The Market Valuation of Managed Earnings in a Regulatory Setting with Learning Opportunities

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Abstract

This paper examines investor learning using the market valuation of earnings announced by U.S. firms initiating, reinitiating and renewing antidumping trade investigations against foreign exporters. Trade investigations are an interesting setting because firms petitioning the trade regulator for import relief face strong incentives to manage earnings to increase the likelihood and magnitude of import relief. Learning is facilitated in this setting because (1) investigation initiation dates and determinations are in the public domain, (2) some firms initiate investigations more than once, and (3) some firms face an investigation to renew import relief five years after the original petition. Import relief firms' diverse investor base further enriches the research setting and allow for a study of investor learning by both more and less sophisticated investors. Using cross-sectional, time-series and size-matched samples and a valuation model that relates stock prices to accounting book values and earnings, I find an attenuated price-earnings relation for antidumping investigation-initiating firms only in the presence of an opportunity to learn, and primarily when the firm has above-median following by sophisticated investors. That is, the price-earnings relation in the valuation model is attenuated only when firms initiate their second or subsequent antidumping investigation or when firms petition for import relief renewal. This paper contributes to the accounting literature by shedding light on which market participants learn to identify firms' incentives to engage in earnings management.

JEL Classification: D21; D82; F14; G28; K2; L51; M41

Key words: price-earnings model; earnings management; market valuation

COMMENTS WELCOME.

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1.0 Introduction

I examine the valuation of accounting information disclosed by U.S. firms initiating and renewing investigations for import relief. First, in a test of earnings persistence I find that earnings reported by import relief firms during investigations have lower than normal persistence. Second, in a regression of earnings and book values on price I find the coefficient on earnings is attenuated for the earnings import relief firms report just after investigation initiation, but only during the second or subsequent investigation or for a sunset review (i.e., renewal) investigation and predominantly when the import relief firm has above-median following by sophisticated investors. As Jones (1991) identified, this setting provides powerful incentives to engage in earnings management to increase the likelihood and magnitude of import relief. Evidence consistent with accruals-based earnings management in the expected direction for this subset of firms is reported in a contemporaneous paper-in-process (Godsell, Welker, & Zhang, 2014b) and in earlier seminal literature (Jones, 1991).

Public information available to all investors signals the initiation or renewal of an import relief investigation and the import relief setting creates an opportunity for investors to learn about the regulatory incentives to manage earnings and to observe the earnings process around investigations. Firms that petition for import relief have incentives to maximize import relief by first managing earnings downward at the initiation of a trade investigation (i.e., Jones, 1991) and then managing earnings upward during a sunset review to determine if duties imposed during the initial investigation should be renewed. Using this setting I provide evidence consistent with investor rationality when investors have opportunities to learn about the persistence of the earnings process during and subsequent to an import relief investigation. I find that the market valuation of earnings is attenuated when a firm initiates a second or subsequent trade investigation or files for renewal of previously granted trade relief, but not when a firm initiates its first trade investigation. I further examine how investor sophistication affects how investors learn about earnings management incentives, and provide some evidence that sophisticated investors are more responsive to opportunities to learn about earnings management incentives. This paper contributes to the accounting literature by responding to Dechow, Ge and Schrand's (2010) recent call for research

investigating the factors that allow equity investors to understand a firm's reporting incentives.

This research is related to studies of earnings management in other regulatory and political settings (e.g., Johnston & Rock, 2005; Monem, 2003). However, no study has exploited the learning opportunities, if any, inherent in these settings to investigate how learning opportunities affect investors' ability to detect earnings management incentives and low persistence earnings. The naïve investor fixation hypothesis suggests that individual investors interpret earnings the same way whether the earnings are cash-based or accrual-based, despite the higher persistence of cash-based earnings. A variant, the extended functional fixation hypothesis, suggests that investor understanding of cash flow implications of accruals is conditional on the sophistication of the marginal investor (Hand, 1990; Sloan, 1996). These hypotheses are at odds with investor rationality and learning which suggest that investors will anticipate firm incentives to manage earnings. Currently there is contradictory evidence about investor ability to detect and respond to earnings management incentives, or more generally detect and respond to abnormal accruals.

Evidence consistent with the extended functional fixation hypothesis is plentiful. In non-regulatory settings, Teoh, Welch and Wong (1998), Bradshaw, Richardson and Sloan (2001), Teoh and Wong (2002) and Jong, Mertens, Poel and Van Djik (2014) find that analysts and investors do not fully unravel earnings management as evidenced by over-optimism for high accrual firms. Subramanyam (1996) and Xie (2001) provide evidence that investors systematically overestimate the persistence of abnormal accruals and that this mispricing of abnormal accruals is largely responsible for the mispricing of accruals documented by Sloan (1996). Barth and Hutton (2004), Bradshaw et al. (2001), Bhojraj and Swaminathan (2009) and many others provide evidence that analysts, auditors, institutions, short-sellers and bond-market investors do not fully account for the discrepancy in persistence between accruals- and cash-based earnings. Finally, there is evidence that firms that consistently meet or beat prior period earnings or analysts' forecasts receive valuation premiums, even though there is also evidence of earnings management to achieve these targets (Barth, Elliott, & Finn, 1999; Kasznik & McNichols, 2002; Myers, Myers, & Skinner, 2007).

There is also some evidence that investors are able to detect abnormal accruals in at least some settings and recognize at least partially the lower persistence of abnormal accruals. For example, investors appear to detect earnings management through loan loss reserves (e.g., Beaver & McNichols, 1998; Petroni, Ryan, & Wahlen, 2000). DeFond and Park (2001) provide evidence that investors partially anticipate the reversing nature of abnormal working capital accruals. More recently, Hui, Lennox and Zhang (2014) examine a sample of Accounting and Audit Enforcement Release (AAER) firms and find that the market discounts the (managed) earnings of AAER firms in a valuation context in the periods prior to the AAER revealing that the firm has fraudulently reported earnings in prior periods.

There are several features in the setting examined in this paper that distinguish this paper from the prior literature and Hui et al. (2014) in particular. First, I focus on both income decreasing and income increasing earnings management.[1] This is potentially important because extensive press coverage of past instances of income increasing earnings management to affect equity pricing may have conditioned investors to be particularly attentive to income increasing earnings management, as is the typical case in an AAER firm (Dechow, Ge, Larson, & Sloan, 2011; Miller, 2006). Second, earnings management in the import relief setting is presumably within-GAAP while Hui et al. (2014) study outside-GAAP earnings management. Third, this setting provides a subsample of treatment firms which repeatedly face earnings management incentives and a subsample of firms that face those incentives for the first time. Many other regulatory settings, such as bank regulation of capital ratios, occur repeatedly for all affected firms, but the literature has not yet examined the market valuation of managed earnings where the effects of learning through repetition can be examined. Finally, the earnings management in this setting is motivated by regulatory incentives rather than market incentives, which appear to be the dominant incentive motivating AAER firms or firms managing earnings around benchmarks. These features of my setting allow for important contributions to past literature that has examined the market valuation of managed earnings.

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[1] The study of downward earnings management is less common and most often associated with political costs (Watts & Zimmerman, 1979, 1986). For example, Cahan (1992) addresses earnings management around antitrust investigations, and Han and Wang (1998) address oil company earnings management around the Persian 1990 Gulf Crisis. For other examples, see Mensah, Considine and Oakes (1994); Key (1997); Monem (2003); and Johnston and Rock (2005).

U.S. antidumping investigations are initiated by domestic petitioning firms which argue that foreign exporters are importing and selling competing goods in the U.S. at prices below the market price in the foreign exporters' domestic market. U.S. import relief petitioners must provide evidence to the U.S. Department of Commerce (USDOC) that the alleged dumping has occurred and persuade the U.S. Import Trade Commission (USITC) that the alleged dumping has led to injury or the threat of injury for the U.S. industry. The USDOC almost always rules that there has been dumping (Cassing & To, 2008) while the USITC finds injury in about half of the cases (Blonigen & Prusa, 2004). Consequently, it is incumbent upon the petitioning firm(s) to demonstrate that the industry has been injured by dumping in order to receive import relief. One way to accomplish this, as predicted by Bhagwati (1982) and documented by Godsell, Welker and Zhang (2014b) and Jones (1991), is to manage earnings downward.

The initiation of antidumping investigations provides an opportunity to test for one type of investor learning about earnings management incentives because many sample firms initiate a single antidumping investigation during the sample period, while many other firms initiate two or more investigations during the sample period. This allows an investigation of whether investors' prior firm-specific experience of observing the incentives to engage in earnings management from this setting allows market participants an opportunity to learn about those incentives.

The trade investigation setting also allows for a second opportunity to test for investor learning about earnings management incentives. Starting in 1998 regulators review import relief assessments on the five-year anniversary of the import relief award to decide whether to renew or withdraw import relief. These reassessments are formally known as sunset reviews. Successful renewal provides an additional five years of import relief. The duration and magnitude of this relief equals the relief awarded in the original petition. A determinant of a successful sunset review is evidence that import relief is working, i.e., petitioning firm financial performance has improved, and that failure to extend import relief would result in renewed injury to the industry. Hence, earnings management incentives in the sunset review setting are similar to those present in the original investigation except (1) the incentives recur on the five-year anniversary of the original investigation and (2) firms have regulatory incentives to manage earnings

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downward instead of upward. Godsell, Welker and Zhang (2014b) find evidence of upward earnings management during U.S. sunset reviews consistent with these incentives. This setting allows for a second test of investor learning as all firms that initiate a sunset review have undergone an initial investigation providing similar earnings management incentives.

I use three samples and a price-earnings model drawn from Ohlson (1995) to examine the market pricing of earnings in this setting: a full sample, a treatment firm only sample and a size-matched sample. In the full sample tests, I compare the earnings coefficient in the valuation model between an import relief firm sample of 187 event firm-years and a control sample of 212,960 firm-years. Second, I repeat this test using a sample of treatment firms only comprised of 2,218 firm-years. Third, I repeat this test combining the treatment firm only sample and a size-matched sample of five similarly-sized peer firms per treatment firm. The matched sample is comprised of 20,259 firm-years.

I find that investors more effectively unravel earnings management, as indicated by a lower association between earnings and price, when investors have an opportunity to learn, i.e., when a firm initiates a second or subsequent trade investigation and during sunset reviews. I do not find a lower association between earnings and price when investors do not have an opportunity to learn, i.e., when a firm initiates its first trade investigation. These results are in part conditional on investor sophistication. I use institutional investors, short sellers and analysts to measure the sophistication of investors following the firm. I find a significantly reduced market valuation of earnings reported by repeat petitioning firms with above-median following by sophisticated investors. I find the price-earnings relation is attenuated for all firms during sunset reviews, and that this attenuation is greater in the presence of more sophisticated investors following the firm.

This paper makes several contributions to the literature examining earnings persistence and the market valuation of managed earnings. The prior literature presents contradictory evidence about the market's ability to detect and respond to earnings management, or abnormal accruals more generally. Some of this literature examines the market response to accruals versus cash flows, or to abnormal accruals identified by models of normal accruals, in samples of firms facing unknown earnings

management incentives. These papers are best interpreted as indicating how the market responds to overall accrual data or to unusual accruals, but they do not provide clear evidence about whether or how the market identifies earnings management or incentives for earnings management. This paper examines a setting where the incentives for earnings management are relatively clear and where the effects of learning about those incentives can be investigated. Papers that investigate the market response to earnings management in cases where incentives can be identified (e.g., meet or beat) are generally examining income increasing earnings management, while this study examines the market reaction to both income increasing and income decreasing earnings management. The incentives and ability to detect and unravel earnings management may not be symmetric for income increasing and income decreasing earnings management. Finally, this paper is the first to investigate the market valuation of managed earnings in a trade investigation setting.

The remainder of the paper is organized as follows. Section 2 develops hypotheses; section 3 describes the sample while section 4 presents the research design. Results are presented in section 5 and section 6 concludes.

2.0 Literature Review and Hypothesis Development

2.1 The Regulatory Setting

U.S. firms initiate import relief investigations by petitioning to both the USDOC and the USITC for import relief. A petition must be filed on behalf of an industry. The requisite industry representation for an investigation to be initiated is defined by two thresholds: (1) petitioners must demonstrate that the petition has the support of 25 percent of total domestic production of the dumped good and (2) at least 50% of firms consulted by the regulator must voice support for the petition. U.S. firms bear the burden of providing evidence of dumping and injury and must name the good allegedly dumped and the foreign exporters and countries allegedly dumping the good. A USITC questionnaire collects this and other relevant information from petitioners and the investigation is initiated once the petitioner(s) has

completed and submitted the questionnaire.[2] Other information solicited in the questionnaire includes the quantity and value of imports; the market price for the allegedly dumped product; information on domestic capacity, production and inventories of the dumped product; the number of production and related workers employed in the production of the product; and, especially relevant for this study, financial data (USITC, 2008, p I-13).[3]

The Trade Agreement Act of 1979 specifies the financial variables that the USITC should consider in its determination of injury. Information included in the statute as criteria for the evaluation of injury includes sales, market share, profits and wages, while financial data explicitly requested in questionnaire includes net sales, cost of goods sold, gross profit (loss), selling, general and administrative expenses and operating income (losses) on U.S. operations. Jones (1991) describes weak regulator incentives to unravel earnings management. Regulators are accountable to politicians who are in turn accountable to consumers—the primary parties who might be hurt by import relief—but consumers face small individual losses from regulatory actions and therefore do not organize and lobby the regulator. Jones (1991) notes that interviews with ITC staff indicate that they do not adjust financial data provided by import relief firms (p. 194).

I provide extracts of the questionnaire template in Appendix A to indicate some of the financial information requested. The questionnaire further requests information regarding "all sales and revenues lost by each petitioning firm by reason of (foreign imports) during the three years preceding the filing of the petition" (USITC, 2008, p I-14). This information is requested for the three most recent calendar years as well as year-to-date data for the current year. I provide a description of a representative case in Appendix B. Appendix C describes investigation timelines while Figure 1 provides an investigation timeline diagram.

<div style="text-align:center">Insert Figure 1 about here</div>

A six-person team consisting of an investigator, economist, accountant, industry analyst, attorney

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[2] Questionnaire available at: http://www.usitc.gov/trade_remedy/documents/USProducerQuestionnaire.pdf
[3] USITC Handbook available at: http://www.usitc.gov/trade_remedy/documents/handbook.pdf

and supervisory investigator scrutinizes the petitioners' questionnaires and prepares a notice of investigation for publication in the *Federal Register* in the first two days after a petition is filed.[4] The results from the preliminary investigation as well as the results from the final investigation are also published. Published information includes the names of the petitioners and the foreign exporters as well as the rationale for and magnitudes of duties assessed.

A final regulatory feature is that an affirmative sunset review decision relies on evidence that the original import relief is working, giving rise to incentives for firms to manage earnings upward to demonstrate improved financial performance in the presence of import relief. Appendix D provides more information on the sunset review process which gives rise to these incentives. In summary, important elements of the regulatory setting include (1) the USITC uses financial accounting data from both before and after the initiation of the import relief investigation in its determination of injury, (2) firms have incentives to manage earnings to increase the probability of receiving import relief and these incentives reappear during the sunset review and (3) regulators have few incentives to detect earnings management in the accounting data they scrutinize.

Regulatory incentives in the import relief setting have been the subject of much interest in the trade literature. For example, Hillman, Katz and Rosenberg (1987) develop a model in which firms orchestrate the appearance of injury to maximize the possibility of import relief. In their model, firms increase hiring and capital expenditures preceding the import relief investigation so the firm can subsequently point to layoffs and idle capacity as evidence of injury. Leidy and Hoekman (1991, p. 111) refer to this sort of strategy as "spurious injury". They write, "Under well-established injury criteria for protection, import-competing producers have an incentive, either collectively or individually, to feign injury…When the established indicators of industry well-being include variables controlled by the

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[4] The Federal Register is "The Daily Journal of the United States Government", and is publicly available electronically at no cost. Any investor can use information about the investigation in his or her investment decisions once announced in the Federal Register. For any government observer the *Federal Register* is a primary source of information regarding "presidential documents, executive orders and proclamations; rules and regulations including policy statements and interpretations of rules; proposed rules, including petitions for rulemaking and other advance proposals, and notices, including scheduled hearings and meetings open to the public, grant applications, administrative orders and other announcements of government actions" (https://www.federal register.gov/policy/about-us)

prospective beneficiaries…free trade under the prospect of protection is potentially accompanied by…spurious injury distortion" (p.111).

2.2 Earnings Management

Accruals are consistent with a primary goal of financial accounting, which is to capture the economic performance of the firm such that investors can make informed resource allocation decisions (FASB, 2006). However, accrual-based accounting also allows managerial discretion because accruals involve estimates which management must make. Hence, accrual-based earnings management occurs when management uses discretion available in accounting standards to manage reported accounting earnings to effect an outcome to the benefit of the firm and/or management (Healy, 1985; Schipper, 1989).

Many studies investigate capital market related incentives for earnings management (see Dechow et al., 2010 for a comprehensive review).[5] Of particular relevance to this study is the literature that examines the market response to accrual accounting data in general and to earnings management in particular. This literature provides mixed results. Sloan (1996) provides evidence that investors consistently misprice accruals. Xie (2001) finds that the market misprices accruals due to its inability to anticipate the transient nature of abnormal accruals. Teoh, Welch and Wong (1998) find that seasoned equity issuers successfully use abnormal accruals to increase earnings before an equity offering and that investors extrapolate the managed earnings into the future without correcting for opportunistic accruals bias.

There is, however, also evidence indicating that investors at least partially differentiate between more and less persistent components of earnings. For example, Louis, Robinson and Sbaraglia (2008) find that balance sheet data released with the earnings announcement helps investors identify earnings management through identification of discretionary accruals.[6] Two main findings in this stream of

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[5] For example, Kasznik and McNichols (2002) find that firms face incentives to consistently report smooth earnings to increase equity valuations because consistently meeting or beating earnings expectations increases equity valuation. Degeorge, Patel and Zeckhauser (1999) suggest that earnings are managed to exceed each of three thresholds: report positive profits, sustain same-quarter previous year earnings and meet or beat analyst earnings expectations. Burgstahler and Dichev (1997a) find a distinct absence of firms reporting just below zero-earnings and a surplus of firms reporting just above zero-earnings.

[6] Other examples include Aboody, Barth and Kasznik (1999) who find that investors respond less to asset revaluations made by highly leveraged firms with the interpretation that investors believe the revaluation follows from debt market incentives (e.g.,

literature are that (1) the market has some difficulty unraveling earnings management in the absence of contextualizing information, and (2) investors appear more sensitive to accruals in the presence of information about incentives to use discretion in accruals to manage earnings. Because the import relief setting generates public signals at the initiation of the investigation, I expect that investors will detect the earnings management incentives, anticipate reduced earnings persistence and reduce their valuation of earnings. This motivates the following hypothesis:

H₁: *The incremental value-relevance of earnings in the year following initiation of an import relief investigation is negative.*

2.3 Investor Learning

Learning is discussed in the finance literature but less is known about learning as it relates to how investors interpret and use accounting information, i.e., how investors learn about the persistence of accruals-based earnings processes.[7] Evidence regarding learning in the finance literature is mixed. Chen, Francis and Jiang (2005) find that a Bayesian learning model better describes investors who follow analyst reports than a static model because investor reactions to analyst forecasts are stronger when the analyst has not only a track record of accuracy but also a longer record of forecasting. Bebchuk, Cohen and Wang (2013) find evidence consistent with investor firm-specific learning as abnormal returns associated with well-governed and poorly-governed firms identified in the literature in 1990s are subsequently arbitraged away. Yet many papers find persistent evidence of the accruals anomaly long after its discovery by Sloan (1996).

The import relief setting provides opportunities to learn about earnings management. There are first time investigations, second and subsequent investigations by some firms, and sunset review investigations by some firms. Hence, the import relief setting provides an opportunity to test investor

covenants) rather than genuine economic changes in value. Though the market rewards firms which consistently meet or beat earnings forecasts with higher valuations, Gleason and Mills (2008) find that when firms use transparent tax expense decreases to meet earnings benchmarks the market does not reward the firm. Levi (2008) does not find evidence of the accrual anomaly when firms do not delay the release of contextualizing information in the 10-Q and when these firms issue balance sheet and cash flow information with earnings announcements. Similarly, Balsam, Bartov and Marquardt (2002) identify a subset of firms suspected of accruals-based earnings management and find that when investors receive 10-Q information investors revalue unexpected discretionary accruals as indicated by a negative association between these accruals and cumulative abnormal returns around the 10-Q release date.

[7] In contrast, more is known about how investors learn by trading (e.g., Nicolosi, Peng, & Zhu, 2008; Seru, Shumway, & Stoffman, 2010) and how auditors learn (e.g., Bonner & Walker, 1994; Salterio, 1994; Waller & Felix, 1984).

valuation of managed earnings in a setting with repeated investor learning opportunities. However, this setting diverges from an iterative Bayesian learning setting because the iterations are typically very few per firm.[8] Though learning opportunities are few, investors still have an opportunity to learn about the incentives and the earnings process during the original import relief investigation and to apply that knowledge during second or subsequent petitions or during sunset reviews. Investors observe firms which may repeatedly face the same economic incentives and firms for which earnings persistence becomes observable as future earnings are realized, thereby providing feedback to investors. These features of repetition and feedback are important components of learning (Anderson, 1982). Further encouraging investor learning are the economic incentives to understand the persistence of the earnings process. This motivates the following hypothesis:

H₂: *The incremental value-relevance of earnings in the year following initiation of an import relief investigation or sunset review is more negative for **repeat** petitioners and for **sunset reviews** than for **first-time** petitioners.*

2.4 Investor Sophistication

I expect sophisticated market participants to be more careful observers of the import relief setting and its public signals. I expect greater attenuation of the price-earnings relation in the presence of institutional investors, short sellers and analysts. Institutional investors and short sellers possess greater resources for synthesizing information while analysts face reputation concerns which motivate more in-depth analysis of earnings and non-earnings information. Collins, Gong and Hribar (2003) and Nagel (2005) report that the market valuation of accruals is lower for firms with high institutional ownership. That is, Collins et al. (2003) find that institutional investors are not susceptible or not as susceptible to the investor fixation hypothesis. This finding is consistent with Hand's (1990) extended functional fixation hypothesis which predicts that the cash flow implications of accruals are better understood when a sophisticated investor is the marginal investor. Hribar, Jenkins and Wang (2009) find that institutional investors appear to predict accounting restatements as indicated by a reduction in holdings of firms that announce a restatement.

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[8] That is, in this setting there is a median (mean) of 1.0 (1.97) investigation per import relief firm. Of 180 investigations studied, 70 are for firms which have previously undergone an import relief investigation. In addition, there are 50 sunset review investigations.

Desai, Krishnamurthy and Venkataraman (2006) show that short sellers accumulate shares in firms that announce a restatement. In tests similar to those implemented in my study, Hui et al. (2014) find evidence that the market valuation of earnings is attenuated preceding AAERs and that this effect is larger for firms with above-median institutional ownership and analyst coverage. These studies suggest that sophisticated investors can in some cases identify less persistent accruals and potentially identify circumstances that provide incentives for earnings management. This suggests that sophisticated investors are more capable of detecting the incentives for earnings management in the import relief setting and would better anticipate the muted relationship between earnings reported during import relief investigations and future earnings.

But conflicting evidence across sophisticated investors exists: Drake, Rees and Swanson (2011) find evidence that short interest is associated with 11 publicly available variables that predict future returns but find that analysts rationally interpret only a subset of these indicators. Also, Johnstone, Leone, Ramnath and Yang (2012) find that analysts do not account for 14-week quarters (one week longer than the typical quarter) even though a 14-week quarter occurs every five to six years.[9] These studies present mixed evidence on sophisticated investor capability to detect changes in earnings persistence and accruals-based earnings management.

My paper adds to this literature by examining how the presence of sophisticated investors affects the market valuation of earnings for firms initiating an antidumping investigation. One feature of this setting is that all investors receive public information that should allow them to understand how and when these firms are incented to manage earnings. In a significant departure from prior studies of earnings management, this paper further explores whether sophisticated investors demonstrate learning in response to repeated regulatory incentives to manage earnings. To my knowledge, there is no study that examines

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[9] Evidence of this nature is also plentiful: Teoh and Wong (2002) find that analysts consistently overestimate the performance of equity issuing firms with high accruals and that this optimism predictably leads to missed earnings targets for the issuer in subsequent years. Bradshaw et al. (2001) and Barth and Hutton (2004) provide evidence that analyst forecasts do not incorporate the predictable unwinding of abnormal accruals in their earnings forecasts. Richardson (2003) finds that short sellers do not cluster in high accrual firms where arbitrage returns were available in years contemporaneous to the discovery of the accruals anomaly, but a more refined analysis updating the Richardson sample finds that short sellers do appear to arbitrage the accrual anomaly in later time periods (Hirschleifer, Teoh, & Yu, 2011). Elliott and Philbrick (1990) find that analysts do not unravel the change in current year's earnings due to changes in accounting methods.

the market valuation of managed earnings by sophisticated investors in a setting where the effects of learning opportunities on that valuation are examined. I expect that these sophisticated market participants detect the incentives investigation-initiating firms face, anticipate the lower earnings persistence following from earnings management and correspondingly lower their valuation of earnings. Accordingly, the third hypothesis investigated in this study is:

H₃: *The incremental value-relevance of earnings in the year following initiation of an import relief investigation or sunset review is more negative in the presence of **sophisticated investors**.*

3.0 Sample Selection and Descriptive Statistics

There are 1,309 unique domestic U.S. producers that are named as potentially injured firms in 559 import relief investigations between 1980 and 2012. There are 4,859 domestic firms named in all import relief investigations confirming that many petitioners are repeat petitioners. I am able to identify 110 of the 1,309 unique U.S. firms in the CRSP/Compustat database by using the search function in the Wharton Research Database Service to match firm's names to Compustat's Gvkey and CRSP's Permno identifiers. These 110 firms are linked to 187 firm-year events that are used in the analysis because petitioning firms can be repeat petitioners. I repeat this procedure and identify 25 sunset review firms and 50 sunset review events.[10] I identify the treatment event year using import relief case file data drawn from the World Bank's Global Antidumping Database (GAD).[11]

U.S. antidumping petitioners are publicly disclosed starting in 1980. Petitions before 1980 are not included in the sample. Repeat filers are firms which previously petition for import relief. The first petition for all firms, even those that file a second or subsequent petition at a later date, are included in the sample of first-time petitions. A limitation of my study is that the first appearance of a petitioner in the GAD is coded as a first-time filer but it is possible that the petitioner filed before 1980. Investors may have had opportunity to witness the earnings process in the pre-1980 petition and this would bias towards

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[10] Sunset review case data are available here: http://pubapps2.usitc.gov/sunset/caseProf/list?sort=caseTitle&order=asc

[11] For the underlying data about antidumping investigations worldwide, see the "Global Antidumping Database," available at http://econ.worldbank.org/ttbd/gad/. The GAD contains data on the antidumping case identification number, the country initiating the antidumping investigation, the country being investigated, the product under review, the investigation initiation date, the USDOC and USITC preliminary and final determination dates and decisions (affirmative or negative), the dumping and injury margins assessed and the date the antidumping duty is revoked.

a lower valuation of earnings if there are repeat petitioners I have mistakenly coded as first-time petitioners due to this data limitation. This measurement error should work against rejecting **H₂**. Results are unchanged if I include the first petition for those firms that go on to become repeat petitioners in the sample of repeat petitions rather than the sample of first-time petitions.

I use three samples to test my hypotheses. First I use a full sample including the universe of firms with available data from Compustat and CRSP during 1980-2012. My second sample includes only petitioning firms. My third sample is a full sample including firms matched by lagged assets. The goal of size-matching is to prune observations from the data so that the empirical distributions of the chosen covariate (lagged total assets) for the treatment and control firms are more similar. The chosen covariate is also of interest because it addresses scale effects which are known to bias coefficients in empirical applications of the Ohlson model used in this study (Easton, 1999; Lo & Lys, 2000).[12] The matching algorithm identifies for each import relief firm-year five outside-industry firm-years from firms closest in lagged total assets to the event firm in the event firm-year. Once I select five peers for each event firm-year I extract and include in the matched sample the peer firms' entire time series of observations.

The import relief investigation initiation date closely approximates the date on which the petition for import relief becomes public knowledge. I extract this initiation date from the GAD. While USDOC and USITC assist petitioners in preparing petitions, the subject matter is kept in strict confidence until its announcement (USITC, 2008).[13] When merging the GAD with financial data I match the import relief

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[12] The match method implemented varies from other prior literature due to an important feature of my research setting. The USITC evaluates the accounting performance of both petitioning and non-petitioning same-industry members because the abiding statute states that a petition must be filed on behalf of an industry. That is, the USITC considers industry financial performance data along with financial data from petitioning firms. I create a matched sample based on size rather than industry given this constraint. Because Jones (1991) finds earnings management in non-petitioning industry members I exclude within-industry peer firms in the size match. Industry is defined using Fama-French 48 industry classification.

[13] However, firms may issue a press release to announce submission of a petition before the announcement of initiation in the Federal Register. To verify that the initiation date closely approximates the first date of public notice I search Factiva starting with the initiation date given in the GAD and look back six months prior to the initiation date for articles providing an earlier petition announcement. Approximately half the treatment firms publish a press release a mean and median of 7 days before the Federal Register's investigation initiation announcement. The maximum number of days is 17 consistent with the USITC policy to initiate an investigation within 20 days of receiving a petition. The concern here is that an earnings announcement follows a press release but precedes the Federal Register announcement which would result in a miscoding of the event year which is defined as the fiscal year corresponding to the earnings announcement following the initiation date. To check my identification method for errors I identify whether an earnings announcement is released in the twenty days preceding the announcement of the Federal Register's investigation initiation announcement. Three of the 187 treatment firm years have earnings announcements which fall into this window, but none of the three have press releases preceding the Federal Register's announcement. That is,

investigation initiation date to the fiscal year reported on in the earnings announcement subsequent to the import relief investigation initiation date. For example, if a fiscal year end is December 31, 2013, the earnings announcement date is February 12, 2014 and the initiation date is June 3, 2013, then I match the June 3, 2013 case data to the fiscal year ending December 31, 2013. I match to that fiscal year because the initiation date marks the first public signal of earnings management incentives and I expect the market to discount the valuation of earnings announced at the next earnings announcement date. By doing so I ensure that investors have an opportunity to see the public signal in the *Federal Register* before the announcement of earnings. I depart from this identification method if the initiation date is less than 90 days before the next earnings announcement date because Godsell et al. (2014a, 2014b) and Jones (1991) identify earnings management during the investigation period which is up to 280 days after the initiation date. This coding is also consistent with USITC policy to hear new information up until two weeks prior to the resolution of the investigation (USITC, 2008). I recode the event year as the subsequent fiscal year if the investigation announcement date is 90 days or less before the earnings announcement date. Results are similar without this adjustment or if I use a 150-day criterion instead.

After merging the GAD import relief data with Compustat/CRSP data, I use firm identifiers to merge these data with institutional ownership, short interest and analyst coverage data. Institutional ownership data drawn from Thomson Reuters Institutional (13f) Holdings s34 master file, short interest data are drawn from Compustat's supplemental short interest file and analyst data are drawn from the IBES summary statistics file. Institutional ownership data are available for all but one of the event firm-years. Short interest and analyst coverage data are available for approximately two-thirds of the event firm-years. I match observations such that I draw the sophisticated investor data with the record date closest but prior to the earnings announcement date. I also impose restrictions on how stale the data can be. Short seller data are recorded every two weeks or every month in my sample depending on the year. I require that short seller data be available in the 45 days before the earnings announcement date. The data

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early press releases are capable of generating errors in my event year identification method, but after close inspection, they do not.

cannot be more than 180 days old for institutional investors. IBES summary statistics provides data on the number of analysts following a firm at each earnings announcement date. I match the earnings announcement date in Compustat with the earnings announcement date in IBES to capture the number of analysts following the firm.[14]

Panel A of Table 1 shows the clustering of industries in the full sample. There is strong clustering in the manufacturing industry in the treatment firm only sample with approximately 70% of the treatment firms within the manufacturing industry. This clustering in manufacturing firms is expected since manufacturers of homogeneous tradable goods are the primary petitioning group. Panel B of Table 1 shows no evidence of strong clustering in time though there is evidence of fewer filings in the most recent decade. The steady decline in manufacturing as a percentage of U.S. GDP may explain the reduced filings in recent years (WorldBank, 2014).

Insert Table 1 about here

Panel A of Table 2 reports sample screening. The final sample is comprised of 212,960 firm-years. Panel B reports distributional features of the key variables for the full, treatment firm only and matched samples. I do not remove firms below a minimum price threshold or firms with negative equity book value to retain the largest possible sample of petitioning firms.[15] The median price for the full, treatment firm only and matched sample is $13.38, $24.84, $25.47, respectively. Median earnings per share is $0.48, $1.54, $1.54, respectively. Median equity book value is of $6.30, $14.41, $13.69, respectively. Thirty-seven percent of firm-years in the full sample observed a loss and a loss is observed in 19% of treatment-firm years and 16% of the matched sample firm-years. Median lagged assets are $180 million, $1,558 million and $1,671 million. Median institutional ownership is 28%, 53% and 47%, respectively. Median short interest is 1% for all samples. The median number of analysts following a firm is 3 for all samples. Overall, the comparative statistics demonstrate the matching algorithm is successful

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[14] In matching dates I allow the Compustat earnings announcement date to vary +/- 30 days from the IBES earnings announcement date because occasionally the earnings announcement dates recorded in either database are not perfect matches. I use the IBES-CRSP link table to merge IBES with Compustat/CRSP.
[15] The results, however, are qualitatively similar if I use a screen requiring observations have a minimum price of $2 and positive equity book value.

in identifying a set of matching firms similar in total assets to the sample of petitioning firms. Price, earnings per share, loss, institutional ownership, short interest and analyst coverage in the matched sample are also similar to the treatment firm only sample.

Insert Table 2 about here

4.0 Research Design

I study the relationship between stock price and earnings to determine the value relevance of earnings.[16] I first test whether earnings in the import relief setting have lower persistence. Following Francis et al. (2004, Eqn. 2) I measure earnings persistence as the slope coefficient (α_1) from a regression of future earnings on current earnings:

$$E_{t+1} = \alpha_0 + \alpha_1 E_t + \varepsilon_{t+1} \tag{1}$$

To test whether earnings are less persistent in the import relief setting, I regress future earnings on current earnings including an interaction to capture the year of the import relief investigation:

$$E_{it+1} = \alpha_0 + \alpha_1 E_{it} + \alpha_2 Event\ Year_{it} + \boldsymbol{\alpha_3 E_{it} \times Event\ Year_{it}} + \alpha_4 Event\ Firm_{it} + \alpha_5 E_{it} \times$$

$$Event\ Firm_{it} + \alpha_{ind} \sum Industry\ Dummies_t + \alpha_{year} \sum Year\ Dummies_t + \varepsilon_{t+1} \tag{2}$$

The prediction is that $\alpha_3 < 0$, consistent with earnings in the year of the import relief investigation in the year after the sunset review being a poor predictor for earnings in the subsequent year. Results from the estimation of this model are presented in Table 3. $Event\ Year_{it}$ is a dummy variable equal to one in the event year. $Event\ Firm_{it}$ is a dummy variable equal to one in all years for import relief firms. E_{it} is current-year earnings and the dependent variable is next year's earnings.

I next relate earnings in this setting to a valuation model which describes the market valuation of earnings as a function of earnings persistence. Ohlson (1995, Eqn. 7) describes price as a function of equity book value, firm earnings and dividends by first using the clean surplus relation to demonstrate that firm value, as expressed by the present value of expected dividends, can also be expressed as a function of equity book value and capitalized expected abnormal earnings. By invoking a first-order

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[16] My hypotheses could also be tested using earnings response coefficient tests. I use the longer-term price association test because of lower data requirements. ERC data requirements (e.g., analyst forecasts) reduce the treatment firm sample by approximately 40%.

autoregressive process for abnormal earnings and another term capturing other information, Ohlson restates the residual income model in this form:

$$P = (1 - k)b_{nt} + k[\phi X_{nt} - d_{nt}] + \alpha v_{nt} \tag{3}$$

Where P is price, b is equity book value, X is earnings, d is dividends and v is other information; k is equal to $rw/(R - w)$ and ϕ is R/r. R is one plus the discount rate, r is the discount rate and w is the autoregressive factor. As discussed in Easton (1999), this model has motivated many price-earnings studies using the following empirical adaptation:

$$P = \alpha_0 + \alpha_1 B_{it} + \alpha_2 X_{it} + \varepsilon_{it} \tag{4}$$

In this adaptation, other information is captured by a non-zero intercept and the error term. Interpreting this model in the context of Ohlson (1995) α_2 is positively related to earnings persistence. Dechow et al. (2010) discuss several papers which provide empirical evidence linking earnings persistence to higher equity valuations (e.g., Collins & Kothari, 1989; Easton & Zmijewski, 1989; Koremendi & Lipe, 1987). Chen, Folsom, Paek and Sami (2014) provide recent evidence that conditional conservatism lowers earnings persistence and earnings valuations. The import relief setting is similar to a setting characterized by conditional conservatism because both result in an abrupt change to the time-series persistence of earnings data. In the import relief setting, the earnings reported after an investigation initiation are expected to have lower persistence and therefore receive a lower valuation multiple in this model.

The full empirical model I use expresses price as a function of equity book value and firm earnings. I include an indicator variable equal to one when earnings are negative to control for the nonlinear relation between earnings and price when earnings are negative (Berger, Ofek, & Sawry, 1996; Burgstahler & Dichev, 1997b). The treatment variable is earnings (X_{it} from equation (4)) interacted with a dummy variable capturing the import relief investigation event year, notated below as $EPS_{it} \times EY_{it}$. The model used in the full and matched sample is:

$Price_{it} = \alpha_0 + a_1 BVE_{it} + a_2 EPS_{it} + a_3 Loss_{it} + a_4 Event\ Year\ (EY)_{it} + a_5 BVE_{it} \times EY_{it} + \boldsymbol{a_6 EPS_{it} \times EY_{it}} + a_7 Loss_{it} \times EY_{it} + a_8 Loss_{it} \times EPS_{it} + a_9 Loss_{it} \times BVE_{it} + a_{10} Loss_{it} \times EPS_{it} \times EY_{it} + a_{11} Loss_{it} \times BVE_{it} \times EY_{it} + a_{12} IRfirm_{it} + a_{13} IRfirm_{it} \times EPS_{it} + a_{14} IRfirm_{it} \times BVE_{it} + a_{15} IRfirm_{it} \times Loss_{it} + a_{16} IRfirm_{it} \times EPS_{it} \times Loss_{it} + a_{17} IRfirm_{it} \times BVE_{it} \times Loss_{it} +$

$$\alpha_{ind} \sum Industry\ Dummies_t + \alpha_{year} \sum Year\ Dummies_t + \varepsilon_{it} \tag{5}$$

The model used for the treatment firm only sample excludes the treatment firm main effect and interactions from equation (5). The dependent variable is $Price_{it}$ defined as the mean price in the six days following the earnings announcement date for firm i in year t.[17] BVE_{it} is total common equity divided by number of common shares outstanding. EPS_{it} is defined as diluted earnings per share excluding extraordinary items reported on the earnings announcement date for firm i in year t.[18] $Loss_{it}$ is a dummy variable equal to one for firms with income before extraordinary items below zero in the firm-year, and equal to zero otherwise. EY_{it} is a dummy variable equal to one in the event year defined earlier when testing **H1-3** and is a dummy variable equal to one in the year following the initiation of the sunset review when testing my hypotheses in the sunset review setting. $IRfirm_{it}$ is an indicator variable identifying all treatment firm-years in the sample. ε_{it} is other value-relevant information of firm i in year t orthogonal to earnings, equity book value and control variables. $Price_{it}$, BVE_{it}, and EPS_{it} are winsorized at 1% and 99% levels. All market variables are deflated by the number of common shares outstanding to mitigate scale effects (e.g., heteroscedasticity) as suggested by Barth and Clinch (2009) and I adjust standard errors using robust clustering at the firm and year level (Cameron, Gelbach, & Miller, 2011; Kothari & Zimmerman, 1995). I also include industry and year fixed effects.

Predictions for the coefficients in equation (5) follow from the model in equation (4). Consistent with the prior literature, I expect a positive coefficient for both a_1 and a_2 (Collins, Pincus, & Xie, 1999; Hayn, 1995). My main prediction is that perceived lower earnings persistence in import relief event years will result in a negative coefficient for a_6.[19]

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[17] Results are unchanged when using shorter (3-day) and longer (14-day) windows to observe price.

[18] The earnings announcement date following the fourth quarter of each year is drawn from the Compustat's Fundamentals Quarterly file while BVE and EPS are drawn from the Compustat Fundamentals Annual File.

[19] Hui et al. (2014, pp. 631-633) present a model capturing an abandonment option in which the earnings coefficient is increasing in profitability and predict a lower earnings coefficient for fraud firms as investors discount what are perceived to be overstated earnings. In their setting, investors are uncertain the firm is a fraud firm, and about the magnitude of the fraud. As the probability of an earnings overstatement due to fraud increases, the probability of the abandonment option being exercised increases, decreasing the valuation multiple on observed earnings. This alternative model would predict a larger valuation multiple on potentially understated earnings in the trade investigations and a lower valuation multiple on potentially overstated earnings in sunset review initiations. While this alternative prediction is possible, I expect the persistence effect to dominate in the trade relief setting.

The empirical model used to test **H₃** replicates the foregoing empirical models but includes several new variables and interactions to capture the presence of a sophisticated market observer.

$$Price_{it} = \alpha_0 + a_1 BVE_{it} + a_2 EPS_{it} + a_3 Loss_{it} + a_4 Event\ Years\ (EY)_{it} + a_5 BVE_{it} \times EY_{it} + a_6 EPS_{it} \times EY_{it} + \cdots + \boldsymbol{a_{18} EPS_{it} \times EY_{it} \times Sophisticated\ Investor_{it-1}} + \cdots + \alpha_{ind} \sum Industry\ Dummies_t + \alpha_{year} \sum Year\ Dummies_t + \varepsilon_{it} \qquad (6)$$

All repeated variables are defined as before and "Sophisticated Investor" is calculated using lagged institutional ownership, lagged short interest or the lagged number of analysts following the firm when testing **H₃**. The $Sophisticated\ Investor_{it-1}$ variable is equal to one if the firm-year observation is above the median lagged value of institutional ownership, short interest or number of analysts following the firm, and zero otherwise.[20] The treatment variable is $a_{18} EPS_{it} \times EY_{it} \times Sophisticated\ Investor_{it-1}$ and the prediction is that a_{18} will be negative, reflecting that sophisticated investors are more capable of determining the incentives for earnings management and anticipating lower persistence of earnings in the import relief setting. When institutional ownership or short interest data exceed 100%, I code the institutional ownership or short interest as 100%.[21]

Based on the prior literature I expect the coefficients on EPS and BVE to be positive. My primary empirical predictions are that $EPS_{it} \times EY_{it}$ in equation (5) and $EPS_{it} \times EY_{it} \times Sophisticated\ Investor_{it}$ in equation (6) will have negative coefficients, and that the coefficient on $EPS_{it} \times EY_{it}$ will be more negative in second or subsequent investigation initiations and during sunset reviews.

5.0 Results

5.1 Main Results

The results of tests that examine equation (2) to determine earnings persistence around the initiation of an import relief investigation or sunset review are presented in Panel A and Panel B of Table 3, respectively. This test is limited in that it only examines the predictive ability of earnings for one year ahead earnings. The results in both panels of Table 3 are as expected with $\alpha_3 < 0$ in the full, treatment firm only and

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[20] Because informed price setting may require only a small number of informed investors, I re-test **H₃** by partitioning on firm-years with more than two institutional investors and firms with more than one analyst (to my knowledge, information regarding the number of short sellers invested in a firm is not available). In untabulated analyses, the results for **H₃** are qualitatively similar.
[21] Results are unchanged if I drop these observations instead.

matched samples, consistent with lower earnings persistence in the year of the import relief investigation and the year after a sunset review. This evidence is consistent with the assumption that the import relief setting provides incentives for earnings management, and that this earnings management lowers the persistence of earnings.

Insert Table 3 about here

I then move to reporting the main results that examine the market valuation of import relief firms' accounting data in the period after investigation initiation. Table 4 reports results for H_1. Table 5 reports results for H_2. Table 6 reports results for H_3 without partitioning on whether opportunities to learn are available. Tables 7-9 reports results for H_3 with partitions on opportunities to learn. Table 10 presents the baseline result for sunset reviews, and Table 11 includes interactions revealing the effects when there is an above-median presence of sophisticated investors. I do not tabulate coefficients on subordinate interactions and main effects but these additional variables are included in the model and are listed below the tables (Aiken & West, 1991).

Table 4 presents results for H_1. This table presents results of estimating equation (5) in three columns reflecting the full sample, the treatment firm only sample and the matched sample. The market valuation of $1 in earnings for the average firm in the three samples ranges between $5.981 and $6.564. The average market valuation of $1 in equity book value ranges between $0.501 and $0.58. The incremental market valuation of earnings reported by firms during import relief investigations is captured by the coefficient for the variable [Earnings Per Share × Treatment Firm-Year]. These coefficients are -1.637 and -1.530 and statistically significant for the full and matched sample, respectively. The treatment firm only sample coefficient is -1.129 but not statistically significant. These results are economically meaningful because the full and matched sample treatment variable coefficients reflect a 23-25% decrease in the value relevance of earnings. These results are consistent with investors perceiving that earnings reported by an import relief firm during an import relief investigation are less value-relevant than average. That is, in a setting in which firms face strong incentives to manage earnings investors reduce their valuation of earnings.

Table 5 presents results for **H₂**. This table presents results of estimating equation (5) when the sample is partitioned into first-time and repeat petitioners, i.e., when opportunities to learn are absent or present. This table presents six columns: columns 1 and 2 present results for the full sample; columns 3 and 4 present results for the treatment firm only sample; and columns 5 and 6 present results for the matched sample. Odd-numbered (even-numbered) columns reflect tests without (with) opportunities to learn. For the matched sample I code peer firms as matched with a first-time petitioner or a repeat petitioner. When estimating regressions using the matched samples, only first-time petitioner (repeat petitioner) peer firms are included in the first-time petitioner (repeat petitioner) partition. The market valuation of $1 in earnings for the average firm in the three samples ranges between $5.990 and $6.754. The average market valuation of $1 in equity book value ranges between $0.436 and $0.58. The incremental market valuation of earnings reported by firms during import relief investigations is captured by the coefficient for the treatment variable [Earnings Per Share × Treatment Firm-Year]. For the group of first-time petitioners in the full, treatment firm only and matched sample, the coefficients for the treatment variable are 0.394, 1.116, and 0.479, respectively, and not statistically significant. These results are consistent with investors perceiving earnings reported by a first-time petitioner being no more or less value-relevant than average in a setting in which firms face strong incentives to manage earnings. In contrast, for the group of repeat petitioners the coefficients for the treatment variable in the full, treatment firm only and matched samples are -2.326, -2.044 and -1.974 and statistically significant. These repeat petitioner results are economically meaningful because the treatment variable coefficients reflect a 29-35% decrease in the value relevance of earnings. These results suggest investors perceive earnings reported by repeat petitioners as less value-relevant than average during the import relief investigation. This result is consistent with investors discounting the valuation of earnings only when they had a prior opportunity to learn about the incentives provided in this setting and the firm-specific earnings process during an import relief investigation.

Table 6 reports results for **H₃** without partitioning on learning. This table presents the results of estimating equation (6). This table presents nine columns: columns 1, 4 and 7 reflect the full sample; columns 2, 5 and 8 reflect the treatment firm only sample and columns 3, 6 and 9 reflect the matched sample. The market valuation of $1 in earnings for the average firm in the nine models ranges between $4.715 and $7.477. The average market valuation of $1 in equity book value ranges between $0.505 and $0.712. Treatment variable results vary across samples and sophisticated investor type. Coefficients for [Earnings Per Share × Treatment Firm-Year] are not statistically significant in columns 1-3 when including the institutional investor control and in columns 4-6 when including the short interest control. When testing analyst coverage in columns 7-9 the treatment variable coefficient is not statistically significant in the full and matched sample, but is -1.663 and statistically significant in the treatment firm only sample. *Sophisticated Investor* is an institutional investor / short interest / analyst coverage dummy variable in columns 1-3 / 4-6 / 7-9. The dummy variable is equal to one if the firm-year observation is above the sample median (calculated separately for each sample) and zero otherwise. The coefficient on [Earnings Per Share × Institutional Ownership] in columns 1-3 is positive and statistically significant, suggesting that firms with above-median institutional ownership receive higher market valuations of reported earnings. This relation is not consistently repeated for firms in columns 4-9 which have above-median values of short interest and analyst coverage. The coefficients in columns 1-3 for the treatment variable [Earnings Per Share × Institutional Investor × Treatment Firm-Year] are -2.256, -1.721 and -1.436 and not statistically significant. The coefficients in columns 4-6 for the treatment variable [Earnings Per Share × Short Interest × Treatment Firm-Year] are -1.922 and -2.175 and statistically significant for the full and treatment firm only sample, and -1.527 but not statistically significant for the matched sample. The coefficients in columns 7-9 for the treatment variable [Earnings Per Share × Analyst Coverage × Treatment Firm-Year] are -3.744 and -2.772 and statistically significant for the full and matched sample, and -2.154 but not statistically significant for the treatment firm only sample. Overall, these results provide some, albeit not consistent, results in support of H3 which predicts an attenuated valuation of earnings after the initiation of an import relief investigation for firms with above-median

institutional ownership, short interest or analyst coverage.

Insert Table 6 about here

Tables 7-9 report results for **H₃** when partitioning on opportunities to learn. Tables 7-9 report the effects of institutional ownership, short interest and analyst coverage on the price-earnings relation when the sample is partitioned into first-time and repeat petitioners. These tables present six columns: columns 1 and 2 present results for the full sample; columns 3 and 4 present results for the treatment firm only sample; and columns 5 and 6 present results for the matched sample. Odd-numbered (even-numbered) columns reflect tests without (with) opportunities to learn. The market valuation of $1 in earnings for the average firm in the three samples in these three tables ranges between $4.677 and $7.854. The average market valuation of $1 in equity book value in these tables ranges between $0.455 and $0.72. The coefficient on the interaction of earnings per share and institutional ownership is positive and statistically significant for all models in Table 7. The coefficient on the interaction of earnings per share and short interest is positive and statistically significant in columns 1 and 2 in Table 8. The coefficient on the interaction of earnings per share and analyst coverage is positive and statistically significant in columns 1 and 2 in Table 9. This is modest evidence that the market valuation of earnings is higher in firms with above-median institutional ownership, short interest and analyst coverage.

In Tables 7-9 the coefficient for the unsophisticated investor treatment variable [Earnings Per Share × Treatment Firm-Year] is not statistically significant for first-time filers or the repeat filers consistent with unsophisticated investors failing to unravel earnings management in either set of firms. In Tables 7-9, the incremental market valuation of earnings reported by firms with higher levels of institutional investors, short sellers and analysts during import relief investigations is captured by the coefficient for the variable [Earnings Per Share × *Sophisticated Investor* × Treatment Firm-Year]. The coefficient for this variable is not statistically significant for first-time filers (odd-numbered columns) for all sophisticated investors in all samples. Results for repeat petitioners (even-numbered columns) are as follows. The coefficient on [Earnings Per Share × *Institutional Investor* × Treatment Firm-Year] is -4.432, -2.647 and -2.646 and statistically significant in the full, treatment firm only and matched

samples, respectively. The coefficient on [Earnings Per Share × *Short Interest* × Treatment Firm-Year] is -5.641, -4.344 and -4.306 and statistically significant in the full, treatment firm only and matched samples, respectively. The coefficient on [Earnings Per Share × *Analyst Coverage* × Treatment Firm-Year] is -5.068, -2.367 and -3.773 and statistically significant in the full, treatment firm only and matched samples, respectively. These results are economically meaningful because the treatment variable coefficients across Tables 7-9 in the learning setting reflect a 37-90% decrease in the value relevance of earnings. This is consistent with sophisticated investor unraveling of earnings management when learning opportunities are available.

Insert Tables 7-9 about here

Tables 10 and 11 report results for tests of the value relevance of earnings during the sunset review. In these tables the event year is the year following the initiation of the sunset review. All other variables remain the same. The matched sample is recreated using the same methodology employed for the original and repeat event firm-years. Table 10 presents results of estimating equation (5) on the sunset review events in the full sample, the treatment firm only sample and the matched sample. Table 11 presents the results of estimating equation (6). This table presents nine columns: columns 1, 4 and 7 reflect the full sample; columns 2, 5 and 8 reflect the treatment firm only sample and columns 3, 6 and 9 reflect the matched sample. The samples are not partitioned on first-time versus subsequent sunset review initiation because all sunset reviews are considered to be an opportunity to apply knowledge gleaned from earlier investigations.

The market valuation of $1 in earnings for the average firm in the three samples in Table 10 ranges between $6.238 and $6.556. The average market valuation of $1 in equity book value ranges between $0.551 and $0.581. The coefficients on [Earnings Per Share × Treatment Firm-Year] are -1.545, -2.966 and -2.885 and statistically significant in all three samples. These results are economically meaningful because the treatment variable coefficients in this learning setting reflect a 23-46% decrease in the value relevance of earnings. These results are consistent with **H₂,** which predicts attenuated valuation of the earnings reported after initiation of a sunset review in which investors have

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had an opportunity to learn from the initial investigation.

The market valuation of $1 in earnings for the average firm in Table 11 ranges between $4.511 and $7.056. The average market valuation of $1 in equity book value ranges between $0.580 and $0.906. Consistent with the predictable nature of the sunset review, both sophisticated and unsophisticated investors appear to unravel earnings management in the year following the initiation of the sunset review. In Table 11 coefficients on the treatment variable [Earnings Per Share × Treatment Firm-Year] are all statistically significant. Coefficients are -2.141, -3.248 and -3.587 in columns 1-3 in the full, treatment firm only and matched sample, respectively; coefficients on the same treatment variable are -1.934, -2.870 and -3.382 in columns 4-6 in the full, treatment firm only and matched samples, respectively; coefficients on the same treatment variable are -3.705, -3.732 and -3.911 in columns 7-9 in the full, treatment firm only and matched sample, respectively. Coefficients in columns 1-3 on [Earnings Per Share × *Institutional Investor* × Treatment Firm-Year] are -3.797, -3.477 and -3.924 and statistically significant. The coefficient in column 4 on [Earnings Per Share × *Short Interest* × Treatment Firm-Year] is -3.757 and statistically significant in the full sample. The coefficient in columns 5 and 6 in the treatment firm only and matched samples are -1.94 and -2.823 but not statistically significant. Though not statistically significant, both coefficients are negative and economically large. Coefficients in columns 7-9 in the full, treatment firm only and matched sample for [Earnings Per Share × *Analyst Coverage* × Treatment Firm-Year] are -3.943, -3.138 and -3.381 and statistically significant. These results are economically meaningful because the treatment variable [Earnings Per Share × Treatment Firm-Year] coefficients in this learning setting for unsophisticated investors reflect a 31-79% decrease in the value relevance of earnings. The presence of sophisticated investors as reflected by the treatment variable [Earnings Per Share × *Sophisticated Investor* × Treatment Firm-Year] coefficients reflect a further 32-87% decrease in the value relevance of earnings. These results are consistent with investors unraveling earnings management when learning opportunities are available.

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Insert Tables 10-11 about here

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In summary, these results are consistent with investor rationality conditional on opportunities to

learn. Investors do not appear to anticipate earnings management when prior learning opportunities are not available. Only sophisticated investors appear to unravel earnings management when firms file their second or subsequent import relief petition. All investors appear to unravel earnings management in the sunset review setting in which investors had an opportunity to learn about earnings persistence during the original investigation.

5.2 Sensitivity Analysis

I report on six additional sensitivity analyses in this section. First, I refrain from using conventional data screens in creating my sample, e.g., dropping firm-year observations with negative equity book value or a market price below $2, in order to retain the largest possible sample of petitioning firms. In sensitivity analyses I find that including these screens does not affect the inferences drawn from the models estimated in this study. I also include separately and as a group other screens including (1) dropping firms with asset value below $50 million; (2) dropping firms with annual asset growth of over (under) 100% (-50%); (3) dropping firms with change in common shares outstanding of over (under) 25% (-25%). Inferences are unchanged when including any of these screens individually or as a group.

Second, almost 40% of the treatment firm sample is comprised of steel firms. Steel firms make up 41 of the 70 repeat petitioners and 28 of the 110 first-time petitioners. In untabulated sensitivity analyses I find that results for H_1 and H_2 are robust to the exclusion of steel firms. Tests of sophistication (H_3) cannot be retested due to insufficient observations. Approximately 16% of the treatment firm sample is comprised of chemical firms (35 firms), 17 of which are first-time filers and 18 of which are repeat petitioners. I find no change in inferences for H_{1-3} when I exclude this group of firms.

Third, I use Cook's distance statistics in the three samples to ensure that no individual observation is significantly influencing regression results. Cook's distance statistics underweight outliers and influential observations, and this specification is a compromise between equal weighting and outright exclusion of all influential outlying data points from the sample set. Using this method, the more influential data points are dropped and firm-years with small residuals receive a weighting of 1 whereas firm-years with large residuals receive a lower weight greater than zero but less than 1. Inferences for H_{1-3}

are unchanged using this specification.

Fourth, I replicate the Hui, Lennox and Zhang (2014) specification as this paper is the most recent related paper. Hui et al. use standard errors clustered by firm with year and industry fixed-effects. In contrast I use standard errors clustered by both firm and year with year and industry fixed-effects. In untabulated analyses I find that in my setting my specification yields larger standard errors and more conservative t-statistics than the Hui, Lennox and Zhang (2014) specification. Nevertheless, all inferences for H_{1-3} are confirmed using Hui et al.'s (2014) less conservative specification.

Fifth, I run all tests using a propensity score matched sample. By matching each treatment firm with a control firm based on propensity score matching, I find all results are similar to those yielded by the main analyses. In this context, a propensity score is the probability that a firm initiates an import relief investigation conditional on size, earnings per share and equity book value. A probit model in which the treatment firm dummy is regressed on size, earnings per share and book value is used to calculate the propensity score and each firm in the treatment firm group is paired with its nearest neighbour by propensity score.

Finally, I run all tests using coarsened exact matching. Using coarsened exact matching, I match firms which initiate import relief investigations with firms which do not initiate import relief investigations but are comparable in terms of their size, earnings per share and equity book value. All results are similar using this matching method. Overall, these robustness tests suggest that alternative specifications and matches do not change the conclusions drawn from the main analyses.

5.3 Limitations

This investigation is subject to several limitations. First, as discussed in Lo and Lys (2000, p. 55) tests of the Ohlson model are tests of market efficiency, the clean surplus relation and the model's own information dynamics. Second, application of the Ohlson model in this study does not capture cross-sectional variation in firm discount rates. It is possible that import relief firms have a higher discount rate,

r, which in the Ohlson model would lead to a lower earnings coefficient.[22] Third, genuine injury rather than earnings management may be causing the lower persistence of earnings. Later I discuss planned further work to attempt to address this limitation.

6.0 Conclusion

I examine the value relevance of earnings reported by firms during import relief investigations. This setting provides opportunities for investors to learn about earnings management incentives and earnings persistence during import relief investigations. Firms may file a second or subsequent petition and on the five-year anniversary of the original imposition of tariffs in successful cases firms may apply for a renewal of import relief in a process known as the sunset review. I utilize this setting to investigate how opportunities to learn and investor sophistication affect the market's ability to detect and respond to incentives for sample firms to engage in earnings management.

I first provide some evidence that sample-wide the value relevance of earnings reported by import relief firms is lower in the year of the investigation. Next, I find a much more marked decrease in the value relevance of earnings for firms which previously initiated an import relief investigation. This is consistent with the market learning about the incentives for earnings management and observing the earnings process during prior investigations initiated by the firm and using that knowledge in its valuation of reported earnings in subsequent investigations. Next, I find some evidence that firms with above-median short interest and analyst coverage experience sharper reductions in the value relevance of their earnings data sample-wide. Further tests reveal that investor learning is concentrated in firms with above-median presence of sophisticated investors including institutional investors, short sellers and analysts. This is consistent with prior research that sophisticated investors are superior processors of public information. Finally, I repeat the tests of learning and sophistication using the sunset review setting which provides a second opportunity for investors to learn. I find the market valuation of earnings declines for all sunset review firms while firms with above-median presence of sophisticated investors experience an

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[22] Early work by Maydew (1993) suggests allowing cross-sectional variation in discount rates does not improve the explanatory power of the model, but I contend it may still be a factor in testing subsamples, such as import relief firms.

even greater decline in the market valuation of earnings. Overall, the decline in the value relevance of earnings reported by firms with strong earnings management incentives is evidence that the market can detect earnings management, and that opportunities to learn and investor sophistication facilitate that process.

This paper makes several contributions to the literature examining the market valuation of managed earnings. Contradictory evidence exists regarding the market's ability to detect and respond to earnings management, or abnormal accruals more generally. This literature examines the market response to accruals versus cash flows or to abnormal accruals identified by models of normal accruals in samples of firms facing unknown earnings management incentives. These papers do not provide clear evidence about whether or how the market identifies earnings management or incentives for it. My paper examines a setting where the incentives for earnings management are relatively clear and where the effects of learning about those incentives can be investigated. This study examines the market reaction to both income increasing and income decreasing earnings management while the prior literature solely investigates the market response to income increasing earnings management when it is not clear that the market's ability to detect earnings management is symmetric. Finally, this paper is the first to investigate the market valuation of managed earnings in a trade investigation setting.

In future work I will test the robustness of my results using a return specification. Despite theoretical equivalence this specification consistently generates results which vary from those generated in the price-earnings specification (Easton, 1999). I also plan to decompose earnings into cash flow and accrual components and then repeat my empirical analysis. Assuming actual injury affects the persistence of cash flow, and assuming that earnings management is restricted to accrual manipulation, partitioning earnings into cash flows and accruals should allow an assessment of whether injury or earnings management is responsible for the diminished valuation of earnings for import relief firms.

Appendix A: Snapshots from the questionnaire for U.S. producers

Questionnaire Hyperlink: http://www.usitc.gov/trade_remedy/documents/USProducerQuestionnaire.pdf

Questionnaire, Page 9:

Accounting system.--Briefly describe your firm's financial accounting system.

    A.   When does your firm's fiscal year end (month and day)? _____
           If your firm's fiscal year changed during the data-collection period, explain
           below:
           _____

    B.1.   Describe the lowest level of operations (e.g., plant, division, company-wide) for
           which financial statements are prepared that include **PRODUCT**:
           _____

      2.   Does your firm prepare profit/loss statements for the **PRODUCT**:
           ☐ Yes   ☐ No

Questionnaire, Page 12:

Quantity (*in SPECIFY*) and value (in $1,000)					
	Fiscal years ended--			January-March	
Item	2011	2012	2013	2013	2014
Net sales quantities:[3]					
Commercial sales ("CS")					
Internal consumption ("IC")					
Transfers to related firms ("Transfers")					
Total net sales quantities	0	0	0	0	0
Net sales values:[3]					
Commercial sales					
Internal consumption					
Transfers to related firms					
Total net sales values	0	0	0	0	0
Cost of goods sold (COGS):[4]					
Raw materials					
Direct labor					
Other factory costs					
Total COGS	0	0	0	0	0
Gross profit or (loss)	0	0	0	0	0
Selling, general, and administrative (SG&A) expenses:					
Selling expenses					
General and administrative expenses					
Total SG&A expenses	0	0	0	0	0
Operating income (loss)	0	0	0	0	0
Other expenses and income:					
Interest expense					
All other expense items					
All other income items					
Net income or (loss) before income taxes	0	0	0	0	0
Depreciation/amortization included above					

[1] Include only sales (whether domestic or export) and costs related to your U.S. manufacturing operations.
[2] Please eliminate any profits or (losses) on inputs from related firms pursuant question III-8.
[3] Less discounts, returns, allowances, and prepaid freight. The quantities and values should approximate the corresponding shipment quantities and values reported in Part II of this questionnaire.
[4] COGS should include costs associated with CS, IC, and Transfers, as well as export shipments in question II-8.

Questionnaire, Page 15:

Effects of imports.--Since January 1, 2011, has your firm experienced any actual negative effects on its return on investment or its growth, investment, ability to raise capital, existing development and production efforts (including efforts to develop a derivative or more advanced version of the product), or the scale of capital investments as a result of imports of **PRODUCT** from **COUNTRY**?

Appendix B: An example of an antidumping case, Case 731-TA-1207-1208[23]

The USDOC launched an investigation into Chinese and Mexican dumping of prestressed concrete steel rail tie wire on April 23, 2013. The two petitioners, Davis Wire Group and Insteel Wire Products Co., represented 100% of the U.S. production of the subject good. Financial indicators are compared over the investigation period which extended from January 2011 to eight months past the April 23, 2013 initiation date to December 2013. An affirmative final determination for the case was published on June 3, 2014. The USITC determined that the industry in the U.S. was injured by dumping and a variety of economic data were cited as evidence of injury. Financial performance data to evaluate sales, operating costs, profitability, capital expenditures, research and development expenses and return on investment are drawn *directly from 10-Ks* with data from both *before and after* the initiation date (see, e.g., footnotes 8 & 10, p. VI-1 – VI-5). An example of the use of accounting data is reported on page VI-4, in which it is stated, "Operating income or loss was divided by total net assets to calculate ROI". Other accounting information used is catalogued on page C-3. The report on the final determination states:

> "The domestic industry's output, employment, and financial performance all declined over the [period of investigation (POI)], with particularly steep declines in output from 2011 to 2012…In 2011, the domestic industry experienced *** and its operating margin was *** percent. Operating losses and negative margins continued in 2012 and 2013, at $*** and *** percent, and $*** and *** percent, respectively. Capital expenditures declined during the POI; the industry also was *** research and development expenditures during the POI…As previously stated, the subject imports took market share from the domestic industry during the POI, causing the domestic industry's production and shipments to decline. These declines in turn had a negative impact on the industry's employment and financial performance" (USITC, 2014; p.22).[24]

> "For the reasons stated above, we determine that an industry in the United States is materially injured by reason of subject imports of China and Mexico that are sold in the United States at less than fair value" (p. 24).

These excerpts demonstrate that the financial performance of the petitioning firms both before and after the initiation date is an important determinant of the USITC's determination of whether an industry is materially injured or threatened with material injury in the absence of antidumping duties.

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[23] All references refer to the determination for Case 731-TA-1207-1208. The determination is available here: http://usitc.gov/trade_remedy/731_ad_701_cvd/investigations/2014/rail_wire/final/PDF/PC%20Tie%20Wire%20-%20PUB4473.pdf

[24] *** indicates information deemed confidential by the USITC; they denote any number of words or numbers.

Appendix C: A description of the original investigation timeline

Import relief investigations are comprised of five stages which begin with initiation and end with a final determination by the USITC no more than 280 days after the filing of the petition. Figure 1 provides a diagram demonstrating this timeline. First, the investigation is initiated by the United States Department of Commerce (USDOC). Initiation occurs less than twenty days after the filing of the petition. Second, the USITC conducts the preliminary phase of its investigation as to whether the petitioning industry has been injured. The USITC issues its preliminary determination less than 45 days after the filing of the petition. Third, the USDOC conducts the preliminary phase of its investigation as to whether goods have been dumped. The preliminary determination by the USDOC must be issued less than 160 days after the filing of the petition and 115 days after the USITC preliminary determination. Fourth, the USDOC conducts the final phase of its investigation. The final determination by the USDOC must be issued less than 235 days after the petition filing date and 75 days after the USDOC's preliminary determination. Finally, the USITC conducts the final phase of its investigation. The USITC collects injury evidence up until a week before the final determination is made. Incentives to manage earnings are thus present in the 280 days subsequent to the initiation date, consistent with findings of abnormal accruals in the period following the import relief investigation initiation date (Godsell, et al., 2014b; Jones, 1991).

The USDOC begins its preliminary investigation if the USITC preliminary decision on injury is affirmative. The USDOC will make a final determination within 235 days of the petition filing date. Their final determination is almost always affirmative and so the decision for import relief is generally conditional on the final phase of the USITC investigation. The USITC assigns another six-person team to develop briefs and arrange conferences for the final determination. A public hearing is held and provides an opportunity for parties to scrutinize each other's information and arguments. A final staff report is prepared and presented to the Commissioners after the public hearing. Four days after the receipt of the final staff report the USITC ceases to accept new factual information. That is, new information regarding evidence of injury is accepted up until the final days before the USITC final determination, which can be as many as 280 days after the petition filing date. The Commissioners review the final report in the three days after the final comments are due and vote on its determination. The USITC describes the basis for its determination in the *Federal Register* and makes the final report available on the regulator's website.

Appendix D: A description of the sunset review

The USDOC initiates sunset reviews 30 days before the five-year anniversary of the original petition and notice of initiation is published in the *Federal Register*. The USITC provides 95 days for domestic petitioners to provide responses to a sunset review questionnaire.[25] The USITC will give notice of an expedited or full review 95 days after sunset review initiation. An expedited review occurs when either there is (1) no response from either the domestic producer or the foreign exporter or (2) an adequate response from the domestic producer but not the foreign exporter.[26] If the USITC receives an adequate response from domestic and foreign parties a full review is conducted. The full review will typically be completed within 360 days of initiation. The USITC continues to receive data from all parties until late into its deliberation. For example, in case 731-TA-929-931, the USITC initiated the sunset review October 1, 2012, held a public hearing on July 18, 2013 and the Commissioners voted on a determination August 23, 2013. A review of the determination reveals they considered financial information dated as late as June 28, 2013. The USITC considers financial information long after the initiation date of sunset reviews, giving rise to incentives after the initiation date to manage earnings. Consistent with the incentives that follow from the original investigation, Godsell, Welker and Zhang (2014a) and Godsell, Welker and Zhang (2014b) extend Jones (1991) and find that EU and U.S. firms petitioning the USITC and the European Commission for import relief manage earnings downward around the initiation of an import relief investigation.[27] Godsell, Welker and Zhang (2014b) also find that upward earnings management occurs around the initiation of the sunset review.

A major exception to an otherwise similar questionnaire distributed to U.S. producers is the requirement for financial information for six rather than three calendar years preceding the sunset review initiation date, plus year-to-date information. Section 1 of the questionnaire requests general information (e.g., firm ownership) and information regarding the petitioner's views regarding how the industry will be affected if the import relief is revoked. Section 2 requests information on production capacity, usage and inventories, as well as labour statistics. This section also requests that petitioners,

> "Describe the significance of the existing antidumping duty order covering imports of (the allegedly dumped product) from the (foreign country) in terms of its effect on your firm's production capacity, production, U.S. shipments, inventories, purchases, employment, revenues costs, profits, cash flow, capital expenditures, research and development expenditures, and asset values. You may wish to compare your firm's operation before and after the imposition of the order."

Section 3 requires income statement data including sales, cost of goods sold, gross profit (or loss), selling, general and administrative expenses, operating income and net income before income taxes, and depreciation expenses. The USITC publishes a notice of the initiation of a sunset review in the *Federal Register* after receiving an indication of petitioner interest in renewing import relief. If a petitioner does not respond adequately after the sunset case is initiated the import relief is revoked. The sunset review process mirrors the original dumping investigation with the major exception that the regulator is assessing an industry affected by ongoing protection. Instead, Commissioners are deciding whether material injury is likely to occur again in the event import relief is terminated, rather than deciding whether injury has already occurred. The Commission "shall take into account – (A) its prior injury determinations, including the volume price effect and impact of import of the subject merchandise on the industry before

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[25] Sunset review U.S. Questionnaire available at www.usitc.gov/trade_remedy/documents/sunset_us_producer _questionnaire.pdf
[26] For an example of a determination, see www.usitc.gov/secretary/fed_reg_notices/sunset/731_1070A_notice03112010sgl. pdf
[27] For a comprehensive compilation of the anti-dumping literature, see the European Journal of Political Economy, Volume 22, Issue 3 for a compilation of 17 articles marking the 100th anniversary of the first anti-dumping legislation.

the order was issued…, (B) whether any improvement in the state of the industry is related to the (antidumping) order…, (C) whether the industry is vulnerable to material injury if the order is revoked…" (section 752(a) of the Act (19 U.S.C. § 1675a(a)).[28] Evidence of industry protection from injury is provided by showing that firm prospects have improved. The USITC retrieves this information through responses in Section 3 of the sunset questionnaire. When evidence of improvement with trade protection is absent the conclusions are that (1) other industry factors are leading to industry decline, (2) trade protection is unnecessarily distorting the U.S. market, and (3) import relief ought to be withdrawn.[29] The affirmative finding in sunset case (731-TA-1136) with respect to sodium nitrate from China and Germany is consistent with this. The final report reads[30]:

> "General Chemical maintains that antidumping and countervailing duty orders led to increases in its production, capacity utilization, U.S. shipments, market share, capital investment and operating performance. Based on the information on the record, we find that, should the (antidumping) orders be revoked...(it) would have a significantly adverse impact on the production, shipments, sales, market share and revenues of the domestic industry. These declines would likely have a direct adverse impact on the domestic industry's profitability" (p. 21)

A quote from a second affirmative sunset case decision (731-TA-873-875, 877-880 and 882) with respect to steel concrete reinforcing bar from Belarus, China, Indonesia, Korea, Latvia, Moldova, Poland, and Ukraine provides similar insight into the sunset review process[31]:

> "We note that the domestic industry's profitability at the end of the period of review can be attributed to the sharp increase in demand and prices and to the existence of the antidumping duty orders. The industry's continued healthy performance, however, is linked to the continuation of antidumping duty orders…Thus, if the orders were revoked, the domestic industry's profitability would likely decline significantly…" (p. 36)

As these cases demonstrate, an affirmative sunset review decision relies on evidence that the original import relief is working, giving rise to incentives for firms to manage earnings upward to demonstrate improved financial performance in the presence of import relief.

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[28] The relevant statute text is available here (scroll to bottom): www.gpo.gov/fdsys/pkg/USCODE-2011-title19/pdf/USCODE-2011-title19-chap4-subtitleIV-partIII-subparta-sec1675.pdf
[29] See, e.g., the determination of Case 731-TA-851 (p. 22-23), available at: www.usitc.gov/publications/701_731/pub3846.pdf
[30] Report available at: www.usitc.gov/publications/701_731/pub4451.pdf
[31] Report available at: www.usitc.gov/publications/701_731/pub3933.pdf

Figure 1: Import Relief Investigation Timeline

| Petition t=0 | Initiation t<20 | USITC Preliminary Investigation and Determination on Injury Margin t<45 | USDOC Preliminary Investigation and Determination on Dumping Margin t<160 | USDOC Final Investigation and Determination on Dumping Margin t<235 | USITC Final Investigation and Determination on Injury Margin t<280 |
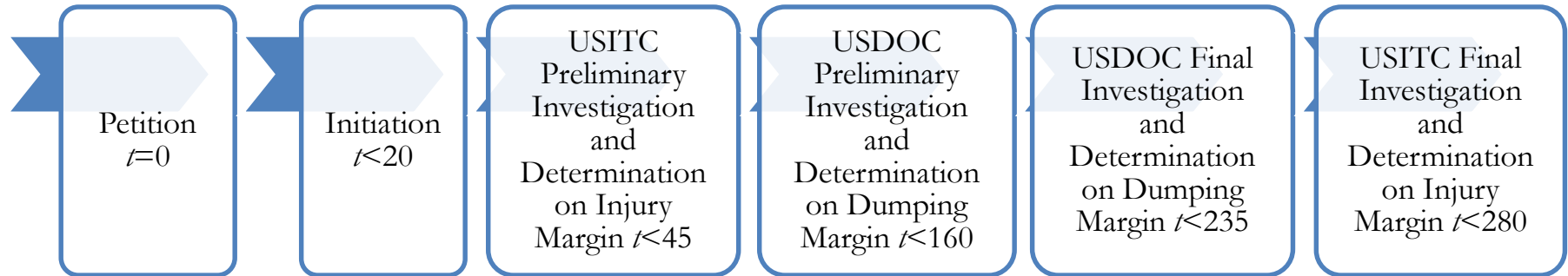
This diagram presents the timeline for the import relief investigation. The USITC issues a preliminary determination regarding the presence of or threat of material injury to the petitioning industry within 45 days of petition filing. The USDOC issues a determination on the presence of dumping within 115 days of the petition filing date and a final determination within 235 days of the petition filing date. The USITC then provides a final determination on injury no more than 280 days after the petition filing date. Days to perform regulatory duties are then as follow:

Regulatory Process	Maximum Days to Complete
USITC Preliminary Investigation	45
USDOC Preliminary Investigation	115
USDOC Final Investigation	75
USITC Final Investigation	45

Exceptions to this timeline can occur for complicated cases and also at the request of domestic petitioners or foreign exporters.

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Table 1: Sample breakdown by industry and year

This table reports sample selection characteristics of the full, treatment firm only and matched samples.

Panel A: Industry Breakdown								
	Full Sample		Treatment Firm Only		Size Match		Event Firm-Years	
Fama-French industry code (49 industries)	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
Non-Durable	10,818	5.08	109	4.91	1156	6.45	10	5.56
Consumer Durable	5,167	2.43	148	6.67	583	3.26	7	3.89
Manufacturing	25,695	12.07	1,488	67.09	3,938	21.99	139	77.22
Energy	9,581	4.5	33	1.49	688	3.84	1	0.56
High Tech	34,435	16.17	225	10.14	1,509	8.43	14	7.78
Telecommunication	5,978	2.81	29	1.31	603	3.37	1	0.56
Wholesale Retail	19,073	8.96	24	1.08	1,514	8.45	1	0.56
Health	17,729	8.33	74	3.34	868	4.85	3	1.67
Utilities	5,884	2.76	18	0.81	1568	8.76	1	0.56
Other	78,600	36.91	70	3.16	5,482	30.61	3	1.67
Total	212,960	100	2,218	100	17,909	100	180	100

Panel B: Year Breakdown								
	Full Sample		Treatment Firm Only		Size Match		Event Firm-Years	
Year	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
1980	4,396	2.06	79	3.56	527	2.93	5	2.78
1981	4,680	2.2	78	3.52	543	3.02	3	1.67
1982	4,835	2.27	77	3.47	559	3.11	12	6.67
1983	5,315	2.5	77	3.47	587	3.26	13	7.22
1984	5,496	2.58	79	3.56	602	3.35	7	3.89
1985	5,574	2.62	80	3.61	592	3.29	13	7.22
1986	5,988	2.81	78	3.52	596	3.31	8	4.44
1987	6,382	3	78	3.52	610	3.39	3	1.67
1988	6,323	2.97	75	3.38	606	3.37	3	1.67
1989	6,232	2.93	76	3.43	603	3.35	7	3.89
1990	6,255	2.94	78	3.52	605	3.36	3	1.67
1991	6,424	3.02	80	3.61	620	3.45	9	5
1992	6,777	3.18	79	3.56	626	3.48	14	7.78
1993	7,553	3.55	79	3.56	641	3.56	7	3.89
1994	7,968	3.74	77	3.47	640	3.56	10	5.56
1995	8,140	3.82	77	3.47	634	3.52	3	1.67
1996	8,669	4.07	76	3.43	642	3.57	1	0.56
1997	8,729	4.1	77	3.47	636	3.53	2	1.11
1998	8,354	3.92	73	3.29	619	3.44	7	3.89
1999	8,108	3.81	66	2.98	598	3.32	6	3.33
2000	7,846	3.68	60	2.71	554	3.08	2	1.11
2001	7,169	3.37	59	2.66	546	3.03	11	6.11
2002	6,746	3.17	56	2.52	521	2.9	3	1.67
2003	6,483	3.04	55	2.48	509	2.83	4	2.22
2004	6,471	3.04	54	2.43	501	2.78	4	2.22
2005	6,403	3.01	53	2.39	479	2.66	0	0
2006	6,314	2.96	54	2.43	458	2.55	3	1.67
2007	6,205	2.91	54	2.43	428	2.38	4	2.22
2008	5,865	2.75	50	2.25	413	2.3	4	2.22
2009	5,601	2.63	49	2.21	406	2.26	3	1.67
2010	5,490	2.58	47	2.12	388	2.16	2	1.11
2011	5,403	2.54	46	2.07	378	2.1	2	1.11
2012	4,766	2.24	42	1.89	328	1.82	2	1.11
Total	**212,960**	**100**	**2,218**	**100**	**17,995**	**100**	**180**	**100**

Table 2: Sample selection and summary statistics for the full, time series and matched samples

This table reports summary statistics for the full and matched samples. Price is the mean price over the seven days subsequent to earnings announcement. EPS is earnings per share (diluted) before extraordinary items. BVE is equity book value. Loss is a dummy variable equal to one in the firm-years in which income before extraordinary items is less than zero, and zero otherwise. Assets(t-1) are lagged total assets in millions of USD. Inst Own is the percentage of firm shares held by insitutional investors. Short Int is the percentage of firm shares held by short sellers. Analyst is the number of analysts following the firm. The size matched sample summary statistics capture the characteristics of the treatment firms and for each treatment firm year the five control firms closest in lagged assets.

	Full Sample								Treatment Firm Only								Size Matched Sample							
Event = 0	Price	EPS	BVE	Loss	Assets$_{(t-1)}$	Inst Own	Short Int	Analyst	Price	EPS	BVE	Loss	Assets$_{(t-1)}$	Inst Own	Short Int	Analyst	Price	EPS	BVE	Loss	Assets$_{(t-1)}$	Inst Own	Short Int	Analyst
Mean	18.64	0.64	9.30	0.37	5,248	0.35	0.03	4.32	29.67	1.61	17.26	0.18	12,609	0.50	0.03	5.53	29.80	1.61	16.20	0.15	12,115	0.46	0.02	5.45
Median	13.37	0.47	6.29	0.00	180	0.28	0.01	3.00	25.21	1.58	14.18	0.00	1,577	0.53	0.01	3.00	25.51	1.55	13.66	0.00	1,674	0.47	0.01	3.00
St. Dev.	18.26	1.92	10.09	0.48	54,832	0.28	0.06	4.65	20.99	2.54	13.01	0.39	42,778	0.24	0.04	5.66	20.99	2.34	12.29	0.36	63,805	0.26	0.03	5.45
Min	0.16	-16.04	-5.55	0.00	-	0.00	0.00	1.00	0.36	-16.04	-5.55	0.00	1	0.00	0.00	1.00	0.16	-16.04	-5.55	0.00	1	0.00	0.00	1.00
Max	154.89	10.14	69.51	1.00	3,771,200	1.00	1.00	41.00	154.89	9.44	65.61	1.00	479,921	1.00	0.48	36.00	154.89	10.14	69.51	1.00	2,187,631	1.00	1.00	37.00
N	167,021	192,577	195,798	212,773	175,250	161,696	93,837	97,475	1,958	1,993	2,031	2,031	1,927	1,943	1,553	1,500	16,414	17,306	17,587	17,734	16,611	16,282	12,024	11,668
Event = 1	Price	EPS	BVE	Loss	Assets$_{(t-1)}$	Inst Own	Short Int	Analyst	Price	EPS	BVE	Loss	Assets$_{(t-1)}$	Inst Own	Short Int	Analyst	Price	EPS	BVE	Loss	Assets$_{(t-1)}$	Inst Own	Short Int	Analyst
Mean	24.77	0.87	20.38	0.34	6,706	0.46	0.03	4.67	24.77	0.87	20.38	0.34	6,706	0.46	0.03	4.67	25.66	0.74	19.86	0.33	6,892	0.46	0.02	4.78
Median	20.88	0.77	18.66	0.00	1,290	0.45	0.01	4.00	20.88	0.77	18.66	0.00	1,290	0.45	0.01	4.00	21.08	0.71	18.14	0.00	1,286	0.47	0.01	4.00
St. Dev.	17.44	2.92	15.37	0.48	20,092	0.23	0.04	3.70	17.44	2.92	15.37	0.48	20,092	0.23	0.04	3.70	18.65	2.88	14.58	0.47	20,514	0.24	0.05	3.91
Min	0.48	-10.43	-3.47	0.00	10	0.00	0.00	1.00	0.48	-10.43	-3.47	0.00	10	0.00	0.00	1.00	0.48	-10.43	-3.47	0.00	11	0.00	0.00	1.00
Max	75.00	8.85	64.63	1.00	180,237	1.00	0.27	21.00	75.00	8.85	64.63	1.00	180,237	1.00	0.27	21.00	110.13	8.07	64.46	1.00	180,237	1.00	0.27	21.00
N	186	180	187	187	181	186	135	129	186	180	187	187	181	186	135	129	174	169	175	175	174	174	131	124
Total	Price	EPS	BVE	Loss	Assets$_{(t-1)}$	Inst Own	Short Int	Analyst	Price	EPS	BVE	Loss	Assets$_{(t-1)}$	Inst Own	Short Int	Analyst	Price	EPS	BVE	Loss	Assets$_{(t-1)}$	Inst Own	Short Int	Analyst
Mean	18.65	0.64	9.31	0.37	5,250	0.35	0.03	4.32	29.25	1.55	17.52	0.19	12,102	0.49	0.03	5.46	29.76	1.61	16.24	0.16	12,061	0.46	0.02	5.44
Median	13.38	0.48	6.30	0.00	180	0.28	0.01	3.00	24.84	1.54	14.41	0.00	1,558	0.53	0.01	3.00	25.47	1.54	13.69	0.00	1,671	0.47	0.01	3.00
St. Dev.	18.26	1.92	10.10	0.48	54,807	0.28	0.06	4.65	20.75	2.58	13.25	0.40	41,352	0.24	0.04	5.53	20.97	2.35	12.32	0.36	63,510	0.26	0.04	5.43
Min	0.16	-16.04	-5.55	0.00	-	0.00	0.00	1.00	0.36	-16.04	-5.55	0.00	1	0.00	0.00	1.00	0.16	-16.04	-5.55	0.00	1	0.00	0.00	1.00
Max	154.89	10.14	69.51	1.00	3,771,200	1.00	1.00	41.00	154.89	9.44	65.61	1.00	479,921	1.00	0.48	36.00	154.89	10.14	69.51	1.00	2,187,631	1.00	1.00	37.00
N	167,207	192,757	195,985	212,960	175,431	161,882	93,972	97,604	2,144	2,173	2,218	2,218	2,108	2,129	1,688	1,629	16,588	17,475	17,762	17,909	16,785	16,456	12,155	11,792

Table 3: Estimation of Francis et al. (2004) earnings persistence model

Panel A: Estimation of earnings persistence for import relief firms during import relief investigations

This table estimates an earnings persistence model from Francis et al. (2004). Accruals, depreciation and cash flows are deflated by common shares outstanding. The dependent variable is next year's earnings per share. Industry- and time-fixed effects are included. T-statistics are presented underneath the coefficient estimates. ***, **, and * denote two-tailed significance levels at 1%, 5%, and 10%, respectively.

	(1) Full Sample	(2) Treatment Firms Only	(3) Size Match
Earnings Per Share	0.635***	0.553***	0.614***
	(310.64)	(26.75)	(87.44)
Earnings Per Share × Treatment Firm-Year	**-0.159***	**-0.126**	**-0.177***
	(-3.94)	**(-2.19)**	**(-3.53)**
Earnings Per Share × Treatment Firm	-0.0578***		-0.0212
	(-4.24)		(-1.14)
Treatment Firm-Year	-0.0687	-0.11	-0.0721
	(-0.55)	(-0.61)	(-0.46)
Treatment Firm	0.365***		0.0647
	(8.86)		(1.07)
Constant	0.362***	1.631***	0.802
	(5.46)	(3.71)	(1.54)
Fama-French 49 Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Number of Observations	167709	2019	16043
Adjusted R-Squared	0.439	0.375	0.415

Panel B: Estimation of earnings persistence for import relief firms during sunset reviews

This table estimates an earnings persistence model from Francis et al. (2004). Accruals, depreciation and cash flows are deflated by common shares outstanding. The dependent variable is next year's earnings per share. Industry- and time-fixed effects are included. T-statistics are presented underneath the coefficient estimates. ***, **, and * denote two-tailed significance levels at 1%, 5%, and 10%, respectively.

	(1) Full Sample	(2) Treatment Firms Only	(3) Size Match
Earnings Per Share	0.634***	0.542***	0.514***
	(312.56)	(14.63)	(38.98)
Earnings Per Share × Treatment Firm-Year	**-0.187***	**-0.165**	**-0.144**
	(-4.88)	**(-1.99)**	**(-2.15)**
Earnings Per Share × Treatment Firm	-0.0507**		0.0318
	(-2.35)		(1.03)
Treatment Firm-Year	0.31	0.401	0.436
	(1.37)	(1.06)	(1.49)
Treatment Firm	0.477***		0.124
	(6.62)		(1.08)
Constant	0.363***	1.713***	2.423***
	(5.47)	(2.73)	(5.64)
Fama-French 49 Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Number of Observations	167709	647	5492
Adjusted R-Squared	0.439	0.399	0.363

Table 4: Estimation of the price-earnings relation for import-relief firms

This table reports results from the price-earnings test including main and interaction treatment effects on full, treatment firm only and matched samples. Treatment Firm is a dummy variable equal to one when a firm has filed a petition for import relief. Treatment Firm-Year is a dummy variable equal to one in the fiscal year reported on in the earnings announcement subsequent to the import relief investigation initiation date. Earnings per share is diluted before extraordinary items. The treatment variable is [Earnings per share × Treatment Firm-Year]. Equity book value is drawn from end-of-year financial statements. Loss is a dummy variable equal to 1 when income before extraordinary items is less than zero, and zero otherwise. Column 1 presents results from the price-earnings test for the full sample. Column 2 presents results from the price-earnings test for a sample in which only petitioners are included. Column 3 presents results from the price-earnings test for a sample in which the treatment variables are matched with five control firms based on a nearest neighbour lagged asset ranking. Industry- and time-fixed effects are included. Standard errors are clustered by firm and year. T-statistics are presented underneath the coefficient estimates. ***, **, and * denote two-tailed significance levels at 1%, 5%, and 10%, respectively.

	(1) Full Sample	(2) Treatment Firms Only	(3) Size Match
Treatment Firm	4.468***		-1.824
	(3.81)		(-1.37)
Treatment Firm-Year	2.902	2.899*	3.063*
	(1.64)	(1.72)	(1.75)
Earnings Per Share	6.564***	5.981***	6.556***
	(22.52)	(8.69)	(15.58)
Earnings Per Share × Treatment Firm	-0.457		-0.675
	(-0.76)		(-1.21)
Earnings Per Share × Treatment Firm-Year	**-1.637***	**-1.129**	**-1.530***
	(-1.82)	**(-1.10)**	**(-1.72)**
Equity Book Value	0.580***	0.571***	0.501***
	(14.18)	(5.38)	(10.18)
Equity Book Value × Treatment Firm	-0.117		0.0847
	(-1.44)		(1.12)
Equity Book Value × Treatment Firm-Year	-0.0925	-0.13	-0.0958
	(-0.82)	(-1.00)	(-0.84)
Loss	-4.067***	-2.116	-3.393***
	(-7.89)	(-1.19)	(-4.00)
Loss × Treatment Firm	-0.475	-0.523	0.428
	(-0.24)	(-0.23)	(0.19)
Loss × Treatment Firm-Year	0.191		-0.0864
	(0.11)		(-0.04)
Fama-French 49 Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Other Controls*	Yes	Yes	Yes
Number of Observations	163060	2089	16190
Adjusted R-Squared	0.596	0.652	0.624

* Controls include all subordinate interactions and main effects, including Loss×BVE, Loss×EPS, Loss×Treatment Firm-Year×BVE, Loss×Treatment Firm-Year×EPS, Loss×Treatment Firm×BVE, Loss×Treatment Firm×EPS.

Table 5: Estimation of the price-earnings relation for import-relief firms, partitioned on first-time and repeat petitioners

This table reports results from the price-earnings test including main and interaction treatment effects on full, treatment firm only and matched samples. Treatment Firm is a dummy variable equal to one when a firm has filed a petition for import relief. Treatment Firm-Year is a dummy variable equal to one in the fiscal year reported on in the earnings announcement subsequent to the import relief investigation initiation date. Earnings per share is diluted before extraordinary items. The treatment variable is [Earnings per share × Treatment Firm-Year]. Equity book value is drawn from end-of-year financial statements. Loss is a dummy variable equal to 1 when income before extraordinary items is less than zero, and zero otherwise. Columns 1 and 2 present results from the price-earnings test for the full sample. Column 1 includes first-time petitioners only. Column 2 includes repeat petitioners only. Columns 3 and 4 present results from the price-earnings test for a sample in which only petitioners are included. Column 3 includes first-time petitioners only. Column 4 includes repeat petitioners only. Columns 5 and 6 present results from the price-earnings test for a sample in which the treatment variables are matched with five control firms based on a nearest neighbour lagged asset ranking. Column 5 includes first-time petitioners only. Column 6 includes repeat petitioners only. Row labeled "Learning" indicates whether the sample is characterized by a learning opportunity or not. Industry- and time-fixed effects are included. Standard errors are clustered by firm and year. T-statistics are presented underneath the coefficient estimates. ***, **, and * denote two-tailed significance levels at 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Learning:	No	Yes	No	Yes	No	Yes
	Full Sample		Treatment Firms Only		Size Match	
Treatment Firm	4.377***	4.655***			-1.101	-0.795
	(3.72)	(4.00)			(-0.77)	(-0.38)
Treatment Firm-Year	1.826	6.036**	1.371	6.115***	2.413	3.612*
	(0.91)	(2.48)	(0.70)	(2.88)	(1.14)	(1.74)
Earnings Per Share	6.564***	6.564***	6.039***	5.990***	6.601***	6.754***
	(22.36)	(22.47)	(8.85)	(8.48)	(15.00)	(11.04)
Earnings Per Share × Treatment Firm	-0.405	-0.455			-1.187	-1.505**
	(-0.67)	(-0.75)			(-1.55)	(-1.98)
Earnings Per Share × Treatment Firm-Year	**0.394**	**-2.326****	**1.116**	**-2.044***	**0.479**	**-1.974***
	(0.30)	**(-2.14)**	**(0.86)**	**(-1.71)**	**(0.36)**	**(-1.75)**
Equity Book Value	0.580***	0.580***	0.564***	0.562***	0.492***	0.436***
	(14.01)	(14.15)	(5.58)	(5.31)	(8.84)	(5.85)
Equity Book Value × Treatment Firm	-0.12	-0.128			0.0845	0.168
	(-1.47)	(-1.60)			(0.83)	(1.45)
Equity Book Value × Treatment Firm-Year	-0.263	-0.105	-0.310*	-0.115	-0.265	-0.0211
	(-1.64)	(-0.77)	(-1.84)	(-0.70)	(-1.56)	(-0.12)
Loss	-4.067***	-4.067***	-1.877	-1.89	-2.814***	-5.202***
	(-7.90)	(-7.90)	(-1.05)	(-1.05)	(-2.88)	(-4.42)
Loss × Treatment Firm	-0.107	-3.358	0.113	-3.772	0.347	-2.985
	(-0.06)	(-1.02)	(0.06)	(-1.09)	(0.16)	(-0.46)
Loss × Treatment Firm-Year	0.341	0.182			-0.592	1.873
	(0.19)	(0.10)			(-0.30)	(0.58)
Fama-French 49 Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Other Controls*	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	162992	162957	2021	1986	9823	7697
Adjusted R-Squared	0.596	0.596	0.656	0.65	0.628	0.637

* Controls include all subordinate interactions and main effects, including Loss×BVE, Loss×EPS, Loss×Treatment Firm-Year×BVE, Loss×Treatment Firm-Year×EPS, Loss×Treatment Firm×BVE, Loss×Treatment Firm×EPS.

This table reports results from the price-earnings test including main and interaction treatment effects on full, treatment firm only and matched samples. Treatment Firm is a dummy variable equal to one when a firm has filed a petition for import relief. Treatment Firm-Year is a dummy variable equal to one in the fiscal year reported on in the earnings announcement subsequent to the import relief investigation initiation date. Earnings per share is diluted before extraordinary items. The treatment variable is [Earnings per share × Sophisticated Investor × Treatment Firm-Year]. Equity book value is drawn from end-of-year financial statements. Sophisticated Investor is institutional ownership in Columns 1-3, short interest in Columns 4-6 and analyst coverage in Column 7-9. The Sophisticated Investor variable is a dummy variable equal to one when a firm has higher than median presence of the sophisticated investor. The median is calculated separately for each sample. Columns 1, 4 and 7 present results from the price-earnings test for the full sample. Columns 2, 5 and 8 present results from the price-earnings test for a sample in which only petitioners are included. Columns 3, 6 and 9 present results from the price-earnings test for a sample in which the treatment variables are matched with five control firms based on a nearest neighbour lagged asset ranking. Industry- and time-fixed effects are included. Standard errors are clustered by firm and year. T-statistics are presented underneath the coefficient estimates. ***, **, and * denote two-tailed significance levels at 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Full Sample	Treatment Firm	Size Match	Full Sample	Treatment Firm	Size Match	Full Sample	Treatment Firm	Size Match
Sophisticated Investor:	Institutional Investor			Short Interest			Analyst Coverage		
Treatment Firm	3.565**		-1.897	4.032**		-0.411	2.068		-3.272**
	(2.47)		(-1.29)	(2.40)		(-0.23)	(1.28)		(-2.28)
Treatment Firm-Year	2.04	1.542	1.584	5.011**	3.338	5.502***	5.281**	1.074	3.274
	(1.34)	(1.10)	(1.09)	(2.53)	(1.61)	(2.63)	(2.32)	(0.69)	(1.55)
Earnings Per Share	5.865***	4.715***	5.806***	6.252***	6.211***	6.828***	6.662***	6.483***	7.477***
	(14.14)	(6.77)	(12.16)	(20.08)	(7.32)	(13.46)	(21.78)	(5.52)	(11.04)
Earnings Per Share × Treatment Firm	-2.667***		-1.677**	-0.738		-1.455**	-1.252		-1.31
	(-3.24)		(-2.48)	(-1.10)		(-2.14)	(-1.38)		(-1.64)
Earnings Per Share × Sophisticated Investor × Treatment Firm	1.686*		0.68	0.05		0.82	0.19		0.10
	(1.83)		(1.10)	(0.10)		(1.50)	(0.25)		(0.15)
Earnings Per Share × Treatment Firm-Year	**-0.147**	**-0.609**	**-0.983**	**-0.793**	**-0.237**	**-0.997**	**-0.409**	**-1.663***	**-1.111**
	(-0.13)	**(-0.62)**	**(-0.97)**	**(-0.68)**	**(-0.22)**	**(-0.96)**	**(-0.36)**	**(-1.79)**	**(-1.13)**
Earnings Per Share × Sophisticated Investor	1.740***	1.982**	1.724***	1.190***	0.0925	0.555	1.223***	-0.375	0.0648
	(4.06)	(2.00)	(2.89)	(3.86)	(0.09)	(0.94)	(4.13)	(-0.33)	(0.12)
Earnings Per Share × *Sophisticated Investor* × Treatment Firm-Year	**-2.256**	**-1.721**	**-1.436**	**-1.922***	**-2.175***	**-1.527**	**-3.744****	**-2.154**	**-2.772****
	(-1.50)	**(-1.38)**	**(-0.82)**	**(-1.74)**	**(-1.78)**	**(-1.26)**	**(-2.53)**	**(-1.64)**	**(-1.97)**
Equity Book Value	0.580***	0.586***	0.534***	0.637***	0.586***	0.505***	0.683***	0.712***	0.556***
	(13.28)	(5.56)	(8.95)	(17.40)	(4.48)	(7.92)	(18.18)	(6.72)	(7.42)
Equity Book Value × Treatment Firm	0.0614		0.191***	-0.0422		0.123	0.0962		0.255**
	(0.87)		(2.62)	(-0.47)		(1.41)	(1.08)		(2.56)
Equity Book Value × Treatment Firm-Year	-0.253**	-0.171*	-0.163	-0.220**	-0.234**	-0.181*	-0.172	0.00992	-0.0799
	(-2.47)	(-1.65)	(-1.54)	(-2.10)	(-2.27)	(-1.70)	(-1.26)	(0.06)	(-0.55)
Equity Book Value × Sophisticated Investor	-0.176***	-0.00694	-0.193**	-0.186***	-0.00433	-0.0616	-0.246***	-0.0693	-0.218***
	(-3.16)	(-0.05)	(-2.35)	(-4.44)	(-0.03)	(-0.80)	(-5.91)	(-0.43)	(-2.81)
Equity Book Value × Sophisticated Investor × Treatment Firm-Year	0.281	0.168	0.0995	0.348**	0.334*	0.375***	0.416**	0.159	0.297
	(1.62)	(0.70)	(0.51)	(1.98)	(1.82)	(2.63)	(2.51)	(0.76)	(1.56)
Fama-French 49 Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Controls*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	137721	1957	14893	80438	1558	11008	85153	1514	10795
Adjusted R-Squared	0.64	0.672	0.653	0.659	0.659	0.647	0.609	0.671	0.645

* **Columns 1-3** controls include all subordinate interactions and main effects, including Loss, Loss×Treatment Firm, Loss×Treatment Firm-Year, Loss×BVE, Loss×EPS, Loss×Institutional Ownership, Loss×Treatment Firm-Year×BVE, Loss×Treatment Firm-Year×EPS, Loss×Treatment Firm×BVE, Loss×Treatment Firm×EPS, Institutional Ownership, Institutional Ownership×Treatment Firm-Year, Institutional Ownership×Treatment Firm, Institutional Ownership×Treatment Firm-BVE, Institutional Ownership×Treatment Firm×BVE, Loss×Institutional Ownership×BVE, Loss×Institutional Ownership×EPS, Loss×Institutional Ownership×Treatment Event Firm-Year, Loss×Institutional Ownership×Treatment Event Firm; **Columns 4-6** include Loss, Loss×Treatment Firm, Loss×Treatment Firm-Year, Loss×BVE, Loss×EPS, Loss×Short Interest, Loss×Treatment Firm-Year×BVE, Loss×Treatment Firm-Year×EPS, Loss×Treatment Firm×BVE, Loss×Treatment Firm×EPS, Short Interest, Short Interest×Treatment Firm-Year, Short Interest×Treatment Firm, Short Interest×Treatment Firm-BVE, Short Interest×Treatment Firm×BVE, Short Interest×Treatment Firm×EPS, Loss×Short Interest×BVE, Loss×Short Interest×EPS, Loss×Short Interest×Treatment Event Firm-Year, Loss×Short Interest×Treatment Event Firm; **Columns 7-9** include Loss, Loss×Treatment Firm, Loss×Treatment Firm-Year, Loss×BVE, Loss×EPS, Loss×Analyst Coverage, Loss×Treatment Firm-Year×BVE, Loss×Treatment Firm-Year×EPS, Loss×Treatment Firm×BVE, Loss×Treatment Firm×EPS, Analyst Coverage, Analyst Coverage×Treatment Firm-Year, Analyst Coverage×Treatment Firm, Analyst Coverage×Treatment Firm-BVE, Analyst Coverage×Treatment Firm×BVE, Analyst Coverage×Treatment Firm×EPS, Analyst Coverage×BVE, Loss×Analyst Coverage×EPS, Loss×Analyst Coverage×Treatment Event Firm-Year, Loss×Analyst Coverage×Treatment Event Firm

This table reports results from the price-earnings test including main and interaction treatment effects on full, treatment firm only and matched samples. Treatment Firm is a dummy variable equal to one when a firm has filed a petition for import relief. Treatment Firm-Year is a dummy variable equal to one in the fiscal year reported on in the earnings announcement subsequent to the import relief investigation initiation date. Institutional Ownership is a dummy variable equal to one when a firm has higher than median institutional ownership. The median is calculated separately for each sample. Earnings per share is diluted before extraordinary items. The treatment variable is [Earnings per share × Institutional Ownership × Treatment Firm-Year]. Equity book value is drawn from end-of-year financial statements. Columns 1 and 2 present results from the price-earnings test for the full sample. Column 1 includes first-time petitioners only. Column 2 includes repeat petitioners only. Columns 3 and 4 present results from the price-earnings test for a sample in which only petitioners are included. Column 3 includes first-time petitioners only. Column 4 includes repeat petitioners only. Columns 5 and 6 present results from the price-earnings test for a sample in which the treatment variables are matched with five control firms based on a nearest neighbour lagged asset ranking. Column 5 includes first-time petitioners only. Column 6 includes repeat petitioners only. Row labeled "Learning" indicates whether the sample is characterized by a learning opportunity or not. Industry- and time-fixed effects are included. Standard errors are clustered by firm and year. T-statistics are presented underneath the coefficient estimates. ***, **, and * denote two-tailed significance levels at 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Learning:	No	Yes	No	Yes	No	Yes
	Full Sample		Treatment Firms Only		Size Match	
Treatment Firm	3.561**	3.715**			-0.522	-1.301
	(2.40)	(2.56)			(-0.34)	(-0.57)
Treatment Firm-Year	2.073	3.478*	0.547	4.594**	1.393	0.454
	(1.20)	(1.65)	(0.33)	(2.30)	(0.80)	(0.30)
Earnings Per Share	5.864***	5.866***	4.677***	4.717***	6.061***	5.813***
	(14.25)	(14.28)	(6.53)	(6.71)	(11.06)	(9.04)
Earnings Per Share × Treatment Firm	-2.659***	-2.774***			-2.087**	-2.527***
	(-3.17)	(-3.43)			(-2.50)	(-2.90)
Earnings Per Share × Institutional Ownership × Treatment Firm	1.693*	1.816**			0.60	1.06
	(1.81)	(1.99)			(0.93)	(0.99)
Earnings Per Share × Treatment Firm-Year	**0.715**	**0.686**	**1.325**	**-0.714**	**-0.588**	**-0.657**
	(0.61)	**(0.66)**	**(1.10)**	**(-0.54)**	**(-0.41)**	**(-0.49)**
Earnings Per Share × Institutional Ownership	1.743***	1.740***	2.107**	1.956*	1.539**	1.734**
	(4.06)	(4.06)	(2.05)	(1.92)	(2.05)	(2.15)
Earnings Per Share × Institutional Ownership × Treatment Firm-Year	**0.472**	**-4.432*****	**-0.605**	**-2.647***	**1.43**	**-2.646***
	(0.35)	**(-3.81)**	**(-0.26)**	**(-1.78)**	**(0.69)**	**(-1.66)**
Equity Book Value	0.580***	0.580***	0.586***	0.583***	0.488***	0.488***
	(13.07)	(13.04)	(5.42)	(5.52)	(6.71)	(6.30)
Equity Book Value × Treatment Firm	0.0584	0.0594			0.183**	0.262**
	(0.80)	(0.83)			(2.04)	(2.14)
Equity Book Value × Treatment Firm-Year	-0.316**	-0.364***	-0.321**	-0.198	-0.206	-0.118
	(-2.52)	(-3.41)	(-2.31)	(-1.48)	(-1.40)	(-0.69)
Equity Book Value × Institutional Ownership	-0.176***	-0.176***	-0.0216	-0.0007	-0.171	-0.111
	(-3.13)	(-3.16)	(-0.15)	(-0.00)	(-1.60)	(-1.04)
Equity Book Value × Institutional Ownership × Treatment Firm-Year	0.384**	0.27	0.404	0.108	0.239	0.0171
	(2.11)	(1.50)	(1.12)	(0.32)	(0.86)	(0.08)
Fama-French 49 Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Other Controls*	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	137657	137625	1893	1861	8966	7038
Adjusted R-Squared	0.64	0.64	0.675	0.668	0.666	0.658

* Controls include all subordinate interactions and main effects, including Loss, Loss×Treatment Firm, Loss×Treatment Firm-Year, Loss×BVE, Loss×EPS, Loss×Institutional Ownership, Loss×Treatment Firm-Year×BVE, Loss×Treatment Firm-Year×EPS, Loss×Treatment Firm×BVE, Loss×Treatment Firm×EPS, Institutional Ownership, Institutional Ownership×Treatment Firm-Year, Institutional Ownership×Treatment Firm, Institutional Ownership×Treatment Firm-Year×EPS, Institutional Ownership×Treatment Firm-BVE, Institutional Ownership×Treatment Firm×EPS, Institutional Ownership×Treatment Firm×BVE, Loss×Institutional Ownership×BVE, Loss×Institutional Ownership×EPS, Loss×Institutional Ownership×Treatment Event Firm-Year, Loss×Institutional Ownership×Treatment Event Firm

Table 8: Estimation of the price-earnings relation for import-relief firms, partitioned on first-time and repeat petitioners, moderated by Short Interest

This table reports results from the price-earnings test including main and interaction treatment effects on full, treatment firm only and matched samples. Treatment Firm is a dummy variable equal to one when a firm has filed a petition for import relief. Treatment Firm-Year is a dummy variable equal to one in the fiscal year reported on in the earnings announcement subsequent to the import relief investigation initiation date. Short Interest is a dummy variable equal to one when a firm has higher than median Short Interest. The median is calculated separately for each sample. Earnings per share is diluted before extraordinary items. The treatment variable is [Earnings per share × Short Interest × Treatment Firm-Year]. Equity book value is drawn from end-of-year financial statements. Columns 1 and 2 present results from the price-earnings test for the full sample. Column 1 includes first-time petitioners only. Column 2 includes repeat petitioners only. Columns 3 and 4 present results from the price-earnings test for a sample in which only petitioners are included. Column 3 includes first-time petitioners only. Column 4 includes repeat petitioners only. Columns 5 and 6 present results from the price-earnings test for a sample in which the treatment variables are matched with five control firms based on a nearest neighbour lagged asset ranking. Column 5 includes first-time petitioners only. Column 6 includes repeat petitioners only. Row labeled "Learning" indicates whether the sample is characterized by a learning opportunity or not. Industry- and time-fixed effects are included. Standard errors are clustered by firm and year. T-statistics are presented underneath the coefficient estimates. ***, **, and * denote two-tailed significance levels at 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Learning:	No	Yes	No	Yes	No	Yes
	Full Sample		Treatment Firms Only		Size Match	
Treatment Firm	3.979**	4.116**			0.569	-0.556
	(2.46)	(2.51)			(0.30)	(-0.19)
Treatment Firm-Year	0.981	11.30***	-1.178	9.537***	3.66	9.280*
	(0.59)	(2.65)	(-0.74)	(2.81)	(1.57)	(1.82)
Earnings Per Share	6.249***	6.248***	6.249***	6.104***	7.313***	6.698***
	(20.19)	(20.32)	(7.48)	(7.09)	(12.91)	(9.29)
Earnings Per Share × Treatment Firm	-0.653	-0.748			-2.004***	-2.470**
	(-0.96)	(-1.06)			(-2.71)	(-2.56)
Earnings Per Share × Short Interest × Treatment Firm	0.00	0.08			0.82	1.36
	(0.01)	(0.16)			(1.35)	(1.60)
Earnings Per Share × Treatment Firm-Year	**-0.482**	**0.644**	**0.393**	**-0.287**	**-0.508**	**0.281**
	(-0.42)	**(0.60)**	**(0.35)**	**(-0.21)**	**(-0.37)**	**(0.14)**
Earnings Per Share × Short Interest	1.194***	1.197***	0.141	0.274	-0.181	1.047
	(3.86)	(3.86)	(0.13)	(0.25)	(-0.28)	(1.21)
Earnings Per Share × Short Interest × Treatment Firm-Year	**2.037**	**-5.641*****	**1.498**	**-4.344****	**2.088**	**-4.306****
	(1.28)	**(-4.55)**	**(0.75)**	**(-2.39)**	**(1.05)**	**(-2.29)**
Equity Book Value	0.637***	0.638***	0.577***	0.602***	0.455***	0.462***
	(17.62)	(17.57)	(4.54)	(4.54)	(6.95)	(4.66)
Equity Book Value × Treatment Firm	-0.0514	-0.0452			0.115	0.256*
	(-0.56)	(-0.49)			(1.24)	(1.86)
Equity Book Value × Treatment Firm-Year	-0.223*	-0.371***	-0.260*	-0.253*	-0.217	-0.317
	(-1.80)	(-2.63)	(-1.90)	(-1.75)	(-1.36)	(-0.68)
Equity Book Value × Short Interest	-0.186***	-0.187***	-0.0106	-0.0245	0.000588	-0.021
	(-4.49)	(-4.75)	(-0.08)	(-0.15)	(0.01)	(-0.19)
Equity Book Value × Short Interest × Treatment Firm-Year	0.431***	0.546**	0.354*	0.374	0.438**	0.214
	(2.67)	(2.17)	(1.72)	(1.30)	(2.09)	(0.55)
Fama-French 49 Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Other Controls*	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	80384	80378	1504	1498	6495	5336
Adjusted R-Squared	0.659	0.659	0.666	0.659	0.653	0.669

* Controls include all subordinate interactions and main effects, including Loss, Loss×Treatment Firm, Loss×Treatment Firm-Year, Loss×BVE, Loss×EPS, Loss×Short Interest, Loss×Treatment Firm-Year×BVE, Loss×Treatment Firm-Year×EPS, Loss×Treatment Firm×BVE, Loss×Treatment Firm×EPS, Short Interest, Short Interest×Treatment Firm-Year, Short Interest×Treatment Firm, Short Interest×Treatment Firm-Year×EPS, Short Interest×Treatment Firm-BVE, Short Interest×Treatment Firm×EPS, Short Interest×Treatment Firm×BVE, Loss×Short Interest×BVE, Loss×Short Interest×EPS, Loss×Short Interest×Treatment Event Firm-Year, Loss×Short Interest×Treatment Event Firm

Table 9: Estimation of the price-earnings relation for import-relief firms, partitioned on first-time and repeat petitioners, moderated by Analyst Coverage

This table reports results from the price-earnings test including main and interaction treatment effects on full, treatment firm only and matched samples. Treatment Firm is a dummy variable equal to one when a firm has filed a petition for import relief. Treatment Firm-Year is a dummy variable equal to one in the fiscal year reported on in the earnings announcement subsequent to the import relief investigation initiation date. Analyst Coverage is a dummy variable equal to one when a firm has higher than median number of analysts following the firm. The median is calculated separately for each sample. Earnings per share is diluted before extraordinary items. The treatment variable is [Earnings per share × Analyst Coverage × Treatment Firm-Year]. Equity book value is drawn from end-of-year financial statements. Columns 1 and 2 present results from the price-earnings test for the full sample. Column 1 includes first-time petitioners only. Column 2 includes repeat petitioners only. Columns 3 and 4 present results from the price-earnings test for a sample in which only petitioners are included. Column 3 includes first-time petitioners only. Column 4 includes repeat petitioners only. Columns 5 and 6 present results from the price-earnings test for a sample in which the treatment variables are matched with five control firms based on a nearest neighbour lagged asset ranking. Column 5 includes first-time petitioners only. Column 6 includes repeat petitioners only. Industry- and time-fixed effects are included. Row labeled "Learning" indicates whether the sample is characterized by a learning opportunity or not. Standard errors are clustered by firm and year. T-statistics are presented underneath the coefficient estimates. ***, **, and * denote two-tailed significance levels at 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Learning:	No	Yes	No	Yes	No	Yes
	Full Sample		Treatment Firms Only		Size Match	
Treatment Firm	2.289	2.215			-3.492**	-0.327
	(1.43)	(1.35)			(-2.21)	(-0.12)
Treatment Firm-Year	3.333	9.415**	-1.387	6.363**	0.72	7.798**
	(1.55)	(2.35)	(-0.86)	(2.23)	(0.28)	(2.44)
Earnings Per Share	6.661***	6.661***	6.496***	6.412***	6.991***	7.854***
	(21.47)	(21.76)	(5.48)	(5.29)	(11.73)	(7.63)
Earnings Per Share × Treatment Firm	-1.292	-1.3			-1.788**	-2.773**
	(-1.41)	(-1.42)			(-1.97)	(-2.47)
Earnings Per Share × Analyst Coverage × Treatment Firm	0.27	0.24			0.03	1.48
	(0.34)	(0.30)			(0.05)	(1.45)
Earnings Per Share × Treatment Firm-Year	**-0.859**	**0.276**	**-1.281**	**-1.107**	**0.213**	**0.338**
	(-0.72)	**(0.28)**	**(-0.92)**	**(-0.99)**	**(0.15)**	**(0.25)**
Earnings Per Share × Analyst Coverage	1.224***	1.224***	-0.311	-0.237	0.832	-0.599
	(4.02)	(4.09)	(-0.27)	(-0.20)	(1.35)	(-0.78)
Earnings Per Share × Analyst Coverage × Treatment Firm-Year	**1.122**	**-5.068*****	**2.369**	**-2.367***	**0.467**	**-3.773*****
	(0.86)	**(-4.24)**	**(1.61)**	**(-1.77)**	**(0.29)**	**(-2.66)**
Equity Book Value	0.683***	0.683***	0.693***	0.720***	0.597***	0.527***
	(17.88)	(17.51)	(6.26)	(6.47)	(6.99)	(4.57)
Equity Book Value × Treatment Firm	0.0875	0.0954			0.228**	0.353**
	(0.91)	(1.06)			(2.03)	(2.52)
Equity Book Value × Treatment Firm-Year	-0.0683	-0.234*	0.0143	-0.0811	-0.202	-0.265
	(-0.52)	(-1.86)	(0.08)	(-0.46)	(-1.17)	(-1.05)
Equity Book Value × Analyst Coverage	-0.246***	-0.246***	-0.0643	-0.0832	-0.315***	-0.137
	(-5.72)	(-5.94)	(-0.38)	(-0.51)	(-3.14)	(-1.44)
Equity Book Value × Analyst Coverage × Treatment Firm-Year	0.370*	0.250*	0.242	-0.149	0.613***	-0.0437
	(1.86)	(1.88)	(0.95)	(-0.63)	(3.37)	(-0.22)
Fama-French 49 Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Other Controls*	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	85097	85099	1458	1460	6244	5304
Adjusted R-Squared	0.609	0.609	0.675	0.67	0.652	0.663

* Controls include all subordinate interactions and main effects, including Loss, Loss×Treatment Firm, Loss×Treatment Firm-Year, Loss×BVE, Loss×EPS, Loss×Analyst Coverage, Loss×Treatment Firm-Year×BVE, Loss×Treatment Firm-Year×EPS, Loss×Treatment Firm×BVE, Loss×Treatment Firm×EPS, Analyst Coverage, Analyst Coverage×Treatment Firm-Year, Analyst Coverage×Treatment Firm, Analyst Coverage×Treatment Firm-Year×EPS, Analyst Coverage×Treatment Firm-BVE, Analyst Coverage×Treatment Firm×EPS, Analyst Coverage×Treatment Firm×BVE, Loss×Analyst Coverage×BVE, Loss×Analyst Coverage×EPS, Loss×Analyst Coverage×Treatment Event Firm-Year, Loss×Analyst Coverage×Treatment Event Firm

Table 10: Estimation of the price-earnings relation for import-relief firms during sunset review

This table reports results from the price-earnings test including main and interaction treatment effects on full, treatment firm only and matched samples for the sunset review investigation. Treatment Firm is a dummy variable equal to one when a firm has filed a petition for sunset review. Treatment Firm-Year is a dummy variable equal to one in the fiscal year subsequent to the sunset review initiation date. Earnings per share is diluted before extraordinary items. The treatment variable is [Earnings per share × Treatment Firm-Year]. Equity book value is drawn from end-of-year financial statements. Column 1 presents results from the price-earnings test for the full sample. Column 2 presents results from the price-earnings test for a sample in which only petitioners are included. Column 3 presents results from the price-earnings test for a sample in which the treatment variables are matched with five control firms based on a nearest neighbour lagged asset ranking. Industry- and time-fixed effects are included. Standard errors are clustered by firm and year. T-statistics are presented underneath the coefficient estimates. ***, **, and * denote two-tailed significance levels at 1%, 5%, and 10%, respectively.

	(1) Full Sample	(2) Treatment Firms Only	(3) Size Match
Treatment Firm	5.546**		0.15
	(2.49)		(0.06)
Treatment Firm-Year	1.307	1.015	1.148
	(0.62)	(0.47)	(0.49)
Earnings Per Share	6.556***	6.347***	6.238***
	(22.44)	(7.02)	(9.02)
Earnings Per Share × Treatment Firm	-0.523		0.0812
	(-0.74)		(0.09)
Earnings Per Share × Treatment Firm-Year	**-1.545***	**-2.966***	**-2.885****
	(-1.72)	**(-1.83)**	**(-2.74)**
Equity Book Value	0.579***	0.551***	0.581***
	(14.07)	(3.72)	(6.62)
Equity Book Value × Treatment Firm	-0.0784		-0.0579
	(-0.68)		(-0.39)
Equity Book Value × Treatment Firm-Year	-0.0772	0.129	0.13
	(-0.67)	(0.70)	(1.06)
Loss	-4.080***	-7.516*	-4.066***
	(-7.93)	(-1.85)	(-3.52)
Loss × Treatment Firm	4.619**	9.297	3.824
	(2.08)	(1.22)	(0.69)
Loss × Treatment Firm-Year	-3.498		-2.538
	(-1.36)		(-0.81)
Fama-French 49 Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Other Controls*	Yes	Yes	Yes
Number of Observations	163060	654	5537
Adjusted R-Squared	0.596	0.694	0.602

* Controls include all subordinate interactions and main effects, including Loss×BVE, Loss×EPS, Loss×Treatment Firm-Year×BVE, Loss×Treatment Firm-Year×EPS, Loss×Treatment Firm×BVE, Loss×Treatment Firm×EPS.

Table 11: Estimation of the price-earnings relation for import-relief firms during sunset review, moderated by Sophisticated Investors

This table reports results from the price-earnings test including main and interaction treatment effects on full, treatment firm only and matched samples and during sunset review investigations. Treatment Firm is a dummy variable equal to one when a firm has filed a petition for sunset review. Treatment Firm-Year is a dummy variable equal to one in the fiscal year subsequent to the sunset review initiation date. Earnings per share is diluted before extraordinary items. The treatment variable is [Earnings per share × Sophisticated Investor × Treatment Firm-Year]. Equity book value is drawn from end-of-year financial statements. Sophisticated Investor is institutional ownership in Columns 1-3, short interest in Columns 4-6 and analyst coverage in Column 7-9. The Sophisticated Investor variable is a dummy variable equal to one when a firm has higher than median presence of the sophisticated investor. The median is calculated separately for each sample. Columns 1, 4 and 7 present results from the price-earnings test for the full sample. Columns 2, 5 and 8 present results from the price-earnings test for a sample in which only petitioners are included. Columns 3, 6 and 9 present results from the price-earnings test for a sample in which the treatment variables are matched with five control firms based on a nearest neighbour lagged asset ranking. Row labeled "Learning" indicates whether the sample is characterized by a learning opportunity or not. Industry- and time-fixed effects are included. Standard errors are clustered by firm and year. T-statistics are presented underneath the coefficient estimates. ***, **, and * denote two-tailed significance levels at 1%, 5%, and 10%, respectively.

	(1) Full Sample	(2) Treatment Firm	(3) Size Match	(4) Full Sample	(5) Treatment Firm	(6) Size Match	(7) Full Sample	(8) Treatment Firm	(9) Size Match
Learning:	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sophisticated Investor:	Institutional Investor			Short Interest			Analyst Coverage		
Treatment Firm	4.900*		-0.693	9.489**		3.046	1.18		-4.06
	(1.89)		(-0.22)	(2.42)		(0.84)	(0.54)		(-1.48)
Treatment Firm-Year	5.118**	7.933**	3.165	8.764***	7.777***	7.804***	13.16***	4.782	5.142
	(2.08)	(2.15)	(0.87)	(2.91)	(2.60)	(3.02)	(5.39)	(1.02)	(1.07)
Earnings Per Share	5.845***	4.625***	4.511***	6.244***	6.030***	5.700***	6.610***	7.056***	6.288***
	(13.97)	(4.92)	(7.19)	(20.09)	(4.49)	(7.33)	(21.28)	(5.46)	(5.55)
Earnings Per Share × Treatment Firm	-2.568***		0.632	-1.031		0.236	0.534		0.874
	(-2.66)		(0.61)	(-1.09)		(0.19)	(0.59)		(0.67)
Earnings Per Share × Sophisticated Investor × Treatment Firm	1.91		(0.50)	0.96		0.05	(1.14)		(0.96)
	(1.57)		(-0.60)	(1.12)		(0.05)	(-1.35)		(-0.80)
Earnings Per Share × Treatment Firm-Year	**-2.141****	**-3.248***	**-3.587*****	**-1.934***	**-2.870***	**-3.382*****	**-3.705*****	**-3.732****	**-3.911*****
	(-2.35)	**(-1.86)**	**(-3.07)**	**(-1.79)**	**(-1.66)**	**(-2.98)**	**(-5.20)**	**(-2.24)**	**(-3.76)**
Earnings Per Share × Sophisticated Investor	1.733***	3.463***	3.031***	1.180***	1.101	1.396	1.247***	0.0718	1.178
	(3.96)	(3.02)	(3.22)	(3.60)	(0.77)	(1.37)	(3.83)	(0.04)	(1.20)
Earnings Per Share × _Sophisticated Investor_ × Treatment Firm-Year	**-3.797*****	**-3.477****	**-3.924*****	**-3.757****	**-1.94**	**-2.823**	**-3.943*****	**-3.138****	**-3.381*****
	(-3.66)	**(-2.32)**	**(-3.73)**	**(-2.42)**	**(-1.11)**	**(-1.54)**	**(-3.44)**	**(-2.23)**	**(-2.85)**
Equity Book Value	0.580***	0.648***	0.671***	0.636***	0.590***	0.667***	0.686***	0.906***	0.711***
	(13.11)	(3.88)	(8.50)	(17.45)	(3.00)	(6.50)	(18.14)	(5.14)	(4.79)
Equity Book Value × Treatment Firm	0.0755		-0.0127	-0.118		-0.177	0.0797		0.0555
	(0.72)		(-0.08)	(-0.91)		(-1.06)	(0.82)		(0.32)
Equity Book Value × Treatment Firm-Year	-0.0279	0.131	0.189	-0.00708	0.101	0.196	0.222*	0.204	0.248
	(-0.25)	(0.57)	(1.39)	(-0.07)	(0.46)	(1.38)	(1.78)	(0.75)	(1.61)
Equity Book Value × Sophisticated Investor	-0.175***	-0.146	-0.271**	-0.186***	-0.032	-0.154	-0.247***	-0.450*	-0.330***
	(-3.13)	(-0.63)	(-2.28)	(-4.61)	(-0.17)	(-1.31)	(-5.79)	(-1.92)	(-2.81)
Equity Book Value × Sophisticated Investor × Treatment Firm-Year	0.719***	0.574	0.693*	0.657*	0.345	0.546	0.530*	0.363	0.351
	(2.70)	(1.45)	(1.83)	(1.72)	(0.84)	(1.16)	(1.71)	(0.87)	(0.94)
Fama-French 49 Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Controls*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	137721	624	5157	80438	541	4061	85153	516	4187
Adjusted R-Squared	0.64	0.712	0.628	0.659	0.711	0.639	0.609	0.715	0.631

* **Columns 1-3** controls include all subordinate interactions and main effects, including Loss, Loss×Treatment Firm, Loss×Treatment Firm-Year, Loss×BVE, Loss×EPS, Loss×Institutional Ownership, Loss×Treatment Firm-Year×BVE, Loss×Treatment Firm-Year×EPS, Loss×Treatment Firm×BVE, Loss×Treatment Firm×EPS, Institutional Ownership, Institutional Ownership×Treatment Firm-Year, Institutional Ownership×Treatment Firm, Institutional Ownership×Treatment Firm-BVE, Institutional Ownership×Treatment Firm×BVE, Loss×Institutional Ownership×BVE, Loss×Institutional Ownership×EPS, Loss×Institutional Ownership×Treatment Event Firm-Year, Loss×Institutional Ownership×Treatment Event Firm; **Columns 4-6** include Loss, Loss×Treatment Firm, Loss×Treatment Firm-Year, Loss×BVE, Loss×EPS, Loss×Short Interest, Loss×Treatment Firm-Year×BVE, Loss×Treatment Firm-Year×EPS, Loss×Treatment Firm×BVE, Loss×Treatment Firm×EPS, Short Interest, Short Interest×Treatment Firm-Year, Short Interest×Treatment Firm, Short Interest×Treatment Firm-BVE, Short Interest×Treatment Firm×BVE, Loss×Short Interest×BVE, Loss×Short Interest×EPS, Loss×Short Interest×Treatment Event Firm-Year, Loss×Short Interest×Treatment Event Firm; **Columns 7-9** include Loss, Loss×Treatment Firm, Loss×Treatment Firm-Year, Loss×BVE, Loss×EPS, Loss×Analyst Coverage, Loss×Treatment Firm-Year×BVE, Loss×Treatment Firm-Year×EPS, Loss×Treatment Firm×BVE, Loss×Treatment Firm×EPS, Analyst Coverage, Analyst Coverage×Treatment Firm-Year, Analyst Coverage×Treatment Firm, Analyst Coverage×Treatment Firm-BVE, Analyst Coverage×Treatment Firm×EPS, Analyst Coverage×Treatment Firm×BVE, Loss×Analyst Coverage×BVE, Loss×Analyst Coverage×EPS, Loss×Analyst Coverage×Treatment Event Firm-Year, Loss×Analyst Coverage×Treatment Event Firm