Press Release

December 19, 2018

How to Avoid US$106bn Excess Inventories in the Next Economic Crisis

On September 15, 2008 the bankruptcy of Lehman Brothers sent shock waves through the global economy that ultimately accelerated into the Financial Crisis. Ten years later firms across the globe are again facing high uncertainty as crises such as Trade Wars, Brexit or Turkey loom. In a brand new study, researchers have analyzed how firms have managed their inventories in the Financial Crisis to free up cash and to avoid inventory surpluses. The findings suggest that firms need to be aware, motivated and capable to align their inventories with changing demands. Financial consequences for not being agile are severe as investors closely watch the developments of inventories.

"Firms have reacted very differently to sudden drops in demand that were observed after that start of the financial crisis. While many firms have allowed inventories to creep up significantly, other firms have carefully managed inventories in line with the slowing demand and further firms have aggressively reduced their inventories much below the pre-crisis levels" summarizes Kai Hoberg, Professor of Supply Chain and Operations Strategy at Kühne Logistics University in Hamburg, Germany. Hoberg, together with Professors Maximiliano Udenio (Katholieke Universiteit Leuven, Belgium) and Jan Fransoo (Kühne Logistics University) conducted a large study of firms' inventory agility using empirical data from 2005 and 2011 for a sample of 1263 manufacturing firms. The data shows that average inventories (measured in days of supply) peaked one year after the start of the crisis and typically only recovered 18 months into the crisis. Excess inventory of those firms analyzed accounted for around 106 billion dollars (See Table 1). However, the research shows high variation at the firm level even within a single industry sector: While inventories at Harley-Davidson settled at 30% above pre-crisis levels, they decreased at Ford by 33% one year after the start of the crisis.

Awareness, Motivation, Capabilities

Management theory suggests a firm can respond only if it is aware of the situation, motivated to react, and capable of responding. The same is true for managing inventories in crisis situations. In 2008, awareness was not a challenge
as firms were receiving almost daily updates on order cancelations. However, companies vary quite a bit in terms of their motivation and capabilities. Some firms might feel that they have sufficient access to cash and can accept inventory build-ups. If this is not the case (as for many firms in the Financial Crisis) top level management needs to give the right attention to the management of inventories. Successful firms have agile sensing and inventory management capabilities to quickly reduce raw material purchases and production activities to avoid inventory buildups.

**Financial Consequences**

The finding of Udenio, Hoberg and Fransoo suggest that the use of inventory reductions as a quick way to increase liquidity must be gauged against their potential impact on other aspects of financial performance. Managers must accept that both inventory overages and underages (i.e. having too little or too much inventory reduction) are generally negatively associated with financial performance, so it really matters to invest in capabilities to properly manage inventories. If firms reduce inventories too much their financial performance can suffer from lost sales and unhappy customers. However, if inventories are too high, financial performance is affected by write-offs and limited availability of cash for other activities.

![Graph showing inventory agility over time](image)

**Table 1: Aggregate Abnormal Inventories of Manufacturing Firms in Financial Crisis**

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*Inventory Agility upon Demand Shocks: Empirical Evidence from the Financial Crisis* appeared in the *Journal of Operations Management.*
About KLU

Kühne Logistics University – Wissenschaftliche Hochschule für Logistik und Unternehmensführung (KLU) is a private university located in Hamburg's HafenCity. The independent, state-certified university focuses on the areas of logistics and management. With one BSc and three MSc degree programs, a doctoral program, and a part-time Executive MBA, KLU offers its 350 full-time students a high level of specialization and excellent learning conditions. In open, customized management seminar series, industry specialists and managers benefit from the application of academic findings to practical issues.

KLU has an international team of 23 professors who teach in English. The programs are oriented toward students from Germany and abroad. Research at KLU is concentrated on the Key Competence Areas of Digital Transformation, Creating Value, and Sustainability for the benefit of transportation, global logistics, and supply chain management.

In 2017, KLU was granted the right to confer PhD degrees, making it one of only 15 among the 118 private universities in Germany permitted to confer their own PhDs. In the newest CHE university rankings, KLU obtained the highest ranking in all major criteria.

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