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Human Resources, Labour-Markets and Unemployment: The Impact of the SARS Epidemic on the Hotel Industry in Singapore

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Abstract

This article examines the links between epidemics and their economic and human resources consequences in a contemporary setting, specifically in terms of their impacts on human resources, labour-markets and jobs. To exemplify the above, we looked at SARS (Severe Acute Respiratory Syndrome) a phenomenon we have previously investigated in the People's Republic of China and Hong Kong, vis-à-vis its impact on the Singapore economy, its human resources, labour-market and its level of employment and unemployment. We hypothesized that the greatest impact would be on human resource management (HRM) in the service-sector and on particular sub-sectors, such as the hotel industry. It concludes that the demand and supply 'shocks' investigated affected both the demand for and the supply of labour in the sector, with observable HRM consequences for hotel employment (as in the case of both mainland China and Hong Kong, although each being on their different respective scales, with one large and one small in population base). The Singapore outcome was, however, to prove closer to the Hong Kong experience, than to the Chinese case.

Key-Words

Asian economy, China, demand, epidemics, employment, Hong Kong, hotel industry, Human Resource Management (HRM), labour-market, Severe Acute Respiratory Syndrome (SARS), service-sector, Singapore, supply, uncertainty, unemployment.

Introduction

On 12 March 2003, the World Health Organization (WHO) issued a 'global alert' on Severe Acute Respiratory Syndrome (SARS), a newly emerging respiratory illness associated with potentially significant morbidity and mortality (WHO, 2003). International travel appeared to be responsible for the rapid intercontinental spread of this disease, and by 31 May 2003, SARS had affected 32 countries with a total number of 8,360 cases (916 proving fatal overall, with 33 dying in Singapore, we shall shortly see) (World Health Organization, 2003).

The outbreaks beyond the mainland People's Republic of China (PRC), namely in the Hong Kong Special Administrative Region, Singapore and Vietnam, as well as in Toronto and elsewhere, were initiated by cases that were mostly imported from *Guangdong*, the Southern-most Chinese province, before the virus had been identified and before appropriate measures had been put in place to prevent its transmission (Lee et al, 2003; Poutanen et al, 2003; Hsu et al, 2003). Singapore, like Hong Kong, has one of the busiest airports in Southeast Asia, and has numerous arrivals each day from countries in the region affected by health dysfunctions. The city-state was, and still is, therefore potentially vulnerable to the importation of SARS that could in turn initiate new cases

This article begins with a brief background account of the imported cases of SARS to Singapore and then goes on to analyze the impact on the Singapore economy, its labour-market and one particularly vulnerable sub-sector of its now pre-eminent service industries (Khatri, 2004: 221-222), namely hotels (and hospitality). Thus, as will be apparent in our analysis, epidemics, mortality and urbanization are now

arguably increasingly inter-linked and mass air-travel has become a potentially critical transmission-belt in the contemporary, globalized world (see Morens *et al*, 2003).

For some time, studies have attempted to estimate the economic burden of an epidemic based on the private and non-private medical costs associated with the disease (see for example, Lee and McKibbin, 2003). The costs include private, as well as public, expenditures on diagnosing and treating the disease. The costs may be magnified by the need to maintain sterile environments, implement prevention measures, and carry out basic research. The epidemic costs can be substantial for major epidemics, such as AIDS. According to the UNAIDS (the Joint United Nations Programme on HIV/AIDS), at present 42 million people globally live with HIV/AIDS. The medical costs of various treatments of HIV patients, including highly active antiretroviral therapies (HAARTS) are estimated to be more than US$2,000 per patient per year. In the Southern African regions, the total HIV-related health service costs, based on assumed coverage rate of 10 per cent, ranges from 0.3 to 4.3 per cent of Gross Domestic Product (GDP) (Haacker, 2002).

The costs of disease also include incomes foregone as a result of the disease-related morbidity and mortality. Malaria, for example, kills more than one million people a year. The HIV/AIDS disease, for instance, was estimated to have claimed 3.1 million lives in 2002. Forgone income is normally estimated by the value of lost workdays due to the illness. In the case of mortality, foregone income is estimated by the capitalized value of future lifetime earnings by the disease-related death, based on projected incomes for different age groups and age-specific survival rates. This cost can be substantial for large-scale epidemics (Lee and McKibbin, 2003). Given its

ultimately relatively low morbidity and mortality, why then had the economic impact of SARS appeared to be so apparently threatening? Much of the potential economic impact appeared to stem from the high degree of uncertainty and fear generated by SARS, as we shall shortly see.

The few Singapore residents who left the country, whether in panic or for other reasons, found that an airport official inserted a small brown card into their passports warning immigration officials at the destination that they 'may have been exposed to SARS' (*Business Week Online*, 3 April 2003). At the airport in Manila, passengers disembarking from Singapore Airlines flights were met by a Filipina nurse, who collected 'accomplished health' forms swearing that they were not suffering from a high fever, breathing difficulty, or other SARS symptoms (ibid). Philippine officials manning the immigration counters wore surgical masks to protect themselves from inhaling the virus. In Thailand, travellers from stricken areas were also required to wear masks and stay in their hotels, or undergo a medical check every three days of their stay. Offenders could be punished by up to six months in jail or a maximum fine of US$235 and 'SARS-control officers' were said to be 'operating undercover' to ensure compliance (*TTG Daily News*, 2003).

International cooperation was judged to be crucial and bilateral meetings were arranged between the Association of South East Asian Nations (ASEAN) health ministers and their counterparts from China, Japan and South Korea. There was a united front on steps such as pre-departure screening of travellers and the exchange of information to assist in tracing and quarantining contacts of SARS patients (Henderson, 2003). Another forum standardized health declaration cards for departing

passengers and implemented mandatory temperature tests at international airports (ibid). People across Asia opted to stay at home to reduce the probability of infection. Service exports, in particular tourism-related exports, were to be particularly hard-hit.

Hypotheses

In order to take our research one step further, we have formulated a set of appropriate hypotheses (see Lee and Warner, 2005) in turn modified from those we had earlier used to date in our studies of the effects of the epidemic in China and Hong Kong, respectively:-

(i) *The greater the adverse impact of SARS on the Singapore economy, the greater will be the negative impact on the service sector and specifically on the hotel industry.*

(ii) *The greater the adverse impact of SARS on consumer demand in the Singapore hotel industry, the greater will be the negative impact on the related demand for labour in terms of hotel employees in specific hotel groups in the industry.*

(iii) *The greater the adverse impact on the demand for labour in the Singapore hotel industry, the greater will be the negative impact on the labour-market in terms of the HRM implications such as lay-offs and redundancy among hotel employees in specific hotel groups in the industry.*

Methodology

In attempting to study the impact of SARS on the Singapore economy and specifically on hotel industry employment, *we adopted a two-pronged methodology*. *First*, we generated a data-base of information about the SARS epidemic, its economic as well as its HRM implications, by using the internet, library resources and literature searches, taking into full account the limitations of official statistical sources, where used. Second, we carried out on-site empirical field research, involving interviewing over twenty key decision-makers in the Singapore economy and its hotel industry, such as government officials, senior managers and union officials over the period of the epidemic and its aftermath.

Importation of SARS in Singapore

The first fatal cases of 'atypical pneumonia', as it was first called, probably occurred in *Guangdong* province in southern China in November 2002 (Lee and Warner, 2005). The term SARS (Severe Acute Respiratory Syndrome) appears to have been first used for a patient in Hanoi who was visiting Vietnam, became ill on February 26, 2003, and was evacuated to Hong Kong, where he died on March 12. This first case in Hanoi had stayed at a hotel, in Kowloon, Hong Kong, at the same time as a 64 year-old doctor who had been earlier treating pneumonia cases in southern China. This doctor stayed at the *Metropole Hotel* and was admitted to hospital on February 22. He died from 'respiratory failure' soon afterwards (Tomlinson and Cockram, 2003). His was the first known case of SARS in Hong Kong and appears to have been the source of infection for most, if not all cases in Hong Kong, as well as possibly for the cohorts in Singapore, Taiwan, Thailand, Vietnam, as well as in Canada, a number of European countries, such as Germany and Ireland and the USA.

Of the six persons who imported SARS to Singapore, all were residents of Singapore and had visited Hong Kong (plus *Guangdong* province in two cases and Beijing in one case). Cases A and B travelled together to Hong Kong at the end of February 2003, and stayed on the 9th floor of the *Metropole Hotel* (Wilder-Smith et al, 2003). They were likely to have been infected by the Chinese doctor from *Guangdong*, a SARS patient who had stayed on the same floor of the *Metropole Hotel* on 21 and 22 February, most probably in passing contact in the elevator. Upon their return to Singapore on 25 February, they developed a fever, and a few days later a dry cough, being subsequently admitted on 1 March to two different hospitals in Singapore and isolated six days later. The first case in Singapore admitted to *Tan Seng Tock* Hospital infected 20 close contacts (11 health care workers, and nine relatives or friends). These, in their turn, passed it on to 71 people (all health care workers, patients and relatives), who then contributed to the current epidemic in Singapore. Few infectious diseases are so selective for healthcare workers. Most of the 'nosocomial' SARS infections have occurred in individuals looking after undiagnosed patients before the widespread use of complete respiratory and contact precautions (Tambyah, 2002). Isolation and infection control for these patients was instituted on 6 March, hospital-wide infection control was enforced on 14 March, and *Tan Tock Seng* Hospital became the SARS-designated hospital on 22 March.

Case C was unrelated to the first cases but had been a guest at the *Metropole Hotel* in Hong Kong during the same period, and returned on 25 February. She developed a fever on 27 February, was admitted to *Tan Tock Seng* Hospital on 5 March, and was isolated the next day. Cases D and E were a mother (42 years) and son (18 years) who had returned on 23 March from visiting relatives in *Guangdong* province and Hong Kong. They developed symptoms within two days after arrival in Singapore, and were

admitted and placed in isolation on 25 and 27 March respectively. The father and other son who had travelled with them were not infected.

Case F was a 29-year-old designer who had been on a business trip to Hong Kong and Beijing and developed a high fever and a cough while in the latter city. She consulted two doctors in Beijing, but the diagnosis of SARS was not made at that time. She became very unwell and breathless on her return flight from the capital to Singapore on 26 March, but no precautions were taken on the airplane, as her diagnosis was not known. Immediately after arrival, her mother took her in a taxi to *Tan Tock Seng* Hospital, where she was isolated in the Intensive Care Unit. She developed acute respiratory distress syndrome and multi-organ failure, and died ten days later. Both the mother and the taxi driver were quarantined, but neither developed SARS. The Ministry of Health was able to contact 46 of the 47 passengers, as well as all the nine crew members, and they were put under home quarantine order and active surveillance for ten days; none of these became SARS patients.

Three of the six imported cases developed symptoms of SARS only after arrival in Singapore, whereas three had symptoms on the return flight to Singapore (cases A and B had fever only, case F had fever, cough, and shortness of breath). The first two were admitted to a hospital at a mean of four days after onset of symptoms, and placed in isolation six days later. Cases C to F had symptoms of SARS in Singapore for a mean of 2.5 days, and all were immediately placed in isolation after hospital admission (except case C: after one day). Cases A and B were therefore without infection-control measures for ten days, and cases C to F for a mean of 3.6 days. Only case A resulted in secondary transmission. No health care workers and no other contacts were infected by cases B to F (see Table 1).

Table 1: Imported Cases of SARS to Singapore, 25 February-31 May 2003

Duration of SARS Symptoms in the Community (days)	Interval Between Admission and Isolation (days)	Imported Cases (Age, Gender, Ethnicity)	Imported from	Secondary Cases	Outcome
4	6	23, female, Chinese	Hong Kong, the *Metropole Hotel*	20	Recovered
4	6	22, female, Chinese	Hong Kong, the *Metropole Hotel*	0	Recovered
7	1	33, female, Chinese	Hong Kong, the *Metropole Hotel*	0	Recovered
1	0	42, female, Chinese Indonesian (resident in Singapore)	Guangdong, Hong Kong	0	Recovered
2	0	18, male, Indonesian (resident in Singapore)	Guangdong, Hong Kong	0	Recovered
0	0	29, female, Chinese	Hong Kong, Beijing	0	Died

Source: Wilder-Smith, Annelies, Goh, Kee Tai, Paton, Nicholas I, 2003, '*Experience of Severe Acute Respiratory Syndrome in Singapore: Importation of Cases, and Defense Strategies at the Airport' Journal of Travel Medicine*, 10:5, 259-262.

The Economic Impact of SARS

We *first* present the available background macro-economic evidence from authoritative sources from our data-base, we then, *second*, set out micro-economic and HRM data collected at first-hand by ourselves, followed by a discussion of their implications and last, our conclusions.

The Chief Economist for *World Bank East Asia* estimated that a direct impact effect of SARS would be to reduce East Asian growth by 0.4 to 0.5 per cent of GDP, bringing the estimated cost of SARS in the range of US$20 to 25 billion, a sizeable amount by any calculation (World Bank, 2003). The *Asian Development Bank* (ADB) calculated the likely effect of the disease under different epidemic scenarios, and forecast losses totalling up to US$20 billion in the four most vulnerable economies, namely China, Hong Kong, South Korea and Taiwan (BBC News, 9 May 2003). ING Financial Markets cut its GDP forecasts for 2003 for Hong Kong, Singapore, Malaysia and Taiwan (see Table 2).

Table 2: Gross Domestic Product (GDP) Forecast: Before and After SARS

Country	Previous GDP Forecast (%)	New GDP Forecast (%)
China	7.5	7.5
Hong Kong	2.5	1.5
Indonesia	4.0	3.7
Malaysia	5.0	4.0
Singapore	3.5	2.0
Taiwan	3.5	3.3
Thailand	4.5	4.3

Source: *Asia Pacific Business Network*, Vol. 7, No. 9, 2003.

Singapore's rate of growth in the service sector, turned sharply negative in the second quarter of 2003, falling to - 4.2 per cent from positive growth of 1.7 per cent in the

first quarter of 2003 (Ministry of Trade and Industry, 2004). Uncertainties associated with the war in Iraq, notwithstanding the SARS outbreak, also caused the growth momentum (on an annualised quarter-on-quarter basis) to dip sharply by 11 per cent, after an increase of 1.4 per cent in the previous quarter (see Table 3).

Table 3: GDP of Services Producing Industries, 2003 (Unit: million S$)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Total	25,019.0	23,699.3	25,331.3	26,016.4
Wholesale & Retail Trade	4,849.0	5,052.1	5,100.9	5,684.0
Hotels & Restaurants	832.9	613.6	740.2	811.5
Transport & Communications	4,378.0	3,705.0	4,611.0	4,877.3
Financial Services	4,355.2	4,797.8	4,950.2	4,254.5
Business Services	5,322.5	5,181.7	5,246.4	5,274.9
Other Services Industries	5,281.4	4,349.1	4,682.6	5,114.2

Source: *Economic Survey of Singapore 2003*, Singapore Dept of Statistics website.

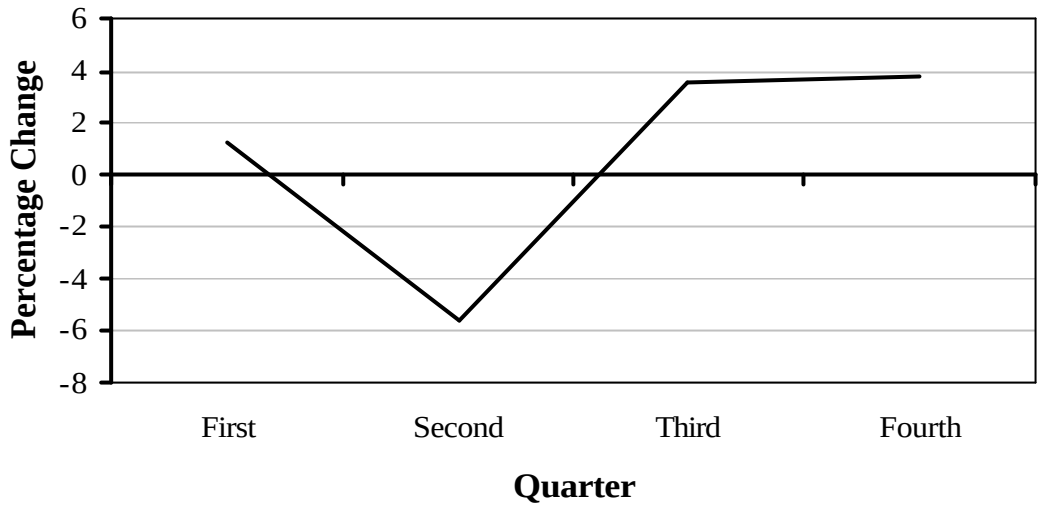
Since the service sector accounts for about 65.7 per cent of Singapore's gross domestic product (see Table 4) and the SARS crisis had a hugely damaging impact, it led to a 3.9 per cent fall in GDP in the second quarter of 2003 (see Figure 1).

Table 4: Gross Domestic Product by Industry, 1999-2003 (Unit: million S$)

Industry	1999	2000	2001	2002	2003
Goods Producing Industries	46,165	54,573	49,137	52,470	52,221
Manufacturing	32,521	42,078	36,548	41,080	41,601
Construction	11,125	9,966	9,444	8,530	7,834
Utilities	2,319	2,339	2,967	2,694	2,622
Other Goods Industries	200	189	178	166	164
Services Producing Industries	89,594	97,364	99,563	101,079	100,066
Wholesale & Retail Trade	18,008	20,003	19,079	19,511	20,686
Hotels & Restaurants	3,272	3,545	3,628	3,503	2,998
Transport & Communications	16,634	18,236	17,403	18,223	17,571
Financial Services	17,503	17,755	19,075	18,921	18,358
Business Services	19,637	21,518	22,214	21,641	21,026
Other Services Industries	14,540	16,307	18,164	19,280	19,427

Source: *Economic Survey of Singapore 1st Qtr 2004*, Singapore Dept of Statistics website.

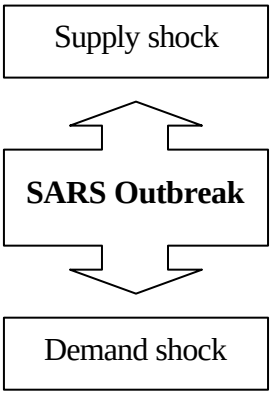
Figure 1: Percentage Change of GDP over Corresponding Period of Previous Year, 2003 (Unit: percentage)



Source: *Economic Survey of Singapore 2003*, Singapore Dept of Statistics website.

There were a number of key ways by which the SARS outbreak could affect a given economy. We have simplified the *causal* links in our labour-market model to exemplify the main variables we have chosen to high-light, in order to present the human resources consequences (see Figure 2). One link may be seen as operating through 'supply-shocks'. If the outbreak could not be effectively contained (see Gerberding, 2003), the workforce would be reduced because of illness or precautionary measures to prevent the spread of SARS, thereby disrupting business operations and production (Asian Development Bank, 2003). There was also the risk of a demand 'shock', as people just stopped shopping and became paralysed into economic indecision, as appeared to be the case in Hong Kong (Interviews, 2003).

Figure 2: The Economic Impact of SARS



Why had the economic threat arising from SARS appeared to be so *prima facie* serious? While SARS did pose significant medical risks, it also exercised a disproportionately sharp *psychological* impact on people. In the short run, its potential economic consequences arose in god measure from public perception and fear of the disease, harking back to accounts of medieval Asia or Europe. An understanding of 'fear epidemiology' is therefore important because early warning-systems, monitoring data from a large number of people, may not be able to discriminate between a 'biological epidemic' and an 'epidemic of fear' (Eysenbach, 2003).

Epidemics have clearly often had a major impact on world history, as is well documented, often with wide economic consequences (Cipolla, 1976). The medieval 'Black Death' spread across the Middle East and Europe from the fourteenth century onwards, allegedly involving bubonic plague, (but which may possibly have been closer to the more recently diagnosed *Ebola* virus) and it was one of best-known examples, devastating both economies and societies. Some say it originally came from East Asia, carried by fleas on the backs of rats but the latter appear not to be mentioned in medieval historical accounts. It allegedly killed as many as one-third of the total population of Europe between the years 1346 to 1350, some say even up to a

half in many towns.

Hunger and famine have been long seen as going hand in hand with the decline in medieval trade. Rising mortality rates adversely affected both the demand for and supply of goods, services and the labour-inputs that went into them, then as now. The English classical economist Malthus (1766-1834) had studied the major impact of plagues on populations and economies, as checks on demographic growth (Pressman, 1999:29ff). 'Crises' such as plagues led to peaks of mortality that linked population changes and labour supply with key economic variables (Floud and McCloskey, 1994: 60). However, Malthusian gloom was challenged on a number of counts; some economists saw technology, rather than demographic shifts, as the 'engine of growth' in both agriculture and industry (Cipolla, 1976:136).

Plagues also led, according to many accounts, to mass hysteria, the burning of witches and the persecution of local Jewish communities, who were soon blamed for spreading the disease by their Christian neighbours (see, for example, Singer, 1998). One of the 'lessons of history' from past epidemics, like that of outbreaks of cholera and the numerous plagues that blighted medieval Europe (Watts, 1997), was the frequent pattern of 'victimizing and stigmatising of helpless members of minority groups and the indifference of public officials callous to human suffering' (Briggs, 1961). 'Demonisation', as a phenomenon, took root in most parts of Europe around this time, as simplistic explanations were sought by the afflicted. Zealous campaigns against witchcraft, in turn, continued long after.

Closer to the present day, the officially-outlawed *Falun Gong* cult was condemned by

the Chinese government for allegedly 'hindering the prevention and control of SARS in China' (*People's Daily*, 11 June 2003). The cult members were accused of travelling to places to distribute printed material promoting the group; getting close to hospitals to contract SARS virus for the purpose of spreading the disease; and linking it to 'doomsday' prophecies, claiming that those who practice Falun Gong could avoid the catching it (ibid). They were also accused of obliging their adherents to refuse treatment, as contamination was a 'sign' of 'being chosen'.

The most recent 'catastrophic' health disaster, early last century, was the global influenza epidemic just after the First World War ended in 1918, the so-called 'Spanish Flu'; it allegedly killed more people than all those who died in armed combat. Such epidemics, we argue, represent *exogenous*, as well as *endogenous*, 'shocks' that can have far-reaching impacts on economic activity, as well as inflicting human tragedy.

The pronounced psychological impact of SARS may arguably be attributed to the combination of two accompanying characteristics of the illness: the almost costless and rapid transmission of information due to the development of modern media and communication technologies in MacLuhan's 'global village'; and perhaps more importantly the lack of sufficient medical information on SARS (Fan, 2003). This stimulus may be conceptualised as inducing a 'demand-shock', particularly impacting on consumption. In specific locations with a high incidence of SARS, physical movement of people was restricted, either voluntarily or involuntarily, thus potentially reducing consumer spending.

A 24-hour vegetable wholesale market in Singapore, for example, was ordered to shut down for ten days, as three workers there were diagnosed with SARS and where one of these had died (*APBN*, 2003). The Singapore government closed all schools temporarily on March 26, to prevent the spread of SARS, and the vast majority of Singapore's inhabitants – about one-quarter of whom are foreigners – had confined themselves to their homes for fear of catching the disease (*Business Week Online*, 4 March 2003). People had opted to stay at home to reduce the probability of infection. With schools closed, their offspring were at home all day, yet the parents were afraid to take them out for fear of exposing them to SARS. Playgrounds and swimming pools in many private housing estates were deserted – and at some complexes, the companies that manage them had even declared the areas off-limits (ibid). Attendance at Singapore's exotic animal parks soon plummeted. The playground at Singapore's zoological garden was closed for 'renovations'. The Roman Catholic Church in Singapore even suspended confessions, allowing priests to forgive all churchgoers for their sins instead (Crampton, 2003). Even the hospitals were nearly deserted; outpatients were missing appointments with their physicians for fear they would catch SARS by entering the facility. All this marked a major lifestyle-shift for Singapore residents(Interviews, 2003).

SARS, we may thus surmise, initially affects the economy by mainly reducing demand. Consumer confidence did in fact dramatically decline in a number of economies, leading to a significant reduction in private consumption spending. Much of the impact stemmed from the great degree of uncertainty and fear generated by SARS (see Bulland Dykhuizen, 2003). Three foreign CEOs returned from a conference in Hong Kong, where SARS was spreading even more rapidly than in

Singapore, only to be told by their local colleagues to work from home in case they had come in contact with the virus (ibid). Companies that manage office complexes all over Singapore studied contingency plans to shut down if SARS was detected in their buildings. They had warned tenants to procure personal computers for their employees at home to ensure that they were productive (ibid).

Service exports, in particular those that were tourism-related, as noted earlier, were to be most hard hit. Investment was affected by reduced overall demand, heightened uncertainties, and increased risks. An executive of a US multinational with its regional headquarters in Singapore noted that 'between the [Iraq] war and SARS, every buyer in the world has an excuse not to make a commitment, especially for big projects' (*Business Week*, 28 April 2003). The possible fall in the demand for labour related to goods and services that people would not be buying would, from the specific focus of our study, has therefore to be taken into account (Interviews, 2003).

Although SARS had affected every component of aggregate demand, private consumption had particularly borne the brunt of the impact. Services involving face-to-face contact had been dealt a severe blow by the widespread fear of infection through such interactions. Tourism, transportation (particularly airlines), and retailing had been the hardest-hit sectors, as consumers shunned entertainment venues, restaurants, shops and so on, with many tourists cancelling trips. Singapore-based business people were especially unnerved by a 10 April government decree that all expatriates who left Singapore and re-enter from a SARS-afflicted country, including Canada, must be quarantined for ten days (ibid). That made frequent business travel impractical. The service sector shrank by 3.1 per cent, mainly reflecting the impact of

the SARS outbreak on tourism and transport related industries (Ministry of Trade and Industry, 2004). It was thus very likely that there would be closely linked implications in terms of human resources and labour-markets.

Asian economies, as we have noted earlier, are heavily dependent on tourism, which accounts for at least ten per cent of GDP in most of the affected countries. Destinations such as Hong Kong and Singapore are heavily dependent on the sort of service industries that demand regular and varied human contact – something many in the region were eager to avoid during the alert: these sectors are very labour-intensive (Interviews, 2003) (see Table 5).

Table 5: Number of Employees by Industry, 1998-2002 (Unit: thousand persons)

Industry	1998	1999	2000	2001	2002
Manufacturing	404.4	395.6	434.9	384.0	367.6
Construction	131.3	130.7	274.0	124.9	119.1
Wholesale & Retail Trade	281.2	278.9	286.8	303.6	304.4
Hotels & Restaurants	118.9	121.2	114.5	128.3	125.3
Transport, Storage & Communications	206.4	203.7	196.5	228.2	218.8
Financial Intermediation	108.5	104.6	96.3	108.7	107.9
Real Estate, Renting & Business Activities	184.3	196.8	226.2	243.1	237.4
Community, Social & Personal Services	418.0	436.3	452.7	506.2	518.7
Others	16.8	18.0	12.9	19.7	18.4

Source: Department of Statistics, *Yearbook of Statistics Singapore 2003*, Singapore: Department of Statistics, 2003, p.45

According to an analysis of the *International Labour Organization* (ILO), reduced travel due to new concerns over SARS, combined with the ongoing economic downturn, was set to cut up to eight million jobs in the Asian tourism sector in 2003

(Belau, 2003). Airline passenger loads to Asia dropped by up to 70 per cent, and overall reservations in Asia were down 30 to 40 per cent in 2003, according to the World Tourism Organization (*USA Today*, 20 June 2003). According to official statistics in April 2003, passenger rates had fallen by 60 per cent in Hong Kong, as compared to 40 per cent in Singapore and South Korea; 37 per cent in Bangkok, 36 per cent in Kuala Lumpur (*Ming Pao*, 7 May 2003). The decline in tourist arrivals shocked Singapore - the figures were 61.6 per cent lower over the previous year in April 2003, contracted by 70.7 per cent in May (Singapore Tourism Board, 2003). Passenger traffic at *Changi* Airport was halved in April. Dragged down by the dismal performance of the air transport and the communications segments, the sector shrank by ten per cent in the second quarter of 2003, compared with one per cent growth in the first three months of the year (Ministry of Trade and Industry, 2003). Air passengers and cargo handled fell by 50 per cent and 6.7 per cent respectively in the second quarter (ibid).

As visitor-arrivals had dropped, hotel occupancy rates had slumped significantly in China and Hong Kong, as well as in Singapore. The hotels and restaurants sector in the last of these shrank sharply in the second quarter by 33 per cent, after sliding 5.1 per cent in the first quarter of 2003 (Ministry of Trade and Industry, 2003). Visitor arrivals plunged by 62 per cent in the second quarter, while hotel occupancy rates fell to an average of 20 to 30 per cent, compared to normal levels of 70 per cent or above (ibid). Revenues at some restaurants had halved. Attendance at main attractions was at least 50 per cent down and retail sales dropped by 10 to 50 per cent (Henderson, 2003). The future of many travel agents, most of which are small scale, was threatened and the industry overall was estimated to be sustaining weekly losses of

S$23million (US$13.1million) (*Straits Times*, 2003).

Unemployment in Singapore rose to a 17-year high of 4.7 per cent in 2003 (see Table 6). The resident unemployment rate jumped to 6.0 per cent in the second quarter although this was less than the Hong Kong jobless total over the period.

Table 6: Number of Unemployed Residents and Unemployment Rate, 1993-2003

Year	Unemployed Residents (thousand persons)	Resident Unemployment Rate (%)	Unemployment Rate (%)
1993	29	2.1	1.9
1994	31	2.2	2.0
1995	32	2.2	2.0
1996	33	2.2	2.0
1997	30	2.0	1.8
1998	54	3.5	3.2
1999	61	3.8	3.5
2000	60	3.7	3.1
2001	63	3.8	3.3
2002	82	4.9	4.4
2003	92	5.3	4.7

Source: Manpower Research and Statistics, Singapore Ministry of Manpower website, http://www.mom.gov.sg/MOM/CDA_PopUp/1,1135,4023--------5119----,00.html

According to the Ministry of Manpower (MOM) of Singapore, overall employment diminished by 25,963 in the second quarter of 2003 – not only higher than the total number of jobs lost in 2002 - but also the largest quarterly decline since the mid-1980s recession (*Xinhua*, 24 September 2003). The Ministry attributed the heavy loses in jobs - 47 per cent in the service sector, 28 per cent in construction, and 25 per cent in manufacturing – to the weak economic conditions and the adverse impact of SARS, in particular. Another estimated job-loss total was 33,160 posts, directly or indirectly (World, Travel and Tourism Council, 2003). In order to cut costs and sharpen

competitiveness, big corporations like Singapore Airlines (SIA) and PSA Corporation (one of the world's leading port operators) where retrenchment had never been heard for more than two decades, started to lay off employees (ibid). SIA's subsidiary, *SilkAir* (flying mainly regional routes), suspended 35 weekly flights, about 25 per cent of its capacity, and terminated the contracts of eight expatriate pilots (Henderson, 2003). The restructuring and privatisation of the Housing Development Board (HDB) brought on the deletion of another 2,600 jobs. About 9,500 workers were laid off in the first six months of 2003 (*Xinhua*, 24 September 2003). Unlike previous retrenchments that only affected blue-collar workers, white-collar employees were also affected by the SARS crisis. The resident unemployment rate increased to 5.3 per cent, mostly reflecting the adverse impact of the spread of SARS since mid March 2003, compounded by structural unemployment as high value-added investments are capital-intensive, not labour-intensive, and as factory jobs continued to relocate to China and other cheaper manufacturing destination (*The Asian Wall Street Journal*, 3 November 2003). Disentangling these multiple economic factors, is of course, very difficult but it is clear that SARS seriously aggravated both cyclical and structural factors already operative (Interviews, 2003).

Discussion and Evaluation

We now turn to a discussion and evaluation of the economic and HRM impact of SARS on Singapore, specifically focusing on its hotel sector.

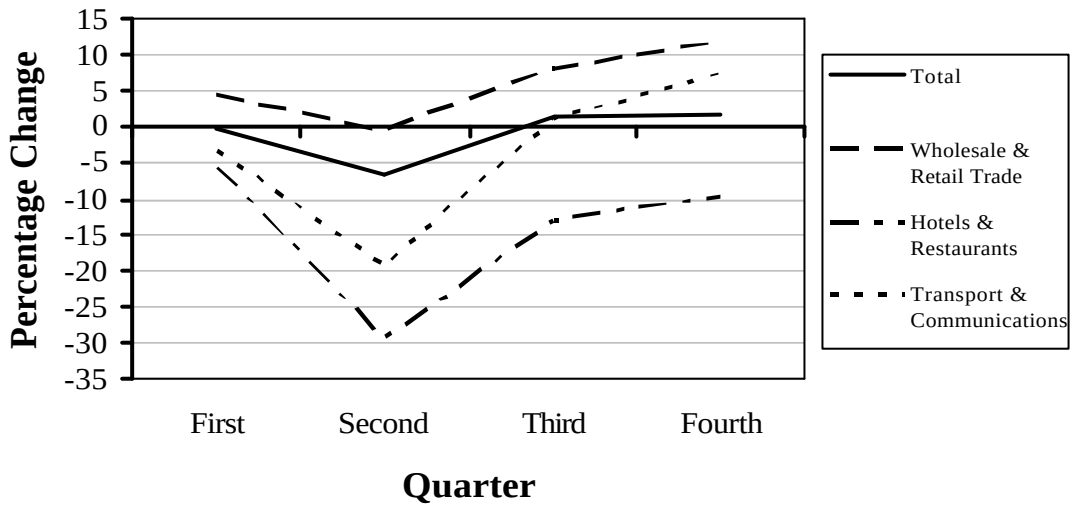
We will discuss the evidence we have collected in terms of the set of hypotheses we adumbrated earlier. Taking each hypothesis in turn, to recapitulate, we posited that:-

(i) The greater the adverse impact of SARS on the Singapore economy, the

greater will be the negative impact on the service sector and specifically on the hotel industry.

Figure 3 shows the impact of SARS on the output of services in Singapore. The imported cases of SARS in Singapore started in late February and March 2003, and the WHO global alert was issued on 12 March 3003. These led to a fall in the percentage change of the GDP in the service sector over the corresponding period in 2002 (see Figure 3).

Figure 3: Percentage Change of GDP of Services Producing Industries over Corresponding Period of Previous Year, 2003 (Unit: percentage)

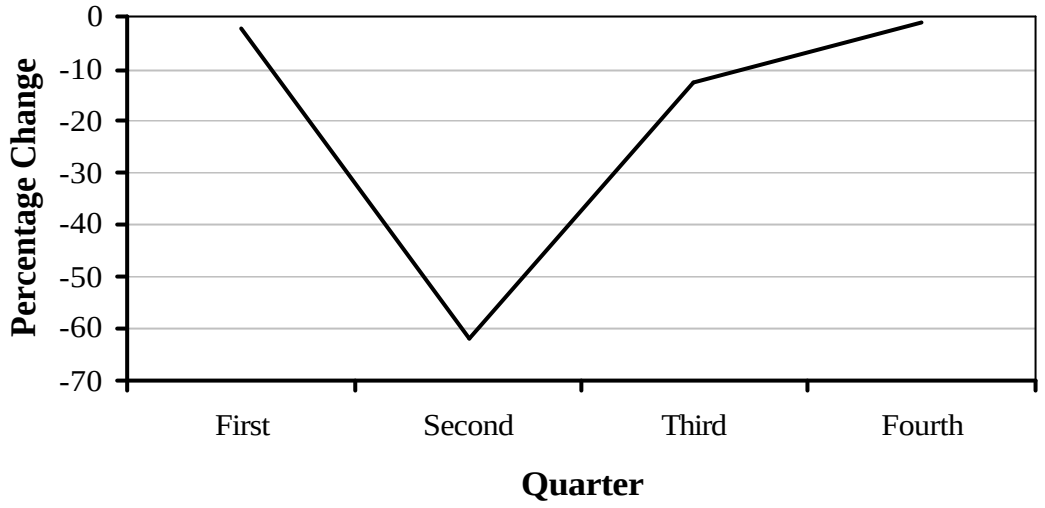


Source: *Economic Survey of Singapore 2003*, Singapore Department of Statistics website.

As seen in Figure 4, the number of tourist arrivals drastically declined since the travel advice was issued by the *World Health Organization* (WHO press release, 12 March 2003). The number of visitor arrivals, from the first quarter of 2003 to the second quarter dropped significantly from 1,815,100 to 698,000 (see Table 7). Hong Kong

also experienced a broadly comparable decline in tourist numbers.

Figure 4: Percentage Change of Total Visitor Arrivals over Corresponding Period of Previous Year, 2003 (Unit: percentage)



Source: Research and Statistical Information, Singapore Tourism Board website, http://app.stb.com.sg/asp/tou/tou02.asp#VS

Table 7: Visitor Arrivals, 2003 (Unit: thousand persons)

Quarter	Total	Asia	Oceania	Europe	America	Africa	Others
First	1,815.1	1,264.6	130.3	300.7	102.1	17.3	0.2
Second	698.0	494.4	58.4	106.7	32.2	6.1	0.2
Third	1,700.0	1,243.7	143.1	212.0	84.3	16.8	0.1
Fourth	1,913.5	1,397.8	143.8	257.6	96.1	18.1	0.1

Source: Research and Statistical Information, Singapore Tourism Board website, http://app.stb.com.sg/asp/tou/tou02.asp#VS

There had already been a marked slowdown in the growth rate of international tourism by the 1990s, affected by the Asian financial crisis at the end of the decade and the September 11, 2001 terrorist attacks in the US. Despite the bombings on

Indonesian island of Bali in 2002, which raised questions about security throughout Southeast Asia, recovery seemed under way as there were more than 7.5 million visitors. The uncertainties relating both to Middle East tensions and SARS, dominated expectations and over time these were made worse by the onset of the epidemic being totally unexpected (see Table 8).

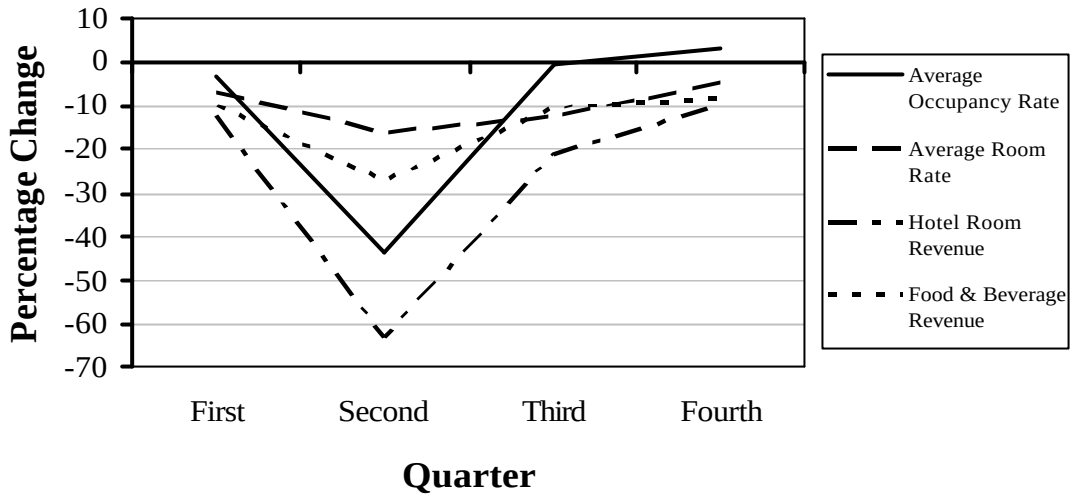
Table 8: Visitor Arrivals, 1998-2003 (Unit: thousand persons)

Year	Total	Asia	Oceania	Europe	America	Africa	Others
1998	6,242.2	4,223.8	519.8	982.7	425.4	79.1	11.3
1999	6,958.2	4,797.3	564.5	1,050.0	444.3	90.2	12.0
2000	7,691.4	5,320.8	616.6	1,127.9	483.0	99.5	43.7
2001	7,522.2	5,224.1	656.5	1,114.6	433.6	88.0	5.4
2002	7,567.1	5,326.7	644.1	1,101.9	416.4	72.8	5.2
2003	6,126.6	4,400.5	475.5	877.3	314.7	58.3	0.2

Source: Research and Statistical Information, Singapore Tourism Board website, http://app.stb.com.sg/asp/tou/tou02.asp#VS

The average hotel occupancy rates, average room rates, hotel room revenue and food and beverage revenue recorded dramatic falls, when compared to 2002 (see Figure 5). The hotel occupancy rate plummeted from 72 per cent to 42 per cent within a quarter (see Table 9). The *volatility*, as well as *vulnerability*, of such indices speaks for itself.

Figure 5: Percentage Change of Hotel Statistics over Corresponding Period of Previous Year, 2003 (Unit: percentage)



Source: *Economic Survey of Singapore 2003*, Singapore Department of Statistics website.

Table 9: Hotel Statistics, First – Fourth Quarter 2003

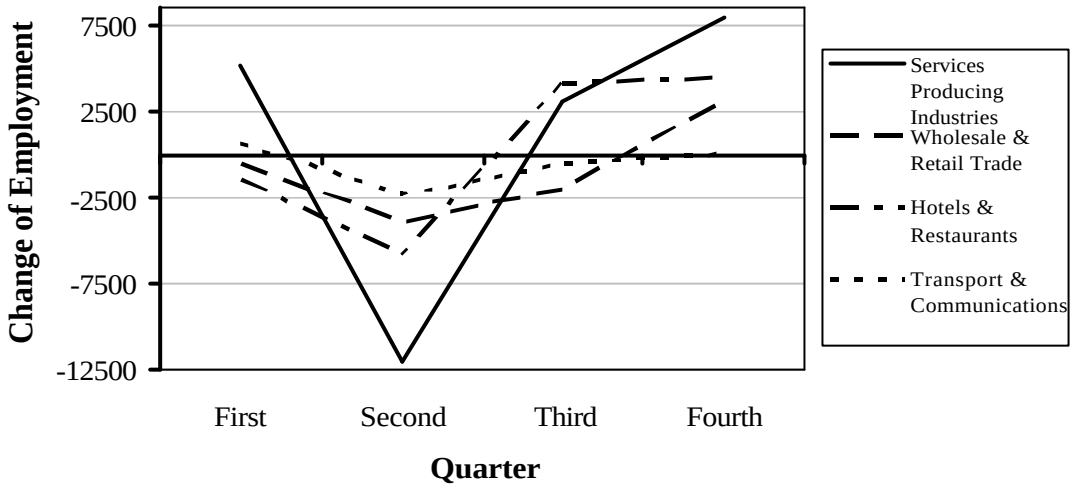
Quarter	Average Occupancy Rate (%)	Average Room Rate (S$)	Hotel Room Revenue (million S$)	Food & Beverage Revenue (million S$)
First	72.0	121.5	221.7	374.3
Second	42.1	106.7	92.6	284.8
Third	73.6	107.3	191.8	357.7
Fourth	76.9	117.4	220.2	399.6

Source: *Economic Survey of Singapore 2003*, Singapore Department of Statistics website.

(ii) *The greater the adverse impact of SARS on consumer demand in the Singapore hotel industry, the greater will be the negative impact on the related demand for labour in terms of hotel employees in specific hotel groups in the industry.*

To survive in such turbulent environments, hotels in Singapore resorted to various HRM measures to cut costs. This step led to a falling demand for labour. Figure 6 shows the steep plunge in the number of employment in the service sector, in the second quarter in particular.

Figure 6: Change of Employment in Services Producing Industries over the Previous Period, 2003 (Unit: persons)



Source: *Economic Survey of Singapore 2003*, Singapore Department of Statistics website.

Table 10 shows a fall in the number of employees working in the industry. There was a decline of 12,100 in employment, with hotels and restaurants suffering the biggest cut of 5,800 employees (see Table 10).

Table 10: Changes of Employment over the Previous Period, 2003 (Unit: persons)

Industry	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Total	-4,100	-26,000	900	16,200
Goods Producing Industries	-9,200	-13,800	-2,100	4,300
Manufacturing	-2,600	-6,400	0	4,100
Construction	-6,500	-7,100	-1,900	-2,000
Others	-200	-200	-200	2,100
Services Producing Industries	5,100	-12,100	3,000	12,000
Wholesale & Retail Trade	-600	-3,900	-2,000	4,200
Hotels & Restaurants	-1,400	-5,800	4,100	5,100
Transport & Communications	600	-2,300	-600	900
Financial Services	800	700	-100	900
Business Services	0	1,400	700	-1,600
Other Services Industries	5,700	-2,100	1,000	2,500

Source: *Economic Survey of Singapore First Quarter 2004*, Singapore Department of Statistics website.

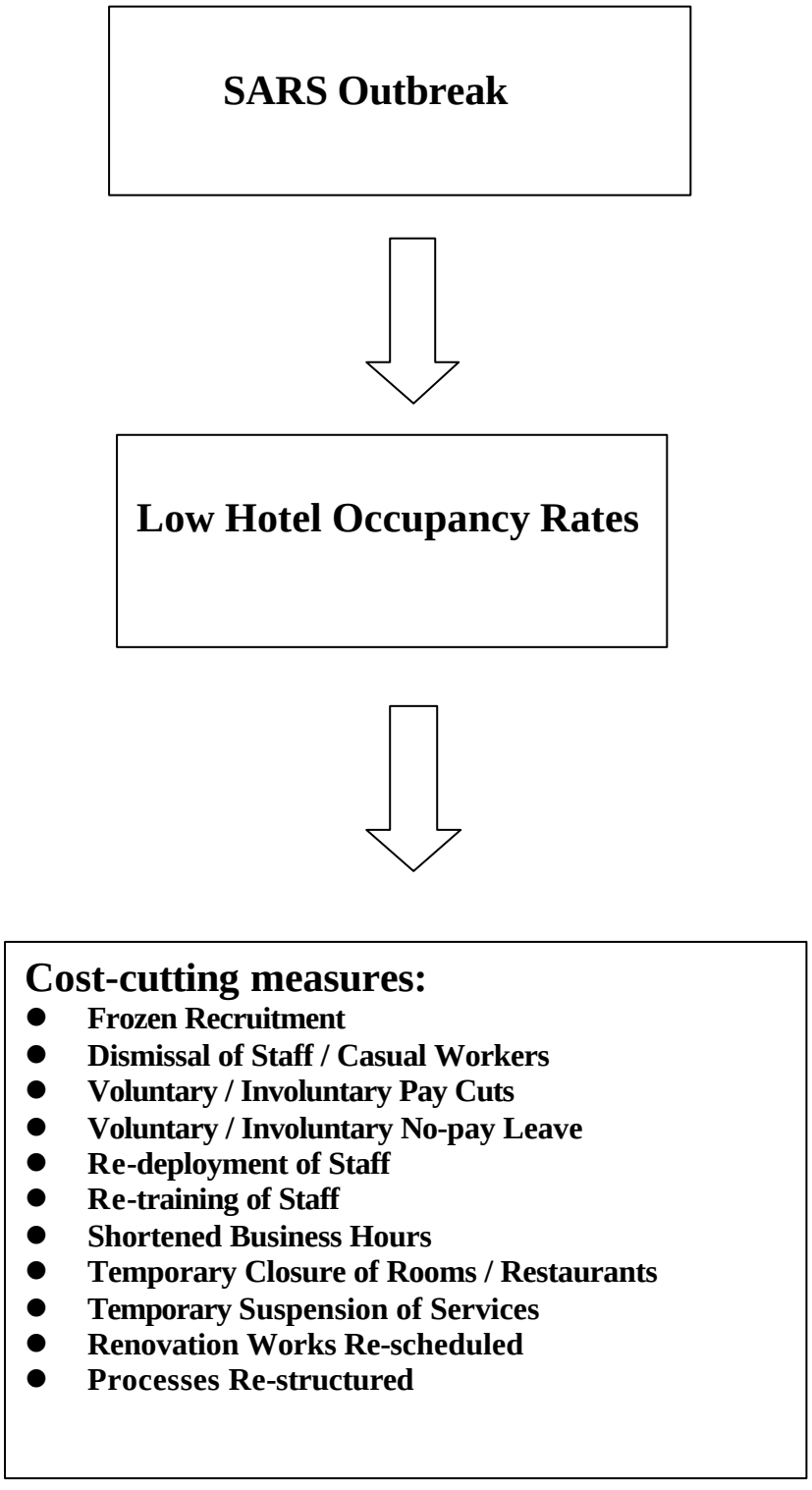
(iii) The greater the adverse impact on the demand for labour in the Singapore hotel industry, the greater will be the negative impact on the labour-market in terms of the HRM implications such as lay-offs and redundancy among hotel employees in specific hotel groups in the industry.

Between March and June 2003, many business sectors in Singapore had been adversely affected. Starting from the outbreak of SARS and the issue of global advisory warning by the World Health Organization on Singapore, businesses related to tourism - including airlines, hotels, retail, restaurants - had seen a fall in demand. With regard to air transport, Singapore Airlines (SIA) cancelled approximately 30 per cent of its weekly timetable (Henderson, 2003). Tourists from all over the world had postponed or cut out their visits to Singapore.

We now go on to discuss the Human Resource Management (HRM) implications of the changing labour demand and labour supply consequences noted above (see Figure

7).

Figure 7: Cost-cutting HRM Measures Adopted by the Singapore Hotel Industry



In order to cut costs and sharpen competitiveness, the HRM departments of big corporations like those of Singapore Airlines (SIA) and PSA Corporation, one of the world's leading port-operators, where retrenchment had never been heard of for more than two decades, started to lay- off employees. Notably, SIA suffered from a deficit of over US$200 million as at June 2003, and decided to lay off 414 employees, of which 129 were ground-staff (*Wen Wei Pao*, 20 June 2003). The Housing Development Board (HDB) cut another 2,600 jobs. About 9,500 workers were laid off in the first six months of 2003, bringing the total number of jobless to some 102,000 (*China Daily*, 24 September 2003). Among them, around 25,000 had remained unemployed for at least six months. Unlike previous retrenchments, not only blue-collar workers' jobs had been affected, but also white-collar employees' (Interviews, 2003). The Singapore government embarked on a series of initiatives to help laid-off workers, including retraining. The government launched the new Workforce Development Agency (WDA) and gave a second phase of cash injection of S$280 million (US$160 million) to a Skills Redevelopment Programme to help co-fund the retraining of workers (ibid).

At the organizational level, the HRM consequences were severe, as our on-site interviews revealed. Hotels froze recruitment and overtime, dismissed casual workers and cut pay at every level (Henderson, 2003). A HR manager from a logistics firm, who declined to be named, said that the sectors likely to face wage-cuts were likely to be hotels, as well as recreation and travel (Interview, 2003). The cuts were expected to range from 2 to 15 per cent (*Strait Times*, 2003e). According to a survey of 272 companies polled in May 2003 by the Singapore Human Resource Institute and

Remuneration Data Specialists, variable bonuses, excluding the annual wage supplement, would dip from 1.4 months a year ago to 1.3 months (ibid). The survey also found that eight in 10 firms supported the National Wages Council guidelines that SARS-hit companies cut wages, and urged wage reforms to more flexible pay systems. With regard to air transport, SIA's cabin crew employees were instructed to take several days' unpaid leave every two months until 2004 and over 200 trainees were released. A similar arrangement for cockpit crew became an issue for negotiation, after resistance from the pilots' union (ibid). Senior management took salary cuts of 22.2 per cent to 27.5 per cent (Interviews, 2003).

Even government ministers, whose monthly pay was reduced by ten per cent in November 2001, had their wages frozen further for another year until December 2003 (*Business Times*, 2003). The then Deputy Prime Minister and Finance Minister, *Lee Hsien Long*, told the Parliament in his May Day Rally speech that 'when all have to take bitter medicine, we must start at the top' (ibid).

The implications for training were also evident, as our interviewing made clear. Staff were asked to go on unpaid leave, retrained and redeployed where appropriate. The SARS Relief Tourism Training Assistance grant scheme, which was part of the government's S$230 million relief package, trained nearly 1,000 workers in the tourism sector in just three weeks in May 2003 (*Straits Times*, 2003d). There were 104 approved courses for the scheme, ranging from making sauces to hotel law and security. Most of the retrainees were rank and file workers like chambermaids, tour guides and event organizers; most of these were schooled up to the secondary school level and had limited skills at best. According to the deputy director of the Manpower

Ministry's (MOM) labour market development division, resistance to training had been a 'big issue' in the tourism sector for many years. A café hostess, aged 48 who had worked at the *Grand Hyatt Hotel* for 31 years, remarked after taking a two-week refresher course on the food and beverage industry that 'this is the first time I've been able to train for two weeks at a stretch, because we now have so few guests' (ibid). A restaurant manager of the *Raffles Hotel* was trained for a totally different job – as a concierge, but he said that 'it will help me a lot as I have patrons who ask me for recommendations on entertainment or places of interest here'. Under the new grant scheme, the government paid an employer S$6.90 an hour for every worker aged 40 or older sent for training; it also paid the course fees. For a younger worker, the government would pay his employer S$6.50 an hour and 90 per cent of the course fees. Such arrangements resulted from negotiations among the MOM, the Singapore Tourism Board, the National Trades Union Congress and other stakeholders in April 2003. The chairman of the Association of Singapore Attractions informed that they had 'set aside S$30,000 to pay the remaining ten per cent of course fees not subsidized by the grant' as their members' main problem was cash-flow (Interviews, 2003).

At the height of the outbreak, the *Shangri-La Rasa Sentosa* resort had its sales staff double as banquet waiters, so as to cut down on its part-time labour costs (*Wall Street Journal*, 5 June 2003). To boost the morale of staff who sat idle for much of the day, the hotel organized inter-departmental volleyball games every afternoon on the beach (ibid).

A few hotels offered steep discounts to encourage consumer spending (and boost

employment) when SARS was at its worst. Raffles International offered two nights for the price of one at its Singapore properties – the *Plaza*, *Swissotel* and *Merchant Court* – in April and May to Singaporeans. Other packages included lessons in dancing, financial management and cookery in the hotel kitchens (*Straits Times*, 2003b). In order to stimulate interest, one hotel opened all its rooms for a free night's stay to locals prepared to queue for 24 hours (*Straits Times*, 2003c).

Some hotels offered low rates through packages put together with airlines. For example, SIA passengers got 50 per cent discounts at a number of *Raffles Group* hotels in Singapore; and SIA offered a US$579 'Singapore Plus' package that included airfare to Singapore from New York, San Francisco or Los Angeles and three nights at a five-star lodging with transfers, breakfast and some tours (*USA Today*, 20 June 2003).

Concluding Remarks

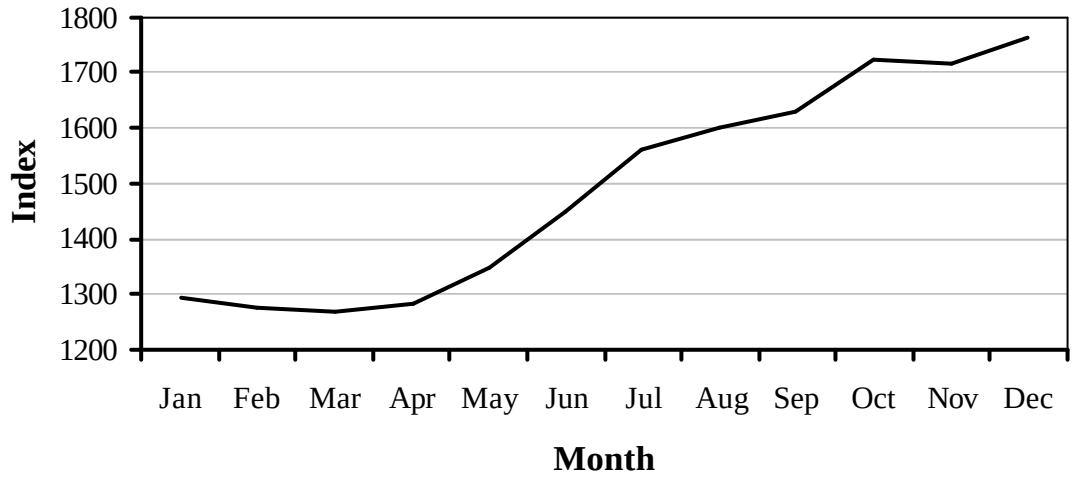
It is clear that the impact of SARS on the Singapore economy and specifically the hotel industry may be seen as relatively *negative in the time-period in question.* Both the quantitative, as well as the qualitative, data we have gathered, points in this direction, although we must be cautious to over-generalize. The HRM implications, as set out in our hypotheses, were confirmed, both in a conceptual as well as in an empirical framework, as both immediate and direct, as can be seen from our findings.

As the economy revived by mid-2003, it was thought that recovery in service-sector jobs above all, in industries like hotels, both in low- as well as high-valued added products and services would compensate for earlier job losses. The SARS epidemic of

early and mid-2003 has no doubt been a sharp reminder to both Hong Kong and Singapore, both *Nanyang* city-state economies, of their economic vulnerability. The Chinese mainland case was somewhat different, given the lower weighting of the service-sector in that economy. Today, there is less of a major 'crisis of confidence' but spirits remain low as the economy slowly recovers and the labour-market still remains fragile.

The Singapore economy, given its market-oriented flexibility (see Hampden-Turner, 2003: 173-176) fortunately recovered fairly quickly. The stock-market index jumped to around half as much again it had been at the beginning of the year (see Figure 8).

Figure 8: Straits Times Index, January 2003 – December 2003



Source: Monetary Authority of Singapore website,

https://secure.mas.gov.sg/frames/msb/msbIndexpage.html

Growth of the Singapore economy rose by 12.5 per cent in the second quarter of 2004. During the quarter, growth of external demand rose by 26.3 per cent – exports of both

goods and services rose significantly – reflecting the impact of increased visitor arrivals on receipts from travel and transportation services (Ministry of Trade and Finance, 2004). Tourism helped the economy to recover in the second half of 2003. The hotel sector ultimately recovered as the year unfolded.

The hotels and restaurants sector registered a 37.6 per cent gain in output during the second quarter of 2004, compared to 3.1 per cent in the first quarter of 2004 (ibid). This boost mainly reflected the impact of SARS on activity in 2003. However a number of concerns remained, among them *structural* problems. Compared to the second quarter of 2002, the sector showed a decline of 3.0 per cent. Although the average hotel occupancy rate remained well supported by strong visitor arrivals, which grew by 9.2 per cent when compared to the second quarter of 2002, lower room rates depressed hotel room revenue in the quarter (ibid). Even though total employment rose by 10,400 in the second quarter of 2004, it was a smaller number than the 13,700 gained in the previous quarter. The decline reflected the lower increase of 6,700 jobs in the service sector, compared with 11,400 in the first quarter of 2004. During the quarter, a smaller number of retrenchments of 1,900, compared with 2,962 in the first quarter of 2004 contributed to higher total employment. Despite the increase in total employment, the seasonally adjusted unemployment rate remained stable at 4.5 per cent, unchanged since December 2003 (ibid).

We can nonetheless posit that the SARS effect had a relatively negative impact on the economy and human resources, with both employment and psychological consequences that may have medium- even long-term implications, as in the case of Hong Kong. If it was thought that the expansion of service-employment, such as in

the hotel sector or any other, would create a positive and stable employment equilibrium and compensate for the earlier loss of manufacturing jobs, the Singapore, like the Hong Kong, authorities may have to re-consider their long-term economic strategy and continually be on their guard against unforeseen circumstances. In today's globalised economy (see Warner, 2002), *exogenous* shocks may affect labour-demand within weeks, and the HRM implications may be felt almost as rapidly and no-one can accurately predict the co-efficient of vulnerability.

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