

BUSINESS INTERRUPTION: RISK MANAGED OR LONG-TERM STAKEHOLDER VALUE LOSS?



THE DRIVERS OF BUSINESS INTERRUPTION RISK

Operating in an increasingly global and complex landscape, companies are exposed to a wide range of risks such as fire, cyber hacks, political violence and natural catastrophes. All these examples have in common that they can interrupt a business for a prolonged period. Managing the risk of business interruption is of vital importance as recent academic research reveals that it can have a significant negative impact of up to 40% on company value and that companies do not recover quickly from such events. Companies also seem to be aware of their rising exposure to this risk as business interruption ranks first on Allianz's Risk Barometer for multiple years in a row¹. Yet managing this risk is not straightforward as it requires insight into both financial and operational aspects of a company.

Business interruption risk refers to the financial loss a company suffers when its operations are disrupted. This loss includes both observable components, such as reduced sales and increased cost of working, and hidden components, such as loss of future revenue streams due to potential reputational damage. Reputational damage may arise as a result of an unfavourable change in perception by key stakeholders of the firm's ability to manage risks and thus deliver on stated goals and targets.

Although business interruption is not a new risk phenomenon, companies still struggle to manage and accurately assess their business interruption risk exposures. This is in part due to the significant number of factors – both financial and operational - that need to be considered when assessing the exposure.

Another hurdle is the vast amount of data that needs to be collected from various sources within a company, especially in case of larger and more complex organisations.

HOW DO I ESTABLISH MY BUSINESS INTERRUPTION RISK EXPOSURES?

Managers typically quote “*what gets measured gets managed*”, famously said by management guru Peter Drucker². This is particularly true for business interruption risk. Incorrect measurement of business interruption risk will lead to wrong prioritisation of efforts and risk management resources to manage the risk. In order to prioritise correctly, companies need to recognize the various business interruption risk triggers they are exposed to as well as the financial impact they can potentially have.

¹ Allianz Risk Barometer 2018

² <https://hbr.org/2010/10/what-cant-be-measured>

Insight in business interruption exposures is also needed for risk transfer purposes, for example insurance. With accurate insight into their risk companies can obtain adequate insurance cover, thereby avoiding the risk of buying too much insurance, which reduces profits. Alternatively companies can be underinsured, which in a worst case scenario can lead to insolvency due to the business interruption loss. Attaching a correct financial figure to the risk is thus critical for effective risk management and informed and rational decision making.

TO QUANTIFY BUSINESS INTERRUPTION RISK, THE FOLLOWING RISK DRIVERS NEED TO BE ASSESSED:

1. Business interruption margin
2. Total recovery time or the indemnity period
3. Interdependencies (internal and external)
4. Outsourcing and other loss mitigating measures (part of Business Continuity planning)

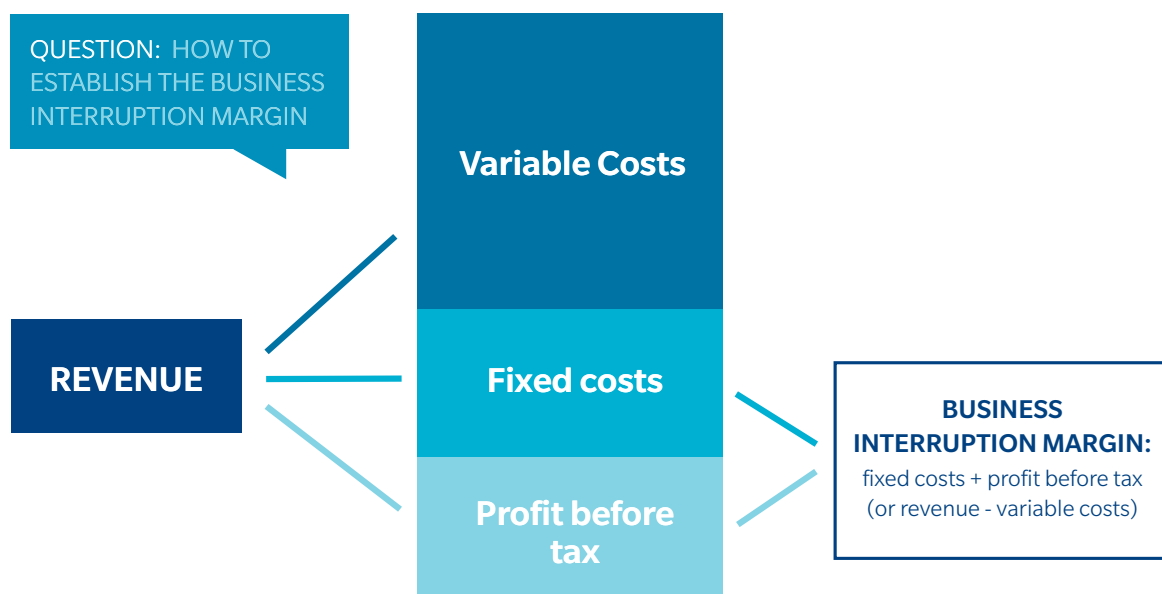
1. BUSINESS INTERRUPTION MARGIN

The first step in establishing a company's business interruption exposure is establishing the business interruption margin or contribution margin. Often misinterpreted as it is not a typical accounting term, the business interruption margin equals revenue less variable costs or fixed costs plus profits (see exhibit 1).

The business interruption margin excludes variable costs as these are costs that the company will no longer incur if it is unable to operate. For example, raw materials that serve as input in the production process will no longer be sourced when the production site is halted. It does include fixed costs or continuing costs, such as interest on debt and wages for salaried employees, as these costs will typically still be incurred during a period of disrupted operations.

While variable costs change directly with production levels and sales, fixed costs do not. So the greater the fixed component in a company's cost structure, the more difficult it is for such a company to reduce costs following a decline in production levels and sales, resulting in reduced profits. Therefore companies with higher fixed relative to variable costs also have higher business interruption exposures.

EXHIBIT 1: The Business Interruption (BI) Margin





2. TOTAL RECOVERY TIME OF OPERATIONS OR INDEMNITY PERIOD

Another important risk driver is the total recovery time. The total recovery time refers to the total period that a company's operations and financials are adversely affected by the disruption. This time period is essentially defined by three phases:

1. Pre-recovery phase
2. Recovery phase
3. Market recovery phase

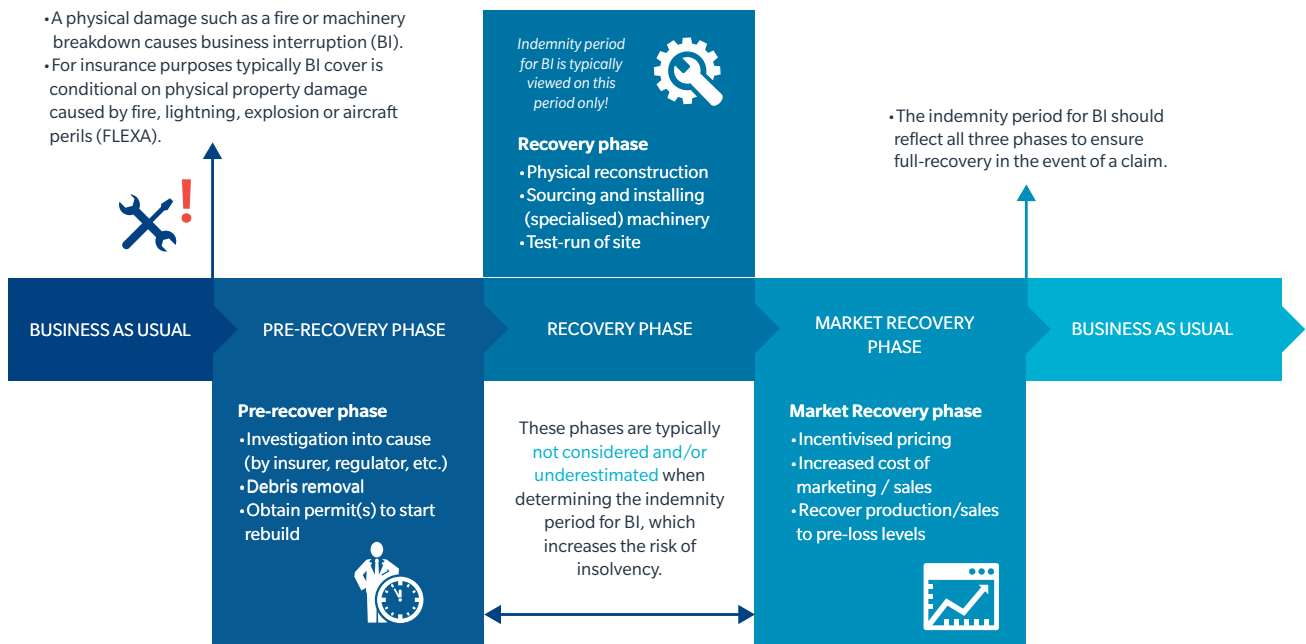
In the pre-recovery phase the cause of the disruption is investigated, for example by relevant authorities and internal teams, and managers formulate strategies to

continue operations as quickly as possible. Additionally during this phase transparent and swift communication with external parties is crucial to regain stakeholders' trust and confidence in the organisation's ability to deliver. Following the pre-recovery phase the actual recovery starts, for example recovery of physical assets in case of a fire or improvements to cybersecurity following a hack.

As soon as the company is operational again the market recovery phase starts. During this period the company needs to recover any market share it might have lost due to the event. The time needed to recover is largely influenced by the type of event - events with a higher reputational impact generally lead to a larger loss of market share - and time spent to restart operations again.

An example timeline of a recovery period following a physical damage event at a plant is shown in exhibit 2.

EXHIBIT 2 – The Business Interruption (BI) Timeline in a physical-damage scenario

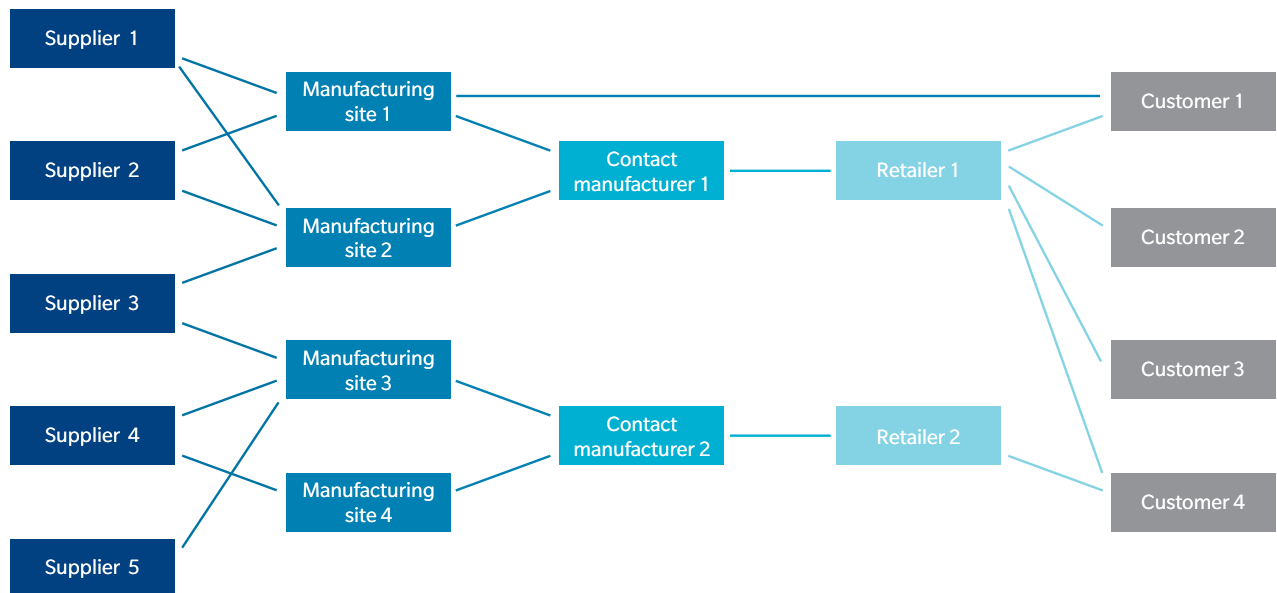


3. INTERDEPENDENCIES (INTERNAL AND EXTERNAL)

A company does not operate in isolation. Instead, it is intertwined in a complex web of suppliers and customers. A failure of one of the nodes in the supply chain can have a domino effect: a loss of a single point in the chain – think, for example, a fire at a contract manufacturer’s plant – causes other nodes to be disrupted as well.

Therefore not only failures at one’s own premises need to be assessed when establishing a company’s business interruption risk, but also the financial loss suffered due to loss of materials, components, or services from an external supplier, or loss of a customer. Business interruption loss arising from loss of a critical supplier or customer is referred to as contingent business interruption (CBI) that may be input for further risk financing requirements.

FIGURE 1- Example of a Complex Supply Chain



4. OUTSOURCING AND OTHER MITIGATING LOSS MEASURES (PART OF BUSINESS CONTINUITY PLANNING)

There are various measures a company can take to reduce the extent of financial loss caused by materialized business interruption risk. The three most commonly used measures are:

1. Stock piles
2. Redirection of production to backup (internal or external) production sites
3. Increased cost of working to get back into production earlier than normal

Companies often have multiple production sites that can function as back-up production facilities. By increasing shifts and/or using spare capacity production is redirected in the event one of the production sites is lost. Increasing production shifts at a plant entails additional production costs, such as higher salary expenses due to employees working overtime and training expenses required for new employees to operate a production line. These costs are typically referred to as increased costs of working (ICW). In addition to back-up production, companies can utilise stock piles to cater to clients' needs.

Both the stock piles and internal or potential external fall-back possibilities effectively reduce the business interruption loss over the full recovery period compared to a situation where no such mitigation measures are available. Note however that a stockpile will also need to be recovered to place the company in the same position as before the loss and that holding it increases working capital, which comes at a cost as well. Stated differently holding too much inventory is costly as it ties up capital, yet low levels of inventory reduces supply chain resiliency. This trade-off thus needs to be effectively balanced / optimized.

Insight into potential back-up production and stock piles is essential for a better understanding of the true risk exposure. As aforementioned, loss reducing measures taken to minimise the extent of financial loss originating from business interruption involve costs. Logically, mitigating measures should only be employed when the losses they save outweigh their costs – [spend money to save money](#).

BUSINESS CONTINUITY PLANNING

A way to identify and plan for mitigating measures is through [business continuity planning](#). Such planning helps companies to continue operations more quickly after an identified risk

such as fire or machinery breakdown materialises. It does so by preparing the company for potential manifestation of risks and identifying loss mitigating measures in advance. It is thus essentially an incident response mechanism.

Next to it, such loss control mechanisms can positively influence insurance premiums thanks to increased confidence by the insurer that the organisation is prudently managing its risks and will recover swiftly in the event of an insured loss. An earlier research by [Marsh Risk Consulting](#) corroborates that companies with adequate risk management processes in place perform better in the long-run through better informed and early decision making.





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... you also save time
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(+) FINANCE CHARGE

\$8.89
\$0.00
\$8.89

\$1.72
\$1.72

Nominal APR

Days This Billing Period: 33

ANNUAL PERCENTAGE RATE

.990%
990%
990%

17.990%
4.90%

CREDIT CARD

BANK

PLATINUM

FINAL NOTE

As it follows from this discussion, there are many factors to consider and steps to take when establishing a company's business interruption risk. This process is far from straightforward and collecting the right data might be challenging, especially for larger and more complex organisations. Nevertheless, we firmly believe that measures taken to manage the risk – such as identifying and quantifying the exposures, setting up business continuity plans, creating a culture of risk awareness – are crucial preparation measures, good business practices and improve the overall risk

management of a company. Companies undertaking these steps will not only be better able to recover from disruptions, but also gain a competitive advantage, for example by being better informed and prepared than competitors.

The process of quantifying and ultimately managing business interruption risk also supports the discipline of corporate governance as it needs to ascertain that risks are understood, managed and, when appropriate, communicated.³

³ OECD (2014): Risk Management and Corporate Governance

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