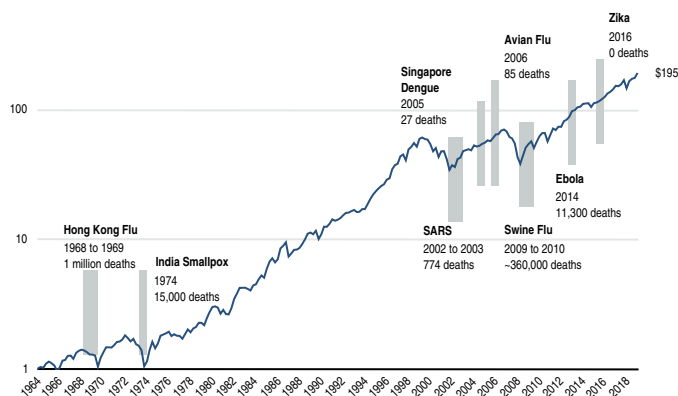


## COVID-19: Impact on the Paper & Packaging Sectors

### Overview

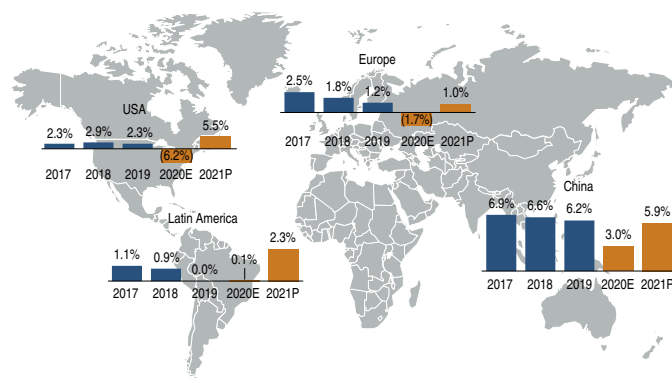
- World economies are being severely impacted by COVID-19
- Stock markets around the world have entered bear territory, although they have been recovering recently
- Bear markets typically signal a recession
- Longest economic expansion in U.S. history at risk of recession
- 2Q 2020 to be characterized by severe declines in GDP, sudden surge in layoffs and a collapse in spending, historic in size and speed

CHART 1 | History of Epidemics / Pandemics - S&P 500 Total Return Index: Growth of \$1



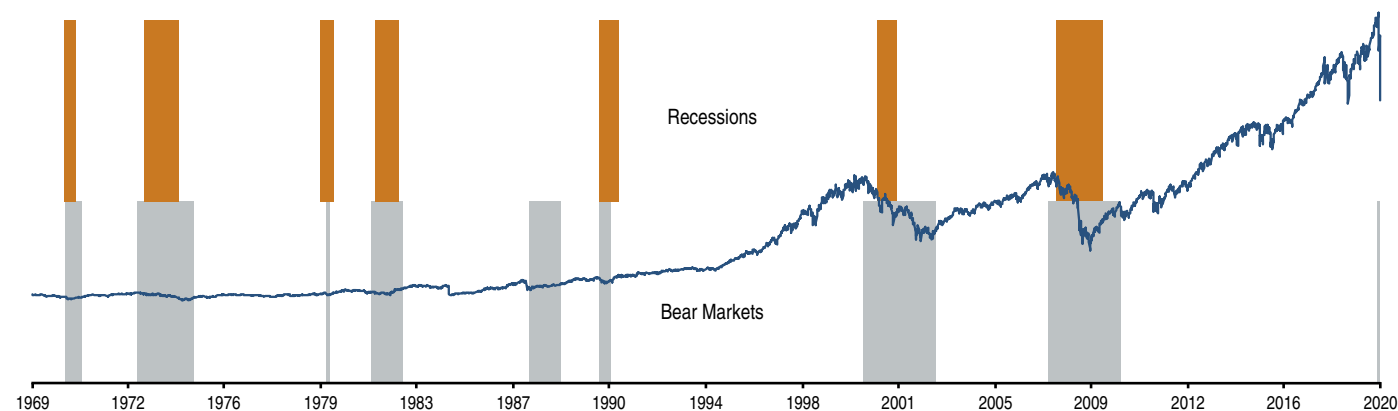
Source: Morningstar Direct and Centers for Disease Control and Prevention. The S&P 500 Index or Standard & Poor's 500 Index is a market-capitalization-weighted index of the 500 largest U.S. publicly traded companies. The index is widely regarded as the best gauge of large-cap U.S. equities.

CHART 2 | World Economic Forecast - Real GDP Growth Rates by Country



Sources: Goldman Sachs Global Investment Research for 2020 and RISI for 2021.

CHART 3 | Bear Markets Typically Signal a Recession - S&P 500



Sources: FactSet, National Bureau of Economic Research.

## Industry Implications

### Paper Industry

Substantial share price declines

- During last recession, share prices declined 71% from peak to trough
- Currently down 40% from peak
- It took more than 3 years for share prices to reach the prior peak from the trough of the last recession

Valuation multiples decreased from 7.9x to 4.9x peak to trough

- Current multiples are at 6.5x
- It took 1.5 years for multiples to recover from prior peak

M&A Activity decreased 60% peak to trough

### Packaging Industry

Large share price declines

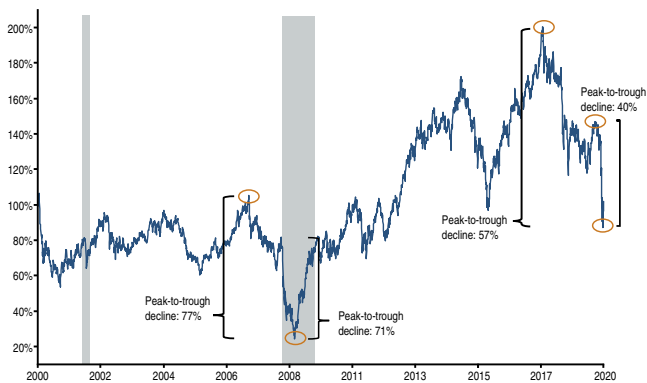
- During last recession, share prices declined 55% from peak to trough
- Currently down 38% from peak
- It took more than 4 years for share prices to reach the prior peak from the trough of the last recession

Valuation multiples decreased from multiples decreased 34% from peak to trough

- Current multiples are down 27%, suggesting modest additional downside
- It took 2 years for multiples to recover from prior peak

M&A Activity decreased 70% peak to trough

CHART 4 | Share Price Performance: Paper Index



Sources: FactSet as of April 3, 2020. Past performance is not indicative of future results.

CHART 6 | Share Price Performance: Packaging Index



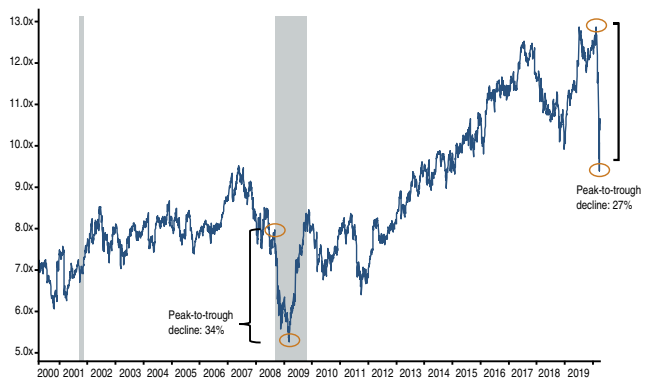
Sources: FactSet as of April 3, 2020. Past performance is not indicative of future results.

CHART 5 | TEV / EBITDA: Paper Index



Sources: FactSet as of April 3, 2020.  
 Paper Index: Cascades Inc. (CAS-CA), Clearwater Paper Corporation (CLW-US), Domtar Corporation (UFS-US), Graphic Packaging Holding Company (GPK-US), Greif Class A (GEF-US), International Paper Company (IP-US), Navigator Company SA (NVG-PT), Neenah Inc (NP-US), P.H. Glatfelter Company (GLT-US), Packaging Corporation of America (PKG-US), Rayonier Advanced Materials Inc (RYAM-US), Resolute Forest Products Inc. (RFP-US), Schweitzer-Mauduit International, Inc. (SWM-US), Verso Corp Class A (VRS-US), WestRock Company (WRK-US).

CHART 7 | TEV / EBITDA: Packaging Index



Sources: FactSet as of April 3, 2020.  
 Packaging Index: Amcor PLC (AMCR-US), Aptargroup, Inc. (ATR-US), Avery Dennison Corporation (AVY-US), Ball Corporation (BLL-US), Berry Global Group Inc (BERY-US), CCL Industries Inc. Class B (CCLB-CA), Crown Holdings, Inc. (CCK-US), O-I Glass Inc (OI-US), Sealed Air Corporation (SEE-US), Silgan Holdings Inc. (SLGN-US).

## M&A Implications

- Significant declines in both public and private M&A activity
- Large companies with strong balance sheets and PE firms, which both have the ability to pay cash, may look to buy at depressed valuations
- Controlling shareholders may also look to take advantage of depressed valuations in take-private transactions
- Stock-for-stock deals can be easier to price in a down market as the relative values of public companies generally should remain the same for purposes of negotiating an exchange ratio, and may be attractive for smaller companies looking to find synergies
  - But stock market volatility may decrease attractiveness of stock deals for the time being
- Liquidity concerns may result in forced sellers, either of the entire company or business units
- Hostile deal activity may also increase

### NEAR-TERM FOCUS

#### PAPER INDUSTRY

Sufficient liquidity to withstand the expected volume and price declines given the industry's high fixed cost structure

Capacity closures to preempt inventory build-up or due to inability to source raw material (especially waste paper)

#### PACKAGING INDUSTRY

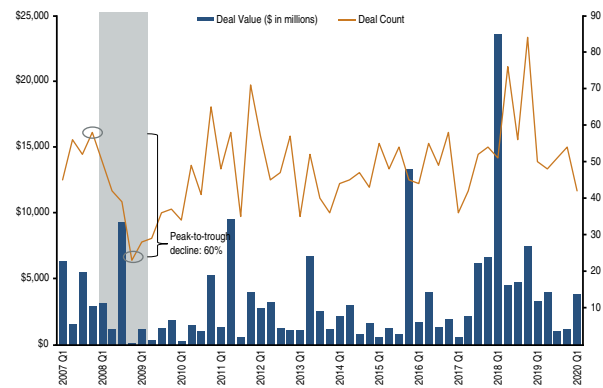
Sufficient liquidity to withstand the expected relatively modest volume declines

Raw material cost declines due to the significant drop in oil prices to mitigate margin compression

### LONGER-TERM IMPLICATIONS & KEY TRENDS

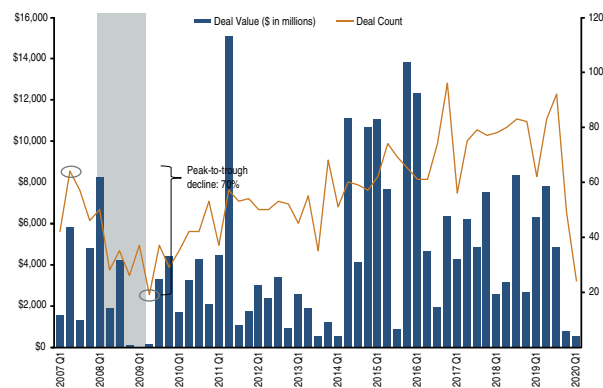
- Increased use of e-commerce
- Increased use of delivery services (groceries, pharmacies, restaurants ...)
- Increased emphasis on hygiene
- Increased focus on health and wellness
- Increased domestic production in order to reduce the dependence on imports of various products considered critical or of national security (for example, pharmaceuticals)

CHART 8 | M&A Activity: Paper



Source: FactSet.

CHART 9 | M&A Activity: Packaging



Source: FactSet.

### KEY BENEFICIARY PAPER/PACKAGING SUBSTRATES

- Corrugated
- Kraft paper; thermoformed containers
- Tissue; wipes (non-wovens); flexible
- Folding cartons; rigid; labels
- All packaging

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