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PÖYRY POINT OF VIEW:
SHAPING THE NEXT FUTURE

Paper business in mature markets – is there hope?

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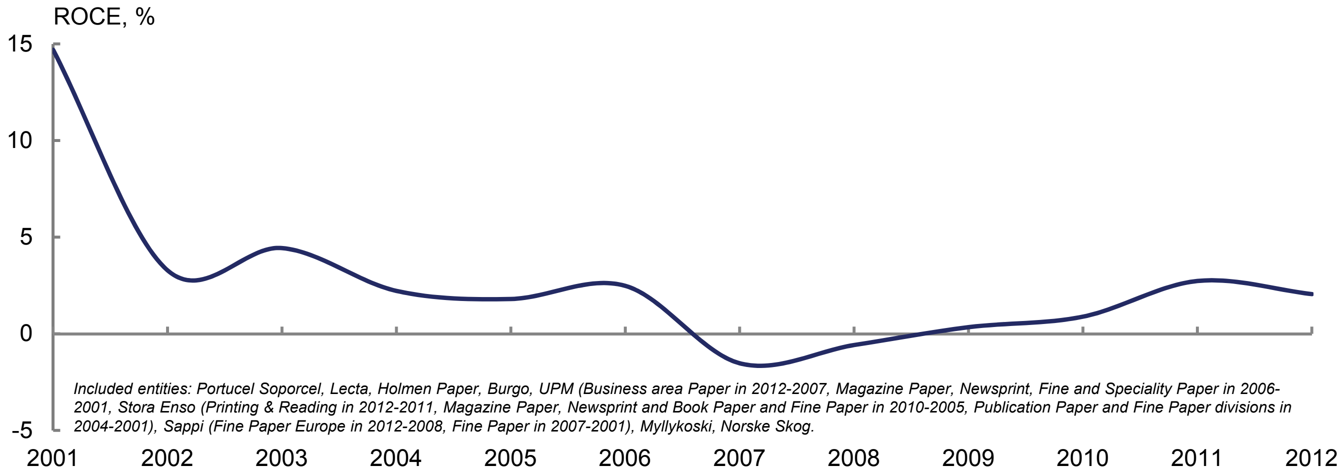
It is old news that the profitability of European graphic paper producers has been unsatisfactory in the 2000's. In fact, the industry never recovered from the recession of 2001-2002. Since then, paper production has returned less than 2% on capital employed.

Many have an explanation for the poor performance: overcapacity, declining demand, and low level of supplier concentration being perhaps the most often sited. These reasons explain a part of the situation, but markets are complex, and the drivers vary from one industry sector to another and over time. To learn from the past and to help create a brighter future for the industry, Pöyry Management Consulting has undertaken an extensive analysis of the profitability drivers within different sectors of the Pulp & Paper industry, identifying the key forces within sectors as well as the differences across them. In this Pöyry Point of View we explore the root causes behind poor profitability in the paper industry and take a look at the situation in other relevant industry sectors.

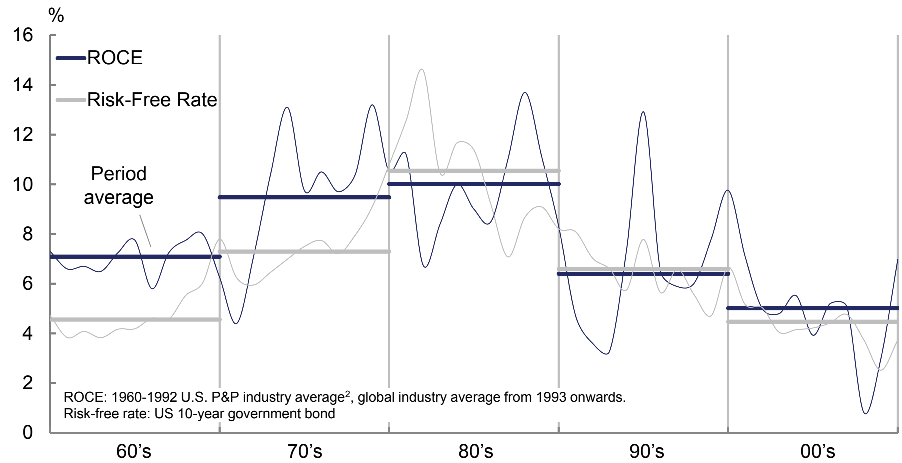
The findings are eye-opening and have huge implications on the validity of current operating models and management agenda. Unless paper producers in mature markets re-examine and transform their operating and business models, they will continue on a path of capital destruction.

FIGURE 1 - EUROPEAN GRAPHIC PAPER PRODUCERS' AGGREGATE ROCE



Paper is not the only industry sector which has performed poorly. Furthermore, the problem is not new. In fact, pulp, paper and packaging businesses have on aggregate only marginally surpassed the return of risk-free government bonds in the 80’s 90’s and 2000’s. Clearly there is more at play than overcapacity and declining demand [1].

FIGURE 2 - HISTORICAL PROFITABILITY DEVELOPMENT IN THE GLOBAL PULP & PAPER INDUSTRY.



[1] Michael E. Porter, Harvard Business Review, 2008
[2] Perkowski, 2001

Cost savings paradox

COST SAVINGS PARADOX – EUROPEAN PUBLICATION PAPERS

Is there a good 'excuse' for low profitability of European publication paper producers in the past decade? As a whole, the value chain has performed relatively well with an average ROCE of 8-9% in 2001-2010. The overall value chain is healthy. Paper (and printing) have clearly underperformed and other players have reaped the consumers' and advertisers' money.

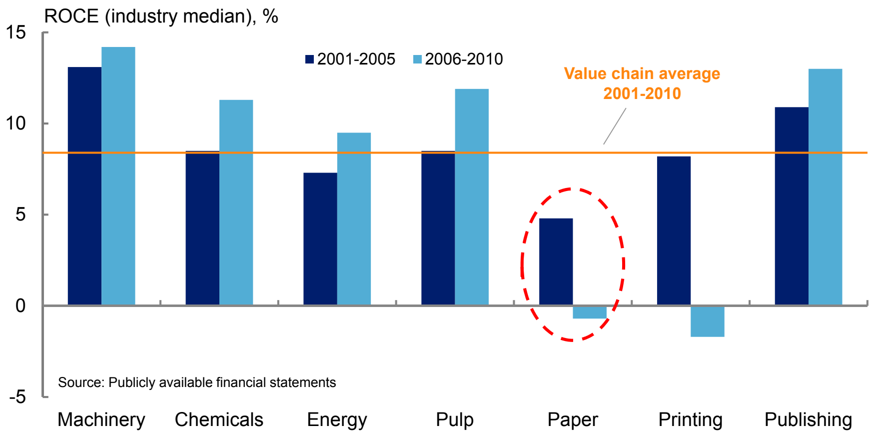
When by the mid 2000's paper producers were unable to raise prices to regain acceptable profitability, they started to take actions. Cost savings rose to the top of management agenda (where they have consequently stayed to this day) and high cost machines were shut down and personnel was reduced throughout. The achieved productivity increases were phenomenal. Productivity as measured by capacity per employee rose by 25% and 30% for LWC (Light-Weight Coated) and newsprint production, respectively, between 2005 and 2012. But as it turns out, the other parts of the value chain reaped the benefit (with the exception of printers).

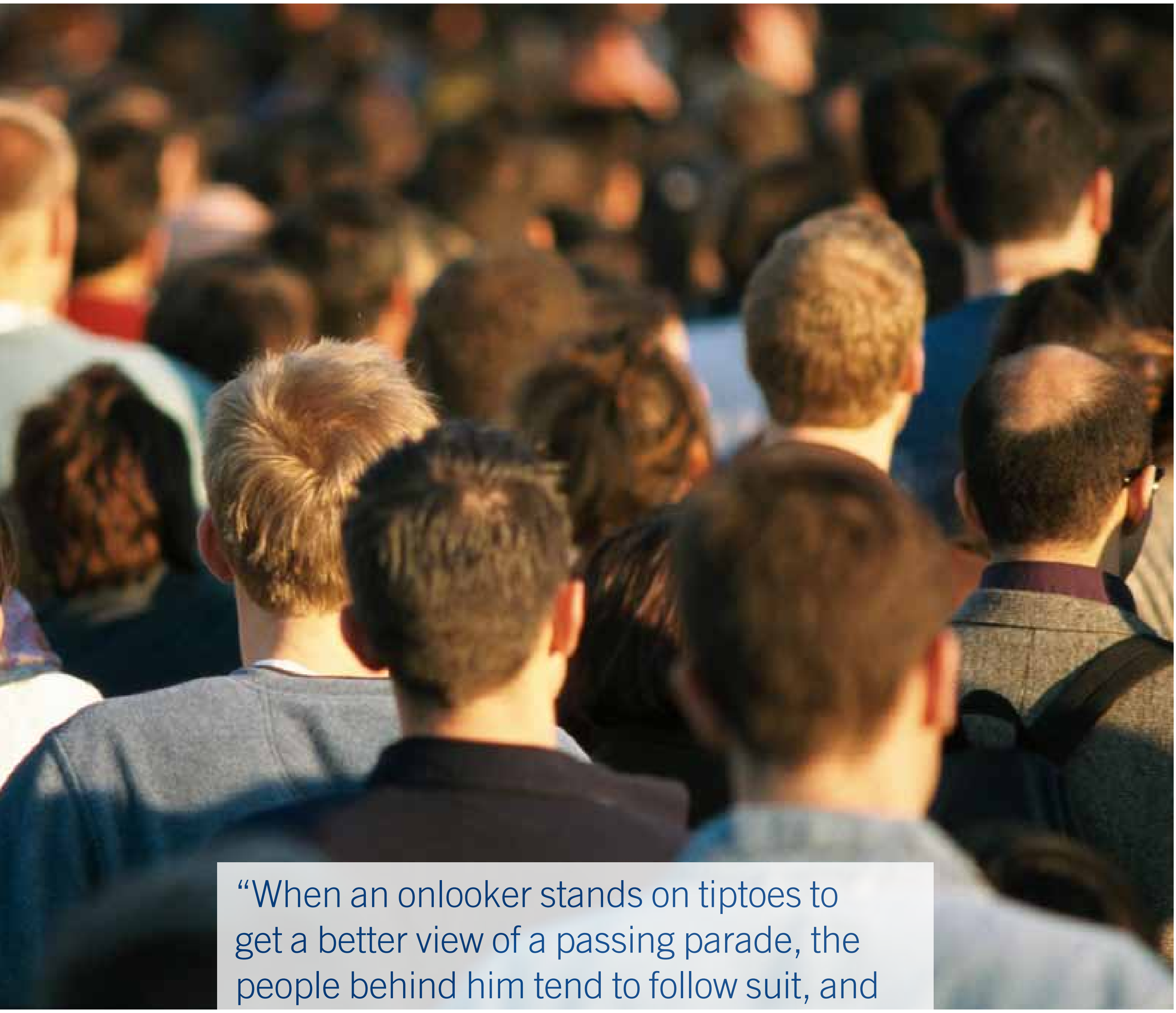
"Cost savings are needed for paper to remain competitive against other medias". Most often, this is not the case. In magazine end uses, for example, paper costs typically represent roughly 10% of the overall cost structure and as a result a 10% cost saving will only result in a 1% saving for the end user. And as we saw, the savings do not appear to have been passed on. Publishers stepped forward to take the benefit. Chemicals, pulp and energy suppliers were also better off.

It is clear that cost-cutting will not solve the industry's problems. This we have seen in the past 6-7 years. However, to an individual producer, being a forerunner in lowering costs can provide an advantage. As a result, all players must make strong efforts in this area because competitive forces ensure that someone is constantly cutting costs. But strategic actions are also needed to achieve a consistent improvement in industry profitability.

While cost-cutting will not solve the industry's problems, can you afford to fall behind?

FIGURE 3 - PROFITABILITY ACROSS THE EUROPEAN PUBLICATION PAPER VALUE CHAIN.





“When an onlooker stands on tiptoes to get a better view of a passing parade, the people behind him tend to follow suit, and in the end everyone sees just as poorly as before, yet all are strained from standing on their toes.”

Profitability drivers

Why haven't paper producers been able to make money in the past decade and why are some sectors of the industry better off such as pulp? The answer is not straight-forward. The competitive dynamics across sectors differ and there are numerous forces in play.

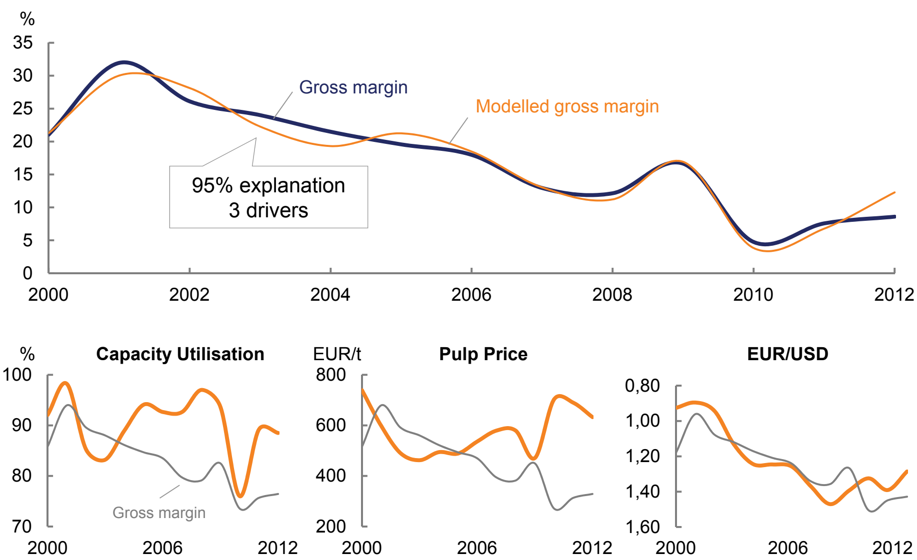
CASE: EUROPEAN PUBLICATION PAPER BUSINESS

The European coated magazine paper sector has been suffering from unsatisfactory profitability since the early part of the millennium, already before demand started to decline. Operating rates averaged 90% in 2000-2012. The sector has been moderately concentrated with a Herfindahl-Hirschman Index* (HHI) of 0.15 in 2000 and 0.17 in 2012. Close substitutes do, however, exist within the paper sphere such as coated woodfree and SC paper. Exports to outside Europe play a significant role having consistently accounted for roughly 20% of the sales volume. The supply curve has been and continues to be relatively flat i.e. cost differences between suppliers are small and no companies enjoy significant cost advantages compared to their competitors.

In 2000-2003, the old wisdom of "high operating rates - high prices" and "low operating rates - low prices", prevailed (Figure 4). However, after the recession of 2001-2002, when the economy and operating rates started to recover, prices continued on their downward trend all the while capacity utilisation went up to a relatively healthy 93-94%. This coincided with the strengthening of the Euro against the U.S. Dollar lowering competitiveness in key export markets such as North America. It seems that this development, potentially combined with the start-up of a major new paper machine in late 2004 as well as industry-shaking cartel revelations and the ensuing investigations, intensified competition catalysing a price war. Producers were unable to regain pricing power even as operating rates hovered near and above 95% from 2005 to late 2008 and demand continued to grow. This period did coincide with a decline in profitability among buyers, printers, something which certainly intensified their bargaining. The intensified competition among printers also made it more difficult to pass on price increases to the publishers. The prices for key substitutes, e.g. coated woodfree, have also been pressured and the producers have suffered from relatively low operating rates ever since 2001. But are magazine paper producers to blame for the low prices of CWF or vice versa?

There are a number of forces in play, but three key drivers together explain 95% of the profitability development: Capacity utilisation, BSKP price and the EUR/USD exchange rate. The catalyst for the decline in profitability, therefore, seems to have been the strengthening of the Euro from 2003 onwards. The resulting decline in export competitiveness intensified competition in the local market, which continued through 2005-2008 despite the high operating rates. The failure to adapt to the situation and capitalise on the healthy operating rates cost the industry billions of Euros in lost profits.

FIGURE 4 - PROFITABILITY DEVELOPMENT IN THE EUROPEAN PUBLICATION PAPER (LWC) SECTOR AND THE DEVELOPMENT OF THE THREE MAIN PROFITABILITY DRIVERS.



Profitability drivers:

- Capacity utilisation (1 year lag)
- Pulp price (BSKP)
- EUR/USD exchange rate

* The Herfindahl-Hirschman Index (HHI=$\sum s_i^2$, where s_i is the market share of company i) is commonly used to measure consolidation in an industry sector.

CASE: GLOBAL PULP BUSINESS

The global BHKP (Bleached Hardwood Kraft Pulp) business abides by some of the same fundamentals as coated magazine papers, but with very different results. On aggregate, capital returns in the global BHKP business have been 60% higher than in the European magazine paper sector in 2000-2012 and they have been 6 times higher in the latter half of the period. Part of this difference is explained by one often overlooked fundamental difference between the sectors.

The delivery rate (deliveries as a share of inventory) explains, in itself, 70% of the profitability development (Figure 5), which is to be expected given the highly commoditised nature of the business. The average operating rate in 2000-2012 was 93%.

BSKP prices were the second most significant driver, which is to be expected given the very high level of substitutability. Although BHKP prices have moved in tandem with the EUR/USD exchange rate (something that is often mentioned), the exchange rate does not explain the changes in profitability (8% correlation).

The fundamental and overlooked difference between pulp and paper, is the high gradient (i.e. steepness) of the pulp supply curve (see Figure 6). According to general theory, market price sets where demand meets supply. The elevated gradient of the BHKP cost curve provides attractive margins for almost all other players except the very highest cost, marginal producers (whose cost level defines price). The gradient of BHKP supply is today 6.3 compared to 1.7 for LWC. Furthermore, the gradient of BHKP supply has almost doubled since 2000, and this seems to have played a role in the doubling of the aggregate profitability in 2006-2012 compared to 2000-2006. Average operating rates for the periods were 93% and 94%, respectively.

Plantation-based BHKP is an attractive investment as long as the high-cost producers remain. What will happen when all supply is plantation based? The industry is also extremely susceptible to any negative medium and long term surprises in demand growth, and high price volatility is to be expected as a result.

FIGURE 6 - BHKP AND LWC COST OF SUPPLY AND MARKET PRICE.

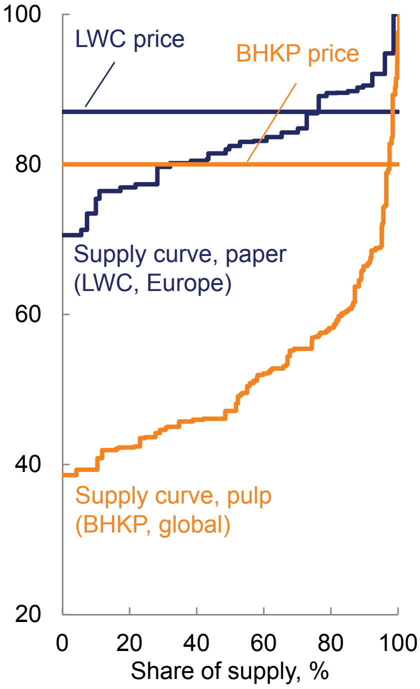
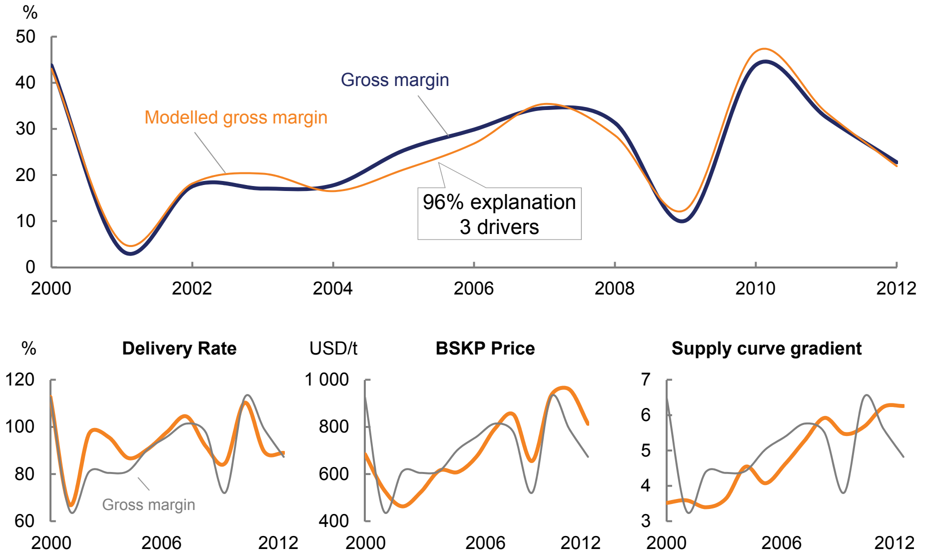


FIGURE 5 - PROFITABILITY DEVELOPMENT IN THE GLOBAL PULP (BHKP) SECTOR AND THE DEVELOPMENT OF THE THREE MAIN PROFITABILITY DRIVERS.



Profitability drivers:

- Delivery rate (1 quarter lag)
- BSKP price
- Supply curve slope

Industry sectors are different – no silver bullet

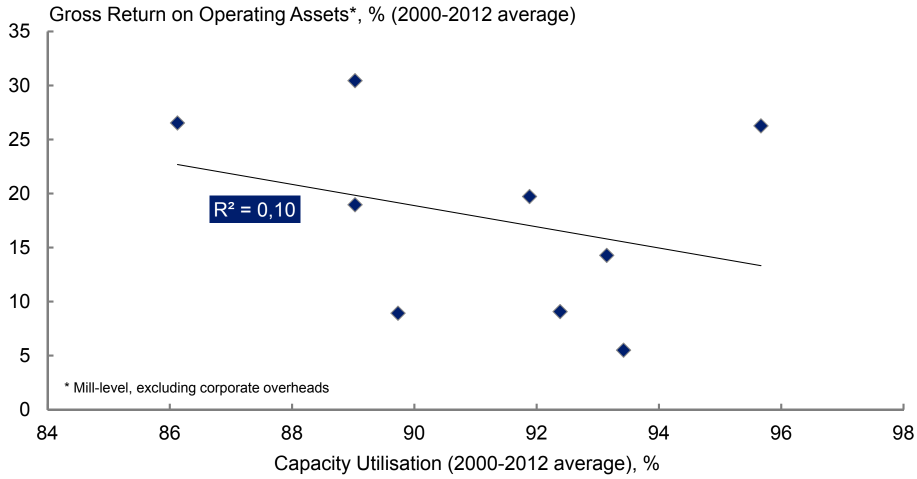
We saw certain similarities in the profitability drivers of the European magazine paper sector and the global BHKP business. However, there is no Holy Grail and each sector is different.

Capacity utilisation (i.e. operating rates) is one proxy for evaluating the rivalry among existing competitors. If capacity utilisation is high, there is limited incentive to try to win market share – and vice versa. Analysts and management alike have closely paid attention to capacity utilisation and there is clear evidence that it can be important in affecting prices and profitability within a sector as we saw previously. However, single-handed, it serves no purpose in assessing the attractiveness of different sectors (Figure 7).

Supplier concentration also impacts rivalry among existing competitors. High consolidation inhibits rivalry, with all other things being equal. As a result, many voices are pushing for further consolidation as a solution to regaining profitability. We believe that consolidation can be an avenue to improve pricing power, and there is some evidence to support this, but it is not the solution on all occasions. Other forces can override the effects of consolidation. We also saw that, for example, BHKP is on aggregate significantly more profitable than the European magazine paper business despite having clearly lower supplier concentration (HHI 0.03-0.04 vs. 0.15-0.17). This means that managers must thoroughly understand the sector-specific competitive environment to be able to assess the likely impact of consolidation in the short term, but also to evaluate how competitive dynamics may change in the medium to long term.

Overall, there is evidence that higher supplier concentration enables higher capital returns also in the pulp & paper industry (Figure 8). Importantly, we have also seen that consolidated businesses are not as sensitive to capacity utilisation driving margins up or down, something which is fundamental in sectors facing structural demand declines.

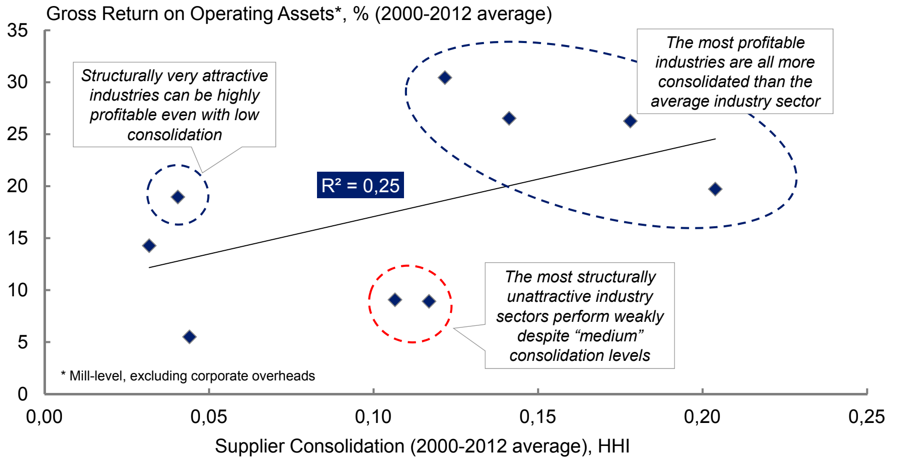
FIGURE 7 - PROFITABILITY AND CAPACITY UTILISATION ACROSS DIFFERENT SECTORS.



CASE STUDY: The Abitibi-Bowater merger significantly raised the supplier concentration in the North American newsprint business from HHI 0.13 to 0.20 i.e. from unconcentrated to moderately concentrated. Shortly after the merger took place at the end of 2007, newsprint producers managed to implement price increases and prices rose by 16% from 2007 to 2008. However, the merged entity carried almost $6 billion in debt (compared to about $7 billion in sales). The success of higher prices was short-lived. The recession came into full force towards the end of 2008, which combined with the structural demand decline in newsprint changed the balance of the competitive forces. Low operating rates combined with AbitibiBowater's high debt service costs reintensified competition. Capacity utilisation fell from 92% in 2008 to 73% in 2009. In this situation, the moderate concentration didn't matter and producers started to scramble for any cash flow they could get. Would the outcome have been different if AbitibiBowater's indebtedness had been more conservative? We think so.

As all sectors are different and there is no single factor, which explains sector profitability, it is dangerous to rely on anecdotes such as "yes, it's an attractive business as it is so consolidated" or "we need to get operating rates up and fill the machines to be profitable". Management and strategists must assess each business sector separately to understand and anticipate their attractiveness and profitability outlook.

FIGURE 8 - PROFITABILITY AND SUPPLIER CONSOLIDATION ACROSS DIFFERENT SECTORS.



"Capacity utilisation, alone, serves no purpose in assessing the attractiveness of different sectors. "

Back to the original question – is there hope for paper in mature markets?

How can the industry earn money now, when it didn't prosper even in the 'good' years when the economy was strong and demand growing? We certainly believe there is still hope, but it is conditional on the industry re-examining and redesigning its operating models and strategies.

European paper producers' reaction to unsatisfactory profitability has so far been centred on cost savings. Their impact on overall industry profitability is insignificant and they do very little to change the competitive dynamics in play, which are currently unfavourable to paper producers on aggregate.

Fortunately, despite the gloomy outlook for the European paper industry on aggregate, individual companies are still in control of their own destinies. There are numerous examples of companies executing successful and profitable strategies. One company has been able to build a truly low-cost production platform and a leading market position in the European uncoated fine paper business - generating a roughly 10% return on capital employed in the past decade. Another company was an early-mover to acquire low-cost production assets in Eastern Europe and Russia, which today generate very attractive returns. Additionally, the same company has been able to generate solid cash flows out of its leadership position in the sack and kraft paper and related converting business – a sector, which has faced declining demand since the 80's. A thorough transformation can also yield results: a major pulp & paper producer increased the focus of its portfolio considerably by divesting several non-core businesses such as coated papers and wood products, to focus on packaging and uncoated papers. The company then made numerous large strategic acquisitions to drive consolidation in its core packaging business and to expand geographically into growth markets such as Brazil and India. The company also formed joint ventures in other emerging markets. As a result, the competitive dynamics in the packaging sector appear to have improved due to the increased consolidation adding considerable value and the company now also has several attractive growth platforms in emerging markets for organic growth. Thus, even in difficult market environments, companies with the right strategies can create significant value.

As we saw in the beginning, the paper business has been challenging in the past and will continue to be so. Our view is that unless producers exert significant changes in the competitive forces and change the way the industry works, it is very likely that the sector as a whole will continue on its path of capital destruction. Thus, the paper industry needs to change the game… or wish for a significantly weaker Euro. For individual companies, the optimal strategies differ based on their position in the market, business portfolio and asset base.

We at Pöyry are ready to help and have identified game-changing opportunities in redesigning business models, operating principles and in seeking consolidation as well as improvements in asset platforms, where it matters.

About the Pöyry Point of View

Staying on top of your game means keeping up with the latest thinking, trends and developments. We know that this can sometimes be tough as the pace of change continues...

At Pöyry, we encourage our global network of experts to actively contribute to the debate - generating fresh insight and challenging the status quo. The Pöyry Point of View is our practical, accessible and issues-based approach to sharing our latest thinking. We invite you to take a look – please let us know your thoughts.

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