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## ¿El fin de la cadena de valor global?

Perspectivas para  
los Consejos de  
Administración

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## Supply chain Resilience and political Risks

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# ¿El fin de la cadena de valor global?

## Perspectivas para los Consejos de Administración

Según Alicia García-Herrero (ver informe más adelante), las cadenas de valor se caracterizan actualmente por la creciente dependencia estratégica y el papel central de China. El gigante asiático lidera la producción de una amplia gama de productos (21% en las manufacturas globales y casi 30% en productos intermedios), creando dependencias críticas en sectores clave como las energías verdes (90% de los paneles solares) y los minerales raros. La prominencia de China también se ve reflejada en el deterioro de las cadenas de valor globales de estados europeos (p. ej., Alemania) y una mayor vulnerabilidad ante posibles disrupciones. Esta asimetría presenta riesgos involuntarios —cuellos de botella o desastres naturales— y voluntarios, ante una hipotética instrumentalización de China.

La geopolítica se ha infiltrado en la realidad de las empresas. Además de sanciones, las empresas hacen frente a presiones regulatorias y riesgos de cara a su entramado reputacional en materia de derechos humanos y sostenibilidad, tanto en Estados Unidos como en Europa. Nos acercamos tentativamente a un futuro que podría llegar a albergar la coexistencia de dos ecosistemas tecno-geopolíticos distintos, con regulaciones diferenciadas para China y el resto del mundo y desafíos adicionales para las empresas y los Consejos de Administración.

Desde Esade, tenemos el objetivo de ayudar a los Consejos de Administración a entender la importancia de los retos geopolíticos en las cadenas de valor globales y la importancia de su incorporación a la agenda de los Consejos. Proponemos unos principios a lo largo de tres líneas de acción clave para los Consejos de Administración:

### 1. Análisis de tendencias geopolíticas en torno a las cadenas globales

Los Consejos de Administración deben de identificar las dinámicas geopolíticas, así como regionales y estatales en aquellos territorios donde operen sus cadenas de valor. Las políticas industriales estatales suelen dar una indicación de la dirección que toma un país en gobernanza económica. Estas estrategias industriales pueden contener apoyos —a veces discriminatorios a foráneos— así como cambiar las estructuras de costes de las industrias. Las políticas estatales, p. ej., “due diligence” en derechos humanos o relativas a sostenibilidad, también pueden afectar a las cadenas globales e introducir importantes riesgos reputacionales y económicos.

Las relaciones y rivalidades regionales, la competencia geopolítica entre EE. UU.-China y la decadencia institucional de organismos multilaterales como la OMC son cuestiones imprescindibles para la agenda de los Consejos. Los consejeros no solo

tendrán que seguir de cerca tarifas, restricciones a la exportación o sanciones, sino también mecanismos menos explícitos como presiones informales y diplomacia coercitiva. Para ello, necesitarán una diversidad de capacidades y conocimiento. Es preciso que el Consejo de Administración incorpore diversidad internacional, así como conocimiento experto en asuntos internacionales y legales, y una profunda comprensión de la cadena de valor global. Por otro lado, a la hora de incorporar diversidad global, los Consejos solo deben considerar aquellos consejeros con intereses legítimos.

## 2. Conexión entre el sector público y el privado

Las políticas públicas estratégicas de desacoplamiento o de lucha contra el cambio climático, como el Mecanismo de Ajuste en Frontera por Carbono, pueden afectar los niveles competitividad e incluso la viabilidad de ciertos elementos de la cadena de valor. Se recomienda a los Consejos tener un buen conocimiento, funcionamiento y lógica de las estrategias estatales para valorar posibles consecuencias sobre su negocio.

Los Consejos deben fomentar sus redes de contacto e información con think tanks, centros de investigación y asociaciones empresariales con conocimientos sobre la economía política de los países que afectan las cadenas de valor. También pueden contar con la sociedad civil de los países relevantes a las cadenas de valor. Esta diversidad de información en las redes de inteligencia se completa con atraer y contratar consejeros que provengan de las regiones integradas en las cadenas de valor, o que posean experiencia geopolítica internacional y multisectorial, para internacionalizar los Consejos de Administración.

## 3. Gestión de riesgos y oportunidades

Los Consejos de Administración deben estar familiarizados con las posibles vulnerabilidades y dependencias en sus cadenas globales. Desde el Consejo, tendrán que exigir transparencia de sus proveedores de segundo y hasta tercer nivel.

Puesto que la resiliencia tiene un coste, el desacoplamiento o reducción de interacción económica y las redundancias también implican un cambio en las estructuras de coste. Ante este desafío estratégico, se pueden aceptar las vulnerabilidades o diversificar suministradores hasta el segundo o tercer nivel. Otras respuestas para considerar incluyen: incrementar stocks de productos críticos; reducir la longitud de cadenas de valor, es decir, internalizar algunas operaciones; o regionalizar las cadenas—distintas cadenas para distintas regiones. Para evitar la dependencia de China, muchas empresas están reorientando las cadenas de valor a otros territorios como México, Vietnam o India.

El marco temporal en la toma de decisión también es importante. La mayoría de las respuestas a los riesgos geopolíticos en las cadenas globales requieren de tiempo—años a menudo— para implementarse. Las decisiones de hoy se reflejarán más adelante. Al tomar decisiones sobre las cadenas de valor, los consejeros necesitan contemplar y valorar distintos escenarios posibles a medio y largo plazo.

Figura 1. Las tres reglas de acción Esade para los Consejos de Administración y las cadenas de valor.



# Supply Chain Resilience and Geopolitical Risks

Alicia García Herrero

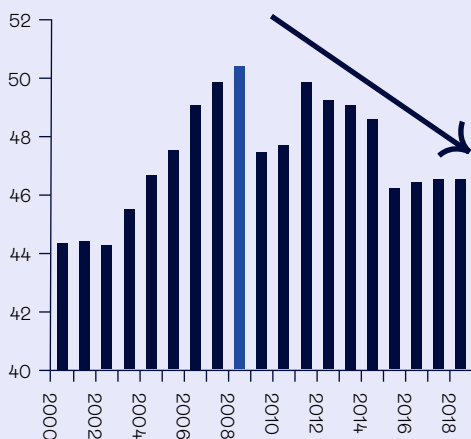
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## 1. China’s ascent in the global supply chain

Deglobalization is not a new concept but rather a megatrend which has been seen before, for example right before the First World War. Signs of deglobalization, measured by a smaller size in global value chains (GVCs), in terms of reduced participation of different countries in global supply chains, started to appear after the global financial crisis (GFC) erupted in 2008. When measuring global supply chains as the amount of intermediated goods either imported for re-exports or exported to other countries for them to re-export, they have been in net decline since 2008 (Chart 1). The decline has been much bigger for Europe (which with proxy with Germany in Chart 2), followed by the US, than for China. While the EU is still the region in the world with the highest degree of economic integration in GVCs, the decline in such participation is also the fastest and in line with the EU’s declining share in manufacturing exports at the global level. On the other end, China has managed to lose very little participation in the GVC when compared to the US and the EU. We will come back to the consequences of this differential trend for China in the second section.

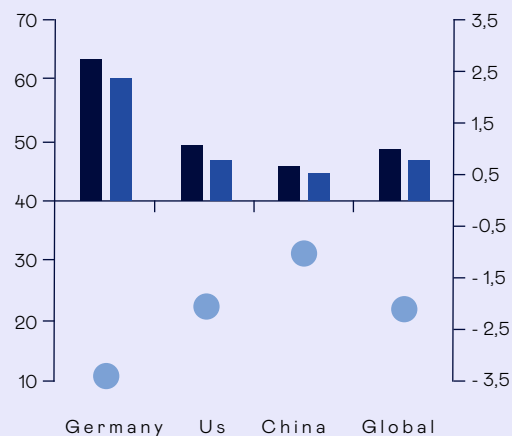
Deglobalization – which for some is just slowbalization – is happening for several reasons. An important one is the waning support of the population as a whole, given the negative impact that it has had on income distribution, although it is hard to tell how much the problem is (hyper) globalization of technological progress. The other reason is the US-China strategic competition which is behind the call for the US government to re-shore production of some critical manufactured process, such as green tech. Another reason beyond great power competition is climate change, which is calling for shorter supply chains. Finally, COVID-19 has been another very important factor, which has woken up policymakers and other market players of the risks of excessive dependence on single sourcing during times of stress.

**Chart 1**  
World GVC Participation



Source: UNCTAD-Eora database, Natixis  
N.B. Results for 2016-2018 are forecasted by UNCTAD-Eora

**Chart 2**  
GVC Participation (%)



Source: UNCTAD-Eora database, Natixis  
N.B. Results for 2016-2018 are forecasted by UNCTAD-Eora

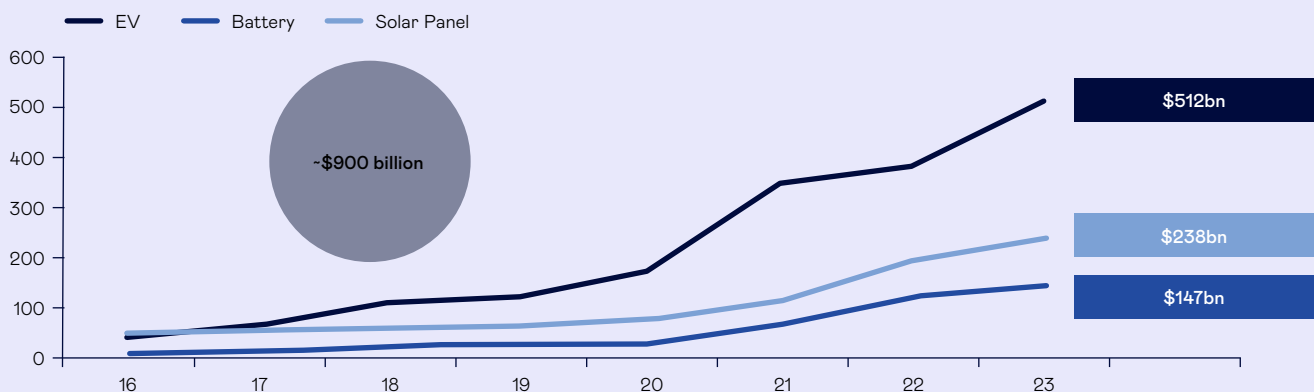
The worrying trend in terms of the shrinking size of value chains should not come as a surprise since it is supported by the weakening of the World Trade Organization (WTO) as a guarantor of the global multilateral trading system and as the main actor behind global trade liberalization. Its appellate body, which arbitrates disputes, has been functioning poorly, especially since the Trump administration blocked the renewal of its judges. Furthermore, the greater heterogeneity of WTO members since China's accession, including other emerging economies and ex-Soviet bloc nations, has made it increasingly hard to move forward with new liberalization measures and to settle trade disputes. In sum, President Trump's profound disdain for multilateralism and China's state-led system were simply incompatible with an open global trading system ruled by multilateralism and, more specifically, the WTO. Furthermore, the increasing role of non-market practices in China, based on its state-led economic model, has been another major challenge for the global trading system to continue to operate.

## 2.China generating critical dependences on its exports

China is taking an increasingly large slice of the cake in the GVC, all the more so since the Covid pandemic started. In some sectors, especially in green tech, China's centrality of the value chain is simply huge for green tech as the world accelerates the green transition. This is a rare spotlight of the Chinese economy given the pressure ranging from real estate sales to consumer confidence. China's production of electric vehicles (EVs), batteries and solar panels, also known as the "New Three" sectors, have experienced fast growth in investment and exports. In a recent policy term, some of the sectors are seen as "new productive forces". The global market size is nearly \$900 billion in 2023, 3.6 times higher than five years ago (Chart 3).

Chart 3

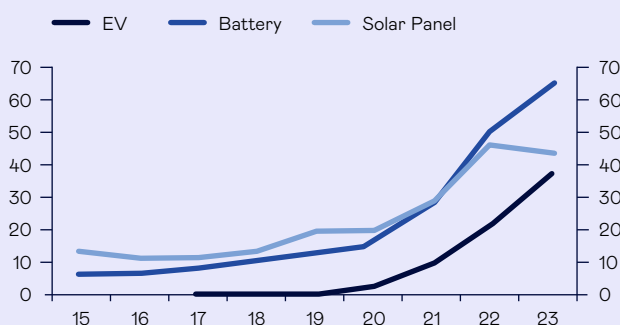
Global Market Size (USD bn)



N.B. 2023 data is estimated value  
Source: Natxis, Financial statements, Statista Mobility Market Outlook, Bloomberg

Chart 6

China: Export Value (USDbn)

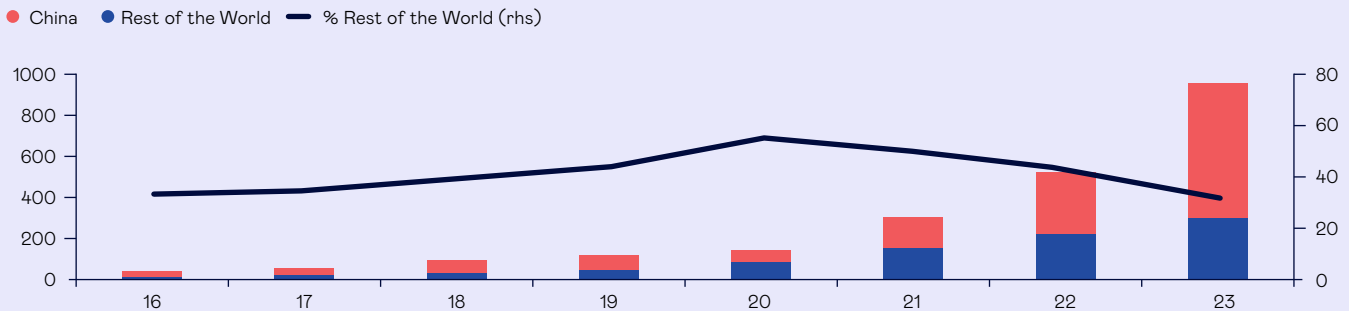


Source: Natxis, SNE Research

China's dominance in green tech has not come overnight. With a big domestic market and government support, including tax incentives and subsidies, China has gained comparative edges by leapfrogging previous market leaders, especially European ones. Still, the domestic market is not the largest venue for Chinese sales of green tech but actually the rest of the world (Chart 6). With strong global demand and lower costs, the share of the "New Three" sectors in China's exports has grown from 1% in 2018 to 4.2% in 2023, becoming a rising star in manufacturing (Chart 7).

**Chart 7**

Sales of Lithium-ion Battery for Electric Vehicles per Market (GWh)

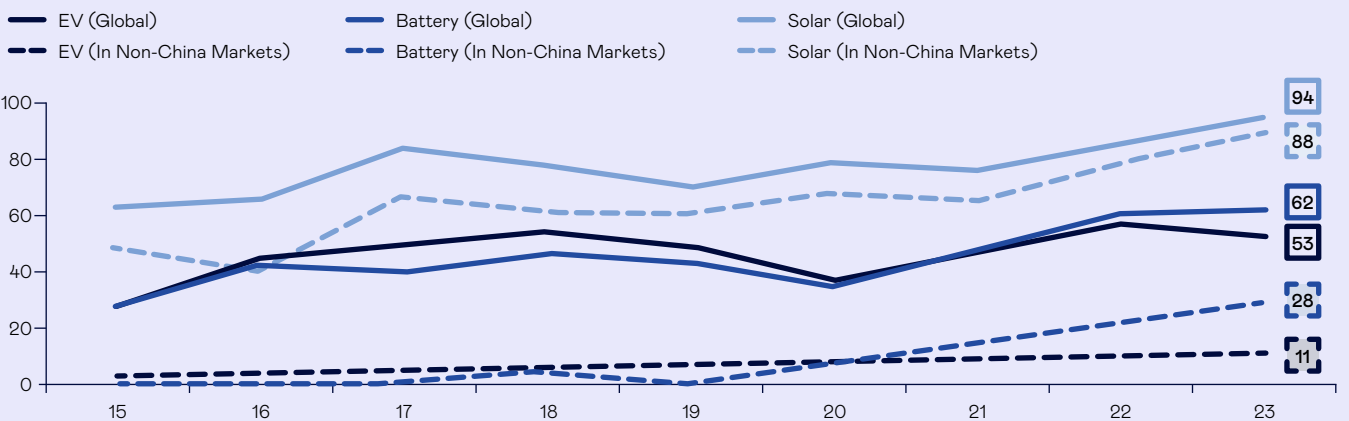


Source: Natxis, SNE Research

As a result, China has made significant progress in capturing overseas markets. In non-China markets, the well-known case is China supplied 88% of solar panels in 2023. Rising from 4% in 2018, China secured a market share of 11% for batteries and 28% for EVs (Chart 8).

**Chart 8**

China: Market Share in Green Tech (%)



Source: Natxis, Marklines, BloombergNEF, SNE Research

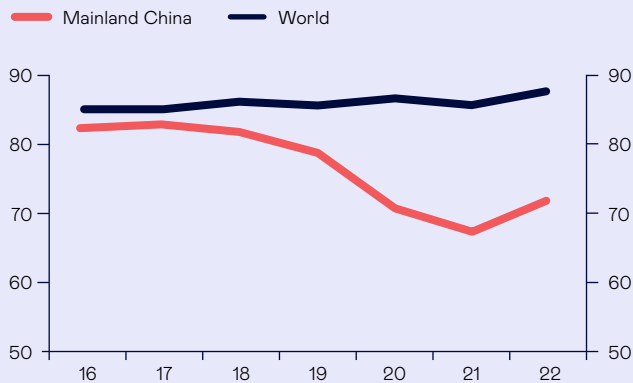
The question is whether such a huge concentration of production of green tech in China can be sustained in a world of great power competition and even beyond. The degree of dependence is so high, especially for solar panels, and so intense as it extends across the whole supply chain from critical raw materials to manufacturing, that even without such strategic competition it would seem difficult to sustain such situation. In that regard, reshoring from different programs, starting from the US' Inflation Reduction Act (IRA) but also the European Union's Net Zero Industrial Act among others. Near-shoring and friend-shoring are other factors which could carve out part of China's dominance of these new green supply chains.

### 3.US – China tech competition pushing to bifurcation

For years, the technology sector has been expanding globally with benefits in terms of economies of scale and network externalities. But such expansion has been affected by the technology decoupling from China that Trump started pushing in 2018 and further continued by President Biden between the US and China. Such tech decoupling has been executed through measures such as export controls to inbound investment screening and, more recently, outbound investment screening.

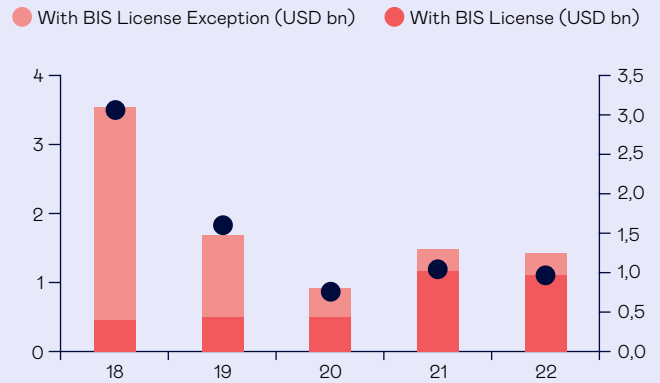
Firstly, transfer of technology has become increasingly restricted through export controls on high-end technology products, especially semiconductors. The approval rate of export licenses by the BIS for China declined from 82% in 2018 to 71% in 2022 (Figure 5) while it has even increased for the rest of the world. US goods exported to China subjected to BIS authorization fell 60% in 2022 versus 2018 with a larger share requiring a BIS license (Figure 6). In the same vein, China has finally introduced export licenses for key technologies, including drones and artificial intelligence this year.

US: Approval Rate for Export Licenses (%)



Source: Natixis, US Department of Commerce's Bureau of Industry

US: Export Licences for Mainland China



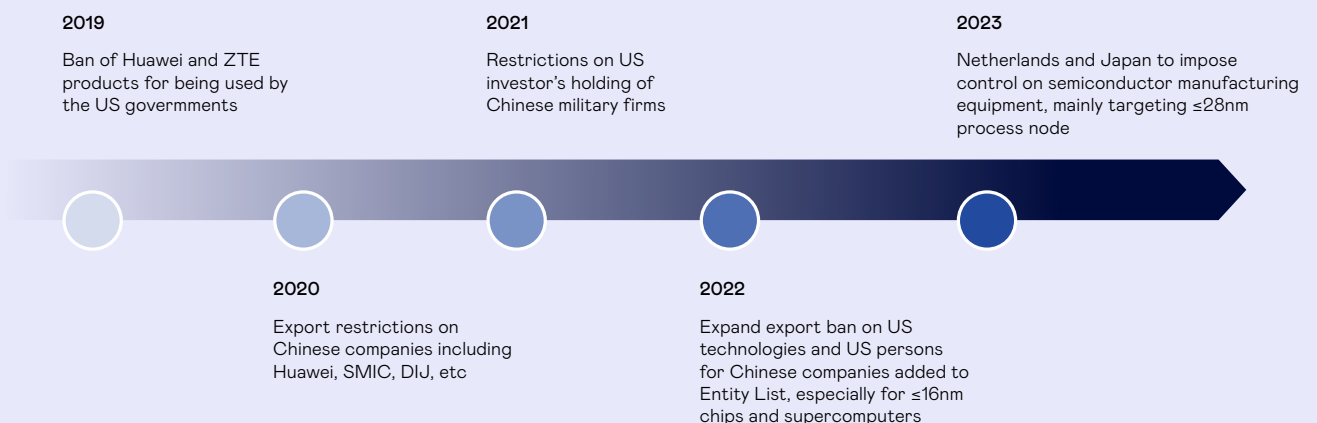
Source: Natixis, US Department of Commerce's Bureau of Industry

Beyond trade, the free flow of investment has also been limited, especially for high-end and/ or technology products, because of increased investment screening. This is particularly the case after the granting of increased powers by Trump to the Committee on Foreign Investment in the United States (CFIUS), with the intent to block an increasing amount of Chinese acquisitions in US. The EU has stepped up coordination of investment screening through a EU-level committee since April 2020. These moves show the unease in the West about China's having full access to Western technology while the West has no full access to China's technology.

Beyond export controls, the US has also created limits for Chinese companies – especially if related to the People's Liberation Army. The so-called "entity list" effectively forbids US companies from conducting business with the Chinese companies on the list, with the addition of Huawei and some of its affiliates as a highlight. In September 2020, China announced the release its own identity list in retaliation, though the names of targeted companies have not been made public yet. Interestingly, the announced consequences of being on China's entity list are not sanctions, as is the case with the US identity list, but are rather being blocked entirely from trade and investment with China. It goes without saying that these measures have relevant consequences on the functioning of global supply chains.

### Chart 1

Timeline of US Sanction on Chinese Tech Companies



Given the above, it seems clear that technological bifurcation is here to stay. The question is how much such bifurcation will push for trade bifurcation also, in as far as it will result in divergent standards, particularly for high-value-added products with a large share of technology components.

One particular sector for which the impact of technology decoupling might be most serious is the semiconductor industry, as has become apparent with the US ban on sourcing semiconductors from Huawei, which affects not only American producers but also Taiwanese producers, among others. In September 2020, the US entity list, in addition to Huawei, added the largest producer of semiconductors in China (SMIC). Ever since the US introduced the game changing CHIPS and Science Act in October 2022, it is taking more steps to restrict China's chipmaking capability to 16nm or below, expanding from previous coverage. But a major deficiency is China can produce chips at 16nm with Argon Fluoride immersion (ArFi) deep ultraviolet (DUV) machines, but at a higher cost and possibly also a lower yield. As such, the nods from the Netherlands and Japan are more crucial than ever as they are leading in DUV production.

Another stumbling block in the US-China technology decoupling, which has spilled over to the rest of the world, is 5G technology. Since the US banned Huawei from providing 5G platforms in the US, other countries have followed, including the United Kingdom. The consequences of this move are still to be fully evaluated, but it looks like the world will end up with two different 5G ecosystems.

The US containment on Chinese technological expansion is also moving into software. In fact, the Trump administration published an executive order targeting at Chinese owned social media platforms TikTok as well as WeChat August 2020, but was finally revoked by the Biden administration in June 2021. The measures have threatened penalties on U.S. residents or companies engaging in any transactions with these firms after the order is in effect. The reality is that China started establishing its great firewall to block the free flow of information with the West at least ten years before. But as the US follows China's lead, the internet and thus the exchange of global information are bound to bifurcate. In other words, the previously referred two ecosystems in terms of hardware and standards are being replicated on the software space.

Beyond hardware and software, the next battle will clearly be the cloud and data storage. In fact, even with the rapid booming of China's digital market, it is important to note that it has never been fully integrated into the global economy (European Union Chamber of Commerce in China and Mercator Institute of China Studies, 2022). As a result, foreign companies operating in China have long faced immense market access restrictions imposed by the government, which can be generally divided into two dimensions. The first is the decoupling of data management regimes arising from government regulations, which is affecting companies across all industries. As a consequence, cross-border data flows have been disrupted as different countries typically impose data localization requirements for privacy and/or national security reasons. The best example is China's restrictions on data storage outside of China enforced since 2017, when China's Internet Security Law was first implemented. To address this, foreign data operators, such as Apple, now store Chinese user data in China through partnerships with local companies. The second is the escalation in internet infrastructure scrutiny. This is especially relevant for companies caught between China's drive for greater technological self-reliance and the US' aim to deter Chinese technology from a broad range of systems. Such regulation will affect any business from the US and will push China to speed up the development of its own ecosystem in technology. In other words, the upgrading of the Chinese technology industry is more urgent than ever so China will not hesitate about the related financial costs to support these industries.

## 4. Regulatory bifurcation

Another important angle of increasing differentiation is regulations safeguarding the functioning of supply chains. Both the US and the EU have introduced legislation recently as a response both to the supply chain disruptions during the pandemic, but also to protect consumers from supporting human right abuses. In particular, the EU boasts a more

comprehensive legal framework with a newly adopted Corporate Sustainability Due Diligence Directive (CSDDD), which is however not yet fully ratified. The CSDDD requires large companies to identify, prevent, and address human rights and environmental risks throughout their supply chains. Companies can be held liable for violations. The emphasis of the EU legislation lies on on proactive due diligence. Companies must develop preventative action plans and ensure suppliers comply with human rights standards. The US instead relies more on transparency and disclosure measures. Companies are encouraged to report on their efforts to address human rights in their supply chains, but there's no mandatory due diligence requirement.

As one could expect, China's approach to supply chain regulation differs from both the US and EU as it prioritizes supply chain efficiency and national security over human rights. Regulations aim to streamline domestic production and reduce reliance on foreign sources. There are no regulations requiring companies to conduct human rights due diligence in their supply chains and there is hardly any transparency regarding labor practices within China is limited.

## 5. Conclusions

Supply chains have been at the center of the process of hyper globalization which peaked in 2008, with the global financial crisis.

Since then, global supply chains have been shrinking globally but especially in Europe. China, instead, has lost much less of its participation in the global value chain and, in fact, it has only gained centrality, relative to other industrial nations but also the emerging world. China's centrality has become particularly relevant for new manufacturing sectors, such as green tech, creating strategic dependences for the rest of the world, including Europe.

The reaction of the West to this reality has been to re-shore part of the production of green tech, through subsidization but it is increasingly clear that the cost is simply too high. This is opening the way to more nearshoring and friendshoring and, with it, to a real reshuffling of global supply chains.

The other important development stems from technological and regulatory bifurcation. Such bifurcation will further feed the more general process of slowbalization or even deglobalization of trade and, possibly, investment.