

Investment planning in the metals industry during turbulent times

Grab the Bull By the Horns

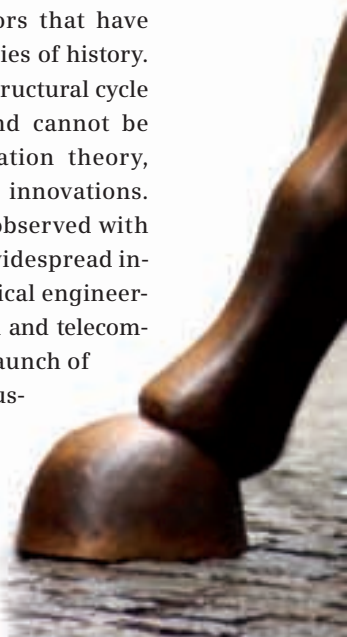
What should producers do in turbulent economic times such as these? Should they take a “wait and see” attitude, or should they proactively “grab the bull by the horns” and invest now to be ready for the inevitable market upswing – as predicted by most experts. What type of investments should be made during the undulating economic cycles? In the following, a general overview and various aspects of long- and short-term economic trends are presented to help producers in their quest to make the right investment decisions at the right time.

COVER STORY >

The present economic and financial downturn is heavily influencing the industrial and banking sectors, national economies and individuals on a worldwide scale. The landscape of the metals industry looks completely different now compared with mid-2008. Lower steel consumption and the sharp drop of steel prices not only cast a shadow on the current situation, but also demand a revised strategy by producers. But how can the economic up- and downturns be explained? Research on this topic beginning three-quarters of a century ago provides a possible answer and helps to put things into perspective. Already in the year 1925, the Russian economist Nikolai Kondratieff described that our economy fluctuates in major cycles of 40 to 60 years. He even predicted the Great Depression, which became reality only four years later with the crash on the Wall Street Stock Exchange in 1929. He described the long economic cycles as consisting of four distinct “seasons,” i.e., spring (beneficial inflation), summer (prosperity or stagflation), fall (recession or beneficial deflation) and winter (depression). A few years later, the Austrian economist

Joseph Schumpeter named these business cycles the “Kondratieff wave.”

However, many scholars dispute the validity of Kondratieff’s theory. Some believe that not enough is attributed to actual human errors that have created some of the economic maladies of history. Others believe that every wave is a structural cycle that has unique characteristics and cannot be repeated. According to the innovation theory, these long waves accompany basic innovations. For example, a rise and fall can be observed with the invention of the steam engine, widespread installation and use of railways, electrical engineering, the automobile, and information and telecommunication technologies. With the launch of these technological revolutions, industrial and commercial sectors are created. Between the long economic waves, several shorter cycles occur. Nonetheless, to answer the question of where we are now in the metals industry, we need to take a closer look.



Recent crude-steel production trends

On the basis of crude-steel production, three main long-term periods can be identified after the Second World War (Figure 1). A period of expansion up until the mid-1970s was followed by only moderate production increases for the next 25 years. What then came was a period of high growth that peaked during the middle of 2008 with an all-time high in monthly crude-steel production. Thanks to the strong parallel increase in the price for steel products, in addition to the costs for raw materials and energy, turnover in the iron and steel industry grew to an all-time remarkably high figure.

Triggered by the financial crisis, total crude-steel production plummeted within only six months. As seen in Figure 2, the monthly crude-steel production figures in late 2008 were down by 26.4 percent com-

pared to the year before, which was at a level similar to that in 2004. (All data from the World Steel Association). The respective monthly figures in the European Union, the Commonwealth of Independent States (C.I.S.), North America, South America and Asia, excluding China, fell by between 40 percent and 50 percent. The production levels during the first quarter of 2009 have not been this low for decades, which dramatically illustrates the current exceptional economical situation for the industry in these regions. Consequently, investments increasingly focus on maintaining >>



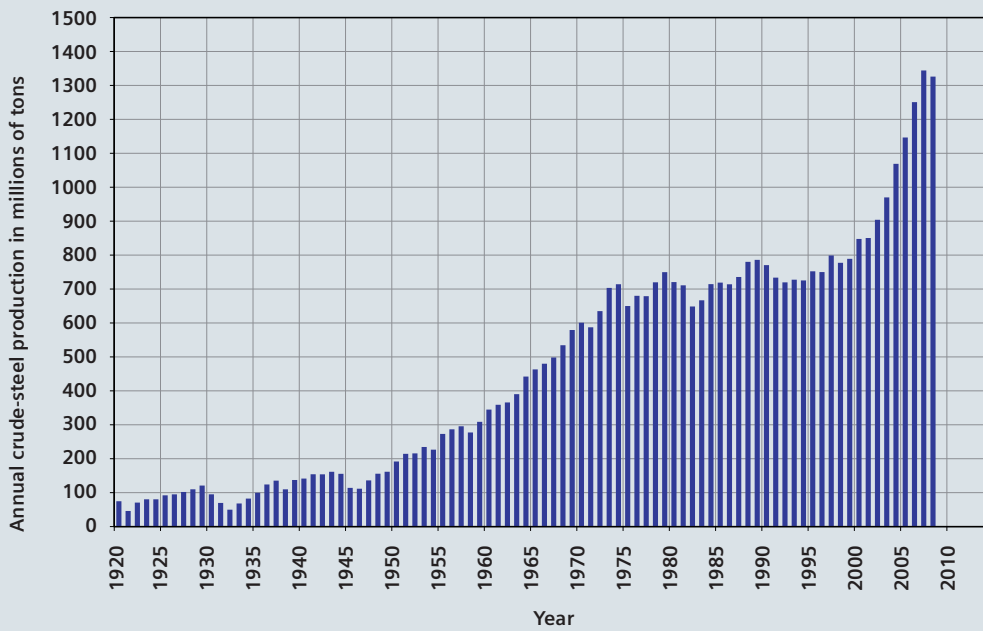


Fig. 1: Annual crude-steel production showed strong growth during the last decade.

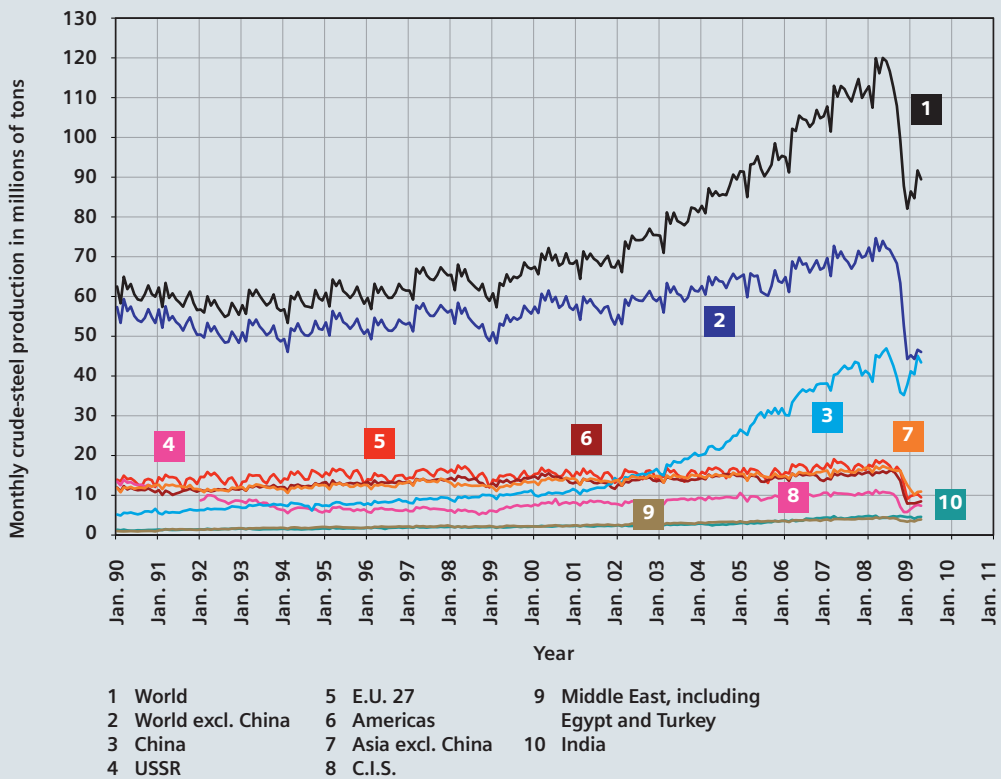


Fig. 2: Monthly crude-steel production figures for the world and selected markets. The exceptional reduction in steel production in late 2008 occurred in most markets worldwide.



>> existing facilities and equipment, and not on installing additional production capacity.

In China, the figures depict a different picture. The country has increased its monthly crude-steel production almost fivefold since 1998, from 9.5 to 46.9 million tons. For the first time ever, China is presently producing about as much crude steel as the rest of the world combined. In India and the Middle East, where crude-steel production doubled during the last decade, the production level only slightly changed as a result of the current economic crisis. These regions made an above-average contribution to the world's monthly crude-steel production that rose from 58.4 million tons in March 1998 to 74.7 million tons in March 2008. The figure slumped to 46.0 million tons in April 2009.

In most regions and countries of the world, the monthly production figures slightly increased in the last months compared to the low figures of late 2008. The World Steel Association expects the apparent steel consumption to decline 14.9 percent by the end of 2009, and noted that the improvement in steel consumption for the second half of 2009 will depend on the effects of government stimulation packages, the continued stabilization of financial systems and a return of consumer confidence. Other steel-market analyses say crude-steel production will decline for

the remainder of 2009, but expect production to reach 2008 levels again in 2011/12 (CRU assessment in addition to other sources).

Investment considerations

In a short-term view, the ups and downs in production and consumption show cycles lasting five to seven years, with a high peak in 2008. Parallel to the strong growth of crude-steel production, the order intake of companies organized in the section referred to as "large industrial-plant manufacturing" of the German Engineering Federation (VDMA), which also includes >>





>> the iron and steel industry, grew by 115 percent since 2003. This represents an all-time high of €32.8 billion in 2008.

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Accordingly, the level of investment activities was extraordinarily high, and directly related to the operating margin level of producers. This tendency to make major investment decisions in times with high operating-margins means that a producer can only benefit from an investment once the new plant facilities have started up – which often implies a time lag of several years. At that time, the economical conditions will most likely be less favorable. It would have been better, yet riskier, if the original investment decision had been made earlier, allowing producers to maximize their operating margin in the “good times.” From this perspective, it would therefore be more logical to invest independently of the short-term business cycle, however, always in line with a company’s long-term business strategy.

Another indicator for investment activity is a positive gross domestic product (GDP) that should be at a minimum of approximately 2 percent per year. Oxford Economics, a leading economic forecasting consultancy, forecasts a worldwide GDP growth of 2.2 percent in 2010 and 4.7 percent in 2012. These figures are subject to regional conditions, with countries such as China and India showing higher growth rates. The present government stimulation packages, such as the efforts to jumpstart the economy with investments in infrastructure combined with decisive measures to support the private bank sector, are important preconditions for investments also in the iron and steel industry. These programs must, of course, take into account ecological considerations in order to ensure a “win-win” situation for both the industrial sector and the environment.

Clear and realistic forecasts serve as the basis for decisions related to growth-based investments. The industry has to adapt to the current market situation, yet would be well advised to initiate a fitness program to be ready on time for the inevitable market recovery and continued growth. Strategies need to aim at making production more efficient, reducing specific material and energy consumption, improving product quality, increasing capacity base, meeting environmental regulations along with ensuring profitability and liquidity. In this issue of metals&mining,



a number of practical solutions are outlined that allow producers to meet many of these targets with only smaller investment expenditures.

The right time for investments

In general, three forthcoming economic phases affecting investments can be identified beginning mid-2009 (Figure 3). They can be defined as “rebound,” “growth” and “harvesting.” The key features of these phases are described as follows:

Phase 1 – Rebound

- Operation with existing capacities
- Investments in improved cost efficiency related to materials and energy
- Investments in modernizations
- Forward-looking strategies for phases two and three
- Planning of investments that are to become operational within a maximum time period of two to three years

Phase 2 – Growth

- Continued investments in cost efficiency
- Operation with existing capacities
- Execution of projects for phases two and three

Phase 3 – Harvesting

- Expansion of capacities
- Operation of new and modernized facilities
- Product-quality improvements
- Value-added production

For all phases, a continued benchmarking system for the price-cost ratio has to be monitored, accompanied by investments to maintain and improve current operations. Intensive and ongoing personnel training, regardless of the prevailing economic cycle, should be a cornerstone of company philosophy in the pursuit of business excellence. The introduction of >>

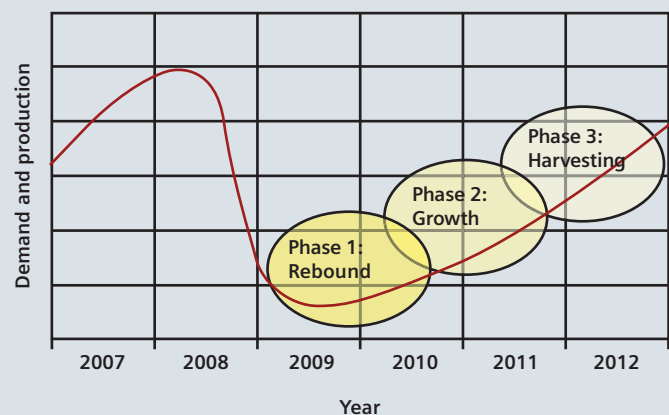


Fig. 3: Rebound, growth and harvesting phases for investments beginning in 2009

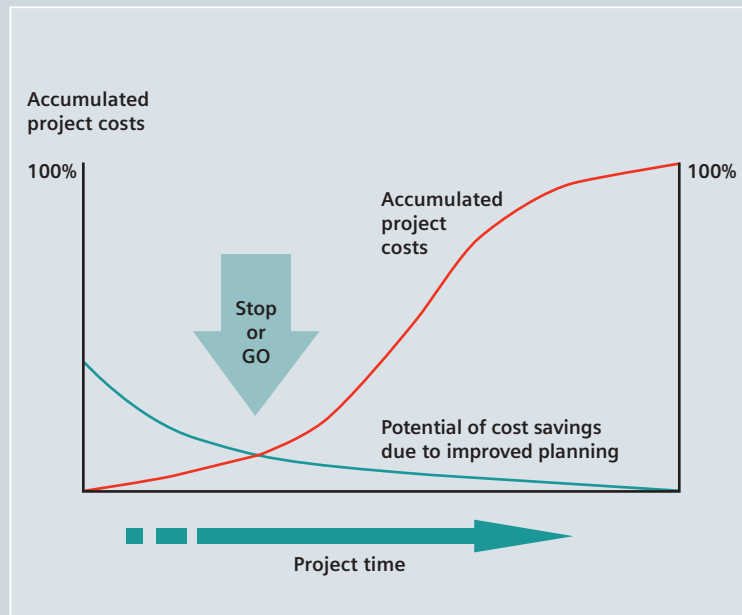


Fig. 4: Detailed initial studies offer the greatest potential to minimize overall project costs and project time.

>> innovative business models and financial schemes should be taken into consideration for mid- and long-term operations, including service contracts, outsourcing models and leasing models.

Figure 4 illustrates that with competent and thorough planning during the early stages of a project, there exists the greatest potential to minimize overall costs during a project. Subsequent operational expenditures can also be optimized for the entire lifetime of a plant. If a plant is not designed properly, it may no longer be possible at a later stage to rectify problems that may arise.

In the construction phase, every month of accelerated construction reduces pre-operating expenses and the total cash outflow, in addition to interest savings during construction. For the start-up and operating phase, a fast ramp-up curve together with safe and easy-to-learn technology and intensive personnel training are decisive factors to quickly reach the cash-flow break-even point. Therefore, the early involvement of a highly experienced engineering partner at every stage of a plant project is the basis for ensuring long-term project, plant and business success.

Profit from experience

As outlined above, operators need to invest also in turbulent times such as these in order to benefit during the current economic climate as well as to derive the most from the projected upswing in the economy.

Early involvement of an experienced engineering partner is the basis for long-term project, plant and business success.

The path from the project idea to the investment decision is often long and complex and involves considerable outlays of both time and money. Studies, which are the basis for early decision making, followed by the preparation of detailed technical and commercial specifications, should therefore start as early as possible. As a competent, comprehensive and experienced plant builder, Siemens VAI supports producers at every project phase to implement their investment targets with the best existing technology, in the shortest possible time and with the goal of achieving a high return on investment. ■

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