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How do exporters respond to antidumping investigations?

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ABSTRACT

Using monthly transaction data covering all Chinese exporters over the 2000–2006 period, we investigate how Chinese exporters respond to U.S. antidumping investigations. We find that antidumping investigations cause a substantial decrease in the total export volume at the HS-6 digit product level, and that this trade-dampening effect is due to a significant decrease in the number of exporters, yet a modest decrease in the export volume per surviving exporter. We also find that the bulk of the decrease in the number of exporters is exerted by less productive exporters, by direct exporters as opposed to trade intermediaries, and by single-product direct exporters as opposed to their multi-product counterparts. Combined with the existing studies on the effects that antidumping investigations have on protected firms, our study helps piece together a complete picture of the effects of antidumping investigations.

1. Introduction

Despite the increasing trend in international trade due to rounds of tariff reductions and advancements in telecommunications and logistics, we have witnessed persistent and even increasing use of contingent trade protection policies (e.g., Prusa, 2001; Zanardi, 2006; Bown, 2011). In particular, governments around the world have resorted to antidumping measures, which are permissible under the World Trade Organization (WTO) rules and regulations, to protect their firms and industries, especially in times of economic difficulty. The widespread use of antidumping measures has spurred economists to study their effects on firm behavior, which has significant implications for national competitiveness and long-run economic growth.[2]

While significant insights have been gained from the literature regarding the effects of antidumping measures on protected domestic firms and industries,[3] much less is known about the corresponding impacts on affected foreign exporters.[4] Understanding how affected foreign exporters respond to antidumping measures is, however, an essential component in piecing together a picture of market competition between domestic firms and foreign exporters in both the short run (i.e., right after antidumping measures) and the long run (i.e., after the expiration of antidumping measures) and its implications for industry dynamics and the national economy. Moreover, understanding whether affected exporters should continue their exporting behavior in response to the negative shocks generated by antidumping investigations complements the existing firm heterogeneity literature, which focuses primarily on the decision to enter the export market.

This paper provides the first empirical analysis of how affected foreign exporters respond to antidumping investigations. Specifically, we use antidumping cases filed by the U.S. against Chinese exporters over the 2000–2006 period.

We choose this research setting for two reasons. China, the world's largest exporter, has become the world's largest target of antidumping measures. Meanwhile, the U.S. is the world's second largest initiator of

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2 For surveys of studies on antidumping, see Blonigen and Prusa (2003) and Falvey and Nelson (2006).

3 For recent studies, see, for example, Gallaway et al. (1999); Konings and Vandenbussche (2008); and Pierce (2011).
4 A few papers look at how antidumping duties affect foreign exporters' pricing behavior (Blonigen and Park, 2004), export-destination diversification (Bown and Crowley, 2006, 2007) and FDI strategies for serving foreign markets (Blonigen, 2002).

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antidumping cases against China, due to its rising trade deficit with China and the apparently related loss of manufacturing jobs in the U.S. (see, for example, Autor et al., forthcoming; Pierce and Schott, 2012).

To conduct the empirical investigation, we draw on data from two sources: China Customs data (2000–2006) and the World Bank global antidumping database. From the first data set, we obtain information on monthly export transactions at the Chinese HS-8 digit product level by all Chinese exporters to the U.S., including export volume, export value, and exporter identity. From the second data set, we compile all the antidumping investigations carried out by the U.S. against Chinese exporters at the U.S. HS-10 digit product level over the 2000–2006 period, including information such as initiation date, preliminary determination dates, and final determination dates. The two data sets are then combined at the HS-6 digit product level, which is common to China and the U.S.

Our identification strategy relies on the comparison of outcome variables (such as export volume, number of exporters, export price, and trade deflection) for exporters in the affected product category (the treatment group) with the same variables for those in the unaffected product category (the control group) before and after the various important stages in the antidumping investigation process, i.e., the difference-in-differences (or DID) method. Specifically, we use two alternative control groups. First, for an HS-6 digit product subject to antidumping investigations, we use all other unaffected HS-6 digit products within the same HS-4 digit category as the control group. Second, we follow Blonigen and Park (2004) in constructing a matched control group based on the likelihood of products being subject to antidumping investigations.

We find that antidumping investigations cause a substantial decrease in the total export volume at the HS-6 digit product level, and that this trade-dampening effect is due to a significant decrease in the number of exporters (extensive margin effect), yet a modest decrease in the export volume per surviving exporter (intensive margin effect). Meanwhile, we find that there is little change in freight on board (F.O.B.) export price and no change in the exports of the concerned products to markets other than the U.S. (trade deflection effect). Probing the underlying causes for the substantial extensive margin effect of the antidumping investigations, we find that less productive exporters are more likely to exit the U.S. market; direct exporters are more likely than trade intermediaries to exit the U.S. market; and single-product direct exporters are more likely than multi-product direct exporters to exit the U.S. market.

These results are found to be robust in a series of checks on various potential data and estimation issues, such as validity checks on the DID estimation, quarterly data (instead of monthly data), exclusion of outlying observations, inclusion of unsuccessful and withdrawn cases, exclusion of antidumping cases under investigation by other countries, exclusion of processing traders and foreign firms, a check on the aggregation bias, controlling for other trade shocks such as U.S. safeguard investigations and China's WTO accession, differential effects across products with different import demand elasticities, and an alternative definition of single-product direct exporters (see Section 5.6 for details).

Our results suggest that U.S. antidumping investigations drive weaker Chinese exporters out of the U.S. market, leaving behind the more productive ones, often with multi-market and multi-product coverage. Meanwhile, previous studies (e.g., Pierce, 2011) on the effects of U.S. antidumping measures on its domestic, protected firms have shown that protection through the temporary imposition of antidumping duties is more tilted toward the weaker domestic producers, thereby slowing down the resource reallocation toward the more productive producers. Taken together, U.S. antidumping investigations definitely bring temporary benefits to domestic producers who expand their market share, as Chinese imports substantially fall and numerous Chinese exporters exit the market. In the long run (especially when the antidumping duties are lifted), however, antidumping investigations may spell more troubles for U.S. domestic producers in their competition with the Chinese exporters, as the former becomes less productive on average while the latter becomes more productive.

The remainder of this paper is organized as follows. Section 2 describes the institutional background of antidumping investigations in the U.S. The estimation strategy is discussed in Section 3 and data are reported in Section 4. Section 5 presents the empirical findings and some discussions of these results. The paper concludes with Section 6.

2. Institutional background of antidumping investigations in the U.S.

In this section, we briefly describe the institutional context of antidumping investigations in the U.S. and its relevance to our identification strategy (Staiger and Wolak, 1994).

In the U.S., there are two government bodies involved in antidumping investigations: the Department of Commerce (DoC) and the International Trade Commission (ITC). The DoC determines whether an imported product under investigation is sold in the U.S. at less than its "fair value", while the ITC determines whether the imported product has materially injured the relevant U.S. domestic industries. Each of these two bodies makes two determinations, i.e., the preliminary and final determinations.

Once an antidumping petition against an imported product is filed and then considered, the ITC first makes a preliminary determination within 45 days. If the determination is negative, the investigation is terminated. Otherwise (i.e., where the preliminary ITC determination is affirmative), the DoC conducts its investigation and makes a preliminary determination in the next 115 days. Regardless of the DoC's preliminary determination (affirmative or negative), the investigation process continues. However, if the DoC's preliminary determination is affirmative, importers of the affected imported product must post a cash deposit or bond to cover the dumping duties the DoC estimates to be payable.

After the DoC's preliminary determination but before the ITC's final determination, the antidumping investigation can be terminated due to withdrawal by the petitioner(s), or can be suspended due to agreements reached between affected foreign exporters and the DoC. If an antidumping investigation is neither terminated nor suspended, the investigation moves on to the next stage, in which the DoC makes a final determination within 75 days of its preliminary decision. If the DoC's final determination is negative, the investigation is terminated. Otherwise, the ITC has 45 (or 75) days to conduct a second round of investigation and make a final determination, depending on whether the DoC's preliminary determination was affirmative (or negative). Once both the DoC and the ITC reach affirmative final determinations, the DoC must issue an antidumping order to levy antidumping duties within 7 days.

In summary, there are five important points in time during an antidumping investigation: initiation, the preliminary ITC determination, the preliminary DoC determination, the final DoC determination, and the final ITC determination.

3. Estimation strategy

In contrast to the yearly data used in most of the literature, our monthly export transaction data allow us to investigate whether exporters respond differently to different stages of the antidumping investigation process. As noted in Section 2, there are five stages in an antidumping investigation: the initiation of the case, the preliminary ITC determination, the preliminary DoC determination, the final DoC determination, and the final ITC determination. Given that the DoC makes affirmative determinations in most antidumping cases, we focus on the three remaining dates in the antidumping investigation, i.e., the initiation date, the date of the preliminary ITC determination, and the date of the final ITC determination. The affirmative final ITC determination leads to the imposition of dumping duties, which consequently increase the costs of the export products concerned for the U.S. importers. The affirmative preliminary ITC determination, combined