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Introduction

Tariffs are broadly defined as taxes on imported goods, implemented to raise the cost of foreign products and thus give price-competitive advantage to domestic producers (Bank of Canada, 2025). Historically, the United States relied on tariffs as a revenue source and a tool of industrial policy. Early US trade policy in the 19th and early 20th centuries featured high import duties to protect nascent industries. This approach culminated in the Smoot-Hawley Tariff Act of 1930, dramatically raising US import fees on thousands of products. The protectionist wave triggered swift retaliation worldwideover 20 countries imposed their own high tariffs within two years-and international trade plummeted by roughly 65% between 1929 and 1934 (Smoot-Hawley Tariff Act, 2025). Such outcomes underscored the dangers of beggar-thy-neighbor tariff policies amid the Great Depression. In the post-World War II era, US policy shifted toward trade liberalization: successive rounds of the General Agreement on Tariffs and Trade (GATT) and establishing the World Trade Organization (WTO) in 1995 helped reduce tariffs to historically low levels. By the early 2000s, US average tariff rates were in the low single digits. However, in recent years, tariff usage has resurged. Notably, 2018–2019 marked a sharp turn as the US imposed sweeping tariffs on trading partners (often dubbed the "trade war"), raising America's average applied import tariff to its highest level since 1943. These actions have reintroduced tariffs as a prominent factor in the US economy, prompting concern over their domestic and global repercussions.

Research Objectives and Significance:

This whitepaper examines the dangers of tariffs for inflation and economic resilience, primarily focusing on the contemporary US economy and spillover effects globally. Key objectives are to: (1) outline theoretical expectations of how tariffs influence price levels and economic stability; (2) review empirical evidence, including case studies of recent US tariff actions (on steel, agriculture, consumer goods, etc.) and their inflationary impact; (3) analyze the domestic consequences of tariffs on consumer prices, purchasing power, employment, and supply chains; (4) assess the international ramifications of US tariffs, such as retaliatory measures and effects on global supply chain resilience; and (5) discuss policy alternatives to achieve economic resilience without resorting to protectionist tariffs. Given that the US has experienced both historic tariff extremes and modern trade wars, understanding these dynamics is highly significant. Tariff-induced price increases can complicate efforts to control inflation, as seen recently when tariffs coincided with already elevated inflation post-pandemic. Likewise, heavy reliance on tariffs as a policy tool may undermine economic resilience by exacerbating supply shocks or provoking instability in global trade relations. By synthesizing theory



and data, this study aims to inform policymakers and stakeholders of the potential costs associated with tariffs, thereby guiding more sustainable trade and inflation management strategies.

Theoretical Framework

Trade Theory and the Role of Tariffs:

Classical economic theories posit that free trade allows countries to specialize according to comparative advantage, yielding lower production costs and prices. Tariffs, in contrast, introduce distortions: they raise the price of imports and shield less-efficient domestic industries, leading to deadweight welfare losses. In a standard supply-and-demand framework, an import tariff drives a wedge between foreign producers' prices and domestic consumers' prices, typically resulting in higher consumer prices, reduced import volumes, and an efficiency loss to the economy. Early economists described these outcomes and later formalized in trade models such as the Ricardian and Heckscher-Ohlin frameworks, which generally show that tariffs reduce overall national welfare (except in special cases such as optimal tariffs or infant industry protection, which have their own caveats). Modern trade theories (e.g. new trade theory and global value chain models) further highlight that in a world of integrated supply chains, tariffs on intermediate goods can propagate through production networks, amplifying costs. Tariffs are often politically justified to save jobs or counter "unfair" trade. However, economic theory warns that any such benefits come at the expense of higher costs for consumers and other industries. Indeed, the entire incidence of tariffs tends to fall on domestic consumers and importers, not foreign exporters, under most conditions (United States International Trade Commission, 2023). This implies tariffs function like a consumption tax on the importing country's own population.

Tariffs as a Driver of Inflation:

One primary macroeconomic concern with tariffs is cost-push inflation. Tariffs can directly increase consumer price indices by making imported goods more expensive. Indirectly, tariffs on inputs raise production costs for domestic firms, passing these costs onto consumers in the form of higher prices for final goods. The Bank of Canada succinctly notes that tariffs are taxes on imports that raise the prices businesses and consumers pay, affecting inflation among other variables (Bank of Canada, 2025). The degree of inflationary impact depends on several factors. First, the scope and size of tariffs matter: a small tariff on a narrow set of goods may have trivial effects, whereas broad tariffs (say, a 10-25% duty on a wide range of consumer and intermediate goods) can meaningfully push up price levels. Second, substitutability is critical (Bank of Canada, 2025). If domestic consumers and firms can easily switch to untariffed alternative suppliers (either domestic or from third countries), then the inflationary impact is muted. However, if no close substitutes are available and capacity at home is constrained, tariffs will more forcefully raise prices. Third, the distinction between one-time price level changes and ongoing inflation must be made. A permanent tariff acts like a one-off negative supply shock—it causes a one-time jump in the price level (raising the overall cost of living permanently). However, it does not need to cause a sustained rise in the inflation rate year after year (Bank of Canada, 2025). Whether tariffs lead to persistent inflation depends on dynamic responses: if inflation expectations remain well-anchored (e.g. consumers and workers view the tariff effect as temporary),



second-round effects on wages and other prices may be limited, containing the impact to a level shift. However, if expectations become unanchored, tariff-induced price spikes could feed into wage demands and broader price-setting, generating a more persistent inflationary spiral.

Recent research by the US Federal Reserve underscores these dynamics. Model-based simulations find that a tariff shock similar to the late-2010s trade war would raise US inflation significantly—on the order of 0.5 percentage points—and keep it persistently elevated if intermediate inputs are targeted (Cuba-Borda et al., 2025). Tariffs on final consumer goods tend to cause a short-lived inflation burst (a one-time step-up in prices without continuous inflation) because consumers face higher prices until the new level is reached (Cuba-Borda et al., 2025). In contrast, tariffs on intermediate goods (components used by domestic producers) reduce production efficiency and create ongoing cost pressures, leading to more persistent increases in inflation over multiple years (Brown, 2021). In effect, tariffs on inputs act like a continuous negative productivity shock, raising firms' marginal costs. The theoretical takeaway is that broad tariffs—especially on inputs critical to many industries—threaten fueling cost-push inflation that can last beyond the initial implementation, complicating central banks' price stability goals. Empirically, this was observed when the US imposed tariffs on Chinese intermediate goods: domestic manufacturers saw higher input costs and often had to accept compressed profit margins either or pass costs on to consumers.

Tariffs and Economic Resilience:

Economic resilience refers to an economy's ability to withstand and recover from shocks, maintaining stable growth and employment. There is an ongoing debate about whether tariffs enhance or undermine resilience. On one hand, advocates of protectionism argue that by nurturing domestic industries (especially in strategic sectors like steel, semiconductors, or medical supplies), tariffs can reduce dependence on foreign supply and thus make the economy more self-reliant in the face of global disruptions. For example, if a country is less reliant on imports for essential goods due to tariffs spurring local production, it might better endure international supply chain breakdowns or geopolitical shocks. On the other hand, most economists caution that tariffs often reduce resilience by concentrating risk domestically and raising costs. The ability to import is itself a form of resilience—it provides alternative sources of supply when domestic production is hit by a shock (such as a natural disaster or epidemic). By diversifying supply chains globally, firms can more easily adapt to local shocks (National Retail Federation, 2023) (Flores, 2024). Tariffs tend to narrow the supplier base (favoring domestic sources), which may create vulnerability if domestic output is disrupted. Furthermore, higher costs due to tariffs can sap an economy's strength, leaving less buffer to respond to crises.

Notably, the National Retail Federation argues that "tariffs, managed trade and protectionism will not help improve supply chain resiliency" (National Retail Federation, 2023). In their view, resilience is bolstered by strategies like multi-country sourcing, inventory diversification, and trade facilitation rather than by raising import barriers. Empirical evidence from the COVID-19 pandemic supports the idea that diversified trade links can cushion economies: during 2020–21, firms able to switch suppliers (including foreign ones) rebounded faster from supply shocks (National Retail Federation, 2023). Tariffs that had been put in place prior to the pandemic (such as US tariffs on Chinese goods) arguably made certain supplies (e.g., personal protective equipment) more expensive or more



challenging to obtain quickly, potentially hampering the pandemic response. In summary, while selective protection of critical industries might offer some insulation, tariffs broadly tend to undermine economic resilience by reducing flexibility and provoking retaliation, which can create new vulnerabilities. A resilient economy is often deeply integrated in trade networks—able to tap multiple import sources when needed—combined with innovative domestic policies (like strategic stockpiles or innovation investments) that do not distort market prices. This theoretical framework sets the stage for examining how these effects manifest in practice, especially in the recent US experience.

Empirical Evidence and Case Studies

Historical US Tariff Episodes and Inflation:

The United States' history provides several natural experiments on the effects of tariffs. The Smoot-Hawley tariffs of 1930 stand as a cautionary example, though they occurred during a deflationary depression rather than an inflationary period. As noted, Smoot-Hawley's steep tariffs coincided with a collapse in trade volumes and retaliatory measures worldwide (Smoot-Hawley Tariff Act, 2025). Prices in the US were falling (deflation) due to the Depression, so one cannot attribute inflation to those tariffs; however, the episode vividly demonstrated tariffs' power to exacerbate economic downturns and reduce resilience-global economic output shrank as countries turned inward. Regarding inflation, a more relevant episode was the Nixon import surcharge of 1971. Facing balanceof-payments issues, President Nixon imposed a temporary 10% tariff (surcharge) on imports. While short-lived, it contributed modestly to price increases in late 1971 by raising import costs in an already inflation-prone environment (the US was coming off the gold standard and experiencing demand-pull inflation). The effect was limited by its brevity (lifted in less than six months)-essentially a one-time price level adjustment. A later example is President George W. Bush's 2002 steel tariffs (30% duties on steel). These were in effect for about 20 months. Domestic steel prices spiked, contributing to higher prices for products like appliances and cars that use steel. One study found the 2002 steel tariffs raised US steel prices by roughly 15% and cost more American jobs in steel-using industries than the total number of people employed in the US steel industry at the time, leading the Bush administration to withdraw the tariffs early to avoid a broader economic fallout (and WTO sanctions). This patternshort-term relief for one sector overshadowed by diffuse costs elsewhere—is a recurring theme.

The 2018–2019 US tariff spree under the Trump administration offers the most pertinent data on tariff-driven inflation in the past decade. Starting in early 2018, the US levied tariffs on solar panels and washing machines (safeguard tariffs), then on steel and aluminum imports (25% and 10% under Section 232 national security provisions). These were followed by several rounds of Section 301 tariffs on Chinese goods, ultimately covering about \$370 billion worth of imports from China (at rates varying between 10% and 25%) by late 2019. By 2020, approximately 65% of all US imports from China were subject to new tariffs, equivalent to 12% of total US goods imports (Nie et al., 2021). This was an unprecedented tariff scale for the modern US economy. Studies have dissected the effects of this episode in detail. A robust finding is that import prices for targeted goods rose essentially one-for-one with the tariffs, indicating US importers and consumers bore virtually the entire cost increase (Nie et al., 2021) (Fajgelbaum et al., 2020). Foreign exporters did not significantly lower their prices to offset the tariffs, so the duties were passed through fully into US domestic prices—a classic case of



a tax on consumers. For example, researchers found that when a 20% tariff was applied, US import prices rose by about 20%, implying full pass-through into duty-inclusive prices (Nie et al., 2021). In economic welfare terms, US consumers and firms paid an added \$51 billion (0.27% of GDP) in 2018–2019 due to these tariffs, and even after factoring in tariff revenue and gains to protected producers, the net national loss was around \$7.2 billion (0.04% of GDP) (Nie et al., 2021). This net loss might seem small as a share of GDP, but it masks larger distributional impacts (consumers and import-using firms lost much more, while certain producers and the government gained a portion back).

Crucially, these tariffs did produce measurable inflationary effects. The Federal Reserve Bank of Boston estimates that the initial 2018 tariff rounds (including steel, aluminum, and Chinese goods up to that point) contributed about 0.1 to 0.2 percentage points to core PCE inflation in 2018–2019 (Barbiero & Stein, 2025). This implies that, all else equal, if core inflation would have been 1.8% without tariffs, it was actually around 1.9%–2.0% due to the tariffs. A "back-of-the-envelope" cross-check by other economists yielded a similar estimate of up to 0.3 percentage points of core inflation from the 2018 tariffs (Barbiero & Stein, 2025). While a 0.2% addition to inflation might appear modest, it is significant given that average core inflation was only about 1.6%–2% in that period—the tariffs alone accounted for perhaps one-tenth of total inflation, a non-trivial share for a single policy measure. Moreover, these estimates are partial-equilibrium, first-round effects. They hold "other things equal" and do not account for any second-round or general equilibrium feedbacks. In practice, some mitigating factors likely dampened the realized inflation (for instance, the Federal Reserve adjusted monetary policy and some importers found alternative suppliers), but also, some additional rounds of tariffs in 2019 were not fully captured in early studies.

One notable pattern was that many US retailers initially absorbed tariff costs by compressing their profit margins, which delayed price increases for consumers (Nie et al., 2021). Large retail chains, anticipating the tariffs, stockpiled inventory from China before higher duties took effect (front-loading imports in 2018) (Nie et al., 2021). This behavior, documented by Nie et al. (2021), meant that shelves were stocked with pre-tariff goods for a while, giving retailers time to adjust prices gradually. However, this tactic is inherently temporary. By the end of 2019, evidence suggested that retailers could not absorb costs indefinitely, and pressure was mounting to raise consumer prices if tariffs remained (Fajgelbaum et al., 2020). Indeed, by 2019, consumer price indices for some tariff-affected categories (e.g. household appliances, certain electronics, and apparel) had been rising faster than overall inflation. A study by Amiti, Redding, and Weinstein (2019) found the 2018-19 tariffs increased US manufacturing price indexes by about 1% on average—a sizable bump given that core inflation was below 2% (Amiti et al., 2019). In summary, the trade war tariffs demonstrably pushed US prices upward, even though the headline inflation remained moderate pre-pandemic. This inflationary effect was one of the explicit concerns of the Federal Reserve at the time: internal Fed discussions noted worry that tariffs, acting as a supply shock, could complicate the Fed's ability to hit its 2% inflation target from below by instead creating unwanted upward price pressure (Flores, 2024) (International Monetary Fund [IMF], 2024).

Case Studies:

1. Case Study—Steel and Aluminum: The US steel industry received protection via tariffs in both 2002 and 2018. The 2018 steel (25%) and aluminum (10%) tariffs under Section 232 were intended to



increase domestic production for national security reasons. They did raise prices sharply: benchmark US steel prices jumped, at one point over 30% higher than global prices, benefiting steel producers' revenues. US steel output and employment saw a modest uptick. However, the tariffs cascaded into broader economic impacts because steel and aluminum are intermediate inputs for many downstream industries (auto manufacturing, machinery, construction, canned goods, etc.). A Federal Reserve study (Flaaen & Pierce, 2019) found that US manufacturing industries more exposed to tariff increases experienced relative reductions in employment, as the drag from higher input costs and foreign retaliation outweighed the protective effect for import-competing firms (United States International Trade Commission, 2023). In other words, while steel mills may have added jobs, manufacturers using steel (and facing higher costs) cut jobs or scaled back expansion, leading to a net loss in manufacturing employment attributable to the tariffs (United States International Trade Commission, 2023). The US International Trade Commission (USITC) in 2023 quantified this trade-off: it estimated that the Section 232 metal tariffs led to a \$2.8 billion increase in output for US steel and aluminum producers, but at the same time a larger \$3.4 billion decrease in output in industries that consume those metals, due to higher costs (United States International Trade Commission, 2023). This net negative effect illustrates how protection can hurt more workers than it helps. The steel tariffs essentially transferred income from a wide swath of steel-using firms (and their workers and customers) to the relatively more minor steel sector. Regarding inflation, the metals tariffs contributed to rising producer prices for manufactured goods. For example, machinery and automotive production costs climbed, some of which were passed to consumers in higher vehicle prices. An often-cited outcome was the iconic American motorcycle maker Harley-Davidson: it faced higher steel costs from US tariffs and simultaneous retaliatory tariffs on its exports to the EU, squeezing the company from both sides. Harley-Davidson ultimately announced it would shift some production overseas to avoid EU tariffsan unintended consequence of US tariff policy that undermined the very manufacturing jobs the tariffs aimed to support.

2. Case Study-Agriculture: US agriculture became a primary target of retaliatory tariffs during the trade war. When the US applied tariffs on Chinese goods, China responded in kind, placing tariffs on American soybeans, pork, corn, and other farm products (as well as manufactured goods like automobiles). For instance, China imposed a 25% tariff on US soybeans in 2018, which caused US soybean exports to China (previously America's largest market) to collapse by over 70% that year. The result was a glut of soybeans on the US market, steep price declines for farmers, and significant income losses in the US farm belt. The USDA estimated direct export losses of around \$27 billion for US agricultural sectors in 2018-2019 due to retaliatory tariffs (United States International Trade Commission, 2023). In response, the US government rolled out aid (the Market Facilitation Program) totalling about \$28 billion over two years to compensate farmers for lost sales. This essentially shifted the cost of the trade war onto US taxpayers. While these subsidies insulated farm incomes to a degree, they do not undo the lost market share-Brazil and other soybean exporters captured business in China that US farmers might never fully regain. For consumers, the agricultural tariffs had mixed effects. In some cases, US tariffs on foreign food products (e.g., tariffs on European cheese, or Chinese seafood) raised US consumer prices in those categories. Conversely, by depressing domestic farm prices, retaliatory tariffs on US exports may have lowered US retail prices for items like soybased animal feed or pork (since more supply was available domestically). However, these specific



tariffs' overall consumer food price impact was relatively contained and overshadowed by other factors (weather events, disease outbreaks affecting livestock, etc.). The bigger story was how these tariffs tested economic resilience: farming communities had to rely on government aid and find alternative buyers, demonstrating the disruption tariffs can cause to a sector heavily integrated in global markets. The unpredictability of export markets under trade conflict also likely dampened farmers' incentive to invest or expand—a longer-term resilience cost.

3. Case Study-Consumer Goods (Washing Machines and Electronics): A vivid micro-level example of tariffs and prices comes from washing machines. In early 2018, the US imposed a 20% tariff on imported washing machines (and parts) after a safeguard investigation. This was a globally applied tariff (affecting all countries) intended to protect US appliance manufacturers. Studies exploiting detailed data showed a clear outcome: prices for laundry appliances jumped about 12% almost immediately following the tariff (Hortaçsu, Tintelnot, & Flaaen, 2019). Notably, the price of clothes dryers (which were not subject to tariffs) also rose by a similar magnitude (Hortaçsu, Tintelnot, & Flaaen, 2019), as retailers often sell washers and dryers together and took the opportunity to raise dryer prices when washer costs went up. The combined effect was a notable increase in the CPI for laundry equipment. Consumers essentially footed the bill for trade protection. While the tariffs did induce Whirlpool and other US manufacturers to add roughly 1,800 jobs in domestic washer production, researchers calculated that US consumers paid an extra \$1.5 billion annually (through higher appliance prices)—equivalent to \$820,000 per job created in the washing machine industry (Hortaçsu, Tintelnot, & Flaaen, 2019). This extraordinarily high cost-per-job highlights the inefficient trade-off of using tariffs for job protection. The washer tariff example also underscores how tariffs on finished goods flow through to retail prices in full, and even spill over to related products. Many other consumer goods faced tariffs during 2018-2019 (from electronics like TVs and smartphones to apparel and furniture); in most cases, American shoppers saw higher price tags. For example, analysis by the Federal Reserve Bank of New York found the typical US household had to pay about \$419 more each year for the same basket of goods due to the 2018 tariffs (Amiti et al., 2019) (Brown, 2021). By 2019, with additional tariffs, that annual cost was rising further. Some private estimates put the figure closer to \$800 per household once the entire trade war tariffs were in effect (Flaaen & Pierce, 2019). These costs manifest as a combination of direct price hikes (on imported consumer products) and indirect effects (tariff-induced cost increases embedded in domestically produced goods).

In sum, empirical evidence from the past decade confirms the theoretical expectation: tariffs raise domestic prices and can contribute to inflation, even if the magnitude in aggregate inflation statistics appears modest in the short run. Tariffs also tend to show very diffuse costs (borne by millions of consumers and downstream firms) relative to the concentrated benefits (enjoyed by a few industries). The US trade war case studies reveal that for industries like steel or appliances, any gains were outweighed by losses elsewhere in the economy. Tariff-driven price increases erode purchasing power and can provoke countermeasures that compound the initial shock. These findings provide a foundation to evaluate tariffs' broader domestic consequences and global ramifications.



Domestic Economic Consequences

Impact on Consumer Prices and Purchasing Power:

The most direct impact of tariffs on the domestic economy is via higher consumer prices. As documented above, tariffs on imported goods are almost entirely passed through to US import prices, and in many cases to retail prices, leading to measurable increases in the cost of living. Consumers encounter this as higher prices at the store for items ranging from appliances and electronics to food, clothing, and automobiles, depending on which goods are tariffed. Over the 2018-2019 tariff escalation, the price index for many tariff-affected categories climbed faster than overall inflation. For instance, one analysis found the median price of washing machines rose about \$86 per unit due to tariffs, and dryers by \$92, costs directly felt by households (Hortaçsu, Tintelnot, & Flaaen, 2019). Even if the overall inflation rate moved only a few tenths of a percent, the effect on specific purchases was noticeable—effectively a tax on those products. This has repercussions for purchasing power. When the prices of essential or commonly bought goods rise, consumers either pay more or cut back on quantities. Lower-income households are particularly vulnerable; they spend a larger share of their income on tradable goods (like apparel, home goods, and food) and have less cushion to absorb price hikes. Indeed, the White House Council of Economic Advisers (2023) noted that lower-income families benefit disproportionately from trade in the form of cheaper goods (National Retail Federation, 2023). Conversely, these families are hurt disproportionately by tariffs that remove those cost savings. Tariff-induced inflation is thus regressive, acting like a sales tax that weighs more on the budgets of poorer households. One study by economists at Columbia University estimated that the 2018 tariffs effectively wiped out the gains of the 2017 tax cuts for many middle-income families by raising their expenses on consumer goods. The \$419 per household per year cost from the initial tariffs (Amiti et al., 2019) is equivalent to a significant share of a weekly grocery bill for a family, for example. In effect, tariffs reduce real income: consumers either have to spend more to get the same goods or settle for less (a reduction in consumption). Over time, these lost dollars can aggregate to dampen overall consumer spending, especially if tariffs expand or remain in place for long.

From a macroeconomic perspective, widespread tariff increases can pose a dilemma for policymakers because they create inflationary pressure and drag on real consumption. Consumers facing higher prices may demand higher wages, potentially fueling cost-push inflation further. However, if wages do not keep up, consumers experience a decline in real wages and cut spending, which can slow economic growth. Thus, tariffs mimic the effects of an adverse supply shock—similar to a spike in oil prices—which tends to produce stagflationary tendencies (higher inflation, lower growth). During 2018–2019, the US economy was strong enough (with low unemployment and solid growth) that the drag from tariffs was relatively minor in the aggregate. However, by 2022, when inflation was a serious problem, analysts pointed out that eliminating the remaining tariffs on Chinese goods could be one tool to reduce inflation at the margin. The estimate was that removing those tariffs could reduce headline inflation by around 0.3 percentage points and "save" a few hundred dollars per household per year—not a panacea, but not trivial either. This underscores that tariffs become part of the structural inflation backdrop once in place.



Effects on Employment and Wages:

Tariff policy inevitably has differential effects across industries, affecting jobs. Protected industries (steel, aluminum, solar panel manufacturing, etc.) may experience increases in output and employment because import competition is curtailed. In the short run, this can mean more jobs or higher wages in those sectors as domestic demand shifts towards domestic producers. For example, US steelmakers hired additional workers after the 2018 tariffs and announced new mill-capacity investments. Similarly, domestic appliance factories ramped up production after washing machine tariffs, creating jobs. These gains are the intended outcome of protectionist policy-policymakers often cite them as evidence the tariffs "worked." However, a comprehensive look at the US labor market reveals offsetting losses. Downstream industries that use imported inputs or that rely on export markets suffer. When their costs rise or their export sales fall (due to foreign retaliation), they may cut employment, reduce hours, or freeze hiring. The Federal Reserve researchers Flaaen and Pierce (2019) found that for US manufacturing as a whole, the tariffs of 2018-19 were a net negative: any employment gains in protected industries were more than offset by job losses in other manufacturing industries that faced higher input costs and retaliatory export losses (Flaaen & Pierce, 2019)). Notably, industries like fabricated metals, machinery, and transportation equipment—which use a lot of steel/aluminum saw job growth slow or reverse relative to trend once tariffs were imposed. Likewise, the agriculture sector experienced job and income losses due to retaliatory tariffs (e.g., layoffs in processing plants when export orders dried up). A recent study by Autor et al. (2024) assessed regional employment impacts and found that the 2018-19 tariffs had "neither a sizable nor significant effect" on overall US manufacturing employment in regions that were intended to benefit. However, foreign retaliatory tariffs clearly negatively impacted farm employment in rural counties. In essence, tariffs did not rejuvenate manufacturing job growth in any broad sense; they merely shifted the pattern of jobs slightly-and even that at high cost.

For workers, another angle is real wages. If tariffs lead to higher consumer prices, workers' cost of living rises. Unless they secure higher nominal wages to compensate, their real wages (purchasing power) fall. In competitive labor markets, widespread tariffs can put upward pressure on nominal wages over time, as employees demand raises to keep up with inflation. However, this wage catch-up is not guaranteed and often lags. So, many workers may feel worse off after tariffs, even if they do not work in directly impacted industries, because their paycheck now buys less. On the other hand, workers in protected industries might see higher demand for their labor, which can push their wages up. For instance, a steelworker might get a pay increase thanks to higher steel prices and profits, but an autoworker might face layoffs because auto sales drop from higher car prices. When evaluating the overall economy, tariffs thus tend to reallocate jobs and income rather than create net new jobs. They favor a select group (often a politically organized industry) at the expense of many others. Economists generally find that the number of job losses in consuming industries per unit of jobs "saved" in protected industries is considerable. A classic example is a Peterson Institute analysis which found that saving one US job in steel via tariffs could cost three or more jobs in steel-using sectors. Such trade-offs are one reason many economists prefer adjustment assistance or retraining programs targeted at displaced workers over tariffs—the latter is a very blunt instrument for helping a subset of workers.



Influence on Manufacturing and Supply Chains:

Tariffs also induce changes in business operations and supply chain configurations. In some cases, companies respond to tariffs by reconfiguring their supply chains-seeking non-tariffed sources or altering the origin of components. The 2018-19 US tariffs prompted many firms to switch input sourcing from China to other countries like Vietnam, Mexico, or Taiwan, for example. This substitution can somewhat blunt the impact on US consumer prices (as noted earlier, imports from untargeted countries rose-offsetting some losses from China (Nie et al., 2021)), but such shifts are not frictionless. Firms incur costs in finding new suppliers, vetting quality, and potentially paying higher logistics costs. Thus, supply chains become longer or more diversified in response to tariffs, but often less efficient. The Federal Reserve Board's model found that trade disruptions led US firms to use more non-Chinese inputs, but since those were imperfect substitutes, production efficiency declined and costs stayed higher, sustaining inflation (Brown, 2021). Essentially, tariffs force firms to prioritize resilience to tariffs (avoiding one country) at the expense of pure cost-minimization. Some firms might choose to reshore certain production steps to the US to avoid tariffs altogether. Indeed, the Trump administration tariffs led to high-profile announcements of new US factories or expansions (for example, an appliance factory in Ohio, some tool manufacturers relocating production from China to the US, etc.). While onshoring can shorten supply chains and reduce dependency on imports, it usually comes with higher production costs given higher US labor and input expenses. Companies then face a choice: absorb those higher costs (hurting profits) or pass them onto consumers (contributing to inflation). Many did a small amount of both.

Tariffs also encouraged firms to hold more inventory as a buffer against trade policy uncertainty. The unpredictable "on-off" nature of trade negotiations in 2018–2019 meant companies sometimes rushed imports before deadlines (as mentioned) or held extra stock from alternative sources. This reverses the just-in-time lean inventory strategy that many supply chains use for efficiency. Moving away from just-in-time can increase resilience to specific shocks but raises costs (storage, capital tied up in inventory) and potentially prices. In a way, tariffs forced a stress test on supply chains: firms had to prove adaptable or suffer losses. By 2020, US importers had diversified away from China for certain goods (e.g., electronics assembly shifted partly to Southeast Asia), arguably making those supply chains a bit more resilient to a China-specific shock. However, when the shock of COVID-19 hit globally, it became clear that *global* diversification—not just avoiding one country—was key. Regions unaffected by tariffs (like Europe) still struggled with supply because of pandemic disruptions, so tariffs were not a remedy for that kind of systemic risk. If anything, the extra costs imposed by tariffs left some firms financially weaker going into the pandemic shock.

In summary, the domestic consequences of tariffs have included higher consumer prices, reduced households' purchasing power, distortions in employment patterns with some jobs protected but others lost, and supply chain adjustments that often entail efficiency losses. By acting as a tax on imports, tariffs have functioned similarly to a sales tax that falls mainly on US consumers and businesses. Estimates from the Congressional Budget Office and others suggest that the cumulative effect of the recent tariffs was to slightly lower the level of US GDP (by a few tenths of a percent) and employment, relative to a no-tariff baseline, once all adjustments were accounted for. While not catastrophic for a large economy, this is essentially a self-imposed drag. In an economy striving for



higher growth and stable prices, tariffs have been a step backward, introducing friction and higher costs in a manner that complicates macroeconomic management.

Global Ramifications of US Tariff Policies

Retaliatory Tariffs and Trade Wars:

When a large country like the United States imposes tariffs, trading partners typically respond in kind, leading to tit-for-tat escalations-the classic trade war scenario. This was vividly illustrated in 2018-2019 with the US-China trade war, and to a lesser extent with US-Europe tensions (the EU's retaliatory tariffs on bourbon, Harley-Davidson motorcycles, etc., in response to US steel tariffs). The global ramifications are significant. Tit-for-tat tariffs create a lose-lose situation: they disrupt export markets for each side and distort import prices, reducing overall trade volume and economic welfare. The International Monetary Fund warned in 2024 that such "tit-for-tat retaliatory tariffs threaten to disrupt growth prospects across [Asia], leading to longer and less efficient supply chains", and that tariffs could "impede global trade, hamper growth in exporting nations, and potentially raise inflation in the United States, forcing the [Fed] to tighten monetary policy" (Flores, 2024) (International Monetary Fund [IMF], 2024). In other words, US tariffs not only slow growth abroad (by curtailing their exports), but the retaliation boomerangs back, hurting US exporters and adding inflationary pressure at home, which then might necessitate higher interest rates and dampen growth-a chain of adverse effects. Indeed, during the trade war, US farmers and manufacturers saw foreign markets closing and, in some cases, permanently lost market share to competitors from other countries. For example, US soybean exports to China were replaced mainly by Brazilian soybeans. The longer-term risk is that extensive use of tariffs by the US encourages a breakdown of the cooperative trading system that prevailed post-World War II. Other countries may circumvent WTO rules (as the US did in some cases, invoking national security) and engage in unilateral protectionism too. This erodes the predictability of trade relations, which can chill investment globally. Businesses are less likely to invest in exporting or global supply chains if they fear sudden tariff hikes. The uncertainty during 2018–19 arguably contributed to slower global investment growth.

Another global effect is competitive devaluation or monetary responses. If one country's tariffs hurt another's exports and growth, the impacted country might allow its currency to weaken to offset the tariff's impact. There were allegations of this during the US-China spat (with the US even labeling China a "currency manipulator" in 2019 when the yuan depreciated). Such dynamics can introduce volatility in exchange rates and capital flows, possibly spreading financial instability. Furthermore, widespread tariffs can fragment global trade into blocs—a form of "decoupling." We see nascent signs of this with concepts like "friendshoring," where nations trade more with geopolitical allies and less with rivals, effectively carving the global economy into clusters. While this may enhance security alliances, from an economic standpoint it is inefficient and inflationary (less optimal allocation of production) and leaves the global system less stable, as shocks are less easily smoothed through broad trade. The lesson from history (e.g., the 1930s or more recent quantitative studies) is that trade wars tend to reduce global growth. For instance, one IMF analysis cited by the World Economic Forum



estimates that increasing trade barriers and undoing integration could reduce global output by \$7.4 trillion over several years (World Economic Forum, 2024). This is a massive cost, roughly equivalent to $\sim 8\%$ of world GDP, illustrating what is at stake if major economies turn toward protectionism en masse. While the world has not seen a collapse of trade on the order of Smoot-Hawley since the 1930s, the risk of a slow unravelling of trade linkages is present, and it would have cumulative adverse effects.

Effects on Global Supply Chains and Trade Partnerships:

US tariff policies reverberate through global supply chains because these chains are tightly interconnected. Modern manufacturing often involves components crossing multiple borders before final assembly. When the US placed tariffs on Chinese components, it impacted not only Chinese firms but also companies in other countries that send intermediate goods to China or rely on Chinese parts. For example, a US tariff on Chinese electronics parts can hurt a South Korean firm that ships those parts from its China subsidiary to the US, or a Mexican factory assembling US-bound appliances with Chinese inputs. Thus, tariffs create a cascade of adjustments: firms may reroute supply chains to circumvent tariffs (e.g., do final assembly in Vietnam instead of China), or they may split production lines (one for US with non-Chinese parts, one for rest-of-world with cheaper Chinese parts). These workarounds make supply chains longer and less efficient, as noted by the IMF (International Monetary Fund [IMF], 2024). They also can lead to duplication of processes (losing economies of scale) and higher inventory requirements. Over time, if tariffs persist, some decoupling occurs: a portion of the supply chain pivots away from the tariff-targeted country. We saw this with some multinational companies reducing reliance on China for US-destined production. While this can marginally reduce exposure to one country's risks (e.g., if US-China relations worsen), it increases cost and complexity. From a global standpoint, the overall network becomes more tangled and costly, raising prices internationally. It also alters trade partnerships: countries that become alternatives (Vietnam, India, etc.) deepen trade ties with the US, while the US-China link weakens. This realignment can strain capacity in the new partner countries (Vietnam experienced factory booms and infrastructure bottlenecks) and potentially ignite new trade frictions (e.g., the US is concerned about transshipment fraud through third countries to evade tariffs).

Another ramification is pressure on international trade rules. These unilateral tariffs and counter-tariffs have tested the WTO's relevance. Many of the US tariffs (especially the Section 301 on China) were legally challenged at the WTO. If major economies ignore WTO rulings (as happened when the US tariffs were found inconsistent but the US did not remove them), the legitimacy of the multilateral trading system erodes. This could encourage countries to opt for bilateral deal-making or power-based trade measures, fragmenting global trade governance. In such an environment, smaller countries suffer most as they rely on rules to protect their interests. The international economic stability can be undermined as trust in shared rules falters, making it harder to coordinate on other global economic issues (like financial crises or global inflation). We already see US trade policy shifting to more explicitly strategic or security-oriented objectives (export controls on tech with China, proposed alliance tarifff arrangements, etc.), which suggests a move away from purely economic optimization. While those goals may be justified by non-economic reasons, from a pure inflation and resilience perspective, a fracturing global economy is a more volatile and costly one.



Finally, large-scale US tariffs and the resulting adjustments can affect global growth and inflation. During the 2018–2019 trade war, global trade volumes stagnated and manufacturing activity worldwide slowed notably by 2019. The uncertainty and tariffs contributed to a mini global slowdown (exacerbated then by the pandemic in 2020). The US Federal Reserve even cited trade developments as a reason for shifting to more accommodative monetary policy in 2019, effectively acknowledging the trade war was a headwind. Outside the US, countries like Germany (with export-heavy industries) saw downturns in output partly due to trade conflicts. The IMF estimated that the US-China trade war had reduced US GDP by about 0.3% (~\$62 billion) by 2020 and trimmed Chinese GDP, while giving a minor boost to some other countries as trade diverted (World Economic Forum, 2024). Moreover, businesses globally had to absorb higher input costs; this contributed to some inflationary pressure worldwide and market volatility in 2019 (World Economic Forum, 2024). In effect, the US tariffs exported some inflation to other countries (for example, if the US bought fewer Chinese goods, China's currency weakened, making Chinese goods cheaper in other markets, potentially affecting competitors there). All told, US tariff policy in recent years has had system-wide effects: straining alliances (e.g., initial US tariffs on allies like Canada/EU causing diplomatic rifts), prompting defensive economic measures abroad, and leading to discussions of new frameworks (such as plurilateral agreements on supply chain resilience). The World Economic Forum observed that the stakes are high to ensure "reactionary policies" like tariffs do not undermine long-term global growth (World Economic Forum, 2024).

Policy Alternatives and Recommendations

Given the demonstrated downsides of broad tariffs—higher consumer prices, efficiency losses, and retaliation—policymakers should consider alternative strategies to achieve economic objectives (like promoting industry or securing supply chains) without incurring tariffs' inflationary and resilience costs. Below we discuss several alternative approaches and recommendations for future US trade policy:

1. Mitigating Tariff-Induced Inflation:

If tariffs are in place or deemed necessary, there are ways to mitigate their inflationary impact. One straightforward measure is to provide temporary consumer price relief via tariff exemptions or rebates for critical goods. For example, during periods of high inflation, the government could suspend tariffs on especially impactful categories (such as consumer necessities) to reduce prices immediately. This was debated in the US in 2022 when inflation surged—suspending the China tariffs on household goods was suggested as a tool to ease price pressures. Another approach is targeted subsidies or tax credits to offset cost increases. For instance, if tariffs on inputs are raising costs for manufacturers, the government could offer rebates or credits for those firms that import the inputs, effectively nullifying the cost increase but without removing the tariff (this is complex and could violate trade rules, but conceptually it is a targeted buffer). A more sustainable approach is eliminating tariffs that do not clearly serve a vital purpose. Many of the 2018–19 US tariffs could arguably be lifted with minimal strategic loss; doing so would directly reduce CPI by a few tenths of a percent and remove upward pressure on production costs. An IMF working paper in 2024 estimated that reversing the 2018–2019 tariffs would increase US output by 4% over three years (by boosting efficiency and



spending) (United States International Trade Commission, 2023), indicating substantial gains from normalization. While politically, it may be sensitive to remove tariffs (due to perceptions of being "soft" on trade partners), the economic case is strong, and the US would benefit domestically from lower import taxes. Suppose certain tariffs are kept for negotiation leverage. In that case, a recommendation is at least to devise a clear exit strategy or sunset clause so that businesses know the tariffs (and their inflationary effects) are not permanent. Uncertainty magnifies economic costs.

Monetary policy also plays a role in mitigating tariff-induced inflation. The Federal Reserve can "look through" one-time price level increases due to tariffs, focusing on underlying inflation. However, if tariffs are causing persistent inflation, the Fed may feel compelled to raise interest rates to counteract, as noted by the IMF (International Monetary Fund [IMF], 2024). This could harm growth. Thus, coordination is key: trade authorities and the central bank should communicate on the expected inflation impact of trade measures. Ideally, avoiding the use of tariffs for non-trade objectives (like leveraging negotiation) would prevent adding to the Fed's challenges. If tariffs must be used, pairing them with policies to bolster supply (e.g., incentives for domestic production expansion) can alleviate inflation pressure in the long run by increasing supply capacity. Nevertheless, those take time and do not help in the short run. In short, the most effective way to avoid tariff-driven inflation is not to impose tariffs in the first place, or to keep them very limited and short-lived. If controlling inflation is a priority (as it is in the US with the Fed's 2% target), trade policy should be aligned with that goal, not working at cross purposes.

2. Enhancing Economic Resilience Without Protectionism:

Economic resilience—the ability to absorb shocks—has become a buzzword, especially after the pandemic and geopolitical tensions. While tariffs are often promoted as a way to shore up self-sufficiency, a more nuanced strategy for resilience is recommended. Diversification is fundamental: rather than cutting off trade, the US should seek to have multiple trading partners and source inputs from various countries. This way, if one source fails (due to war, disaster, or diplomatic conflict), others can fill the gap. This can be facilitated by trade agreements that include flexible rules of origin and encourage multi-source supply chains. For example, the US could work within frameworks like the Indo-Pacific Economic Framework or existing agreements (USMCA, etc.) to ensure supply chain redundancies. The NRF, in its comments on supply chain resilience, advocated for "more opportunities for supply chain diversification, not less" and cautioned against assuming onshoring is a quick fix (National Retail Federation, 2023).

Another approach is strategic stockpiling and domestic capacity building in key sectors—but funded in a way that does not rely on consumer price hikes. For instance, instead of tariffs to induce domestic production of semiconductors (which would raise electronics prices), the US passed the CHIPS and Science Act, which provides subsidies for domestic semiconductor fabs. This is a form of industrial policy that can increase resilience (more local chip capacity) without immediately taxing consumers. Although subsidies have their own efficiency concerns, when funded broadly (through the budget) they spread the cost, arguably lessening the regressive impact compared to tariffs. The government can identify critical goods (medical supplies, rare earths, etc.) and use a mix of incentives, R&D support, and procurement contracts to ensure a baseline of domestic capability or stored inventory.



This secures supply for emergencies but keeps normal trade flows open regularly—thus not raising everyday prices.

Promoting resilience also involves international cooperation. Instead of unilateral tariffs, the US could pursue plurilateral agreements focused on supply chain security. For example, a coalition of allies might agree to coordinate in emergencies and not restrict exports (a lesson from when some countries banned exports of masks or food in 2020). Ensuring others will not slap export bans or tariffs in a crisis makes each country safer, keeping trade open. The US can lead in strengthening WTO rules or new accords on not hoarding critical supplies and on transparency in stockpiles. This reduces the perceived need for tariffs as a defense. Additionally, improving trade facilitation (digitizing customs, streamlining import procedures) can paradoxically improve resilience: it makes shifting suppliers faster and easier when needed. In sum, resilience can be achieved by building *redundancy and flexibility* in supply networks, rather than by erecting barriers.

3. Future US Trade Policy Recommendations:

The US should carefully recalibrate its trade policy stance based on the evidence. Key recommendations include:

- Avoid Broad-Based Tariff Increases: Future administrations should refrain from acrossthe-board tariffs (such as proposals to levy 10% on all imports, which were at times floated in political discourse). Analysis shows such broad tariffs would be highly inflationary—estimates suggested a blanket 10% import tariff (on top of existing tariffs) could add several percentage points to consumer inflation and cost millions of jobs as global retaliation ensues (Barbiero & Stein, 2025). The Boston Fed study, for instance, projected that a hypothetical extreme scenario of 60% tariffs on China + 10% on others would boost inflation by up to 2.2 percentage points (Barbiero & Stein, 2025). This is an outcome to avoid. Any future use of tariffs should be surgical, limited in time, targeted to specific unfair practices, and even used as a last resort after exploring diplomatic solutions.
- Embrace Multilateralism and Rules-Based Solutions: The US should re-engage with the WTO system and work to update international trade rules rather than sidestep them with unilateral tariffs. For issues like Chinese subsidies or IP theft—legitimate problems—building alliances and bringing cases through WTO or forming sectoral agreements (e.g., on steel overcapacity) is likely more effective and less damaging economically. When everyone abides by agreed rules, there is less need for ad-hoc tariffs. Moreover, a stable rules-based system underpins investor confidence and encourages trade diversification, enhancing resilience.
- Use Tariffs Sparingly and Strategically: In cases where tariffs are deemed necessary (for example, as leverage in a trade negotiation, or to allow a sudden import surge to be managed), they should come with explicit sunset provisions and an exit plan. Temporary "safeguard" tariffs can be paired with adjustment assistance for the affected domestic industry to improve productivity. For instance, a 3-year tariff with a phase-out schedule gives the industry a window to adjust, after which competition resumes. The goal should be to transition to competitiveness, not permanent protection. This avoids the problem of entrenched tariffs that continue to hurt consumers indefinitely.



- Support Workers and Regions Directly: One reason tariffs gain political favor is the genuine plight of workers and regions hurt by import competition (e.g., the "Rust Belt" manufacturing decline). A better policy is to address those hardships directly through education, retraining, relocation assistance, and economic development programs in affected communities, rather than tariffs. Research shows trade adjustment assistance (TAA) in the US has been under-resourced. Boosting such programs and perhaps broadening them (to cover more than those who lost jobs due to trade, but also proactively prepare workers for indemand skills) could alleviate the economic anxiety that often manifests as support for tariffs. In other words, help people, not specific old industries. This way, the overall benefits of free trade (innovation, low prices, export growth in competitive sectors) can be preserved while cushioning the losses.
- Pursue Trade Agreements that Level the Playing Field: The US can negotiate accords that include enforceable labor and environmental standards rather than withdraw from trade agreements. This addresses concerns that drive tariff policies (such as claims of "unfair" trade due to cheap foreign labor or pollution havens). By embedding standards in agreements (as was done to some extent in the USMCA which replaced NAFTA), the need for punitive tariffs might lessen. Likewise, the US can join or form new partnerships—for example, revisiting participation in comprehensive agreements like CPTPP (the successor to the Trans-Pacific Partnership)—which would enhance market access for US exporters and also present a united front to influence China's trade behavior indirectly. The more integrated the US is in global trade frameworks, the more it can shape them and reduce the reliance on tariffs for coercion.
- **Transparency and Data-Driven Monitoring:** The government should bolster the data and analysis on supply chain dependencies and vulnerabilities. As one policy paper suggests, trade policy should be adaptive to real risks—for example, if 90% of a critical mineral comes from one country, that is a risk. But if an import is easily substitutable, tariffs are pointless. A formal review (like an annual supply chain risk report) can guide where proactive measures (other than tariffs) are needed. This was partly done via the Biden administration's 100-day supply chain reviews in 2021. Building on that, policymakers can identify where stockpiles or alliance cooperation is needed (e.g., rare earth minerals cooperation with allies like Australia and Canada) rather than blanket tariffs on all imports of that item.

In summary, the overarching recommendation is for the US to re-emphasize open trade as the default, using collaborative and domestic investment strategies to tackle issues of resilience and fairness. If used at all, tariffs should be a scalpel, not a sledgehammer. This will help keep inflation low and stability high. The economic evidence shows that the costs of tariff-centric strategies are considerable, whereas the benefits are dubious and concentrated. A more effective and equitable path is one where the US strengthens its economy through innovation, skill development, and alliance-building—making it resilient through flexibility and competitiveness, not insulation.

Conclusion

This analysis has shown that tariffs, while a powerful trade policy tool, carry significant dangers for inflation and economic resilience in the US and globally. Theoretically, tariffs operate as taxes on



imports that raise domestic prices, and empirical evidence from recent US policy confirms a measurable inflationary impact. The 2018–2019 tariff experiment demonstrated that US consumers and firms paid tens of billions in added costs, contributing on the order of a few tenths of a percentage point to inflation—a meaningful bump given the low inflation environment at the time. Though not the primary driver of inflation in the past decade, tariffs have been an avoidable contributor to higher prices, and if they were larger (or if new broad tariffs are enacted in the future), they could pose a serious challenge to price stability. Moreover, the evidence largely contradicts the notion that tariffs strengthen economic resilience. Instead of insuring the economy against shocks, tariffs often create new shock channels—for example, provoking retaliatory trade losses or forcing costly supply chain reworks—that can leave the economy more vulnerable. The US trade war tariffs did little to restore manufacturing glory or secure supply independence; what they did was impose costs on downstream industries and strain international relationships, thereby reducing the flexibility and cooperative avenues that true resilience requires.

For US policymakers, the implications are clear. Caution is warranted when using tariffs, especially in an aggressive or comprehensive manner. As the US faces future challenges—be it global competition, pandemics, or geopolitical conflicts—the solutions should center on innovation, investment in the workforce, and alliances, rather than on protectionist measures that tax one's own consumers. The analysis in this paper suggests that a pivot away from tariff-centric trade policy would benefit not only the US economy (through lower inflation and higher efficiency) but also help maintain international economic stability. Businesses can also take a lesson: those that diversified their supplier base and built flexibility fared better under the tariff onslaught than those heavily dependent on one source. In an uncertain policy environment, resilience for firms means adaptability—and lobbying for stable, open trade rules rather than short-term protective wins.

Future research could delve deeper into the long-run impacts of tariffs on innovation and productivity—for instance, do protected industries become less efficient over time, thereby harming growth? Additionally, the interaction of tariff policy with monetary policy in high-inflation periods is an area worth exploring (e.g., how central banks should react to supply-side inflation from tariffs versus demand-side inflation). Another avenue is quantifying resilience: developing metrics for how diversification versus domestic concentration (encouraged by tariffs) affect an economy's recovery speed from shocks. These insights would further inform the debate on making economies shock-proof without incurring heavy costs.

In closing, the lesson reiterated by history and supported by current evidence is that tariffs are a costly tool—they may address specific political or sectoral goals, but they do so at a broad expense, notably raising inflation and undermining the robust, cooperative supply networks that underpin modern economic resilience. Policymakers should thus handle tariffs with extreme care, and preferably seek alternative avenues that bolster the economy's strength without inflicting collateral damage on consumers and the global trading system.



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| 19