An Econometric Analysis of
US Antidumping Sunset Review Decisions

Abstract

This paper is the first comprehensive analysis of the new US antidumping sunset review process required under WTO commitments. The econometric models study determinants of decisions by three US domestic actors: the petitioning industry, the Department of Commerce (DOC), and the International Trade Commission (ITC). Domestic industries with low concentration ratios seem to use the sunset review process to maintain current high profits. US governmental institutions use criteria broadly consistent with their legal obligations. There are some indications that exports involving Chinese firms may face bias in the ITC process. The ITC seems to ignore data provided by the DOC in its sunset review role.

Michael O. Moore
Associate Professor of Economics and International Affairs
Department of Economics/Elliott School
George Washington University
Washington, DC 20052
email: mom@gwu.edu
voice: +202-994-6157

I. Introduction

International trade negotiators agreed in the final stages of the Uruguay Round to make modest reforms in the antidumping process. Perhaps the most important new US commitment was to inaugurate a "sunset review" process for long-standing antidumping orders. This paper will assess how this new US procedure has been implemented in its first years of operation.

The international trading system established under the General Agreement of Trade and Tariffs (GATT) and its successor the World Trade Organization (WTO) has long allowed member nations to impose discriminatory duties on imports found to be "dumped" at "unfair prices" and which cause "material injury" to a domestic industry. While there had been detailed descriptions of what nations could and could not do in the initial antidumping investigations, pre-WTO GATT rules were relatively vague about when governments were required to terminate antidumping duties. The US in particular had no automatic termination of the duties, regardless of how long in place; orders generally were revoked only if US agencies found three years of "non-dumped" pricing at commercial volumes of trade. In practice, this meant that some US antidumping duties could remain in place for as long as twenty-five years.

The US did agree to implement a "sunset review" process as part of the compromises necessary to conclude the Uruguay Round in 1994. This commitment required that all antidumping orders be terminated five years after their initiation unless the importing country government made a determination that revocation would lead to renewed dumping and material injury to the domestic industry. The US Congress incorporated these changes into law in the Uruguay Round Agreements Act.[1] The first US sunset reviews began in 1998 and involved so-called "transition-orders," that is, US antidumping cases in place as of 1 January 1995 but subject to the sunset review process negotiated under the Uruguay Round. The adjudication of the transition orders has now been completed. These cases will form the basis of the analysis in this study.

---

[1]URAA (1994).

An analysis of this newly-implemented sunset review process will provide important insight into how well the US has lived up to its international trade commitments in an area of intense domestic sensitivity. Certainly, the lack of a US sunset review process prior to 1995 is emblematic of broad US political support for the antidumping system. Congressional leaders of both parties have always been extremely wary about even the most modest of reforms.[2] One might expect therefore that the sunset review process might be administered in a decidedly "unenthusiastic" manner----the US may well live up to the letter, if not the spirit, of the new sunset review commitments. Cynics might even suspect that political considerations might play a prominent role in the law's administration. But the issue is also important out of more general concerns----the application of required antidumping reforms by the US, the leading proponent of the WTO rules-based system, can give us insight into whether other countries will adhere to trade policy commitments in their own politically difficult areas.

This article will evaluate the sunset review process from the standpoint of three distinct players in the sunset review process: 1) the US import-competing industry; 2) the US Department of Commerce (DOC); and 3) the US International Trade Commission (ITC). We will analyze what factors enter into a domestic industry's decision to seek to extend the life of an antidumping order. We will also examine the DOC's investigation of the likely dumping margin if the order is revoked. Finally, we investigate what factors influence the ITC's decision about whether a revoked order would lead to renewed economic distress to a domestic industry. We find evidence that the DOC and ITC are implementing the sunset review process in a way generally consistent with the letter of US law and published regulations. We do find strong evidence that the DOC has a very mechanistic approach to the sunset review process. Indeed, doubts about the usefulness of the DOC 's decision may extend to the ITC: there are strong indications that the ITC regularly ignores the information provided by the DOC about likely dumping margins. We also see indications that the ITC is more likely to rule affirmatively when domestic wages are falling and

---

[2]The continued domestic resistance to changing any aspect of the US antidumping system could be seen in a May 2002 Senate vote passing the Dayton-Craig amendment. This provision would require that any Doha Round agreements to change the "unfair trade" provisions of the WTO be subject to a separate vote apart from the regular "fast-track" procedures.

foreign imports remain high despite the antidumping order. We find little evidence that purely political variables play a role in ITC or DOC decisions. Finally, domestic firms requesting the continuation of antidumping orders come from industries with low concentration ratios but current healthy profits. In other words, firms in highly competitive markets may be using the antidumping process to prop up artificially-high profits.

The balance of the paper is organized as follows. Section II provides a brief review of the relevant literature as well as the legal and institutional arrangements. Descriptive statistics are set out in section III. Section IV introduces the decision models, hypotheses to be tested, and explanatory variables for the statistical analysis. Section V contains the econometric results. Concluding remarks can be found in section VI.

II. Literature Review and Institutional Context

<u>Relevant Literature</u>

There is a long-standing and extensive economics literature on antidumping. The theoretical work has focused on explaining, among other aspects, the antidumping strategies of competing firms and the interplay among firms and governments administering antidumping procedures. There is also a wide-ranging empirical literature on the impact of antidumping procedures.[3]

The analysis provided in this paper contributes to a different branch of the antidumping literature which investigates the determinates of antidumping case outcomes. Studies on the US have focused almost exclusively on the original antidumping decisions, with particular attention to the ITC's material injury decisions.[4] Finger, Hall, and Nelson (1982) provided the first empirical study of US antidumping actions. Anderson (1993), Baldwin (1985), Devault (1993), Hansen (1990), Hansen and Prusa (1996 and 1997), Hartigan (1989), Herander and Schwartz (1984) and Moore (1992) all look empirically at various

---

[3]For a comprehensive review of theoretical and empirical work on antidumping, see Blonigen and Prusa (2001).

[4]Devault's (1996) unique work focuses on a part of the antidumping process generally ignored by the literature: administrative review outcomes.

aspects of ITC antidumping decisions.

There is necessarily very little formal analysis of US sunset reviews since the process was instituted only in 1995. Liebman (2001) is the only existing empirical analysis of US sunset review decisions but focuses exclusively on the ITC's decision process. In particular, he analyzes the determinates of individual ITC commissioner votes in sunset review outcomes. Like Moore's (1992) and Hansen and Prusa's (1997) work on material injury decisions in original investigations, Liebman investigates the whether sunset cases reaching the ITC are adjudicated without political considerations. He finds at least some evidence that politically-sensitive cases may get favorable treatment. Moore (1999) looks instead at possible DOC bias in its proposed sunset review procedures. He concludes that the DOC's proposed rules would: 1) make it highly unlikely that the DOC would ever revoke an order in the sunset review process; and 2) the margin reported to the ITC would be determined in such an arbitrary way that there would be little informational content. Moore (2002) provides descriptive statistics of early sunset review outcomes, with particular attention to the Department of Commerce's decisions. He also finds at least some evidence of arbitrary DOC procedures as well as some evidence that Chinese firms might fair worse than other firms.

Relatively little work has been done on the determinates of DOC dumping margin decisions. Notable exceptions include Baldwin and Moore (1994) and Sabry (2000). Sabry has particular relevance to this study since he also investigates the three actors analyzed here: the domestic industry, the DOC and the ITC. However, like most of the other studies cited above, Sabry is analyzing the original investigations, not the sunset review process.

The US Sunset Reviews Process

Under US law, imports may be subject to imposition of antidumping duties if foreign firms if the DOC determines that they have sold products in the US at "less than fair value" and the ITC rules that these "dumped" imports have caused "material injury" to a domestic industry. If foreign firms do not cooperate with the DOC in the dumping investigation, the DOC may use the "best-information-available"

(BIA) about the foreign behavior, which is typically based on the allegations of the domestic firms.[5]

Once subject to an antidumping order, importers of the goods found to be dumped must pay a duty equal to the difference between the "normal" price and the "dumping" price. Interested parties may request an annual "administrative review" which is designed to assess the previous year's foreign pricing; if such a request is made, the dumping margin can be adjusted for imports in the following year.

Prior to the successful conclusion of the Uruguay Round trade round, US antidumping orders could remain in effect for an arbitrary time period as long as annual administrative reviews found evidence of continued dumping, regardless of the economic condition of the domestic import-competing industry. As shown in Table 1, a number of US antidumping measures had been in place for over fifteen years when the Uruguay Round was completed in 1994.

The Antidumping Agreement (ADA) contained new commitments under the new WTO system. Article 11.3 of the ADA stipulates that

"any definitive antidumping duty shall be terminated on a date not later than five years from its imposition....unless the authorities determine that...the expiry of the duty would be likely to lead to a continuation or recurrence of dumping and injury."

The sunset review process adopted by the US parallels that of the original antidumping investigations. In the first stage, a domestic industry must apply to have the antidumping order continued; if it does not, the US Department of Commerce will revoke the order automatically. If the domestic industry does request a continuation, the DOC first must determine whether the revocation of the order is likely to lead to a "recurrence or continuation of dumping." If the DOC rules affirmatively, then it must assess what would be the "likely" margin of dumping in the event of a revocation of the order; this margin is then transmitted for possible use by the ITC in its own decision. The DOC has announced in Federal Register (1998a) that it will "normally" report the margin from the original

---

[5]The current terminology is "facts-available."

dumping investigation (no matter how old) as the likely dumping margin if the order is revoked.

Cases approved by DOC then move on to the ITC which must assess whether revocation of the order will

lead to a recurrence of "material" injury to a domestic industry producing a similar product.   If the ITC

rules affirmatively, the order will be subject to another sunset review process five years hence.   This

decision process is depicted in Figure 1.[6]

It is important for the later statistical analysis to distinguish between "firm-" and "order-" level

sunset review decisions by the relevant US agencies. Suppose two Japanese companies are found to be

dumping the same product in the US market. Each company will be assessed a duty based on their own

individual firm behavior. However, an antidumping "order" will be in place for all Japanese firms

exporting this product to the US. Thus, the antidumping duty is determined at the "firm-level" while the

decision to subject Japanese exports to the antidumping process is conducted at the "order" level.

In terms of the sunset review process, this means that domestic firms must decide to pursue the

continuation of the antidumping duties at the "order level."   The DOC determines the likelihood of

continued dumping at the order level as well but must decide the likely post-revocation margin at the

"firm level."   Finally, the ITC determines whether the revocation of the order will result in renewed

material injury.

IV. Descriptive Statistics

The antidumping cases analyzed here are the so-called "transition orders."   This phrase refers to

all US antidumping orders in place on 1 January 1995 when the Uruguay Round commitments took force.

 These commitments required the US government to subject these existing orders to sunset review

procedures even though they had been initiated without a sunset review requirement in place. Transition

orders alone make up the database for this analysis; orders instituted subsequent to 1 January 1995 are not

included.

---

[6]See http://ia.ita.doc.gov/sunset/ss-proc.htm and   ftp://ftp.usitc.gov/pub/notices/sunrules.pdf for a detailed
description of DOC and ITC sunset review procedures, respectively.

We will analyze 222 transition antidumping orders which were subject to the new sunset review process.[7] The need for a sunset review process is evident—while the average initiation date for the transition orders was June 1988, nearly 10% of the orders originated prior to 1980.

Among these pre-1980 cases, almost 70% (13 out of 19 cases) were terminated because of a lack of domestic interest in their continuation. An additional 28 cases in the post-1980 were revoked because there was no domestic constituency to contest the revocation. Consequently, in the entire data set, only 18% (41 out of 222) were revoked without a DOC or ITC reviews. This of course means that prior to the inauguration of the sunset review process, US authorities were imposing dumping duties (with an average duty in excess of 47%) on foreign imports even though no domestic parties were apparently interested in continuing the restrictions.

Table 1 shows that the DOC did not revoke a single case in the sunset review process. This perhaps should come as no surprise since, as Moore (1999) has noted, the DOC has announced that it will "normally" determine that dumping is likely to continue or recur if: 1) dumping has continued at any level above *de minimis* (i.e., 0.5%) during the order; (b) imports under an order have ceased; or (c) dumping margins are zero after the issuance of the order and import market share have declined "significantly."[8] The DOC apparently found that none of the cases it reviewed met any of these conditions. Among the 181 contested orders (i.e, for which there was domestic interest in continuation), the ITC revoked only about 28% (50 out of 181 decisions) of the contested orders. The sunset review process clearly did not routinely terminate cases.

We also see indications that the original dumping margins may not be good predictors of outcomes. In particular, we see that the average original margin for post-1980 cases with no domestic interest was 62% compared to only 44% for contested orders. Overall, revoked orders had an average

---

[7]The list of cases is based on Federal Register (1998b). Suspension agreements, i.e., those originally settled by minimum import prices rather than antidumping duties, as well as agricultural products are not included in the sample. A complete set of explanatory variables used in the econometric models are not available for both types of excluded cases.

[8] Federal Register (1998a)

original margin of 39% compared to 43% for all contested orders.

V. Decision Models and Econometric Strategies

We make the following working hypotheses about the behavior of the three actors in the sunset review process.

First, we assume that the domestic industry chooses to file for a continuation of the order if the expected profit of doing so (inclusive of any legal costs) exceeds the profit of allowing the order to lapse. We suppose furthermore that these two agencies (the DOC and the ITC) follow published rules and regulations concerning their decisions and ignore factors inconsistent with their legal responsibilities.

The structure of the decision tree in Figure 1 makes clear that a domestic industry considering whether to request a continuation of the order in principle should take into account the likely decisions of the ITC and DOC. Consequently, we will focus first on the decision of the ITC and work backwards.

V. a. The ITC's decision —likelihood of material injury

We suppose that if ITC utility exceeds some critical level, then the case is continued. We model this decision in the following way.

$$\text{Continue the order if:} \qquad U_j = X_{1j}\beta_1 + X_{2j}\beta_2 + \varepsilon_1 \geq \underline{U} \qquad \textbf{(1)}$$

$$\text{Terminate the order if:} \qquad U_j = X_{1j}\beta_1 + X_{2j}\beta_2 + \varepsilon_1 < \underline{U}$$

where U_j is the expected utility of the ITC when ruling on an individual order (indexed by j) and where $\underline{U}$ is some breakeven level of utility; if the ITC's utility is equal to or above $\underline{U}$ by continuing the order, it will vote to do so. Variables consistent and inconsistent with the ITC's legislative mandate concerning material injury are denoted by X_{1j} and X_{2j}, respectively. Under the null hypothesis, the vector β_1 should have non-zero components while β_2 should be a vector of zeros.

Only the ITC knows the value of $\underline{U}$ and the vector $\beta = (\beta_1, \beta_2)$. The world observes only whether the ITC rules affirmatively or negatively. If we assume that $\varepsilon_1 \sim N(0,1)$, then this decision can be estimated through probit procedures where an ITC decision to continue the order is denoted by 1 and a

negative decision by 0.[9]

Variables consistent with ITC mandate (X_{1j} variables)

The candidates for variables in X_{1j} should be consistent with the ITC's legislative mandate to ascertain the probable economic effects on the domestic industry if the order is removed. The precise definitions and data sources for these and other variables can be found in Table1.

As in earlier works on the original antidumping decisions, we assume that "material injury" to the domestic firm can be measured by the impact on domestic profitability and on domestic workers. This research follows the tradition of many researchers analyzing ITC decisions by using relatively aggregated economic data which should be correlated with the information collected by the ITC in its questionnaires to individual domestic firms.[10] We generally will use economic variables collected at the 6-digit North American Industrial Code System (NAICS) level of aggregation to proxy for the economic condition of the petitioning domestic industry.[11]

The 6-digit NAICS variables used to measure the current economic condition of the industries involved in the cases include: capacity utilization for the industry in 1998 (CAP98), the percentage change in capacity utilization from 1997 to 1998 (CHCAP), the percentage change in the value of shipments from 1997 to 1998 (CHSHIP), and the percentage change in the average production wage from 1997 to 1998 (CHWAGE).[12] The capacity utilization and shipment data are likely to be highly correlated with the profitability of the industry while the change in wages should control for economic

---

[9] This is in essence the model estimated by Liebman (2001) when he analyzes sunset reviews at the ITC level. Most of his analysis however is focused on individual ITC commission votes.

[10] The ITC collects extremely disaggregated data about firm profits, capacity, wages, employment, production, sales, etc. directly from the domestic firms involved in the case. These data would clearly be the preferred ones. However, much of the data in these cases is proprietary and therefore not available to the public. We follow a common approach in this literature by using more aggregated (and hence publically available) data for some of the explanatory variables so that more cases can be analyzed.

[11] A concordance between the NAICS and the older SIC system can be found at Census (1997).

[12] We use 1998 and 1997 data because domestic firms had to make their decisions about requesting a continuation in 1998. In addition, these two years were the only complete annual data available to the ITC and DOC when making their decision on transition orders.

state of industry workers.

We expect that the ITC will take into consideration imports subject to the existing antidumping order. These data are available at the 8- or 10-digit Harmonized Tariff System (HTS) code and thus at a much more disaggregated level than the economic variables mentioned above. Two versions of imports are used. The first is the (1998) share of imports represented by the country in the particular order combined with the imports from other countries subject to an order in the same product (IMP98). The inclusion of other countries' imports subject to an order reflects the US practice of "cumulation," which allows the ITC to use the aggregated imports of all countries for the particular product when making its decision. We also include the change in imports of the particular country from 1997 to 1998 (CHSUBJ) to control for recent trends in subject country imports.

The expected signs for these economic variables in the ITC decision are ambiguous. In particular, the ITC could look at a domestic industry currently in good economic condition and argue either that: 1) the antidumping order has enabled these good times to occur and therefore the order should remain in place; or 2) the current economic health indicates that the industry does not need to fear renewed dumping so that the order should be terminated. We indicate this ambiguity, first noted by Liebman (2001), by a question mark in Table 4 which includes the predicted signs of these explanatory variables. The data will give some indication how the ITC interprets these economic factors.

We also included some non-economic factors consistent with the ITC's mandate and therefore candidates for X_{1j}. In particular, we control for foreign participation in the ITC sunset review decision. Foreign firms are not required to provide relevant information to US authorities. If they choose not to participate, the ITC will conduct a so-called "expedited review" with little input from the foreign respondents. To control for the impact of non-participation, we include a dummy variable called EXP_ITC which takes on a 1 if the foreign firm cooperates and a 0 otherwise. We expect that this variable will have a positive coefficient; the ITC should be more likely to rule against foreign firms if they do not have active legal participation in the process.

-11-

We also include the beginning date of each order. Recall that the whole point of the sunset review process is to eliminate older and unnecessary antidumping duties. We therefore expect that the date of the original order (AGE) will enter positively into the ITC's decision; after controlling for economic factors, older cases should be more likely to be terminated.

Finally, we will consider a number of different measures of the dumping margin for firms subject to the order. As noted above, the DOC's main sunset review responsibility is to report to the ITC a likely dumping margin in the event that the order is revoked. While the DOC reports margins for each *individual* foreign firm subject to the original order, the ITC makes decisions only at the order level. We consequently use two average measures to assess how the foreign firms' dumping margins are used in the material injury decision. The first is the average DOC-reported margins for the order (REP_DM) while the second is the average of the most recently calculated margin (REC_DM) for all individual firms in the order (i.e., the most recent administrative review margin if conducted, or the original margin if no review had occurred.) Note that the mechanistic nature of the DOC's procedures (i.e., report almost automatically the original margin), could mean that the ITC would choose to look at more recently-calculated margins in its decision, rather than the one reported by the DOC. The Commission could even ignore the DOC-reported margins altogether since the law allows, but does not require, the ITC to consider the margins when making the material injury determination. If found significantly different from zero, we expect a positive coefficient for both variables.

We will also use corresponding measures of the variance of the reported and original dumping margins. These will help us determine whether the ITC is looking not only at the average margins but also the dispersion among all of the firm margins in the order. The two measures included are REP_VAR and ORIG_VAR for the variance of the DOC-reported and original margins, respectively. We expect a positive coefficient for these variables.

Variables inconsistent with ITC mandate (X_{2j} variables)

We also include some variables which should not be consistent with the ITC's legislative

mandate. The ITC should treat products from one country no different from any other, after controlling for relevant economic data. We include a dummy variable (taking on the value of 1) for orders involving Chinese exports (CHINA_DUM) or Japanese exports (JAPAN_DUM). One expects the coefficients to be positive and significantly different from zero if the ITC is treating these cases with some bias. Similarly, we create a dummy variable for decisions involving steel firms (STEEL_DUM); the steel industry's political effectiveness in the antidumping process would suggest a potential positive coefficient.

We include controls for political considerations by the ITC in four further ways. If low wage workers are a concern of the ITC, then the average production wage in the industry (WAGE) should enter negatively. We also include the 4-firm concentration ratio of the 6-digit NAICS domestic industry (CONC). We speculate that CONC may have a positive coefficient; highly concentrated industries might have more rents to protect or may be able to lobby the government more effectively. Finally, we evaluate whether "large" industries, either in terms of total sales or total employment, are more likely to receive a positive decision by including the 1998 total value of shipments (SHIP98) and total industry employment (EMPL97) obtained from the 1997 Census of Manufactures.

V. b. The DOC's Decision—Likely Dumping Margin

The DOC in principle has two sunset review decisions. It must determine: 1) the likelihood of a recurrence or continuation of dumping by firms subject to an order; and 2) the likely dumping margin if the order is revoked. As noted above, in the sample the DOC *always* ruled that dumping was likely to recur in "contested" cases so that no econometric analysis of the first decision can take place. Instead, we focus on the margin reported by the DOC to the ITC for possible use in the material injury determination.

We can write this outcome as:

$$RM_i = Z_{1i}\gamma_1 + Z_{2i}\gamma_2 + \varepsilon_2 \tag{2}$$

where RM is the reported likely dumping margin for *individual firm j* reported to the ITC and where Z_{1i} and Z_{2i} are variables consistent and inconsistent with published regulations, respectively. We will be

assessing the hypothesis that the vector γ_1 has non-zero elements and that γ_2 is a vector of zeros. In

Table 4 we list firm-level explanatory variables for the DOC decision.

Variables Consistent with DOC Regulations

As described above, the DOC has announced in its regulations that "normally" it will consider the

margin determined in the original investigations as the likely margin in the event of a revocation. The

DOC has argued that this appropriate since it is the only margin calculated without the discipline of the

order in place.[13] We control for this by including the individual firm's dumping margin calculated in the

original investigation (FIRM_DM). The specific null hypothesis for this variable is that the coefficient is

equal to one.[14]

We also include the difference between the original and most recently calculated administrative

review margins. This variable, denoted by (ORIG-REC), will allow us to control for any systematic

adjustments for changing patterns of dumping margins over the life of the order. If the DOC adjusts the

margin upward if margins have increased (i.e., ORIG-REC < 0) or downward if (i.e., ORIG-REC > 0),

then one expects a negative coefficient on this variable. We also include a dummy for whether the

individual firm had been subject to an administrative review during the life of the order (FIRM_AR).

This dummy variable takes on a value of 1 if the individual foreign firm has been subject to an

administrative review and 0 otherwise.

We expect that there may be non-symmetric treatment of the changing dumping margins for the

individual foreign firm. Executive Branch Implementing instructions embodied in the Statement of

Administrative Action (SAA) specifically allows for the DOC to use a more margins determined more

recently in administrative reviews with "good cause." The DOC may only use margins from the original

---

[13]Federal Register (1998a).

[14]Dumping margins were calculated by the Treasury Department prior to 1980. Incomplete records from that time meant that the DOC reported FIRM_DUM as the first available margin from the record, which sometimes came from later administrative reviews.

investigations or subsequent administrative reviews.[15]

The DOC has announced that it might report a sunset review margin lower than in the original investigation "if dumping margins have declined over the life of an order and imports have remained steady or increased."[16] While economic principles suggest that this will be an unlikely combination since increasing prices in the US (which will lower the dumping margin) will not normally increase the sales in the US, we will explore whether the DOC adjusts the reported margins downward in these instances by including a dummy variable called DOWN_ADJ. This variable takes on a value of 1 if the latest administrative review margin is less than the original dumping margin (that is, ORIG-REC > 0) *and* if subject country imports have fallen from 1997 to 1998. We expect that this variable will have a negative coefficient if the DOC takes these factors into account.

The DOC may report *higher* margins than in the original investigation if "dumping margins increased after the issuance of the order."[17] Interestingly, the DOC does not indicate that imports must fit any pattern as in the downward adjustment in the previous paragraph. Cases which meet the rising margin criterion will be indicated by a dummy called UP_ADJ. The estimated coefficient is expected to be positive for this variable.

Foreign firms' level of cooperation in the sunset review process will also likely affect the outcome at the DOC stage. As in the ITC process described above, foreign firms may elect not to participate in the DOC's determination; if they do not, then the DOC will "expedite" the investigation. We construct a variable called EXP_DOC which takes on a value of 1 if the foreign firms does not cooperate with the DOC and a zero otherwise. We expect a positive coefficient on this variable.

Finally, the implementing legislation and executive branch instructions allow the DOC to adjust the reported margins if economic conditions have changed sufficiently over the life of the order. We

---

[15] SAA. (1994, p. 891).

[16] Federal Register (1998a).

[17] Ibid.

control for this by including the initiation date of the original order [AGE] as an explanatory variable, the expected sign of which is positive.

Variables Not Consistent with DOC Regulations

We also would like to determine whether variables not plausibly consistent with the DOC's published regulations help explain the reported sunset review margin to the ITC. For example, the economic condition of the industry seeking a continuation of the antidumping order should not play a role since the DOC should only consider *foreign pricing behavior*. Thus one would expect a zero coefficient on any of the economic variables used by the ITC. We assess this by including the following variables in the Z_{2i} matrix: the level and change in capacity utilization (CAP98 and CHCAP), change in shipments CHSIP), and imports subject to the order (SUBJSH98).[18]

The DOC should not consider in its sunset review decision whether the foreign firm cooperated in the original dumping investigation. Thus, the application of "best-information-available" margins based on domestic firm allegations in the original decision should not explain current DOC decisions. We control for this through FIRM_BIA which takes on a 1 if the individual firm was subject to BIA margins in the original investigation and a 0 otherwise.

We also include the China dummy (CHINA_DUM), Japan dummy (JAPAN_DUM) and basic steel dummy (STEEL_DUM) to assess any potential bias in DOC administration of these cases. Bias against foreign firms from China, Japan or involving the steel industry would be indicated by a positive margin on these dummy variables.

The parameters of this model will be estimated using standard OLS regression techniques.

V. c. Firm Decision to Contest Revocation

Under the sunset review process, a domestic industry must file a "Notice of Intent to Participate" to prevent the automatic revocation of the antidumping order. In making this decision, the industry must

---

[18]Please note that these economic variables are available only at the order-level so that there will be no variation within an order across individual firms.

determine whether the expected profits from seeking a continuation of the order exceeds the legal costs of doing so. That is, the industry will file the petition if the following condition holds:

$$\alpha \, \pi_{FWj} + (1-\alpha) \, \pi_{FLj} - Kj > \pi_{Nj} \tag{3}$$

where π_{FWj} is the discounted stream of domestic profits from winning the continuation of order j, π_{FLj} is the stream of profits if the domestic industry files but loses the case, α is the probability of winning the continuation of the case, K_j is the industry's legal costs of pursuing continuation of the order, and π_{Nj} is the domestic profit stream if the order is terminated in the absence of a sunset review. This expression can be rewritten as:

$$\alpha(\pi_{FWj} - \pi_{FLj}) + (\pi_{FLj} - \pi_{Nj}) - Kj > 0 \tag{4}$$

The first term of (4) is the expected increase in profit from winning the petition. The second term reflects the possibility that an industry might have higher profits by filing for continuation but still losing compared to simply accepting the termination of the order. This second part of (4) would generally be zero for a competitive firm; under both scenarios, the domestic price returns to the competitive market price. However, this part of the expression could be non-zero for imperfectly competitive industries. For example, a domestic industry might file for a continuation as a signal to foreign firms about being too aggressive in their pricing.

Note that expression (4) does not depend on the DOC's announcement of the likely margin since ($\pi_{FWj} - \pi_{FLj}$) depends only on the antidumping duty in place at the time of the sunset review order. In addition, the reported margin takes place only after the industry has made its own decision to participate. The domestic industry however could use the original investigation as a predictor of the DOC's decision; this might play a role in the value of α, i.e., the probability of winning a final affirmative decision.

The researcher does not observe directly any of the components of (4) but does know whether the domestic industry contests automatic revocation and can observe some variables correlated with the profit outcomes. Consequently, we suppose that we observe domestic interest in continuation of the order if

the following condition holds:

Contest termination if: $\qquad$ $W_{1j} \alpha_1 + X_{1j}\alpha_2 + X_{1j}\alpha_3 + v_2 > 0$ $\qquad$ (5)

Do not contest if: $\qquad$ $W_{1j} \alpha_1 + X_{1j}\alpha_2 + X_{1j}\alpha_3 + v_2 < 0$ $\qquad$ (6)

where W_{1j} is a matrix of variables important to the domestic industry's decision but not to the ITC. The inclusion of X_1j and X_{1j} reflects both the industry's interest in its own economic condition but also that it will try to anticipate the ITC's material injury decision. Standard assumptions about the distribution of the disturbances v_2 allow us to estimate the parameters using probit procedures.

Note that the industry's decision does not include variables associated with the DOC's decision to rule whether dumping is likely to occur. This follows both from Moore's (1999) prediction prior to the inauguration of the sunset review process that the DOC was unlikely to rule that dumping would not recur as well as the *ex post* DOC behavior wherein it never revoked a case on the basis of no likely resumption/continuation of dumping.

W_1 will include CONC,(the domestic 4-firm concentration ratio at the 6-digit NAICS level). We expect that industries with high concentration ratios may try to use the sunset review process to help signal foreign firms about "overly-aggressive" pricing; this implies a positive coefficient on CONC. A negative coefficient on CONC might suggest that more competitive industries may need government action through antidumping measures to maintain extra-normal profits.

We will also include two variables to control for domestic industry legal costs of filing a case. In particular, we hypothesize that the complexity of the cases is positively correlated with the number of foreign firms in the individual order and the number of foreign countries subject to an order for the particular product in question. We therefore expect a negative coefficient on both FIRMS and COUNTRIES.

VI. Empirical Results

VI. a. ITC Material Injury Decision

Table 4 displays the probit results for the ITC's decision on whether or not to continue the order. Three different versions of the model were estimated. Columns 1 and 2 depict the results when only variables consistent with the legislative mandate are included. Columns 3 includes other, more political, variables.

Column 1 displays the results when the average individual firm margin reported by the DOC is included, along with the variance of the individual margins. Column 2 repeats the same estimation but with measures of the most recently-available dumping margin (REC_DM and REC_VAR) used instead. The use of these two different measures allows us to ascertain whether the ITC is using the DOC's reported sunset review margin or instead using the most up-to-date information available about foreign firm's pricing behavior.

The results of both models support the same general conclusions. In particular, there is weak evidence that an *increasing* wage in the industry is positively correlated with a positive ITC decision since the coefficient for CHWAGE is positive, with a marginal significance of 7.5% in Column 1 and 8.3% in Column 2 Thus, the ITC may be concerned about removing an order on a domestic industry which recently has experienced higher wages. In addition, the higher the share of imports (across countries subject to an order for the particular product), the more likely that the ITC may vote to continue the order. This result follows from the positive coefficient on IMP98 in Column 1 (with marginal significance of 6.1%) and in Column 2 (with marginal significance of 2.5%). The importance of total imports from all countries subject to an order in the ITC's determination is consistent with an earlier studies by Hansen and Prusa (1996) and Prusa (1998) on the impact of "cumulation" on ITC antidumping decisions. There is little explanatory power in the measures of capacity utilization or changes in industry shipments. This, however, may be an artifact of using the publically-available aggregated data; firm level data collected by the ITC might perform better if they were available.

While the coefficient on AGE is positive (suggesting that newer orders are more likely to be continued) in Columns 1 and 2, we cannot reject the hypothesis that the slope coefficient equals zero.

We see strong evidence that non-cooperation by the foreign firms increase importantly the chances of an affirmative ITC decision since the coefficient on EXP_ITC is positive and marginally significant at a 0.3% and 0.4% level in Columns 1 and 2, respectively. This is a clear indication that an outcome will be decidedly unfavorable for foreign firms that decide not to participate in the ITC's material injury decision in sunset review cases.

Column 1 shows that both measures of the DOC sunset review margins (REP_DUM and REP_VAR) in Column 1 have little explanatory power for the ITC's material injury decision.. The coefficients for both variables are, as expected, positive but are not statistically significant different from zero at standard levels. These results suggest that ITC commissioners may discount the usefulness of the DOC's reported sunset review margins. This view is strengthened by the results in Column 2 which include instead the most recently-available dumping margins calculated by the DOC; the coefficient on REC_DM is positive and marginally significant at a 7.1% level.

Column 3 contains the results when variables <u>inconsistent</u> with the ITC's mandate are included in the estimation. We see that only one of the economic variables (IMP98) retains a marginal significance less than 10%. The continued significance of EXP_ITC at a 1% level suggests once again that non-cooperation with the ITC's investigation seriously disadvantages the foreign respondents. The significance of the most recent dumping margin available (REC_DUM) loses much of its explanatory power with the inclusion of these other variables.

Among the other more "political" variables, only the dummy variable for orders involving Chinese exports (CHDUM) is significant, and positive, at even a 10% level. This is weak evidence suggesting that Chinese firms are more likely to lose a material injury determination, even after controlling for economic conditions and cooperation with the ITC's investigation.

We see little evidence that other political variables play a role in the ITC decision. Variables

which control for orders involving steel products, industry wages, size of industry (both employment and value of shipments), and the 4-digit concentration ratios all do not seem to help explain ITC decisions in a statistically significant way. The formal hypothesis that these "political" variables jointly have non-zero coefficients yields a Chi-squared statistic of 12.4 with a marginal significance of 8.7%. If one removes CHINA_DUM from the test, the hypothesis yields a test statistic of 9 with a marginal significance of 17%.

In sum, we find that the ITC's sunset review decisions are broadly consistent with its legislative mandate. The empirical results indicate that the ITC continues protection for industries with improving conditions for workers but which still face significant import competition. Furthermore, foreign firms which decide not to cooperate in the ITC investigation face a significantly higher chance of continued duties. There are few indications that inappropriate factors play a role in ITC's decisions though there is some weak evidence that Chinese exports face added difficulties. Finally, it is worth noting that among the economic variables used in these estimations, only the most disaggregated (that is, the import data) was consistently significant. This suggests that the data collected by the ITC but unavailable to the public might have performed better in explaining ITC decisions.

VI. b. DOC Dumping Margin Decision

The DOC must decide what the likely dumping margin will be if the order is revoked. As noted above, the Department must announce a margin for each foreign firm named in the original order. Consequently, there may be many individual firm margins reported to the ITC for each individual order so that the number of observations analyzed at this stage (441) is substantially larger than the total number of orders in the previous section (181).

Table 5 contains the OLS regression results for the determinates of the DOC's reported dumping margin. Column 1 includes estimates when only variables consistent with the DOC's published regulations are included. Column 2 is identical to column 1 but includes some alternate measures of adjustments for more recent foreign firm behavior. Column 3 includes economic variables which are not

consistent with the DOC's published regulations.

Column 1 clearly shows the importance of the dumping margin from the original investigation. We see that FIRM_DUM has an estimated coefficient of 1.06. The formal hypothesis that this slope coefficient equals 1 has a test statistic of 14 indicating acceptance of this hypothesis at any standard significance levels. This suggests that the DOC not only uniformly ruled that foreign firms were likely to continue to dump but generally mechanistically supplied the ITC with the original dumping margin.

Nonetheless, we find in column1 that there seems to be other variables important to the DOC's decision. There appears to be some room for at least some adjustments in individual firm margins----the coefficient on ORIG-REC is negative as expected (with a t-statistic equal to 11.9), which indicates that falling margins over the life of the order may result in a lower reported margin and rising margins may result in a higher reported margin to the ITC.

There is little evidence that foreign firms which do not cooperate in the DOC's investigation face any particular sanction for their non-cooperation after we have controlled for original dumping margins and subsequent margins in administrative reviews (i.e., the coefficient for EXP_DOC is not significantly different from zero). This indicates that foreign firms may have little to gain from cooperating with the DOC since the reported margin may not depend on their legal participation in the process.

We see that in column1 that newer cases may face systematically higher dumping margins since the coefficient on AGE is positive and has a marginal significance level of 1.8%. This result may reflect the possibility that foreign firms have had sufficient time to alter their behavior over time or the DOC may be considering how the industry might have changed over the life of an order.

Column 2 shows the results when we explore whether there may be asymmetric treatment of adjustments for foreign firm pricing behavior over the life of the order. In particular, we see evidence that the DOC may adjust margins *upward* compared to the original investigation margin (i.e., the coefficient for UP_ADJ is positive and significant at a 1.4% level). There is no corresponding evidence that margins are adjusted downward if margins are falling and imports are rising, as suggested in the

DOC's published regulations, that is DOWN_ADJ is not significant. In other words, foreign firms may not see lower reported margins even if they meet the DOC's stated criteria for doing so.

In column 3 of Table 5, we see only limited evidence that factors not consistent with the DOC's published regulations play a role in the reported likely dumping margin. Perhaps most notably, we can reject decisively the hypothesis that the DOC systematically favors the steel industry or discriminates against Chinese exports. We also see few indications that the economic condition of the domestic industry plays an important role in the DOC's decision. In particular, the estimated slope coefficients for capacity utilization (CHCAP and CAP98) and the change in the value of domestic shipments (CHSHIP) are all not significantly different from zero. There is only weak evidence that a firm under investigation from a country with a large current share of imports may experience some upward adjustment to the margin (i.e., the coefficient on SUBJ98 is positive with a marginal significance of 2.2%). Finally, we see the odd result that firms originally subject to BIA margins may have systematically lower reported rates. This is wholly unexpected and puzzling.

The formal hypothesis that the slopes for the added variables in Column 3 are jointly zero has a test statistic of 1.93, which results in a marginal significance level of 4.6%. Thus, there is weak evidence that the DOC takes into consideration these inappropriate factors.

In short, we see strong evidence that the DOC follows its published regulations. While some analysts have strongly criticized the regulations themselves as being biased and overly-mechanistic, there is little indication that the DOC applies them in an arbitrary manner. Nonetheless, the DOC's evident predilection to report the dumping margin from the original investigation may help explain why the ITC may not be using this information in its material injury decisions.

VI. c. Domestic Industry Participation Decision

In contrast to the DOC but similar to the ITC, the domestic industry must make its decision about seeking a continuance at the order level. As mentioned above, the industry's overriding concern is to maximize its expected profits but it must also consider the likelihood of winning a petition if it pursues

the case.   The probit results for the industry's decision are displayed in columns 4 and 5 of Table 4. The only difference between them is that column 4 contains results when measures of the original dumping margin while column 5 contains estimates when measures of the most recently-calculated margins are utilized.

We see evidence that the following are positively correlated with the domestic industry's decision to contest revocation of an order: higher capacity utilization (CAP98), a fall in industry production wages (CHWAGE), older average order age (AGE), and low industry 4-firm concentration ratio (CONC). These results suggest that industries with less monopoly power but which are currently operating at high capacity are likely to pursue an order's continuation. In addition, the combination of high capacity utilization with falling wages means that domestic profits may be rising. The positive coefficient on AGE indicates that domestic firms are more likely to lose interest in the antidumping order over time. This may reflect exit from inefficient domestic firms industry as the years pass.

Oddly, a domestic firm seems more likely to pursue a continuation of the order, the *lower* is the dumping margin as measured by either the original or most recent average margins for the order. We expected that domestic firms facing high margins would be particularly eager to retain them. These results suggest just the opposite. One conceivable explanation is that foreign firms with particularly high dumping margins (which can range up to prohibitive duties of 200%) may no longer be present in the domestic market. Foreign firms with low margins on the other hand are likely still to be in the domestic market; domestic firms may therefore be particularly interested in retaining at least some competitive discipline on those firms.   This interpretation should be tempered by recalling that the DOC's published regulations made clear that as long as a positive dumping margin (greater than 0.5%) was found, the DOC would rule in favor of the domestic petitioner. Consequently, the negative coefficient may simply be an artifact of the data.

The measures of case complexity (COUNTRIES and FIRMS) do not perform well. We had hoped that these measures would help us control for the costs of filing the petitions for the domestic

industry. These do not seem to capture these effects very well (though the marginal significance level was 12% for COUNTRIES).

Table 4 contains strong evidence that the ITC (columns 1-3) and the industry (columns 4-5) use decidedly different criteria when making their sunset review decisions. Most notably many of the coefficient estimates are of opposite sign. We see for example that CAP98 is positively (and significantly) correlated with continued domestic interest but negatively correlated with an affirmative ITC decision. We also see that falling wages increases the chance that the ITC will rule affirmatively but decreases the probability that the domestic industry will contest the termination of the order. The coefficient estimates for the dumping margins are also of different signs for the industry and the ITC. At the very least, the results strong indicate that the ITC has a decision rule which takes into account the impact on domestic profits *and* workers.

In short, we find that there are important differences between the criteria used by the ITC and the domestic industry in sunset review cases. This begs the question about why the domestic industry would not use those factors which will be utilized later by the ITC to grant continued protection, as predicted in section IV above. One practical explanation for this is that the sunset review process is quite new. Domestic firms in effect were required to ask for a continuation of the transition orders during 1998 before the ITC had *ever* made any sunset review decisions. One would expect that this might change over time as domestic firms and their legal representatives have an opportunity to evaluate the ITC's decision rules.

VI. d. Issues of Sample Selection

The structure of the relationships under study raise the possibility of sample selection issues. In particular, the DOC rules on the likelihood of renewed or recurring foreign dumping if a domestic industry pursues a continuation. And the ITC will only rule on material injury for cases that subsequently have been approved by the DOC. Similar issues have been addressed in earlier work by Hansen (1990) and Sabrey (2000) for initial dumping investigations.

Fortunately, there is little likelihood that sample selection will play a role in the DOC's decision since the DOC approved *all* cases initiated by the domestic industry and virtually always reported the original investigation margin to the ITC. It is extremely unlikely that the DOC would have treated the cases without domestic interest in a different way, given DOC published sunset review rules.

---

[19]See Greene (1999) for a detailed description of the econometrics issues surrounding sample selection and the Heckman procedures.

[20]Other versions of the model had similar results for the correlation coefficient.

significant at a 10% in the Heckman procedure while the China dummy loses its earlier significance. For the domestic interest in continuation, we see once again that the pattern of signs of estimated coefficients and the statistical significance is similar across techniques. (There are some important differences in the point estimates.) We do see however that the China dummy is significant at a 10% level with the Heckman procedure and that the Japan dummy's marginal significance rises to 16%.

VII. Conclusion

The United States has long used WTO-consistent antidumping duties as a way to limit imports into the domestic market. This process has generated much controversy and a considerable amount of analysis in the economic literature.

The inauguration of a US "sunset review" procedure means that antidumping duties will be terminated unless domestic firms object and both the International Trade Commission and the Department of Commerce rule that revocation of the order would lead to renewed dumping and material injury. The administration of this new system, agreed to with great reluctance by US authorities, provides a window into how the US is living up to its new commitments under the WTO.

This article provides the first comprehensive econometric analysis of the US experience with this WTO-mandated system, with specific attention to the so-called transition orders in place as of 1 January 1995 but subject to the sunset review system. We provide evidence that the US authorities generally are making decisions in accordance with the specific provisions of domestic law. Explanatory variables consistent with both US agencies' published regulations help explain the outcomes; inappropriate variables generally do not do well in predicting the decisions. We also see evidence that variables which explain ITC decisions diverge from those that explain domestic industry motivations. Specifically, while the domestic industry seems to pursue its own profits, the ITC has a broader decision rule where the impact on worker wages, not just profits, may play an important role in the ITC's outcome.

We do find some disturbing results. There are weak indications that Chinese exports have some additional hurdles in getting antidumping duties removed by the ITC. In addition, the clear importance of

foreign legal participation in the ITC's decisions may indicate that poorly financed firms abroad, especially from the developing world, with few extra dollars to spend on lawyers, may find the sunset review process particularly onerous. The DOC's record of automatically finding a "likelihood" of dumping, combined with a clear tendency to mechanically report the original margin as the likely margin in the event of revocation, regardless of the age of the order and patterns of foreign pricing under the antidumping order's discipline, is clearly troublesome. While, this is consistent with US law, it is debatable whether this conforms to the spirit of the Uruguay Round reforms.

In sum, we find that the antidumping sunset review process may be administered within a rules-based US legal system, there can be no doubt that the administration of sunset reviews means that many antidumping orders will continue for many years past the five-year "deadline."

References

ADA (1994), Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade, Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, at 145, GATT Doc. MTN/FA, 15 April 1994.

Anderson, Keith (1993), "Agency Discretion or Statutory Direction: Decision Making at the US International Trade Commission," Journal of Law and Economics, vol. 36, pp. 915-35.

Baldwin, Robert E.(1985), The Political Economy of US Import Policy, MIT Press: Cambridge.

Baldwin, Robert E. and Michael O. Moore (1991), "Political Aspects of the Administration of Unfair Trade Laws" in Richard D. Boltuck and Robert Litan (eds.), Down in the Dumps: Administration of Unfair Trade Laws, Brookings Institution, Washington, D.C.

Bruce A. Blonigen and Thomas J. Prusa (2001), "Antidumping," National Bureau of Economic Research Paper 8398.

Blonigen, Bruce A. (2001), "US Antidumping Database and Links." website accessed on October 2001, http://darkwing.uoregon.edu/~bruceb/Firm8095.xls

BLS (2002), "National Employment, Hours, and Earnings," http://data.bls.gov/labjava/outside.jsp?survey=ee, U.S. Department of Labor, Bureau of Labor Statistics, US Government Print Office: Washington, D.C.

Census (2001a), "Concentration Ratios in Manufacturing: 1997 Economic Census," http://www.census.gov/prod/ec97/m31s-cr.pdf , U.S. Census Bureau,Economics and Statistics Administration US Government Print Office: Washington, D.C.

Census (2001b) "Survey of Plant Capacity 1999," http://www.census.gov/prod/2001pubs/mqc1-99.pdf, U.S. Census Bureau,Economics and Statistics Administration US Government Print Office: Washington, D.C.

Census (2000) "Value of Product Shipments, 1998," http://www.census.gov/prod/2000pubs/m98-as2.pdf U.S. Census Bureau, Economics and Statistics Administration US Government Print Office: Washington, D.C.

Census (1997), "1997 Economic Census: Bridge Between NAICS and SIC" http://www.census.gov/epcd/ec97brdg/, U.S. Census Bureau, Economics and Statistics Administration US Government Print Office: Washington, D.C.

Devault, James M. (1993), "Economics and the International Trade Commission," Southern Economic Journal; 60(2), pp. 463-78.

Devault, James M. (1996), "US Antidumping Administrative Reviews," International Trade Journal, vol. 10, pp. 247-267.

DOC (2002), "Import Administration 5-Year Sunset Reviews,"   U.S. Department of Commerce, International Trade Administration.   http://ia.ita.doc.gov/sunset/ .

Fabry, Faten (2000), "An Analysis of the Decision to File, the Dumping Estimates, and the Outcome of Antidumping Petitions," International Trade Journal, vol. 14, no. 2, pp. 109-145.

Federal Register (1998a), "Policies Regarding the Conduct of Five-year ("Sunset") Reviews of Antidumping and Countervailing Duty Orders," 16 April 1998, volume 63, number 73.

Federal Register (1998b), "Transition Orders: Final Schedule and Groupings of Five-year Reviews," 29 May 1998, volume 63, number 103.

Finger, J. Michael, Keith Hall, and Douglas (1982), "The Political Economy of Administered Protection,"American Economic Review, vol. 72, pp. 452-66.

Greene, William H. (1999) Econometric Analysis, Macmillian Publishing: New York.

Hansen, Wendy L. (1990), "The International Trade Commission and the Politics of Protectionism," American Political Science Review, vol. 84, pp. 21-46.

Hansen, Wendy L and Thomas Prusa (1997), "The Economics and Politics of Trade Policy: An Empirical Analysis of ITC Decision Making," Review of International Economics., vol. 5 no. 2 pp. 230-45.

Hansen, Wendy L and Thomas Prusa (1996), "Cumulation and ITC Decision Making: The Sum of the Parts is Greater than the Whole," Economic Inquiry, vol. 34, pp. 746-769.

Hartigan, James C., Sreenivas Kamma, and Philip R. Perry, "The Injury Determination Category and the Value of Relief from Dumping," Review of Economics and Statistics vol. 71, pp. 183-186.

Herander, Mark and J. Brad Schwartz (1984), "An Empircal Test of the Impact of the Threat of US Trade Policy: The Case of Antidumping Duties," Southern Economic Journal, vol 51, pp. 59-79.

ITC (2002a),"Interactive Tariff and Trade DataWeb," U.S. International Trade Commission, accessed 2002, http://dataweb.usitc.gov/ .

ITC (2002b), "Five-Year Sunset Review," U.S. International Trade Commission, accessed 2002, http://205.197.120.60/oinv/sunset.nsf .

Liebman, Benjamin (2001), "Sunset Reviews and ITC Commissioner Voting Behavior," University of Oregon, mimeo.

Moore, Michael O. (1999) "Antidumping Reform in the US: A Faded Sunset" Journal of World Trade, vol. 33, no. 4, pp. 1-28.

Moore, Michael O. (2002) "Commerce Department Antidumping Sunset Reviews: A First Assessment" Journal of World Trade.

Moore, Michael O. (1992) "Rules or Politics?: An Empirical Analysis of ITC Antidumping Decisions," Economic Inquiry, vol. 30, pp. 446-466.

Prusa, Thomas (1998), "Cumulation and Anti-dumping: A Challenge to Competition," World Economy, vol. 21, pp. 1021-33.

Prusa, Thomas (2001), "On the Spread and Impact of Antidumping," Canadian Journal of Economics vol. 34, no. 3, pp. 591-611.

SAA (1994), Uruguay Round Agreements Act Statement of Administrative Action, H.R. Doc. No. 103-316, 103rd Congress, 2nd Session.

URAA (1994), Uruguay Round Agreements Act of 1994, Public Law 103-465.

Figure 1: Sequence of Decisions in Sunset Reviews

Stage 1: Industry decision to request continuation of order

No (19%) *   Yes (81%)

Stage 2: DOC decision about likelihood of renewed dumping

No (0%)   Yes (100%)

Stage 3: DOC decision about likely dumping margin

Stage 4: ITC decision about renewed material injury

No (28%)   Yes (82%)
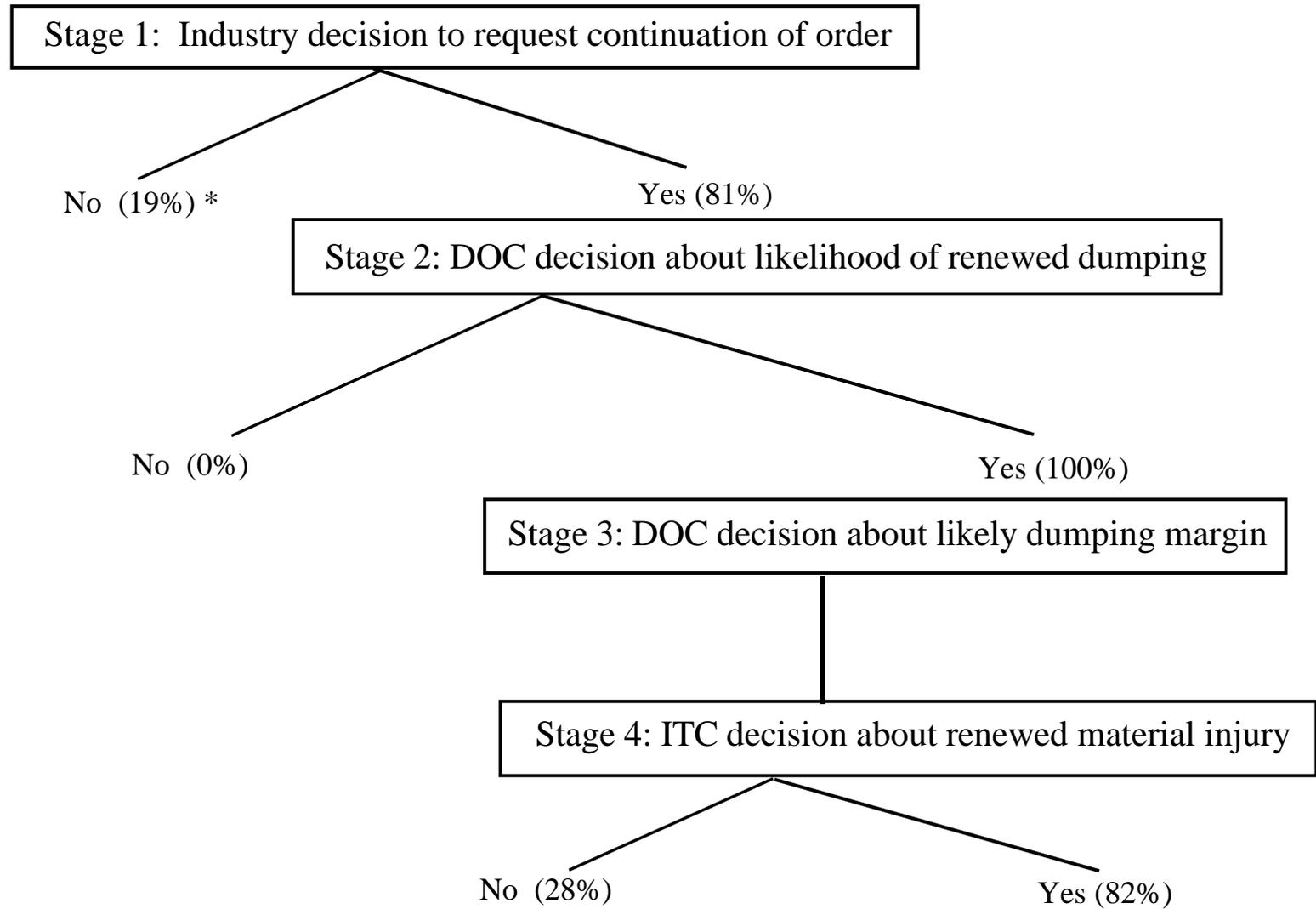
* Transition order outcome percentages in parentheses.

	Table 1 US Sunset Review Transition Orders (pre- and post 1980): Overall Statistics					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Total	**Cases with no domestic interest**	**Contested orders**	**Contested order initiation date**	**Contested orders revoked by DOC**	**Contested orders revoked by ITC**
Pre-1980 orders	19	13	6	April 1974	0	2
Average original margin	17%	16%	22%		NA	7%
Post-1980 orders	203	28	175	December 1989	0	48
Average original margin	46%	62%	44%		NA	40%
All orders	222	41	181	June 1988	0	50
Average original margin	43%	47%	43%		NA	39%

TABLE 2: Order-level variables		
Name	**Description**	**Source**
CAP98	Capacity utilization in 1998	Census (2001b)
CHCAP	Percentage change in capacity utilization (1997-1998)	Census (2001b)
CHSHIP	Percentage change in value of shipments (1997-1998)	Census (2000)
CHWAGE	Percentage change in production wages (1997-1998)	BLS (2002)
IMP98	1998 share of total imports by countries subject to order	ITC (2002a)
CHSUBJ	Percentage change in imports by country in order	ITC (2002a)
EXP_ITC	Dummy variable = 1 if foreign firm chooses not to participate in ITC review	ITC (2002b)
EXP_DOC	Dummy variable = 1 if foreign firm chooses not to participate in DOC review	DOC (2002)
AGE	Average date of initiation of order	Blonigen (2001)
REP_DM	Average DOC-reported "likely dumping margin"	DOC (2002)
REC_DM	Average most recent margin available for order	DOC (2002)
REP_VAR	Sample variance of DOC-reported "likely dumping margin"	Blonigen (2001)
ORIG_VAR	Sample variance of most recent margin available for order	Blonigen (2001)
CHINA_DUM	Dummy variable = 1 for orders involving Chinese exports	DOC (2002)
JAPAN_DUM	Dummy variable = 1 for orders involving Japanese exports	DOC (2002)
STEEL_DUM	Dummy variable = 1 for orders involving basic steel industry	DOC (2002)
WAGE	Average production wage (1998)	BLS (2002)
CONC	4-firm concentration ratio	Census (2001a)
FIRMS	Number of foreign firms named in the original order	DOC (2002)
COUNTRIES	Number of countries involved in the product subject to an order	DOC (2002)

TABLE 3		
Firm-level variables		
Name	**Description**	**Source**
FIRM_DM	Individual foreign firm dumping margin in original investigation	Blonigen (2001)
ORIG-REC	Difference between original dumping margin and most recently-available margin	DOC (2002)
FIRM_AR	Dummy variable = 1 if individual foreign firm has had administrative review	Blonigen (2001)
DOWN_ADJ	Dummy variable = 1original margin > administrative review and imports have fallen	DOC (2002)
UP_ADJ	Dummy variable = 1original margin > administrative review and imports have risen	DOC (2002)
FIRM_BIA	Dummy variable =1 if "best-information-available" margins applied in original investigation	Blonigen (2001)

Name (expected sign)	1	2	3	4	5
TABLE 4: Probit Results **Columns 1-3: Dependent variable---ITC decision (1= continue order; 0 = terminate order)** **Columns 4-5: Dependent variable---Domestic industry decision (1= contest revocation, 0 = accept automatic revocation)**					
CONSTANT	-3.85 (2.92)	-3.39 (2.87)	-1.34 (3.78)	-8.17 *** (2.75)	-6.96 ** (2.72)
CAP98 (?)	-0.0097 (0.016)	-0.0093 (0.016)	-0.016 (0.020)	0.52 *** (0.019)	0.54 *** (0.019)
CHCAP (?)	0.007 (0.239)	0.0010 (0.024)	0.049 (0.035)	-0.028 (0.022)	-0.029 (0.023)
CHSHIP (?)	-0.0056 (0.016)	-0.0034 (0.0163)	-0.0031 (0.018)	-0.017 (0.016)	-0.017 (0.016)
CHWAGE (?)	0.151 * (0.08)	0.146 ** (0.084)	0.072 (0.103)	-0.20 ** (0.096)	-0.18** (0.091)
IMP98 (?)	0.0096 * (0.0052)	0.0122 ** (0.0054)	0.01043 * (0.0065)	0.007 (0.0066)	0.008 (0.0065)
CHSUBJ (?)	0.0006 (0.309)	0.0004 (0.029)	0.0008 (0.034)	-0.0054 (0.026)	-0.0015 (0.026)
EXP_ITC (+)	1.04 *** (0.35)	0.983 *** (0.345)	0.056 *** (0.268)		
BIA (+)				0.44 (0.35)	0.26 (0.33)
AGE (+)	0.048 (0.0322)	0.0421 (0.0315)	0.027 (0.038)	0.079 *** (0.031)	0.065 ** (0.031)
REP_DM (+)	0.0015 (0.0031)				
REP_VAR (+)	0.00056 (0.00044)				
REC_DM (+)		0.0062 * (0.0034)	0.004 (0.004)		-0.0065 ** (0.0030)
REC_VAR (+)		0.00008 (0.00002)	0.0003 (0.0002)		0.0002 (0.0002)
ORIG_DM (+)				-0.11 *** (0.004)	
ORIG_VAR (+)				0.00066 (0.00044)	
CHINA_DUM (+)			0.85 * (0.51)	0.21 (0.46)	0.35 (0.72)
JAPAN_DUM (+)			-0.036 (0.36)	-0.51 (0.36)	-0.62 * (0.34)
STEEL_DUM (+)			0.36 (0.33)	0.41 (0.39)	0.33 (0.38)
WAGE (?)			0.027 (0.066)	0.057 (0.061)	0.033 (0.058)
CONC (+)			-0.014 (0.012)	-0.034 *** (0.020)	-0.034 *** (0.010)
SHIP98 (+)			0.000013 (0.00014)	-2.2×10^{-5} (1.6×10^{-5})	-1.96×10^{-5} (1.5×10^{-5})
EMPLOY98 (+)			-1.35×10^{-6} (5.86×10^{-6})	-3.24×10^{-6} (6.3×10^{-6})	-3.00×10^{-6} (6.1×10^{-6})
COUNTRIES (-)				-0.60 (0.039)	-0.60 (0.039)
FIRMS (-)				0.0077 (0.016)	0.0095 (0.016)
Log likelihood	-91.3	-90.8	-83.8	-72.8	-75.1
Observations	181	181	181	222	222

Standard errors in parentheses. Significance at 1%, 5%, and 10% are represented by ***, **, and *, respectively.

TABLE 5: OLS Results[21] Dependent variable: DOC "likely dumping margin"			
Name (expected sign)	**(1)**	**(2)**	**(3)**
CONSTANT	-14.2 (10.3)	-4.23 (11.7)	-21 (21)
FIRM_DM (+)	1.06 *** (0.021)	1.01 *** (0.23)	1.06 *** (0.023)
ORIG-REC (-)	-0.28 *** (0.023)		-0.26 *** (0.025)
FIRM_AR (+)	5.61 *** (1.63)	1.51 (2.02)	4.08 ** (1.71)
DOWN_ADJ (-)		-2.85 (2.47)	
UP_ADJ (+)		5.52 ** (2.23)	
EXP_DOC (+)	-4.75 (3.33)	-4.01 (3.8)	-4.88 (3.35)
AGE (+)	0.19 ** (0.11)	0.09 (0.12)	0.33 (0.20)
FIRM_BIA (+)			-3..52 ** (1.82)
CHINA_DUM (+)			2.12 (2.68)
JAPAN_DUM (+)			-2.22 (2.21)
STEEL_DUM (+)			-0.25 (2.52)
CAP98 (?) (?)			0.11 (0.12)
CHCAP (?)			-0.003 (0.18)
CHSHIP (?)			0.008 (0.069)
SUBJSH98 (?)			0.16 ** (0.068)
CHSUBJ (+)			-0.27 (0.19)
Adjusted R^2	0.884	0.849	0.886
Observations	441	441	441

---

[21] Standard errors in parentheses. Significance at 1%, 5%, and 10% are represented by ***, **, and *, respectively.

Table 6
Heckman correction for sample selection

Observations   222
Censored obs.   41
Uncensored obs.   181
Log likelihood   -166.5

ITC decision	Coefficient	Std. error	Marginal significance
CAP98	-0.021	-1.330	0.18
CHCAP	0.008	0.023	0.35
CHSHIP	0.007	0.016	0.46
CHWAGE	0.157	0.082	1.93
IMP98	0.009	0.005	1.71
CHSUBJ	-0.004	-0.089	0.90
EXP_ITC	0.957	0.338	2.83
REC_MARG	0.006	0.004	1.67
AGE	0.011	0.029	0.38
CHINA_DUM	0.742	0.484	1.54
JAPAN_DUM	0.010	0.303	0.03
STEEL_DUM	0.533	0.285	1.87
CONSTANT	0.280	2.619	0.11

Domestic industry decision

caput98	0.037	0.01	2.46
chcap	-0.003	0.02	-0.14
chship	-0.018	0.02	-1.08
chwage	-0.120	0.07	-1.66
imp98	0.010	0.01	1.63
chsubj	-0.006	0.03	-0.24
bia	0.353	0.31	1.13
age	0.027	0.03	1.07
rec_marg	-0.007	0.00	-2.46
china_dum	0.813	0.47	1.74
japan_dum	-0.423	0.30	-1.41
steel_dum	0.142	0.33	0.44
conc	-0.028	0.01	-3.24
countries	-0.020	0.03	-0.59
firms	0.007	0.02	0.39
constant	-2.856	2.04	-1.40

Estimate for correlation coefficent   **95% confidence interval**

ρ -0.999   0.133463   -1.000   1.000

Test of independent equations $\rho = 0$ chi-squared =4.36
                                              Marginal probability = 3.6%