

The Downstream Costs of Trade Remedy Regulations

Christine A. McDaniel and Veronique de Rugy

June 2018

When domestic firms in the United States encounter foreign competition, they sometimes seek protection or import restrictions through the US government. These trade remedy regulations include tariffs, import taxes, antidumping, countervailing duties, and safeguards. But what's good for a relatively small number of firms isn't necessarily good for the nation.

Unfortunately, the government is limited by statute to consider only the interests of the few domestic firms seeking special protection. It is not allowed to consider “downstream” industries and users—the other American manufacturers, workers in industries along the supply chain, and consumers who rely on the goods in question.¹

This limited approach is inherently biased in favor of special interests—specifically, a subset of organized domestic producers seeking special protection—and overlooks the rest of the country. As a result, trade remedy regulations often do more harm than good. A small change to the relevant statutes allowing the government to consider American downstream industries and users would curb the costly unintended consequences of trade remedy regulations.

INTRODUCTION

Trade remedy regulations provide special protection for specific groups of domestic firms. Import restrictions such as tariffs, for example, lead to higher prices on imported and domestic goods, which can provide the domestic firms with temporary “import relief” (a period of time during which they can charge higher prices as a result of import restrictions).

The costs of those higher prices, however, are largely shouldered by downstream American industries and users of the protected good. Ultimately, those costs are passed on to manufacturers and consumers across the economy, who pay more for the everyday products they rely upon.

Under current practice, the government does not consider the user in its analysis, which can lead to costly unintended consequences. Import taxes on intermediate inputs that American manufacturers need for production can leave those manufacturers at a competitive disadvantage in the domestic and global marketplace. Even worse, the import restriction does not necessarily change the behavior of foreign firms accused of dumping or selling at “less than fair value.”

The relevant antidumping, countervailing duty, and safeguard statutes should allow the government, namely the US International Trade Commission, to consider the economic interests of downstream users, which can be significant. Adding the following provisions to the statutes could mitigate the damaging domestic consequences of US trade remedy laws:

1. The US International Trade Commission (“Commission”) shall identify the downstream industries and users.
2. The Commission shall determine whether there is a reasonable indication that the downstream industries and users would be materially injured from a duty on the imported merchandise.²
3. The Commission shall determine whether there is a reasonable indication that the benefits to the subject industry from the duty would be at least as great as the cost to the downstream industries and users.

These provisions would remove the inherent bias in favor of special interests and ensure downstream users are considered. The provisions would also prevent the US government from responding to behaviors by foreign firms and governments in a way that imposes net costs on Americans. In turn, US trade remedy laws would be fairer, more transparent, more efficient, and more aligned with the national economic interest.

THE CURRENT SYSTEM

This section describes generally the trade remedy laws, namely antidumping, countervailing duties, and safeguards under Section 201.³ We also describe the Section 232 process, which investigates the national security effect of imports.

Antidumping and Countervailing Duty Investigations

The US government can initiate an antidumping and countervailing duty investigation when petitioned by domestic industry, or it can self-initiate an investigation whenever the Secretary of Commerce determines that a formal investigation is warranted. Most investigations are initiated in response to petitions filed by domestic industry.

When an American firm accuses a foreign firm of dumping in the US market, the first step is for the firm to file a petition with the US Department of Commerce. The second step is for the Commerce Department to determine whether dumping is occurring. That determination is made by assessing whether and to what extent the subject imports are being sold at less than fair value (“dumped”) in the US market, receiving unfair foreign subsidies, or both.

If the Commerce Department decides that there is merit to the claim, the next step is for the Commission to determine whether there is a reasonable indication that an industry is materially injured or threatened with material injury, or whether the establishment of an industry is materially retarded because of the imports.⁴ If the Commission concludes that the dumping does inflict injury on the industry asking for protection, then duties are imposed.

Under current statute, the Commission can consider only the industry asking for protection. Downstream industries and users have no legal standing in trade remedy investigations, and the Commission is not allowed to consider downstream industries and users in its determinations.⁵

As of April 2018, there were over 400 antidumping and countervailing duty orders in place, according to the Commission.⁶ Over 60 percent of these orders have been in place for over five years (and some have been in place since the 1970s and 1980s). Over half of these duties are on imports of iron and steel products. These products include, for instance, intermediate inputs such as “certain cold-drawn mechanical tubing of carbon and alloy steel” that are typically used in industrial construction with structural columns, beams, and heavy equipment frames, and with machine parts;⁷ these imports face import taxes between 8 and 42 percent. An example of a consumer product is “tool chests and cabinets” imports, which face an import tax of up to 95 percent.⁸

Section 201 Safeguards

Section 201 safeguard investigations are similar to antidumping and countervailing duty investigations in that the Commission must find material injury (or threat of material injury), but it is up to the president to make the final determination to impose an import tax or other restriction. The statute requires that any action taken must facilitate a positive adjustment to import competition and provide greater economic and social benefits than costs.⁹ The White House is not required to make public its method for calculating economic and social costs and benefits.

For example, a recent Section 201 safeguard case resulted in a 30 percent tax on American importers of “solar panels as well as cells, the piece of equipment that converts sunlight into electricity.”¹⁰ The 30 percent rate will decline after the first year and be 15 percent in the fourth year. Another recent Section 201 safeguard case resulted in a 50 percent tax on American importers of large washing machines.¹¹

Section 232 Investigation

Section 232 of the Trade Expansion Act of 1962 (as amended) gives the executive branch the ability to conduct investigations to determine the national security effects of imports.¹² Section 232 is not under the umbrella of trade remedy regulations for the purpose of this brief, but it is worth mentioning given its recent prominence. Under current practice, the Commerce Department issues a report to the president with its findings, including whether certain imports threaten to impair America's national security. We would recommend that the national economic interest, which includes the economic effects on downstream industries and users, be considered explicitly by the appropriate agency (e.g., the Commerce Department or the Commission). This would allow the president to consider the national economic interest in the national security interest decision-making process. In the most recent case, the Commerce Department delivered the Section 232 reports on steel and aluminum to the president in January of 2018, and the president had 90 days to determine whether he concurred with the findings and would use his statutory authority to restrict trade. There have been 16 cases since 1981. The current Section 232 investigations on steel and aluminum are the first such cases since 2001.

THE CASE FOR REFORM

Americans Welcome Competition

The US economy is one of the most competitive in the world and consistently scores in the top three on the Global Competitiveness Index. Competitiveness and prosperity go hand in hand. Competition fosters innovation, productivity, and growth, all of which improve living standards, foster well-being, create wealth, and reduce poverty.¹³

Some Foreign Firms Receive Excessive Government Support

Businesses want competition to be fair and on a “level playing field.” In reality, American companies often have to compete against foreign firms that are highly subsidized by their domestic governments.¹⁴ There is no level playing field when one firm competes with another firm that has so much government backing it can sell at a fraction of the “true” cost of production.

US Trade Remedies Were Designed to Respond to “Unfair” Competition

As the argument goes, the US government uses trade remedies such as antidumping, countervailing duties, and safeguards to respond to dumping and perceived unfair competition. An import tax can appear as the appropriate remedy for an unfair trade practice. When the price of imported goods is too low, less than fair value, then a duty will bring the price up to something that is fair. At face value, this may seem reasonable. In reality, it is not.

First, the higher import price may provide import relief to the few domestic firms seeking protection, but everyone else who needs those imports for production now faces higher prices.

Second, there is no economically sound definition of “less than fair value,” and the current application does not even align with the US Federal Trade Commission’s view (see box 1). The foundation of the statute is inconsistent with domestic antitrust laws.

Third, the Commerce Department’s dumping determination process is plagued with methodological and calculation inconsistencies that can result in meritless dumping determinations. Legislative changes and pressures from interest groups over time have transformed these trade regulations from a tool to respond to unfair trade practices into a weapon used to stymie competition in favor of a few domestic firms at the expense of other domestic firms and American consumers and workers.¹⁵

Finally, while antidumping, countervailing duties, and safeguards are responses to unfair competition from abroad, they do not necessarily change the offensive behavior.

BOX 1. SELLING AT “LESS THAN FAIR” VALUE

Dumping is defined in the General Agreement on Tariffs and Trade (GATT) as the practice “by which products of one country are introduced into the commerce of another country at less than the normal value of the products.” Dumping does not violate GATT obligations per se. The practice is only condemned when it causes injury to the domestic industry.

In US trade rules, dumping is defined in section 771(34) of the Tariff Act of 1930 (19 U.S.C. § 1677(34)) as “the sale or likely sale of goods at less than fair value.” In more specific terms, dumping is defined as selling a product in the United States at a price that is lower than the price for which it is sold in the home market (the “normal value”), after adjustments for differences in the merchandise, quantities purchased, and circumstances of sale.

Merriam-Webster provides the legal definition of unfair trade practice as “any of various deceptive, fraudulent, or otherwise injurious (as to a consumer) practices or acts that are declared unlawful by statute (as a consumer protection act) or recognized as actionable at common law.”¹⁶

The terms “normal value” and “fair value” are used often in international trade policy, as is the term “unfair trade practice.” Yet there is no clear definition or universal agreement on the meaning of these terms; for whom these prices are normal or unfair is not clearly defined. In fact, the meaning of unfair price in US trade laws does not align with that of domestic antitrust and commerce laws.

According to the Federal Trade Commission, “pricing below a competitor’s costs occurs in many competitive markets and generally does not violate the antitrust laws.” The Federal Trade Commission describes predatory or below-cost pricing as follows:

Can prices ever be “too low?” The short answer is yes, but not very often. Generally, low prices benefit consumers. Consumers are harmed only if below-cost pricing allows a dominant competitor to knock its rivals out of the market and then raise prices to above-market levels for a

substantial time. A firm's independent decision to reduce prices to a level below its own costs does not necessarily injure competition and, in fact, may simply reflect particularly vigorous competition. Instances of a large firm using low prices to drive smaller competitors out of the market in hopes of raising prices after they leave are rare. This strategy can only be successful if the short-run losses from pricing below cost will be made up for by much higher prices over a longer period of time after competitors leave the market. Although the FTC examines claims of predatory pricing carefully, courts, including the Supreme Court, have been skeptical of such claims. . . .

Pricing below a *competitor's* costs occurs in many competitive markets and generally does not violate the antitrust laws. Sometimes the low-pricing firm is simply more efficient. Pricing below your own costs is also not a violation of the law unless it is part of a strategy to eliminate competitors, and when that strategy has a dangerous probability of creating a monopoly for the discounting firm so that it can raise prices far into the future and recoup its losses.¹⁷

According to the Federal Trade Commission, pricing below cost only violates the law when it is part of a strategy to eliminate competitors in order to create a monopoly.

Per the FTC's language, when below-cost pricing allows a dominant competitor to knock its rivals out of the market and then raise prices to above-market levels for a substantial time, then that is predatory pricing and is deemed unlawful.

In US trade regulations, however, when an imported product is sold in the United States at a price that is lower than the price for which it is sold in the seller's home market, it is invariably deemed unfair and subject to antidumping or countervailing duties.

In fact, it is common for firms to sell their goods and services at different prices in different markets. This common pricing strategy is called price discrimination and relies on the variations in customers' willingness to pay and on the elasticity of demand. Yet US trade remedy laws, in response to this common pricing strategy, are designed in a way that can result in disproportionate costs on American producers and consumers.

The disjointedness between the meaning of unfair price in US trade laws and in US domestic antitrust and commerce laws is unfortunate at best. Aside from completely dismantling US trade remedy laws, changing the statute to prevent unnecessary economic harm to American manufacturers, producers, and consumers is the best policy move.

The US Government's Response Should Not Cause Disproportionate Harm to Americans

In the name of addressing one industry's injury inflicted by a foreign firm's unfair trade behavior or selling at less than fair value, a trade remedy can end up inflicting even greater injury on Americans.

This is because the Commission's assessment of material injury as a result of imports is limited to the domestic firms seeking protection. Under current statute, the Commission is not allowed to consider the downstream industries and users of the imports, even if those firms and workers rely on the imports for their commercial viability.

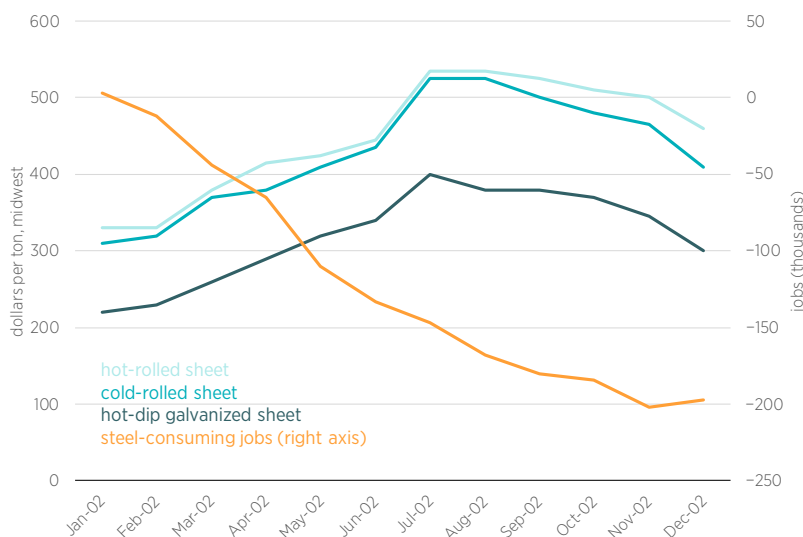
TRADE REMEDIES ARE COSTLY TO THE UNITED STATES

The limited purview in the statute is problematic because antidumping, countervailing duties, and safeguards can impose heavy costs on the implementing country.¹⁸ While the penalty can be beneficial to the few domestic firms requesting protection against import competition, this advantage is often short-lived and can result in lasting net negative effects for numerous downstream firms, workers, and the economy as a whole.

America’s experience with the George W. Bush–era steel tariffs shows this clearly. Steel tariffs were imposed in March 2002, steel prices rose, and jobs in downstream steel-consuming industries declined (figure 1). Steel prices eventually reverted down to more market-driven levels, while the employment levels in steel-consuming manufacturing did not come back. By December, 200,000 American manufacturing workers had lost their jobs because of higher steel prices; and yet only 187,500 Americans were working for US steel producers.¹⁹ In other words, the number of American manufacturing workers who lost their jobs in 2002 to higher steel prices is greater than the total number employed by the US steel industry itself.

Most American manufacturing firms are small and medium-sized businesses with little or no influence over the prices at which they can sell their product. These American manufacturers, therefore, are limited in the extent to which they can pass on higher prices to their customers. To the extent that they cannot pass on higher prices to their customers, they absorb the higher costs internally through smaller payrolls, less investment, less profit, or other cutbacks.

Figure 1. Key Economic Effects of the US Steel Tariffs Imposed in March 2002



Source: Joseph Francois and Laura M. Baughman, *The Unintended Consequences of U.S. Steel Import Tariffs: A Quantification of the Impact during 2002* (Washington, DC: Trade Partnership Worldwide, LLC, 2003).

Import taxes and trade restrictions increase the costs of imports and domestic goods. When the imports are intermediate inputs, then the duties result in higher input prices for American manufacturers.

Every single American manufacturer continually faces competition from other manufacturers both domestically and abroad. An import tax on intermediate inputs raises prices, and every single American manufacturer that uses that input is at a competitive disadvantage.

As experience shows, a result of US trade remedies is that American manufacturers and consumers pay higher prices for both imported and domestically produced goods, while American workers in downstream industries are left with fewer employment opportunities in less competitive firms. Moreover, because firms have to pay more for inputs that complement workers, the productivity of American workers who keep their jobs falls over time, which (all else equal) results in slower growth in real wages.

Similarly, in the recent safeguard tariff decision on imported solar cells and modules, the Commission was only allowed to consider the impact that foreign competition had on the domestic firms seeking protection. The Commission was not allowed by statute to consider the effects of the tariffs on downstream industries, workers, and consumers.

Meanwhile, a downstream industry association noted that the 30 percent tariffs on imported solar cells and panels would increase the price of solar cells and panels, reduce demand thereof, and lead to a loss of 23,000 American jobs (mostly installation jobs). Bill Vietas, president of RBI Solar in Cincinnati, stated, “government tariffs will increase the cost of solar and depress demand, which will reduce the orders we’re getting and cost manufacturing workers their jobs.”²⁰ Further, the higher prices were expected to result in the delay or cancelation of billions of dollars in solar investments.²¹

IT IS TIME TO UPDATE US TRADE REMEDY LAWS

US trade remedy rules were crafted nearly 100 years ago when trade consisted mostly of agricultural and final goods. Today, trade as a share of the economy is double what it was 50 years ago,²² and US firms rely on the ability to do international business for both their domestic and export sales. For instance, 43 percent of total US imports are intermediate goods that US manufacturing firms use in domestic production.²³ The foreign value-added content of US exports is 15 percent.²⁴ This is not a good or bad thing (it is simply a matter of fact). That said, two of America’s most competitive sectors—advanced manufacturing and energy—are among the most reliant on imports.²⁵

When the US government imposes taxes on imports that American manufacturers rely on for intermediate inputs, those government actions are making it more expensive for American manu-

facturers to stay competitive both here and abroad. Yet according to data by the Commission, over 75 percent of the current antidumping and countervailing duty orders in place are on intermediate inputs that those manufacturers need to stay competitive.²⁶

Antidumping, countervailing duties, and safeguards are generally referred to as trade remedies, but they do not remedy anything—they do not stop foreign subsidies and they do not stop foreign competitors from selling at “less than fair value.” Furthermore, the disjointedness between the meaning of “less than fair value” in US trade remedy regulations and in US domestic antitrust and commerce laws signals a miscalculated economic policy approach (see box 1).

The economic reality is that American firms need access to globally competitive prices for their inputs, and this means that updating US trade statutes is an economic imperative.

Many reforms could be implemented to improve the current system. It is, however, often easier to start with one small change. In our view, that change would require the following (as described earlier): (1) The agency making the determination, namely, the Commission, identifies the downstream industries and users; (2) the Commission determines whether there is a reasonable indication that the downstream industries and users would be materially injured from a duty on the imported merchandise; and (3) the Commission weighs the effects of the duty on the petitioning firm against the effects of the duty on downstream industries and users.

Congruent with Australia and the European Union

The change we propose is in line with what other governments have recently pursued, including Australia and the European Commission.

In 2009, the Australia Productivity Commission issued a report on the country’s antidumping system.²⁷ That report recommended reforms to the antidumping system to help ensure that “measures are not imposed if they are likely to be ineffectual or otherwise disproportionately or unreasonably costly for downstream entities.” In 2011, the Australian government announced that downstream industries would be provided support to actively participate in antidumping investigations.²⁸

Similarly, in January of 2018, the European Union announced changes and modernizations to its antidumping rules that “take into account the interests of EU producers, users and importers alike.”²⁹ The European Commission aims to make the EU’s antidumping system more effective and more transparent, while recognizing that antidumping measures affect businesses at various levels of the value chain in different ways. In its announcement to modernize trade defense instruments, the European Commission stated, “The overhaul covers a broad range of aspects relating to the way the European Commission carries out trade defense investigations for the benefit of EU producers and other businesses, including importers and downstream industries that depend on imports.”

CONCLUSION

Because the US International Trade Commission is not allowed to consider the potential downstream effects of antidumping, countervailing duties, or safeguards when determining trade remedy regulations, laws intended to remedy unfair competition in one sector can end up causing disproportionately large costs to downstream sectors and users—and have a negative net effect on the national economy.

The damaging effects of these policies have been concentrated largely in American manufacturing. Over half of the current 400-plus antidumping and countervailing duties are on iron and steel products that a wide swath of American manufacturers need access to in order to be competitive both at home and abroad.

A small revision to the relevant trade statutes to account for these downstream economic effects would promote transparency, fairness, and efficiency in US trade policy.

ABOUT THE AUTHORS

Christine A. McDaniel is a Mercatus Center senior research fellow with the Program on the American Economy and Globalization. She has published in the areas of international trade, intellectual property, and empirical trade analysis and modeling. She holds a PhD in economics from the University of Colorado and received her BA in economics and BA in Japanese studies from the University of Illinois at Urbana-Champaign.

Veronique de Rugy is a senior research fellow at the Mercatus Center and a nationally syndicated columnist. Her primary research interests include the US economy, the federal budget, homeland security, taxation, tax competition, and financial privacy. She received her MA in economics from the Paris Dauphine University and her PhD in economics from the Pantheon-Sorbonne University.

NOTES

1. “Downstream industries and users” refers to any firm or individual that uses the product either as an intermediate input or a final consumption good.
2. Material injury is generally defined as injury resulting in damages of a substantial nature, as distinguished from merely nominal damages.
3. The relevant statute is title 19, chapter 4 of the *US Code* (The Tariff Act of 1930), as added to and amended by subsequent laws, namely subtitle IV, sections 1671-1677n. For a detailed explanation of the process, see US International Trade Commission, “Understanding Antidumping & Countervailing Duty Investigations, Antidumping and Countervailing Duty Laws under the Tariff Act of 1930,” accessed April 10, 2018, https://www.usitc.gov/press_room/usad.htm; US International Trade Commission, *Antidumping and Countervailing Duty Handbook, Fourteenth Edition*, June 2015.

4. US International Trade Commission, "Understanding Antidumping & Countervailing Duty Investigations."
5. The Commission is required to define the "domestic like product" produced by the US "industry." "Domestic like product" is defined in section 771(10) of the Tariff Act of 1930 (19 U.S.C. § 1677(10)) as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation." "Industry" is defined in section 771(4)(A) of the Act (19 U.S.C. § 1677(4)(A)) as "the producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."
6. US International Trade Commission, "Antidumping & Countervailing Duty Investigations," accessed April 10, 2018, https://www.usitc.gov/trade_remedy/731_ad_701_cvd/investigations.htm.
7. For instance, see *Quick Guide-Carbon and Alloy Tubing* (Kent, OH: Industrial Tube & Steel Corporation).
8. 83 Fed. Reg. 3299 (January 24, 2018).
9. "Under section 203 of the Trade Act of 1974, 19 U.S.C. § 2253, where the U.S. International Trade Commission transmits a report containing an affirmative finding of serious injury, the President shall take all appropriate and feasible action within his power that he determines will facilitate efforts by the domestic industry in question to make a positive adjustment to import competition and provide greater economic and social benefits than costs. USTR is responsible for coordinating an interagency recommendation to the President on the action to take." See Office of the United States Trade Representative, "Section 201 Investigations," accessed April 10, 2018, <https://ustr.gov/issue-areas/enforcement/section-201-investigations>.
10. These import taxes resulted from the Section 201 safeguard investigation. See Section 201 of the 1974 Trade Act (19 U.S.C. § 2251). See also "Trump Starts His Trade War," editorial, *Wall Street Journal*, January 23, 2018.
11. The president approved a four-year tariff rate quota on solar cells and modules with the following schedule: 30 percent in year one, 25 percent in year two, 20 percent in year three, and 15 percent in year four, with 2.5 gigawatts of cells exempted from the tariff. On imported washing machines and parts, the president approved a three-year tariff rate quota with the following schedule: three years starting with a 20 percent rate on the first 1.2 million units; a tariff of 18 percent in the second year, and 16 percent in the final year of action on washers from all countries except Canada. Imports after the first 1.2 million units will face a tariff of 50 percent in the first year; that tariff will fall to 40 percent in the third year. See Office of the United States Trade Representative, "President Trump Approves Relief for U.S. Washing Machine and Solar Cell Manufacturers," news release, January 2018, <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/january/president-trump-approves-relief-us>.
12. US Department of Commerce, "What You Need to Know about Section 232 Investigations and Tariffs," March 8, 2018, <https://www.commerce.gov/news/blog/2018/03/what-you-need-know-about-section-232-investigations-and-tariffs>.
13. Nick Godfrey, *Why Is Competition Important for Growth and Poverty Reduction?* (Paris: Organisation for Economic Cooperation and Development, March 2008).
14. The US government is itself a major player in the subsidy business. Like every country, the US government has engaged in industrial policies meant to prop up its domestic companies in the competition against foreign firms. It does this through export support (such as export subsidies provided by the Department of Agriculture or the Export-Import Bank), direct subsidies (such the ones provided by the Department of Energy), or even bailouts.
15. Thomas Prusa, "The Growing Problem of Antidumping Protection," in *International Trade in East Asia, NBER-East Asia Seminar on Economics*, ed. Takatoshi Ito and Andrew K. Rose, vol. 14 (Chicago: University of Chicago Press, August 2005); Bryan Johnson, *A Guide to Antidumping Laws: America's Unfair Trade Practice* (Washington, DC: Heritage Foundation, 1992); Claude Barfield, "Dumping Know-Nothing-ism," *Journal of Commerce*, March 18, 1993; Thomas R. Howell, "Dumping: Still a Problem in International Trade," in *International Friction and Cooperation in High-Technology Development and Trade, Papers and Proceedings*, ed. Charles Wessner (Washington, DC: National Academy Press, 1997).
16. Merriam-Webster Law Dictionary, s.v., "unfair trade practice (n.)," accessed April 10, 2018, <https://www.merriam-webster.com/legal/unfair%20trade%20practice>.

17. US Federal Trade Commission, "Predatory or Below-Cost Pricing," accessed April 10, 2018, <https://www.ftc.gov/tips-advice/competition-guidance/guide-antitrust-laws/single-firm-conduct/predatory-or-below-cost>.
18. Michael P. Gallaway, Bruce A. Blonigen, and Joseph E. Flynn, "Welfare Costs of the US Antidumping and Countervailing Duty Laws," *Journal of International Economics* 49, no. 2 (1999): 211-44; J. M. Finger, ed., *Antidumping: How it Works and Who Gets Hurt* (Ann Arbor, MI: University of Michigan Press, 1993); Bruce A. Blonigen and Thomas J. Prusa, "Antidumping" (NBER Working Paper No. 8398, National Bureau of Economic Research, Cambridge, MA, July 2001); Bruce A. Blonigen and Thomas J. Prusa, "Dumping and Antidumping Duties" (NBER Working Paper No. 21573, National Bureau of Economic Research, Cambridge, MA, September 2015); Daniel Ikenson, "Economic Self-Flagellation: How U.S. Antidumping Policy Subverts the National Export Initiative" (Trade Policy Analysis No. 46, Cato Institute, Washington, DC, May 31, 2011).
19. Joseph Francois and Laura M. Baughman, *The Unintended Consequences of U.S. Steel Import Tariffs: A Quantification of the Impact during 2002* (Washington, DC: Trade Partnership Worldwide, LLC, 2003).
20. Solar Energy Industries Association, "President's Decision on Solar Tariffs Is a Loss for America," press release, January 22, 2018, <https://www.seia.org/news/presidents-decision-solar-tariffs-loss-america>.
21. "US Solar Panel Import Tariff to Hit European, Asian Manufacturers," *Reuters*, January 23, 2018.
22. Exports and imports are 11.9 percent and 14.7 percent of the US economy, respectively, which is more than double what they were 50 years ago. See OECD, "Trade in Goods and Services" (database), accessed April 10, 2018, <https://data.oecd.org/trade/trade-in-goods-and-services.htm>.
23. Joseph Parilla, "How US States Rely on the NAFTA Supply Chain," *The Avenue*, Brookings Institute, March 30, 2017.
24. *Trade in Value Added: United States* (Paris: Organisation for Economic Co-operation and Development, October 2015).
25. Parilla, "How US States Rely on the NAFTA Supply Chain."
26. Chemicals and pharmaceuticals; iron and steel; metals and minerals; and plastics, rubber, stone, and glass products together represent 327 antidumping or countervailing duty orders out of a grand total of 431, or 75.87 percent. See US International Trade Commission, "Antidumping and Countervailing Duty Orders in Place," April 19, 2018, https://www.usitc.gov/trade_remedy/documents/orders.xls.
27. Australian Government, Productivity Commission, *Australia's Antidumping and Countervailing System*, December 18, 2009.
28. Australian Government, Customs and Border Protection Service, *Streamlining Australia's Antidumping System: An Effective Antidumping and Countervailing System for Australia*, June 2011.
29. European Commission, "EU Modernises Its Trade Defence Instruments," press release 18/396, January 23, 2018, http://europa.eu/rapid/press-release_MEMO-18-396_en.htm?locale=en.