

US Steel Industry

Wednesday March 14 2018

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Protectionist move delights steelmakers but raises questions for other manufacturers and fears of trade war, writes *Shawn Donnan*

Trump tariffs split business between joy and outrage

When economists from the Congressional Budget Office surveyed the US steel industry in 1986 and tried to decide whether trade protections going back to the 1960s had helped reinvigorate America's steel companies, they came to sobering conclusions.

"Protection did not achieve its long-term goal of producing a substantial modernisation of the industry," they wrote. Moreover, successive trade moves appeared to do little to increase either domestic output or jobs. Between 1968 and 1984, the economists noted, the number of US steel workers had "declined continually" so that it "was nearly half of what it had been".

Were it not for Donald Trump, that CBO report might serve as a dusty lesson of history. But after what trade experts have described as the greatest act of American protectionism since the Nixon administration, the president has, more than three decades on,

again turned the US government into the protector of industry.

Mr Trump imposed tariffs of 25 per cent on steel imports and import taxes of 10 per cent on aluminium. In doing so, he has thrown out decades of orthodoxy and what had become an American mantra about the pitfalls of protectionism — and declared the rescue of the US steel industry a matter of national security.

"Steel is steel. You don't have steel, you don't have a country," the US president said as he signed the tariffs. The question is whether the policy will be remembered as a much-needed act of political and economic genius, as Mr Trump and some of his aides claim, or populist folly.

The move is ostensibly aimed at China, which the US has accused for years of dumping excess steel capacity on global markets, depressing prices and hurting domestic producers. Prompted in part by a 2014-2015 surge of steel from China, which took the country's share of US imports to about 8 per cent, years of



Go-ahead: President Trump holds up the declaration on steel import tariffs at the White House on Thursday — Getty

anti-dumping action and tariffs have reduced that figure to just 2 per cent last year, according to official data.

Mr Trump and the US steel industry claim that China has circumvented those tariffs by trans-shipping steel via third countries. They also argue global efforts to negotiate a reduction in Chinese production have been ineffective.

Yet while the president exempted neighbours Canada and Mexico, which together accounted for a quarter of US steel imports in 2017, the countries likely to suffer most are allies such as the EU, Brazil, South Korea and Japan.

President Trump's initiative has been hailed by US steel executives and union leaders. It also led to promises of new investment and the restarting of moth-balled mills.

US Steel, one of the country's largest producers, announced the reopening of one of two idled Granite City blast furnaces in Illinois. The workforce had fallen to just over 700 from 1,800 before the temporary partial closure in 2015. Other producers such as Nucor have said the tariffs will pave the way for their own expansion plans.

However, the tariff decision prompted

angry reactions from steel-consuming industries and also from within the ranks of the Republican party. Republicans have watched previous presidents such as George W Bush — who briefly imposed a 30 per cent tariff on steel imports in 2002 — make what they see as the same economic mistake.

"Tariffs are taxes that make US businesses less competitive and US consumers poorer," more than 100 Republican members of Congress wrote to the president as he was preparing to sign his proclamation.

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US Steel Industry

A glint of hope flickers in the rust belt

Ohio Youngstown was once known as ‘Steel Town USA’, then as a symbol of decline. Can its fortunes be revived, asks *Patti Waldmeir*

‘Don’t sell your house.’ That was President Trump’s advice in July last year to the people of Youngstown, Ohio, a city that captures in the presidential imagination all that has gone wrong with industrial America — and all that he promises to put right.

Known for much of the last century as Steel Town USA, Youngstown has become a potent symbol of American loss, an icon of deindustrialisation in a region that bled jobs, wealth, people and purpose in the long decline of the US steel industry.

Steel was the heart and soul of Youngstown, and President Trump is promising that it can be that way again — because of tax cuts, his Make America Great Again campaign and the tariffs that he announced this month to freeze out foreign steel.

His vow to revitalise US industry, and with it the ailing steel sector, helped propel him to a surprise victory in the crucial state of Ohio in the 2016 presidential election. He has promised duties on foreign steel, risking a trade war, to make good on that promise.

Even with help from the White House, the role that the industry can play in the economic recovery of the Youngstown region is far from certain, steel industry experts say. Steel still has a tight grip on the heartstrings of this Rust Belt city: many, if not most local residents proudly claim a grandfather or father who was a steelworker. But more than half the population of the area has left since the day in 1977 known as Black Monday, when the first big Youngstown steel mill closed, without warning. Since then, almost all the big mills have gone. Can steel reinvent itself to play a significant role in the economy?

Pat Harmon, 47, a trim steelworker with broad shoulders and a salt and pepper beard, is betting on it. His father lost his job in the Black Monday era, sending the family fleeing to Oklahoma to look for work. Mr Harmon is back working on the site of the mill where his father and grandfather worked, now owned by Vallourec, a French group that specialises in tubes for the oil and gas industry.

The mill was bought and sold, closed and reopened until Vallourec, in a joint venture with Sumitomo Corporation of America, acquired the old Youngstown Sheet and Tube Brier Hill facility in 2002 from North Star Steel. Vallourec invested \$1.05bn — by far the biggest investment in the region’s industry in decades — to build a new pipe mill on the site in 2013. Today it is Youngstown’s primary remaining mega mill.

Vallourec Star, a sprawling complex of old steel mill and new pipe mill, is hailed locally as a symbol of the future that steelmaking can have in the area. The shale boom, triggered by advances that have made it possible to extract gas and oil from previously unproductive rocks, has created a surge in demand for steel tubes to use for drills, well casing, pipelines and other equipment.

Vallourec invested in the area to serve that demand throughout the US — but also in the nearby Utica and Marcellus Shale formations, with vast reserves of natural gas. Sarah Boyarko of the regional chamber of commerce says Vallourec is “part of the game-changing message” about Youngstown’s recovery.



Tom Leary of Youngstown State University is an expert on the history of the local steel industry. “The new era of steel, the re-industrialisation of the area, that was the narrative around Vallourec at the time,” he says. However Vallourec Star employed only about 800 people locally at its peak, and that dropped to 500 by 2015, when the oil and gas industry hit the skids. Now it is recovering and so is Vallourec Star, but employment is back up to only 600.

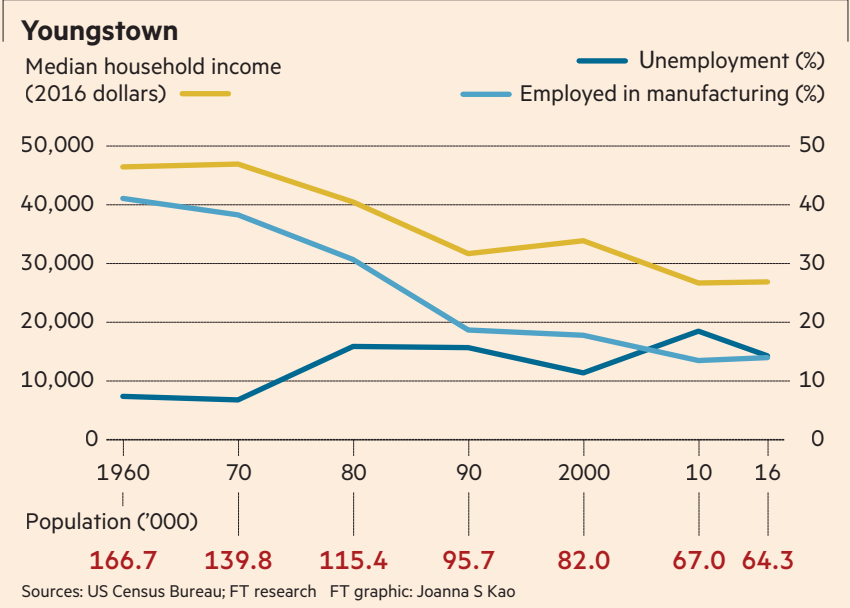
State economic development officials estimate that two-and-a-half to three times as many jobs are indirectly supported by the plant in spin-off economic activity. Still, that is a fraction of the tens of thousands of steel jobs that Youngstown once supported. Even with the new Vallourec mill, the industry accounts for only 8 per cent of the GDP of the Youngstown region, including nearby Warren, Ohio, and a part of western Pennsylvania, just over half the 15 per cent it represented a decade ago, says the regional chamber of commerce.

“Now 3D printing is dominating the ‘next hope for the valley’ narrative,” says Dr Leary, referring to the Mahoning Valley, an epicentre of the US steel industry for much of the last century.

The area is slowly beginning to recover, but by diversifying away from steel and into service and high-tech

Steel resolve: (clockwise from top) Pat Harmon; Republican Tracey Winbush; union rep Jose Arroyo

‘If you start making the right decisions over trade and dumping, you can rebuild the industry mill by mill’



industries. Vallourec Star is doing well on the back of the oil and gas industry recovery. Vallourec’s North American revenues, most of which are accounted for by the Youngstown facility, rose 85 per cent in the 2017 fiscal year over the previous year.

Mr Harmon says he makes a good living from steel. “I have much better quality of life than my grandparents, I have property and a nice home, I can send my kids to college,” he says, adding

that the steel industry will be around in Youngstown when his grandchildren enter the workforce.

But he is one of the lucky ones with a job in the last surviving mega-mill. Can tariffs entice half a dozen new Vallourecs to set up shop in the Mahoning Valley? Can Mr Trump’s campaign to stop foreign steel “dumping” restore Steel Town USA to its former glory?

“I don’t know of anyone else thinking about starting up a steel mill in the area,” says Judson Wallace, president of Vallourec Star. “This is a steel centre of excellence, there is a lot of tribal knowledge here, that’s why we built the second mill here. There is the old steel mill work ethic of the people.”

Tariffs that penalise imported steel will not necessarily bring in new mills. “We are on both sides of that issue,” says Mr Wallace, referring to President Trump’s decision to impose so-called section 232 tariffs against imported steel. “When both our rolling mills are at full capacity we can’t produce enough billets [lengths of steel prepared for final manufacturing] to supply both of them, and we need to buy billets from sister companies,” including a Vallourec subsidiary in Brazil.

On the other hand, he says trade sanctions affecting Brazil “would prevent us from benefiting from all the capacity we have invested in, with an impact on our ability to offer more jobs”, echoing a concern of others in the steel industry that consume as well as produce steel, that such moves will raise prices for them.

At the United Steelworkers branch that covers Youngstown, union representative Jose Arroyo, whose father and grandfather were steelworkers, says “there’s a nostalgia, there’s a pride, when you hear the word steelworkers it gives a warm fuzzy feeling in the belly. Everybody remembers the heyday when everybody worked in the mill.”

He predicts that section 232 tariffs can bring those days back again. “Yes, a lot of the furnaces are gone,” he says, gesturing at an aerial photo on the wall of the union hall that shows the site of another old steel behemoth, RG Steel (formerly Republic Steel), adding “now that’s nothing but rubble”.

“But our steel mills didn’t disappear all at once and if you start making the right decisions regarding trade and dumping, you can start rebuilding the steel industry mill by mill,” he says, adding that tariffs “will drive capital expansion — instead of tearing down mills maybe some will restart or build new mills or expand”.

That, after all, is what President Trump promised in the 2016 election: to bring back mills and jobs to places like Youngstown. What if that doesn’t happen? Will it hurt the Republican party in the midterm Congressional elections this year? Could it even rob him of a second term as president?

“Steel matters as a symbolic issue, it’s connected in people’s minds with trade, and jobs,” says John Green, a political analyst at University of Akron. “The default position of a lot of people in the Mahoning Valley is protectionism.” That applies even to those who are not directly helped by steel tariffs, or could even be hurt by them, he says.

But Tracey Winbush, vice-chair of the Mahoning County Republican Party, says support for Mr Trump goes beyond steel tariffs. “They didn’t vote for him because of steel tariffs,” she says, adding that Mr Trump’s support is underpinned by something more fundamental. “He says what they are thinking.”

Youngstown may always be Steel Town in the popular mind, but it is hard to believe that steel will again play a lead role in the local economy, whatever Mr Trump may promise to the contrary.



Trump tariffs split business between joy and outrage

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Studies by economists have shown that the 2002 Bush tariffs on steel, which were abandoned after the World Trade Organization ruled in favour of an EU challenge in 2003, led to the loss of more jobs than they saved.

This month a similar study sponsored by the Trade Partnership, a pro-trade business group, predicted that Mr Trump’s tariffs would lead to the net loss of almost 146,000 jobs. This is because while the tariffs were likely to add more than 33,400 jobs in the US metals sector, the study warned that they may also cause almost 180,000 lost jobs throughout the rest of the economy.

By invoking US national security, the tariff plans have also raised what trade experts see as potential threats to the global trading system. The General Agreement on Tariffs and Trade (GATT), which defines the laws of global commerce, includes an exception for national security that was intended to allow signatories to erect trade barriers and protect critical industries in times of war or national emergency. That has been invoked only rarely in the more than 50 years since the US and other countries signed GATT in 1947.

The concern is that Mr Trump’s use of the loophole will encourage other countries to do the same. Moreover, some fear that if the US is challenged at the WTO, as it is likely to be, it could decide to dispute the global trade arbitrator’s jurisdiction over the question of what poses a proper question of national security.

Given what some see as the weak case for the Trump administration’s national security argument, that would clear the way for other countries such as China to take a similar approach.

Mr Trump’s actions have also led to threats of retaliation from the EU and countries such as Brazil that have added to the risk that the global economy could be consumed by a destructive trade war.

“Once we start down this path, it will be very difficult to reverse direction. An eye for an eye will leave us all blind and the world in deep recession,” said Roberto Azevêdo, WTO director-general.

Taking to Twitter, Mr Trump had argued in response to such fears that “trade wars are good, and easy to win.” He also threatened to fire back at any EU retaliation by levying new tariffs on European cars.

Donald Trump, president of the European Council, responded: “The truth is quite the opposite. Trade wars are bad and easy to lose.”

All of which means that in deciding to protect the steel industry — and some of the ailing rust belt communities that helped elect him in 2016 and may reelect him in 2020 — President Trump has turned what many see as a narrow American economic interest into a global problem.

Trade tariffs are first step in squeezing out overcapacity

OPINION

Scott Paul

It has been clear since summer 2016 that President Trump would impose tariffs to protect the US steel industry. He outlined his strategy on the campaign trail in Monessen, Pennsylvania.

“When subsidised foreign steel is dumped into our markets, threatening our factories, the politicians do nothing,” he said. “I will use every lawful presidential power to remedy trade disputes, including the application of tariffs consistent with Section 201 and 301 of the Trade Act of 1974 and Section 232 of the Trade Expansion Act of 1962.”

Apparently nobody took him seriously. Instead of working to rein in global overcapacity, resist an epidemic of beggar-thy-neighbour dumping and end an inexplicable tolerance for China’s state-led assault on the free market, the elite consensus has focused ire on the president, while continuing in

a state of denial as Mr Trump’s tariff strategy has begun playing out. He has announced his intentions to implement heavy tariffs on steel imports.

Signing those papers will focus attention on an existing problem. World steel production far exceeds demand, and China is most complicit. Beijing first acknowledged in 2007 that it was producing more steel than it could use.

Yet instead of limiting production, China brought online 552m tonnes of extra capacity between 2007 and 2015, and produces half the world’s steel. By contrast, the US produced 78.5m tonnes of steel in 2016, down considerably from its peak of 136.8m tonnes in 1973.

Consumers may view overcapacity as a gift in the form of depressed prices but western steelmakers and steelworkers see it differently, with justification. As a commodity, steel pricing is already subject to volatility. Compound that with the scale and scope of non-market actions by China, including state subsidies and limited market access, and you have quite a mess.

That is why most big steel producers practise active or tacit protection and

deploy tactics to absorb or deflect excess production. In the US, the industry brought dozens of successful steel dumping cases before the Obama administration. The US Department of Commerce maintains 169 anti-dumping and countervailing duties, intended to balance foreign subsidies, on imported steel products.

This piecemeal approach has done little to staunch import penetration, however. Finished steel imports accounted for 27 per cent of the market in 2017. The US still imports more steel than any other nation, so one can hardly claim this is a protectionist racket.

Efforts by the Organisation for Economic Co-operation and Development and the G20 to reduce overcapacity in the sector have failed to rebalance the market. The World Trade

Overcapacity is a malady that begs for a hacksaw, rather than a laser-guided scalpel some would prefer

Organization is functionally and institutionally incapable of mediating China’s state-led capitalism and the industrial overcapacity it spawns. Put simply, efforts to mitigate the damage of China’s practices have failed.

Mr Trump has chosen to stand up and fight back. He is within his rights to do so. The Section 232 instrument his administration may deploy is a blunt tool in the arsenal of trade measures. But overcapacity is a malady that begs for such a hacksaw, rather than a laser-guided scalpel that some people prefer.

Many pundits forecast that “trade wars” will follow, which is an attention-grabbing headline. This seems far-fetched. Even with broad steel tariffs in place, the US is still likely to be the world’s largest steel importer. Instead of threatening the US with retaliatory measures aimed at Wisconsin dairy or Kentucky bourbon — which are sure to be quashed by the WTO — governments would be better served by quarantining Chinese steel imports until Beijing winds down overcapacity.

If the WTO were to claim that the US cannot invoke national security as a

rationale to impose steel tariffs, that would provide Mr Trump’s trade ambassador, Robert Lighthizer, with more evidence that the trade body is dysfunctional.

I visited Coatesville, Pennsylvania, which has made military-grade steel since 1810. The steel mill delivers world-class efficiency but its future is uncertain. Mr Trump’s action will be cheered in this community. Market corrections are not without pain, but for decades the pain has been concentrated in the steel valleys of America.

The market, our workers and consumers are best served when global production and consumption are better aligned, and fair market pricing is restored. Mr Trump can jump-start a long-overdue process of squeezing out massive overcapacity. Such steel tariffs would be an audacious first step in normalising the steel market.

Scott Paul is president of the Alliance for American Manufacturing. He served on President Trump’s American Manufacturing Council before resigning in August last year

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US Steel Industry

Obama’s green plans live on as efficiency drive

Environment

The administration has rebadged attempts to cut emissions from a heavily polluting sector, says *Ed Crooks*

The Trump administration has abandoned many environmental and energy initiatives pursued under President Obama, but it has retained efforts to improve efficiency in the steel industry. The policy has been rebadged — what was climate strategy for Mr Obama is now about cutting costs and improving competitiveness, and the threat of global warming is not mentioned — but the initiatives are remarkably similar.

Greenhouse gas emissions from the US steel industry have plunged in the past few decades, dropping by 37 per cent since 1990. Initiatives pursued by the Trump administration could play a role in continuing that reduction. The chemistry of the standard steel-making process makes it a large producer of greenhouse gases. In a blast furnace, iron oxide reacts with carbon monoxide, produced using coal, to create iron and carbon dioxide. The iron then goes into a furnace where it is mixed with scrap steel, and oxygen is blown into it to strip away carbon and impurities. This typically releases about two tons of CO2 for every ton of steel. The global steel industry is responsible for a significant share of worldwide greenhouse gas emissions: about 5 per cent of the total, on some estimates. The US industry’s emissions have fallen, however, because of a shift away

from that process used in integrated steelworks. The electric arc furnace technology in a “mini-mill”, which typically uses scrap steel as its main or sole input, creates about one-fifth of the emissions, depending how its electricity is generated. The share of US steel production using a blast furnace has dropped from 72 per cent in 1980 to 60 per cent in 1995 and 33 per cent in 2016. There are signs, however, that the transition to electric arc furnaces may be nearing its limits. US Steel, which uses integrated steel plants, has been considering building a new electric arc mini-mill in Fairfield, Alabama, but that project has been on hold since 2015. David Burritt, chief executive, told analysts in February that there were “a few things left before we make that call to get back in the game”. Already, 86 per cent of US steel is recycled and the availability of scrap

may be a constraint on new investment in electric arc furnaces. The other important technology that has emerged, thanks to the shale gas boom, is “direct reduced iron”, or DRI. Natural gas is processed to create hydrogen and carbon monoxide, and the ore is heated in that mixture to extract iron. The metal is often then compressed to form briquettes, used principally in electric arc furnaces but sometimes in a basic oxygen furnace. Its greenhouse gas emissions can be significantly lower than for the traditional blast furnace, although higher than using scrap metal. Here too, however, there have been signs of technology hitting difficulties. Nucor in 2013 started production at a DRI plant in Louisiana, but has suffered persistent problems and last year made about half of its intended capacity. If the US industry is to reduce emissions further, that puts the focus on

finding other methods and in particular on reducing energy consumption. Last September, the Department of Energy published what it called a “bandwidth study”, looking at ways to reduce energy use in production of advanced high-strength steels, to

undergoing research and development worldwide were applied. In January, the department backed up that analysis with two grants to support research into improving the efficiency of steel production, one for AK Steel and one for Boston Electrometallurgical Corporation (BEMC). The technology being developed by BEMC, molten oxide electrolysis, offers a way of making steel from iron ore that “promises large savings in energy and carbon dioxide emissions”, the department said. In today’s market, the US industry gains no benefit from its lower emissions, which are well below those of the Chinese and Indian industries in terms of CO2 per ton of steel. Nor is it under pressure from President Trump to reduce emissions further. But the effort to make the industry more competitive may end up delivering that outcome all the same.



US Steel, led by CEO David Burritt, is considering a new mini-mill but the plans are on hold for now

Leading steelmaker chief on Trump, tax and the case for protection

Interview

John Ferriola of Nucor calls for an end to the ‘whack-a-mole’ game on dumping, writes *Ed Crooks*

For Nucor, the largest US steel group by market capitalisation, 2017 was a paradoxical year. The domestic market was difficult, with the share taken by imports rising sharply, but the group had its most profitable year since before the financial crisis of 2008-09. “For us and our customers it was a better year than the market,” says John Ferriola, Nucor’s chief executive since 2013 — speaking shortly before the March 1 White House meeting of steel executives, at which Mr Ferriola sat alongside the president as Mr Trump announced plans to introduce tariffs. Nucor’s pre-tax profits in 2017 were \$1.75bn, up 35 per cent from 2016. The company has outpaced much of the US steel industry over the past few decades. Its mini-mills, using mostly scrap metal as an input, have proved highly competitive against rivals using the older basic oxygen furnace technology to make steel from pig iron. Mr Ferriola adds that the company has also benefited from sustained investment, which it kept up during the downturn. Among those investments were increases in capacity for mills in Nebraska, Tennessee and South Carolina that make engineered bar, which is used in industries including energy, transport and in manufacturing earthmoving equipment and vehicles. The investment paid off with a 7 per

cent rise in sales of engineered bar and sheet products to the carmaking industry last year, even though vehicle production fell by 3 per cent. Mr Trump had helped the steel industry before his decision on tariffs, Mr Ferriola says. The deregulation strategy has been important, not so much for rules directly affecting steelmaking, but in a regulatory approach that aims to remove barriers to investment for the industry and clients. He says: “Time can be spent meeting the needs of our company and serving our customers, rather than filling out paperwork.” He is a strong supporter of the shake-up of the US tax system that was passed into law at the end of last year, including a reduction in the main rate of corporate tax from 35 per cent to 21 per cent, and temporarily enhanced allowances for some types of capital investment. The company booked a \$175m gain from the tax changes in the fourth quarter of 2017, but Mr Ferriola expects a much broader impact. “Tax reform was an important issue for Nucor, for the whole industry, and for our customers,” he says. “The additional returns that we will see from this . . . I am sure will spur us to make even greater investments quicker.” The company has six growth projects (such as installing a new micro mill) under way this year, five in the US and one in Mexico. Overshadowing all of these developments, however, is the question of competition from imports. “We’ve been fighting illegally traded imports for as long as I’ve been in the business, which is a long time,” Mr Ferriola says. He began his career in 1974 with Bethlehem Steel, a one-time



A powerful position: CEO John Ferriola with the president at the White House meeting

pillar of industrial America that went bankrupt in 2001. Mr Ferriola had moved over to Nucor, the rising power in the industry, 10 years before. He talks about illegally traded imports because he says that steel has often been dumped in the US at below-cost prices and supported by subsidies from foreign governments. The frequent successes of the US industry in making cases for countervailing and anti-dumping duties are evidence enough of that, he says. But he argues that those cases have been a game of “whack-a-mole”: as soon as a particular abuse has been identified and blocked, another problem emerges with a different product or a different country. Hence

the need for a “comprehensive solution” to protect the industry. He was speaking before the tariff plan was announced, but said he would applaud whatever action the president took. “It’s going to be extremely beneficial to the steel industry . . . and it will be President Trump fulfilling a promise he made on the campaign trail,” he says. Steel-consuming industries such as appliance makers were concerned about possible import restrictions and higher prices, but Mr Ferriola says they ought to be supportive. “If we don’t enforce our trade laws today, it becomes obvious to other countries that they can violate our trade laws with impunity. It might be steel today, but tomorrow it will be appliances.”

Steel finds the next gear for carmakers

Innovation

Producers are developing new, lighter grades, but R&D investment is needed, says *Michael Pooler*

President Donald Trump’s pledge to revive the US steel industry now has foundations. The decision by Washington to impose heavy tariffs on overseas steel has cheered the domestic sector, which has long complained of being undercut by imports. Yet for the industry to return to anywhere near its past glories, innovation driven by research and development spending will also be essential. Even if less foreign steel arrives on US shores, the metal faces increasing competition from other materials — particularly in carmaking. Steelmakers will also be under pressure to keep down prices, given warnings from other industries that higher steel costs could make their own plants in the US uncompetitive and result in job losses. “The cost of steelmaking in the US is higher than anywhere else in the world. They need to look at how they can reduce it,” says Alex Griffiths, senior research analyst at Wood Mackenzie, the consultancy.

The American Iron and Steel Institute, a lobby group, says labour productivity in the sector has increased fivefold since the early 1980s, but argues investment opportunities could be lost without tariffs. But economists and policymakers opposed to protectionism say the measures may stifle innovation by insulating companies from foreign competition. “Domestic mills have never spent a lot of money on research,” says Chuck Bradford, a veteran industry analyst. Even so, he adds that US steelmakers have been developing new grades to help car manufacturers produce lighter vehicles to improve fuel efficiency, as required by tighter emissions regulations. A wake-up call came in 2014 when Ford began to use aluminium, which is lighter and more expensive than steel, for the body of its F150 pick-up truck, the country’s best-selling car. This raised questions about whether steel’s dominant position in one of its key markets would be eroded. The car industry accounts for about a quarter of US steel demand, according to the AISI. The largest US-listed steelmaker by output, Nucor, is working on the development of “third generation” advanced high-strength steels (AHSS) for automotive use. These grades are stronger, so can be rolled out very thinly, meaning that less is used, saving weight. They are also more ductile, meaning they are easier to work on without damage.

“In the past you’ve seen some of the Asian companies develop some of these third-generation steels a little bit earlier than the rest of the industry, but the US has responded pretty quickly,” says Dean Kanelos, automotive technical lead at Nucor. As the world’s largest steelmaker with industrial operations in 18 countries, ArcelorMittal’s research and development activities are by nature international and spread widely. But it, too, is developing new grades in the US. At its Calvert plant in Alabama, one of the world’s most advanced steel finishing facilities that it co-owns with Japan’s Nippon Steel & Sumitomo Metal, ArcelorMittal is developing a new third-generation AHSS. “This particular product doesn’t exist anywhere in the world,” says Greg Ludkovsky, ArcelorMittal’s head of global R&D. “We aren’t declaring commercial victory on this, but we produced this material with the desired characteristics in Calvert.” The company says it could be used in structural car parts, such as bumper beams, door beams and rails. Despite the financial pain felt by some companies in recent years, a number of investments into new facilities demonstrate a confidence among US steelmakers. In some cases, this is being driven by a desire to supply “differentiated” steel products, as opposed to commodities. Nucor is spending \$230m on an

expansion at its Arkansas plant, with an additional cold rolling mill to make advanced high-strength grades for the automotive industry. In Ohio, a \$400m zinc galvanising line is being built by US Steel and its partner Kobe Steel of Japan, on the back of demand from carmakers. Another development that some observers believe could reshape the industry are so-called micro mills. Traditionally, steel was made on massive sites with large blast furnaces that turn raw materials into molten iron. The US industry was transformed in the 1980s by “mini mills”, which are smaller, more flexible, cheaper to build and today represent the majority of US production. They use electric arc furnaces to re-melt and refine scrap steel. Micro mills are smaller still. Advocates say they allow for the efficient production of commodity steels, used in construction, for local markets. Texas-based Commercial Metals Company has run one for almost a decade and has commissioned a second one, while Nucor has committed \$250m to build a micro mill and is eyeing sites for another. Mr Bradford says, however, there is limited scope for US companies to innovate the steelmaking process itself, because equipment is largely bought from Germany, Italy or Japan. “Domestic steelmakers do not have the capability to develop new [production] technology and more money won’t matter,” he adds.

A wake-up call came when Ford said it would use aluminium for the best-selling car in the US

China Global fallout from tariffs is producers’ greatest concern

When President Trump said he would introduce tariffs on global imports of aluminium and steel, China largely shrugged it off, writes *Emily Feng in Beijing* Even before the announcement, Chinese steelmakers said they were not worried about tariffs. That is because years of low exports to the US and the opening of new markets has left China relatively insulated from the immediate impact of American trade actions. “China has only a limited number of other steel products. In comparison, other countries will suffer even greater losses,” says Li Xinchuang, vice-director at industry group China Iron and Steel Association (Cisa). The real worry is the potential knock-on effects of tariffs, manufacturers say, as Chinese steel moves elsewhere in the global market and competition intensifies in other countries. “It’s really the secondary impact of launching a global entrenchment in trade barriers which is a bigger threat,” says Tomas Gutierrez, Asia editor at industry publication Kallanish Commodities. “The more the US imposes costs on trade, the more other countries impose on trade. The more costs on trade, the more trade, especially in commodities, becomes localised.” In 2017, China accounted for about 2 per cent of total American steel imports by volume, according to official US trade data. Linda Lin, editor in Shanghai for the consultancy CRU’s China Steel Service, says: “We can see the number of Chinese exporters that have already given up the US market due to existing trade barriers.” Globally, Chinese steel exports dropped by a third last year because of slowing domestic production. Six hundred induction furnaces — outdated and sometimes unlicensed facilities producing low-quality steel — have been closed since 2016, accounting for up to 7 per cent of annual production, says China’s industry and technology ministry. A key exception are steel-consuming products, such as home appliances. China’s most salient worry is that potential anti-dumping tariffs could extend to so-called white goods which use steel. Meanwhile, slowing domestic demand (the World Steel Association forecasts real growth in steel demand to be flat this year) means Chinese steel will have to find new export markets, probably in south-east Asia and the Middle East, which are affiliated with China’s “One Belt, One Road” initiative on infrastructure. Chinese trade officials are confident that a globalising China could sidestep tariffs in part because of “exporting capacity” programmes under the Belt and Road initiative, which include buying or building steel factories in European countries and sharing technological know-how. Sun Yongfu, a retired Chinese diplomat and a former director at the ministry of commerce, says the country’s presence in markets like Serbia, a potential EU member state, could give it a future platform to sell into the bloc. China’s total exports of steel and aluminium are so large that even a slight increase could flood smaller markets. “Trade shifts. If Chinese steel exports increase to other countries, then those countries may also be affected and take on the same measures,” says Mr Sun. In December, the US department of commerce set duties of 200-500 per cent on certain Vietnamese steel exports because they used Chinese steel products. That could pose a dangerous precedent in future trade negotiations. Mr Gutierrez called US duties on Vietnamese goods “a stretch of WTO rules to where they are almost at the breaking point”. “The USA is starting to use more alternative approaches to tariffs, and the obvious reaction from other economies is, if they’re doing it why can’t we do it?” Meanwhile, US tariffs have given China the moral high ground to position itself as a free-market advocate. “Let the world know of China, recognise China, learn from China, and in particular, the Chinese government has adopted a series of market-oriented and rule-by-law policies and measures,” says Mr Li. “Duties have a short-term sweetness, but in picking the seeds, [the US] may lose the whole watermelon.”



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