Política Internacional e Geopolítica

a reconfiguração do mundo no século XXI

INSTITUTO CULTURAL
D. ANTÓNIO FERREIRA GOMES
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SESSÃO Nº 3

20/10/2021

PARTE I – TEMA PRINCIPAL

O "lado negro" da globalização: a crise global das cadeias de abastecimento (1)

[FONTE: HBR, 27/03/2020]

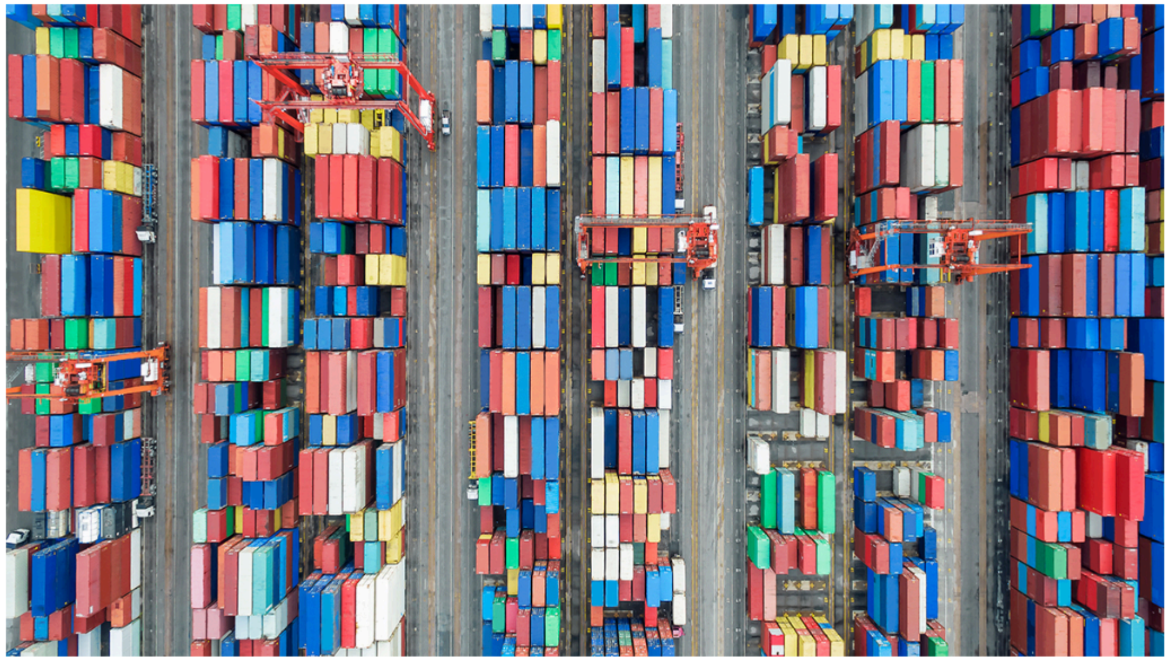
Harvard Business Review

Crisis Management

Coronavirus Is a Wake-Up Call for Supply Chain Management

by Thomas Y. Choi, Dale Rogers, and Bindiya Vakil

March 27, 2020



anucha sirivisansuwan/Getty Images

Summary. The majority of companies did not heed the lessons of the natural disasters of the last decade and, as a result, suffered severe supply disruptions when the Covid-19 pandemic struck. To make sure the same thing doesn't happen the next time around, they should... **more**

O "lado negro" da globalização: a crise global das cadeias de abastecimento (2)

[FONTE: HBR, Setembro-Outubro 2020]

Harvard Business Review

Operations And Supply Chain Management

Global Supply Chains in a Post-Pandemic World

by Willy C. Shih

From the Magazine (September–October 2020)

Christoph Morlinghaus

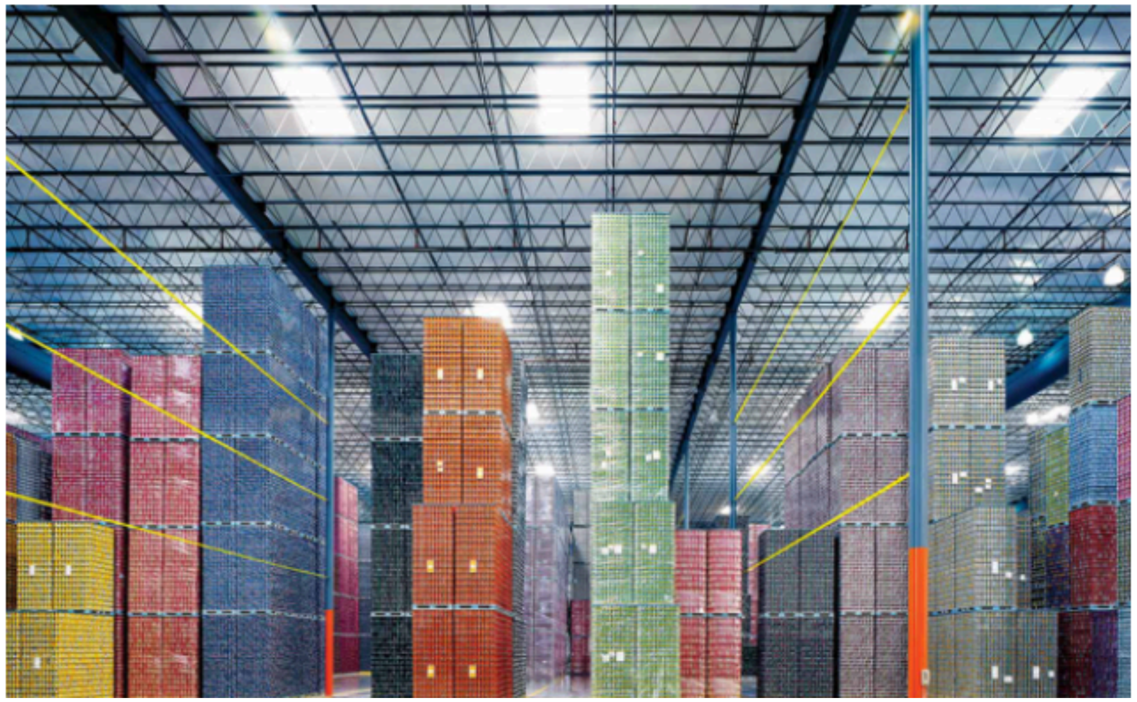
Summary. The U.S.-China trade war and the supply and demand shocks brought on by the Covid-19 crisis are forcing manufacturers everywhere to reassess their supply chains. For the foreseeable future, they will face pressure to increase domestic production, grow... **more**

O “lado negro” da globalização: a crise global das cadeias de abastecimento (3)

[FONTE: HBR, Setembro-Outubro 2020]

Uncover and Address the Hidden Risks

Automakers aren’t equipped to create the touchscreen displays in the entertainment and navigation systems or the countless microprocessors that control the engine, steering, and functions such as power windows and lighting. Another more arcane example is a group of chemicals known as nucleoside phosphoramidites and the associated reagents that are used for creating DNA and RNA sequences. These are essential for all companies developing DNA- or mRNA-based Covid-19 vaccines and DNA-based drug therapies, but many of the key precursor materials come from South Korea and China.



O “lado negro” da globalização: a crise global das cadeias de abastecimento (4)

[FONTE: HBR, Setembro-Outubro 2020]

Diversify your supply base.

The obvious way to address heavy dependence on one medium- or high-risk source (a single factory, supplier, or region) is to add more sources in locations not vulnerable to the same risks. The U.S.-China trade war has motivated some firms to shift to a “China plus one” strategy of spreading production between China and a Southeast Asian country such as Vietnam, Indonesia, or Thailand. But regionwide problems like the 1997 Asian financial crisis or the 2004 tsunami argue for broader geographic diversification.

Managers should consider a regional strategy of producing a substantial proportion of key goods within the region where they are consumed. North America might be served by shifting labor-intensive work from China to Mexico and Central America. To supply Western Europe with items used there, companies could increase their reliance on eastern EU countries, Turkey, and Ukraine. Chinese firms that want to protect their global market share are already looking to Egypt, Ethiopia, Kenya, Myanmar, and Sri Lanka for low-tech, labor-intensive production.

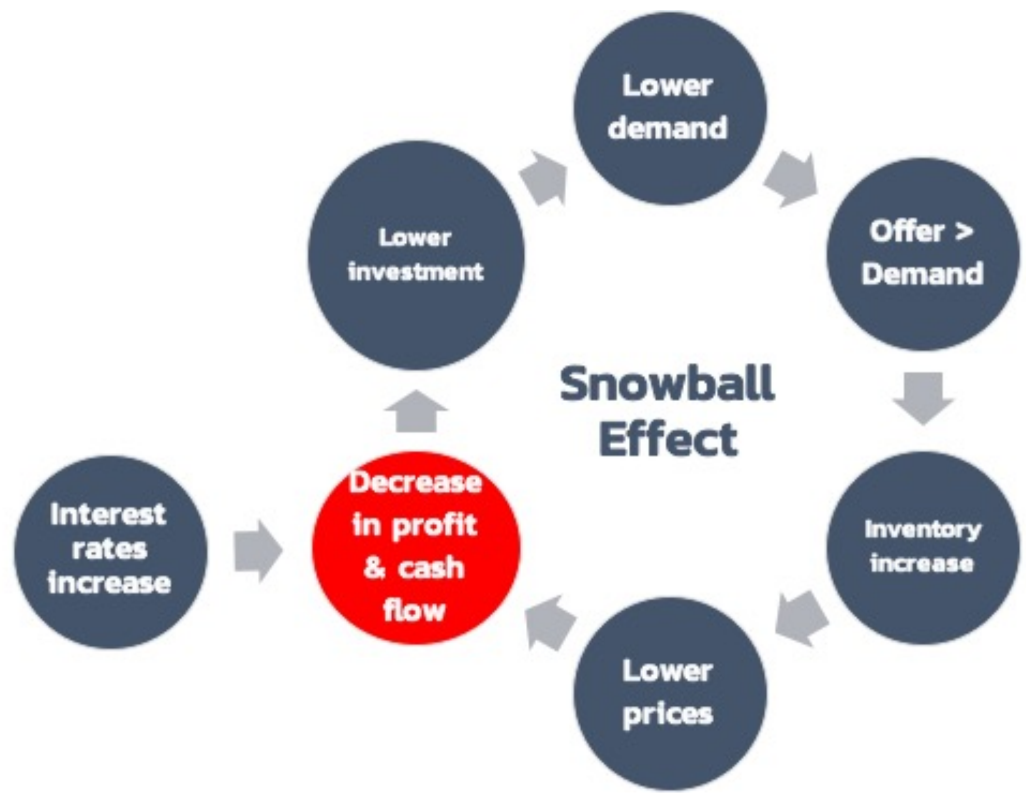
O “lado negro” da globalização: a crise global das cadeias de abastecimento (5)

[FONTE: Pamela N. Danziger / Forbes, 1/10/2021. IMAGEM: Abc Supply Chain]

Retail’s Supply Chain Crisis Was Years In The Making And Will Take Years To Fix

Pamela N. Danziger 05:00am EDT

|Oct 1, 2021,|3971 views



With retailers counting on a vibrant holiday season to at least match, if not exceed, that from last year – rising 8.3% year-over-year – threatened short supplies of the most in-demand products could quash their plans. The breakdown in the global retail supply chain will be to blame.

O “lado negro” da globalização: a crise global das cadeias de abastecimento (6)

[FONTE: Pamela N. Danziger / Forbes, 1/10/2021]

Chasing lowest-cost instead of reliability

Geale traces the problems to how many retailers have traditionally approached supply chain issues: from a low-cost, price-led perspective. “Companies look to find the cheapest price, then they strike a deal. This is especially prominent for high-volume, low-cost goods that are shipped on containers,” he explains.

Now those containers are queued up waiting to get into port and the cost to ship has gone through the roof. “On-time delivery for ocean freight is now about 38%, which is half what it was a year ago and the lowest it’s ever been. And the price is six, seven, even ten times higher, which is the highest it’s ever been,” he says. “Now retailers are entering the peak season where demand is high, but availability is about half what it should be.”

The shift from sourcing products in China to other even lower-cost countries in Asia has added another glitch in the system. Geale notes that even though China and its ports have experienced a backlog, the country has a well-developed manufacturing and shipping capacity which isn’t the case in other Asian countries.

“With the move to places like Vietnam, Thailand and Malaysia, these locations don’t have the infrastructure that China has. If something goes wrong in Vietnam, like we saw earlier with the factory shutdowns, the entire system grinds to a halt,” he shares. “If something goes wrong in China, there’s inconvenience and backlog, but there is a level of resiliency.”

O “lado negro” da globalização: a crise global das cadeias de abastecimento (7)

[FONTE: Pamela N. Danziger / Forbes, 1/10/2021]

Slow transition to digital operating model

Beyond the structural failings in the global supply chain, retailers have not effectively transitioned their internal operations from a primarily physical retail to a digital e-commerce model.

“Most legacy retailers have built an online business on the side of their physical business, but these are fundamentally different operating models,” Geale says. “If you switch capacity and demand from one to the other, which accelerated last year, you’ve changed your underlying business model relative to your margins. It puts a drag on a retailer’s P&L.”

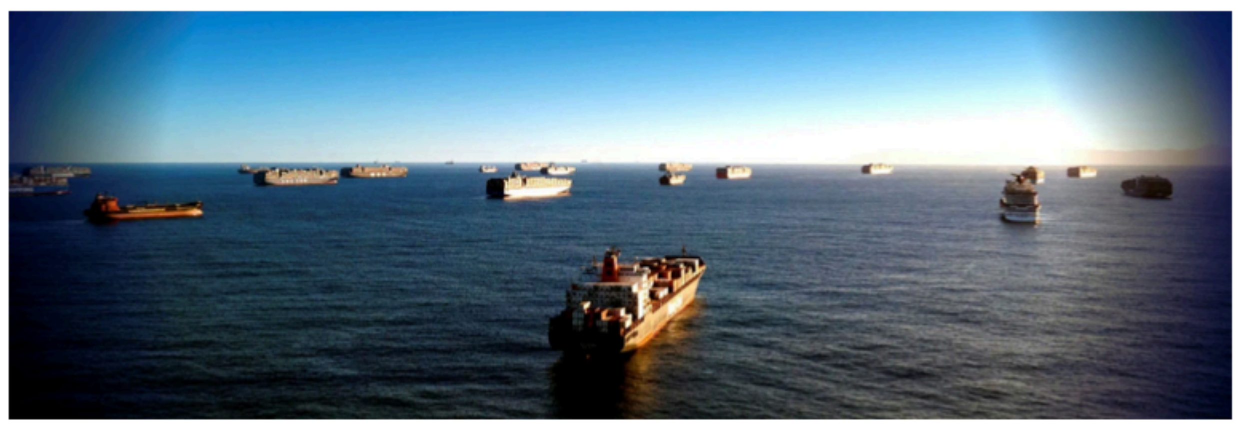
Despite the breaks in the supply chain that resulted from the pandemic, Geale says a breakdown was bound to happen regardless. That’s because retailers have focused primarily on lowering cost when they should have taken a much broader view.

“Retailers need to look at the products they need, where they can get them from and then assess those locations and suppliers based on things like speed, quality, price and risk,” he says.

O "lado negro" da globalização: a crise global das cadeias de abastecimento (8)

[FONTE: FT, 14/10/2021]

The supply chain crisis and US ports: 'Disruption on top of disruption'



© Ships waiting to dock in LA and Long Beach ports | FT Montage/Getty

Since the pandemic started to wane, Americans have been on an extraordinary buying spree. One measure of this is the daily tally of container ships idling outside the congested ports of Los Angeles and Long Beach — the entry point for about 40 per cent of goods imported into the US.

The queue of ships stacked high with brightly-coloured containers reached a record of 73 on September 19 and by last weekend still stretched as far as the eye could see — frustrating retailers and becoming a national symbol of an outdated and overwhelmed US supply chain.

O “lado negro” da globalização: a crise global das cadeias de abastecimento (9)

[FONTE: FT, 14/10/2021]

The White House said it had secured pledges from private sector heavyweights such as Walmart, UPS and FedEx to extend their working hours. Crucially, it also won commitments from the International Longshore and Warehouse Union to add shifts and move toward a 24/7 work schedule at its operations in southern California.

The question is how quickly these measures will be able to improve the movement of goods through a complex nationwide network that is strained to breaking point. The US is facing a shortage of warehouse space and truck drivers, and shifting to 24/7 operation will require enormous co-ordination between the publicly operated ports and private sector groups, including large retailers and freight companies.

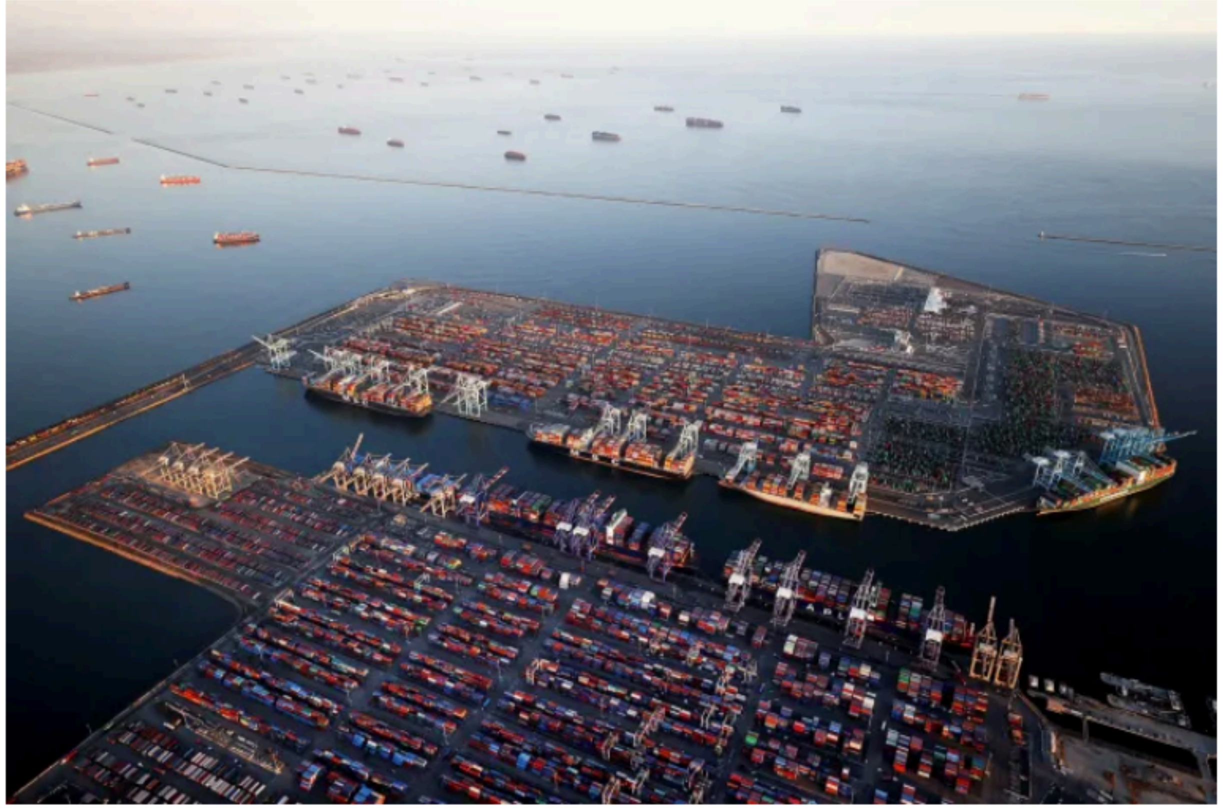
Last week, Gene Seroka, executive director of the Port of Los Angeles, told the Financial Times that he doubted that 24/7 operations could work without the co-operation of a wide cast of private sector operators.

“If a day comes when we can open 24/7, and other parts of the supply chain orchestra are all doing the same thing, that would be great for all of us,” he said. “But you’ve got limitations today.”

O “lado negro” da globalização: a crise global das cadeias de abastecimento (10)

[FONTE: FT, 14/10/2021]

Nike has warned of inventory shortages and Costco is having trouble keeping enough toilet rolls in stock. In an announcement that cut its stock by a fifth, the retailer Bed Bath & Beyond called the supply chain challenges it faced “unprecedented”. Some large retailers, including Walmart and Costco, have resorted to chartering ships to deliver goods.



Container ships are anchored by the ports of Long Beach and Los Angeles. The queue of ships stacked containers reached a record last month © Mario Tama/Getty Images

There is a sense of urgency as the Christmas gift-giving season looms. Logistics, labour and manufacturing headaches combined are likely to add another $223bn to US retailers’ costs this holiday season, Salesforce estimates. That in turn could push up the prices consumers pay for their presents, assuming they are available to buy.

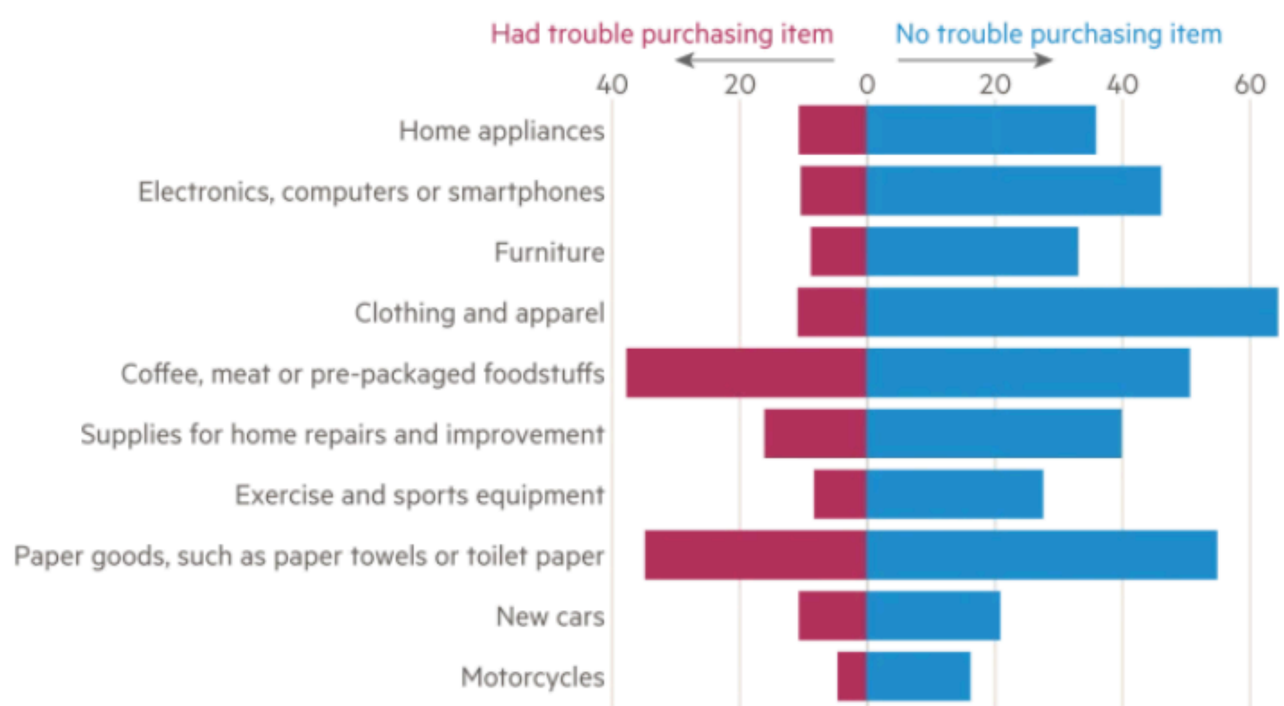
O “lado negro” da globalização: a crise global das cadeias de abastecimento (11)

[FONTE: FT, 14/10/2021]

Similar supply chain problems are being felt worldwide. More than 20 months since the initial outbreak of coronavirus forced China to close factories and idle the world's mightiest export machine, the global flow of goods remains a mess. In Europe, German industry has been hit by shortages of everything from computer chips to the metals used in electric car batteries, while the UK has endured long queues and frayed tempers at petrol stations because of fuel shortages.

Consumers face purchasing problems

Share (%) of US adults who did or didn't have trouble while buying items, by category



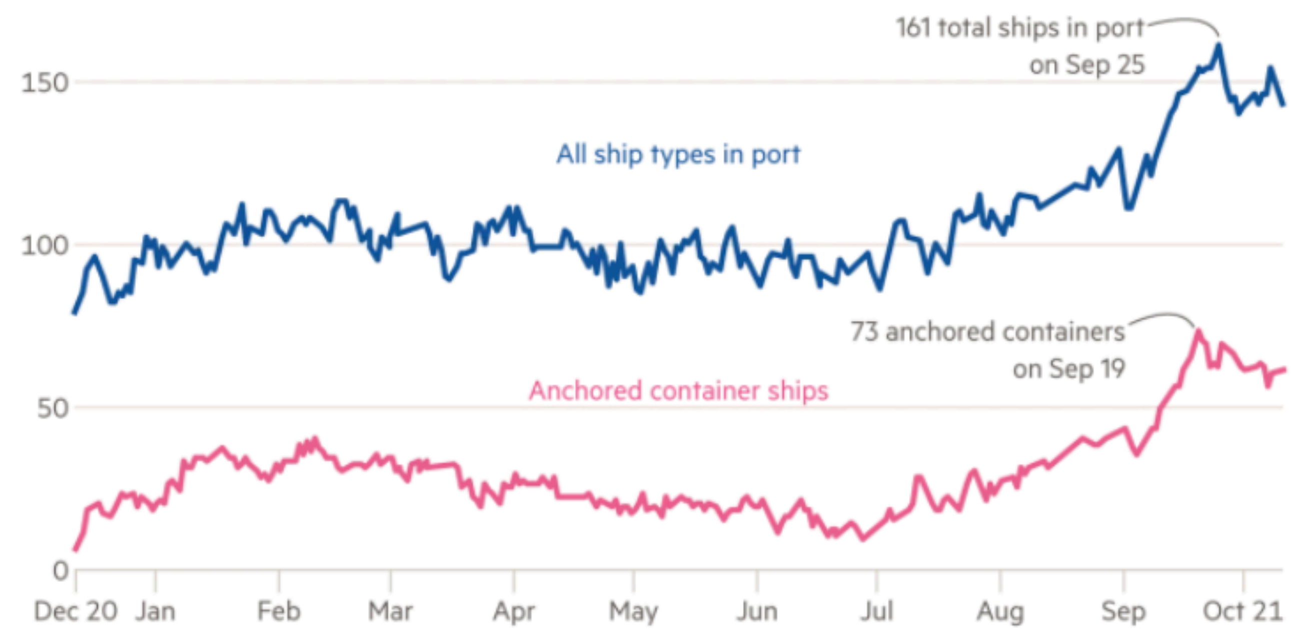
Source: Morning Consult poll conducted Sep 17-21, 2021 of 2,200 US adults who tried to purchase an item in the past month
FT Graphic: Caitlin Gilbert / @caitlinsgilbert

O “lado negro” da globalização: a crise global das cadeias de abastecimento (12)

[FONTE: FT, 14/10/2021]

Container ships at Los Angeles and Long Beach port hit record levels

Total daily number of all ships in port and container ships anchored



Source: Marine Exchange of Southern California
Notes: Data from December 12, 2020-October 11, 2021; ships ‘in port’ include all ships anchored, at berth and in drift areas
FT Graphic: Caitlin Gilbert / @caitlinsgilbert

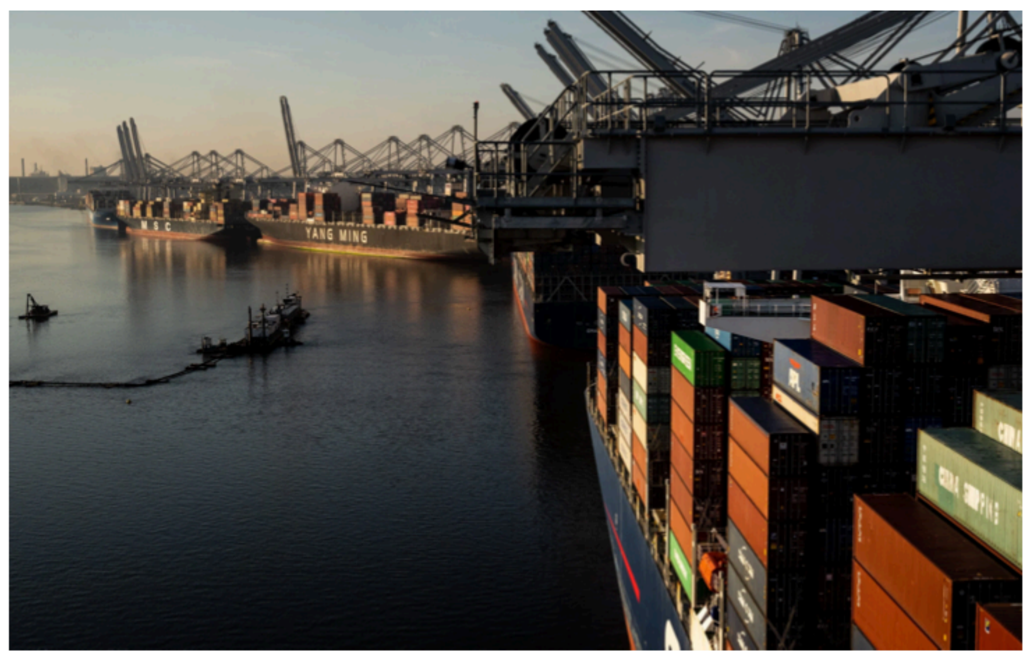
With the US economy likely to remain highly dependent on Pacific trade, the Los Angeles and Long Beach ports need further investment to boost their capacity. The bipartisan infrastructure bill championed by the Biden administration allocates $17bn to ports, but Cordero said public funding alone will not suffice. Instead, he sounds hopeful that private equity firms will be drawn to the potential returns from investing in US port infrastructure.

O “lado negro” da globalização: a crise global das cadeias de abastecimento (13)

[FONTE: NYT, 10/10/2021]

‘It’s Not Sustainable’: What America’s Port Crisis Looks Like Up Close

An enduring traffic jam at the Port of Savannah reveals why the chaos in global shipping is likely to persist.



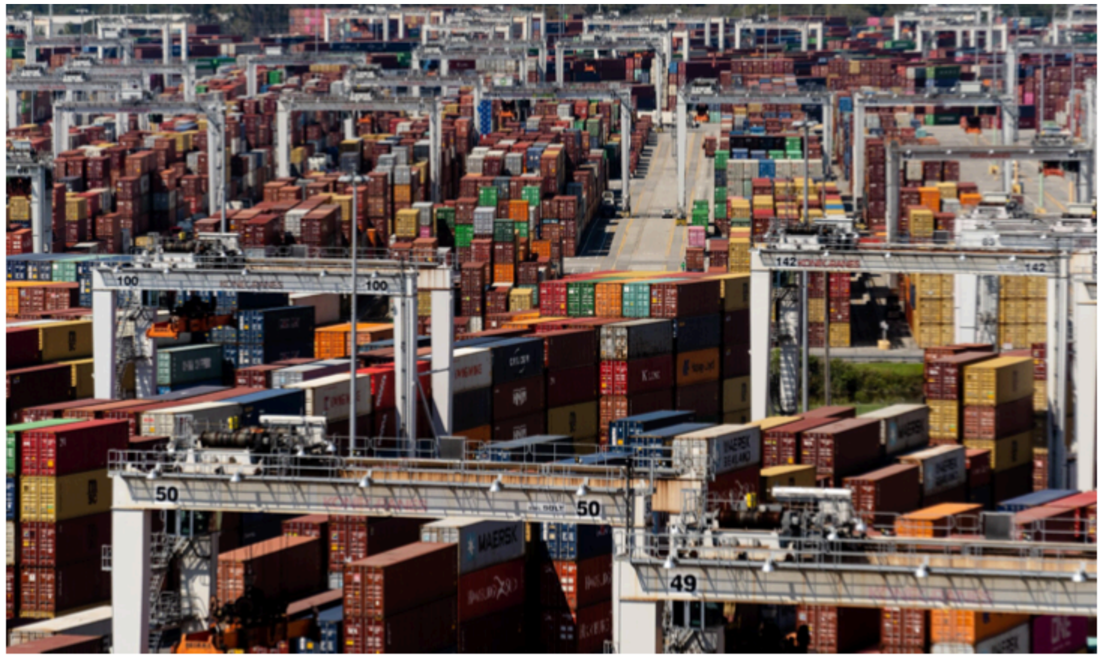
The Port of Savannah in Georgia is the third-largest container port in the United States.

The Port of Savannah in Georgia is the third-largest container port in the United States.

SAVANNAH, Ga. — Like toy blocks hurled from the heavens, nearly 80,000 shipping containers are stacked in various configurations at the Port of Savannah — 50 percent more than usual.

O “lado negro” da globalização: a crise global das cadeias de abastecimento (14)

[FONTE: NYT, 10/10/2021]



Nearly 80,000 containers jam the port, 50 percent more than usual.

Such lines have become common around the globe, from the more than 50 ships marooned last week in the Pacific near Los Angeles to smaller numbers bobbing off terminals in the New York area, to hundreds waylaid off ports in China.

The turmoil in the shipping industry and the broader crisis in supply chains is showing no signs of relenting. It stands as a gnawing source of worry throughout the global economy, challenging once-hopeful assumptions of a vigorous return to growth as vaccines limit the spread of the pandemic.

The disruption helps explain why Germany’s industrial fortunes are sagging, why inflation has become a cause for concern among central bankers, and why American manufacturers are now waiting a record 92 days on average to assemble the parts and raw materials they need to make their goods, according to the Institute of Supply Management.

O “lado negro” da globalização: a crise global das cadeias de abastecimento (15)

[FONTE: NYT, 10/10/2021]

Mr. Joyner, 46, designs his furniture in Savannah while relying on factories from China and India to manufacture many of his wares. The upheaval on the seas has slowed deliveries, limiting his sales.

He pointed to a brown leather recliner made for him in Dallas. The factory is struggling to secure the reclining mechanism from its supplier in China.

“Where we were getting stuff in 30 days, they are now telling us six months,” Mr. Joyner said. Customers are calling to complain.

His experience also underscores how the shortages and delays have become a source of concern about fair competition. Giant retailers like Target and Home Depot have responded by stockpiling goods in warehouses and, in some cases, chartering their own ships. These options are not available to the average small business.

Bottlenecks have a way of causing more bottlenecks. As many companies have ordered extra and earlier, especially as they prepare for the all-consuming holiday season, warehouses have become jammed. So containers have piled up at the Port of Savannah.

O “lado negro” da globalização: a crise global das cadeias de abastecimento (16)

[FONTE: NYT, 5/10/2021]

Fears of a ‘Bottleneck Recession’: How Shortages Are Hurting Germany

Europe’s largest economy is particularly vulnerable to shortages of key parts and raw materials because of its dependence on exports.

Published Oct. 5, 2021Updated Oct. 12, 2021

A machine for winding paper into rolls at Voith, a German company that has started buying from suppliers closer to its factories.Felix Schmitt for The New York Times

O “lado negro” da globalização: a crise global das cadeias de abastecimento (17)

[FONTE: NYT, 5/10/2021]

Recent surveys and data point to a sharp slowdown of the German manufacturing powerhouse, and economists have begun to predict a “bottleneck recession.”

Almost everything that German factories need to operate is in short supply, not just computer chips but also plywood, copper, aluminum, plastics and raw materials like cobalt, lithium, nickel and graphite, which are crucial ingredients of electric car batteries.

The auto industry has been hit the hardest. Opel, a unit of Stellantis, the company that owns Jeep and Fiat, said in September that it would shut down a factory in Eisenach until next year because of a shortage of semiconductors. The plant’s 1,300 workers will be furloughed.

O “lado negro” da globalização: a crise global das cadeias de abastecimento (18)

[FONTE: NYT, 5/10/2021]

More than 40 percent of German companies said they had lost sales because of supply problems in an August survey by the Association of German Chambers of Industry and Commerce. Europewide, exports would have been 7 percent higher in the first six months of the year if not for supply bottlenecks, according to the European Central Bank.

While every economy in the world is suffering from shortages, Germany is particularly sensitive because of its dependence on manufacturing and trade. Nearly half of Germany’s economic output depends on exports of cars, machine tools and other goods, compared with only 12 percent in the United States.

Because Germany is a nation of factories, “the impact is dramatic,” said Oliver Knapp, a senior partner at Roland Berger, a Munich-based consultancy.

The country is also facing a period of political uncertainty. Elections last month left no party with a clear majority, and there is a risk that whatever coalition government emerges will lack enough cohesion to act decisively.

The slowdown has turned the German economy into a test case of how companies can become less vulnerable to power shortages in China or ships stuck in the Suez Canal.

O “lado negro” da globalização: a crise global das cadeias de abastecimento (19)

[FONTE: NYT, 5/10/2021]

But disentangling the networks that move products around the globe is not so easy, and maybe not even a good idea, some economists and business managers say.

The widespread assumption that suppliers close to home are more reliable has not always proved true. During the turmoil caused by the pandemic, some German companies had more trouble getting supplies from France or Italy, because of strict lockdowns, than they did from Asia.

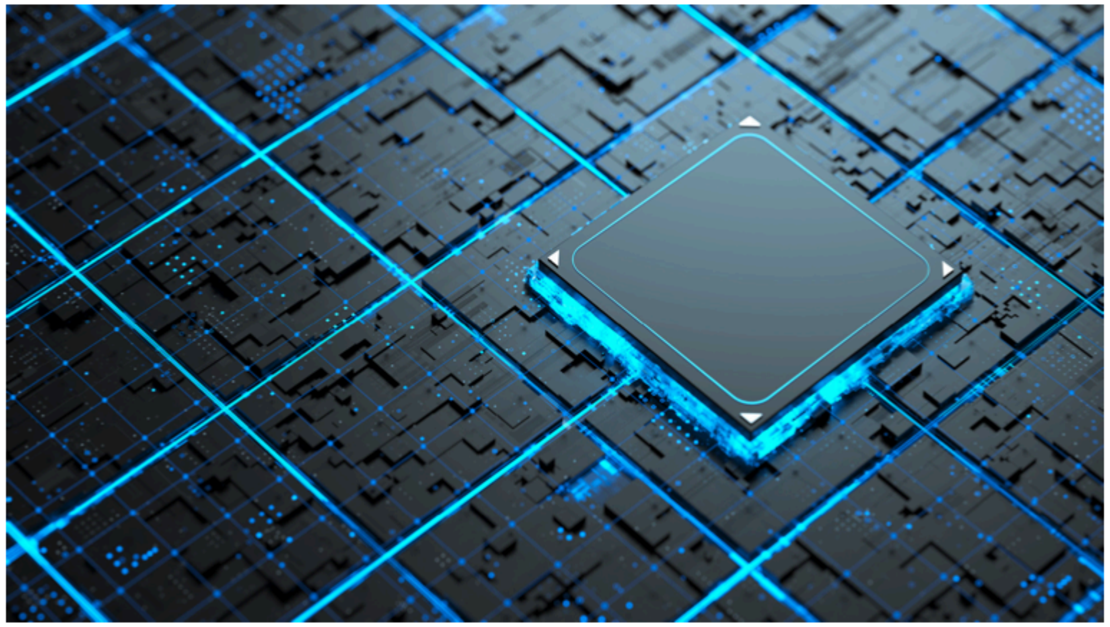
“It’s not the case that if we were not dependent on China we would have gotten through the crisis without any problems,” said Alexander Sandkamp, an economist who studies supply chains at the Kiel Institute for the World Economy in Kiel, Germany.

Evidence is accumulating that shortages are depressing German growth. The Ifo Institute’s most recent survey of German business managers, considered a reliable predictor of the direction of the economy, pointed to a marked slowdown. More than three-quarters of German firms told the Munich institute that they were having trouble getting raw materials and parts.

A dimensão geopolítica da crise das cadeias de abastecimento (1)

[FONTE: Tortoise, 12/07/2021]

The Chip Crisis: will the shortage of computer chips cause the next geopolitical crisis?



The global shortage in computer chips has reached a crisis point: leading to product shortages from TVs to mobile phones to cars, and leaving consumers facing price rises. Thanks to Covid-19, chip factories in Asia shut down at the same time as demand soared for chip-dependent devices like TVs and games consoles. But the shortages have been exacerbated by politics – and tensions are high. US restrictions on Chinese companies are impacting suppliers in Taiwan and elsewhere. Companies around the world are panic stockpiling to avoid the supply chain uncertainty. As global superpowers race to achieve semiconductor independence, could the chip wars deepen geopolitical tensions yet further?

A dimensão geopolítica da crise das cadeias de abastecimento (2)

[FONTE: BBC, 27/08/2021]

Why is there a chip shortage?

27 August

By Chris Baraniuk
Technology of Business reporter

Getty Images

Computer chips plants are working flat out

The tech industry is at a crunch point.

Today, millions of products - cars, washing machines, smartphones, and more - rely on computer chips, also known as semiconductors.

And right now, there just aren't enough of them to meet industry demand. As a result, many popular products are in short supply.

It has become almost impossible to buy a PS5 games console. Toyota, Ford and Volvo have had to either slow or temporarily halt production at their factories. Smartphone makers are feeling the pinch too, with Apple warning that the shortage could affect iPhone sales.

A dimensão geopolítica da crise das cadeias de abastecimento (3)

[FONTE: BBC, 27/08/2021]

Establishing new chip factories is difficult to do quickly, she adds: "It's extremely expensive and requires a well-trained workforce." It's a potential spanner in the works for those who advocate "re-shoring" - relocating chip fabrication to a wider variety of countries, including those in the West, in order to ease the pressure on global supply chains.

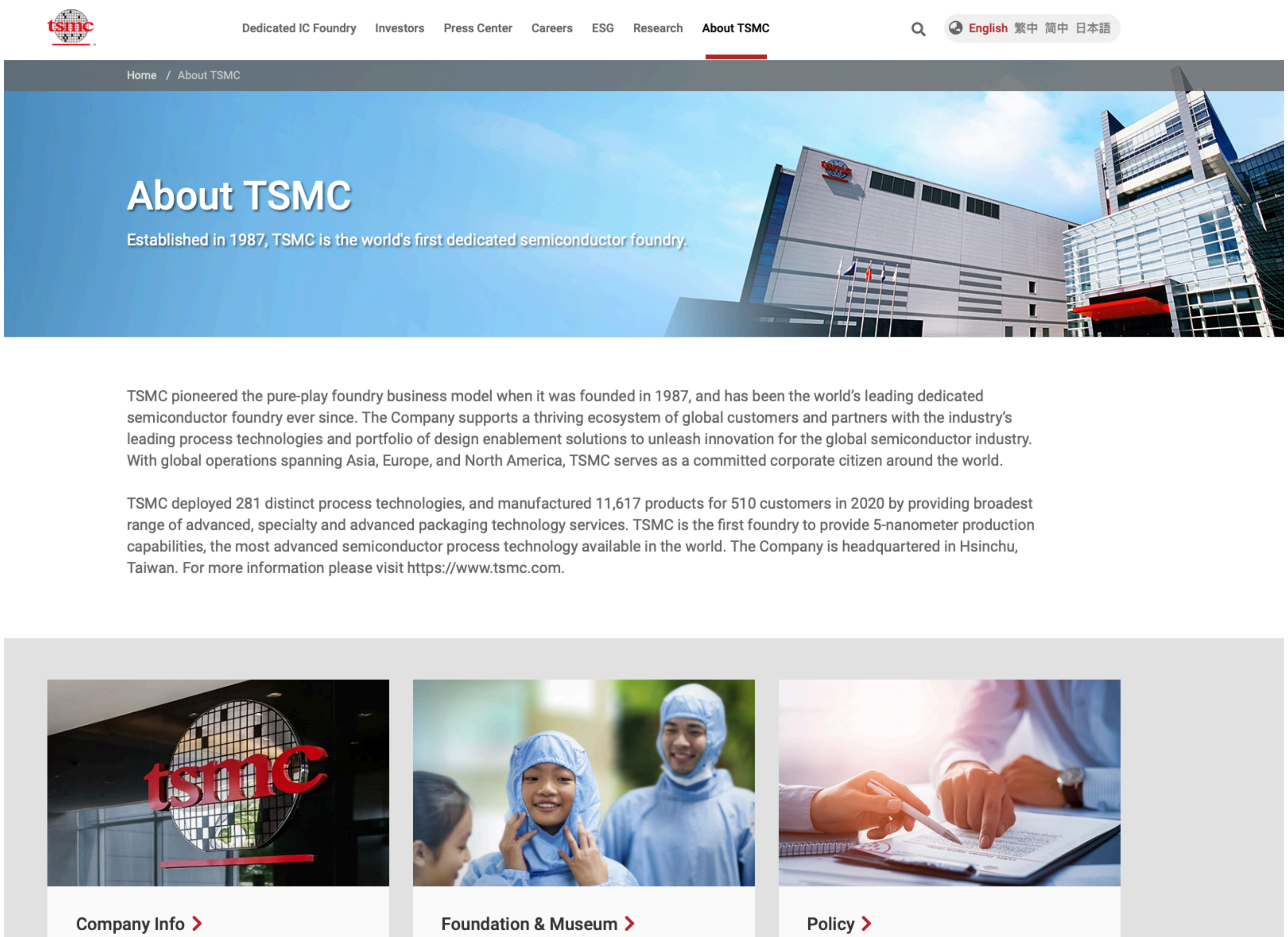
Getty Images

Making high-end computer chips is extremely difficult

Mr Chapman isn't convinced that the market is up for grabs. He argues that Asia-based chip makers, such as those in Taiwan, China and South Korea, are already racing to meet demand, and will likely continue to dominate in the future.

A dimensão geopolítica da crise das cadeias de abastecimento (4)

[FONTE: TSCM - Taiwan Semiconductor Manufacturing Company]



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About TSMC

Established in 1987, TSMC is the world's first dedicated semiconductor foundry.

TSMC pioneered the pure-play foundry business model when it was founded in 1987, and has been the world's leading dedicated semiconductor foundry ever since. The Company supports a thriving ecosystem of global customers and partners with the industry's leading process technologies and portfolio of design enablement solutions to unleash innovation for the global semiconductor industry. With global operations spanning Asia, Europe, and North America, TSMC serves as a committed corporate citizen around the world.

TSMC deployed 281 distinct process technologies, and manufactured 11,617 products for 510 customers in 2020 by providing broadest range of advanced, specialty and advanced packaging technology services. TSMC is the first foundry to provide 5-nanometer production capabilities, the most advanced semiconductor process technology available in the world. The Company is headquartered in Hsinchu, Taiwan. For more information please visit https://www.tsmc.com.

Company Info ›

Foundation & Museum ›

Policy ›

A dimensão geopolítica da crise das cadeias de abastecimento (5)

[FONTE: FT, 25/02/2021]

Geopolitical supremacy will increasingly depend on computer chips

A Taiwanese semiconductor company lies at the heart of the power struggle between the US and China

February 25 2021

The TSMC stand at the 2020 World Semiconductor Conference in Nanjing, China. The Taiwanese company is the world leader in silicon chip manufacture, by a long way © Fang Dongxu/VCG/Getty

If humanity's priorities were measured in building costs, then they would rank as: reverence for God, the future of physics and the production of computer chips.

A dimensão geopolítica da crise das cadeias de abastecimento (6)

[FONTE: FT, 25/02/2021]

But the third most costly building is almost certainly the giant semiconductor fabrication plant being built by TSMC in Taiwan for about $20bn. When operational next year, the facility will contain clean rooms the size of 22 football pitches in which silicon chips will be manufactured at dimensions that redefine the meaning of wafer-thin. At just 3 nanometres, TSMC's wafers will be as thick as the length your fingernail grows in three seconds.

This vast capital expenditure highlights the near-insatiable demand for computer chips, the dominance of Taiwanese chipmakers and the sophistication of modern manufacturing. TSMC's chips power everything from Apple's latest iPhones to medical equipment to F-35 warplanes, accounting for about 55 per cent of global semiconductor sales.

But the manufacture of semiconductors is becoming a geopolitical imperative, too. As part of its squeeze on China's tech industry, the US has pressured TSMC to stop supplying Huawei, previously one of its biggest customers. China, which spends more on importing computer chips than oil, is developing a semiconductor industry to reduce dependence on overseas suppliers.

A dimensão geopolítica da crise das cadeias de abastecimento (7)

[FONTE: FT, 25/02/2021]

Sensing their own vulnerability, the US, Japan and the EU are also stepping up their efforts to develop indigenous semiconductor industries, as their carmakers and computer games companies wail about the lack of supply. Computer chips currently vie with vaccines as must-have resources for any nation state.

If military capability in previous centuries was built on breech-loading rifles, warships or atomic bombs, it may well depend in the 21st century on the smartest use of advanced chips. The centrality of TSMC to the global semiconductor industry is sometimes given as a reason why mainland China might yet invade Taiwan. But far bigger military and political considerations will determine Beijing's course of action.

By any measure, TSMC is an extraordinary company which is reaping the benefits of out-investing its rivals. It has just announced that its capital spending will further increase to between \$25bn and \$28bn this year as it struggles to add capacity fast enough to match demand. During an earnings call last month, CC Wei, TSMC's chief executive, said that surging sales of smartphones and high-performance computers and the adoption of 5G mobile technology were fuelling demand for the company's leading-edge logic chips. "We believe that 5G is a multiyear megatrend that will enable a world where digital computation is increasingly ubiquitous," he said.

A dimensão geopolítica da crise das cadeias de abastecimento (8)

[FONTE: FT, 25/02/2021]

Most other semiconductor companies have dropped out of the race to manufacture 3nm chips due to the stratospheric costs. It will now be hard for any rival to catch up with TSMC because of its vast capital spending, its technological expertise, its network of suppliers and its support from the Taiwanese government. Only Samsung of South Korea is visible in its rear-view mirror.

"What separates TSMC from other foundries is its appetite to take risks and its ability to execute. It is an incredible business model," says Brett Simpson, a tech analyst at Arete, an independent research firm. "The market is heading for one dominant player and one subscale player that is hanging in there and executing very well."

The bigger concern for TSMC is the geopolitical tension between the US and China. With two fabrication plants in China, one in the US state of Washington and another planned in Arizona, TSMC has been hedging its bets. But like many other companies in a fast-polarising world, it is being forced to choose.

A dimensão geopolítica da crise das cadeias de abastecimento (9)

[FONTE: FT, 16/04/2021]

TSMC faces pressure to choose a side in US-China tech war

Washington attempts to draw chipmaker crucial to global supply chain closer into its orbit

April 16 2021

US efforts to draw TSMC away from Beijing have extended to the chip company moving parts of its supply chain on to American soil © Bloomberg

The world's largest contract chipmaker is under pressure to pick a side in the US-China rivalry for technological supremacy, posing a dilemma for a company that has become crucial to the global supply chain.

Taiwan Semiconductor Manufacturing Company, which has been thrust into the spotlight in the midst of a worldwide chips shortage, faces accusations of indirectly supplying China's military. That has further embroiled the semiconductor group in the US campaign to curtail China's access to high-tech components.

A dimensão geopolítica da crise das cadeias de abastecimento (10)

[FONTE: FT, 16/04/2021]

Taiwan on Wednesday challenged reports that technology from TSMC and Taipei-based chip designer Alchip supported Chinese military development. Wang Mei-hua, economy minister, told reporters that "our companies comply with US, domestic, and multilateral rules when they meet global demand for chips".

That followed a Washington Post report that Chinese supercomputer maker Phytium used chips made by TSMC, which is also an important US military supplier, in machinery to test hypersonic missiles for the People's Liberation Army.

The US Commerce Department placed Phytium and six other Chinese supercomputing companies on its "entity list" last week, barring American suppliers from exporting directly to the company without a special licence. The rules do not apply to overseas companies, but TSMC and a Taiwanese chip designer have both proactively halted sales to Phytium.

TSMC declined to comment on the matter.

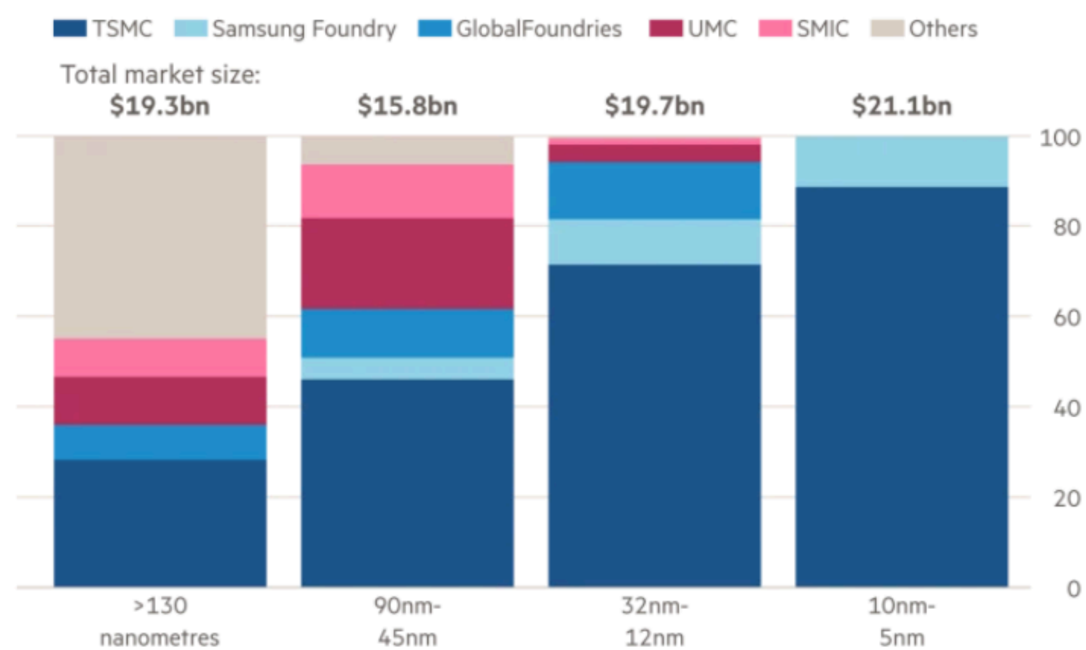
Washington's moves showed that "the US is pressuring Taiwan and TSMC to support its supply chain" over China, said Paul Triolo, an analyst at consultancy Eurasia Group. They also challenge TSMC's historic position of neutrality and the company's strategy of "being everyone's foundry".

A dimensão geopolítica da crise das cadeias de abastecimento (11)

[FONTE: FT, 16/04/2021]

TSMC is leading the way in advanced chip technology fabrication

Pure-play foundry revenue, 2020 (%)



Source: Bain/IC Insights/Gartner
© FT

TSMC has previously been caught up in US-China tensions. Almost two years ago, the Trump administration said chips the company had sold to technology group Huawei were being used in Chinese missiles.

Washington's efforts to draw TSMC away from Beijing have extended to the chip company moving parts of its supply chain on to American soil.

Last May, under pressure from the Trump administration, TSMC announced plans to open a plant in Phoenix, which would bring it closer to the operations of US military manufacturers Raytheon and Honeywell. Washington wants sensitive technology, such as the TSMC computer chips used in F-35 stealth fighter jets, to be manufactured in the US.

A dimensão geopolítica da crise das cadeias de abastecimento (11)

[FONTE: Washington Post, 9/04/2021]

China builds advanced weapons systems using American chip technology

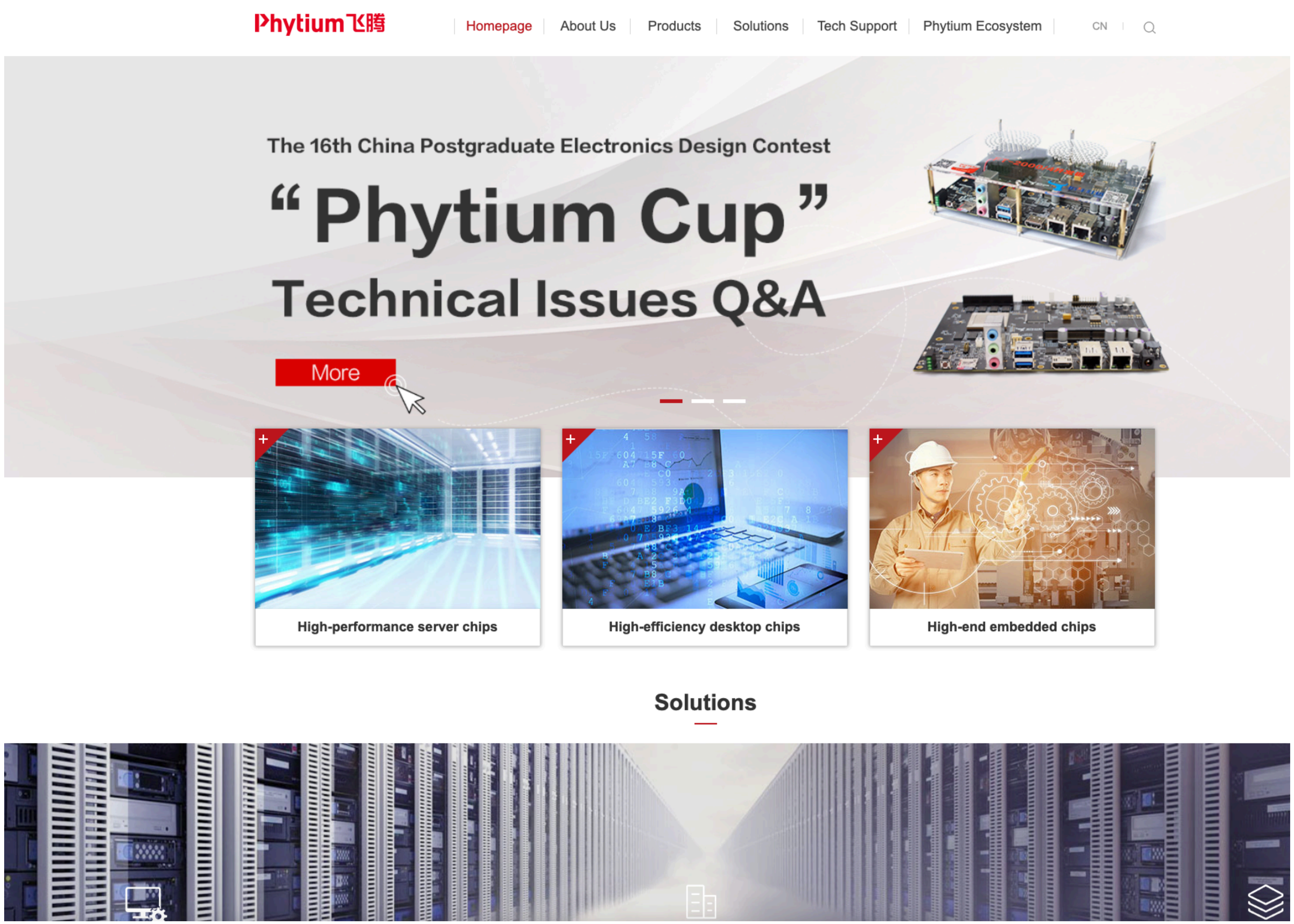
A hypersonic glide vehicle DF-17 is seen on Oct. 1, 2019, during a military parade in Beijing to celebrate the 70th Anniversary of the founding of the People's Republic of China. (Asahi Shimbun/Getty Images)

In a secretive military facility in southwest China, a supercomputer whirs away, simulating the heat and drag on hypersonic vehicles speeding through the atmosphere — missiles that could one day be aimed at a U.S. aircraft carrier or Taiwan, according to former U.S. officials and Western analysts.

The computer is powered by tiny chips designed by a Chinese firm called Phytium Technology using American software and built in the world's most advanced chip factory in Taiwan, which hums with American precision machinery, say the analysts.

A dimensão geopolítica da crise das cadeias de abastecimento (12)

[FONTE: Phytium Technology Co., Ltd]



A dimensão geopolítica da crise das cadeias de abastecimento (13)

[FONTE: Phytium Technology Co., Ltd]

The hypersonic test facility is located at the China Aerodynamics Research and Development Center (CARDC), which also obscures its military connections though it is run by a PLA major general, according to public documents and former officials and analysts, many of whom spoke on the condition of anonymity to discuss a sensitive matter.

The headquarters of the world's largest semiconductor maker, TSMC in Hsinchu, Taiwan, in January. (Sam Yeh/AFP/Getty Images)

Phytium's partnership with CARDC offers a prime example of how China is harnessing civilian technologies for strategic military purposes — with the help of American technology. The trade is not illegal but is a vital link in a global high-tech supply chain that is difficult to regulate because the same computer chips that could be used for a commercial data center can power a military supercomputer.

Hypersonics refers to a range of emerging technologies that can propel missiles at greater than five times the speed of sound and potentially evade current defenses.

On Thursday, the Biden administration placed Phytium and six other Chinese firms and labs involved in high-performance computing on an export blacklist, blocking technology of American origin from flowing to those entities. The aim, Commerce Department officials said, is to prevent U.S. goods and know-how from aiding China's military modernization, in particular its development of advanced weapons, including nuclear and hypersonics.

A dimensão geopolítica da crise das cadeias de abastecimento (14)

[FONTE: SCMP, 12/05/2021]

Tech / Tech War

US-China tech war: Taiwan's TSMC joins American chip coalition in another blow to China's self-sufficiency drive

- Major world chip makers and buyers set up a new coalition to bolster American semiconductor industry
- New coalition may make it harder for China to achieve semiconductor independence from US technologies, analysts say

Masha Borak + FOLLOW

Published: 11:30pm, 12 May, 2021

Why you can trust SCMP

TSMC has joined a new lobbying group dominated by top American chip developers and users. Photo: Reuters

A dimensão geopolítica da crise das cadeias de abastecimento (15)

[FONTE: George Calhoun / Forbes 29/05/2021]

Why China (Probably) Won't Go To War Over Taiwan's Semiconductor Riches

George Calhoun 06:07pm EDT

Sep 29, 2021,|12 221 views

Employee Dorit Maschke inspects a silicon slice in the new cleanroom complex at the X-Fab ... [+]

picture alliance via Getty Images

In **a recent column**, I drew the parallels between the economic and geopolitical tensions entangling Japan in 1941 and the challenges facing China today.

A dimensão geopolítica da crise das cadeias de abastecimento (16)

[FONTE: George Calhoun / Forbes 29/05/2021]

Country A	Japan (1941)	China (2021)
X = The Vital Resource (Not controlled by Country A)	Oil	Semiconductors
Country B (Controls supply of X)	**USA** (80% of Japanese Oil Imports)	**USA** (100% of Key Chips)
Failed Technological Workaround	Synthetic Oil from Coal (Failed in production)	Multiple failures of Chinese Chip Manufacturing Initiatives
Country B's Embargo	Roosevelt's Embargo on Gasoline and Seizure of Japanese Assets	US Embargo on Chips and Chip-Mftg Equipment Using American Technology
Country C (A Supplier of X Close to Country A)	Dutch East Indies, Malaysia	Taiwan
Country A's Response	Japan Invaded Southeast Asia, To Take Over Oil Fields	??

A dimensão geopolítica da crise das cadeias de abastecimento (17)

[FONTE: George Calhoun / Forbes 29/05/2021]

The storyline is cartoonishly simple. In 1941, Japan's constricted access to a critical resource (oil) led them to launch military action in Southeast Asia and the Pacific (including Pearl Harbor). It also aligned with their expansionist pretensions (they were already in Manchuria and parts of the mainland by then). In 2021, China is feeling similarly constricted for a critical resource (semiconductors), and Beijing's policy options for addressing this problem might seem to converge with *its* expansionary tendencies, and its long-term concerns over the status of Taiwan. Could taking over Taiwan also solve the semiconductor problem? China has tried for over two decades to achieve a degree of self-sufficiency in semiconductor technology, with very limited success. Meanwhile, Taiwan has become a dominant power in the global semiconductor industry. Something like 75% of the world's integrated circuit manufacturing capacity is based there. When it comes to the most advanced fabrication technologies, Taiwan outshines even the U.S. today – for example, 92% of the world's capacity for the manufacturing "nodes" of 10 nanometers and below is currently located in Taiwan.

Is the prize ripe enough to provoke Beijing to start a war?

PARTE II – NOTAS BREVES

O Reino Unido, a União Europeia e o interminável conflito da Irlanda do Norte (1)

[FONTE: The Economist, 13/10/2021]

Britain

Oct 16th 2021 edition ›

Back to the past

The Northern Ireland protocol is up for discussion. Again

The Conservative government starts another game of chicken with the European Union

Reuters

Oct 13th 2021

BREXIT BATTLES are back. And not surprisingly the biggest is over Northern Ireland, the hardest issue in previous negotiations. It was supposedly solved in the withdrawal treaty of 2020 by the Northern Ireland protocol, which averts a hard border with the Republic of Ireland by keeping the North in the EU's single market and customs union for goods, even though Great Britain is out of both. But that inevitably means border and customs controls between the two, in the Irish Sea. The Democratic Unionist Party (DUP) complains that 20% of EU border checks in the first quarter were in Northern Ireland, and wants the protocol scrapped. In July the British government proposed instead a radical revision that would dispense with almost all controls.

O Reino Unido, a União Europeia e o interminável conflito da Irlanda do Norte (2)

[FONTE: Público, 13/10/2021]

David Frost: "Ninguém quer uma guerra comercial. Preferíamos chegar a um acordo" com a UE

Secretário de Estado britânico do "Brexit" falou em exclusivo ao PÚBLICO sobre o diferendo com Bruxelas em relação à Irlanda do Norte e apelou ao apoio de Portugal, em nome da "aliança de longa data" com o Reino Unido.

13 de Outubro de 2021, 16:06

Entrevista "Brexit"

O Reino Unido, a União Europeia e o interminável conflito da Irlanda do Norte (3)

[FONTE: Público,13/10/2021]

Na véspera da divulgação das propostas da Comissão Europeia para agilizar a implementação do protocolo irlandês, anexo ao acordo de saída do Reino Unido da União Europeia, David Frost, secretário de Estado para os assuntos do "Brexit", escolheu Lisboa para pôr em cima da mesa as prioridades estratégicas do Governo de Boris Johnson para as negociações dos próximos dias.

Numa entrevista exclusiva com o PÚBLICO, na terça-feira, pouco depois do discurso que fez na residência do embaixador do Reino Unido em Portugal, lorde Frost diz que o tratado sobre a Irlanda do Norte, negociado e ratificado pelo próprio, em 2019, em nome do interesse nacional, já não serve, "porque as circunstâncias mudam".

O diplomata e político garante que o Governo conservador não está a actuar com "má-fé", nem está a usar os problemas da Irlanda do Norte como "arma contra a UE".

Mas sublinha as posições "problemáticas" de Bruxelas e assegura que, "se for necessário", Londres está "pronta para accionar o artigo 16.º", que permite que qualquer das partes suspenda unilateralmente determinadas disposições perante "dificuldades económicas, sociais e ambientais".

O Reino Unido, a União Europeia e o interminável conflito da Irlanda do Norte (4)

[FONTE: Jornal Oficial da União Europeia]

PROTOCOLO RELATIVO À IRLANDA/IRLANDA DO NORTE

Artigo 16.º

Salvaguardas

1. Se a aplicação do presente Protocolo der origem a dificuldades económicas, societais ou ambientais graves suscetíveis de persistir, ou ao desvio das trocas comerciais, a União ou o Reino Unido pode tomar unilateralmente as medidas de salvaguarda adequadas. Essas medidas de salvaguarda serão limitadas, no que se refere ao seu âmbito e duração, ao estritamente necessário para sanar a situação. Deve ser dada prioridade às medidas que menos perturbem o funcionamento do presente Protocolo.

2. Caso uma medida de salvaguarda tomada pela União ou pelo Reino Unido, consoante o caso, em conformidade com o n.º 1, crie um desequilíbrio entre os direitos e as obrigações decorrentes do presente Protocolo, a União ou o Reino Unido, consoante o caso, podem tomar medidas de reequilíbrio proporcionadas que sejam estritamente necessárias para corrigir esse desequilíbrio. Deve ser dada prioridade às medidas que menos perturbem o funcionamento do presente Protocolo.

3. As medidas de salvaguarda e de reequilíbrio tomadas em conformidade com os n.os 1 e 2 são regidas pelos procedimentos estabelecidos no anexo 7 do presente Protocolo.

O Reino Unido, a União Europeia e o interminável conflito da Irlanda do Norte (5)

[FONTE: Público, 13/10/2021]

Quais são as principais diferenças entre o protocolo que existe e que está a ser implementado e aquilo que o Governo britânico apresenta agora?
O principal problema que temos neste momento é o facto de existir uma fronteira para o comércio de mercadorias no meio do nosso país, que está a desencorajar as empresas da Grã-Bretanha de enviarem produtos para a Irlanda do Norte, porque a burocracia e o processo são demasiado complicados. Não estamos autorizados a aplicar os padrões britânicos aos bens da Irlanda do Norte e se houver algum litígio é o tribunal de uma das partes [Tribunal de Justiça da União Europeia] que a vai decidir. Aquilo que estamos a propor reequilibra essas situações. Propomos que os produtos possam movimentar-se livremente – ou virtualmente livres – pelo Reino Unido; propomos continuar a fiscalizar, nós próprios, os produtos que vão para Irlanda do Norte através do Mar da Irlanda, aceitando as responsabilidades inerentes; achamos que é razoável que os produtos que cumprem tanto os padrões europeus como os padrões britânicos circulem livremente pela Irlanda do Norte; e achamos que deve haver uma arbitragem comum, como está previsto na grande maioria dos outros tratados internacionais que temos entre nós. Isto vai criar um novo equilíbrio e vai permitir uma situação de normalidade dentro do país.

O senhor negociou e ratificou este protocolo em 2019, nessa altura não foi capaz de prever todos esses problemas que agora identifica?
Na altura estávamos preocupados. Sem querer ir ao detalhe de todo o histórico das negociações, não fomos nós que propusemos o regime aduaneiro que está em vigor.

O Reino Unido, a União Europeia e o interminável conflito da Irlanda do Norte (6)

[FONTE: 13/10/2021]

Certo. Mas ratificaram-no.

Ratificámo-lo porque era o que tinha de ser feito pelo país. Havia problemas muito visíveis na Câmara dos Comuns – uma enorme incapacidade para se cumprir o resultado do referendo [de 2016]. Tivemos de avaliar a situação como um todo e fazer aquilo que o país precisava. Por isso, sim, assumimos certos riscos com algumas destas propostas aduaneiras e com outras disposições. Tínhamos a esperança de que iria resultar e tínhamos a esperança de que seriam implementadas com sensibilidade. Mas isso não aconteceu. E é por isso que, infelizmente, temos de regressar a elas.

No seu discurso referiu várias vezes que o '"Brexit" significa competição' entre as economias, os países e as organizações; que significa "novas formas de fazer as coisas". Não estará a UE avaliar a postura do Governo britânico com base nessa ideia de que está a ser um competidor, em vez de um colaborador que procura aquilo que melhor serve todas as partes?

Espero que não estejam a olhar para nós dessa forma. O que eu queria dizer é que, se queremos chegar a uma posição mais favorável com a UE, temos de resolver este problema. Não estamos a usá-lo como uma qualquer espécie de arma contra a UE. Bem pelo contrário. Queremos solucionar este problema para que funcione para ambos e para que possamos avançar para uma relação melhor e para outras coisas. Isso não significa que não vá haver competição económica, é óbvio que haverá.

O Reino Unido, a União Europeia e o interminável conflito da Irlanda do Norte (7)

[FONTE: Euractiv 13/10/2021]

EU offers deal on British trade to Northern Ireland but leaves Court role unchanged

The European Union offered the UK on Wednesday (13 October) a package of measures aimed at brokering a compromise to the long–running dispute over trade to Northern Ireland but without meeting London's demands on the role of the European Court of Justice.

The offer, which appears to be more generous than the UK had initially expected, includes more flexible rules on food, dairy products, plant and animal health, known as sanitary and phytosanitary issues, which the Commission says will lead to approximately an 80% reduction in customs checks.

The Commission proposal would also leave the existing rules on the supply of medicines from Britain to Northern Ireland untouched, a key concern of the UK government.

O Reino Unido, a União Europeia e o interminável conflito da Irlanda do Norte (8)

[FONTE: Euractiv 13/10/2021]

Meanwhile, the EU executive contends that the creation of an "Express Lane" for the movement of goods will result in a 50% reduction in paperwork faced by businesses.

In a bid to address the so-called 'democratic deficit' in Northern Ireland, whereby it will be continue to be subject to EU single market rules that it had no say over, the Commission has proposed the creation of structured groups with experts to discuss EU measures related to the implementation of the Protocol.

However, the protocol would still be subject, ultimately, to the European Court of Justice, which the UK has identified as one of its 'red lines'.

In a statement, the UK government spokesperson said that "significant changes which tackle the fundamental issues at the heart of the Protocol, including governance, must be made if we are to agree a durable settlement which commands support in Northern Ireland."

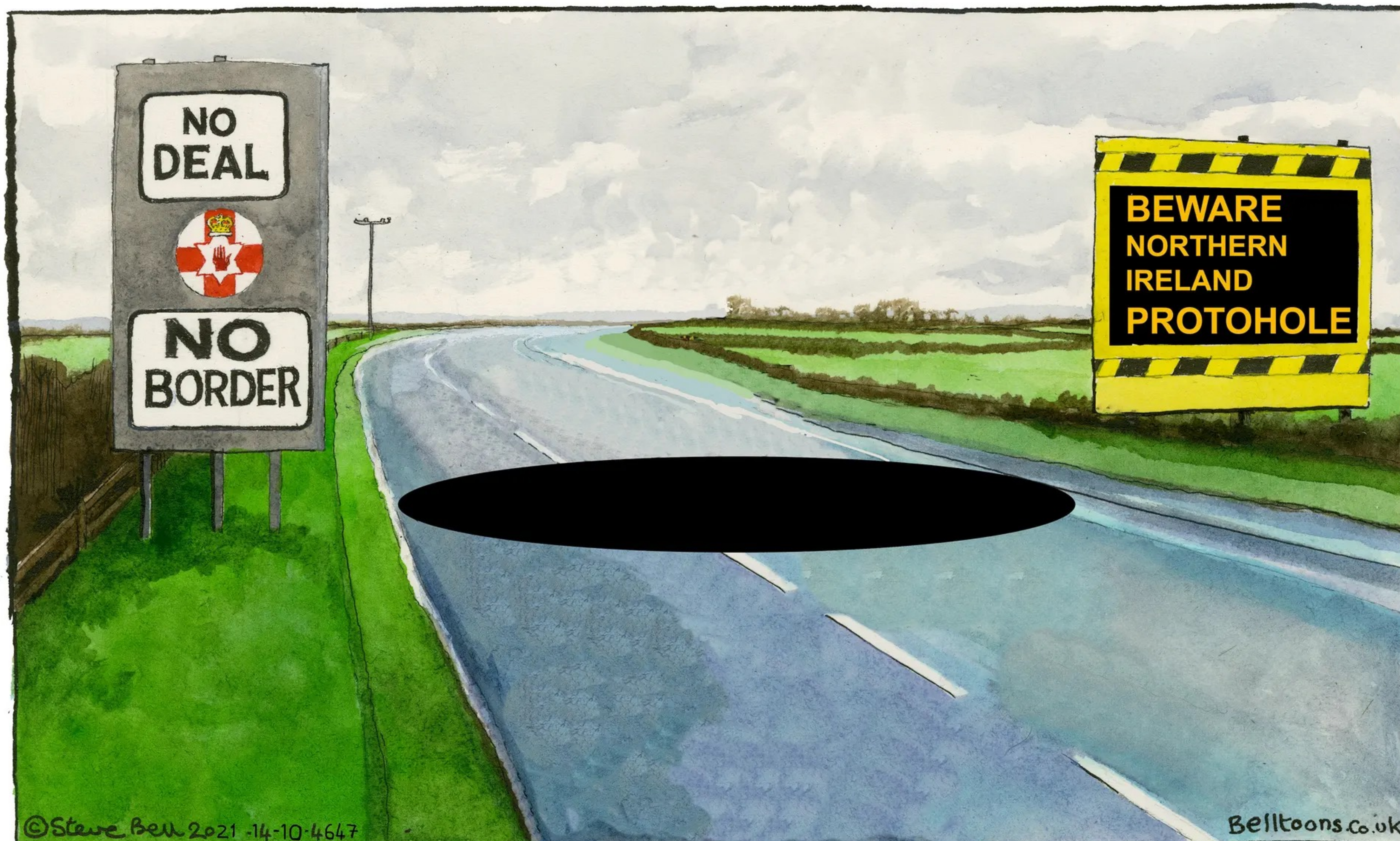
The spokesperson added that "intensive" talks between the UK and European Commission should follow in the coming weeks in a bid to reach a deal.

UK officials have told EURACTIV that the sustainability of the protocol cannot be addressed without tackling its governance, and want to see the Luxembourg-based Court replaced with a new arbitration panel.

The Northern Ireland protocol keeps the province in the EU's single market for goods since Britain's departure from the EU, meaning its exports to the rest of the 27-nation bloc face no customs checks, tariffs or paperwork.

O Reino Unido, a União Europeia e o interminável conflito da Irlanda do Norte (8)

[FONTE: Steve Bell / The Guardian, 13/10/2021]



Sugestões de leitura