Exporting to China

OPPORTUNITIES FOR DEVELOPING COUNTRIES IN THE BELT AND ROAD INITIATIVE

International Trade Centre

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About the paper

Since the launch of the Belt and Road Initiative in 2013, exports from participating developing countries to China have soared by 79% to $798 billion. However, almost half of the export potential from these countries to China is unrealized.

There are abundant opportunities for export growth in manufacturing exports to China. While many are resource-based, plenty are value-added. Efforts to leverage the former should encompass environmental sustainability and working conditions. Targeted trade promotion must be designed to unlock the latter.

Beyond infrastructure improvements, this global initiative promotes international economic cooperation that can materialize sustainable, inclusive, value-added trade for developing countries.

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Foreword

A decade has passed since the Belt and Road Initiative (BRI) was launched on the global stage, opening up new pathways for greater cooperation and trade through infrastructure development. Over these 10 transformative years, the world has also witnessed myriad changes—economic, political, technological, social and environmental. The BRI, with its ever-expanding footprint stretching across continents, has been both a witness to and a catalyst for some of these shifts.

From its inception, the BRI promised to increase trade, foster investment and create symbiotic relationships among developing countries. Today, its ripples are palpable, with many BRI developing countries having now deepened their ties with the Chinese market. Such growth and engagement speak volumes about the potential of this initiative to support growth and integration with other markets as well.

However, growth and opportunity have emerged coupled with intricate challenges. One of the defining lessons of the past decade has been the vital importance of sustainable development, especially at a time of converging crises, from climate change to conflict. The world cannot afford growth that may compromise the environment, contribute to commodity dependence, or exclude marginalized communities. The world must instead prioritize growth that contributes to developmental goals, including local value addition, climate change mitigation and adaptation, and better working conditions.

The analysis presented in this report provides comprehensive insights into the export potential to the Chinese market for developing countries that participate in the BRI. This report also highlights that while these export opportunities can be a potent force for good, they must be navigated with awareness and foresight, and always with a sustainable development lens. It is not merely about trading more; it is about trading right.

As we move forward, it becomes crucial to ensure that the initiative not only leads to trade growth, but that it does so sustainably, emphasizing the importance of environmental, social and governance standards; incorporating the lessons learned both from the past 10 years of the BRI and the longer history of economic growth and governance; and prioritizing the early achievement of the 2030 Agenda for Sustainable Development.

At this pivotal juncture, when policy decisions can shape the future impact of the BRI for decades to come, we hope this report provides policymakers and firms with the information they need to seize the identified opportunities while ensuring the BRI becomes a beacon for sustainability, inclusion and corporate responsibility—a testament to the power of shared vision and collaborative action.

Pamela Coke-Hamilton
Executive Director
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Acronyms

Unless otherwise specified, all references to dollars ($) are to United States dollars.

BRI	Belt and Road Initiative
GDP	Gross domestic product
ITC	International Trade Centre
LDC	Least developed country

Executive summary

The China-led Belt and Road Initiative (BRI) was launched a decade ago, with the aim of strengthening infrastructure development and cooperation, especially in developing countries, boosting trade and stimulating economic growth. The BRI has grown over the last decade and now reaches more than 150 countries and a wide array of projects.

While the initiative expanded, world trade fluctuated at the rhythm of slumps, shifts in global partnerships, the COVID-19 pandemic and the Ukraine war. Additional challenges continue to emerge, such as the cost-of-living crisis and more recurring extreme climate events.

As the BRI marks its 10-year milestone, this report takes stock of the changes in export trends from participating countries to China over the last decade. It also identifies opportunities and challenges for inclusive, sustainable export growth in these countries in the coming years.

Surging exports, with a shift to mineral- and metal-based manufacturing from Africa and Asia

Exports from BRI developing countries to China have surged by 79%, reaching $798 billion, while their exports to other countries increased by 12%. This brought China's share in the total exports from these countries from 13% to 20%, solidifying China's position as a key partner.

Raw minerals, especially crude petroleum oil, continued to dominate the exports of BRI developing countries to China during this period. The slight shift in the composition of exports towards more semi-processed goods observed during this period was driven by the rapid growth in mineral- and metal-based manufacturing exports, from Asia and Africa in particular—both cases linked to Chinese investments in the region. The changing trade patterns underscore strategic investments of China across regions.

In coming years, there are major opportunities for export growth to China across regions in the BRI

The International Trade Centre (ITC) has developed a methodology that quantifies, for a three- to four-year horizon, the potential exports of each country across products and markets, taking a broad range of determinants of trade into account. The difference between the export potential results and actual exports is interpreted as an opportunity for export growth, the *unrealized export potential*.

Certain products that are dangerous to human health, sectors deemed not appealing for export promotion, such as antiques, and mineral fuels are excluded from the methodology.

By applying the ITC export potential methodology, this report identifies opportunities for the expansion of exports (*unrealized export potential*) from developing countries in the BRI to China in the coming years. The results indicate that these exports could increase by up to $318 billion by 2027. Developing Asian countries in the BRI account for 65% ($206 billion) of this unrealized export potential to China. However, all regions have substantial opportunities for export growth to China: $111 billion for the Americas, $70 billion for Africa, $33 billion for Europe and $3 billion for the Pacific.[1]

The opportunities go beyond primary exports, with many in manufacturing

Opportunities for export growth to China exist beyond those offered by primary industries: 66% ($211 billion) of the unrealized export potential of developing BRI countries to China is in manufacturing. More than a fourth of that is associated with existing trade frictions, while the rest is tied to the projected growth of Chinese demand and of developing BRI countries in the coming years.

Realizing this manufacturing export potential to China would not only increase total exports by 6%, but it would also shift the composition of exports to China to include one-third of processed goods, away from the dominance of raw products.

While concentrated in Asia, all regions hold major opportunities for manufacturing export growth to China:

- **Africa:** A large share of the opportunities is in metal-based products (precious, ferrous and others) and other resource-based sectors (e.g. wood, paper products), but there are also opportunities in less traditional sectors (e.g. motor vehicles and parts, machinery and electricity, and chemicals).
- **Americas:** Two-thirds of the opportunities are concentrated in metal-based manufactures, with other promising sectors being paper products, chemicals and wood.
- **Asia:** Prospects for export growth in electronic equipment, machinery and electricity, plastics and rubber, but additional opportunities diversified across many other sectors such as chemicals and optical products, with significant variability across Asian subregions.
- **Europe:** More than 40% of the unrealized manufacturing export potential to China is in ferrous and non-precious metals, with the remainder being quite diversified, among chemicals, machinery and electricity, plastics and rubber, precious metals and fertilizers, to mention a few.
- **Pacific:** The most promising sectors are precious metals, non-ferrous, non-precious metals and wood.

Many of the manufacturing opportunities identified stem from the countries' abundance of raw materials and China's continued demand for them. But others highlight possibilities in more value-added sectors. To capitalize on this potential, targeted policies promoting sustainable and inclusive export growth are essential.

Leverage resource-based opportunities for development

In most instances, additional exports in natural resource-based manufactures depend on growth prospects far more than on the removal of frictions. To increase exports in these sectors, additional investments to sustain and augment production in line with China's rising demand will be necessary.

Targeted policies, however, should accompany the investments to ensure that more such exports do not undermine efforts of environmental sustainability, local value addition and better working conditions. The United Nations-led Greening the Belt and Road Initiative and the Belt and Road Initiative International Green Development Coalition are steps in this direction, aiming to align BRI projects with coherent environmental standards and linking them to the Sustainable Development Goals.

Companies investing in developing countries participating in the BRI should be encouraged to practice corporate social responsibility and comply with environmental, social and governance standards.

Target opportunities to diversify into value-added sectors

The ITC export methodology also shows opportunities for BRI developing countries to boost their exports to China in less resource-intensive sectors—even outside the traditionally more diversified East and Southeast Asian countries.

Opportunities in sectors with higher value addition, such as motor vehicles and parts, beauty products and optical products and medical instruments, are often unexplored. Unlocking them will require awareness and promotional campaigns, market research to understand and adapt to Chinese consumers' preferences and the identification of local business partners. Success stories, such as the exports to China of medical instruments from Costa Rica's Coyol Free Zone, can guide the design of these policies.

Fully realizing the potential of BRI developing countries for manufacturing exports could boost their transition towards a more transformative sector structure, also in their trade with China. Beyond the infrastructure improvements it boasts, the BRI provides a platform for cooperation that can be steered towards sustainable and more value-added trade.

SECTION 1
Exports to China since the launch of the Belt and Road Initiative

Launched a decade ago by China, the Belt and Road Initiative (BRI) was met with great hope and expectation in developing countries. The initiative aims to bolster infrastructure development and enhance cooperation, especially in developing countries, with an eye towards promoting their trade, creating economic opportunities and stimulating their development. However, the BRI also elicited concerns, from issues surrounding debt sustainability and economic dependence, to transparency, governance and environmental and social impacts, among others.[2]

The BRI is often defined by the rail and road infrastructure projects along the six energy- and resource-rich corridors that make up its two main components, the Silk Road Economic Belt and the 21st Century Maritime Silk Road.[3] But the BRI has expanded greatly beyond that over the past 10 years. From Latin America to the Pacific, many regions have chosen to participate in the initiative, reaching more than 150 signatory countries of BRI collaboration agreements with China by mid-2023.[4] The scope of projects in the initiative has also expanded from rails and roads to include power plants, pipelines, seaports and others—with varied impacts.

These developments within the initiative occurred against a backdrop of considerable global turbulence for international trade. The recovery after the financial crisis, which was in full swing in 2010–2011, reached its limits in 2012–2014—just as the BRI was being launched. An economic slowdown in China, declining commodity prices and exchange rate volatility prompted the global trade slump of 2015 and 2016.

Setbacks in large global commercial partnerships in later years also affected world trade and preceded the COVID-19 pandemic, which thoroughly disrupted supply chains. The rapid recovery that followed was cut short by the war in Ukraine, with renewed supply-chain interruptions and commodity price surges. The cost-of-living crisis, incipient uncertainty in the outlook of the Chinese economy and the increased frequency of extreme climate events are likely to usher in continued volatility in the coming years.

The 10-year anniversary of the BRI is an opportune juncture for developing countries to take stock of the changes of the last decade, within and beyond the initiative, assess the remaining and emerging challenges they face, and strategize accordingly.

To support that exercise, this report analyses the exports of developing countries that participate in the BRI to China and how they have changed in the last decade. It also identifies existing and upcoming opportunities for export growth to China (Section 2 and Section 3). Based on the opportunities identified, the closing policy discussion (Section 4) contributes to the design and implementation of measures that can enable inclusive, sustainable export growth in the developing countries that take part in the BRI.

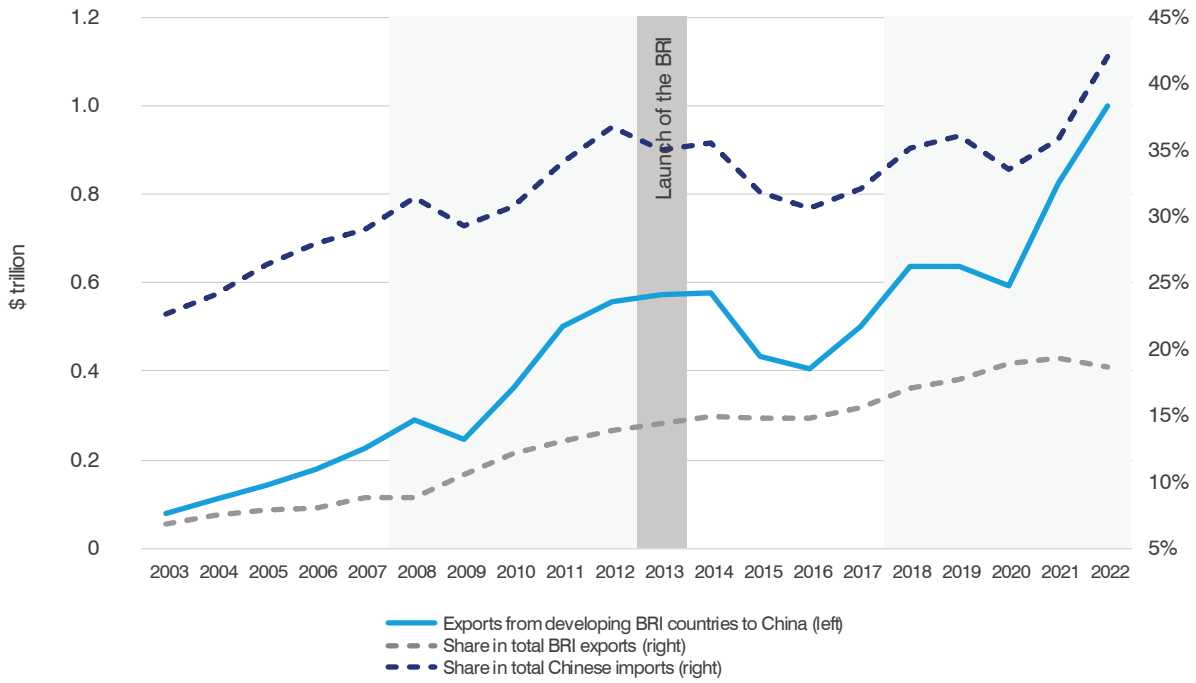
A decade of rising exports

In the last two decades, exports to China from the developing countries that are currently part of the BRI—henceforth BRI developing countries'—experienced a staggering increase (Figure 1, left).[5] From a starting level of $78 billion in 2003, and despite the 2008–2009 crisis, they had reached $559 billion by 2012, the year before the launch of the BRI—more than a sevenfold increase.

In the years that followed the launch of the initiative, export growth from BRI developing countries to China was initially moderate. A marked downturn occurred in 2015 and 2016, with exports decreasing by 30%. However, robust recovery ensued, surpassing 2014 levels by 10% by 2018. No growth was registered in 2019 and a 7% decrease followed in 2020 in the context of the COVID-19 pandemic.

An exceptionally strong recovery was then observed in 2021 and 2022, with increases of 39% and 21%, respectively. The volatility experienced over the past decade resulted in lower growth than in the previous one. Nevertheless, the trend was markedly positive, achieving more than a threefold increase.

Figure 1 Rapid growth of exports destined to China over the past decades



Note: The light grey areas mark the five years before the launch of the BRI, from 2008 to 2012, and the latest five years of its implementation, from 2018 to 2022.

Source: International Trade Centre (ITC) calculations based on ITC Trade Map.

While the growth patterns outlined for both decades broadly mimic global trade events, exports from BRI developing countries to China outpaced their exports to other destinations. Consequently, exports to China represented an increasing proportion of the total exports from BRI developing countries (Figure 1, right), from 7% in 2003 to 14% in 2012 and 20% in 2022.

Even if less markedly, the share of Chinese imports that are sourced from BRI developing countries also increased in the past two decades, from 23% in 2003 to 37% in 2012, reaching 42% in 2022 (Figure 1, right). The continuation of this trend would confirm the rising importance of these countries as suppliers for China.

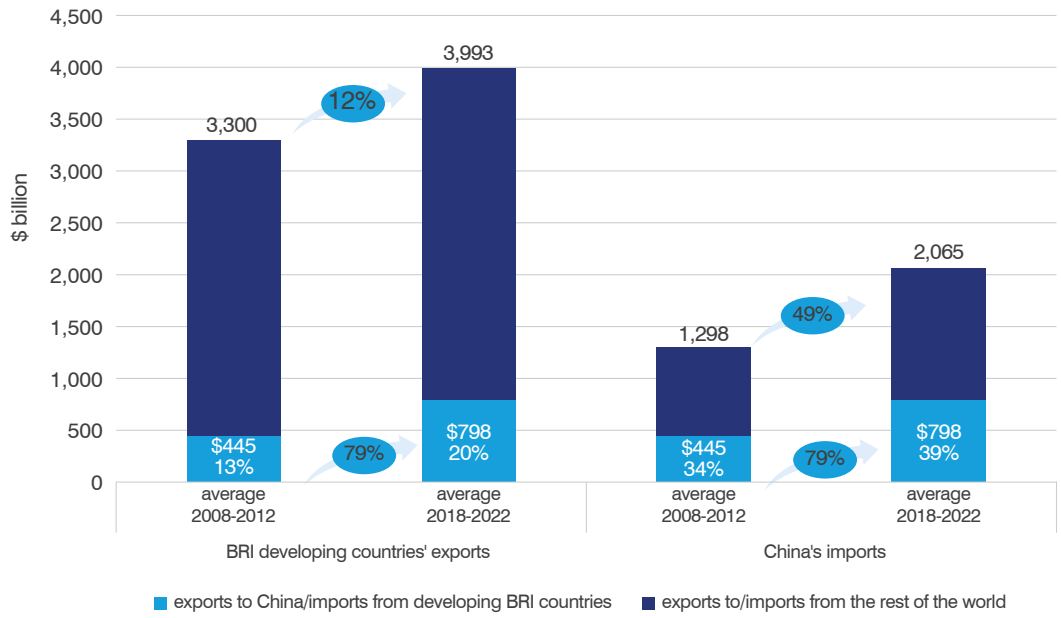
As mentioned earlier, a variety of projects have started under the BRI since 2013, from the construction of the Ivirgarzama-Ichilo roadway in Bolivia in 2013 to a new international airport in Luanda in 2017 and the Kuantan International Logistics Park in Malaysia in 2023.[6] These projects were introduced across numerous countries and sectors at different times and scales.

This diversity leads to a wide and complex array of BRI-related activities. Global trade fluctuated substantially during the same period, including distinct instances of expansion and contraction. Therefore, the shifts observed in the trade trends and patterns of participating countries since the launch of the BRI cannot simply be attributed to the initiative.

Nevertheless, this section aims to analyse the evolving landscape of exports to China from developing countries involved in the BRI. Rather than seeking to establish a cause–effect relationship, the goal is to better understand these export flows to inform the analysis of remaining and emerging opportunities for export growth—the subject of Sections 2 and 3.

To that effect, this section explores the export patterns from BRI developing countries to China, and how they have changed since the launch of the BRI. To analyse that change, it might appear natural to compare the export flows observed in 2022 to those of 2012. However, such a comparison could capture unusual values for some products or countries, affected by out-of-the-ordinary

Figure 2 Higher growth of exports to China than to other partners over the last decade



Note: Five-year averages are weighted, with the most recent years receiving a higher weight.
Source: ITC calculations based on ITC Trade Map.

circumstances, rendering an inaccurate impression of longer-term shifts that occurred over the decade.

To avoid this pitfall, the analysis that follows relies on averages over several years around the points of interest. Specifically, all indicators that follow use the five-year average values from 2008 to 2012 to characterize the pre-BRI context, and the five-year average from 2018 to 2022 to represent the present-day scenario. In this way, the scenarios we compare are not driven by outlying years, such as the financial crisis or the COVID-19 pandemic.

Additionally, more than 60% of the countries that are part of the BRI joined it after 2017,[7] making the average between 2018 and 2022 a better representation of current trade under the initiative than longer periods.

A strengthening partnership

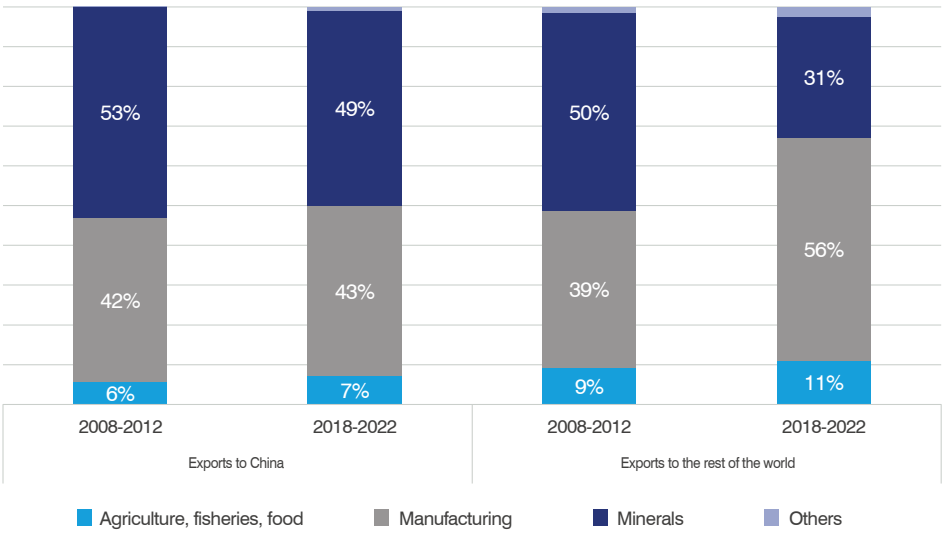
In the five years leading up to the launch of the BRI, from 2008 to 2012, exports to China from BRI developing countries averaged $445 billion (Figure 2). These exports fluctuated in the following decade, but averaged $798 billion between 2018 and 2022. Overall, the positive trend registered over the decade led to a 79% increase.

In the same period, exports from BRI developing countries to the rest of the world only registered a 12% increase (Figure 2, left). As a result, China's share in total exports from BRI developing countries increased from 13% before the launch of the initiative to 20% on average in the last five years.

From China's perspective, imports from the rest of the world increased by 49% over the past decade (Figure 2, right), well below the expansion seen in its imports from BRI developing countries (79%)—bringing their share in Chinese imports from 34% to 39%.

The dynamism of exports from BRI developing countries to China in the past decade has elevated China's importance as a market for these countries. Concurrently, these countries have become more vital suppliers to China, further solidifying their partnership.

Figure 3 Half of the exports to China continue to be of minerals



Note: Five-year averages are weighted, with the most recent years receiving a higher weight.
Source: ITC calculations based on ITC Trade Map.

Minerals and mineral-based manufacturing were key

The dynamism of exports from BRI developing countries to China, and the associated growing significance of this market in their export basket, can signal opportunities for further export growth. It can also raise considerations over risk. Beyond risks related to the growing dependence on a single buyer, the increased reliance on the Chinese market prompts concerns about the possibility of 'commoditization' of exports, given that China is a global manufacturing powerhouse.[8]

With that in mind, Figure 3 explores the composition of exports from developing countries in the BRI by industry before the launch of the BRI and in recent years. While minerals continue to represent the largest fraction of exports destined for China, their share has decreased from an initial 53% to 49% in recent years. This modest shift in the export basket away from minerals was accompanied by a small increase in the share of agricultural products and manufacturing.[9]

However, the slight shift away from exports of minerals is not sufficient to fend off the concerns mentioned earlier. Exports from BRI developing countries to the rest of the world underwent, on average, a significant 'de-commoditization' process during the same period (Figure 3). There was a 17 percentage-point rise in the share of manufacturing exports—the counterpart to a markedly smaller share for minerals.

The changes in BRI exports to China reflected a comparatively weaker shift towards manufacturing and away from mineral exports. The resilience in mineral exports to China can be linked to ever-increasing exported quantities of crude petroleum oil to China, even amid marked price fluctuations during the period (see Box 1).

Analysing exports from developing countries in the BRI by level of processing, rather than industry, provides additional insights (Figure 5). The pattern of declining shares of mineral exports to China and, more strongly, to the rest of the world observed in Figure 3 is verified in Figure 5 in the decreasing shares of exports of raw materials—4 and 17 percentage points lower for exports to China and the rest of the world, respectively.

Additionally, Figure 5 shows that the share of semi-processed goods exported from developing countries in the BRI to China has increased only modestly over the past decade, while the share of exports of processed goods has remained stable. In contrast, the share of processed goods in the exports of these countries to the rest of the world increased substantially in the same period.

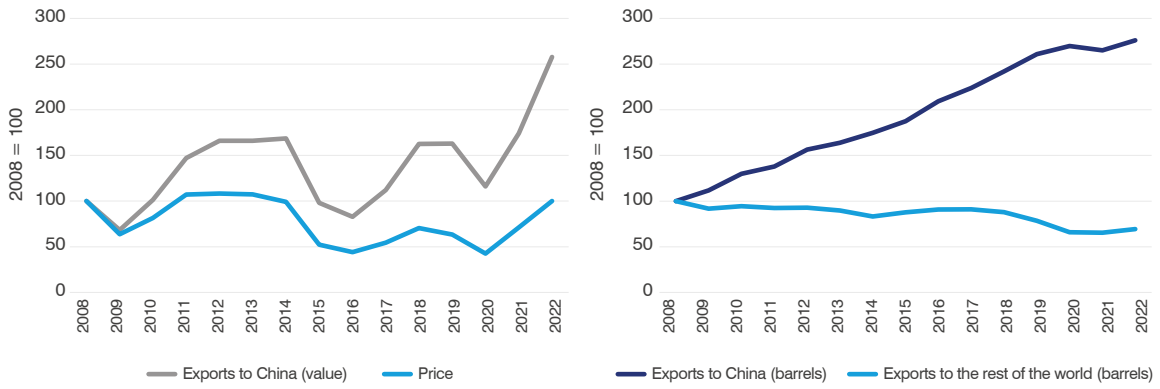
BOX 1: Continued relevance of crude petroleum oil exports

Crude petroleum oil represents a large part of the exports from developing countries in the BRI to China. Exports of crude petroleum oil from these countries to China averaged $159 billion between 2008 and 2012, and $236 billion between 2018 and 2022. The implied 48% growth well below the 79% growth rate registered for all goods (Figure 2). Consequently, the share of crude petroleum oil in total exports from developing countries in the BRI to China declined from 36% in the years leading up to the launch of the BRI to 30% in recent years.

Given this evolution, crude petroleum oil is the main driver of the decreasing share of minerals in the exports of developing BRI countries to China shown in Figure 3. Other contributing products, in much smaller proportion, are preparations of petroleum oil and non-agglomerated iron ores.

During the same period, the price of commodities, in particular the price of crude petroleum oil, faced marked fluctuations. Not only did the price dip in 2009, but also in 2014–2016 and in 2020, recovering 2008 levels only in 2022 (Figure 4, left). The irregular growth pattern observed for the values of developing BRI exports of petroleum crude oil to China in the last decade and beyond is closely correlated to the variation in prices.

Figure 4 Exports of crude petroleum oil to China have been resilient to price changes

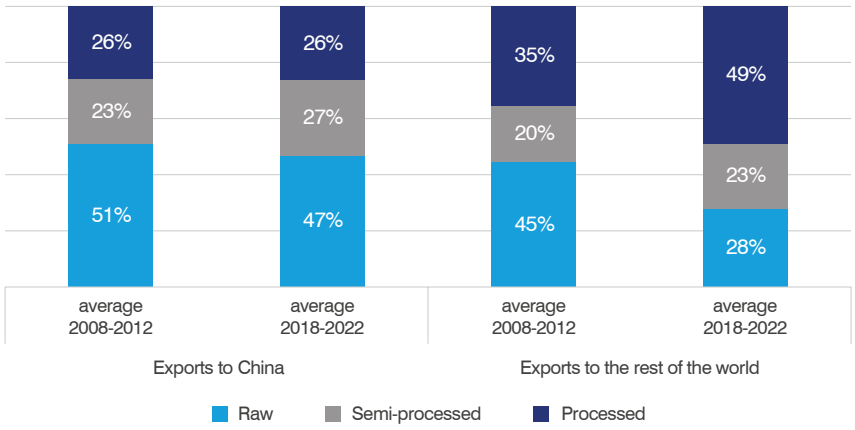


Note: The price index of crude petroleum oil is an average of the Brent, Dubai and WTI crude oil price indices.
Source: ITC calculations based on ITC Trade Map and World Bank "Pink Sheet" Data.

Meanwhile, the number of crude petroleum oil barrels exported to China increased remarkably almost throughout the same period (Figure 4, right). Facing the same price fluctuations, the number of barrels of crude petroleum exported to the rest of the world either remained stable or fell throughout the period.

This means that, despite their relatively sluggish growth when compared to exports of all goods, crude petroleum oil exports to China continue to be very important for developing BRI exports.

Figure 5 Processed goods are still a quarter of exports to China



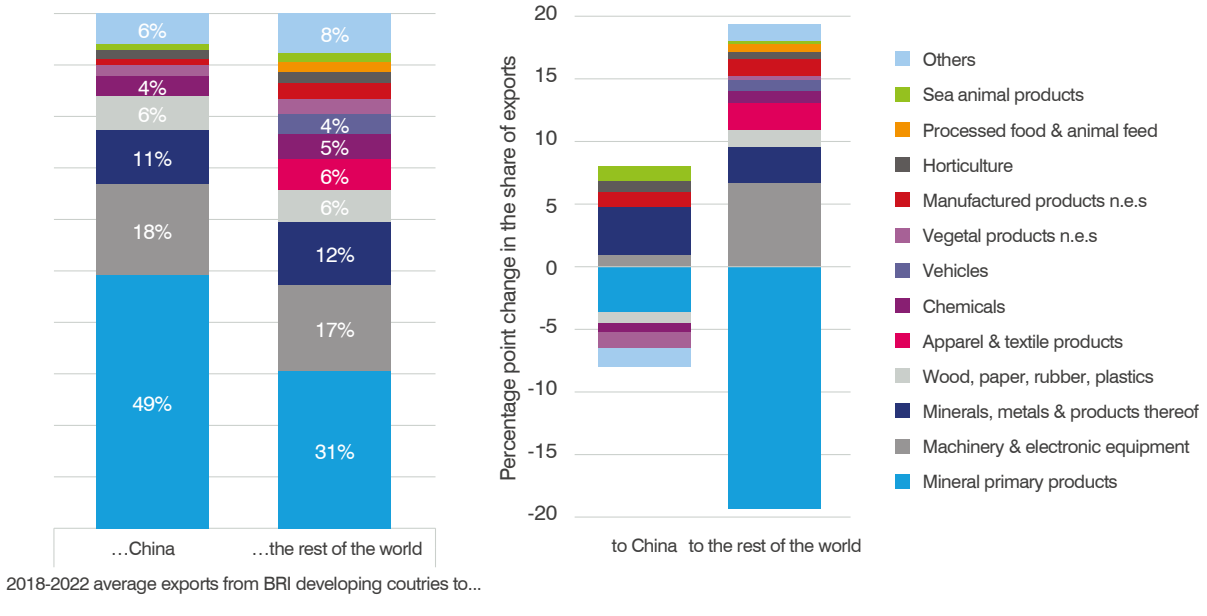
Note: Five-year averages are weighted, with the most recent years receiving a higher weight.
Source: ITC calculations based on ITC Trade Map.

To further scrutinize the patterns seen in Figure 3 and Figure 5, Figure 6 examines the composition of exports by sector in recent years (left), and how that composition has changed since the BRI was launched (right).

As observed in Figure 3, almost half (49%) of the exports from developing countries in the BRI to China in 2018–2022 were mineral primary products, followed by several manufacturing sectors: machinery and electronic equipment (18%), mineral-based manufactured products (minerals, metals and products thereof, 11%), wood, paper, rubber and plastics (6%), and chemicals (4%). Horticulture and vegetal products each represented only 2% of BRI developing countries' exports to China.

The export basket of BRI developing countries to the rest of the world appears to be more diversified and more transformed, with relevant shares of apparel and textile products (6%) and vehicles (4%) compensating for the lower share of mineral primary products.

Figure 6 Mineral-based manufactures play a growing role in exports to China



Note: The panel on the left shows the average between 2018 and 2022. The panel on the right the change between the 2008–2012 average and the 2018–2022 average. Five-year averages are weighted, with the most recent years receiving a higher weight.
Source: ITC calculations based on ITC Trade Map.

In terms of how this composition has shifted to recent years since before the launch of the BRI, it is noticeable that exports to China of mineral primary products have decreased against an increase in mineral-based manufactured products (+4 percentage points). For exports to the rest of the world, various sectors, led by machinery and electronic equipment (+7 percentage points), have compensated for the more pronounced loss in the importance of mineral primary products.

In sum, exports from BRI developing countries to China continue to be largely dominated by raw, mineral primary products, in particular crude petroleum oil. The minor erosion in that pattern observed in the last decade was mostly driven by a relative increase in the exports of semi-processed goods, more specifically mineral-based manufactured products. Naturally, these patterns have not been uniform across the diverse regions of developing countries that participate in the BRI, so additional regional insights follow.

Mineral-based manufactures from Africa and Asia propelled changes in exports

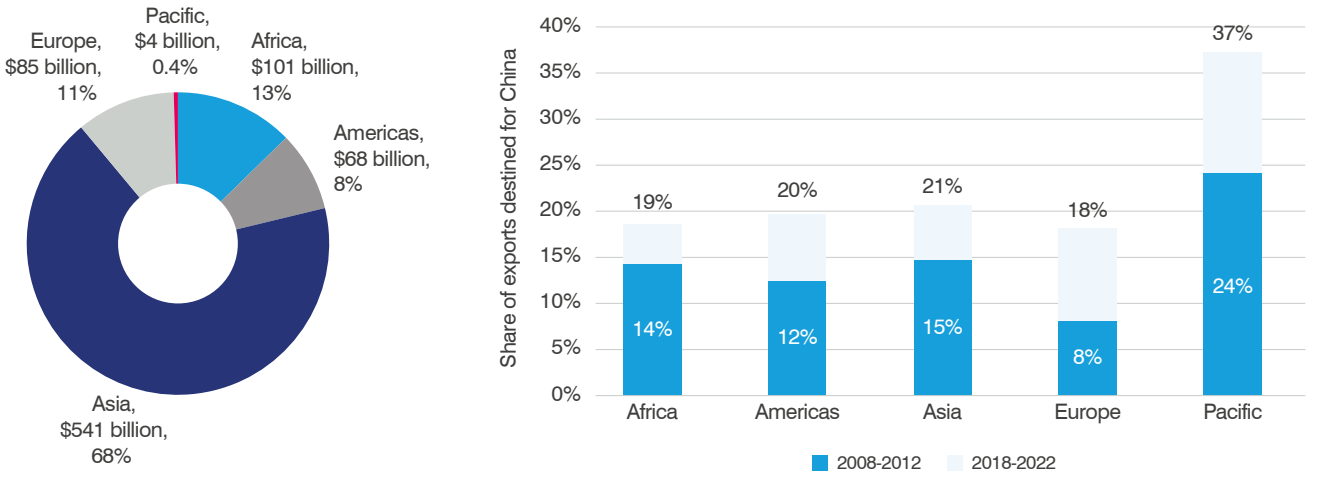
Asia contributed by far the most, 68%, of BRI developing countries' exports to China between 2018 and 2022 (Figure 7, left).[10] Africa was the next largest exporter to China, accounting for 13%, followed by Europe with 11%, the Americas with 8% and, lastly, the Pacific region, which provided less than 1% of total exports to China from developing countries that participate in the BRI.

As mentioned earlier, since the launch of the initiative there has been a substantial increase in exports from BRI developing countries to China – an uptick of 79% (Figure 2). This growth was not uniform across regions: the Pacific, albeit from a very low base, experienced a staggering growth rate of 255%. Europe and Asia also exhibited substantial growth of 136% and 92%, respectively, while the Americas' and Africa's increase in exports to China was comparably lower, with rates of 49% and 26%, respectively.

As a consequence, the importance of Asian and European BRI developing countries in Chinese imports increased marginally, at the expense of slightly smaller shares from Africa and the Americas.

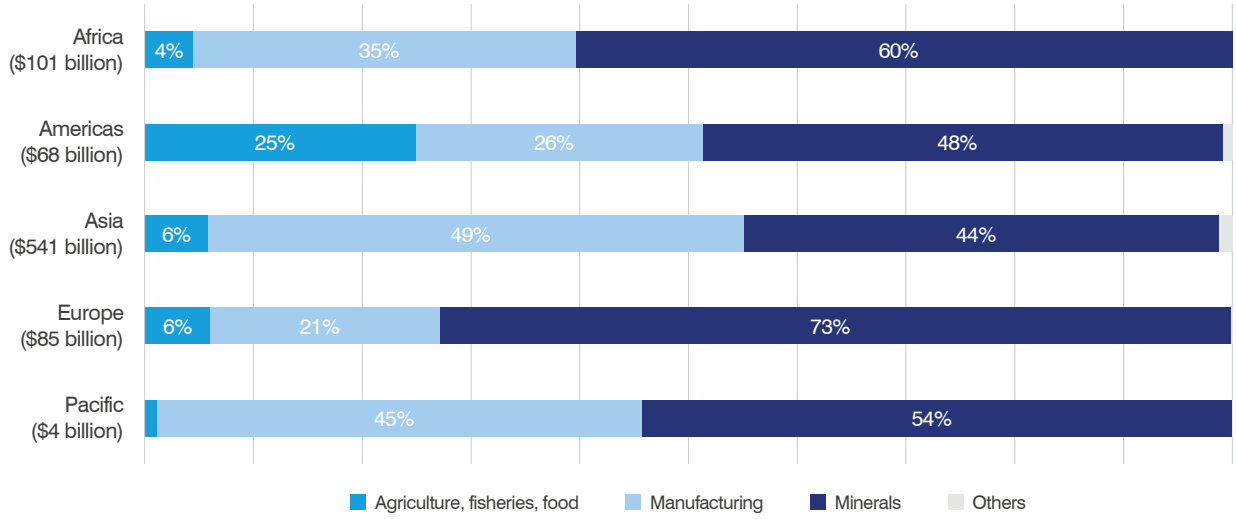
In all regions, the growth rates of exports to China surpassed those of exports to other destinations, thereby increasing the importance of China as a trade partner across BRI developing countries from all regions (Figure 7, right). The share of China in total BRI developing countries' exports now stands near 20% for all regions except for the Pacific, where China is the destination of 37% of total exports.

Figure 7 Chinese market gains terrain in exports across regions



Note: On the left, average 2018–2022. Five-year averages are weighted, with the most recent years receiving a higher weight.
Source: ITC calculations based on ITC Trade Map.

Figure 8 Minerals still dominate exports to China in all regions, except Asia



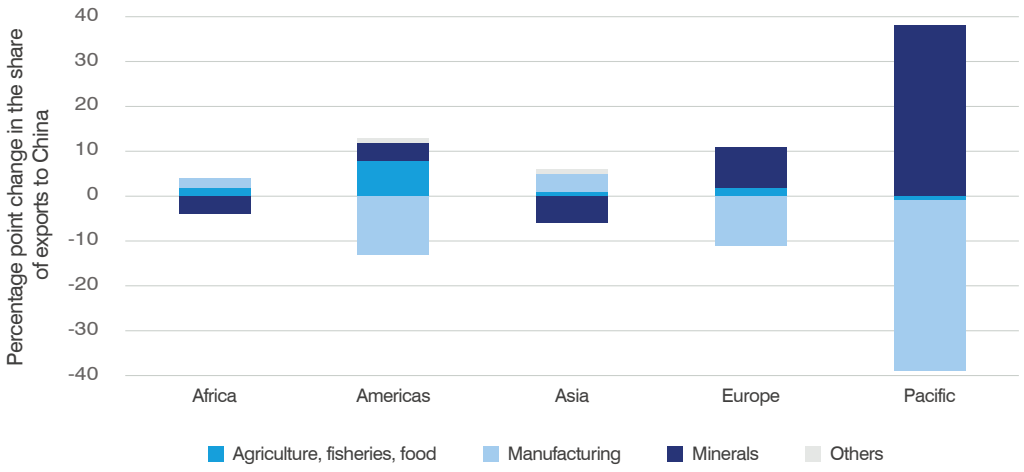
Note: Average in 2018–2022. Five-year averages are weighted, with the most recent years receiving a higher weight.
Source: ITC calculations based on ITC Trade Map.

The industry distribution of exports to China aligns with the general composition of exports of BRI developing countries across regions. The Americas are renowned for their agricultural richness and mineral resources. The mineral wealth of Africa is widely acknowledged. Asia is recognized as a manufacturing powerhouse, in particular in East, South and Southeast Asia, though it also boasts considerable mineral resources coming from Central Asia and the Middle East. Lastly, Europe's export portfolio is mineral-heavy because of the largest player in the region, the Russian Federation.

In all regions except for Asia, minerals represent the largest share of exports to China (Figure 8). Europe tops this category, with a striking 73% of exports to China consisting of minerals. The agriculture sector plays a greater role in the Americas, accounting for a quarter of its exports to China.

As for manufacturing, it is paramount for Asia, where it constitutes almost half of the exports to China. The importance of manufacturing in exports to China varies for other regions, spanning from a share of 21% in Europe to a more substantial 45% in the Pacific region.

Figure 9 In the last decade, rising shares of African and Asian exports were manufactures



Note: The change in share refers to the change between 2008–2012 and 2018–2022 averages. Five-year averages are weighted, with the most recent years receiving a higher weight.
Source: ITC calculations based on ITC Trade Map.

While the patterns observed in Figure 8 can be mapped to well-known comparative advantages of each region, the industry composition of exports from some BRI developing regions to China has nevertheless undergone major changes in the last decade. In particular, the slight shift away from minerals and towards manufacturing observed in Figure 3 can be traced to Asia and Africa (Figure 9).

The opposite was the case for the Americas, Europe and the Pacific: manufacturing exports to China lost space to minerals. With the exception of the Pacific, exports of agriculture, fisheries and food gained importance in the exports to China from all regions.

In Africa, the shift from minerals to manufacturing (Figure 9) stems from a move from primary mineral exports towards exports of manufactured mineral and metal products.[11] A more detailed analysis shows that crude petroleum oil was the main primary mineral product to lose relevance in exports.[12]

At the same time, the mineral-based manufactures that gained ground were gold from South Africa, cobalt intermediate products from the Democratic Republic of the Congo, unrefined copper and copper cathodes from Zambia, as well as refined copper, and worked diamonds from several countries. These increases mirror the patterns of Chinese investment in mining in Africa in recent decades. For example, in the last 10 years, China has gained a controlling share in multiple cobalt mines in the Democratic Republic of the Congo, the largest producer of cobalt in the world.[13]

A similar trend is apparent in Asia, where manufacturing exports have gained prominence over mineral exports (Figure 9). The downturn of the latter corresponds to the lacklustre performance of Central Asian and Middle Eastern mineral exports to China.[14] The former is connected to the continued expansion in manufacturing exports to China from East and Southeast Asia.

While electronic equipment remains the largest sector of exports from Southeast Asia to China, the shift observed is largely credited to a substantial rise in exports of manufactured mineral and metal products. A key driver of this increase were exports of ferro-alloys, in particular ferro-nickel, from Indonesia to China.[15] This too can be mapped to Chinese investment in recent years, especially the financing and extensive development of the Indonesia Morowali Industrial Park in Central Sulawesi, made a strategic priority by the BRI, and the ban on exports of raw nickel imposed by Indonesia in 2014.[16]

In contrast, the Americas, Europe and the Pacific saw manufacturing exports to China give way to exports of agricultural goods primarily in the Americas and minerals in the case of Europe and the Pacific (Figure 9).

In the Americas, this shift encompassed multiple sectors, with reduced shares for exports of manufactured mineral and metal products and machinery and equipment, and increased shares for animal products and horticulture, among others. Europe observed a relative decline in exports of chemicals, wood, paper, rubber and plastics, counterbalanced by gains in primary mineral product exports, explaining the shift from manufacturing to minerals.

Bear in mind that the flows observed for Europe correspond almost entirely to the Russian Federation. The primary mineral products that gained relevance in Russian exports to China in recent years were crude petroleum oil, natural gas, both liquefied and gaseous, and coal. While exports of these products accelerated in 2022 after the invasion of Ukraine, they had already shown clear dynamics in prior years, on the path to the strategic partnership that China and the Russian Federation would announce in early February 2022.[17]

In a similar vein, the Pacific region experienced a decline in exports of wood, paper, rubber and plastics, supplanted by an increase in exports of mineral-based manufactures and primary mineral products—almost entirely exports of intermediate products of nickel and of liquefied natural gas from Papua New Guinea. The nickel products are sourced from the Chinese-controlled Ramu mining and refining facilities, in production only since 2012.

And while the investments that enabled the Papuan exports of liquefied natural gas starting in 2014 were not Chinese, China has shown great interest in the country's mining and transportation infrastructure sectors, given its large mineral reserves and strategic position with respect to Asia and the Pacific.

SECTION 2
Export growth opportunities

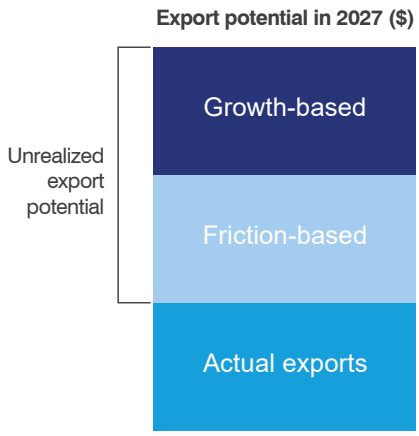
Having taken stock in the previous section of the changing trade patterns of the last decade, this section adopts a forward-looking approach. ITC's export potential methodology identifies opportunities for the expansion of exports from developing countries in the BRI to China in the coming years. These insights can guide the decision-making and resource allocation of exporters, government officials and international organizations. Before exploring the results, the following provides an overview of some essential aspects of the export potential methodology.

Key concepts

The export potential methodology developed by ITC quantifies the potential exports of a country across products and markets, taking a broad range of determinants of trade into account.

The methodology computes potential values of exports for each exporter-importer-product combination based on indicators of the supply capacities in the exporting country, the demand conditions in the target market and the ease of trade between the exporter and the importer. The supply and demand indicators also capture the capacities of and conditions faced by competing exporters.[18]

Figure 10 How to interpret the export potential



Source: ITC based on ITC Export Potential Map.

Results are computed on a time horizon of three to four years to account for future developments and provide space for governments and companies to take action and materialize the opportunities that are identified. The findings presented in this section are therefore estimates of the export potential by 2027.

The difference between the export potential and actual exports is interpreted as an opportunity for export growth, referred to as *unrealized export potential* (Figure 10).

Unrealized export potential can stem from trade frictions such as lack of market research, difficulties in complying with exporter or market regulations, lack of business networks or unawareness about consumer preferences. We refer to unrealized export potential associated to such frictions as static or *friction-based unrealized export potential*.

Unrealized export potential can also derive from changes expected for the next few years, especially gross domestic product (GDP) growth of exporters and importers, population growth or scheduled tariff changes. We refer to this as dynamic or *growth-based unrealized export potential*.

Distinguishing friction- and growth-based unrealized export potential is essential, as it informs the actions necessary to realize that potential. Materializing friction-based unrealized export potential calls for efforts to identify and address the factors that hinder trade. Conversely, enabling growth-based unrealized export potential requires the monitoring of projections and the allocation of the financial resources needed to match them.

As a last key methodological point, it is important to highlight that not all products are considered in the export potential methodology. The export potential can only be computed for products a country already exports. Additionally, the export potential methodology excludes certain goods that are dangerous to human health, sectors deemed not appealing for export promotion, such as antiques, and certain extractive resources, especially mineral fuels.[19]

BOX 2: How can policies affect the export potential of countries?

The ITC export potential methodology considers a broad range of historical and projected determinants of trade to estimate potential values of exports. In reality, exports fall short of that potential, either because of existing frictions in trade or because the potential refers to the forward-looking aspects of the methodology—that is, exports may only reach that potential as projections are realized in the coming years.

Policies that affect trade can either support exporters in materializing the export potential identified by the methodology or they can change that export potential when they affect one of the determinants of trade included in the methodology.

For instance, policies that promote the mobility of resources or link exporters to buyers in markets that hold promise help materialize the unrealized export potential. However, they do not immediately affect the export potential, as they do not target any of its components.

Conversely, policies that affect any of the determinants of trade considered in the methodology can change the export potential of a country. For example, industrial policy that aims to attract investors and the location of firms, or public support to domestic infrastructure, could expand the supply component of the export potential. At the same time, bilateral trade agreements, and associated reductions in tariffs, can increase the demand component of the export potential and eventually also improve its ease-of-trade component.

Two cases are particularly relevant for the analysis in this report. The first is the case of graduating least developed countries (LDCs). Upon graduation, former LDCs face higher tariffs in markets that used to grant them preferences due to their status. The higher tariffs imply a lower demand in those markets, and therefore a lower export potential.

Among the developing countries that participate in the BRI, Angola, Bangladesh, Lao People's Democratic Republic, Nepal and Solomon Islands now benefit from LDC preferential tariffs in China, but are scheduled for graduation in 2024 or 2026. This will reduce their export potential to China, as their exports will face higher tariffs when exporting there after graduation.

The second case is the BRI itself. As infrastructure and cooperation initiatives that are part of the initiative unfold, they are bound to change the supply capacities of and the ease of trade between participating countries and China. However, it is difficult to determine specifically how and to what extent the BRI can change the export potential of countries, as activities under the umbrella of the BRI are varied.*

The approach taken in this report is to explore existing opportunities under existing conditions, while keeping in mind that policy changes—such as new trade agreements, loss of preferential access and the BRI itself—can change the opportunities available to countries in the years to come.

* Partial estimates of the possible effects of the BRI on trade through infrastructure can be found in de Soyres et al. (2019) and de Soyres et al. (2020).

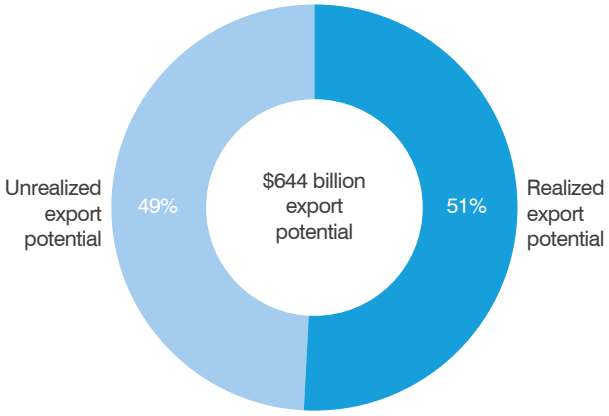
Note that the exclusion of these products, which play a central role in the exports of some developing countries, guides the analysis that follows to less traditional sectors. Identifying opportunities for export growth in such sectors may be particularly beneficial, as they can help diversify or add value to the exports of these economies.

For exports from BRI developing countries to China, the largest excluded flows are of crude petroleum oils, liquefied natural gas, bituminous coal, liquefied propane and non-agglomerated lignite. The products included in the analysis represent 62% of the current exports from these countries to China.

Potential for an additional $318 billion exports

The results indicate that by 2027, developing countries in the BRI have the potential to export $644 billion of products to China (Figure 11). Of this potential, 51% has already been realized, while 49% remains untapped, suggesting that exports from these countries to China could increase by up to $318 billion by 2027. Achieving this potential would imply 9% growth in the total exports of developing countries in the BRI.

Figure 11 Almost half of the export potential to China i s unrealized



Source: ITC calculations based on ITC Export Potential Map.

Asia holds 66% of the export potential, but all regions have major opportunities for export growth

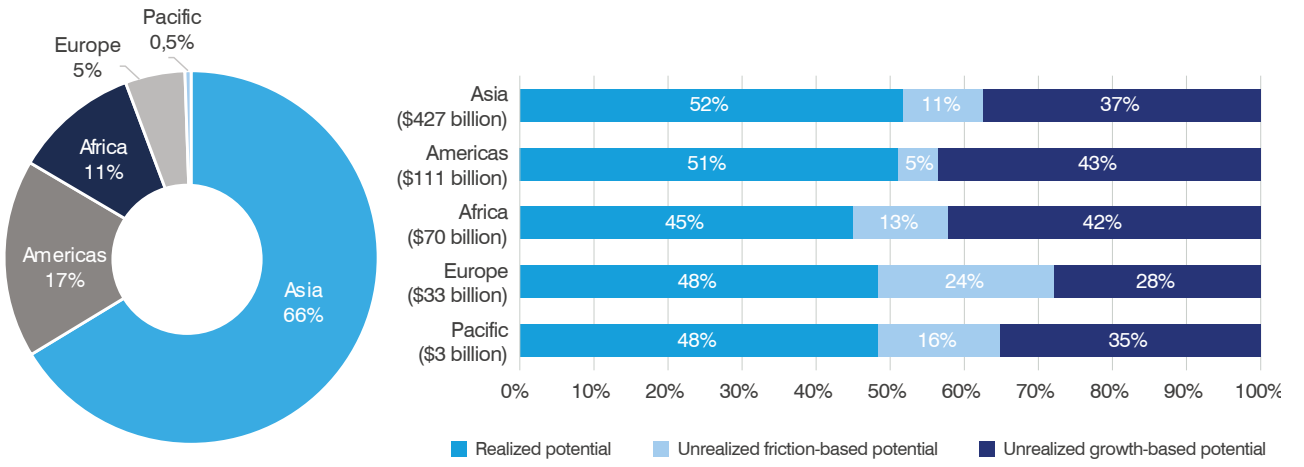
Mimicking the current mapping of exports from developing countries in the BRI to China, the export potential is unevenly distributed across regions (Figure 12, left). Asia holds the largest share (66% or $427 billion), followed by the Americas (17% or $111 billion), Africa (11% or $70 billion), Europe (5% or $33 billion) and the Pacific (0.5% or $3 billion).

The share of export potential that is already realized does not differ greatly between regions, ranging from 45% for African to 52% for Asian BRI developing countries (Figure 12, right).

If the unrealized export potential of each region featured in Figure 12 were to materialize, it would translate into a 9% increase in exports for Asia, 17% for the Americas, 8% for Africa, 3% for Europe and 13% for the Pacific.

Opportunities for export growth in all regions lie more in projections for future years—that is, growth-based unrealized potential—than in the removal of existing frictions, or friction-based unrealized potential (Figure 12, right). However, many regional differences exist. For instance, removing existing trade frictions would only materialize up to 11% of the opportunities identified for the Americas, while it could realize up to 46% of Europe's, with its growth-based potential greatly restricted by the poor growth prospects expected for Belarus and the Russian Federation in the coming years.[20]

Figure 12 Asia leads the export potential, but growth prospects fuel opportunities globally



Source: ITC calculations based on ITC Export Potential Map.

Beyond primary exports

Figure 13 further disaggregates the unrealized export potential of developing BRI countries in China by industry: 66% ($211 billion) falls into manufacturing, 21% ($68 billion) into minerals, and 12% ($39 billion) into agriculture, fisheries and food.

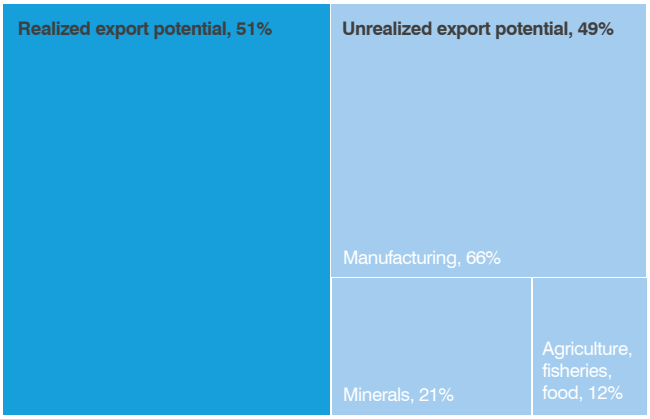
It is important to note, as previously discussed, that not all goods are included in the export potential methodology. In particular, many raw mineral products are excluded from the calculations. Therefore, we cannot infer from Figure 13 that the potential for export growth is larger in manufacturing than in minerals and agriculture.

Nonetheless, Figure 13 illustrates that opportunities for export growth to China exist beyond those offered by primary industries. These possibilities may assuage some of the concerns over the intensification of natural resource-based export patterns that participation in BRI may have generated in developing countries.

Should the unrealized export potential in manufacturing materialize, total exports from the developing countries in the BRI would increase by 6%.

In addition, the unrealized export potential in agriculture and mining—while primary goods—shows competitiveness in these key input industries that, if properly nurtured and developed, can eventually lead to value-added exports.

Figure 13 Two-thirds of the unrealized export potential is in manufacturing

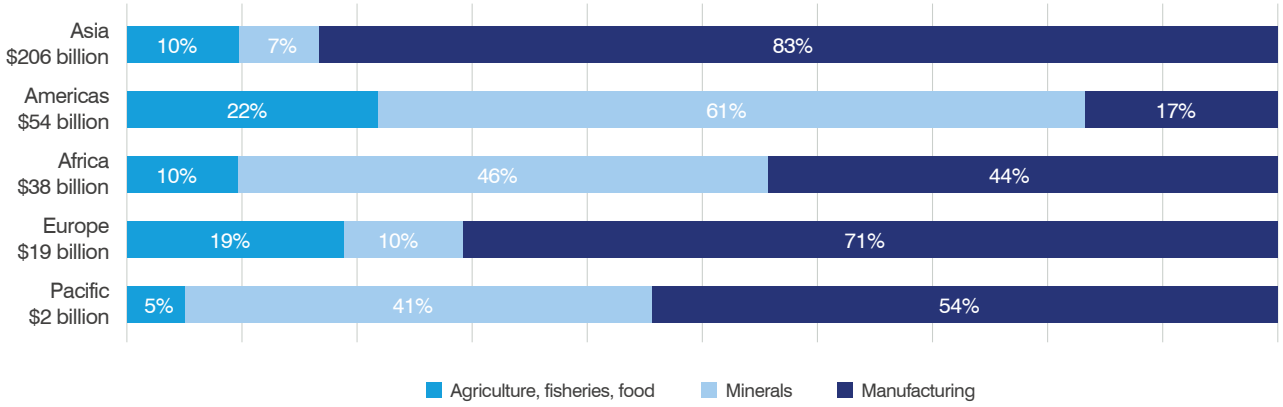


Source: ITC calculations based on ITC Export Potential Map.

All regions hold considerable untapped potential in manufacturing exports

Naturally, different regions have unique structures of comparative advantage. This is reflected in their export baskets to China, as explored in the previous section. It also comes through in the unrealized export potential of the different regions to China (Figure 14). For example, for BRI developing countries in the Americas, minerals and agriculture represent a relatively large share of their opportunities to boost exports to China.[21]

Figure 14 The unrealized export potential in manufacturing is sizeable in all regions



Source: ITC calculations based on ITC Export Potential Map.

Conversely, for developing countries in the BRI in Asia, more than 80% of the unrealized export potential to China is in manufacturing. Despite these differences, all regions hold considerable opportunities for export growth in manufacturing that can be leveraged through targeted strategies.

To design appropriate strategies, it is necessary to pinpoint where growth opportunities lie: which exporting countries hold unrealized potential, in which manufacturing sectors, and whether these opportunities stem from existing frictions or are rooted in growth expectations for the coming years for the developing countries in the BRI, their competitors or China. These insights are the focus of the next section.

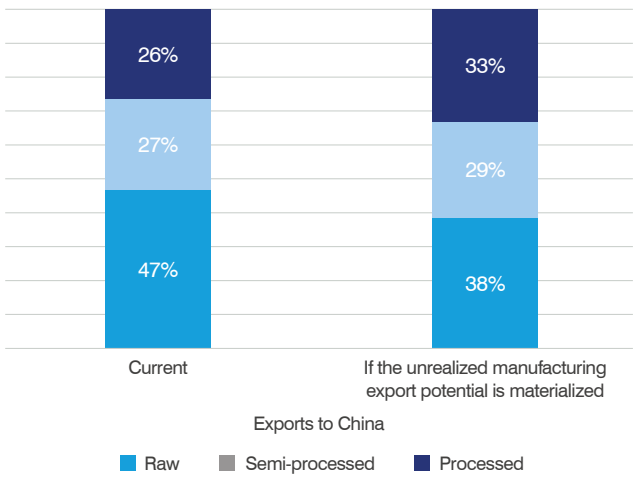
SECTION 3
Close up: Manufacturing opportunities

For developing countries, expanding exports beyond primary industries is often very attractive, even if it is linked to resource-based manufactures that hinge on their traditional comparative advantages. An increase in manufacturing exports can lead to more processed exports, linked to a larger domestic value-added in exports and to greater job creation connected to trade.

In the case of developing countries that participate in the BRI, the materialization of the unrealized manufacturing export potential to China highlighted in Figure 13 would change the composition of exports to that market, shifting them to a larger share of processed, and to some extent semi-processed, goods, and away from raw products (Figure 15).

Acknowledging the importance of this shift for BRI developing countries, this section zooms in on the potential for growth in manufacturing exports from these countries to China, analysing specific opportunities across regions.

Figure 15 A third of the exports to China could be processed goods



Source: ITC calculations based on ITC Export Potential Map.

Export growth prospects across regions

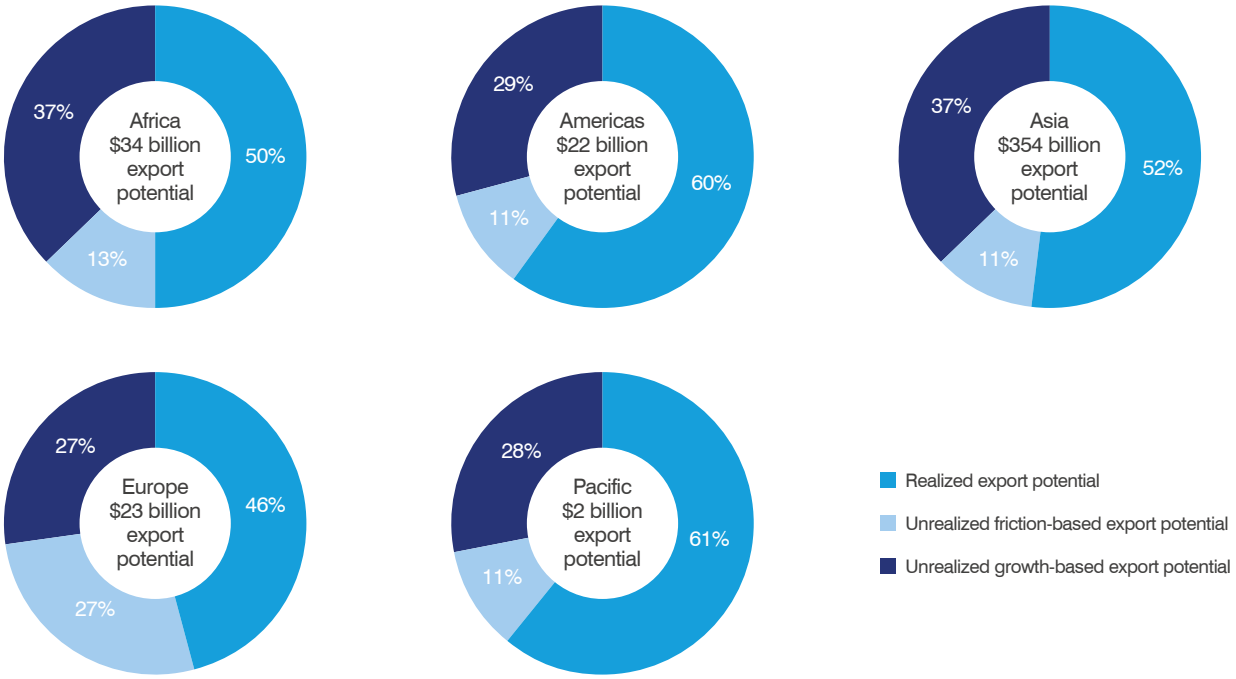
Among developing countries in the BRI, the largest manufacturing export potential to China by 2027 lies in Asia, reaching $354 billion (Figure 16). However, all other regions also have a substantial manufacturing export potential to China—$34 billion in Africa, $23 billion in Europe, $22 billion in the Americas, and $2 billion in the Pacific. The share of export potential that is already realized ranges across regions from 46% in Europe to 61% in the Pacific.

Consequently, there are sizeable opportunities for growth in manufacturing exports to China in all regions, with 39% to 54% of the potential not yet realized. Materializing the unrealized manufacturing export potential to China would imply an increase in the total exports from Africa by 3.3%, the Americas by 2.8%, Asia by 7.5%, Europe by 2.5% and the Pacific by 7.3%.

Figure 16 illustrates that, in line with what was observed in Figure 12 for total exports, most of the unrealized manufacturing export potential is growth-based. This means it is rooted in the anticipated growth of the exporting country, its competitors and Chinese demand in coming years.

For example, predicted growth trends could drive up the manufacturing exports of developing Asian countries in BRI to China by up to $131 billion by 2027 (37% of the export potential, Figure 16). This increase is well over three times more than what could be achieved by eliminating all trade frictions between Asia and China ($41 billion, i.e. 11% of the export potential, Figure 16). Similarly, projected growth trends could lead to $12 billion of additional manufacturing exports from Africa to China, $7 billion from the Americas, $6 billion from Europe and $1 billion from the Pacific.

Figure 16 The manufacturing export potential to China is substantial for all regions



Source: ITC calculations based on ITC Export Potential Map.

Eliminating frictions between developing BRI countries and China could also boost manufacturing exports substantially. However, that increase would only be around one-third of the rise connected to growth trends—with the exception of Europe, where trade frictions hinder nearly $6 billion of manufacturing exports to China.

In what follows, the specific opportunities for manufacturing export growth to China by exporter and sector are explored for each region.

Africa: Metal products, but also wood, vehicles and machinery

Africa's manufacturing export potential to China is estimated at $34 billion by 2027, with half of it already realized (Figure 16). The remaining unrealized part is segmented into $4 billion associated with existing trade frictions (13%), while a much larger portion, $12 billion (37%), is tied to anticipated growth trends by 2027.

Of the 52 African countries that participate in the BRI, 49 have unrealized manufacturing export potential to China, ranging from $13,000 in Malawi to $5.3 billion in the Democratic Republic of the Congo.[22] However, the opportunities identified are concentrated, with three countries holding more than 70% of the unrealized manufacturing export potential to China (Figure 17): the Democratic Republic of the Congo (31%), South Africa (29.2%) and Zambia (12.9%).

In the case of the Democratic Republic of the Congo, almost all of its unrealized manufacturing export potential to China lies within metal manufactures. In particular, more than 90% of its unrealized potential is found in copper cathodes and intermediate products of cobalt metallurgy and cobalt mattes.

In a similar vein, Zambia's unrealized manufacturing export potential to China is also concentrated in metal manufactures. More than 70% of this is vested in unrefined copper and copper anodes, and another 24% in copper cathodes.

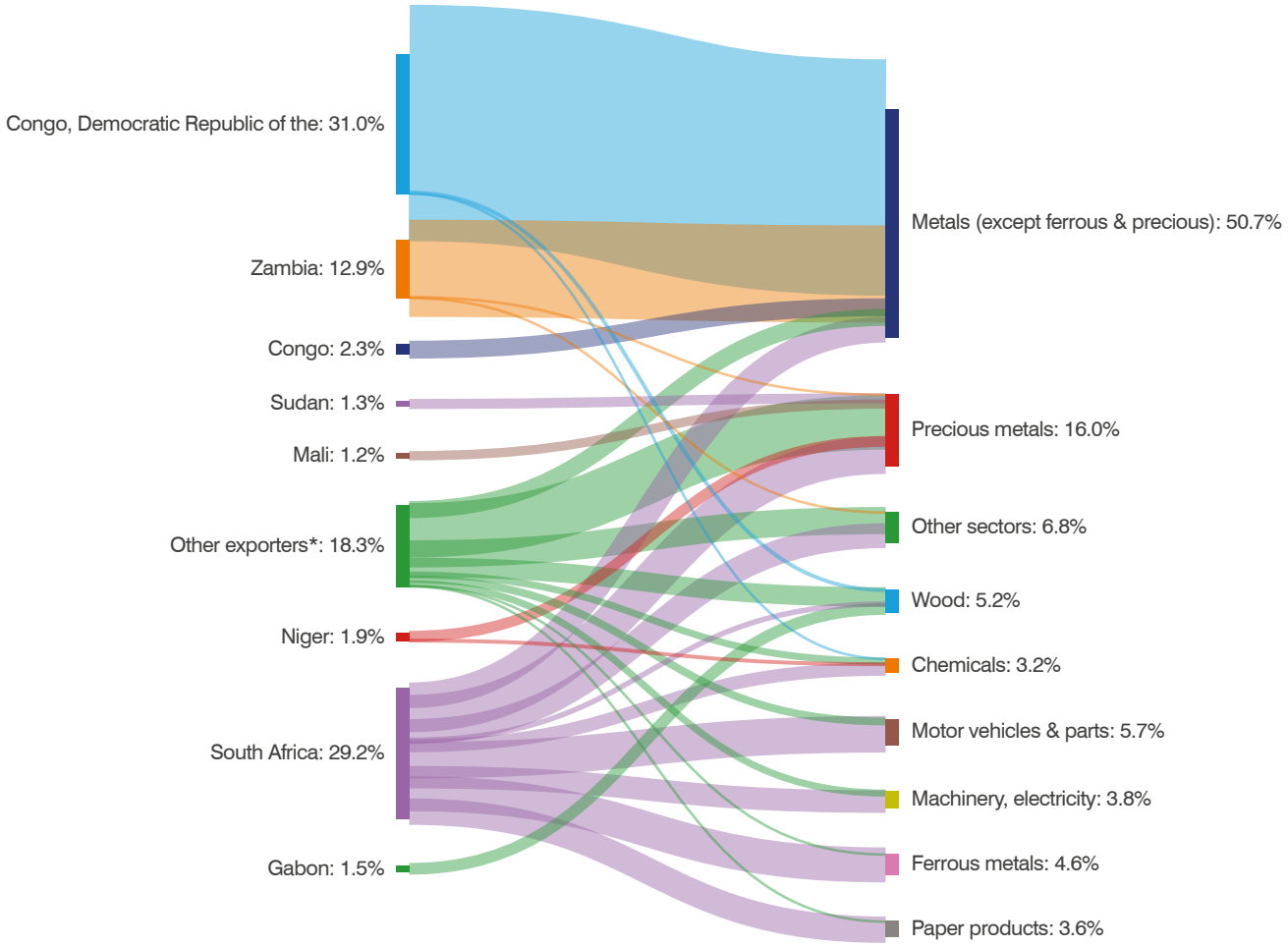
While South Africa also has sizeable untapped potential in metals, for example $668 million in unwrought rhodium powder, its unrealized manufacturing export potential to China is more diversified across sectors, with large shares in products such as motor vehicles, chemical wood pulp and others.

A large portion of the opportunities for manufacturing export growth from BRI Africa to China is found in metal products (Figure 17). This includes other metals (50.7%), precious metals (16%) and ferrous metals (4.6%), which represent more than 71% of the unrealized export potential in manufacturing to China.

However, there are opportunities beyond metal-based exports (Figure 17). These include sectors based on the traditional resource-based comparative advantages of some African countries, such as wood (5.2%) and paper products (3.6%). But opportunities also extend beyond the traditional sectors into areas such as motor vehicles and parts (5.7%), machinery and electricity (3.8%), and chemicals (3.2%).

While it is apparent from Figure 17 that many of the opportunities identified in non-resource-based sectors are for South Africa, the smaller share identified for other exporters should not be dismissed, as it could have a transformative impact. For example, Morocco holds 1.9% of the unrealized manufacturing export potential to China identified for African BRI countries, 47% ($152 million) of which lies in the motor vehicles and parts sector. The materialization of this untapped potential could lead to a 1% increase in Morocco's total exports.[23]

Figure 17 In Africa, over two-thirds of the opportunities are in metal products



Note: * marks a country scheduled for graduation from the least developed country (LDC) category. Angola and Sao Tome and Principe, included in the 'Other exporters' group, are scheduled for graduation in 2024. A decrease in their export potential to China can be expected at that time as they now benefit from LDC preferences in that market (see Box 2).

Source: ITC calculations based on ITC Export Potential Map.

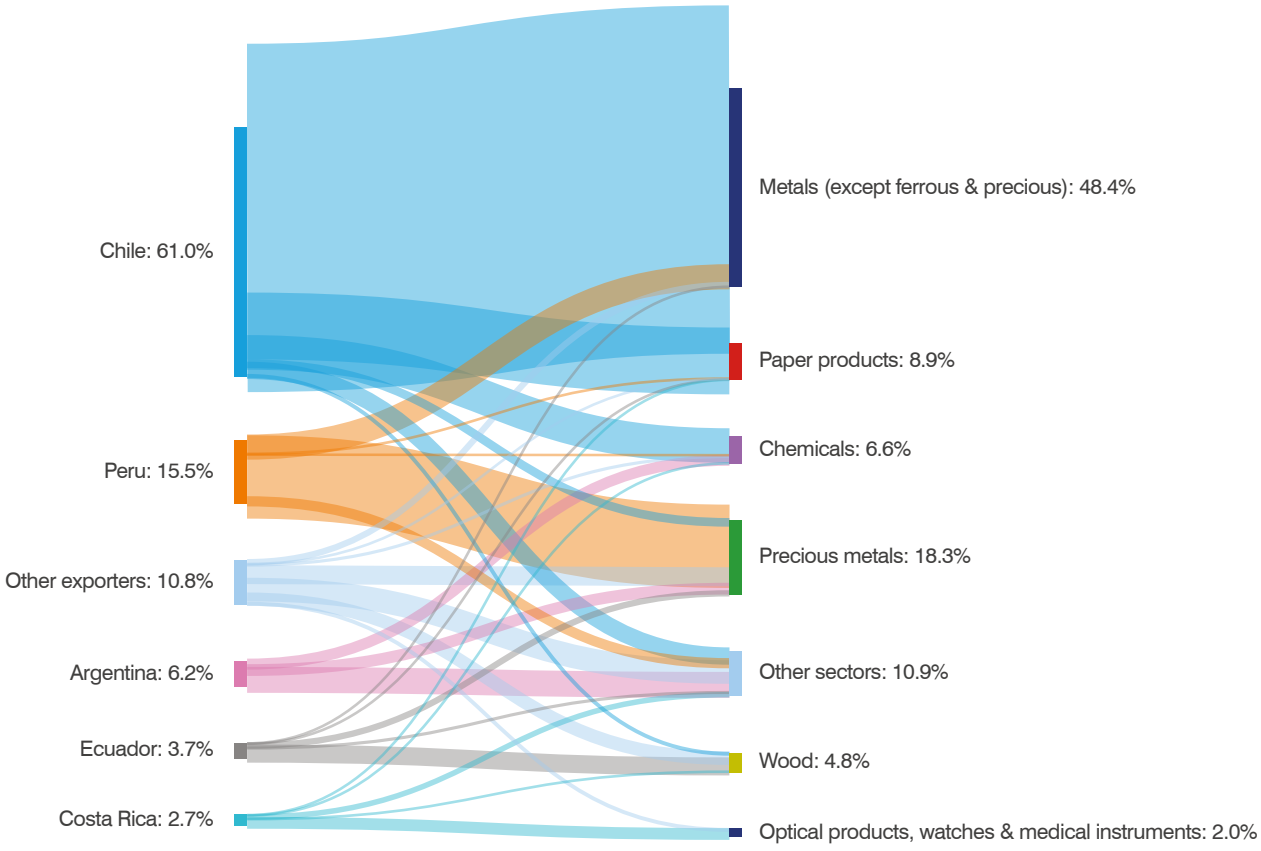
Americas: Metal products, but also paper, chemicals and wood

The Americas hold a manufacturing export potential to China of $22 billion by 2027 (Figure 16). So far, 60% of this potential has been achieved. Of the remaining $9 billion, $2 billion can be attributed to existing trade frictions, while $7 billion is tied to anticipated growth in the coming years.

In the Americas, 21 developing countries take part in the BRI. Among them, 20 possess unrealized manufacturing export potential to China, ranging from Antigua and Barbuda's $295,000 to Chile's $5.5 billion.[24] Chile stands out with the highest unrealized manufacturing export potential to China, accounting for 61% of the region's total (Figure 18). It is followed by Peru at more than 15% ($1.4 billion) and Argentina at 6.2% ($566 million).

Many of the opportunities for manufacturing export growth to China are driven by manufactured metal exports from Chile and Peru. For Chile, this is predominantly in non-precious and non-ferrous metals (72%), with copper cathodes and unrefined copper and copper anodes the most prominent among them. Additionally, Chile has unrealized manufacturing export potential to China in non-metal-based manufactures, for example, in paper products (mainly in chemical wood pulp, either unbleached or semi-bleached) and chemicals (led by lithium carbonates and iodine).

Figure 18 In the Americas, two-thirds of the opportunities are in metal products



Source: ITC calculations based on ITC Export Potential Map.

In contrast, Peru's unrealized manufacturing export potential to China is largely in precious metals (69%), dominated by unwrought gold. Another 20% lies with non-precious, non-ferrous metals, primarily copper cathodes and unwrought zinc and unrefined copper and copper anodes. Non-mineral-based products offer limited opportunities for growth in Peru's manufacturing exports to China.

Argentina, while holding unrealized potential in precious metal manufactures (primarily unwrought gold), presents a more diverse set of manufacturing sectors with space for export growth to China. For example, chemicals account for 22% of the unrealized manufacturing export potential to China, followed by motor vehicles and parts at 20%.

For the region as a whole, metal manufactures—whether ferrous, precious or otherwise—concentrate two-thirds of the opportunities for manufacturing export growth to China. However, paper products (8.9% or $797 million), chemicals (6.6% or $607 million) and wood (4.8% or $436 million) also offer significant opportunity.

Fully tapping into this unrealized potential could boost exports by an average of 2% across the region, ranging from 0.1% in Nicaragua to 7% in Chile.[25]

Asia: Diverse subregions, diverse opportunities

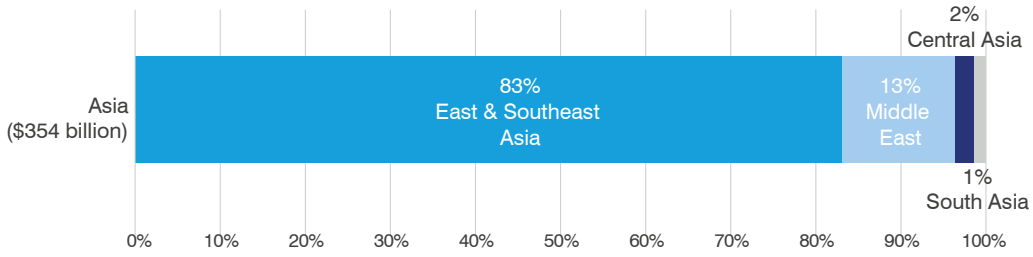
The manufacturing export potential of Asian developing countries in the BRI to China reaches $354 billion. Most of this potential originates in East and Southeast Asia, followed by the Middle East (Figure 19). While more than half of this potential is already realized (Figure 16), there remains $41 billion (11%) in unrealized potential tied to existing frictions and $131 billion (37%) traced to expectations of growth by 2027.

In the case of Asia, the unrealized manufacturing export potential to China is broken down by subregion, to better reflect their unique characteristics and comparative advantages.[26]

Central Asia: Metal products and chemicals

Central Asian developing countries in the BRI have a manufacturing export potential to China of $8 billion, accounting for 2% of the region's total (Figure 19). More than half of it (57%) is already realized. This leaves an unrealized export potential of $1 billion (or 9%) due to existing trade frictions and $3 billion (or 33%) attributed to anticipated growth by 2027.

Figure 19 East and Southeast Asia hold most of Asia's manufacturing export potential to China



Note: For a detailed definition of regions and subregions, see Table A. 1.
Source: ITC calculations based on ITC Export Potential Map.

Eight developing countries in Central Asia participate in the BRI. Each has unrealized manufacturing export potential to China, ranging from Turkmenistan's $14 million to Kazakhstan's $2.8 billion. Most of the opportunities for export growth are found in Kazakhstan (81.3%) and Uzbekistan (15.0%), with the remaining six countries accounting for $128 million (Figure 20).

A large portion (40.8%) of the unrealized manufacturing export potential to China concerns non-ferrous, non-precious metals, primarily from Kazakhstan and, to a lesser degree, Uzbekistan—stemming for both countries mainly from copper cathodes.

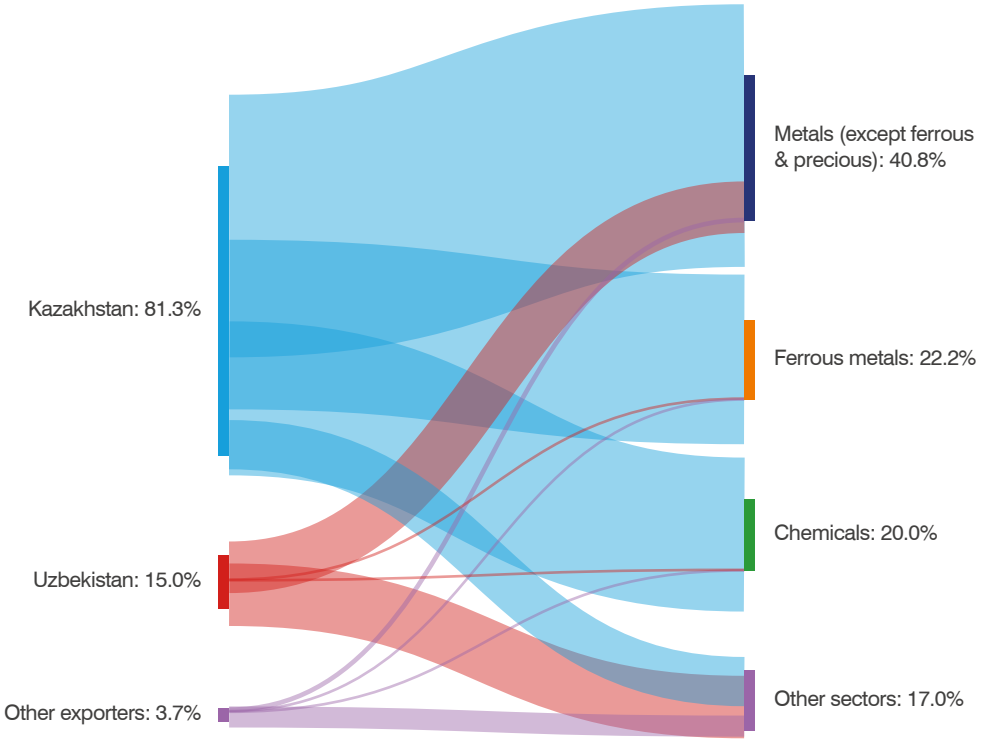
Ferrous metals constitute another 22.2% of the unrealized manufacturing export potential to China, especially products of iron or steel from Kazakhstan, such as ferro-chromium, bars, rods and semi-finished products.

Opportunities in chemicals represent another 20% of the unrealized manufacturing export potential to China, largely focusing on Kazakhstan's natural uranium products and compounds.

Both Kazakhstan and Uzbekistan also present unrealized potential in sectors including plastics and rubber—mainly a specific polyethylene type—and cotton fabrics, predominantly in single-yarn combed cotton fibres.

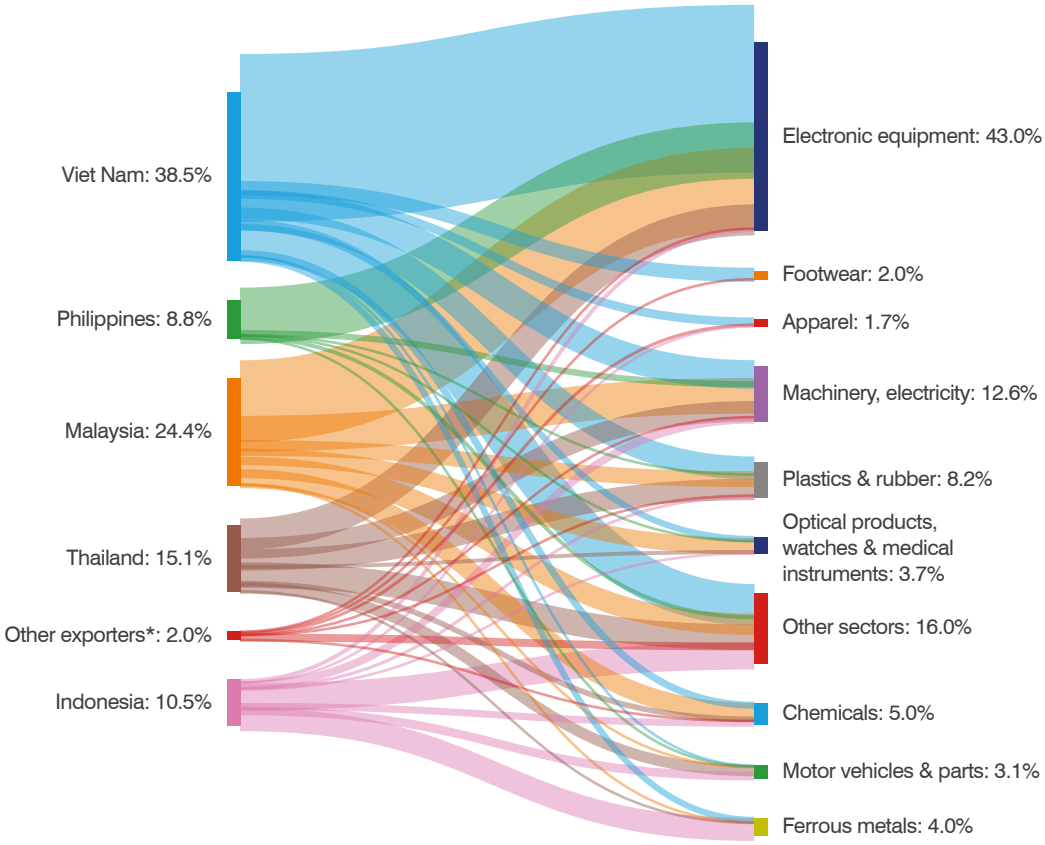
Kyrgyzstan, Azerbaijan and Armenia have some opportunities in precious metals, predominantly gold and some silver. Beyond these, other countries and sectors within the subregion exhibit lower, more scattered, unrealized potential.

Figure 20 In Central Asia, opportunities are in metal products and chemicals



Source: ITC calculations based on ITC Export Potential Map.

Figure 21 In East and Southeast Asia, opportunities are in electronic equipment, machinery and more



Note: * marks a country scheduled for graduation from the LDC category. Lao People's Democratic Republic, included in the 'Other exporters' group, is scheduled for graduation in 2026. A 10% decrease in its export potential to China is expected upon graduation (ITC, 2023). For details on the impact of graduation and possible mitigation avenues, see ITC (2023).

Source: ITC calculations based on ITC Export Potential Map.

If the unrealized manufacturing export potential to China were to materialize for Central Asia, Kazakhstan and Uzbekistan would increase their exports by 5%, and Kyrgyzstan by 2%. Other countries in the subregion would only see increases of 0.2%–1%.

East and Southeast Asia: Electronic equipment, machinery and more

Most (83%) of Asia's manufacturing export potential to China stems from East and Southeast Asia (Figure 19). Just over half of this potential has been realized, leaving a substantial $141 billion in unrealized manufacturing export potential to China within this subregion. Growth projections account for $112 billion of this amount, while the remaining $29 billion is linked to existing trade frictions.

Unrealized manufacturing export potential to China varies greatly among the 11 developing countries from this subregion involved in the BRI, from a high of $54 billion in Vietnam to a low of $519,000 in Timor-Leste. Five countries—Viet Nam, Malaysia, Thailand, Indonesia and the Philippines—collectively account for more than 98% of the subregion's unrealized manufacturing export potential to China (Figure 21).

The potential to increase manufacturing exports to China spans multiple sectors. Opportunities in electronic equipment stand out, especially for Viet Nam, Malaysia and the Philippines—in line with existing regional value chains. Some of the greatest unrealized potential lies in products such as telephone sets and their parts—particularly for Viet Nam—as well as smart cards, electronic integrated circuits and LED lamps for all aforementioned countries. Other promising sectors include machinery and electricity, plastics and rubber.

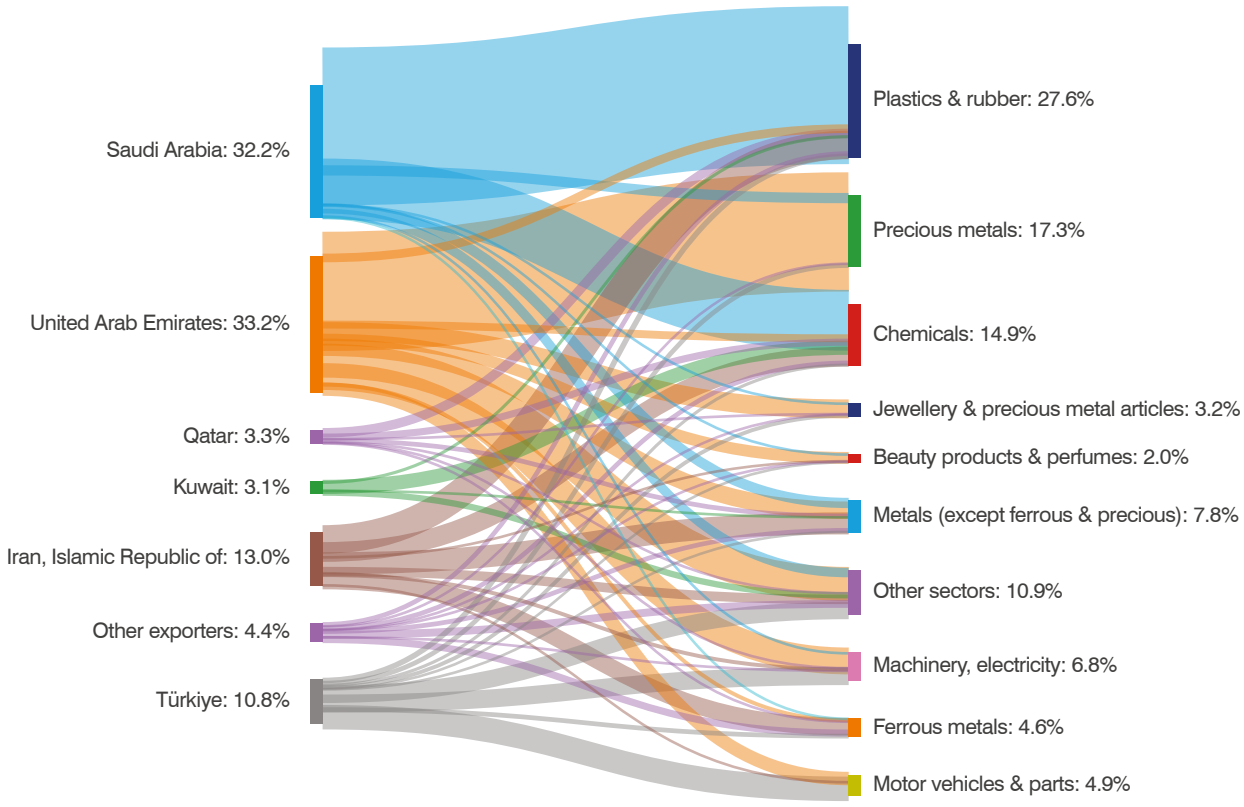
Materializing this unrealized potential would have different impacts on the current exports of countries in the subregion. For instance, Timor-Leste would see a modest 0.3% boost, Brunei Darussalam a 1% increase and Mongolia 2% growth. The effects would be substantial for most, however, with potential increases ranging from 5% for Cambodia to a notable 17% for Viet Nam.

Middle East: Plastics, metal products and more

The Middle East represents 13% (or $47 billion) of Asia's total manufacturing export potential to China, (Figure 19). Less than half of this potential is realized today. Frictions account for an unrealized potential of $10 billion, while expectations of growth represent another $15 billion.

All 14 developing Middle Eastern countries involved in the BRI have unrealized manufacturing export potential to China. At the lower spectrum, the State of Palestine has an unrealized potential of $18,000, followed by the Syrian Arab Republic at $173,000. At the higher end, the United Arab Emirates alone holds about one-third of the unrealized potential, while Saudi Arabia accounts for another third, each exceeding $8 billion (see Figure 22). Significant portions also lie with the Islamic Republic of Iran and Türkiye.

Figure 22 In the Middle East, opportunities are in plastics, metal products and more



Source: ITC calculations based on ITC Export Potential Map.

The sectors offering growth opportunities for manufacturing exports to China are diverse. Key sectors include plastics and rubber (particularly polyethylene and polypropylene in Saudi Arabia), precious metals (notably unwrought gold from the United Arab Emirates) and chemicals (with Saudi Arabia leading in potential for ethylene glycol and methanol). Besides these, there are major opportunities in sectors such as non-ferrous, non-precious metals, machinery, electricity, motor vehicles, parts, and others across the subregion.

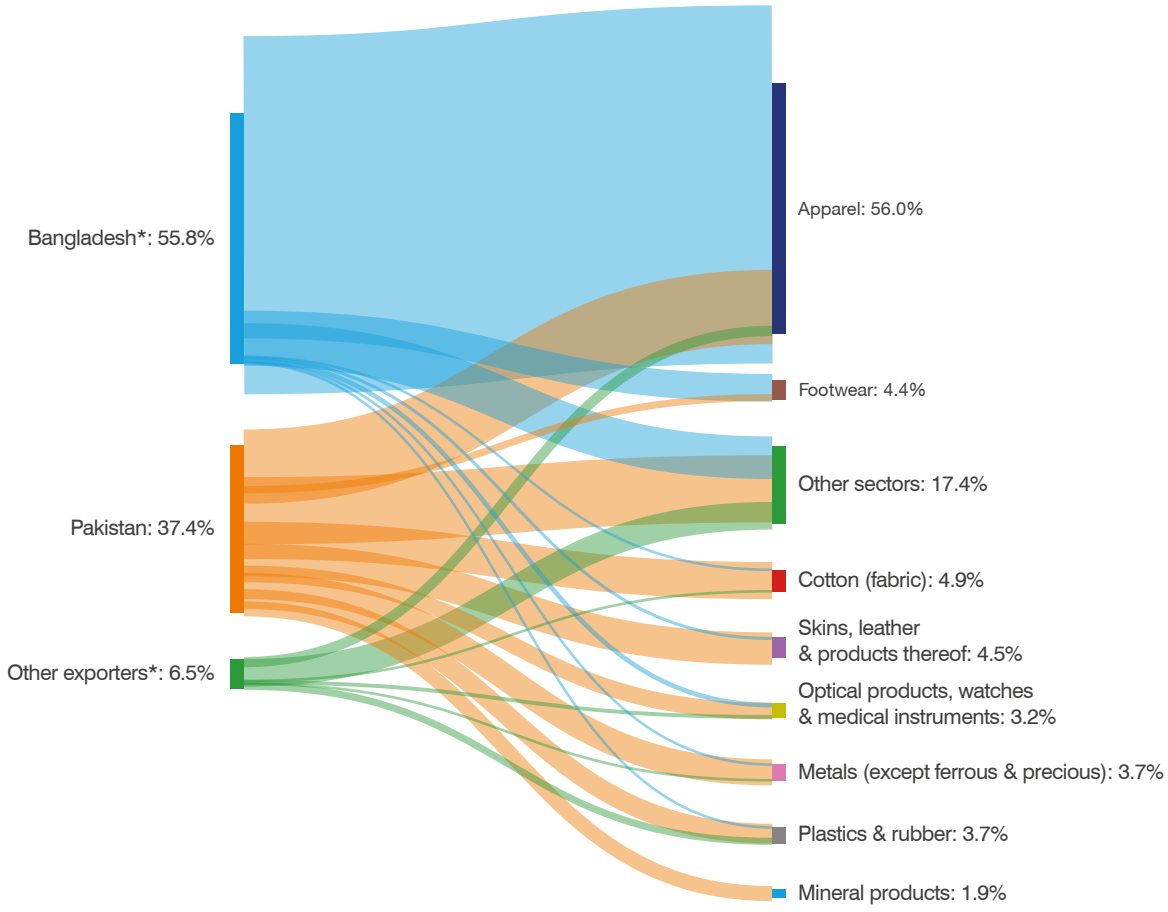
Fully realizing this potential would see exports from the Islamic Republic of Iran grow by 8%, Saudi Arabia by 5% and the United Arab Emirates by 4%. The growth would be more modest for other countries, often under 1%, including for Lebanon, Iraq, Yemen, the Syrian Arab Republic and the State of Palestine.

South Asia: Apparel, cotton fabric, footwear and more

South Asia has a manufacturing export potential to China of $4.8 billion, 1% of the region's total (Figure 19). Less than half of it is currently realized ($2.2 billion, 46%). The remaining unrealized manufacturing export potential to China comprises $1 billion attributed to existing frictions and $1.6 billion linked to growth projections for the coming years.

The six BRI developing countries in South Asia have some unrealized manufacturing export potential to China, ranging from $11,000 in the Maldives to $1.4 billion in Bangladesh. More than 93% of the unrealized manufacturing export potential to China in the subregion is from Bangladesh and Pakistan (Figure 23).

Figure 23 In South Asia, opportunities are in apparel, cotton fabric, footwear and more



Note: * marks a country scheduled for graduation from the LDC category. Bangladesh and Nepal, included in the 'Other exporters' group, are scheduled for graduation in 2026. A decrease in their export potential to China can be expected at that time since they currently benefit from LDC preferences in that market—see Box 2 and ITC (2022). In the case of Nepal, see ITC (2022) for estimates of the impact of LDC graduation and potential mitigation options.

Source: ITC calculations based on ITC Export Potential Map.

A large share of the unrealized potential of Bangladesh is in apparel products and footwear. Considering that these goods benefit from LDC preferences, which Bangladesh will forego upon graduation in 2026, it is likely that much of the unrealized export potential will be lost.

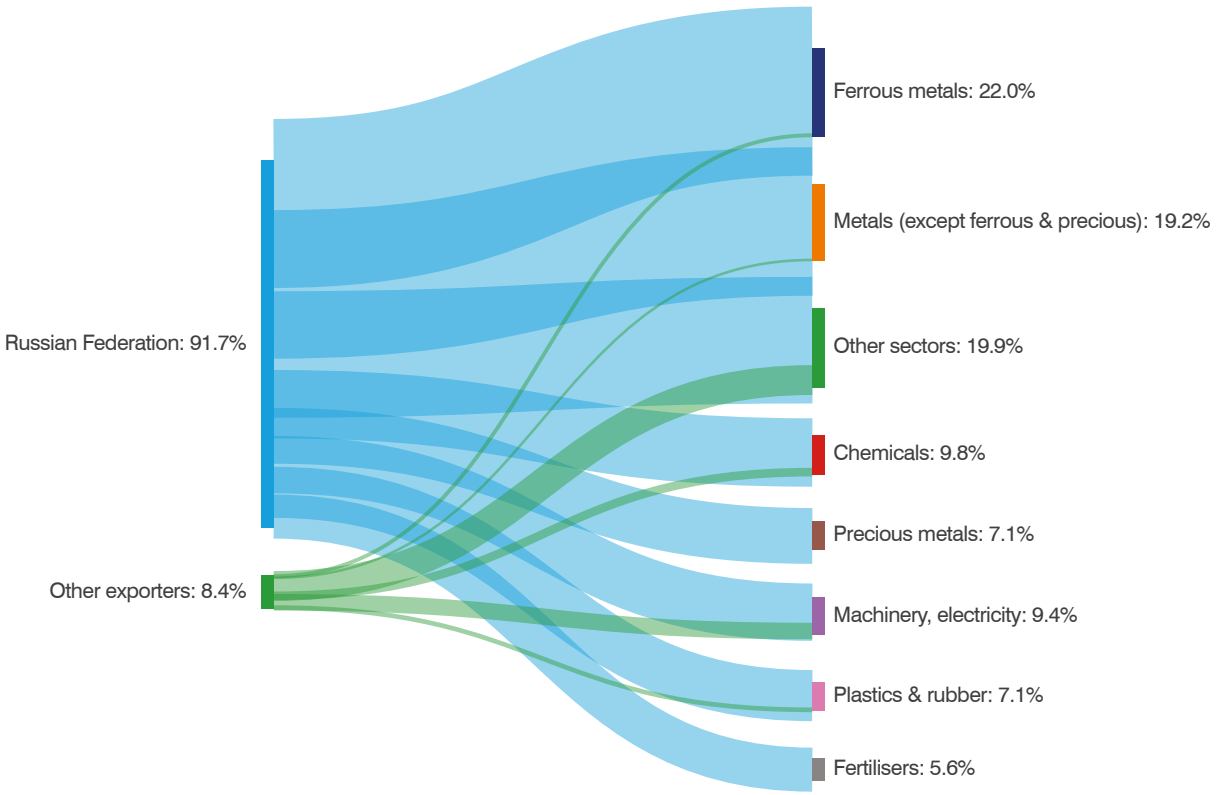
In contrast, Pakistan's opportunities for growth in manufacturing exports to China are more diversified, not only in apparel, but also in cotton fabric, leather products, medical instruments and others. If this potential were to be realized fully, the largest impact would be for Pakistani exports, which would increase by 4%. For other countries in the region, the effect would be 1% or less.

Europe: Metal products, but also machinery, chemicals and more

Only eight European developing countries participate in the BRI—among them the Russian Federation. They hold a $23 billion manufacturing export potential to China by 2027, with less than half of it already realized. Just over $6 billion of the unrealized potential is linked to trade frictions and a similar amount is connected to expectations of growth in the coming years.

Naturally, much of the unrealized potential identified (91.7%, more than $11 billion) is from the Russian Federation. Still, other countries in the region also have opportunities to grow their manufacturing exports to China, ranging from $5 million in Montenegro to $377 million in Serbia.

Figure 24 In the Russian Federation, opportunities are in metal products, machinery and more



Source: ITC calculations based on ITC Export Potential Map.

More than 40% of Europe's unrealized manufacturing export potential to China is in ferrous and non-precious metals, led by copper cathodes, semi-finished products of iron or steel, and unwrought nickel from the Russian Federation. The unrealized manufacturing export potential of the Russian Federation is quite diversified, with additional opportunities in chemicals, machinery and electricity, plastics and rubber, precious metals and fertilizers, among others.

For other countries in the region, different sectors hold considerable promise. The machinery and electricity sector is significant, for example, for machinery and apparatus for filtering gases from North Macedonia, or ignition wiring sets and heating resistors from Serbia.

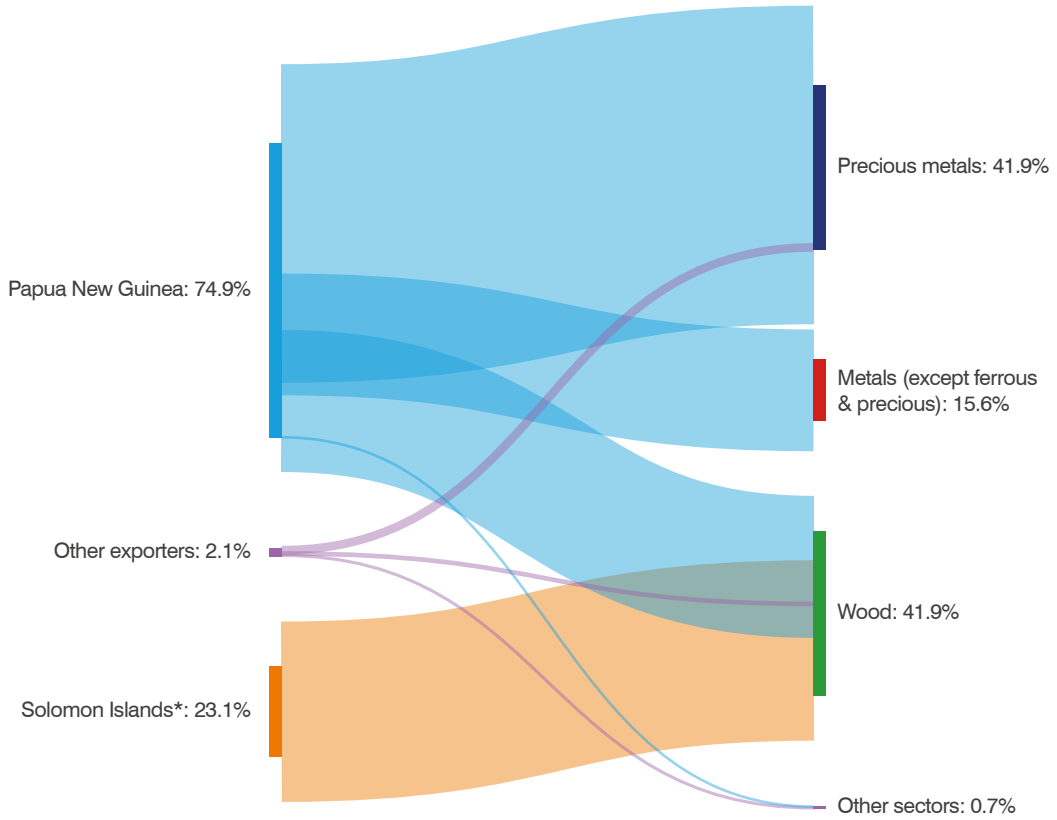
The full realization of Europe's export potential by 2027 would lead to an increase in exports of ranging from 1%–3% across all countries in the region.[27]

Pacific: Metal products and wood

The BRI developing countries in the Pacific region have a manufacturing export potential to China of $2.4 billion (Figure 16). More than 60% of this potential has been realized, leaving almost $1 billion untapped. Of this unrealized amount, $264 million is due to existing frictions and $691 million is due to expected growth.

Five of the eight developing countries in the region that participate in the BRI have unrealized manufacturing export potential to China. This ranges from $715 million in Papua New Guinea, which holds 74.9% of the total for the region, and the Solomon Islands with $221 million to Samoa with $5,000 (Figure 25).[28]

Figure 25 In the Pacific, opportunities are in metal products and wood



Note: * marks a country scheduled for graduation from the LDC category. Solomon Islands is scheduled for graduation in 2024.
Source: ITC calculations based on ITC Export Potential Map.

Papua New Guinea's potential for export growth in manufacturing to China is almost entirely in three sectors: precious metals (in particular gold), non-ferrous, non-precious metals (in particular nickel) and wood (in particular wood in the rough).

For the Solomon Islands, the unrealized manufacturing export potential to China is almost entirely in wood, especially wood in the rough and some types of semi-processed wood. The country's LDC graduation, scheduled for 2024, will not affect the export potential of these products, as China applies a 0% most favoured nation tariff to its wood imports.

For other countries in the region, wood and precious metals are promising sectors for export growth to China.[29] Realizing this manufacturing export potential would imply a 36% increase in exports for the Solomon Islands, followed by 6% for Papua New Guinea and smaller increases for other countries in the Pacific.

SECTION 4
Policy discussion

The Belt and Road Initiative provides a framework for substantial investments to enhance the scale of participating developing countries' trade with China. BRI developing country exports to China have grown faster than to other markets, and Chinese imports from them have grown faster than from other suppliers. However, concerns about economic dependence and the commoditization of exports remain for these countries.

Indeed, although BRI developing country exports to many markets have shifted away from minerals and towards more manufactured sectors over the past decade, the export basket to China only saw a modest move from primary towards more processed minerals. Accordingly, many of the opportunities to boost exports to China over the coming years also link back to the countries' abundance of raw materials and China's continued demand for them. But others, including outside China's traditional manufacturing belt in East and Southeast Asia, point towards possibilities to venture into more value-added sectors.

This report has explored options to increase manufacturing trade, whether directly based on natural resources or in more transformed products. Both require policies to leverage this potential and to ensure that the gains from BRI-supported trade are widespread:

- **Make resource-based opportunities work for development**

Even if focusing on the growth potential of the manufacturing sector, natural resource-based products dominate for many countries. In Africa, the Americas and Central Asia, metal-based products account for more than 60% of the sector's growth opportunities and in the Middle East, the mineral-based plastic and chemical sectors hold most of the potential to step up trade with China. In the Pacific, wood plays an important role next to metals.

In many instances, additional exports in natural resource-based manufactures depend on growth prospects far more than on the removal of frictions. For example, in the Pacific, the potential for additional wood exports is almost entirely growth-driven: only 3% of the untapped export potential hinges on the removal of frictions. To increase future exports in these sectors, additional investments to sustain and boost production in line with China's rising demand will therefore be necessary.

Targeted policies, however, should accompany the investments to ensure that more such exports do not undermine efforts of environmental sustainability, local value addition and better working conditions. The United Nations-led Greening the Belt and Road Initiative and the Belt and Road Initiative International Green Development Coalition are steps in this direction, aiming to align BRI projects with coherent environmental standards and linking them to the Sustainable Development Goals.

Companies investing in BRI developing countries should be encouraged to practice corporate social responsibility and comply with environmental, social and governance standards. Well-known international guidelines establishing how investment can promote sustainability by addressing a variety of such standards include the United Nations Guiding Principles on Business and Human Rights, the United Nations Global Compact 'Ten Principles', the International Labour Organization's Multinational Enterprises Declaration and the Organisation for Economic Co-operation and Development's Guidelines for Multinational Enterprises.[30]

The situation is different for the Russian Federation, where the potential to step up exports of resource-based manufactures to China is as much linked to growth expectations as it is to frictions. Following the disruption of Russia's trade ties with Europe, the reorientation of exports towards other markets is still ongoing and explains part of the gap between potential and actual exports.

- **Focus beyond resource-based sectors for value-added diversification**

Less resource-intensive sectors also offer possibilities for BRI developing countries to increase their exports to China. East and Southeast Asian countries traditionally have a diversified export basket with China and could realize additional exports by leveraging economic growth opportunities. Other regions, too, have options to trade more transformed products: almost a dozen countries including Morocco, the Russian Federation, South Africa and Türkiye have exported few motor vehicles and parts to China in the past, although their potential to do so exceeds $100 million each.

The same holds for beauty product exports from the Russian Federation, South Africa and the United Arab Emirates. Bangladesh has considerable export growth potential in a range of apparel products. Finally, Costa Rica, Pakistan and the Russian Federation could boost their exports of optical products and medical instruments.

Interestingly, the opportunities in these sectors with high value addition are often unexplored, meaning that so far no or only minimal exports have taken place. Unlocking them will require awareness and promotional campaigns, market research to understand and adapt to the preferences of Chinese consumers and the identification of local business partners.

The big exception is Costa Rica, which exports on average more than $82 million of syringes and needles to China every year, fuelled by Costa Rica's Coyol Free Zone—a medical manufacturing park. These exports were driven by China's surge in demand during the pandemic and a free trade agreement that gives Costa Rican medical device producers privileged access to the Chinese market. Further growth depends on post-pandemic demand trends and, assuming these remain elevated, investment in production capacity.

Fully realizing the potential of BRI developing countries for manufacturing exports could boost their transition towards a more transformative sector structure, also in their trade with China. The Costa Rican case shows that the BRI provides a platform for cooperation, including in value-added sectors. But even if exports are in sectors connected to the countries' natural resource endowments, they can help them gradually step out of the commodity trap—if accompanied by policies that ensure the gains from trade are sustainable and reach the local populations.

While the primary focus of this report has been on opportunities for manufacturing exports, we have also noted the innate competitiveness and untapped potential of BRI developing countries in agriculture and mining sectors. Future studies will explore strategies to materialize this potential into higher value-added activities, for example, in the context of fostering value chains.

ENDNOTES

1 Note that 'regions' refers only to the developing countries in that region that participate in the BRI and that the number of developing countries that participate in the initiative varies substantially across regions. For a detailed list of the countries considered in each region, see Table A. 1.

2 For a detailed discussion of the opportunities and risks associated to the BRI, see World Bank (2019).

3 The BRI corridors are the China–Mongolia–Russia Economic Corridor, the New Eurasian Land Bridge, the China–Central Asia–West Asia Economic Corridor, the China–Indochina Peninsula Economic Corridor, the China–Pakistan Economic Corridor and the Bangladesh–China–India–Myanmar Economic Corridor (World Bank, 2019).

4 Belt and Road Portal (https://eng.yidaiyilu.gov.cn).

5 For a detailed list of developing countries that participate in the BRI, see Table A. 1.

6 Scissors (2023).

7 Nedopil (2023) and 'Overview of Belt and Road in 2018' (2019).

8 Increasing shares of exports of non-manufactured goods can be interpreted as a commoditization of exports.

9 Between the periods considered, exports of minerals to China rose by 67%, while exports of manufacturing and agriculture, fisheries and food exports showed more dynamism, with growth rates of 84% and 134%, respectively.

10 Note that the number of developing countries that participate in the BRI varies significantly across regions, with 52 in Africa, 21 in the Americas, 40 in Asia, 8 in Europe and 8 in the Pacific (Table A. 1).

11 For additional details by sector in each region, see Figure A. 1.

12 The share and value decrease of African petroleum exports to China between 2008–2012 and 2018–2022 is largely due to the lower price of oil (see Box 1). Exported quantities actually rose across the continent, from 63.6 million tons to 68.5 million tons, with the exception of some countries such as Libya, South Sudan and Sudan, which experienced conflict during or in between these periods.

13 The leading use of cobalt is in the production of lithium-ion batteries, crucial to the energy transition. Some of the mines in question are the Deziwa, Kasulo, Kinsevere, Shituru and Tenke Fungurume cobalt mines in the Democratic Republic of the Congo. For detailed information on Chinese investment in mining in Africa, see Ericsson et al. (2020). For information on global cobalt production, see Reichl and Schatz (2023) and USGS (2023).

14 This was heavily influenced by the evolution in the price of crude oil (see Box 1).

15 Note that ferro-nickel plays a central role in the production of batteries used in electrical vehicles and is considered a critical raw material in the energy transition.

16 For details on the Indonesia Morowali Industrial Park, see Tritto (2023).

17 In March 2023, leaders of both countries reiterated this partnership and agreed to deepen it (Ministry of Foreign Affairs of the People's Republic of China, 2023).

18 Some of the elements considered in constructing the supply, demand and ease of trade indicators are the share of the exporter in the global market for the product, the expected GDP growth of the exporter by 2027 relative to other exporters of the product, the tariffs on the product faced by the exporter globally relative to those faced by other exporters, the current imports of the product in the market, the expected population and GDP growth of the market by 2027, the sensitivity of import demand to GDP and population growth, the tariffs on the product faced by the exporter in that market relative to those faced by other exporters, the distance between exporter and importer, and a revealed measure of the ease of trade between the exporter and importer. For a detailed explanation of the methodology, see the ITC Export Potential Map: https://exportpotential.intracen.org/en/.

19 For a full list of products not considered by the export potential methodology, see the frequently asked questions (FAQ) section of the ITC Export Potential Map, https://exportpotential.intracen.org/en/resources/faq.

20 International Monetary Fund World Economic Outlook Database, April 2023.

21 As highlighted earlier, a large share of minerals is not included in the calculations, as per the export potential methodology.

22 Cabo Verde, Guinea-Bissau and South Sudan participate in the BRI but do not have unrealized manufacturing export potential to China in the framework of the ITC. export potential methodology. They do have opportunities for export growth in other industries and to other markets.

23 To explore additional details by country and sector, see Table A. 2.

24 Grenada participates in the BRI but does not have unrealized manufacturing export potential to China in the framework of the ITC export potential methodology. The country does have opportunities for export growth in other industries and to other markets.

25 To explore additional details by country and sector, see Table A. 3.

26 To explore additional details by country and sector, see Table A. 4.

27 To explore additional details by country and sector, see Table A. 5.

28 Kiribati, the Federated States of Micronesia and Tonga participate in the BRI but do not have unrealized manufacturing export potential to China in the framework of the ITC export potential methodology. They do have opportunities for export growth in other industries and to other markets.

29 To explore additional details by country and sector, see Table A. 6.

30 For more information on standards that link investment and sustainable development, see ITC (2019).

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APPENDICES

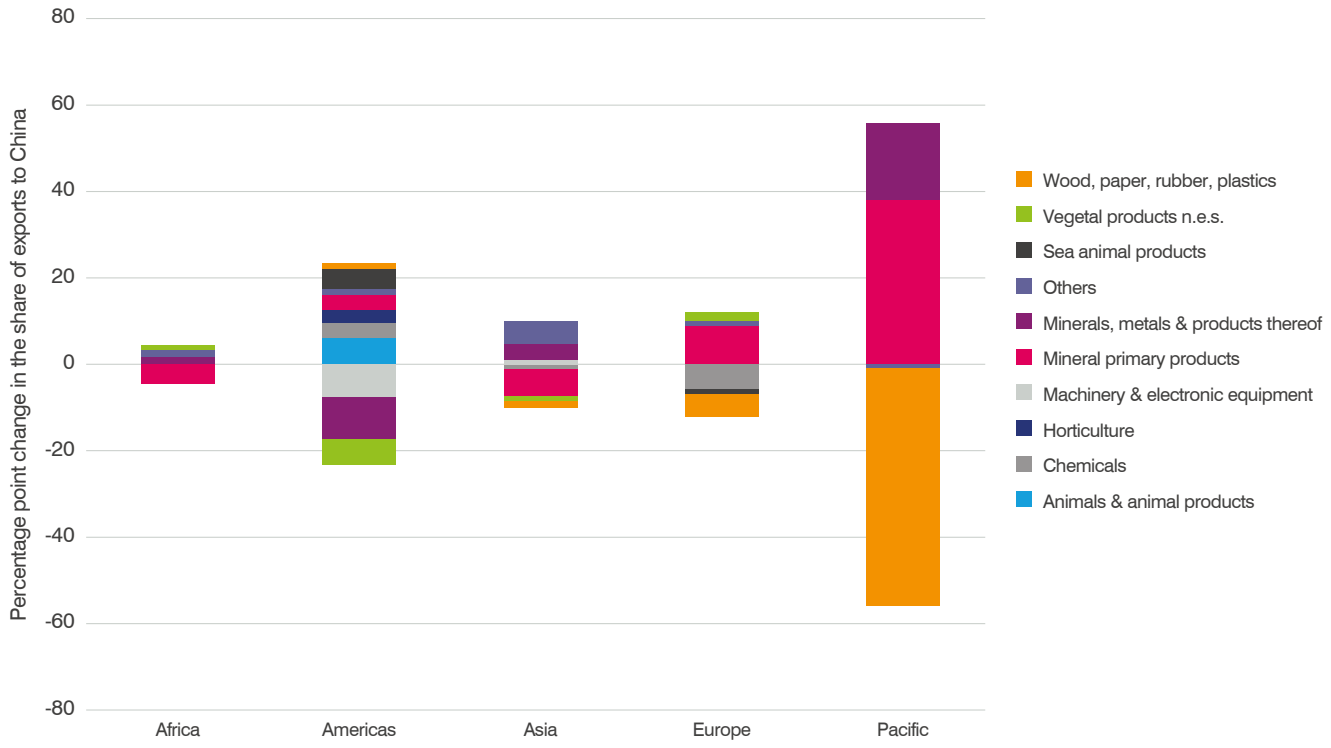
Table A.1 Developing countries that participate in the BRI, by region

Africa	Americas	Americas	Europe	Pacific
Algeria	Antigua and Barbuda	*Central Asia*	Albania	Fiji
Angola	Argentina	Armenia	Belarus	Kiribati
Benin	Barbados	Azerbaijan	Bosnia and Herzegovina	Micronesia, Federated States of
Botswana	Bolivia, Plurinational State of	Georgia	Moldova, Republic of	Papua New Guinea
Burkina Faso	Chile	Kazakhstan	Montenegro	Samoa
Burundi	Costa Rica	Kyrgyzstan	Macedonia, North	Solomon Islands
Cabo Verde	Cuba	Tajikistan	Russian Federation	Tonga
Cameroon	Dominica	Turkmenistan	Serbia	Vanuatu
Central African Republic	Dominican Republic	Uzbekistan		
Chad	Ecuador			
Comoros	El Salvador	*East and Southeast Asia*		
Congo, Democratic Republic of the	Grenada	Brunei Darussalam		
Congo, Republic of the	Guyana	Cambodia		
Djibouti	Jamaica	Indonesia		
Egypt	Nicaragua	Lao People's Democratic Republic		
Equatorial Guinea	Panama	Malaysia		
Eritrea	Peru	Mongolia		
Ethiopia	Suriname	Myanmar		
Gabon	Trinidad and Tobago	Philippines		
Gambia, The	Uruguay	Thailand		
Ghana	Venezuela, Bolivarian Republic of	Timor-Leste		
Guinea		Viet Nam		
Guinea-Bissau				
Côte d'Ivoire		*Middle East*		
Kenya		Bahrain		
Lesotho		Iran, Islamic Republic of		
Liberia		Iraq		
Libya		Jordan		
Madagascar		Kuwait		
Malawi		Lebanon		
Mali		Oman		
Mauritania		Palestine, State of		
Morocco		Qatar		
Mozambique		Saudi Arabia		
Namibia		Syrian Arab Republic		
Niger		Türkiye		
Nigeria		United Arab Emirates		
Rwanda		Yemen		
Sao Tome and Principe				
Senegal		*South Asia*		
Seychelles		Afghanistan		
Sierra Leone		Bangladesh		
Somalia		Maldives		
South Africa		Nepal		
South Sudan		Pakistan		
Sudan		Sri Lanka		
Tanzania, United Republic of				
Togo				
Tunisia				
Uganda				
Zambia				
Zimbabwe				

Source: Belt and Road Portal, available at https://eng.yidaiyilu.gov.cn/.

Appendix I

Figure A.1 Exports of manufacturing sectors gained importance in Africa and Asia



Note: The change in share refers to the change between 2008–2012 and 2018–2022 averages. Five-year averages are weighted, with the most recent years receiving a higher weight. N.e.s. means 'not elsewhere specified'.

Source: ITC calculations based on ITC Trade Map.

Appendix II

The regional tables that follow show the unrealized manufacturing export potential to China in millions of United States dollars, what part of it is associated with existing frictions and what part with expectations of growth, the increase in current manufacturing exports and total exports that materializing that unrealized export potential implies, and the top sectors with unrealized manufacturing export potential to China for each country. For product-level details, consult the ITC Export Potential Map (https://exportpotential.intracen.org).

Table A.2 Detailed unrealized manufacturing export potential to China in Africa

Exporter	Unrealized manufacturing export potential ($ millions)	Friction-based	Growth-based	Increase in current manufacturing exports	Increase in current exports	Top sectors
Congo, Democratic Republic of the	5,266	1%	99%	50%	42%	Metals (except ferrous & precious) (98%), Wood (2%)
South Africa	4,972	44%	56%	6%	4%	Precious metals (16%), Motor vehicles & parts (16%), Ferrous metals (15%), Others (52%)
Zambia	2,206	6%	94%	28%	25%	Metals (except ferrous & precious) (96%), Precious metals (2%), Pearls & (semi-)precious stones (1%), Others (1%)
Egypt	412	46%	54%	2%	1%	Precious metals (32%), Plastics & rubber (20%), Chemicals (17%), Others (31%)
Congo	399	52%	48%	12%	4%	Metals (except ferrous & precious) (99%), Others (1%)
Niger	327	46%	54%	19%	15%	Precious metals (73%), Chemicals (27%)
Morocco	325	51%	49%	1%	1%	Motor vehicles & parts (47%), Machinery, electricity (19%), Metals (except ferrous & precious) (9%), Others (25%)
Gabon	272	15%	85%	29%	4%	Wood (93%), Precious metals (3%), Metals (except ferrous & precious) (3%), Others (1%)
Mozambique	230	39%	61%	9%	4%	Metals (except ferrous & precious) (75%), Precious metals (10%), Wood (8%), Others (7%)
Sudan	220	70%	30%	11%	5%	Precious metals (99%), Others (1%)
Tanzania, United Republic of	220	48%	52%	6%	4%	Precious metals (85%), Wood (4%), Beauty products & perfumes (3%), Others (8%)
Mali	203	56%	44%	4%	3%	Precious metals (100%)

Côte d'Ivoire	186	44%	56%	5%	1%	Precious metals (54%), Beauty products & perfumes (23%), Wood (14%), Others (9%)
Senegal	180	47%	53%	9%	4%	Precious metals (58%), Beauty products & perfumes (14%), Fertilisers (12%), Others (17%)
Ghana	160	58%	42%	2%	1%	Precious metals (98%), Metals (except ferrous & precious) (1%), Others (1%)
Tunisia	160	53%	47%	1%	1%	Machinery, electricity (39%), Motor vehicles & parts (11%), Optical products, watches & medical instruments (11%), Others (40%)
Cameroon	151	15%	85%	12%	3%	Wood (92%), Metals (except ferrous & precious) (3%), Beauty products & perfumes (2%), Others (3%)
Zimbabwe	125	64%	36%	6%	3%	Precious metals (94%), Jewellery & precious metal articles (1%), Wood (1%), Others (4%)
Sierra Leone	115	4%	96%	36%	14%	Wood (94%), Pearls & (semi-)precious stones (3%), Machinery, electricity (1%), Others (2%)
Madagascar	97	45%	55%	7%	3%	Metals (except ferrous & precious) (78%), Apparel (13%), Beauty products & perfumes (5%), Others (5%)
Burkina Faso	94	54%	46%	3%	2%	Precious metals (100%)
Namibia	75	26%	74%	2%	1%	Metals (except ferrous & precious) (88%), Pearls & (semi-)precious stones (6%), Electronic equipment (2%), Others (4%)
Benin	75	45%	55%	10%	6%	Precious metals (74%), Wood (26%)
Nigeria	61	39%	61%	2%	0.1%	Precious metals (38%), Wood (37%), Skins, leather & products thereof (10%), Others (14%)
Togo	58	51%	49%	7%	2%	Precious metals (70%), Wood (24%), Metals (except ferrous & precious) (5%), Others (2%)
Uganda	53	50%	50%	2%	1%	Precious metals (95%), Wood (2%), Pharmaceutical components (1%), Others (2%)
Equatorial Guinea	45	120%	-20%	9%	1%	Chemicals (99%), Others (1%)
Mauritania	38	56%	44%	6%	1%	Precious metals (100%)
Botswana	37	35%	65%	1%	1%	Jewellery & precious metal articles (48%), Pearls & (semi-)precious stones (40%), Mineral products (4%), Others (9%)
Gambia	36	25%	75%	25%	16%	Wood (52%), Precious metals (47%), Metals (except ferrous & precious) (1%)
Central African Republic	36	9%	91%	32%	30%	Wood (90%), Precious metals (10%)
Angola	28	21%	79%	1%	0.1%	Pearls & (semi-)precious stones (36%), Wood (25%), Metals (except ferrous & precious) (18%), Others (22%)
Liberia	24	61%	39%	3%	2%	Precious metals (64%), Natural latex & rubber (35%), Metals (except ferrous & precious) (1%)

Kenya	23	48%	52%	1%	0.4%	Pharmaceutical components (16%), Beauty products & perfumes (12%), Chemicals (12%), Others (61%)
Ethiopia	10	42%	58%	1%	0.3%	Apparel (38%), Skins, leather & products thereof (21%), Wood (13%), Others (28%)
Algeria	10	58%	42%	0.4%	0.03%	Chemicals (65%), Ferrous metals (11%), Mineral products (11%), Others (13%)
Lesotho	6	71%	29%	1%	1%	Pearls & (semi-)precious stones (44%), Apparel (43%), Cotton (fabric) (6%), Others (7%)
Somalia	5	61%	39%	4%	1%	Precious metals (97%), Skins, leather & products thereof (2%), Beauty products & perfumes (1%)
Burundi	5	56%	44%	5%	3%	Precious metals (99%), Skins, leather & products thereof (1%)
Rwanda	5	47%	53%	1%	0.4%	Precious metals (94%), Skins, leather & products thereof (2%), Beauty products & perfumes (1%), Others (3%)
Libya	3	58%	42%	0.2%	0.01%	Precious metals (85%), Metals (except ferrous & precious) (6%), Chemicals (6%), Others (3%)
Djibouti	3	45%	55%	4%	2%	Precious metals (50%), Metals (except ferrous & precious) (45%), Plastics & rubber (5%)
Chad	2	63%	37%	1%	0.1%	Precious metals (100%)
Guinea	2	53%	47%	0.03%	0.02%	Precious metals (99%), Chemicals (1%)
Comoros	0.05	0%	100%	0.2%	0.1%	Beauty products & perfumes (100%)
Eritrea	0.04	63%	37%	0.02%	0.01%	Precious metals (100%)
Sao Tome and Principe	0.03	39%	61%	3%	0.2%	Aircrafts, spacecrafts & parts (100%)
Seychelles	0.03	52%	48%	0.02%	0.004%	Optical products, watches & medical instruments (54%), Boats & parts (46%)
Malawi	0.01	65%	35%	0.01%	0.001%	Natural latex & rubber (100%)
Cabo Verde	does not have unrealized manufacturing export potential to China					
Guinea-Bissau	does not have unrealized manufacturing export potential to China					
South Sudan	does not have unrealized manufacturing export potential to China					

Note: Countries are organized by unrealized manufacturing export potential. Angola and Sao Tome and Principe are scheduled for graduation from the least developed country (LDC) category in 2024. A decrease in their export potential to China can be expected at that time as they now enjoy LDC preferences in that market (see Box 2).

Source: ITC calculations based on ITC Export Potential Map.

Table A.3 Detailed unrealized manufacturing export potential to China in the Americas

Exporter	Unrealized manufacturing export potential ($ millions)	Friction-based	Growth-based	Increase in current manufacturing exports	Increase in current exports	Top sectors
Chile	5,516	13%	87%	16%	7%	Metals (except ferrous & precious) (72%), Paper products (14%), Chemicals (7%), Others (6%)
Peru	1,398	51%	49%	9%	3%	Precious metals (69%), Metals (except ferrous & precious) (20%), Plastics & rubber (2%), Others (9%)
Argentina	566	56%	44%	4%	1%	Precious metals (24%), Chemicals (22%), Motor vehicles & parts (20%), Others (34%)
Ecuador	332	49%	51%	15%	1%	Wood (62%), Precious metals (23%), Plastics & rubber (3%), Others (12%)
Costa Rica	248	32%	68%	3%	2%	Optical products, watches & medical instruments (55%), Wood (10%), Plastics & rubber (9%), Others (26%)
Dominican Republic	217	46%	54%	2%	2%	Precious metals (55%), Optical products, watches & medical instruments (17%), Machinery, electricity (9%), Others (19%)
Uruguay	194	47%	53%	6%	2%	Wood (67%), Skins, leather & products thereof (12%), Pharmaceutical components (6%), Others (15%)
Guyana	107	12%	88%	11%	4%	Precious metals (87%), Wood (11%), Pharmaceutical components (1%), Others (1%)
Bolivia, Plurinational State of	83	66%	34%	3%	1%	Precious metals (94%), Jewellery & precious metal articles (2%), Skins, leather & products thereof (1%), Others (2%)
Trinidad and Tobago	75	61%	39%	2%	1%	Ferrous metals (77%), Chemicals (20%), Plastics & rubber (1%), Others (2%)
Cuba	70	27%	73%	11%	3%	Metals (except ferrous & precious) (86%), Wood products (4%), Chemicals (3%), Others (7%)
Venezuela, Bolivarian Republic of	69	80%	20%	3%	0.5%	Precious metals (62%), Ferrous metals (9%), Skins, leather & products thereof (9%), Others (20%)
El Salvador	47	60%	40%	1%	1%	Pharmaceutical components (28%), Ferrous metals (15%), Plastics & rubber (13%), Others (44%)
Panama	46	43%	57%	1%	1%	Pharmaceutical components (35%), Wood (14%), Precious metals (8%), Others (43%)
Suriname	46	71%	29%	2%	2%	Precious metals (100%)

Barbados	9	58%	42%	5%	3%	Pharmaceutical components (27%), Precious metals (22%), Chemicals (18%), Others (33%)
Nicaragua	8	56%	44%	0.2%	0.1%	Precious metals (76%), Apparel (10%), Machinery, electricity (9%), Others (5%)
Jamaica	4	18%	82%	1%	0.3%	Chemicals (92%), Beauty products & perfumes (5%), Pharmaceutical components (2%), Others (1%)
Dominica	0.5	52%	48%	1%	1%	Optical products, watches & medical instruments (64%), Pharmaceutical components (15%), Machinery, electricity (12%), Others (9%)
Antigua and Barbuda	0.3	58%	42%	0.2%	0.2%	Aircrafts, spacecrafts & parts (35%), Precious metals (27%), Machinery, electricity (26%), Others (13%)
Grenada	does not have unrealized manufacturing export potential to China					

Note: Countries are organized by unrealized manufacturing export potential.
Source: ITC calculations based on ITC Export Potential Map.

Table A.4 Detailed unrealized manufacturing export potential to China in Asia

Exporter	Unrealized manufacturing export potential ($ millions)	Friction-based	Growth-based	Increase in current manufacturing exports	Increase in current exports	Top sectors
CENTRAL ASIA						
Kazakhstan	2,838	19%	81%	19%	5%	Metals (except ferrous & precious) (41%), Ferrous metals (27%), Chemicals (24%), Others (8%)
Uzbekistan	527	29%	71%	7%	5%	Metals (except ferrous & precious) (44%), Plastics & rubber (27%), Cotton (fabric) (12%), Others (17%)
Kyrgyzstan	37	43%	57%	2%	2%	Precious metals (76%), Glass articles (10%), Ferrous metals (3%), Others (11%)
Azerbaijan	28	60%	40%	2%	0.2%	Precious metals (26%), Chemicals (23%), Metals (except ferrous & precious) (20%), Others (31%)
Georgia	18	46%	54%	1%	1%	Wood (27%), Ferrous metals (21%), Pharmaceutical components (18%), Others (35%)
Armenia	17	50%	50%	1%	1%	Precious metals (56%), Jewellery & precious metal articles (14%), Metals (except ferrous & precious) (8%), Others (21%)
Tajikistan	15	49%	51%	2%	1%	Metals (except ferrous & precious) (78%), Cotton (fabric) (9%), Mineral products (4%), Others (9%)
Turkmenistan	14	98%	2%	2%	0.3%	Cotton (fabric) (60%), Plastics & rubber (27%), Skins, leather & products thereof (4%), Others (8%)

EAST AND SOUTHEAST ASIA						
Viet Nam	54,257	15%	85%	19%	17%	Electronic equipment (55%), Machinery, electricity (9%), Plastics & rubber (8%), Others (28%)
Malaysia	34,724	20%	80%	15%	11%	Electronic equipment (42%), Machinery, electricity (18%), Chemicals (10%), Others (30%)
Thailand	21,480	29%	71%	10%	8%	Electronic equipment (26%), Plastics & rubber (18%), Machinery, electricity (17%), Others (40%)
Indonesia	14,887	29%	71%	12%	7%	Ferrous metals (27%), Motor vehicles & parts (10%), Machinery, electricity (10%), Others (53%)
Philippines	12,589	19%	81%	17%	15%	Electronic equipment (80%), Machinery, electricity (9%), Metals (except ferrous & precious) (3%), Others (8%)
Cambodia	1,010	30%	70%	5%	5%	Apparel (20%), Footwear (17%), Miscellaneous manufactured products (14%), Others (49%)
Myanmar	1,050	46%	54%	10%	6%	Apparel (27%), Miscellaneous manufactured products (24%), Wood (11%), Others (38%)
Lao People's Democratic Republic	465	39%	61%	10%	7%	Metals (except ferrous & precious) (28%), Electronic equipment (16%), Natural latex & rubber (16%), Others (40%)
Mongolia	148	31%	69%	13%	2%	Metals (except ferrous & precious) (88%), Apparel (7%), Wool & animal hair (fabric) (2%), Others (3%)
Brunei Darussalam	60	11%	89%	5%	1%	Chemicals (94%), Aircrafts, spacecrafts & parts (2%), Metals (except ferrous & precious) (1%), Others (3%)
Timor-Leste	1	53%	47%	7%	0.3%	Metals (except ferrous & precious) (81%), Ferrous metals (19%)
MIDDLE EAST						
United Arab Emirates	8,364	51%	49%	6%	4%	Precious metals (45%), Machinery, electricity (10%), Jewellery & precious metal articles (7%), Others (37%)
Saudi Arabia	8,028	30%	70%	15%	5%	Plastics & rubber (62%), Chemicals (24%), Precious metals (4%), Others (10%)
Iran, Islamic Republic of	3,248	36%	64%	17%	8%	Plastics & rubber (28%), Metals (except ferrous & precious) (22%), Chemicals (19%), Others (31%)
Türkiye	2,693	47%	53%	2%	1%	Motor vehicles & parts (29%), Machinery, electricity (21%), Plastics & rubber (7%), Others (43%)
Qatar	819	33%	67%	8%	1%	Plastics & rubber (36%), Chemicals (28%), Metals (except ferrous & precious) (18%), Others (18%)
Kuwait	801	50%	50%	15%	1%	Chemicals (57%), Aircrafts, spacecrafts & parts (24%), Plastics & rubber (12%), Others (7%)
Oman	604	38%	62%	5%	2%	Ferrous metals (33%), Plastics & rubber (20%), Chemicals (17%), Others (30%)
Jordan	288	36%	64%	4%	3%	Fertilisers (49%), Pharmaceutical components (12%), Chemicals (12%), Others (27%)
Bahrain	164	52%	48%	2%	1%	Metals (except ferrous & precious) (40%), Ferrous metals (22%), Chemicals (8%), Others (30%)

Lebanon	8	85%	15%	0.3%	0.2%	Precious metals (62%), Jewellery & precious metal articles (11%), Machinery, electricity (5%), Others (22%)
Iraq	7	62%	38%	0.2%	0.01%	Precious metals (93%), Metals (except ferrous & precious) (4%), Ferrous metals (2%), Others (0%)
Yemen	2	66%	34%	1%	0.1%	Precious metals (70%), Paper products (19%), Metals (except ferrous & precious) (9%), Others (2%)
Syrian Arab Republic	0.2	59%	41%	0.1%	0.02%	Metals (except ferrous & precious) (100%)
Palestine, State of	0.02	59%	41%	0.02%	0.01%	Ferrous metals (100%)
SOUTH ASIA						
Bangladesh	1,447	28%	72%	3%	3%	Apparel (81%), Footwear (6%), Miscellaneous manufactured products (3%), Others (10%)
Pakistan	971	48%	52%	5%	4%	Apparel (25%), Cotton (fabric) (12%), Skins, leather & products thereof (11%), Others (52%)
Sri Lanka	148	65%	35%	2%	1%	Apparel (22%), Machinery, electricity (20%), Plastics & rubber (16%), Others (42%)
Afghanistan	17	76%	24%	3%	1%	Precious metals (93%), Skins, leather & products thereof (3%), Jewellery & precious metal articles (2%), Others (3%)
Nepal	6	50%	50%	1%	1%	Chemicals (24%), Textile fabric n.e.s. (11%), Apparel (10%), Others (56%)
Maldives	0.01	24%	76%	0.1%	0.005%	Metals (except ferrous & precious) (100%)

Note: Countries are organized by unrealized manufacturing export potential. Bangladesh, Lao People's Democratic Republic and Nepal are scheduled for graduation from the LDC category in 2026. A decrease in their export potential to China can be expected at that time as they currently enjoy LDC preferences in that market (see Box 2).

Source: ITC calculations based on ITC Export Potential Map.

Table A.5 Detailed unrealized manufacturing export potential to China in Europe

Exporter	Unrealized manufacturing export potential ($ millions)	Friction-based	Growth-based	Increase in current manufacturing exports	Increase in current exports	Top sectors
Russian Federation	11,125	50%	50%	8%	3%	Ferrous metals (23%), Metals (except ferrous & precious) (21%), Chemicals (9%), Others (46%)
Serbia	377	48%	52%	2%	2%	Machinery, electricity (29%), Plastics & rubber (14%), Motor vehicles & parts (13%), Others (45%)

Belarus	345	63%	37%	2%	1%	Machinery, electricity (19%), Wood (13%), Motor vehicles & parts (11%), Others (57%)
Macedonia, North	172	47%	53%	3%	2%	Chemicals (49%), Machinery, electricity (31%), Motor vehicles & parts (4%), Others (17%)
Bosnia and Herzegovina	75	50%	50%	1%	1%	Machinery, electricity (24%), Wood (20%), Chemicals (7%), Others (49%)
Albania	24	30%	70%	1%	1%	Ferrous metals (53%), Footwear (25%), Apparel (5%), Others (17%)
Moldova, Republic of	18	47%	53%	1%	1%	Machinery, electricity (25%), Miscellaneous manufactured products (17%), Apparel (8%), Others (50%)
Montenegro	5	49%	51%	2%	1%	Metals (except ferrous & precious) (37%), Wood (22%), Pharmaceutical components (12%), Others (28%)

Note: Countries are organized by unrealized manufacturing export potential.

Source: ITC calculations based on ITC Export Potential Map.

Table A.6 Detailed unrealized manufacturing export potential to China in the Pacific

Exporter	Unrealized manufacturing export potential ($ millions)	Friction-based	Growth-based	Increase in current manufacturing exports	Increase in current exports	Top sectors
Papua New Guinea	715	35%	65%	20%	6%	Precious metals (54%), Wood (24%), Metals (except ferrous & precious) (21%)
Solomon Islands	221	3%	97%	51%	36%	Wood (100%)
Fiji	18	56%	44%	8%	2%	Precious metals (57%), Wood (23%), Apparel (7%), Others (13%)
Vanuatu	1	11%	89%	2%	1%	Wood (91%), Boats & parts (9%)
Samoa	0.01	7%	93%	0.03%	0.01%	Machinery, electricity (100%)
Kiribati	does not have unrealized manufacturing export potential to China					
Micronesia, Federated States of	does not have unrealized manufacturing export potential to China					
Tonga	does not have unrealized manufacturing export potential to China					

Note: Countries are organized by unrealized manufacturing export potential. The Solomon Islands is scheduled for graduation from the LDC category in 2024.

Source: ITC calculations based on ITC Export Potential Map.

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