

Capital efficient chemical companies

Outperformers in a changing environment



Cash is king in business, and during a downturn it becomes the main concern of every company. With the credit crunch in full force, a superficial analysis would suggest that capital intensive industries would be hardest hit, and that their executives cannot avoid having to prepare for very lean times ahead.

However, in the chemical industry, the robust performance of most of the capital intensive industries results in a strategic advantage in times of economic downturn.

Capital Efficiency: an equally important factor for Cash Generation¹

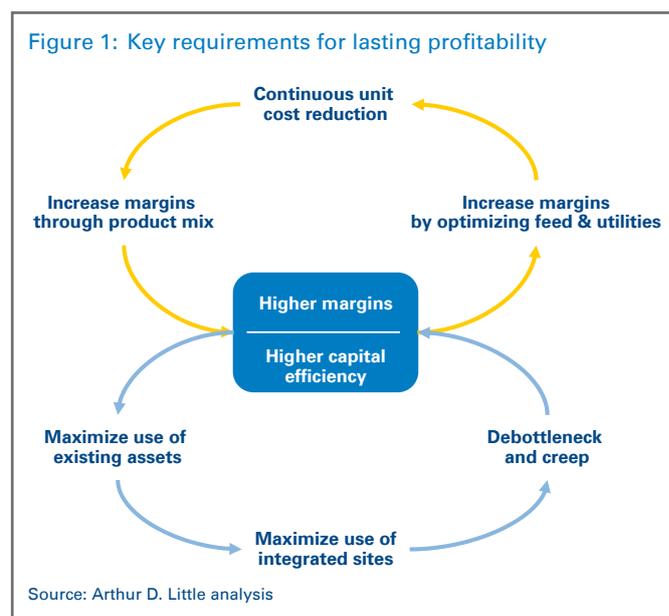
Arthur D. Little has analyzed the TOP 70 chemical companies on Capital Intensity², Capital Efficiency and Cash Generation to investigate how companies can capitalize on their robust performances in good times to strategically reposition themselves in times of economic hardship.

To increase the profitability of a company, the executives tend to focus their efforts on the improvement of their margins. In order to reach this, company executives rightfully work on the reduction of costs, the optimization of the feedstock use and changes in product mix. Being agile in *jointly managing margins and capital* is however what should be achieved.

Businessmen know well that minimizing use of capital for a given business level will release well needed cash. Experience has taught them, however, that it has to be done in coherence with the shorter term business optimization which continuously adapts the product mix in order to optimize the margins (see figure 1).

While this duality is theoretically obvious, it is not easy in practice to optimize margins and capital efficiency together. The reason is that the two processes are generally managed by different entities in the organization: product mix and margins

are primarily targets of product management or market driven business lines, while manufacturing is in charge of asset management. As a result of it in many cases not all factors that assure a proper capital management are orchestrated in an efficient way.



1 Cash Generation: average Cash Flow from operations over a period of ten years
 2 Capital Intensity: average ratio Plant Property and Equipment Gross to Sales

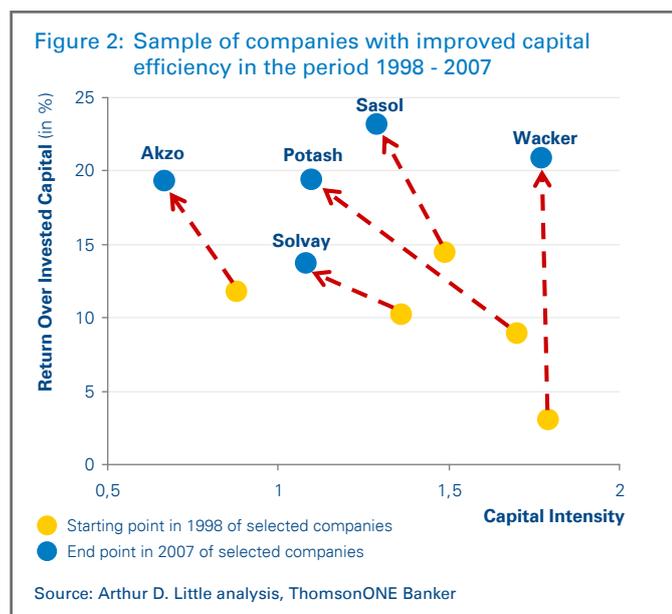
Additionally, the typical timelines of the two processes are also different: capital decisions tend to be taken on quarterly or annual cycle whilst the product mix and margins are adapted in real time.

Our study shows that the companies who managed to “co-optimize” those two processes are clearly more performing – generate much more cash per unit of Sales – on the long term compared to others with very similar Capital Intensity.

It also shows that those having high Capital Intensity seem to pay more attention to this “co-optimization” and consequently manage to extract more value.

Some examples of capital efficient companies

When analyzing the Capital Intensity in two different time periods, companies will strive to improve their performance by increasing their Return over Invested Capital. If these companies can achieve this goal with equal Capital Intensity, due to improving margins or product mix are improving the efficient use of capital. Debottlenecking and increasing the capacities at incremental capital cost (“creep”) reduces the Capital Intensity and thus increases the Capital Efficiency. Taking the examples in figure 2, we show companies that have clearly succeeded in improving their Capital Efficiency in the period 1998 - 2007.



Based on industry insights, four major characteristics of highly capital efficient companies have been identified and should be considered for a successful capital efficiency improvement program:

First, they **improve their plants and processes** over years in a very professional way. Continuous improvement programs, focusing on the efficiency of the assets, result in lean production processes and higher quality. Therefore, these companies possess high performing technology and engineering teams. One example is a European Multichemical company. They focused very early on their key portfolio, sold non core business and substantially improved their quality, process and engineering skills.

Second, the capital efficient companies enjoy either **economies of scale** or the **right balance** between size and flexibility in their production units. The first is more important for capital intensive industries (e.g. Basic Chemicals), while the latter plays a bigger role in application driven businesses like Specialty Chemicals.

Third, the well performing companies apply a **“no-nonsense” approach** in strategic investments: they do not follow the latest fashion, but they can be very decisive and action taking when necessary.

Last but not least the capital efficient companies have **clear and transparent capital management** processes in place, enabling them to review and adapt their businesses and investments at any given moment in time to manage their Cash Flow. This will also facilitate the definition and follow-up of any strategic plan in the company. A US based Sepcialty Chemicals company has built up a portfolio of companies since its foundation in 2000 and restructured the individual businesses accordingly based on a clear capital management process and cash targets.

The above characteristics for Capital Efficiency will not only improve the cash position of a company, it will also improve the solidity (Debt/Equity ratio) and the credit rating, it will reduce the delivery times and the implied discipline will result in many more secondary benefits.

What is the strategy to survive and even benefit from the current downturn?

Each of these Capital Efficiency elements will, next to the product mix and margins, improve the company’s Cash Generation. Companies that have performed well in the past ten years will enjoy an interesting cash position which is a weapon for strategic implementation: it permits the right move at the right time. Fortunately, even a global downturn is not all gloom and doom for every player as these downturns, beside their painful effect on the sales capacity utilizations, are also unique opportunities for acquisitions or expansions.

In our analysis we have divided the companies into four clusters. A first group of companies should focus on **expansion and strengthen their market position**, especially in a capital intensive environment. After all, a downturn is a perfect time to invest in future growth. The value for acquisition targets are dwindling, resulting in lower multiples to be paid. Next, the order books of engineering and construction companies are deflating, leading to a reduced cost of plant construction and an excellent service offering. On top of that, newly acquired or built capacities are ready for the take off by the end of the crisis.

The second group of companies is called **“the optimizers”** and include companies that have performed very well over the previous ten years. They need to continue the optimization of their business: the improvements of the variable margins should be combined with a reduction of the fixed costs and a continuous attention need to be paid to the improvement of the efficient use of capital (see figure 3).

The application driven companies which are less capital intensive but with a rather healthy cash flow, will have to focus on **“margin optimization”**. By optimizing their margins, companies will make money available which will enable them to take advantage from the down cycle and expand or strengthen their market position. Fortunately, the application driven companies will be favored by the burst of the raw material bubble, which will lead to a substantial decrease of their raw material cost.

However, to make such a margin management program really successful and differentiate themselves from the close competitors, they need to segment their offering between innovative specialties and more commoditized products.

For the first type of products, which are sold on performance, companies should take benefit from this burst, enjoying its

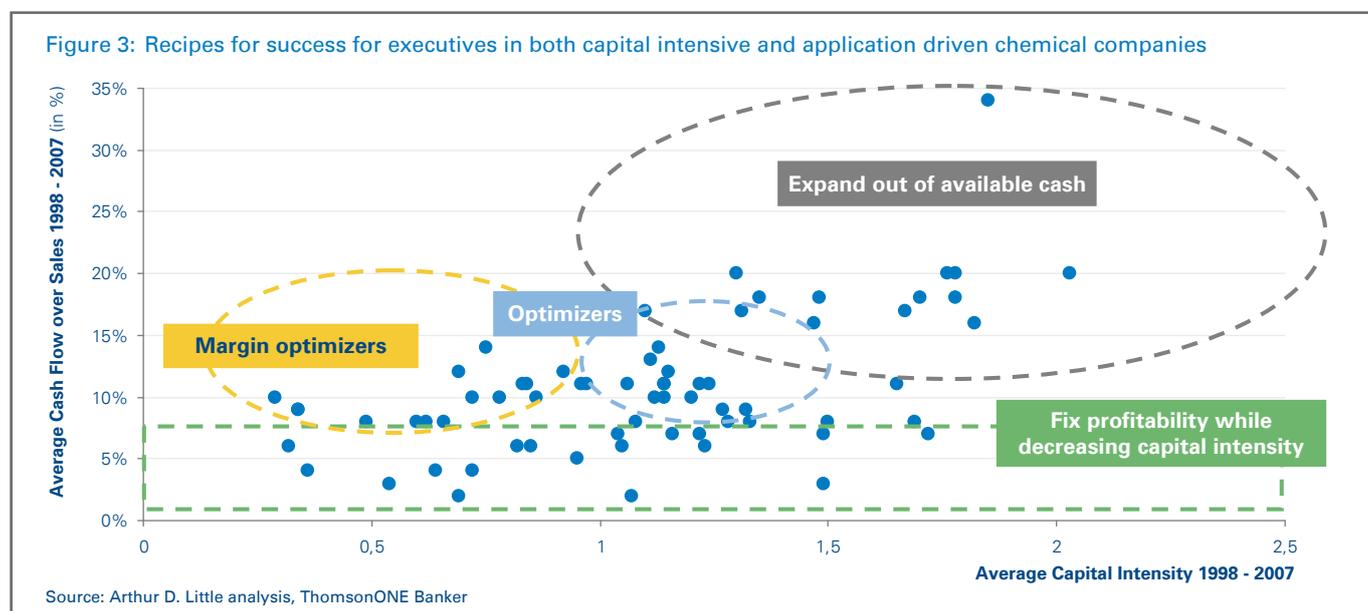
windfall profit and further strengthen their business. For these products the management should focus on strategic pricing, dedicated service offerings and innovations driven by the market and thus get paid by the customer industries.

For the commoditized products, the companies will have to focus on the contribution margin in order to manage the cash flow including a differentiated pricing along the line of reduced services, especially in the area of technical marketing and the supply of products.

Unfortunately, not all companies were able to generate a decent cash flow and some will be forced to **fix their profitability while working on both product mix and margins and an increase in Capital Efficiency**. In order to secure their existence, their management should take stringent actions like:

- Redefining their strategies and focusing on their core strengths, with aggressive business portfolio management
- Differentiating of their process chains and services according to innovative specialties and commoditized products
- Creating a sustainable complexity management with holistic process chain optimizations
- Implementing a stringent operations management with production network and cost optimizations
- Focusing on feedstock and raw material management including backward integration
- Adopting straight forward business models, organizations, services and overhead costs to a differentiated environment

By taking these rigorous actions, the top management will be able to fight the current downturn, avoid the life-threatening dangers and become stronger!



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Arthur D. Little

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