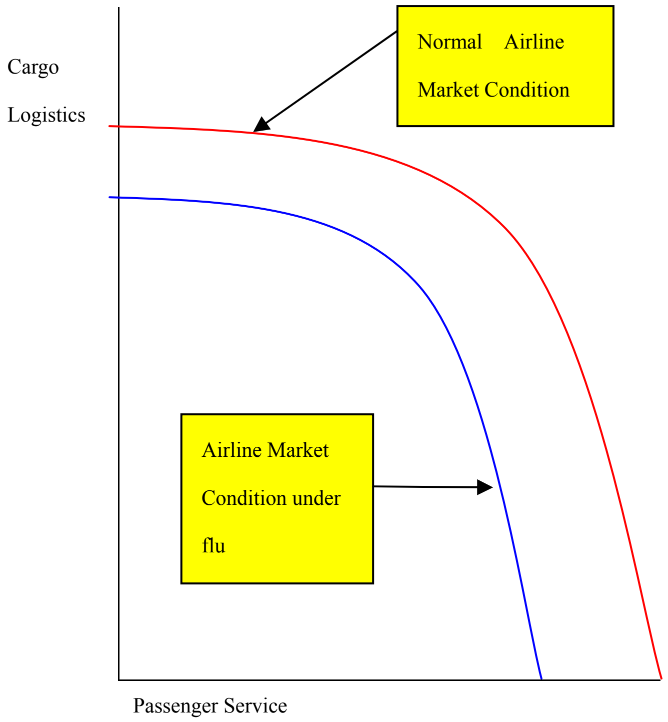
1. Air Transportation
2. Rail Transportation
3. Arts and Recreation
4. Accommodation
5. Food Service

On the contrary, the SARS has given the benefit to healthcare business. The people need more medicine.

Cathay Pacific Airlines

One of the most adverse affected businesses is the Air Transportation. Passengers fear to be infected by flu (Mob Hysteria) brings about massive drop air freight demand. The Hong Kong airline Cathay Pacific Airways recorded an instant drop of 35,000 to 5,330 passengers daily. The Airway finally recorded a HK29,578 million fell at the end 2003.

As we have seen the Cathy Pacific is provide passenger traffic and cargo logistics service. The airlines can choose to shift the core business from passenger traffic to cargo logistics service when the passenger demand goes down. You can see in the Table 3 and 4 that the foreign trade and industry production drop instantly. Consequently, the business environment change during the SARS period. The production possibilities frontiers dwindle rapidly in short interval.



The PPF graph of passenger services vs cargo logistics.

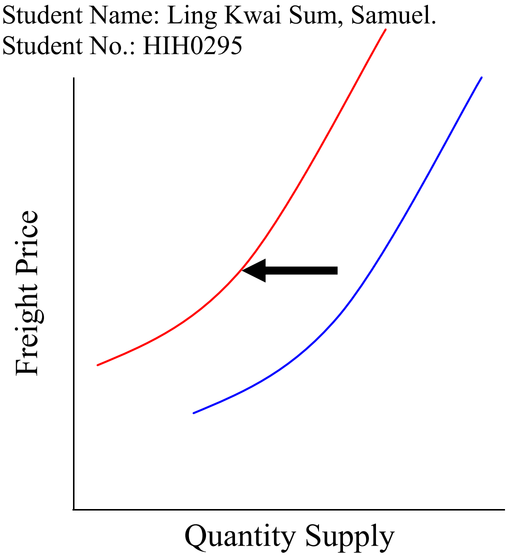
During the SARS/flu eruption period, the PPF (Production Possible Frontier) will shift. The airline has faced the difficulty on passenger service as core business because the cost of passenger traffic business declined.

At the same time, I believe that the logistic business cost will not drop as rapid as passenger cost instantly. In fact, there is a less demand of logistics during this period, see table 3 and 4. I believe the curve will shape like the graph on the left side.

There are several factors affecting the raise of the passenger service cost during the flu epidemic period. They are described as follows:-

1. Specific facilities provided for flu infected patients.
2. Extra Emergency training conducted to staff.
3. More staff for additional routine hygiene checking within the airplane cabin.
4. Develop a more advance air advance system called HEPA (High Efficiency Particulate Arrestor).
5. More freight parking fee is needed during the flu epidemic period.
6. Increase Procurement of respiratory masks.

From above information, we can estimate the demand of the airline would reduce during flu period.



The supply line affect by flu

The supply line in normal market condition

Due to freight cost increase rapid during the flu period, the supply line would left shift. This shift would lead to reduce number of freights.

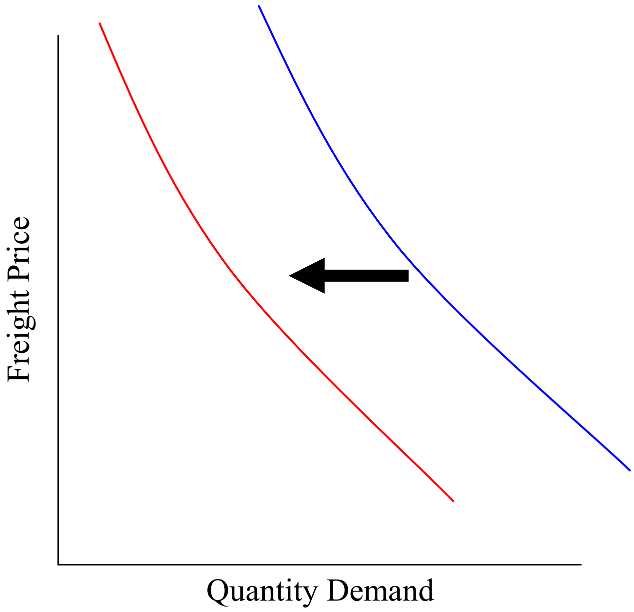
Thus, there would be more aircrafts parking. Aircrafts parking would increase the maintenance cost and parking cost.

Under the influence of flu, the demand line will shift at the same time, see the graph below:

The demand line affect by flu

The demand line in normal market condition

Due to the rapid decrease in export and trade business (table 2 & 3), the demand line will left shift. This instant shift is also caused by people's fearing of infection.



The unemployment within the community would increase if the flu exists for long. It would further deepen the influence the left shift of demand line.

If the situation of Cathy Airline Apply to the Market Equilibrium Theory, we will have the graph below:

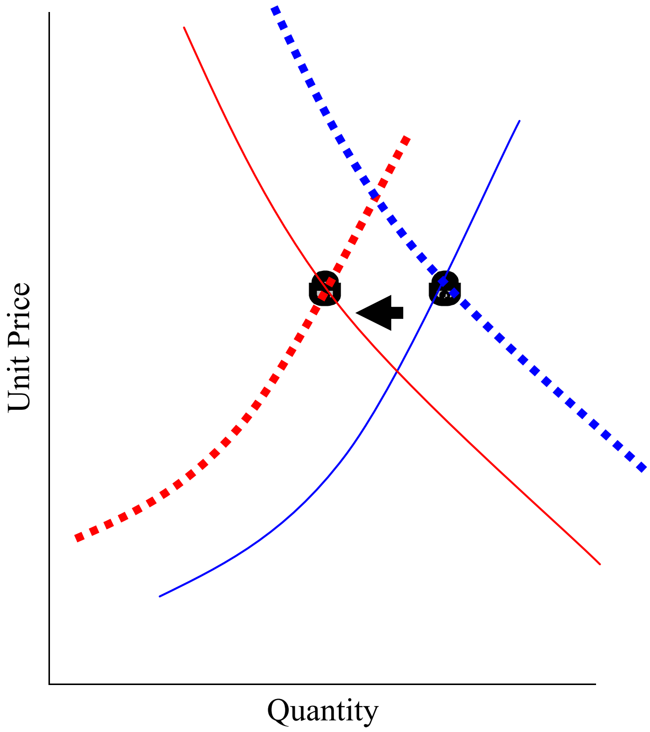
The demand line affect by flu

The demand line in normal market condition

The supply line affect by flu

The supply line in normal market condition

The result of the analysis is decrease in demand and decrease in supply.

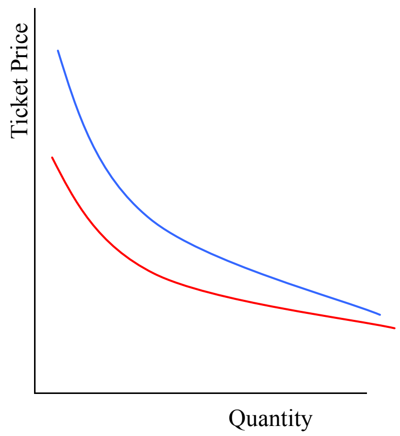


The new equilibrium reflects the Cathy Pacific Airline cannot reduce price although the service cost keep on increase rapidly during flu epidemic period. In fact, the lower ticket price cannot enhance more passengers take the freight.

Under the flu influence, lesser amount of tourists will visit other countries. It may lead to Freight Elastic of Demand change to be more elastic in demand. The graph pattern is shown in the opposite.

The blue curve indicate the demand curve before flu.

The red curve indicate the demand curve influence by flu.



Short Run Cost Affected by Flu

According to the analysis and flu history, the flu will fade out within two years. We percept the challenges to human community is in short term. So, the short-run cost will rise during the flu period. Let us see the equation as below:-

$$\mathbf{TC = TFC + TVC}$$

The Variable Costs of the airlines would be increase are as follows:-

1. Specific facilities provided for flu infected patients.

2. Extra Emergency training conducted to staff.
3. More staff for additional routine hygiene checking within the airplane cabin.
4. More freight parking fee is needed during the flu epidemic period.
5. Increase Procurement of respiratory masks.

On the other hand, the airlines must develop a more air advance system called HEPA (High Efficiency Particulate Arrestor). This new system will lead to the fix cost increase.

As a result, the Total Cost of the air freight tickets raise contrast to the adverse change in elastic in demand during the flu period. The airline business is facing a very hard period.

Conclusion

Flu eruption is having a fast, huge attack to economy, especially on air freight business. And, it happen 3.2 times every decade. That is why the economist announces this phenomenon as economic shock. We can say that the flu attack is instant when the first flu case is discovered. Generally, an epidemic flu is only last for one to two year only. It does not last for long. However, the impact of the attack on economy is great to all companies. Cathy Pacific Airline is not the only extreme victim. To my point of view, flu itself do not have this great impact of damages but the fear (Mob Hysteria) between crowds aroused this lethal power to the society. People fear of unemployment, infection and economy recession. So, they do not buy but stay at home.

During the flu period, the companies suffer pressure of cost increasing but the adverse economical environment leave them no area for raising the price. The epidemic flu attack do not has the power to make a company close down. However, its trigger effect can disturb the performance of the companies goes down because the flu eruption change the global economic environment within one to two months. There are a lot of data shows that the economic environment recovers to normal in short after the flu dies out.

In order to lessen the adverse effect to economy during flu period, the government and the company should develop a good emergency procedure to deal with epidemic flu eruption. All governments should have close communication to World Health Organization in order to acquire first hand information of flu. Companies have to always monitor whether the organizations management structure are in healthy status.

Management personnel should always assess companies' productivity and profit. The governments and companies should always maintain a high standard of hygiene condition. The government should try their best to control the spread of flu after eruption. This can lessen the FEAR effect within crowds raging the society. An effective control of fear; A lesser damages to the economy.

Reference

1. Cartwright, F.F. and Biddiss, M., 2000. Disease & History. 2nd ed. New York: Thomas Y. Crowell Company.
2. Colum Murphy, 2006. A Business Survival Guide. 1st ed. Singapore: John Wiley & Sons (Asia) Pte. Ltd.
3. Thomas Abraham, 2004. Twenty-First Century Plague (The Story of SARS). 1st ed. Hong Kong: Hong Kong University Press.
4. Wong, J. and Yongnian, Z., 2004. The SARS Epidemic. 1st ed. Singapore: World Scientific Publishing Co. Pte.Ltd.
5. Ken Heather, 2004. Economics Theory in Action. 4th ed. England: Pearson Education.
6. Dermot McAleese, 2004. Economics for Business. 3rd ed. England: Pearson Education.
7. Cathay Pacific, 2009. Press Release Details: Cathay Pacific cooperates with Hong Kong Department of Health on confirmed case of Influenza A (H1N1) [online], 1(1). Available from: http://www.cathaypacific.com/cpa/en_INTL/aboutus/pressroomdetails?refID=f0f2ab71be831210VgnVCM62000007d21c39____ [Accessed 20 May 2009].
8. Cathay Pacific, 2009. Press Release Details: Additional precautionary measures taken by Cathay Pacific [online], 1(1). Available from: http://www.cathaypacific.com/cpa/en_INTL/aboutus/pressroomdetails?refID=bcbbb851aaff0210VgnVCM62000007d21c39____[Accessed 22 May 2009].
9. Cathy Pacific, 2009. Avian Flu: Avian Flu Health Measures [online], 1(1). Available from: http://www.cathaypacific.com/cpa/en_INTL/whatonboard/avianflu [Accessed 20 May 2009].
10. Cathy Pacific, 2005. Press Release Details: Cathay Pacific announces 2004

Annual Results [online], 1(1). Available from: http://www.cathaypacific.com/cpa/en_INTL/aboutus/pressroomdetails?refID=9a6125318ffaa010VgnVCM22000022d21c39____ [Accessed 19 May 2009].

11. Cathy Pacific, 2009. Press Release Details: Cathay Pacific-preparedness for Influenza A (H1N1) threat [online], 1(1). Available from: http://www.cathaypacific.com/cpa/en_INTL/aboutus/pressroomdetails?refID=a3bb3e400ba01210VgnVCM62000007d21c39____ [Accessed 19 May 2009].
12. Cathay Pacific, 2003. Press Release Details: Cathay Pacific releases March 2003 traffic figures [online], 1(1). Available from: http://www.cathaypacific.com/cpa/en_INTL/aboutus/pressroomdetails?refID=dfff8b1f320ba010VgnVCM22000022d21c39____ [Accessed 19 May 2009].
13. Cathay Pacific, 2008. Press Release Details: Cathay Pacific announces further measures to lessen impact of financial crisis [online], 1(1). Available from: http://www.cathaypacific.com/cpa/en_INTL/aboutus/pressroomdetails?refID=1ed7e4334d1ed110VgnVCM1000000ad21c39____ [Accessed 19 May 2009].
14. The Fair Trade Commission, 2003. Fair Trade Law: Face Masks took advantage of the emergency situation [online], 1(1). Available from: http://www.apeccp.org.tw/doc/Taipei/Case/D0722203.htm [Accessed 19 May 2009].
15. Moffatt, M., 2009. The Economic Cost of a Flu Pandemic [online], 1 (1). Available from: http://economics.about.com/od/healthcareeconomics/a/flu_pandemic.htm [Accessed 8 May 2009].
16. BBC News, 2008. One-minute World News: Withdrawals hit Bank of East Asia [online], 1(1). Available from: http://news.bbc.co.uk/2/hi/business/7633468.stm [Accessed 8 May 2009].
17. Harrell, E., 2009. The Moment. Time, 11 May, p.7.