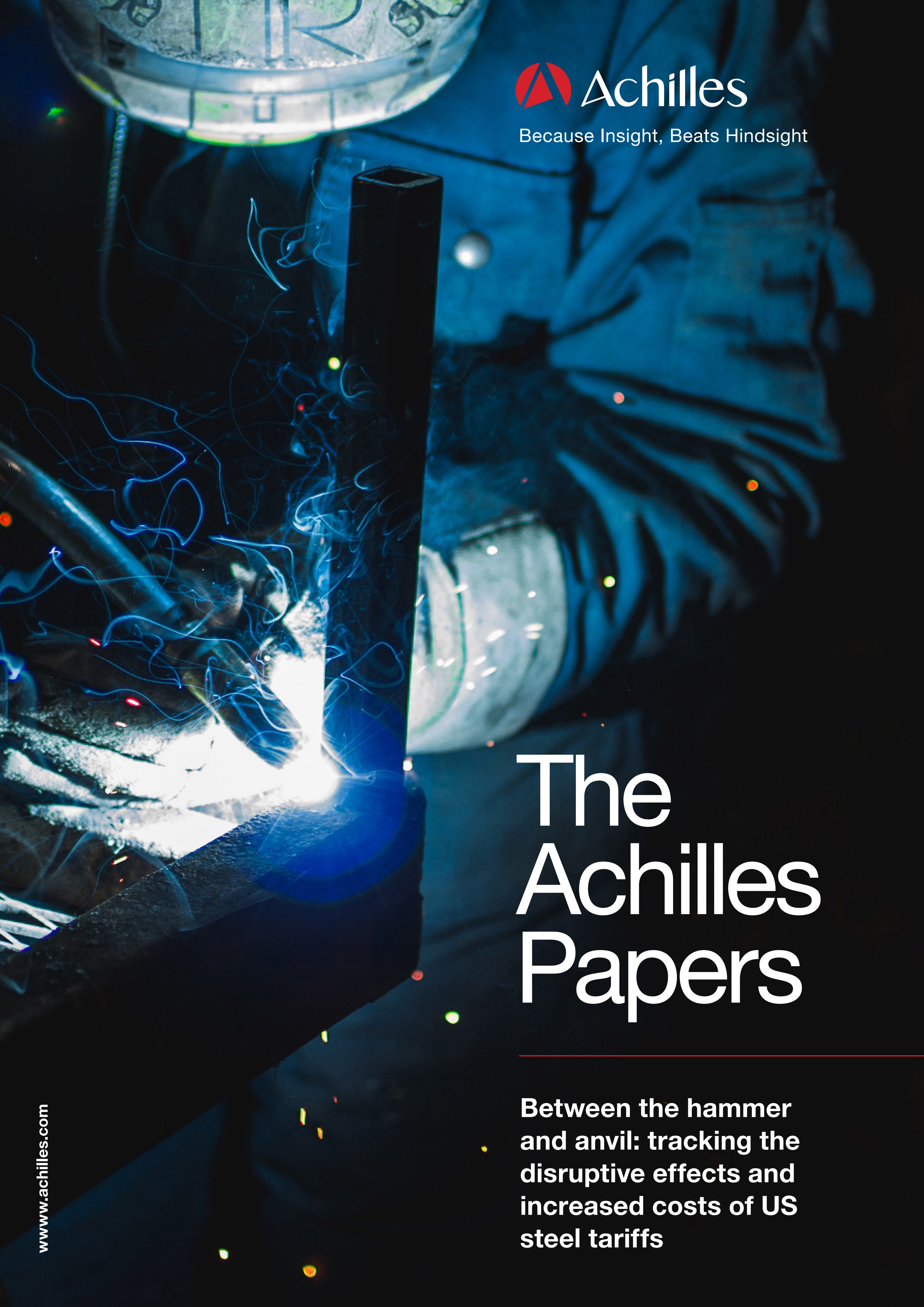


Because Insight, Beats Hindsight

# The Achilles Papers

**Between the hammer and anvil: tracking the disruptive effects and increased costs of US steel tariffs**

www.achilles.com

# Executive Summary

## Mapping a web of disruption

The US Government's decision to place 25% tariffs on steel imports and 10% on aluminium imports has created a great deal of uncertainty throughout the global economy. With the IMF (International Monetary Fund) predicting the measures could reduce global growth by 1.9%, from 3.9% in 2019, companies across the world are scrambling to understand how their operations might be affected.

To find out more, we mined our extensive store of supply chain data to track the potential direct and indirect impacts of these tariffs on companies operating across industries.

Concerningly, we discovered that 80% of the commodity codes we track, covering heavy industry and services, will be affected, even those not directly related to metals.

The introduction of the tariffs is likely to have pronounced effects on suppliers of steel components, with margins slipping into negative territory unless prices rise by over 10% in some cases. This will put many manufacturers, and the supply chains that depend on them, in a difficult position.

Steel is a pivotal part of modern industry, from everyday valves to large fabricated equipment used in major infrastructure projects. We believe many companies have not yet factored in the potentially large-scale disruption that the tariffs could introduce to their supply chains.

This paper explores the extent of the impact of the US steel tariffs and identifies concrete steps that both buyers and suppliers can start taking today to anticipate and mitigate the effects.

# Key Insights

• With over 80% of products and services impacted, any continued escalation of the trade war will force producers out of business and threaten supply in multiple regions.

• Over 75% of suppliers of steel heavy-goods in a representative sample of the Achilles network report a margin that is less than the cost increase required to offset the impact of tariffs.

• The risk is not just in supply of primary metal products. Prices for goods made from metals or services that depend on metal products will rise, and disruptions could impact delivery:

  • Higher raw material prices are already squeezing margins in the US, bringing some suppliers close to bankruptcy.

  • Where countries have chosen to accept quotas rather than tariffs, supplies may collapse abruptly – putting production of downstream fabricated parts, machinery and equipment at risk.

• Buyers and suppliers should prepare for upcoming disruptions to ensure business continuity and mitigate against cost increases wherever possible:

- Know your supply base:
  - Which of your suppliers will be impacted by rising metal prices?
  - Do you know how much steel and aluminium are present in your upstream supply chain?
  - Do your suppliers have mitigation strategies in place?

- Know your competition:
  - Engage with fellow buyers and suppliers to determine the risk in play.
  - Identify relative risk exposure by analysing the supply base.

- Take preventative action:
  - Consider alternative sources of supply.
  - Investigate the potential for contract adjustment.
  - Reconsider your business cases and project timings.

## Section One

# Tit for tat: the unexpected impact of protectionism and retaliation

## Trade restrictions or ‘protectionism’ are the greatest threat to today’s steel market. They prevent markets from working efficiently by intentionally favouring some companies or regions more than others.

Unlike temporary disruptions to supply (e.g. a loss of production at a steel mill or a spike in raw material costs), trade restrictions have a long-term impact that can last for decades, making them particularly damaging to investment and economic growth across the globe.

Importantly, when tariffs apply to a commodity like steel, which features at all levels of the supply chain, the impacts are likely to be complex and compounding. There is a danger that companies will dismiss the tariffs if they are not involved directly in primary metal supply. This would be a mistake – prices for goods made from metals or services that depend on metal products will also rise, and disruptions could impact delivery.

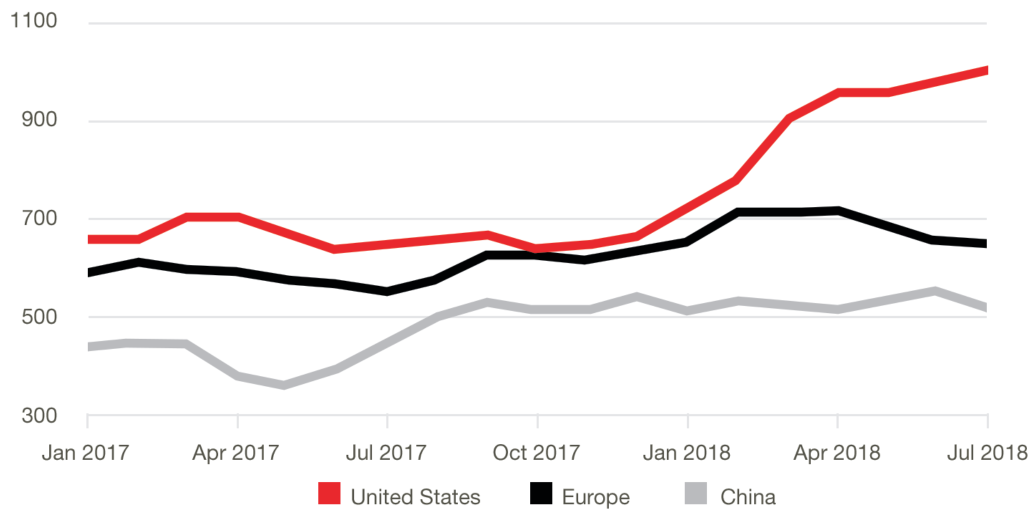
Our research shows that the vast majority of buyers and suppliers in our communities will be impacted (either directly or indirectly).

## Tariffs and quotas explained

Trade restrictions come in many forms: both direct and indirect, monetary and non-monetary. Direct restrictions include sanctions like tariffs, quotas or embargoes.

Tariffs typically raise prices and improve the relative attractiveness of domestic producers, but otherwise supply is unaffected. In contrast, quotas and embargoes limit supply. Quotas are imposed when inputs have reached a specified level, while embargoes stop all supply from specific countries or suppliers. Quotas are used less frequently than tariffs because the economic loss can be greater as no government tax revenue is earned. Rather, it is hoped that resultant price rises provide an incentive for domestic firms to step up their output.

### Hot rolled coil steel prices ($/metric ton)




**Source: MEPS (International) Ltd**

## A cocktail of calamities

What makes the US tariffs potentially so disruptive is that they feature both tariffs and quotas, laying the foundation for a combination of damaging price rises and potential gaps in supply.

Section 232 of the Trade Expansion Act 1962 underpins the new measures. This relatively old piece of legislation allows the US president to place unilateral tariffs on steel and aluminium imports, except where a country agrees to an import quota.

Some markets have opted to accept quotas rather than tariffs. Other countries have refused to accept the legality of Section 232 and have responded by imposing their own trade barriers against the US. For example, the EU is introducing a range of tariffs that target iconic US imports, such as motorcycles. By raising import tariffs on motorcycles – from 6% to 31% – the price of a Harley-Davidson motorcycle in Europe increases by about $2,200.

### Creating gaps in production

While tariffs bring price inflation through the downstream supply chains, suppliers can accommodate them with increased prices or lower margins. Quotas, though, are much more disruptive. When the quota is exhausted, supply will collapse and any company further down the supply chain might have to stop production.

"By raising import tariffs on motorcycles – from 6% to 31% – the price of a Harley-Davidson motorcycle in Europe increases by about $2,200."

There is already clear evidence of manufacturers in the US bidding for materials and products at above-market prices to guarantee supply. As further trade barriers go up, the supply of materials will only decrease.

## Section Two

# Just one piece of the puzzle: the example of valves

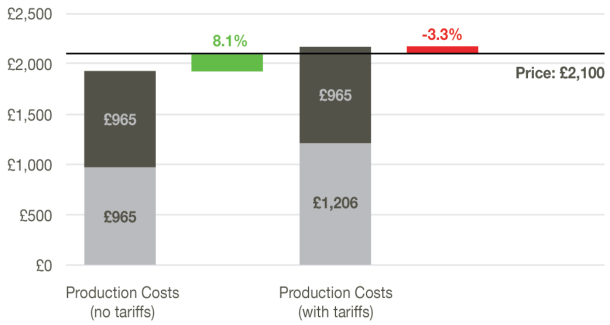
**In our view, many companies are underestimating the extent of the disruptive potential of the US steel tariffs. While the EU may have enough capacity to be self-sufficient in steel production, over half the goods imported into the EU from the US, are 'intermediate goods'. If these contain steel they will be impacted by the tariffs.**

The humble valve serves as a useful example to understand the extent of the indirect impacts of the tariffs. Valves have high steel content and are prolific throughout the industrial supply chain. Any piece of equipment with an engine has multiple metal valves per cylinder, meaning most equipment producers buy valves at scale. Harley Davidson, like other auto producers, can add valves' margin pressures to their tariff woes, as there are eight valves across two cylinders in the 'Milwaukee-Eight' engine.

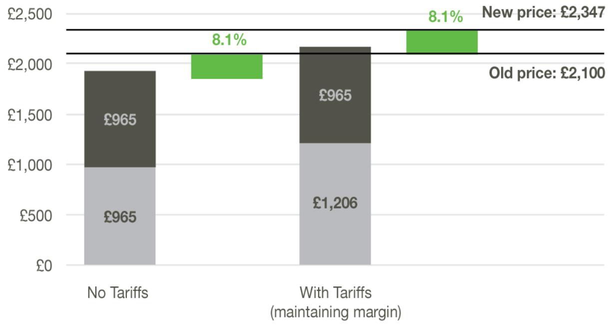
While valves make up only a small percentage of our product codes (3.4%, on average), they are one of the most important products: in periods of high economic growth, up to one in ten buyer searches within our platforms involve suppliers of 'valves'.

Valves are not directly targeted but will feel the impact of US tariffs of 25% on steel. Typically, up to 50% of the cost of a valve is steel related. The table below indicates how much the price of this valve could change due to the tariffs on steel, and the difficult choice faced by manufacturers: either maintain prices or maintain your margin.

## Maintaining Price




## Maintaining Margin



## Between a rock and a hard place

If steel appreciates by the full 25% tariff (and some steel prices have already risen by more than that), margins turn negative and are reduced to -3.3%. Alternatively, the price of the valve would have to rise 12.5% to maintain the same margin.  Valve manufacturers will need to trade-off some increase in prices with lower margins.

Manufacturers affected by the tariffs will be at a significant disadvantage, and without alternative sources of supply may be unable to compete. Mid-Continent Nail Corp, the largest nail producer in the US, has only one facility in Missouri, but sources steel principally from Mexico. The company will be unable to avoid the impacts of the tariffs on steel costs and has already been forced to lay off 60 of its 500 workers to save costs.

Especially worryingly for buyers is that over 75% of suppliers in a representative sample across the Achilles network, report a margin of less than the required amount of the cost of the increase. In some sectors and regions across the Achilles network, steel tariffs could push 75% of suppliers of steel heavy-goods into the red, if they are unable to compensate for the tariffs. This is likely to lead to an inability to supply into certain markets or renegotiation of prices, both of which present challenges for buyers.

# Delayed reaction: the short to medium term

The potential impact of these tariffs may take some time to appear in national statistics, but buyers and suppliers need to make sure they are informed and prepared.

Many nations targeted by Section 232 do not appear to be capitulating to the demands of the US. The longer restrictions continue and the more they are reciprocated, the likelihood of a full-blown trade war grows, with increasing impact on trade and economic growth.

## Reported margins of suppliers in some communities

## Section Three

# Taking action: steps you can take now

# Buyers

The tariffs will almost certainly impact your purchases. You will see higher prices and potentially longer lead-times. Supply could be subject to sudden changes: orders may not be met if your suppliers suddenly find they are unable to source materials due to the impact on margins or the disruption of quotas.

You need to understand the flow of materials and products that your company purchases to see where tariffs could impact your business and put pressure on particular products or suppliers.

## Reducing the impacts of tariffs

**1. Assess your supply base and understand which products or suppliers might be impacted.**
Are you buying in one region and shipping to another to save costs? With tariffs in place, the benefits might turn negative. Research the implications of sourcing in multiple locations – with one in each location – to avoid tariffs and mitigate risks.

Our Search function can help you to find suppliers in other regions that are already in our network. Source new suppliers and extend invitations to new suppliers before your supply chain is disrupted. Our Insights team can help you find suppliers in other regions and sectors.

**2. Which of your suppliers have the ability to move production, reducing the impact of tariffs?**
The largest manufacturers have factories around the globe. They may be able to avoid tariffs by matching customers to production locations. In contrast, single-site manufacturers have fewer opportunities to sidestep the tariffs.

We can provide insights on how many products and services a supplier provides. If your critical suppliers are smaller operators, or based in the US, we recommend contacting these suppliers to ensure continuity of supply. A strong partnership with your smaller suppliers can build a robust supply chain.

**3. Monitor your suppliers for signs of financial difficulty, especially smaller groups with centralised manufacturing.**

Advance warning that your supplier will struggle to fulfil your order gives you a better chance of finding an alternative. Speed of action will be key to finding a replacement. Being aware of the impending difficulties of a supplier, and having contingency in place, will increase your chances of securing alternative suppliers before supply dries up, even if higher costs are inevitable.

Our Insights team can provide you a benchmarking report of your supply base, offering advance warning of any areas that might pose greater than average risk.

"The tariffs will almost certainly impact your purchases. You will see higher prices and potentially longer lead-times."

**4. Assess your suppliers' suppliers.**
Understanding the full supply chain can help highlight issues. For example, if you find that one upstream company is the sole supplier to many of your immediate suppliers, then your continued operation may be dependent on this one company.

We deliver effective supply chain mapping –to help you gain an understanding of where tariff impacts might be lurking in your supply chain through our custom Supply Chain Mapping tools.

## Suppliers

Almost all companies will be affected by trade sanctions. In a few cases this may only be through weaker economic growth, but most industrial suppliers in the Achilles network will be impacted by steel price inflation.

For producers of machinery, equipment, and fabricated parts, effective analysis of your supply chain may help avoid some of the impact and demonstrate this to your buyers. Mapping your product supply chains – from iron ore through to finished goods – makes this relatively straightforward. You already know where borders are crossed, and where prices will be raised due to tariffs, or supply tightened because of quotas. You can share this information with buyers through your Achilles profile.

> "For producers of machinery, equipment, and fabricated parts, effective analysis of your supply chain may help avoid some of the impact and demonstrate this to your buyers."

### Reducing the impacts of tariffs

**1. Guarantee surety of raw materials**
Know your suppliers and qualify how they will satisfy your order. For critical or problematic products, continue your checks up the supply chain, and ask about the suppliers to your suppliers.

We can help you mitigate risks in your supply chain by offering the assurance that your suppliers are fit to do business with. This assurance benefits your business development by flowing that assurance down to your buyers.

**2. Do you have the flexibility to avoid the effects of tariffs?**
Having operations in different regions could allow production to be regionalised. Potentially costs will be higher and runs shorter, but the impact should be less than the 25% premium in your steel costs. Critical to analysing your options is understanding how you compare with your competition. Are you one of the larger, more diverse players in this space? Or will you struggle to keep up with competitors that can easily shift production to regions less affected by tariffs?

Our Insights team can provide you a benchmarking report that will demonstrate if you are in a stronger or weaker position than other suppliers of the same products in the Achilles network, or your specific community.

**3. Look at your supply chain to recognise all the points where tariffs will be due.**
If your supply from raw materials to final product involves the US, you will see high prices due to the tariffs. Your customers need to guarantee their supply, and a higher price may be preferable to looking for other suppliers. The earlier these discussions are held, the more certainty you can offer both your customers and suppliers.

We can help you to understand where your suppliers are based, how deep their profit margins are, and what products they provide.

# About Achilles

## Company Profile

Achilles Information is the global leader and partner of choice for supply chain risk and performance management. Through supplier pre-qualification programmes, industry audits and risk management, we have been a pivotal link between buyers and suppliers for nearly 30 years. This experience provides the data and perspective to give customers unparalleled levels of insight into the businesses they work with. Working in partnership with customers, Achilles supports supply chains that perform flawlessly and meet critical humanitarian and environmental standards.

We have offices across the world, with a network of over 800 buyers and 175,000 suppliers across industrial, infrastructure and natural resources sectors.

## Co-author: Jason Kaplan

Jason Kaplan has been analysing commodity markets and forecasting developments for over 15 years. He combines a keen understanding of commodities, the commercial drivers of companies along the supply-chain and the effects of government policies to predict how markets will develop. Previously, he worked for world renowned companies, including CRU, Metal Bulletin Research, and IHS Markit, where he was responsible for commodity analysis of metals in Europe.

He's presented on steel & other commodities, economic developments, risk mitigation and the effects of trade in conferences around the world. He has been widely quoted in national newspapers, trade papers and interviewed on TV. Jason has an MBA from IMD in Switzerland, and a BSc and MSc in engineering from Brunel University in the UK.

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**For more information on insights, reports and supply chain mapping, contact your local Account Manager.**

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