



Economic Impact of Tightened Environmental Regulation on Chinese Chemical Industry

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Ever since the tightening of environmental regulation in China started to affect the chemical industry, the economic impact of this tightening has been a topic of discussion – not only in China but also outside. Foreign competitors want to understand this impact in order to adapt their strategy and plans accordingly, and investors in such companies need to adjust their profit expectations based on the consequences of potentially changed competition from China.

It is clear that the tightening of environmental regulation is real and has a substantial impact on the chemical industry in China. For example, more than 2 000 chemical companies were closed down in Jiangsu province in 2018 after already closing down more than 1 400 in 2017, and in Shandong the provincial government announced plans to close down 1 500 chemical companies and about half of the chemical parks in the province. Other provinces have made similar announcements, although on a somewhat smaller scale.

However, this does not necessarily mean this is all negative for the chemical industry in China. In fact, there is substantial evidence for positive effects on the overall industry level, though of course the regulation has had disastrous effects on individual chemical producers. Apart from there being both negative and positive impacts, it is of course also not easy to separate the impact of tightened environmental regulation from that of other developments during the same period, for example the fluctuation of oil prices or the

looming trade war with the USA. Below, some individual effects are described, before then summarizing the overall impact.

Price development of commodity chemicals

During the year 2018, the China Chemical Price Index of Chemsino, which includes about 160 common chemicals, fell by 11.8%. Far more chemicals declined in price than increased, and for those chemicals with the most dramatic price increases, typically there were product-specific reasons such as reduced global production as a result of accidents rather than a tightening of environmental regulation in China.

During the same period, crude oil prices fell by slightly more than 20% (e.g., -21.9% for Brent). Chemicals which could be expected to have a close link to oil prices showed a similar or even higher price decline in China, e.g., benzene prices declined by 36.5%, toluene prices by 18.6% and styrene prices by 24.4%. So overall, there was no general tendency towards price increases of commodity chemicals that could be linked to the tightened environmental regulation. However, there are exceptions. For example, naphthalene prices rose by 33% as the major raw material coal tar became tight as a consequence of the tightened environmental policy.

Price development of specialty chemicals

Several segments of specialty chemicals

were indeed negatively affected by tightened environmental regulation in the recent past. For example, in 2017 the total coatings output of larger-scale Chinese enterprises increased by 12.4% while the corrected profit figure showed a decline of 5.6%. Dyestuff producers were also particularly affected by the tightening of environmental regulation, as traditional dyestuff production creates large amounts of waste water. Consequently, production was reduced, and for example Chinese prices for disperse dyestuffs increased by as much as 25%-37%. In some cases, increased environmental regulation turned China from an exporter to an importer. For example, China has been reported to import dye raw materials such as vinyl sulfone and H-Acid (an important dye intermediate) from India, reversing its previous role as an exporter to India, as local production of these chemicals declined by 50%-60%.

Increased profits of some foreign players

Several foreign chemical companies claim to have benefited from reduced competition from China as a consequence of tightened environmental regulation. For example, Japanese company Showa Denko expects its operating profit to jump 80% on the year in fiscal 2018 as they profit from price rises for graphite electrodes, demand for which has been driven by China switching to cleaner steel production while Japanese PVC producers such as Tosoh and Asahi



benefit from China's crackdown on coal-based PVC. And as mentioned above, Indian producers of dye intermediates also profit from the reduced Chinese capacity, which has allowed them to substantially increase prices.

Profit and sales development of the chemical industry

According to the National Bureau of Statistics, profits of the chemical industry increased by 19.1% in the period of January to November 2018 compared to the same period in the previous year. This makes the chemical industry one of the industry segments with the highest profit growth during this period. Similarly, China Merchants Securities found that compared with the forecast, the 2018 results of listed chemical companies generally exceeded expectations. The relevant industry analysts of China Merchants Securities attributed the good performance of the chemical industry to the rising volume and price of chemical products. Indeed, the profit increase of 19.1% was achieved with a sales increase of only about half of that (estimate based on CPCIF data for Q1-Q3 2018), showing that both sales volume and profitability improved.

This is another indicator that at least as a whole, the Chinese chemical industry was not substantially negatively affected by tighter environmental regulation in 2018.

Number of companies

According to CPCIF, the number of chemical enterprises above a defined size declined by 1 666 to 27 641 enterprises (-6%) in the first 6 months of 2018. This likely is an effect of the tightened environmental regulation, which forced the shutdown of even some bigger companies (only those are included in the number above). On smaller

chemical companies, the impact was much bigger, with an estimated between 10% and 50% of small companies having been closed down depending on province.

Costs and issues for individual chemical companies

So far, we have primarily discussed the economic effect of the tightened environmental regulation on the chemical industry (or larger segments of it) as a whole. Obviously on the level of the individual company, the impact may be much more drastic – this particularly applies to the thousands of smaller chemical companies closed down altogether.

Apart from closures, there are many other ways companies may be affected, for which only individual examples can be given. For example, polyurethane leather producer Anhui Anli states that a mandatory switch to more environmentally friendly natural gas as energy source led to cost increases of about RMB30 million in 2018, or about 2% of company sales. On the other hand, the company managed to increase both sales prices and sales volumes considerably, which may well be connected with the government shutting down some competitors. Another example is agrochemicals manufacturer Jiangsu Huifeng, which had to stop production in March 2018 due to tightened environmental regulation. Parts of the company are now being examined as an acquisition target by agrochemicals company Adama – the investment requirements to upgrade the facilities and be allowed to produce again are likely to have been a major reason for the willingness to sell parts of the company.

Conclusion

As stated in the introduction, the impact of the tightened environmental regulation on

China's chemical industry is not as clear-cut as one might assume. The effect on individual companies is highly differentiated. Overall, large producers of commodity chemicals seem to be the least affected while small producers of specialty chemicals have suffered most, particularly when active in those downstream chemical segments that are both highly polluting and relatively mature, such as dyes or solvent-based coatings. This is well-aligned with the presumed government goal to utilize environmental regulation not only to improve the environmental situation in China, but also to improve the industry structure by consolidating the industry and shutting down small, marginal players, particularly in mature segments with overcapacity.

What will be next? On current trends, it seems unlikely the central government will substantially change its course with regard to environmental regulation. New rounds of inspections are ongoing, and the initiatives of individual provinces seem to indicate that there is now even a kind of race among provincial governments to be regarded as particularly strict towards the chemical industry. And as shown above, so far, the economic losses caused by the tightened regulation seem to be limited and worth the gains derived from the overall improvement of the industry structure. That said, the current slowdown of the Chinese economy in combination with a potentially intensifying trade war with the USA may lead to individual government agencies becoming slightly more relaxed in implementing individual regulations towards existing players – not in a highly visible, potentially face-losing relaxation of existing policy but rather by allowing timelines for investments and relocations to stretch a bit more than previously anticipated. However, that does not mean that the eventual goal of achieving a far more sustainable Chinese chemical industry will be abandoned. ■