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China Insurance/ Healthcare

Pneumonia in China: A Look at Previous Pandemics

We analyse the Wuhan Pneumonia Outbreak estimating severity and diffusion process using the classic epidemiology model. Historically, even a limited outbreak of a dangerous disease could result in negative consequences – even if temporary – for the overall economy and equity markets. Society might not be operating as normal, impacting the economy. And potential high demand for blood-testing equipment and hospital services could drive medical claims immediately higher. This suggests that healthcare stocks could provide a relatively defensive haven, and life/ health insurance stocks could fall out of favor. The virus transmission patterns/ speed so far and classic epidemiology model suggests that it could be a relatively smaller infectious disease compared to previous pandemics. We note that in the previous SARS pandemic threat, whilst healthcare shares outperformed by 7%, MSCI Asia-ex fell 14% and the insurance sector underperformed by 6%.

- Wuhan Pneumonia Outbreak.** Similar to Severe Acute Respiratory Syndrome (SARS), which is transmitted through the air, Wuhan Pneumonia is being identified as a new type of coronavirus with the possibility of human-to-human transmission. The confirmed infected patient toll caused by Wuhan Pneumonia has already reached 291 domestically as of 20th-Jan-20. Chinese New Year, with its traditional travelling and social events, could accelerate the speed of transmission. As the overall disease diffusion pattern has started to follow the classic math of infectious diseases, we adopt the classic epidemiology model (i.e., SIR: susceptible, infected, and recovered) to understand potential size of development. Our initial stance is that the Wuhan outbreak in all likelihood should be a much smaller size pandemic compared to SARS.
- Healthcare sector (positive).** There is no direct effective treatment for this type of viral infection. Current treatment options include supportive care, Interferon alpha, and steroids, etc. Under a breakout, the types of companies that could benefit include: 1) companies developing diagnostic tests: such as BGI (300676 CH, NC); 2) drug manufacturers with portfolio for anti-viral therapies: such as Yichang HEC (1558.HK, NC, anti-virus drug treatment/prevention); Anke Bio (300009 CH, NC, interferon); 3) infusion fluid players like SSY (2005 HK, NC); and; 4) vaccines: Chongqing Zhifei (300122 CH, NC); BioKangtai (300601 CH, NC); as well as 5) TCM players: which produce TCMs that are considered to be effective for viral infections or anti-flu symptoms e.g. CR Sanjiu (000999 CH, OW covered by David Li).
- Insurance sector (negative).** As China's insurance market is still largely based on the savings-type product, we expect limited impact on insurers' operations and cash flows. However, public fear of a potential pandemic could lead to increased medical claim frequency even if the medical test itself is not covered by insurance. Also, we cannot rule out potential slowdown in life agents' sales activities. This might lead to slower first year premium income potential around jump-start sales premiums. We would accumulate China Life-H/ Ping An-H/ AIA Group on potential short-term weakness due to the limited likelihood of huge claim losses as well as the possibility of an acceleration in insurance premium growth post the event as was evident in the wake of SARS in 2003-04.

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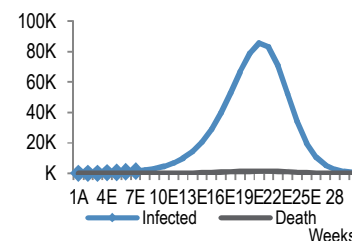
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Wuhan Pneumonia: Estimated infected/ death toll



Source: J.P. Morgan estimates

Key investment thesis

I. Initial Pneumonia outbreak in China

- Equity market reaction: Negative
- Healthcare providers: Outperform
- Life/health Insurers: Underperform

II. Positioning

- Likely small size epidemic
- Pandemic cycle peak: < 4 months
- Equity market rebound: 2-3 months
- Strong demand: Hospital services, Medical equipment
- During epidemic: Life agent activity would be slowed
- Post pandemic: Protection/ health insurance sales increase

Investment thesis

Related research

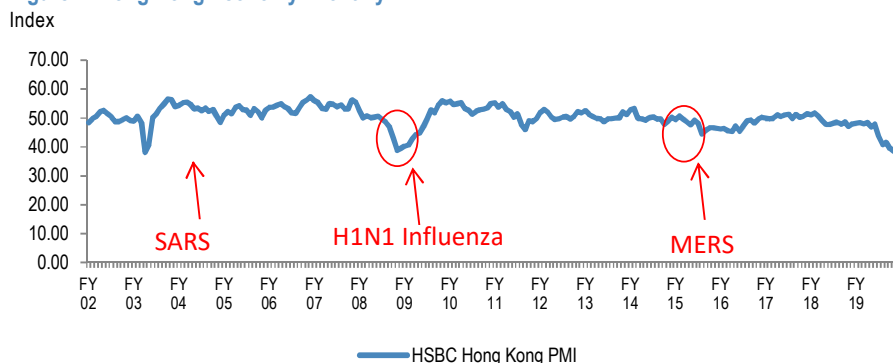
[China Airports and Asia outbound travel: Concerns over new flu outbreak cast shadow over near-term travel outlook. What can we learn from SARS & MERS epidemics?](#) on 20th-Jan-20, by Karen Li

[Korea Consumer: Gauging Corona Virus impact – A quick retrospective of past epidemic cases](#) on 20th-Jan-20, by Youna Kim

Since the 1600s, there have been a series of pandemics with a 30-50 year average period between events. It seems that this period of recurrence is shortening and the severity per event is becoming larger due to global travelling, more concentration in cities, and larger populations. The outbreak of SARS (2003), Swine Flu (2009), and MERS (2015) could be used as reference periods in the last 20 years.

Historically, even a limited outbreak of a dangerous disease could result in negative consequences – even if temporary – for the overall economy and equity markets. Society might not operate as normal in such circumstances and this has been well-captured with PMI slowdown during the outbreak period.

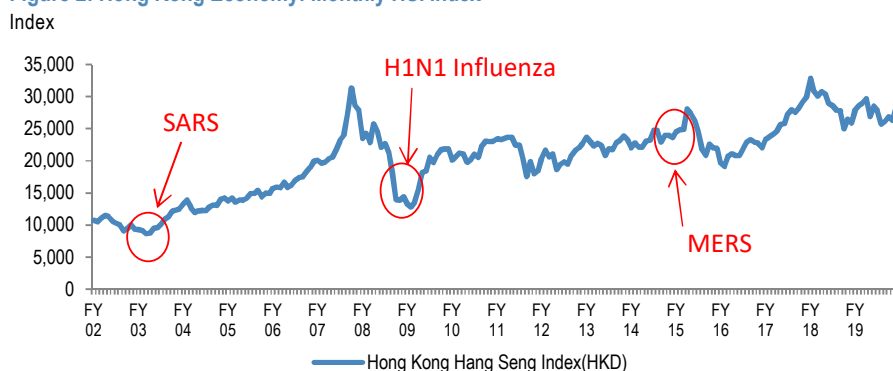
Figure 1: Hong Kong Economy: Monthly PMI



Source: Bloomberg.

On the sector level, potential high demand for blood-testing equipment and hospital services could drive medical claims immediately higher.

Figure 2: Hong Kong Economy: Monthly HSI Index



Source: Bloomberg.

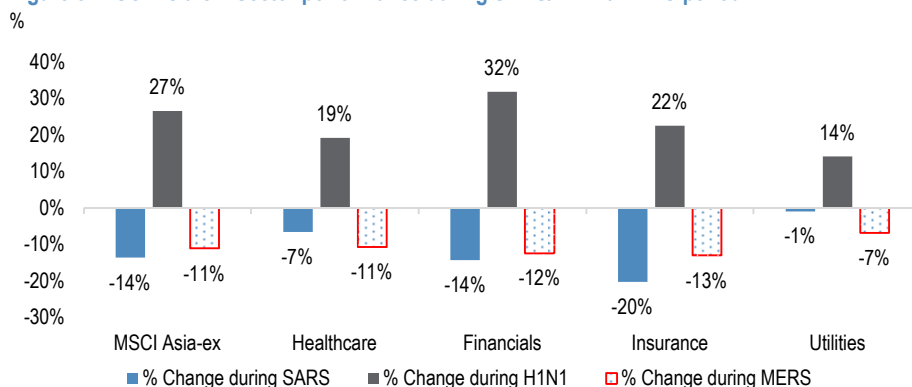
Putting those scenarios together, healthcare stocks could provide a relatively defensive haven, and life/ health insurance stocks could fall out of favor once equity investors map out potentially severe infectious disease scenarios. We note that in the previous SARS pandemic threat, whilst healthcare shares outperformed by 7%, the MSCI Asia-ex fell 14% and the insurance sector underperformed by 6%. While in

the H1N1 (Swine Influenza) period, both index and sector performance were strong. During the MERS period, healthcare/ financials sector performance were both largely in-line with index performance.

We expect the market reaction to Wuhan Pneumonia to be similar to the SARS period. Thus, at least in the short term, we would buy the healthcare sector and stay away from the insurance sector if Pneumonia becomes a major concern in the Asian market.

Having said that, for investors with a 12-24 month investment horizon, we advise to accumulate leading insurers such as China Life-H, Ping An Group-H, AIA Group on potential weakness as we expect very limited implications on cash flows growth, operations, and balance sheet. Instead, this should lead to a rise in customers' risk awareness, and therefore, better-than-expected new business value (NBV) growth potential.

Figure 3: MSCI Asia-ex: Sector performance during SARS/ H1N1/ MERS period

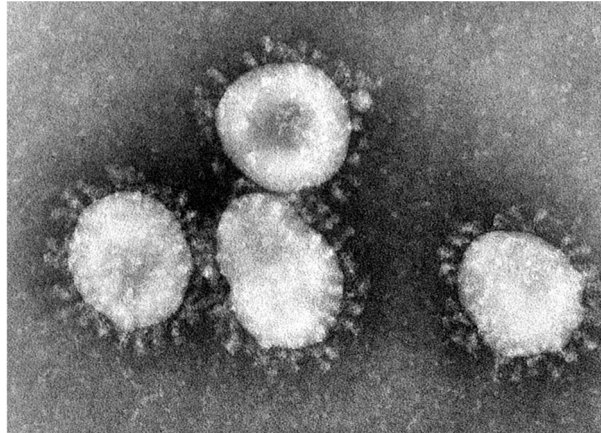


Source: Bloomberg. Note: the index, sector performances are based on from 14th Jan-2003 to 13rd Mar-2003 for SARS, 1st May-2009 to 31st Aug-2009 for H1N1 and from 20th-May-15 to 31st-July-15.

Pneumonia (new type of coronavirus) in China

According to World Health Organization, coronaviruses are a large family of viruses that are known to cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The name "coronavirus" is derived from the Latin *corona*, meaning crown or halo, and refers to the characteristic appearance of virions (the infective form of the virus) under electron microscopy (E.M.) with a fringe of large, bulbous surface projections creating an image reminiscent of a royal crown or of the solar corona.

Figure 4: Image of coronavirus viewed under an electron microscope.



Source: Centers for Disease Control and Prevention

Coronaviruses are common in many different animals, including camels and bats. These coronaviruses rarely can evolve and infect and then spread between humans. In the future, one or more of these other coronaviruses could potentially evolve and spread to humans, as has happened in the past. It is still not well understood why only certain coronaviruses are able to infect and transmit among people.

Since 31th-Dec-19, many cases of viral pneumonia have been found in Wuhan, Hubei. According to CCTV, as of 21st of Jan-20, a total of 291 cases of Wuhan Pneumonia were confirmed domestically, of which 270 were in Wuhan, 5 in Beijing, 14 in Guangdong and 2 in Shanghai. In addition, there are 54 suspected cases located in various parts of the country. Japan, Thailand and South Korea have also reported cases.

The World Health Organization officially named the new coronavirus causing the pneumonia epidemic in Wuhan as "2019 new coronavirus (2019-nCoV)" on 12th-Jan-20. The source of infection and the route of transmission have not yet been clarified, although the outbreak is believed to have originated from a local seafood and animal market. Signs of infection include respiratory symptoms, fever, cough and shortness of breath.

The new strain of coronavirus, which causes a type of pneumonia, would have the possibility of human-to-human transmission. The spread of disease is likely to intensify due to the travel for Lunar New Year holidays. Millions of Chinese are

travelling around China to visit family at their original hometowns and Wuhan is the capital of Hubei province in China, the most populous city in Central China with over 11 million people. It is also one of the major transportation hubs located in central China.

Figure 5: Wuhan: Major transportation hub located in Central China

Number of people



Source: Centers for Disease Control and Prevention

Table 1: Wuhan Pneumonia: Infected/ Death toll development

Number of people

Date	Infected	Deaths
12/31/2019	27	0
1/3/2020	44	0
1/5/2020	59	0
1/11/2020	41	1
1/12/2020	41	1
1/13/2020	41	1
1/14/2020	41	1
1/15/2020	41	2
1/16/2020	45	2
1/17/2020	62	2
1/18/2020	121	3
1/19/2020	198	4
1/20/2020	270	6

Source: Wuhan Municipal Health Commission. Data only for Wuhan.

Modelling the infectious disease

Interestingly, the spread of diseases, like most things in nature tends to display a pattern of propagation. The ability to determine these patterns, and make predictions as to the spread and number of reported cases can help scientists effectively contain and prevent transmission.

Influenza

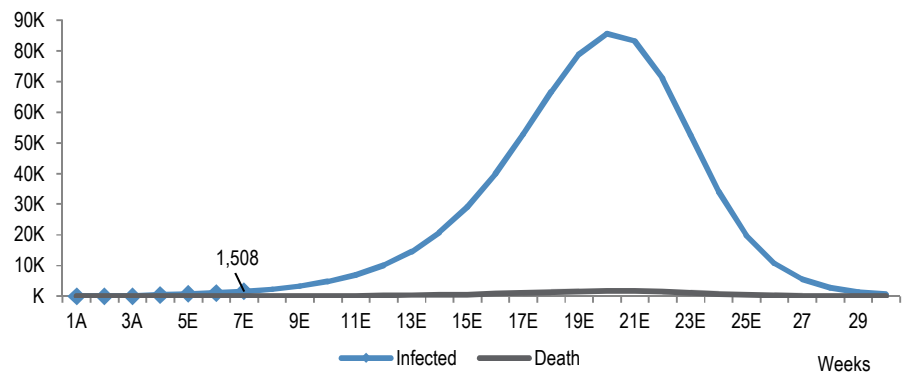
Influenza is a viral disease that is known to rapidly spread through human population considering the ease with which it transmits causing respiratory problems in the infected subjects (humans and other animals). Various forms of influenza have been considered pandemics and known to cause millions of deaths around the world. Fortunately, Influenza and pneumonia diffusion has been historically known to follow the classical classic epidemiology model and can be well predicted with appropriate inputs. Also, based on our observation, overall disease diffusion pattern on Wuhan Pneumonia outbreak has started to follow the classic math of infectious diseases. Thus, we adopt the SIR model (i.e., susceptible, infected, and recovered) to understand potential size of development.

The SIR model is a classic epidemiological model that computes the theoretical number of people infected with a contagious illness in a closed population over time. The name of this class of models derives from the fact that they involve coupled equations relating the number of susceptible people S_n , number of people infected I_n , and number of people who have recovered R_n . In this model, we do not factor heterogeneity, age structure, and spatial structure. The test is based on total population (~11 millions) in Wuhan, Hubei province.

Our finding is that, based on our initial projection, current total infected group is likely to peak within four months with a maximum likelihood number of around 85K within four weeks of peak and then should return to a normal stage in around 5-6 months. Historically, based on our observation, overall equity market rebound has been 1-2 months ahead of the epidemic curve movement.

Figure 6: Wuhan Pneumonia: Estimated infected/ death toll

Number of people



Source: J.P. Morgan estimates.

SIR Model

As the 1st step of the modeling process, we need to identify the independent and the dependent variables.

The independent variable is time t , measured in days/weeks.

The dependent variables are:

- S_n is the number of susceptible individuals
- I_n is the number of infected individuals
- R_n is the number of recovered individuals

Influenza acts over a very short period of time, hence it is safe to assume that the test population remains constant over the time period with a *size* of N . This implies it is sufficient to focus on S_n and I_n as the recovered individuals satisfy:

$$R_n = N - S_n - I_n$$

As the time frame is short we ignore the number of births and deaths in the population and consider only the spread of disease based on successful contact. The discrete mathematical model is given by the equations:

$$S_{n+1} = S_n - (b/N)S_nI_n$$

$$I_{n+1} = (1 - g)I_n + \left(\frac{b}{N}\right)S_nI_n$$

where bS/N represents the proportion of contacts by an infected individual that result in the infection of a susceptible individual. The parameter g is the probability that an infected person recovers (enters class R of the SIR model). The ratio $1/g$ is the average length of the infectious period of the disease.

Assumptions

- The SIR model is a discrete dynamical system, where populations are examined at discrete time steps.
- Population is well mixed with each individual equally likely to encounter other individuals.
- Individual becomes infectious as soon as he or she is infected.
- Works well on local population.

Vaccination (Controlling the disease): Vaccines are used to lower the susceptible S_n individuals. We assume a vaccination rate of 5% of individuals of the total population (although it seems no exact vaccine for this kind of new coronavirus, we assume that 5% vaccine adoption is reasonable). Assuming no other changes for this epidemic, then the values of g and b remain the same as above.

Reference: For details, please read

Kermack et.al., A Contribution to the Mathematical Theory of Epidemics (1927), Proceedings of the Royal Society of London. Series A, Containing Papers of a Mathematical and Physical Character, Volume 115, 700-721.

A look at Previous Pandemics

Similar to the traditional diffusion process in pandemics, SARS started in Hong Kong from one doctor who visited in China and died in Hong Kong on 23 Feb-03. The disease spread rapidly across Hong Kong as it could be transmitted through direct contact with infectious respiratory fluid. Out of the 8,273 suspected cases globally, reported cases in China/ Hong Kong were 5,328/ 1,755 respectively with a death toll of 349/ 299.

Similar to SARS, the Swine Flu (or H1N1) also became a global pandemic with 1,632,258 suspected cases and a death toll of 14,378. In Asia-ex, the suspected cases (death toll) for China/ South Korea/ Thailand/ Hong Kong were 120,940 (800)/ 107,979 (250)/ 33,902 (249)/ 33,109 (80), respectively.

The first identified case of Middle East respiratory syndrome (MERS) occurred in 2012 in Saudi Arabia and most cases have occurred in the Arabian region. That said, later on the infected cases were found globally. In 2015, a large outbreak occurred in Korea. The confirmed cases in global total/ Saudi Arabia/ Korea reached 1,227/ 1,029/ 184 according to World Health Organization as of Jun-15.

Overall Impact: Slow economic activity (PMI ↓), Equity market pullback

Before the virus was contained and treatment methods invented, people preferred to stay away from all public amenities and entertainment. Thus, during SARS, local consumption and export of services related to tourism and air travel showed a large decline driving the Hong Kong economy to an era of deflation and unemployment.

The combined effect of lowered consumption demand and export of services related to tourism together had an adverse effect on domestic income. Thus, there was a sharp contraction in monthly PMI with equity market correction.

Thanks to the public/ market experience during SARS, however, during the Swine influenza (H1N1) in 2009, overall economic activity remained relatively strong as did equities (i.e. H1N1 period: May 1, 2009 to November 25, 2009. Due to significant total patient base decrease from the end of Aug-09, we shorten the pandemic period from May-09 to Aug-09 in this note.)

Middle East respiratory syndrome (MERS) first started in Saudi Arabia in 2012. As MERS spread out to North Asia largely during the outbreak in Korea from May-15 to Jul-15, we mainly reviewed the HK economy performance during this period. During 2015, the overall PMI trend remained stable in HK, likely due to China/ HK SAR being relatively less impacted. The majority of patients were located in Saudi Arabia and later on Korea. The Hang Seng Index was relatively more stable compared to previous period during SARS and H1N1.

Healthcare sector

Currently there are no specific antiviral drugs approved for treating 2019-nCoV. Current treatment options include supportive care, interferon alpha and lopinavir/ritonavir. Under the breakout, the types of companies that could benefit include: 1) companies developing diagnostic tests: such as BGI (300676 CH, NC); 2) drug manufactures with portfolio for anti-viral therapies: such as Yichang HEC (1558.HK, NC, anti-virus drug treatment/prevention); Anke bio (300009 CH, NC, interferon); 3) infusion fluid players like SSY (2005 HK, NC); and; 4) vaccines: Chongqing Zhifei (300122 CH, NC); BioKangtai (300601 CH, NC); as well as 5) TCM players: which produce TCMs that are considered to be effective for viral infections or anti-flu symptoms.

Figure 7: Key healthcare players comp table

Diagnostic tests

Company	Ticker	Price (LC) 1/21/2020	Mkt Cap (US\$bn)	EV (US\$bn)	P/E (x) 19E 20E	EPS growth 21E	PEG	P/B (x) 20E	EV/EBITDA (x) 20E	EV/S (x) 19E 20E	YTD return 1/21/2020
BGI GENOMICS CO	300676 CH	78.4	4.5	4.4	70.6	56.4	25.2	2.2	n.a.	n.a.	14.0
JIANGSU BIOPER-A	688399 CH	94.0	0.8	0.8	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	62.3
Total average					70.6	56.4	25.2	2.2	n.a.	n.a.	38.2

Chemical drug/infusion fluid

Company	Ticker	Price (LC) 1/21/2020	Mkt Cap (US\$bn)	EV (US\$bn)	P/E (x) 19E 20E	EPS growth 21E	PEG	P/B (x) 20E	EV/EBITDA (x) 20E	EV/S (x) 19E 20E	YTD return 1/21/2020
SICHUAN KELUN-A	002422 CH	25.5	5.3	6.6	28.1	22.5	21.9	1.0	2.4	12.4	8.6
SSY GROUP LTD	2005 HK	7.4	2.9	3.0	20.0	16.6	17.0	1.0	3.7	12.0	17.1
CR DOUBLE CRANE	600062 CH	14.3	2.2	1.8	13.7	12.3	10.7	1.1	1.5	6.6	9.5
CISEN PHARMACE-A	603367 CH	20.3	1.3	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	22.4
YICHANG HEC CH-H	1558 HK	47.0	2.7	2.4	11.5	9.9	15.8	0.6	3.1	7.7	6.2
ANHUI ANKE BIO-A	300009 CH	16.1	2.4	2.4	48.2	36.1	29.1	1.2	6.3	27.9	6.4
ZHEJIANG XIAN-A	002332 CH	11.0	1.5	1.6	24.8	19.7	23.7	0.8	2.9	12.3	11.3
Total average					24.4	19.5	19.7	1.0	3.3	13.1	11.6

TCM

Company	Ticker	Price (LC) 1/21/2020	Mkt Cap (US\$bn)	EV (US\$bn)	P/E (x) 19E 20E	EPS growth 21E	PEG	P/B (x) 20E	EV/EBITDA (x) 20E	EV/S (x) 19E 20E	YTD return 1/21/2020
CR SANJIU	000999 CH	36.1	5.1	4.8	16.8	18.9	12.7	1.5	2.5	13.9	13.8
BAIYUNSHAN PH-H	874 HK	27.8	8.7	7.3	12.7	10.6	7.0	1.5	1.5	10.4	4.5
HUBEI JUMPCAN -A	600566 CH	26.7	3.2	3.0	10.6	8.7	20.9	0.4	n.a.	n.a.	10.5
SHIJIAZHANG Y-A	002603 CH	15.6	2.7	2.5	28.9	26.5	n.a.	n.a.	2.2	17.1	25.6
SUNFLOWER PHAR-A	002737 CH	16.1	1.4	1.3	13.6	11.2	18.2	0.6	n.a.	n.a.	8.9
Total average					16.5	15.2	14.7	1.0	2.0	13.8	12.6

Vaccine

Company	Ticker	Price (LC) 1/21/2020	Mkt Cap (US\$bn)	EV (US\$bn)	P/E (x) 19E 20E	EPS growth 21E	PEG	P/B (x) 20E	EV/EBITDA (x) 20E	EV/S (x) 19E 20E	YTD return 1/21/2020
CHONGQING ZHIF-A	300122 CH	62.6	14.5	14.7	40.4	29.0	21.6	1.3	11.5	23.2	26.0
SHENZHEN KANGT-A	300601 CH	102.3	9.6	9.6	118.4	83.0	81.6	1.0	21.4	65.9	16.5
WALVAX BIOTECH-A	300142 CH	30.6	6.8	6.6	223.4	44.2	43.9	1.0	8.2	26.3	-5.7
Total average					127.4	52.0	49.0	1.1	13.7	38.5	12.3

Source: Bloomberg.

Insurance sector

Once we put the epidemic/ pandemic scenarios into perspective, we have a bleak view of the insurance sector in the first stage. It is due to the one key assumption that overall society will not be operating as usual. A public fear of contagious diseases would be the most likely scenario and this might negatively impact insurers' business operations, profit, and net cash flow to some degree. Thus, regardless of the scale/ scope of the disease/ epidemic, at the initial stage of this event, the equity market is likely to factor this concern, and the sector pullback would be the first expected scenario.

In fairness, we stress that the potential share price pullback would be a **buying opportunity for quality life companies** due to three things.

First, we do expect limited claim jump potential. This is because insurers' dominant product from old policies (back-book) have been savings products and last few years' protection riders generally cover the critical illnesses such as cancer, stroke, and heart attack instead of flu symptoms. In addition, although we expect a higher claim frequency for medical tests similar to SARS due to public fear of a potential pandemic, we highlight **medical test expenses could be covered only if the disease is confirmed** under the group health insurance plan or the individual indemnity-type policy. (i.e., the medical test itself is not covered by insurance policies).

Second, we see limited cash flow impact potential as the majority of China insurers' operating profit comes from the back-book cash flow which is based on mortality & investment spread margin instead of the front-book commission (loading) margin. Also, reserve growth from the back-book is pretty stable and in the growth stage.

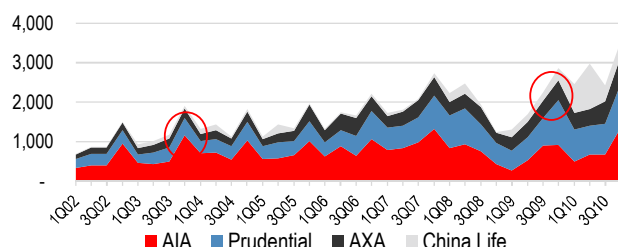
Third, there should be near-term risk in terms of front-book volume growth as overall face-to-face sales activities could slow with a lower agency productivity outlook. This might lead to slower first year premium number potential around jump-start sales premium in January. However, potential benefit post the epidemic period could be greater with the possibility of an acceleration in insurance premium growth post the event as was evident in the wake of SARS in 2003-04.

In short, we would accumulate China Life-H/ Ping An-H/ AIA Group on potential short-term weakness in stock prices with resilient earnings and balance sheet potential with a 12-24 month view.

Compared to life business, we see relatively smaller implications on non-life sector as non-auto business lines such as general liabilities, D&O and Employer liability have not been well-developed. Auto insurers might see a marginal decline in potential car accident claims as customers opt to stay home and away from public places, but overall impact might be neutral.

Figure 8: HK Life insurers: Quarterly New business premium (APE) trend post SARS and H1N1

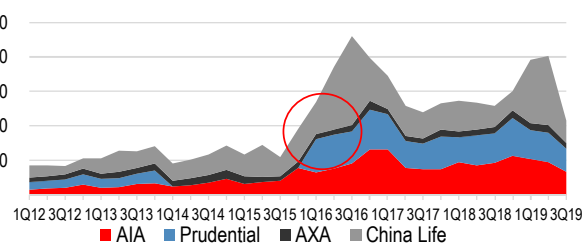
HK\$ in million



Source: HKIA

Figure 9: HK Life insurers: Quarterly New business premium (APE) trend post MERS

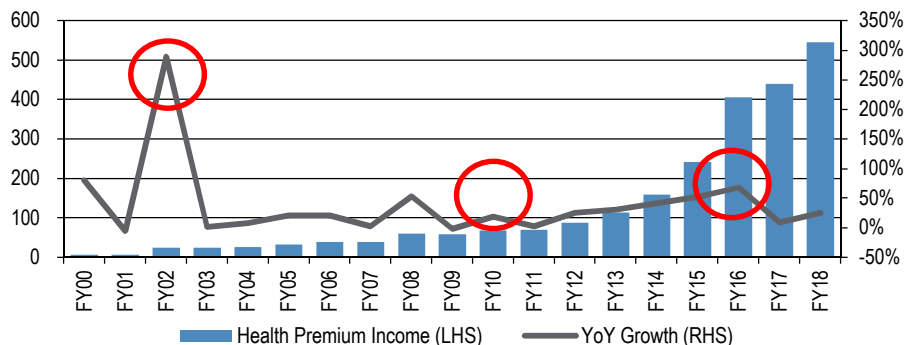
HK\$ in million



Source: HKIA

Figure 10: China Life insurance industry: Health premium income YoY growth

Rmb in billion, %



Source: CBIRC

Table 2: China insurance: Comp table

Rmb, HK\$, x, %

Company	B'berg Code	Rating	Price (21-Jan- 2020)	PT (Dec-20)	Upside/ downside	P/E 20e	P/E 21e	P/BV 20e	P/BV 21e	P/EV 20e	P/EV 21e
AIA Group	1299 HK	OW	81.9	103.0	26%	18	21	2.6	2.4	1.8	1.6
China Life-H	2628 HK	OW	21.1	49.0	132%	9	7	1.7	1.6	0.6	0.6
China Life-A	601628 CH	OW	33.4	43.0	29%	16	14	2.4	2.3	0.9	0.8
Ping An-H	2318 HK	OW	94.4	130.0	38%	11	10	2.0	1.8	1.3	1.2
Ping An-A	601318 CH	OW	85.6	110.0	29%	11	11	2.0	1.8	1.3	1.2
CPIC-H	2601 HK	N	29.0	34.0	17%	10	8	1.3	1.2	0.5	0.5
CPIC-A	601601 CH	UW	36.8	31.0	-16%	14	11	1.9	1.7	0.8	0.7
New China Life-H	1336 HK	N	32.7	37.0	13%	9	7	1.1	1.0	0.4	0.4
New China Life-A	601336 CH	UW	49.5	34.0	-31%	15	12	1.9	1.7	0.7	0.7
PICC Group-H	1339 HK	OW	3.2	4.4	39%	6	6	0.6	0.6	0.5	0.5
PICC Group-A	601319 CH	UW	7.5	3.9	-48%	17	16	1.7	1.5	1.3	1.2
PICC P&C	2328 HK	OW	9.0	12.5	38%	8	7	1.0	0.9	n.a.	n.a.
ZhongAn Online P&C	6060 HK	OW	29.4	32.0	9%	34	19	1.8	1.6	n.a.	n.a.

Source: J.P. Morgan estimates, Bloomberg.

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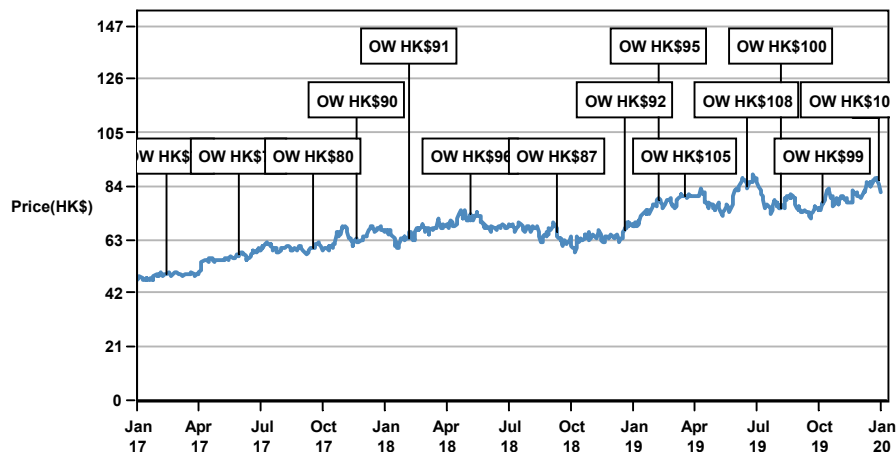
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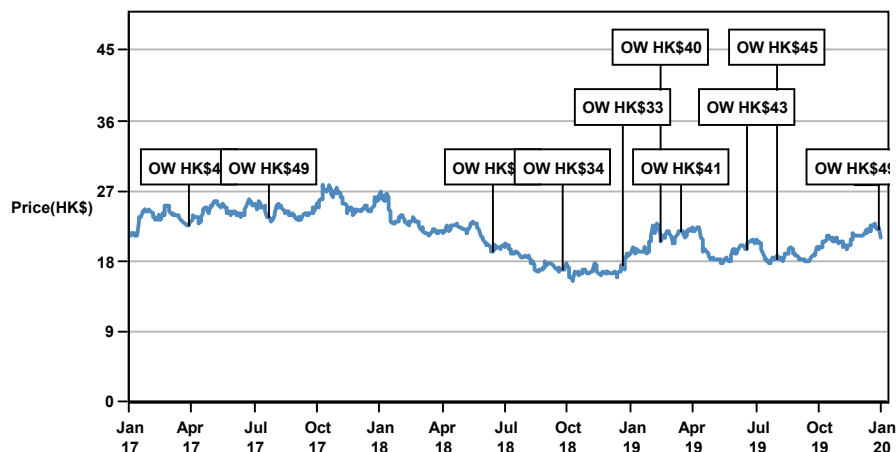
AIA Group Ltd (1299) (1299.HK, 1299 HK) Price Chart



Source: Bloomberg and J.P. Morgan; price data adjusted for stock splits and dividends.
Initiated coverage Dec 01, 2010. All share prices are as of market close on the previous business day.

Date	Rating	Price (HK\$)	Price Target (HK\$)
07-Mar-17	OW	49.05	72
21-Jun-17	OW	57.10	74
08-Oct-17	OW	59.60	80
14-Dec-17	OW	63.45	90
27-Feb-18	OW	63.20	91
29-May-18	OW	72.80	96
04-Oct-18	OW	65.80	87
11-Jan-19	OW	66.80	92
01-Mar-19	OW	78.50	95
09-Apr-19	OW	80.00	105
10-Jul-19	OW	83.85	108
28-Aug-19	OW	75.35	100
30-Oct-19	OW	77.35	99
19-Jan-20	OW	86.60	103

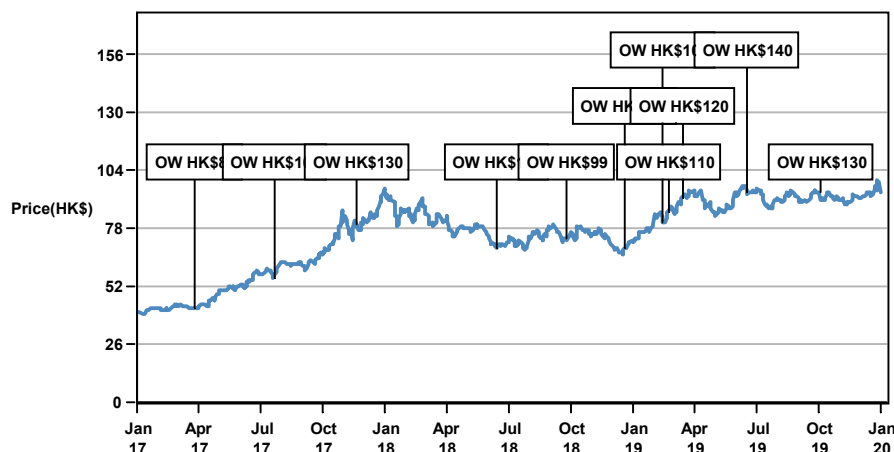
China Life Insurance - H (2628.HK, 2628 HK) Price Chart



Source: Bloomberg and J.P. Morgan; price data adjusted for stock splits and dividends.
Initiated coverage Feb 04, 2004. All share prices are as of market close on the previous business day.

Date	Rating	Price (HK\$)	Price Target (HK\$)
19-Apr-17	OW	22.55	46
14-Aug-17	OW	23.55	49
06-Jul-18	OW	19.24	41
17-Oct-18	OW	17.02	34
11-Jan-19	OW	17.38	33
09-Mar-19	OW	20.55	40
05-Apr-19	OW	21.90	41
10-Jul-19	OW	19.58	43
23-Aug-19	OW	18.14	45
19-Jan-20	OW	22.00	49

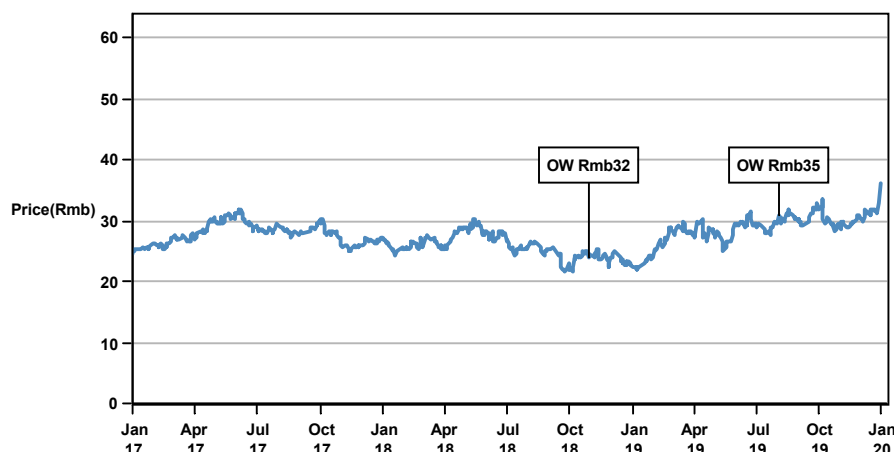
Ping An Insurance Group - H (2318.HK, 2318 HK) Price Chart



Source: Bloomberg and J.P. Morgan; price data adjusted for stock splits and dividends.
Initiated coverage Nov 18, 2004. All share prices are as of market close on the previous business day.

Date	Rating	Price (HK\$)	Price Target (HK\$)
19-Apr-17	OW	42.00	87
14-Aug-17	OW	56.00	100
14-Dec-17	OW	79.50	130
06-Jul-18	OW	69.45	105
17-Oct-18	OW	73.30	99
11-Jan-19	OW	69.10	100
09-Mar-19	OW	80.90	105
15-Mar-19	OW	85.35	110
05-Apr-19	OW	91.30	120
10-Jul-19	OW	94.00	140
25-Oct-19	OW	94.55	130

China Resources Sanjiu - A (000999.SZ, 000999 CH) Price Chart



Source: Bloomberg and J.P. Morgan; price data adjusted for stock splits and dividends.
Initiated coverage Nov 20, 2018. All share prices are as of market close on the previous business day.

Date	Rating	Price (Rmb)	Price Target (Rmb)
21-Nov-18	OW	24.06	32
27-Aug-19	OW	30.78	35

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