Paul Pettit, VP Performance Improvement

Revenew International LLC

Over 30 years of progressive roles within industry and professional services

Project Management Professional (PMP), Construction Controls Professional (CCP), Certified Construction Auditor (CCA), Certified Internal Auditor (CIA), Certified in Risk Management Assurance (CRMA) and Certified Professional EH&S Auditor (CPEA)
Learning Objectives

- Learn about black swan risks
- How are they impacting construction projects
- Discuss ways to assess black swan risks
- Share your thoughts on dealing with black swan risks
- What can construction auditors do better to prepare for black swan risks
Black Swan Risks

- **Black Swan Risk Definition***
  - The possibility of the occurrence of an unexpected event

- **Black Swan Risk Attributes***
  - Rarity
  - Extreme impact
  - Retrospective predictability

- **Black Swan Events***
  - A surprise
  - A major effect
  - Inappropriately rationalized after the fact with the benefit of hindsight

* Nassim Nicholas Taleb
Black Swan Theory*

- Disproportionate role of high-profile, hard-to-predict, and rare events that are beyond the realm of normal expectations in history, science, finance, and technology
- Non-computability of the probability of the consequential rare events using scientific methods
- Psychological biases that blind people, both individually and collectively, to uncertainty and to a rare event's massive role in historical affairs

* Nassim Nicholas Taleb
Black Swan Risks - continued
Black Swan Risks - continued

BLACK SWAN EVENT

A BLACK SWAN EVENT in the finance world refers to an extremely negative rare event, which is impossible to predict. Such events are random & have wide-spread ramifications. It can either be positive or negative. The term is inspired by the possibility of seeing a black swan among a group of white swans.

EXAMPLES
- Financial Crash of 2008 in U.S.
- Zimbabwe’s hyperinflation in 2008
- The 2001 dot-com bubble
- The 9/11 attacks
- Brexit

PLAN FOR UNCERTAINTY
- Think of rare events & that could prove catastrophic
- By strict financial regulations
- Strengthening the financial institutions
- Plugging the loopholes

ATTRIBUTES
I. Such an event is unpredictable to the observer.
II. Such an event has widespread consequences.
III. After the event, people will argue that it was predictable.

eFinanceManagement.com
Polling Question #1

- Which is **not** a Black Swan Risk Attribute?
  1. Extreme Impact
  2. Rarity
  3. Certainty
  4. Retrospective Predictability
Polling Question #2

- Which event is most likely to occur in Q4 2020?
  1. Alien Invasion
  2. Pandemic Wave 2
  3. Asteroid
  4. Other
Black Swan Risks - continued

- What are some impacts from the 2020 calendar?
  - Global Energy O&G collapse (due to COVID?)
  - Airline, Retail and Hospitality industry collapse (due to COVID?)
  - Unprecedented number of bankruptcies (due to COVID?)
  - Record number of hurricanes with more coming (due to climate change?)
  - Massive wildfires across the globe (due to climate change?)
  - Civil unrest and protests (due to lots of knowns and unknowns)
  - Pending Election/Political divide (who knows what will happen)
Black Swan Risks - continued

- Global Energy O&G collapse
  - Risks to construction projects
    - Delays, Stoppage
    - Cancellations
    - Increased Costs – demob, remob, materials
    - Increased Insurance Premiums
    - Decreased Productivity
    - COs, Claims, Liens
    - Bankruptcies – prime, subs
  - Opportunities for construction projects
    - Enhanced Safety Protocols - COVID
    - Decreased Costs – commodities
    - Available Labor
    - Others
Black Swan Risks - continued

2015-2020 CUMULATIVE NORTH AMERICAN E&P BANKRUPTCY FILINGS

HAYNES AND BOONE OIL PATCH BANKRUPTCY MONITOR

Number of Filings

Cumulative bankruptcies
New bankruptcies since the previous quarter

(As of August 31, 2020)
Black Swan Risks - continued

- Airline, Retail and Hospitality industry collapse
  - Risks to construction projects
    - Delays, Stoppage
    - Cancellations
    - Increased Costs – demob, remob, materials
    - Increased Insurance Premiums
    - Construction Bond Coverage
    - COs, Claims, Liens
    - Bankruptcies
  - Opportunities for construction projects
    - Cheaper flights/hotels/rental cars/parking
    - No more change fees
    - Open middle seats
    - Others
Black Swan Risks - continued

- Unprecedented number of bankruptcies
- Risks to construction projects
  - Delays, Stoppage
  - Cancellations
  - Liquidations
  - Claims, Liens
- Bankruptcies – owners, prime, subs
- Opportunities for construction projects
  - Demand for Building Material, Equipment, Supplies
  - Demand for Non-Store Retail
  - Demand for Food & Beverage Stores
- Others

---

<table>
<thead>
<tr>
<th>Bankruptcy Date</th>
<th>Company</th>
<th>Actual Assets</th>
<th>Actual Liabilities</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAY 22, 2020</td>
<td>THE HORTZ CORPORATION</td>
<td>$25,842,000.00</td>
<td>$24,355,000.00</td>
<td>AUTOMOTIVE</td>
</tr>
<tr>
<td>MAY 25, 2020</td>
<td>LATAM AIRLINES GROUP S.A.</td>
<td>$10,671,000.00</td>
<td>$10,195,000.00</td>
<td>AVIATION</td>
</tr>
<tr>
<td>APRIL 14, 2020</td>
<td>FRONTIER COMMUNICATIONS CORPORATION</td>
<td>$11,332,000.00</td>
<td>$10,856,000.00</td>
<td>TELECOM</td>
</tr>
<tr>
<td>MAY 14, 2020</td>
<td>INTELIGAT S.A.</td>
<td>$11,852,000.00</td>
<td>$10,605,000.00</td>
<td>TELECOM</td>
</tr>
<tr>
<td>JANUARY 25, 2020</td>
<td>MODERNMIST INTERNATIONAL, INC.</td>
<td>$8,754,000.00</td>
<td>$8,086,000.00</td>
<td>OIL AND GAS</td>
</tr>
<tr>
<td>MAY 15, 2020</td>
<td>J.C. PENNEY COMPANY, INC.</td>
<td>$12,660,000.00</td>
<td>$12,060,000.00</td>
<td>RETAIL</td>
</tr>
<tr>
<td>JUNE 10, 2020</td>
<td>WHITING PETROLEUM CORPORATION</td>
<td>$7,836,000.00</td>
<td>$7,681,000.00</td>
<td>OIL AND GAS</td>
</tr>
<tr>
<td>MAY 15, 2020</td>
<td>NEUMAN MARCUS GROUP LTD LLC</td>
<td>$17,543,000.00</td>
<td>$16,786,000.00</td>
<td>RETAIL</td>
</tr>
<tr>
<td>MAY 10, 2020</td>
<td>AVONIA HOLDINGS S.A. (CAY)</td>
<td>$7,273,000.00</td>
<td>$7,068,000.00</td>
<td>AVIATION</td>
</tr>
<tr>
<td>APRIL 26, 2020</td>
<td>DIAMOND OFFSHORE DRILLING, INC.</td>
<td>$5,804,000.00</td>
<td>$5,601,000.00</td>
<td>OIL AND GAS</td>
</tr>
<tr>
<td>JUNE 14, 2020</td>
<td>EXTRAXION OIL &amp; GAS, INC.</td>
<td>$2,285,000.00</td>
<td>$2,424,000.00</td>
<td>OIL AND GAS</td>
</tr>
<tr>
<td>MAY 10, 2020</td>
<td>HORNECK OFFSHORE SERVICES, INC.</td>
<td>$2,091,000.00</td>
<td>$2,019,000.00</td>
<td>OIL AND GAS</td>
</tr>
<tr>
<td>MARCH 10, 2020</td>
<td>FORESIGHT ENERGY LP</td>
<td>$2,347,000.00</td>
<td>$1,875,000.00</td>
<td>MINING</td>
</tr>
<tr>
<td>MAY 22, 2020</td>
<td>UNIT CORPORATION</td>
<td>$2,090,000.00</td>
<td>$2,034,000.00</td>
<td>OIL AND GAS</td>
</tr>
<tr>
<td>MAY 18, 2020</td>
<td>CENTRIC BRANDS INC.</td>
<td>$1,815,000.00</td>
<td>$2,014,000.00</td>
<td>APPAREL</td>
</tr>
<tr>
<td>JUNE 24, 2020</td>
<td>FCC ENTERTAINMENT, INC. (DICK’S CHEESE’N)</td>
<td>$1,743,000.00</td>
<td>$1,998,543.00</td>
<td>RESTAURANT</td>
</tr>
<tr>
<td>MAY 10, 2020</td>
<td>STAGE STORES, INC. (2020)</td>
<td>$1,717,000.00</td>
<td>$1,010,000.00</td>
<td>RETAIL</td>
</tr>
<tr>
<td>APRIL 13, 2020</td>
<td>LSC COMMUNICATIONS, INC.</td>
<td>$1,848,000.00</td>
<td>$1,721,000.00</td>
<td>PUBLISHING</td>
</tr>
<tr>
<td>MAY 4, 2020</td>
<td>CHINOS HOLDINGS, INC. (C.N.)</td>
<td>$1,590,000.00</td>
<td>$3,240,000.00</td>
<td>RETAIL</td>
</tr>
<tr>
<td>APRIL 7, 2020</td>
<td>QUORUM HEALTH CORPORATION</td>
<td>$1,574,000.00</td>
<td>$1,840,000.00</td>
<td>HEALTHCARE</td>
</tr>
</tbody>
</table>
### Retail store sales (%)
#### August 2020

<table>
<thead>
<tr>
<th>Category</th>
<th>MOM change</th>
<th>YOY change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total retail and food services</td>
<td>-0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Clothing and clothing accessories stores</td>
<td>-20.4</td>
<td>2.6</td>
</tr>
<tr>
<td>Furniture and home furnishing stores</td>
<td>2.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Building material and garden equipment and supplies dealers</td>
<td>2.0</td>
<td>15.4</td>
</tr>
<tr>
<td>Electronics and appliance stores</td>
<td>-2.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Health and personal care stores</td>
<td>0.8</td>
<td>5.6</td>
</tr>
<tr>
<td>Motor vehicle and parts dealers</td>
<td>0.2</td>
<td>4.5</td>
</tr>
<tr>
<td>Nonstore retailers</td>
<td>0.0</td>
<td>22.4</td>
</tr>
<tr>
<td>General merchandise stores</td>
<td>-0.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Food and beverage stores</td>
<td>-1.2</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Based on data released Sept. 16, 2020.
Data includes change in seasonally adjusted estimates of monthly sales.
Source: U.S. Census Bureau
RESTAURANT CHAIN BANKRUPTCIES IN 2020

- FoodFirst (Bravo and Brio chains) - April 10
- Sustainable Restaurant Group owner of Bamboo/QuickFish - May 12
- Rainforest Cafe - May 27
- NPC International (Pizza Hut and Wendy’s operator) - July 1
- California Pizza Kitchen Inc - July 29
- Souplantation - Garden Fresh Restaurants owner of Souplantation/Sweet Tomatoes - May 14
- Chuck E. Cheese - Chuck E. Cheese parent company (CEC Entertainment) - June 25
- FIG & OLIVE - Fig & Olive parent Luxury Dining Group - July 3

SOURCE: PUBLIC FILINGS

RETAIL BANKRUPTCIES RAGE ON IN 2020

- PAPYRUS - SFP Franchise Corp - January 23
- Art Van Furniture - March 9
- MODELL’S - March 11
- Roots USA - April 29
- ALDO - May 7
- STAGE - Stage Stores - May 11
- Centric Brands - May 18
- GNC - June 24

SOURCE: RETAIL DIVE
Black Swan Risks - continued

- Record number of hurricanes with more coming
  - Risks to construction projects
    - Delays, Stoppage
    - Wide Spread Damages
    - Increased Costs – demob, remob, labor, materials
    - Increased Insurance Premiums
    - COs, Claims
  - Opportunities for construction projects
    - Repairs, Replacements, Rebuilds
    - Stronger building codes
    - Demand for skilled labor
    - Others
Black Swan Risks - continued
Black Swan Risks - continued

- Massive wildfires across the globe
  - Risks to construction projects
    - Wide Spread Damages
    - Increased Costs – demob, remob, labor, materials (lumber)
    - Increased Insurance Premiums
    - COs, Claims
  - Opportunities for construction projects
    - Repairs, Replacements, Rebuilds
    - Demand for skilled labor
    - Others
Black Swan Risks - continued
Black Swan Risks - continued

- Civil unrest and protests
  - Risks to construction projects
    - Delays, Stoppage
    - Localized Damages
    - Increased Costs – labor, materials
    - Increased Insurance Premiums
    - COs, Claims
    - Security
  - Opportunities for construction projects
    - Repairs, Replacements, Rebuilds
    - Demand for skilled labor
    - Others
Black Swan Risks - continued
Black Swan Risks - continued

- Pending Election/Political Divide
  - Risks to construction projects
    - No comment
  - Opportunities for construction projects
    - No comment
Black Swan Risks - continued
Polling Question #3

What has been the biggest Black Swan Risk of 2020?

1. COVID 19
2. Extreme Climate Change
3. Civil Unrest and Protests
4. Other
What should Construction Auditors assess?

- Contract Terms & Conditions
- Insurance and Bond Coverage
- Prime and Subcontractor Financial Stability
- Prime and Subcontractor Productivity
- Owner and Lender Financial Stability
- CO, Claim, Dispute process
- COVID Safety Protocols
- Supply Chain Logistics
  - Onshore
  - Offshore
- Other Areas
Black Swan Risks – Lessons Learned

What lessons learned should Construction Auditors take from 2020 into 2021?

- Costs will rise due to COVID and Climate Change
  - Demobilization, Remobilization
  - Insurance and Bonding
  - COs, Claims, Liens
  - Labor and Materials
  - Bankruptcies
- Some costs will decrease due to COVID and Climate Change
  - Commodities and Refined Products
- Productivity will decrease due to COVID
  - Additional Safety Protocols
  - Virus Outbreaks
Conclusion and Takeaways

- Black Swan Risks can impact construction projects
- Black Swan Risks can also create opportunities
- Black Swan Risks are global and don’t discriminate
- Construction Auditors need to assess an organization’s capacity to manage, reduce and/or transfer the risk
- Construction Auditors need to take lessons learned from 2020 and prepare for 2021
Thank you!

Paul Pettit
713.302.4202 or pp Pettit@revenew.com