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Did US safeguards resuscitate Harley-Davidson in the 1980s?[☆]

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ABSTRACT

This paper examines US safeguards applied to the motorcycle market in the 1980s. After receiving temporary protection by means of a maximum tariff of over 45%, Harley-Davidson sales recovered dramatically. Simulations, based on structural demand and supply estimates, indicate that while safeguard tariffs did benefit Harley-Davidson, they only account for a fraction of its increased sales. This is primarily because consumers perceived that Harley-Davidson and Japanese large motorcycles were poorly matched substitutes for each other. Our results provide little evidence that safeguard provisions triggered restructuring in Harley-Davidson.

1. Introduction

Ronald Reagan signed a recommendation from the US International Trade Commission (ITC) calling for 5 years of new tariffs on heavyweight motorcycles in the period over 1983–1988. This tariff relief, called a safeguard or the escape clause, was intended to protect Harley-Davidson Motor Co. (hereafter, "H-D"), the last remaining US motorcycle manufacturer, against Japanese imports. At that time, H-D was in financial distress, with merely 4% of the market it had dominated in the early 1970s. The new tariffs were scheduled to start at 49.4% of the wholesale price and decrease to 14.4% in the fifth year, while Japanese manufacturers were allowed to ship the first 6000 cycles per year under the old 4.4% tariff, an allowance that rose by 1000 units a year. After receiving temporary import relief starting in 1983, H-D came back stronger than ever. Its sales increased dramatically at an annual rate of 10% from 1983 to 1990. Indeed, H-D recovered so swiftly that it even requested that the final year of tariff protection be cancelled. The H-D motorcycle case is now heralded as a great success of safeguard protection.

Some, however, are more skeptical of the role of import relief in H-D's turnaround. H-D produced mostly heavyweight motorcycles with engine displacements of over 900 cc in the 1980s. Irwin (2002) argues that, since the motorcycles imported from Japan were mostly medium-weight bikes in the range from 700–850 cc, they did not directly compete with H-D products. Reid (1990) documents how H-D saved itself from bankruptcy. When H-D was under the ownership of AMF Incorporated,[2] its bikes had a reputation for unreliable mechanics: they leaked oil, vibrated, and could not match the performance of the smoothly running Japanese bikes (Purkayastha, 1987). After H-D was bought by its management team and began operating independently of AMF in 1981, it quickly overhauled its styles, spent more on research and development to create new and more reliable models, and strengthened its marketing and distribution channels. In the critics' view, these managerial efforts, not the import relief, had much to do with H-D's turnaround. As safeguard policy has attracted renewed attention amid the current surge of antidumping cases, it is imperative to empirically resolve these conflicting views of the effectiveness of one of the most famous safeguard cases in US history.[3]

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2 AMF (formerly American Machine and Foundry) Incorporated acquired Harley-Davidson in 1969.

3 Unlike antidumping and countervailing duties, safeguards do not require a finding of an unfair trade practice, and generally must be applied on a most-favored nation basis (see Bown, 2002, for details).

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This paper performs quantitative analyses to assess the extent to which US safeguard protection improved H-D's performance in the oligopolistic US motorcycle market in the 1980s. Since there seems no obvious way to conduct controlled experiments regarding the motorcycle safeguard policy, we instead conduct counterfactual simulations in the following two steps. First, use observed data along with an economic model to recover estimated parameters of underlying economic primitives that are invariant to policy environment. In this application, we estimate parameters of consumer demand and derive firm marginal costs. The second step involves using the model to simulate change in equilibrium outcomes resulting from change in the availability of safeguard policy. Using the simulation method, we evaluate the effects of safeguard tariffs on the US motorcycle market.

Our simulation results demonstrate that safeguard tariffs explain 6% on average, or 13% at most, of H-D's sales and profit recovery. The finding of such a tiny safeguard effect is largely due to estimates obtained from a random-coefficient demand model, indicating that American and Japanese motorcycles were poorly matched substitutes for each other. The estimated small cross-price elasticities appear consistent with the observation in our data that both H-D's prices and sales increased at faster rates than those of the Japanese motorcycles. Thus it is not surprising that safeguard tariffs would have had little effect on shifting consumers from Japanese motorcycles to American ones. It is rather motorcycle non-price attributes that must have played a major role in H-D's turnaround. Indeed, this finding is corroborated by information reported in industry trade journals during the study period.

The topic of safeguards has received little attention in the empirical literature evaluating trade policy. The three exceptions to this pattern of neglect are Grossman's (1986) study of the ITC's investigation of the steel industry, Pindyck and Rotemberg's (1987) study of the US copper investigation, and Kelly's (1988) study of wood products in the United States. These three papers are all concerned with the final phase of the ITC decision process, in which the ITC determines whether or not imports are the substantial cause of injury to an industry. Since this paper conducts an ex post analysis of the effectiveness of the motorcycle safeguard relief, it does not directly consider whether H-D was entitled to the relief; such an analysis should examine the period prior to safeguard implementation. Nevertheless, it is reasonable for us to infer from the paper's short-term simulation results that increased imports were unlikely a major cause of injury to H-D. Indeed, the ITC's protective actions may not have been warranted, because our demand estimates demonstrate that the large Japanese motorcycles were not "like or directly competitive products"[4] with H-D's, indicating that American and Japanese motorcycles were poorly matched substitutes for each other in the eyes of US consumers. Since H-D was not entitled to the escape clause, it would not have been plausible that safeguard protection gave H-D breathing room in which to innovate, or upgrade its new motorcycles; in fact, H-D upgraded its new motorcycles even in the absence of safeguard protection. This finding suggests that the coincidence between the period of safeguard relief and that of H-D's recovery does not constitute sufficient evidence of the effectiveness of the safeguard policy.

The rest of the paper is organized as follows. The next section presents an overview of the US motorcycle market, and presents descriptive statistics from our dataset. Examination of market-level data reveals a distinctive feature of the market, namely, that H-D experienced increases in both the sales price and the quantity sold in the safeguard period, whereas its Japanese counterparts increased their sales prices much slower, while their quantities sold substantially decreased. The finding that motorcycle prices played a small role in H-D's sales expansion casts doubt on the effectiveness of safeguard protection in promoting H-D's recovery. To quantitatively assess the extent to which US safeguard protection promoted H-D's recovery, subsequent sections present structural supply and demand model that describes the US motorcycle market, and conduct counterfactual analyses. Section 3 employs a random-coefficient discrete choice model to estimate motorcycle demand in the US market. The methodology controls for endogeneity of price, and allows for heterogeneity in individual consumer tastes. Combined with a supply-side model, Section 4 conducts simulation analyses by asking what would have happened to H-D's sales in the absence of safeguard protection. For this simulation approach to be successful, the model used for the exercise must closely approximate the economic environment under study, and the policy of interest must be exogenous to the environment. The section examines several sensitivity analyses and discusses the robustness of our obtained results to alternative specifications, including supply-side behavior. Section 5 concludes, followed by Data Appendix.

2. Overview of the US motorcycle market

Through the 1950s, H-D was the traditional leader in the US motorcycle market. The situation changed, however, with the entrance of Japanese motorcycle manufacturers in the 1960s, selling only motorcycles of 250 cc or smaller engines. These lightweight bikes quickly gained a reputation for high quality and advanced technology. By 1965, the US market was dominated by lightweight motorcycles, with Honda controlling 85% of the market. Indeed, Honda's sales leapt from USD 500,000 in 1960 to USD 77 million by 1965. Initially, this dramatic shift in the market was not perceived as a threat by H-D, the sole surviving American-owned motorcycle firm: its heavyweight motorcycle segment was left uninvaded, and the segment was moreover expanding. However, when the lightweight market was successfully under their control, Japanese producers then ventured into the market with larger engine capacities, thereby competing directly with H-D in the United States. Japanese launching of heavyweight bikes grew intense as Kawasaki and Honda opened plants in Nebraska in 1974 and Ohio in 1979, respectively, to produce heavyweight motorcycles. By the end of 1981, H-D fell to a distant fifth place with a mere 5% of the US motorcycle market, following Honda (38%), Yamaha (25%), Kawasaki (16%), and Suzuki (14%); the remaining market share belonged, for example, to BMW.

H-D had long attributed its declining sales to lower-priced Japanese imports. Sharp increases in Japanese imports in the early 1980s, along with the 1981–1982 recession, led to the accumulation of a large stockpile of inventory for both the American and Japanese companies. As a result, H-D sought tariff protection in 1982, claiming that the inventories caused by the substantial increases in Japanese imports threatened serious injury to the American company. This was H-D's second attempt to seek tariff protection, following its failed antidumping complaint filed in 1978. Note that antidumping protection is designed to respond to actions deemed improper, and therefore a less rigorous standard of injury is thought appropriate than in the case of safeguards. Given that H-D's antidumping petition had been rejected 4 years earlier and that the situation had changed little since then, the chance of safeguards being granted was regarded as slim. To the surprise of H-D, however, the ITC approved the safeguard petition, and the Reagan administration accepted the ITC's recommendation that a tariff-rate quota be imposed on imports of motorcycles with 700 cc and larger engines from April 1983 to March 1988. Reid (1990: 89) explained that the Reagan administration intended this safeguard measure to be a warning to Japanese carmakers that they were vulnerable to similar actions. Since the safeguard under study had not really been expected by the motorcycle companies, including H-D, it is natural to regard it as exogenously imposed on the US motorcycle market.

[4] Cited from Section 201 of the Trade Act of 1974. The similar phrase can also be found in Article XIX, paragraph 1a of the GATT.