

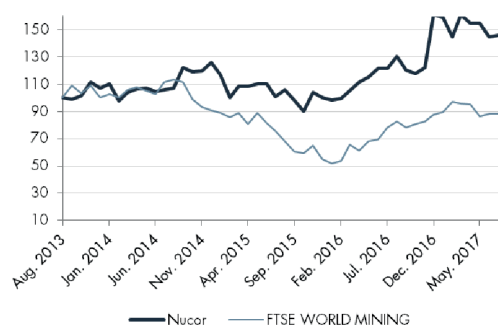


AUGUST 2017

Nucor: steel from scrap

Market profile

Country	United States
Sector	Basic Resources
Industry	Iron & Steel
Price (CHF)	55.92
52-week high (CHF)	66.16
52-week low (CHF)	43.60
Market Cap (CHFm)	17'843
Avg. daily volume	2'915'600
Beta	1.3
ISIN	US6703461052



Key metrics (in USD)

	2016	2017e	2018e		2016	2017e	2018e
EPS	2.26	4.179	4.699	PE	26.3X	13.8x	12.2x
YOY Growth	27.7%	84.9%	12.4%	EV/EBITDA	15.3X	7.1x	6.1x
Dividend Yield	2.5%	2.6%	2.6%	EBITDA Margin	6.9%	11.4%	12.7x

Executive Summary

Nucor and its affiliates manufacture steel and steel products. The company also processes ferrous and nonferrous metals and brokers pig iron, hot briquetted iron and direct reduced iron. Most of the company's operating facilities and customers are located in North America, but Nucor does business outside of North America as well. Nucor is America's largest recycler, using scrap steel as the primary raw material in producing steel and steel products.

Nucor can be considered as a levered play on steel. Therefore the investment case on the company is two-fold. First we are bullish on steel on a medium to long-term horizon. Second, we think the company fundamentals are likely to improve as its production capacity will become more efficient in the next few years and its balance sheet risk will be reduced. Both these factors should trigger a significant re-rating of Nucor's shares.

Some reason to be bullish on Nucor

1) A leading position

Nucor is only in a global number 12 position. However, in North America the company has leading market shares. If the Chinese implement their production cuts Nucor will gain significant pricing power and improve its margin.

2) A low cost producer

The company enjoys easy access to cheap and abundant scrap. The large investments in mini mills are now bearing fruits and Nucor is much more flexible and less operationally levered than before the financial crisis.

3) Successful turnaround and focus on cash generation

Nucor's management is now focused on cash generation in order to deleverage the company and then give money back to investors through value creation.

Nucor: steel from scrap

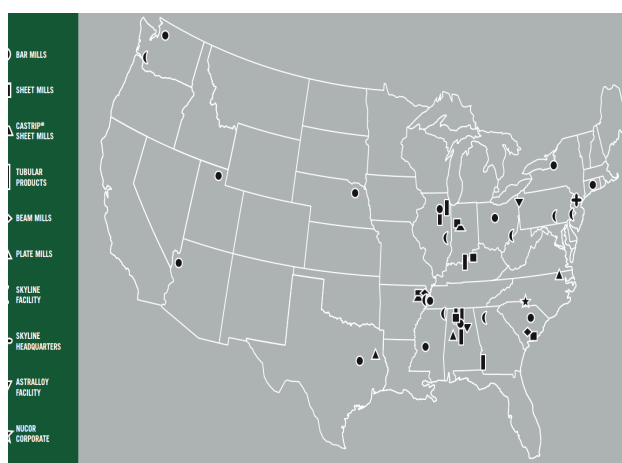
Olivier Aeschlimann, Senior Financial Analyst, Fund Manager

August 2017

Company description

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Fig. 1: Location of productive assets
Source: Nucor



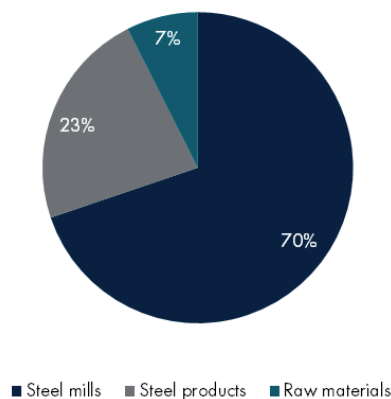
The company reports its results in three segments: steel mills, steel products and raw materials (Fig. 2).

Company's main products

Steel Mills: in this segment, Nucor produces sheet steel (hot-rolled, cold-rolled and galvanized), tubular products, plate steel, structural steel (wide-flange beams, beam blanks, H-piling and sheet piling) and bar steel (blooms, billets, concrete reinforcing bar, merchant bar, wire rod and SBQ).

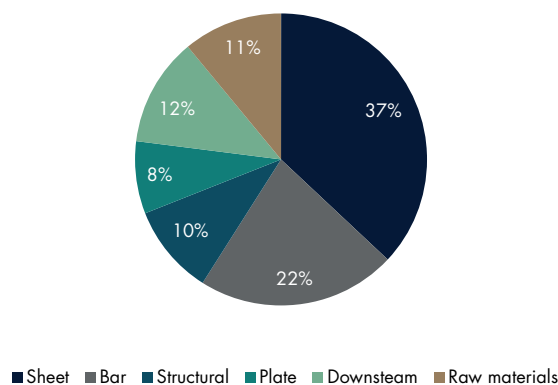
Nucor manufactures steel principally from scrap steel and scrap steel substitutes using electric arc furnaces, continuous casting and automated rolling mills.

Fig. 2: Sales by products
Source: Nucor



Steel Products: in this segment the company sells steel joists and joist girders, and steel deck to general contractors and fabricators located through the USA and Canada. Nucor sells and installs fabricated reinforcing products primarily on a construction contract bid basis. These products are used by contractors in constructing highways, bridges, reservoirs, utilities, hospitals, schools, airports, stadiums and high-rise buildings. The company additionally manufactures cold finished steel, steel fasteners, steel grating, wire and wire mesh in standard sizes and maintain inventories of these products to fulfill anticipated orders.

Fig. 3: Diversified product mix
Source: Nucor

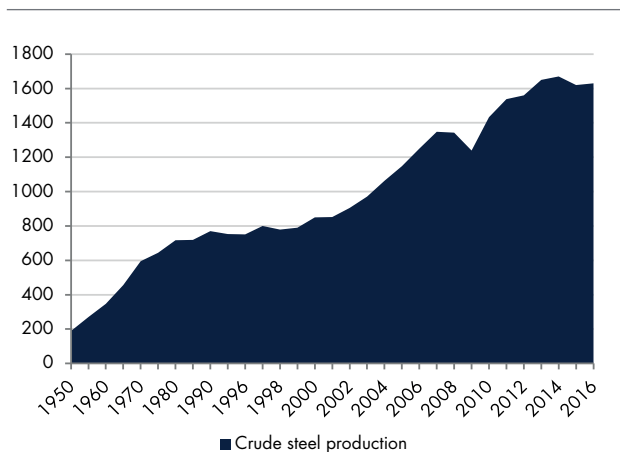


In the raw material segment, Nucor processes ferrous and nonferrous scrap metal for use in the company's steel mills and for sale to various domestic and international external customers. The company also brokers ferrous and nonferrous metals and scraps substitutes, supply ferro-alloys, and provide transportation, material handling and other services to users of scrap metals (Fig. 3).

Industry overview

The crude steel market amounted to about USD 1 trillion for 1630 million tons produced in 2016. The total market was in surplus as global apparent demand surpassed supply by approximately 115 million tons. Actually, global demand has been stagnating since 2013. From 2016 to 2020, demand should grow at about 1.5% per year, a much slower pace than the global economy.

Fig. 4: Global steel production growth
Source: World Steel Association



The steel production process

The rise of steel began with the 19th century Industrial Revolution in Europe and North America. The Bessemer Process was the first inexpensive industrial process for the mass production of steel from molten pig iron. The key principle is removal of impurities from the iron by oxidation

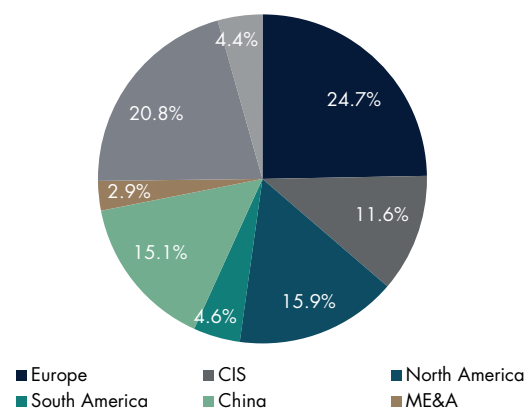
with air being blown through the molten iron. The oxidation also raises the temperature of the iron mass and keeps it molten. In the mid-20th century, steelmaking advanced on many fronts. Basic oxygen steelmaking and electric arc furnaces (EAF) transformed the main production processes, making them faster and more energy efficient. They even allowed manufacturers to re-use scrap as input material. The rise of electric arc furnaces in the 1960s paved the way for mini mills and a significant change in the steel industry. Traditional integrated mills based on basic oxygen furnaces require a blast furnace to supply molten iron as input. They are large and costly to build. Mills based on EAF are different. Using scrap or direct reduced iron or pig iron as input materials, they are generally smaller and simpler to build and operate – hence the name “mini mills”. They can also be set up with smaller level of capital.

Today, steelmakers know how to combine the exact mix of iron, a small percentage of carbon and other trace elements to produce hundreds of types of steel. These are then rolled, annealed and coated to deliver tailor-made properties for innumerable applications.

Evolution of an industry

Until the early 2000s, steel was mainly produced in the Americas and Europe.

Fig. 5: Steel production in 2000
Source: World Steel Association



In 2000, the USA and Canada accounted for 15.9% of the global production, on an equal footing with China (15.1%). However, China's entrance into the WTO and its development program drastically changed the global landscape. As a result, in 2016 China produced 50% of the world steel output whereas the USA and Canada accounted only for 10%. In addition, western producers had to restructure their operations and turned as much as they could to mini mills and to more sophisticated products in order to elude the margin compression induced by cheap imported steel.

Enters the dragon

The surge of the Chinese steel production reflected the fierce will of the Middle Empire to catch up with developed economies on industrialization, urbanization and infrastructures. To that end, the Chinese government provided substantial subsidies to state-owned companies. Obviously, those companies were not managed for profitability but, perfused with cheap electricity and capital, they just maximized volume growth. They were so successful that it didn't take too long before even the huge Chinese market became saturated with steel. Consequently, instead of cutting capacity, which would have resulted in a loss for state-owned banks and may have created social unrest among led-off workers, China started to export its steel over-pro-

duction. This is the root cause of a radical shift in the sector. Unable to compete on prices, most western steel producers gradually got rid of their crude steel business to concentrate on more value added activities such as engineered and alloy products (Fig. 6).

Section 232: a game changer?

The Trump Administration launched a self-initiated Section 232 investigation of the impact of imported steel on US national security on 20th April 2017. Section 232 of the Trade Expansion Act of 1962 authorizes the President to impose import restriction to protect US national security. The term "national security" is not defined, although past investigations have indicated that a threat to the US security can arise either by fostering US dependence on unreliable or unsafe imports, or by fundamentally threatening the ability of US domestic industries to satisfy national security needs. The law lists various factors that must be considered, focusing on:

- 1) Domestic production required for national defense requirements.
- 2) Capacity of domestic industry to meet such requirements.
- 3) Impact of imports on domestic industries and displacement by excessive imports of any

Fig. 6: Steel production in 2016
Source: World Steel Association

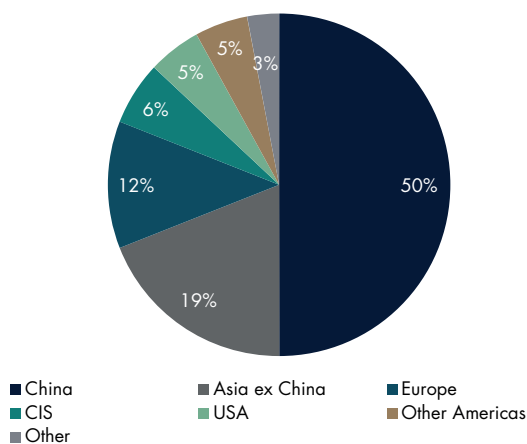


Fig. 7: Section 232
Source: US Department of Commerce



products causing substantial unemployment, decrease in government revenues, loss of investment or specialized skills and productive capacity.

4) And other relevant factors

If the Commerce department makes an affirmative finding that imports threaten to impair US national security, it must submit a recommendation to the President regarding appropriate relief within 270 days of the date of initiation.

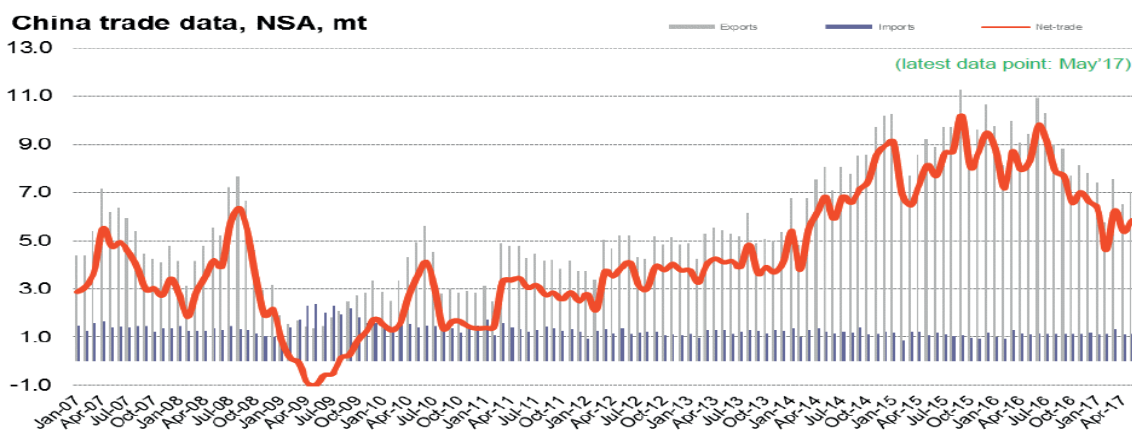
Section 232 investigations are rare. The last one occurred in 2001. Since the Trade Expansion Act’s passage in 1962, there have been 26 investigations with a handful resulting in the imposition of import sanctions. There have been only 2 Section 232 investigations since the US joined the WTO in 1995 – on crude oil in 1999 and iron and steel in 2001. In both cases the Department of Commerce declined to recommend that the President take action under Section 232. In the end, it is far from certain that the Commerce Department will recommend an action under section 232. On the one hand, the US steel sector is affected by Chinese imports, but other industries may also be penalized if the imports of cheap steel would come to an end. For example Stanley Black & Decker noted in their 2Q 2017 report: “We are seeing increased pressures in commodities, namely steel and some purchased components”. Illinois Tool

Works echoed similar pressure, saying: “Price/cost was unfavorable due primarily to higher steel costs” and Harley-Davidson warned: “Raw material costs were significantly higher during the quarter behind rising steel and aluminum costs”. For all these reasons, we doubt that Section 232 will be invoked beyond the now usual Presidential rhetoric against Chinese imports.

The beginning of a new era?

However, things may be about to change, and this time for the better. Harbinger of this change? Chinese steel exports have decreased by 25% year on year in May 2017 and this trend should continue. In 2016, China announced its intention to shut down 100 to 150 million tons of capacity over the next five years. Some analysts believe this is a reflection of the Chinese new strategic orientation. The country, which exported its over-production at terrible prices, will indeed cut its output. This should realign the market until then characterized by overcapacity. Even so this decision has nothing altruistic. The Chinese authorities finally have understood the pointlessness of sustaining unprofitable companies. They now want to concentrate on profitability. Steel production is not only very capital intensive and consumes a lot of energy, it is also extremely polluting. Pollution has now become an extremely sensible issue in China with major cities like Beijing being among the most polluted in the world.

Fig. 8: China’s steel export
Source: ArcelorMittal

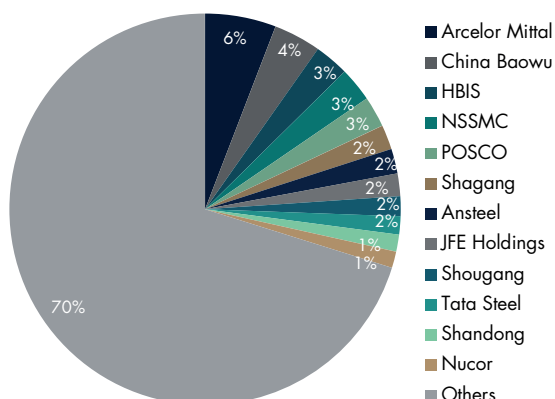


As the investment driven growth model is now running out of steam, the next leg of growth will be the development of a consumer economy. Consequently, the resources formerly devoted to steel will be deployed much more effectively for the development of the Chinese economy 2.0, which will be oriented on services, household consumption and new environment technologies. If sustainable, this new environment would greatly favor a company like Nucor, which would now enjoy a low cost producer position in a stabilized market.

Competitive positioning

With only 1% share of the steel market, Nucor is in a global number 12 position, far behind ArcelorMittal, the global leader with a 6% market share. One of the reasons why the steel market is so fragmented is its (supposedly) strategic nature. Most governments still consider that their respective country should maintain some steel production capacity in order to be able to produce tanks and other heavy military equipment in case of war, without relying on imports from other countries. This mindset seems to persist even nowadays within EU members. Though, it is arguably just a pretext to avoid the dismantlement of a strongly unionized sector. Very few politicians would like to be associated with the termination of their country's steel sector.

Fig. 9: Global market shares
Source: Bloomberg Intelligence



Key success factors

The (non-Chinese) steel business relies on three key success factors:

1) Differentiated and specialized products. As it is obvious that it will not be possible to compete on price with the Chinese steelmakers, Western producers have to produce differentiated products and compete on quality.

2) Efficient smelters: as explained earlier, mini-mills are much less capital intensive and more flexible to use. For the same reason Electric-arc furnaces are better the blast furnaces.

3) Access to raw materials: in the mid-2000s, ArcelorMittal embarked into a buying spree of iron ore mines so as to never to depend on the BHP Billiton or Rio Tinto of this world. However, this process was extremely costly. When the price of iron ore decreased sharply in 2015, some of the mines bought during the boom years became unprofitable and Arcelor Mittal had to process a relatively more expensive iron ore than the one available on the market. To avoid this situation, Nucor processes mainly steel scrap in its electric-arc furnaces. Nucor is the largest recycler in North America.

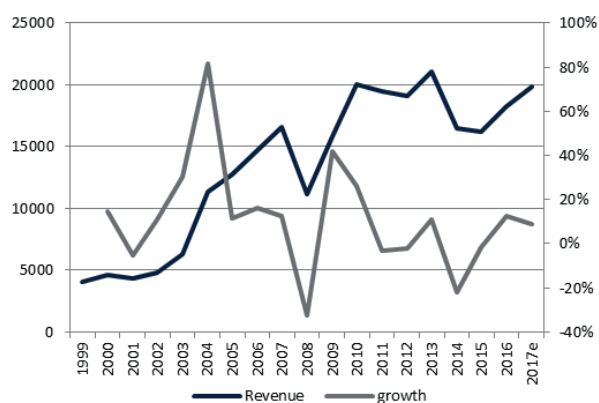
Nucor is well positioned as far as these three success factors are concerned. This should help the company maintain its margin, provided the Chinese authorities put an end to their dumping practices.

Financial analysis

Revenues

The graph illustrates the cyclical nature of the steel industry. Revenues surged 80% in 2004 then decreased to 12% in 2005 and plunged by -32% in 2008 as the great financial crisis was taking its toll. The company's sales resumed their growth in 2009 from a lower base, but since then, sales growth have been hectic. This reflects the loss of market shares endured by non-Chinese companies, as the Middle Empire exported its

Fig. 10: Evolution of revenues
Source: Nucor

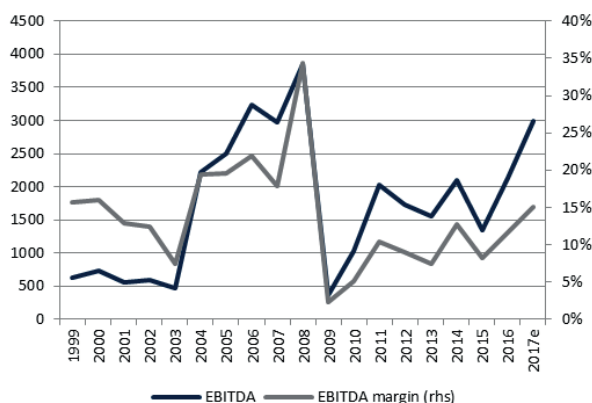


overproduction at very low prices. However, this difficult period seems to have come to an end as Nucor is regaining some pricing power.

EBITDA and EBITDA margin

In line with revenues, the company's EBITDA enjoyed a strong growth until 2008 before collapsing in 2009. However, from 2011 EBITDA has somewhat stabilized and on a positive note, company's margin are again on the rise. This is a bumpy road as the way to improve profitability is a difficult one, but despite that, Nucor should be able to achieve a 15% EBITDA margin

Fig. 11 Evolution of EBITDA
Source: Nucor

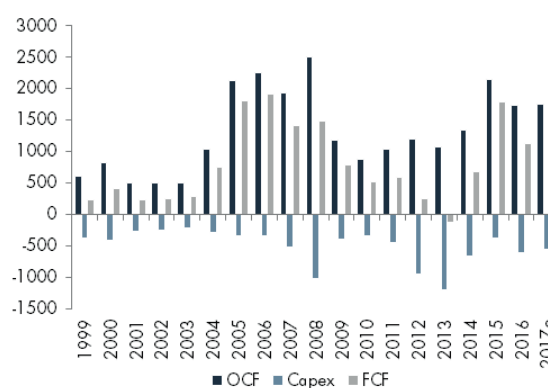


in 2017 and maintain it in the future. Of course these projections assume the massive cheap imports from China to decrease as the Middle Empire is curtailing its productions capacities.

Cash flows

The company's operating cash flow shows the familiar cyclical pattern with a peak in 2008 and troughs in 2009 and 2010. On the capex side, Nucor invested massively in 2007 and 2008 as it wrongly anticipated the expansion to continue. However, the company cut abruptly its spending after the crisis as it had to adopt a cash preservation strategy. However, in 2012 and 2013, the company increased again its capex to modernize its production capacities and Nucor turned free cash-flow negative in 2013, the first time ever since 1999. But Nucor is now benefiting from these investments and has returned into positive free cash-flows territory.

Fig. 12: Evolution of cash-flows
Source: Nucor

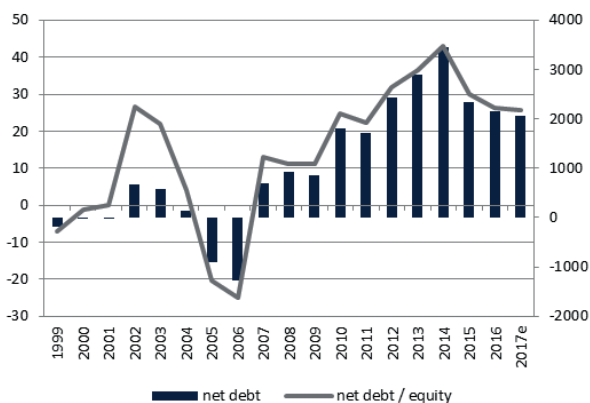


Balance Sheet

Nucor is a highly indebted company. The financial leverage has increased from 2006 as the company expanded its production capacity. However, the net debt remained low thanks to the strong cash generation until 2010. Then, as the company struggled to restore its profitability, its



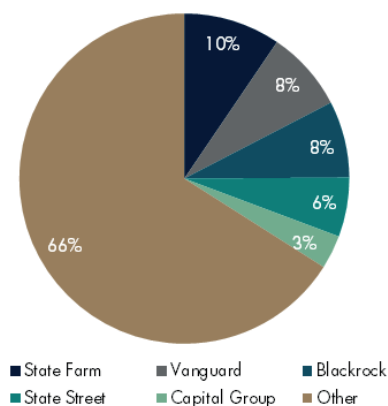
Fig. 13: Net debt and net debt/equity ratio
Source: Nucor



financial profile deteriorated sharply and the net debt to equity ratio reached an all-time high of 42.8.

Actually, the gross debt has remained relatively stable since 2010, but the free cash generation issues the company was confronted with in 2012 and 2013 exacerbated the situation. From 2015 the net debt profile improved markedly and Nucor is now in a position to deleverage gradually.

Fig. 14: Main shareholders
Source: Nucor



Shareholders' structure

The main shareholder of Nucor is State Farm Mutual Automobile Insurance Company, a US mu-

tual insurance firm which holds 9.5% of Nucor. Vanguard and Blackrock, two prominent asset management companies hold respectively 7.9% and 7.6% of Nucor. In other words, Nucor is detained by large financial institutions which do not intend to interfere with the management's strategy. Consequently, the free float is over 99%.

Investment case

Nucor can be considered as a levered play on steel. Therefore the investment case on the company is twofold. First we are bullish on steel on a medium to long-term horizon. Second, we think the company fundamentals are likely to improve as its production capacity will become more efficient in the next few years and its balance sheet risk will be reduced. Both these factors should trigger a significant rerating of Nucor's shares. Some reasons to be bullish on steel

1) Steel is not the metal with the fastest growing demand. However, its uses are widespread among a large variety of sectors. Therefore the demand should remain stable globally. That said, there are segments which are growing faster, namely in the automotive and aeronautic sectors where new kind of high performance steel can favorably compete with aluminum.

2) On the supply side, the market is now close to equilibrium. Most western producers have drastically reduced their capacity or turned to more specialized, higher margin products. However, the real game changer is the Chinese reversal of policy. At last, Chinese authorities realized that subsidizing inefficient company in a market characterized by overcapacity was a huge loss of resources. What is more, steel production from blast furnaces is extremely polluting and at a time when environmental concerns are growing among the Chinese people, it is a wise move to cut production. In the end, the steel market will no longer be flooded by sold off metal and this should help maintain an appropriate pricing power for companies like Nucor.

Some reason to be bullish on Nucor

1) *A leading position*

Nucor is only in a global number 12 position. However, in North America the company has leading market shares. If the Chinese implement their production cuts Nucor will gain significant pricing power and improve its margin.

2) *A low cost producer*

The company enjoys easy access to cheap and abundant scrap. The large investments in mini mills are now bearing fruits and Nucor is much more flexible and less operationally levered than before the financial crisis.

3) *Successful turnaround and focus on cash generation*

Some years ago, Nucor and most of the western steel sector was considered by many analysts as an obvious candidate for short sellers. The company was over indebted and free cash flow generation was barely positive. To make matters worse, Nucor was continuing to spend lots of money on capex at a time when the price of steel was stubbornly heading south. However, since 2016, tangible signs of a successful turnaround have gained visibility. This success was not only due to the price recovery of most metals but also to cost cutting and rationalization initiatives of Nucor's management. It is said that one should not trust a captain who never has sailed in heavy weather. So Nucor's management certainly has proven its ability to get the company out of the rut and will never let the company experience again such hard time. The management is now clearly focused on cash generation in order to deleverage the company and then give money back to investors through value creation.

Risks

Nucor is an American company. The political risk is therefore limited even if we cannot exclude a trade war triggered by the Trump Administration. However, as any company located in the US, Nucor may face a class action or lawsuits with unexpected outcomes. As a consequence, we cannot exclude a juridical risk. Nucor is highly

indebted. Failure to meet covenants or to satisfy any debt-related obligations could expose the company to a severe financial risk. The company may also have to raise fresh equity, which would translate into dilution for existing shareholders. Finally, as a metal producer, the company has no control over the price of its output and is consequently exposed to market risk. If the price of steel were to fall and stay below Nucor's production costs, the going concern assumption of the company would become questionable.