Global Trade Resilience Matrix: Assessing Countries' Vulnerabilities and Buffers to Global Trade Shocks

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In a new kind of playbook, the US has recently started imposing tariffs on its trading partners to address its external imbalances, in turn creating a trade shock for the global economy. As a result, the US average effective tariff rate stood at 18.6% in the first week of August, the highest level since the 1930s, according to the Yale Budget Lab. Elevated tariffs matter because they can influence trade and investment flows and pose risks to global growth. The IMF projects global growth to slow to 3.0% in 2025 from 3.3% in 2024, well below the pre-pandemic average of 3.7%.

Some countries have reached trade deals with the US to limit the tariff impact. For example, under the US-EU deal, the US lowered the EU's tariff rate to 15% from the 20% originally announced in April, while the EU will purchase USD 750 billion in US energy and invest USD 600 billion in the US by 2028. Japan and Korea have also reached similar deals, resulting in lower reciprocal tariffs. India, by contrast, is yet to secure a deal. With no final trade agreement in place, the US has imposed a 25% reciprocal tariff on India. In addition, a 25% penalty tied to India's trade links with Russia is expected to come into effect by the end of August. Meanwhile, the US and China have extended their trade truce for another 90 days as negotiations continue.

Overall, there still remains considerable uncertainty around US tariff policy. Questions remain about the legality of these measures, the possibility of tariffs being extended to currently exempt sectors, and how complex issues such as transshipment-related tariffs will be handled.

Against this backdrop, CareEdge Global has developed a Global Trade Resilience Matrix, a framework designed to evaluate countries' vulnerabilities to trade shocks and their macroeconomic buffers that can provide a cushion to these risks. The matrix is built on two key dimensions:

- **Vulnerability to Trade Shocks** – This dimension reflects how vulnerable an economy is to trade-related disruptions, particularly in the context of the evolving US tariff environment. It is assessed through indicators such as trade openness, trade market concentration, export dependence on the US, and US tariff rates.
- **Macroeconomic Buffers** – This dimension captures a country's ability to absorb or mitigate shocks through its economic, fiscal and external cushions. Key indicators include economy size, general government debt-to-GDP ratio, share of external debt in total government debt, external debt servicing capacity, net international investment position, and other external sector metrics (A detailed methodology is provided in Annexure).

Our matrix produces four distinct resilience profiles (Refer Exhibit), dividing the 38 countries in our universe into clear quadrants. The US is excluded from the matrix as it is the country imposing tariffs and serves as the source of vulnerability for these countries. These quadrants are discussed in greater detail in the next section.

- The **Most Trade Resilient** quadrant represents the strongest of the four profiles, combining low-to-medium vulnerability with medium-to-strong buffers. It contains nine countries (~24% of our coverage universe), including Peru, Australia, Indonesia, Japan, the Philippines, the UAE, France, Germany and the UK. These countries are relatively better positioned to withstand trade shocks.

- The **Highly Trade Resilient** quadrant captures countries with medium-to-high vulnerability but medium-to-strong buffers. This quadrant includes 11 countries (~29%), such as Mauritius, Brazil, Canada, Mexico, China, India, Korea, Singapore, Thailand, the Netherlands and Sweden. This set benefits from their available macroeconomic buffers to help them offset the impact of their trade-related challenges.
- The **Moderately Trade Resilient** quadrant is characterized by low-to-medium vulnerability and low-to-medium buffers. It includes 11 countries (~29%), namely Egypt, Ethiopia, Morocco, Nigeria, Argentina, Colombia, Bangladesh, Greece, Italy, Spain and Türkiye. Even though the buffers available with this set of countries are limited, the fundamental vulnerability itself is contained and manageable.
- The **Least Trade Resilient** quadrant represents the weakest resilience profile. It is defined by medium-to-high vulnerability to trade shocks coupled with low-to-medium buffers and comprises seven countries (~18%), including Botswana, South Africa, Chile, Ecuador, Malaysia, Vietnam and Portugal. This group is the most vulnerable and has the least cushions to trade disruptions.

Exhibit: CareEdge Global Trade Resilience Matrix*

Vulnerability to Trade Shocks	Macroeconomic Buffers: Low to Medium	Macroeconomic Buffers: Medium to Strong
Low to Medium	**Moderately Trade Resilient** Egypt, Ethiopia, Morocco, Nigeria, Argentina, Colombia, Bangladesh, Greece, Italy, Spain, Türkiye	**Most Trade Resilient** Peru, Australia, Indonesia, Japan, Philippines, UAE, France, Germany, UK
Medium to High	**Least Trade Resilient** Botswana, South Africa, Chile, Ecuador, Malaysia, Vietnam, Portugal	**Highly Trade Resilient** Mauritius, Brazil, Canada, Mexico, China, India, Korea, Singapore, Thailand, Netherlands, Sweden

Africa Americas APAC Europe

Source: CareEdge Global
*Note: US tariff rates reflect the latest developments as of 25 August.

Positioning of Economies in the Face of Trade Shocks

A. Most Trade Resilient Economies

- This quadrant features economies with low-to-medium vulnerability and medium-to-strong macroeconomic buffers. It includes five from APAC (Australia, Indonesia, Japan, Philippines, UAE), three from Europe (France, Germany, UK), and one from the Americas (Peru).
- US tariff rates in this group range from 19% for Indonesia and the Philippines, 15% for Japan, France, and Germany, and 10% for Peru, Australia, the UAE, and the UK.

- These economies typically face lower US tariffs, have lower trade market concentration and benefit from large economy size, strong external buffers, and moderate levels of general government debt and external government debt.
- The buffers for Australia, Japan, Germany, France, and the UK are further strengthened by their currencies being actively traded or serving as reserve currencies.
- Peru and Indonesia both have low trade openness to GDP at 51% and 41% respectively, limiting their vulnerability. Strong external buffers are highlighted by substantial international reserves and a low external funding ratio. Alongside low public debt, these factors enhance the countries' overall trade resilience.
- Germany, the world's third-largest goods exporter, maintains a strong external position with a net international investment position of 78% of GDP in 2024. The automobile exports to the US are also subjected to a tariff of 15% which is lower than the 27.5% announced earlier, lowering their vulnerability.
- Like Germany, Japan benefits from reduced tariffs on its automobile sector, set at 15% following recent negotiations, limiting its exposure to trade shocks. Japan's substantial net international investment position—87.5% of GDP in 2024—along with a low external funding ratio, underpins its strong external buffers.
- The Philippines' high services exports and remittances (around 10% of GDP in 2024) shield it from the ongoing trade uncertainty. Low external debt to GDP and low overall general government debt to GDP provide sufficient buffers to the economy.
- The UAE's diversified export base and limited direct trade exposure to the US help keep its vulnerability low. Substantial sovereign wealth fund, reflected in a high positive net international investment position of 145% of GDP in 2024 (IMF estimate), is a key driver of its strong trade resilience.

B. Highly Trade Resilient Economies

- This quadrant features economies with medium-to-high vulnerability to trade shocks but medium-to-strong macroeconomic buffers. These are countries exposed enough to feel a trade shock yet resilient enough to absorb it. It includes five APAC economies (China, India, Korea, Singapore, Thailand), three from the Americas (Brazil, Canada, Mexico), two from Europe (the Netherlands, Sweden) and one from Africa (Mauritius).
- Tariff pressures vary sharply across the group. China faces 30% tariffs in addition to pre-existing tariffs. India and Brazil are subject to 50% tariffs, followed by Canada at 35% and Mexico at 25%. Thailand sees a moderate 19%, while Korea, Mauritius, the Netherlands and Sweden stand at 15%. Within this quadrant, Singapore has the lowest tariff exposure at just 10%.
- US–China trade tensions date back to President Trump's first term. While China's trade surplus with the US has moderated, its overall surplus touched a record ~USD 1 trillion in 2024, supported by diversification into new markets and its advancement up the value chain. Under President Trump's second term, tensions initially escalated with triple-digit tariffs on China but have since eased, with the two sides recently extending a trade truce through 10 November. Still, tariffs remain higher than at the start of the year, and measures such as US tariffs on transshipped goods are key monitorables. China's overall buffers are very robust, supported by its large economy size and strong external position, reflected in consistent

current account surpluses, low external debt (14.1% of GDP, latest five-year average), sizeable forex reserves (USD 3.3 trillion), and a positive net international investment position of about 18% of GDP in 2024, despite concerns about China's elevated government debt, largely from high off-budget borrowings of local governments.

- Of the other APAC countries in this quadrant, India's vulnerability is tariff-led, while Korea, Singapore, and Thailand are more exposed through trade openness. Trade as a share of GDP stands around 88% for Korea, 129% for Thailand and 326% for Singapore, compared to 45% for India. Dependence on the US market for goods exports also shows a similar pattern: around 6% of GDP for Korea, 9% for Singapore, and 11% for Thailand, compared with just 2% for India.
- Buffers for these APAC countries are generally strong, with all four benefiting from their economy size and low general government external debt (Singapore none, India around 3%, Thailand 10%, Korea 18.5%). Korea, India, Singapore and Thailand also have comfortable external buffers. Overall, external debt remains low in India (19.5% of GDP, latest five-year average), Korea (33% of GDP), and Thailand (37%). Singapore's figure is much higher at 400%+, but reflects its role as a global financial hub. Singapore also benefits from its strong net international investment position, one of the highest among sovereigns.
- Thailand's position is notable. Among regional peers with similar trade vulnerability, it has stronger buffers than Malaysia and Vietnam, which are classified as the Least Trade Resilient economies in the matrix. Notably, Thailand's general government external debt is around 10% compared with Malaysia's 22% and Vietnam's 28%. Import cover is also stronger.
- Of the Americas, Brazil faces the steepest tariffs. However, its commodity exports, like crude oil and petroleum products, are exempt, which should soften the impact. Meanwhile, Mexico and Canada's dependence on the US market is significant, with goods exports to the US making up 27% and 20% of GDP, respectively. However, tariff exemptions for goods covered under the US–Mexico–Canada Agreement should offer some support.
- Large economy size also cushions Brazil, Canada and Mexico. Brazil also has low general government external debt at 12% of total and decent external buffers, including high import cover and low total external debt at 37% of GDP (latest five-year average). Canada's resilience is supported by low external government debt at 19%, and healthy external buffers, supported by a strong net international investment position and an actively traded currency. Mexico's position is helped by relatively low general government debt at 56% of GDP (latest five-year average).
- The Netherlands and Sweden are both highly open economies, with total trade reaching 166% and 107% of GDP, respectively. Both benefit from large economy size and low general government debt, at 49% and 35% of GDP (latest five-year average), which provides a meaningful cushion against shocks. Of the two, the Netherlands has stronger overall external buffers, while Sweden has a lower share of external government debt.
- Mauritius, the only African country in this quadrant, also has high trade openness at 105% of GDP, which adds to its vulnerability. However, its resilience is supported by its role as an international financial centre.

C. Moderately Trade Resilient Economies

- This quadrant contains economies with low-to-medium vulnerability and low-to-medium macroeconomic buffers. It includes four from Africa (Egypt, Ethiopia, Morocco, Nigeria), four from Europe (Greece, Italy, Spain, Türkiye), two from the Americas (Argentina, Colombia) and one from APAC (Bangladesh).
- US tariff rates in this group range from 20% for Bangladesh to 15% for Nigeria, Greece, Italy, Spain and Türkiye, and 10% for Egypt, Ethiopia, Morocco, Argentina, and Colombia.
- In addition to relatively low tariffs, countries in this quadrant mostly have limited direct trade exposure to the US and a diversified export base, making them less vulnerable to ongoing tariff uncertainties. However, their overall trade resilience is constrained by weak buffer profiles, characterized by a high share of external general government debt and poor external sector indicators.
- Bangladesh is the only Asian economy in this quadrant. With trade openness at just 31% of GDP, it is relatively less exposed to global trade shocks. The weak buffers are driven by low foreign exchange reserves along with capital outflows and rising debt repayment obligations.
- Argentina and Türkiye's weak buffers stem from several structural vulnerabilities. Both are highly dollarized economies, making them particularly susceptible to exchange rate volatility and low import cover. Argentina's heavy reliance on external debt further limits its capacity to absorb trade shocks. Meanwhile, Türkiye's near-total dependence on oil imports (covering 99% of its consumption needs) poses a significant risk to its trade resilience. Both these economies have low trade openness to GDP, limiting their exposure to trade shocks.
- Colombia's limited fiscal flexibility and highly concentrated exports (in the hydrocarbon sector) weaken its buffer profile. Low trade openness and modest tariffs reduce the economy's exposure to trade vulnerabilities.
- Among the European economies, Greece, Italy and Spain remain less cushioned due to their high levels of general government debt, ranging from 100-150+% (latest five-year average). Since the Eurozone debt crisis, these countries have also accumulated substantial external debt as a percentage of GDP, with Greece at 270% (latest five-year average), Italy at 129% and Spain at 179%, further limiting their external buffers. On the vulnerability front, Greece benefits from low direct exposure to the US. Italy and Spain benefit from a diversified export base, making them less exposed. Italy has also gained from reduced auto-sector tariffs for the European Union post the negotiation, 15% compared to the 27.5% sector tariff.
- The African countries in this quadrant face relatively low tariffs, reducing their vulnerability. Weak external buffers are reflected in deeply negative international investment positions—Egypt (-76% of GDP in 2024), Morocco (-56%), and Nigeria (-33.5%). Ethiopia, meanwhile, struggles with very low import cover and a high current account deficit.

D. Least Trade Resilient Economies

- This quadrant contains economies with medium-to-high vulnerability and low-to-medium macroeconomic buffers. Representation is spread across regions, with two from Africa (Botswana, South Africa), two from the Americas (Chile, Ecuador), two from APAC (Malaysia, Vietnam), and one from Europe (Portugal).
- US tariff rates within this group vary, ranging from 10% for Chile to 30% for South Africa. Botswana, Ecuador, and Portugal each face tariffs of 15%, Malaysia sees 19%, and Vietnam sees 20%.

- The economies in this quadrant typically have high trade openness and significant exposure to the US market, making them more vulnerable than the others.
- They also have relatively weak external buffers and carry high levels of external government debt, limiting their shock-absorbing capacity.
- The US is South Africa's second-largest trading partner, accounting for exports equivalent to 4% of the country's GDP in 2024. The country's heavy reliance on commodity exports exposes it to volatility. The general government debt of South Africa though moderate at 71% of GDP (latest five-year average), there are high contingent liabilities risks faced by the government limiting their buffers.
- Botswana and Chile have significant exposure to the US market through diamond and copper exports, respectively; both sectors maintain strong forward and backward linkages within their economies increasing their vulnerability. While US has exempted some variants of copper exports like cathodes from high tariffs, the sector remains vulnerable to tariff shocks. Chile also has a high share of external debt in general government finances, indicating limited buffers. Meanwhile, Botswana's small economy size (USD 19.4 billion in 2024) constrains its capacity to absorb shocks.
- Ecuador's weak trade market concentration adds to its vulnerability, while a high share of general government external debt at 73% and a weak external profile limit its buffers.
- Vietnam's goods exports to the US accounted for around 30% of its GDP — the highest share among the US's major trading partners. This high export dependency, combined with strong trade openness and uncertainty over tariffs on transshipments, increases Vietnam's vulnerability to external shocks. As a relatively medium-sized economy with a significant share of government external debt (28% in 2024), its macroeconomic buffers remain moderately constrained.
- Malaysia also ranks high in terms of trade exposure to the US, with exports accounting for approximately 10-11% of GDP. Its export profile remains heavily concentrated on electrical and electronic products, particularly semiconductors. While semiconductors have been temporarily exempted from tariffs, the sector remains vulnerable amid ongoing tariff uncertainty. Additionally, though the country has moderate external profile, its relatively moderate general government debt elevated by contingent liabilities risks and its medium-sized economy limit its capacity to absorb trade shocks.
- Portugal has limited direct trade exposure to the US and also benefits from a high share of tourism-led services exports (10% of GDP). However, its high trade openness at 93% of GDP and limited diversification of its export markets increase the country's vulnerability to trade shocks. On the macroeconomic buffer front, Euro's reserve currency status acts as a cushion. The country has made progress in improving its external imbalance, but deeply negative net international investment position (approximately -58% of GDP) and high external debt (~170% of GDP, latest five-year average) remain key concerns.

E. US: Trade Policy Expected to Weigh on Growth and Add to Inflation

- The IMF projects US economic growth to slow to 1.9% in 2025 from 2.8% in 2024. Elevated tariffs, combined with a weaker dollar (US dollar index down around 9% year-to-date), may increase domestic price pressures at a time when inflation remains persistent, with core PCE inflation at 2.8% in June, above the Fed's 2% target. However, considerable uncertainty remains, and the actual impact will depend on the final tariff levels implemented.

In Conclusion

In an increasingly volatile and uncertain global trade environment, our analysis provides a structured, holistic lens to assess how countries are positioned in the face of the evolving US tariff measures. Combining vulnerability metrics with macroeconomic buffer indicators allows us to move beyond headline tariff rates to evaluate the true resilience of economies. Our analysis shows that high tariff exposure does not necessarily place economies in the Least Trade Resilient quadrant. For instance, India and Brazil face steep US tariffs of 50% yet fall in the Highly Trade Resilient quadrant, supported by their relatively large economy size, low external government debt, and, in India's case, particularly strong external buffers. Conversely, some economies with low US tariffs, such as Chile at 10%, fall in the Least Trade Resilient quadrant due to high trade market concentration and substantial external debt.

Secondly, it is important to note that a weaker position in the Global Trade Resilience Matrix does not necessarily imply a potential impact on existing sovereign ratings. For instance, Portugal may exhibit low resilience to trade shocks but maintains strong institutional and governance frameworks, which support a stable outlook. Conversely, France, despite being categorized as Most Trade Resilient, faces a poor fiscal record and a rising interest burden, contributing to its negative outlook. Thus, the matrix should be viewed as one input among several in assessing overall sovereign ratings.

Among the regions, APAC demonstrates high trade resilience, supported by strong external buffers such as high import cover and low external debt. The Americas have traditionally benefited from near-shoring to the US; however, in the current context, the region remains relatively more exposed. Africa, reliant on commodity exports and external debt, is less trade resilient. Europe presents a mixed picture: large economies like Germany, France, and the Netherlands are more trade resilient, benefiting from high-value-added exports, while the southern economies (Portugal, Italy, Greece, and Spain) are less trade resilient due to legacy risks stemming from the Euro-debt crisis.

Moving forward, as global trade policies evolve, we will continue to monitor the latest tariff measures and key macroeconomic indicators to assess trade resilience.

Annexure: CareEdge Global Trade Resilience Matrix Methodology

The Global Trade Resilience Matrix is a structured framework that benchmarks countries' exposure to trade shocks, with a particular focus on the evolving US tariff environment and assesses the macroeconomic buffers that can help mitigate such risks.

A. Vulnerability to Trade Shocks

The vulnerability dimension measures how exposed an economy is to trade-related shocks. Each subcomponent is equally weighted in the composite score for this dimension:

- Trade Openness (% of GDP): Represents the total trade-to-GDP ratio. Higher openness amplifies exposure to external demand and supply swings.
- Market Concentration Index: Assesses how diversified a country's trade markets are. Greater reliance on a few markets increases vulnerability.
- Exports to US (% of GDP): Measures the share of goods exports to the US relative to the size of the economy. Higher values imply greater direct exposure.
- US Tariff Rate (%): Captures the tariff rate imposed by the US, based on the latest developments as of 25 August. Higher rates increase vulnerability.

B. Macroeconomic Buffers

The buffer dimension assesses a country's capacity to absorb or mitigate shocks through a combination of economic, fiscal, and external buffers. The subcomponents and weights are:

- Economy Size (USD Billion) [Weight 25%]: Larger economies generally have more capacity to withstand shocks.
- Gross General Government Debt (% of GDP) [Weight 20%]: Indicates fiscal space. Lower debt levels mean more room for countercyclical measures.
- Gross General Government Debt Held by External Creditors (% of Gross General Government Debt) [Weight 20%]: Lower reliance on external creditors reduces rollover and currency risks.
- External Buffer [Weight 35%]: A composite score reflecting external sector strength, including import cover, gross external debt, outstanding foreign portfolio liabilities, net international investment position, and the external funding ratio (which is calculated as the sum of current account payments and short-term external debt by residual maturity divided by the sum of current account receipts and FDI net inflows).

C. Global Trade Resilience Matrix

Based on these two dimensions, countries are mapped into a 2x2 matrix and grouped as follows:

- Low-to-Medium Vulnerability, Medium-to-Strong Buffers: Most Trade Resilient
- Medium-to-High Vulnerability, Medium-to-Strong Buffers: Highly Trade Resilient
- Low-to-Medium Vulnerability, Low-to-Medium Buffers: Moderately Trade Resilient
- Medium-to-High Vulnerability, Low-to-Medium Buffers: Least Trade Resilient

This framework provides a clear, comparable view of how well countries can withstand trade shocks based on their external exposure and their mix of buffers.

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