Import Competition and U.S. Firms: A Text-Based Approach *†

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Abstract

This paper develops novel firm-level, text-based measures of import competition by linking the product descriptions in U.S. firms' 10-K filings with those in shipping manifests for imported goods. These new measures capture cross-firm heterogeneity in exposure to international competition that is not reflected in industry-level import penetration metrics widely used in prior research. Using data from 2014 to 2022, I find that greater import competition from low-wage countries such as China is associated with lower sales and profitability, even after controlling for industry-level import competition. In response, firms increase cash holdings and reduce dividends, reflecting a shift toward more conservative financial policies. The analysis also shows that firms strategically adjust their product scope: they narrow focus and pursue vertical differentiation to compete against low-cost imports, while broadening product offerings in response to rising local market competition. These results highlight the strategic financial and operational responses U.S. firms adopt in the face of global trade pressure and demonstrate the value of firm-level, text-based metrics in analyzing the impact of international competition.

KEYWORDS: International trade, Product classification, Product market competition

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1 Introduction

How to understand the import competition faced by U.S. domestic companies? Identifying which market or industry U.S. companies compete with international importers is central to this question. The previous literature (see, Autor, Dorn, and Hanson (2013), Pierce and Schott (2016), and Hombert and Matray (2018)) relies on the Harmonized System (HS) code as a crucial tool to categorize goods and match them with different industry classification codes, such as the Standard Industrial Classification (SIC) or the North American Industrial Classification System (NAICS). There are two major concerns. First, the accuracy of the Harmonized System (HS) code is difficult to ensure due to the intricacy of HS and the discrepancy between the way goods are described in commerce and the way they are depicted in the HS nomenclature. Second, the SIC and the NAICS systems have limitations[1] in capturing the changing import competition over time and the overall competition for multi-product companies which operate in more than one industry.

This project aims to address the concerns mentioned above and gain a better understanding of the competition faced by U.S. companies. To do this, measures based on computational linguistics are created to link the text in U.S. domestic firms' 10-K filings regarding their products with the textual description of the products for the import transaction. The logic behind the measures is that U.S. companies that sell similar products that are imported from abroad are more exposed to import competition. This project investigates the words used in the product description section of companies' 10-Ks and compare them to the words used to describe all imported goods to create a similarity score between a firm's products and all the products imported. If there be a greater concurrence between the product nouns articulated in the business descriptions of a local U.S. company and those imported from abroad, notably from nations such as China or member states of the Organization for Economic Co-operation and Development (OECD), it can be presumed that this U.S. company is encountering intensified competition from international

[1] as discussed in Hoberg and Phillips (2016)

markets in its product sector.

To achieve this, this study employs text-based measures of import competition, specifically using imports from China as a primary test case, to investigate whether an increase in import competition correlates with sales reductions for U.S. firms. To validate the superiority and credibility of these firm-level measures, two distinct specifications were developed: the first controls for industry-by-year fixed effects, which addresses limitations associated with traditional industry-level import penetration measures; the second directly controls for industry-level import penetration. Both specifications indicate that increased import competition from China is associated with a decrease in sales among U.S. firms. Specifically, a one percent increase in exposure to Chinese imports correlates with a one percent reduction in local sales, a relationship that was not fully captured by industry-level measures. Building on this, the study further examines the relationship between U.S. firms' profitability and import pressure from China. The findings suggest that while the relationship remains negative, as anticipated, it shows a lower level of statistical significance. This may be attributed to the dual effects of import competition: on one hand, it forces local firms to reduce their product prices, diminishing profitability; on the other, it may prompt firms to enhance operational efficiency and address internal agency issues, potentially improving profitability.

Given the decreased sales and profitability resulting from import competition, this study examines how U.S. firms respond to international product market competition, particularly focusing on their choice of financial strategies such as cash holdings and payout policies, innovation decisions, and product scope adjustments. The study finds that, beyond local market competition, import competition significantly influences U.S. firms to revise their financial strategies by increasing cash reserves and reducing dividend payouts. Specifically, a one percent increase in product overlap with imports from China results in a 6% increase in a firm's cash holdings, and a similar increase in similarity between a company's products and those imported from China decreases the likelihood of divi-

dend payouts by 2.5%. These financial adjustments enable firms to allocate capital for innovation, which is considered a primary strategy for countering import competition as indicated by prior research. With the introduction of new firm-level measures and control for traditional industry-level measures, the results indicate that R&D activities potentially lead to product innovations or enhancements that offer competitive advantages over imported goods, enhancing market performance. Further, my final test investigates whether innovation efforts focus on enhancing core products and improving quality or broadening product scope to diversify risk. Interestingly, the findings suggest that U.S. firms often strengthen their core products and focus on vertical differentiation to counter competition from low-wage countries like China, while simultaneously broadening their product scope to compete against local rivals.

Over the last three decades, a substantial body of research has been conducted on the effects of international trade on U.S. regional economies. The way U.S. companies engage in the global market affects their capital structure, investment, acquisition, and innovation choices, as well as their organizational and governance structure. Recent studies such as Autor, Dorn, and Hanson (2013); Acemoglu, Autor, Dorn, Hanson, and Price (2016); Pierce and Schott (2016), have associated Chinese imports with employment results and demonstrated that U.S. industries that are more exposed to import rivalry experience a reduction in employment, a decrease in involvement in the labor force, and a decrease in wages in local labor markets. Studies have also been carried out to understand the response of U.S. companies to potential threats from import competition. The research by Bloom, Draca, and Van Reenen (2016) indicates that European companies significantly affected by Chinese imports in their markets are experiencing greater innovation. Hombert and Matray (2018) show that U.S. firms with substantial R&D investments are better equipped to handle trade disturbances arising from Chinese import competition. Meanwhile, Autor, Dorn, Hanson, Pisano, and Shu (2020) found that the number of U.S. patents produced drops in sectors facing increased import competition. The emergence of a variety of mi-

crodata sets has caused research in international competition to shift its attention from industries and countries to firms and products. Given the dynamic product switching of U.S. manufacturing firms as documented in Bernard, Redding, and Schott (2010), it is intriguing to investigate the effect of the product-level import rivalry experienced by U.S. firms on their decisions to add or remove products.

Despite significant interest and ongoing debate regarding the impact of international trade on U.S. local companies, the metrics used to measure import competition have limitations. Historically, studies have employed macro-level variables such as tariff cuts (Mayer (1984); Bohara and Kaempfer (1991); Trefler (1993)) and exchange rates (Krugman and Obstfeld (2009)), which do not adequately address firm-specific dynamics. More recent literature has shifted focus towards industry-level measures, often matching product HTS codes with industry classification codes like SIC or NAICS (Pierce and Schott (2012)). These industry-centric measures, when applied to firm-level analyses, tend to obscure significant variations in performance, strategies, and conditions experienced by individual firms. Additionally, industries themselves evolve over time, and the rate of this evolution can vary markedly between sectors and within specific companies, particularly those operating across multiple product sectors. Consequently, assuming that firms only experience import competition in their designated primary industry can lead to biased insights.

To the best of my knowledge, my paper is the first to provide a firm-level metric for assessing the import competition encountered by U.S. domestic companies. This study utilizes textual analysis techniques to determine the similarity between products imported from China and those manufactured by U.S. firms, offering a multifaceted, firm-specific, and dynamic gauge of the import competition these entities face. This novel metric has been employed to evaluate the hypothesized impacts of import competition on local U.S. firms, with findings that align consistently with theoretical expectations and corroborate results from prior research, thus underscoring the validity and reliability of this measure. Furthermore, the distinctive advantage of this metric is manifested in its application to

analyze how local firms adjust their product strategies in response to escalating import competition, including scope adjustments and vertical differentiation of products. These findings underscore the substantial potential for future research in this area.

The remainder of the paper is organized as follows. Section 2 reviews related previous literature. Section 3 provides an overview of our data sources and the construction process. Section 4 describes the empirical specifications and presents our baseline regressions, as well as other empirical findings. Finally, Section 5 concludes the paper.

2 Literature Review

This section reviews the literature of two major streams: the first is the application of the HS code to classify imported products in industries, and the second is import competition and its effect on US companies.

2.1 HS Code Application, Limitation & Improvement

The Harmonized System (HS) is a six-digit numerical code used to classify and label products for international commerce. Nations that adopt the HS can provide more precise descriptions of goods by increasing the digits to 8, 10, or 12. The United States utilizes up to ten digits. The US import codes are managed by the US International Trade Commission (USITC) and are called Harmonized Tariff System (HTS) codes. Academic research relies on the exactness of the Harmonized System (HS) classification to recognize industries of imported goods and then associate the HS code with the SIC or NAICS code to determine in which domestic industry these imported items should be placed.

However, it is difficult to achieve HS categorization with an acceptable level of precision due to the complexity of HS and the disparity between the way goods are described in trade and the way they are described in the HS nomenclature. Trade studies show that

about 30% of the submission of declarations uses the wrong HS code.[2] Also, it is difficult to accurately match the HS codes used to classify international trade data with the SIC or NAICS codes used to classify domestic production data, as the two systems have different ways of categorizing products. HS codes are based exclusively on the characteristics of a product, while SIC and NAICS codes can also consider how the product is manufactured. Previous research has devoted a great deal of effort to matching the HS codes with the SIC and NAICS.[3] Besides the matching issue, the use of industry classifications such as SIC or NAICS for research purposes has several drawbacks according to Hoberg and Phillips (2016). First, neither of them reclassifies firms over time as the product market changes. Second, they cannot easily accommodate innovations that create new product markets. Third, SIC and NAICS impose transitivity, even though two firms that are rivals to a third firm might not be rivals. Finally, they do not provide continuous measures of similarity within and between industries.

With the development of computational technologies, approaches such as machine learning or deep learning have been applied to tackle the task of generating an accurate HS Code for the underlying products. Ding, Fan, and Chen (2015) created an automatic HS code generation system that used textual analysis of the product description. Li and Li (2019) employed a deep learning approach (convolutional neural network) to combine textual and image features to accurately predict the HS code. My research's primary goal is not to develop an automated system for generating Harmonized System (HS) codes; however, computer science practices do suggest that the textual description of traded goods contains more precise and accurate information than what is represented by the HS code, which in turn supports the advantage of the text-based measure of import competition.

[2] https://www.avalara.com/blog/en/north-america/2023/08/challenges-of-cross-border-ecommerce.html

[3] See Feenstra (1996); Feenstra, Romalis, and Schott (2002); Pierce and Schott (2009).

2.2 Research on Import Competition

The competitive environment for companies has been drastically altered by the internationalization of markets and industries. The level of foreign competition in the internal market of a business can have an impact on the fundamentals and strategies of the company. A substantial body of research has been devoted to studying the effects of international trade on labor markets in the United States (Freeman and Katz (1991); Bernard, Jensen, and Schott (2006); Revenga (1992); Feenstra (2010)), and these studies, in general, suggest a negative relationship between import competition and US manufacturing employment. Studies such as Autor, Dorn, and Hanson (2013); Pierce and Schott (2016); Acemoglu et al. (2016), have associated Chinese imports with employment results and demonstrated that industries that are more exposed to import rivalry experience a reduction in employment, a decrease in involvement in the labor force, and a decrease in wages in local labor markets.

Given the significant risk that import competition brings, investigations have been conducted to determine how to alleviate potential concerns. Hombert and Matray (2018) demonstrates that companies that invest heavily in research and development are more resistant to trade disruptions caused by Chinese rivalry. Wiersema and Bowen (2008) investigates if industry globalization and foreign competition are significant factors in determining the extent and range of international diversification by US companies. Autor et al. (2020) discovers that the production of US patents decreases in industries that experience more import rivalry. Utar and Ruiz (2013) documents that Chinese competition has a detrimental effect on both job numbers and business expansion. Bloom, Draca, and Van Reenen (2016) establish that the level of innovation that is taking place within businesses that are heavily impacted by Chinese imports in their output markets is growing. Hoberg, Li, and Phillips (2020) looks into the effects of Chinese internet penetration and imports as shocks on US innovation. Liu and Rosell (2013) combines patent, firm, product and trade data to show that when faced with greater penetration into imports, the nature of firm innovation becomes less basic.

The literature also studies the interactions between firms' financing structures and the import penetration they are facing. Xu (2012) show that companies exposed to an increase in imported goods have a tendency to reduce their debt-to-equity ratios by issuing stocks and disposing of assets to pay off their liabilities. Booth, Wang, and Zhou (2019) investigates how import competition affects a company's preference for financial flexibility by looking at its corporate payout policy, and the results confirm that firms with higher exposure to import competition are less likely to pay regular dividends and pay less. Zhou, Booth, and Chang (2013) show that firms facing more import competition face greater uncertainty in their future performance and are less likely to pay a dividend. Liu and Rosell (2013) finds import competition leads multi-product firms to drop peripheral products to refocus on core production. De Loecker (2011) studies whether removing barriers to trade induces efficiency gains for producers by developing an empirical model that combines a demand system with a production function to generate estimates of productivity, and finds that abolishing all quota protections increases firm-level productivity by only 2 percent as opposed to 8 percent when relying on standard measures of productivity. Lie and Yang (2023) documents that the presence of Chinese imports can reduce the amount of stock grants given to executives and the sensitivity of their wealth to performance and this implies that competition can help reduce agency issues and the need for traditional alignment methods.

As documented in Bernard, Jensen, Redding, and Schott (2012), research on plant and firm microdata has posed difficulties for traditional theories of international trade, prompting the development of new models of heterogeneous firms and trade. These theories explain why only some firms export, why exporters are larger and more productive than non-exporters, and how trade liberalization can raise average productivity by reallocating resources across firms within industries. These new theories have also revealed other ways in which the opening of trade can affect the overall economy, leading to further empirical research. There are still many unresolved issues, such as the microfoundations

of trade costs, further exploration of the boundaries of the firm, and further consideration of the relationship between findings from disaggregated data and the economy's aggregate response to trade. Bernard, Redding, and Schott (2010) looks into how often, how widespread, and what influences product switching among US manufacturing companies and discovers that half of the firms studied changed their mix of five-digit SIC products every five years. Additionally, product switching was found to be associated with both company-wide and product-specific characteristics.

In general, the focus of research on international trade has changed from industries and countries to firms and products. To gain a better understanding of the product-level import rivalry experienced by US domestic companies, it is essential to establish a direct connection between the imported products and the products produced by US domestic companies. It would be beneficial to use a text-based approach to examine the range of imported products and how US companies adjust their products in response.

3 Data & Methodology

3.1 FactSet Supply Chain Shipping Transactions Data

FactSet Shipping data provide a normalized view of more than 90 million shipments to 320 U.S. ports from nearly 1,400 non-U.S. ports from November 2013. Data contain transaction details including cargo content description, departure and arrival ports, and shipper/consignee relationships sourced from manifests and bills of lading recorded by the U.S. Customs and Border Patrol (CBP). These documents provide metadata and textual information combined with natural language processing which can be used to verify the accuracy of HTS codes and derive a better classification. The column we explore is "Manifest_Desc", which contains a full textual description of the contents of this manifest record provided by the shipper.

3.2 Product Description of U.S. Companies

The main component that we focus on is the different vocabulary companies employ to detail their products in the business description sections of the 10-K annual reports on the SEC Edgar website. These descriptions are located in a specific part of each 10-K submitted by the companies. It is mandatory that these 10-K business descriptions be precise, in line with item 101 of Regulation S-K, which requires companies to accurately represent the main products they present to the market. It is essential that the descriptions are kept up-to-date and accurately reflect the current fiscal year of the 10-K. This allows us to observe how local U.S. industries evolve over time as a result of the change in import threats.

3.3 Connect Import Products with U.S. Firm 10-Ks

In the same spirit as Hoberg and Phillips (2016), the network industry classifications will be constructed based on the matrix of consine similarity scores between the products provided by U.S. companies and the entire universe of imported products. To accomplish this, two types of data need to be gathered: the initial segment is the specifics of the products, derived from the manifest description in the bill of ladings for each import transaction; the subsequent segment is the products mentioned in the business descriptions from the 10-K filings submitted by U.S. firms. The comprehensive procedures are described below.

3.3.1 AI-based Products Extraction

The FactSet Shipping data set provides a structured view of any maritime shipment that has been registered by U.S. Customs and Border Protection (CBP) as imported goods. All the information is extracted from the bill of lading, which includes the shipper, recipient, transaction number, number of containers, weight, manifest description, and other details related to the shipment.

This manifest record includes a full textual description of the contents provided by the

shipper. The difficulty lies in the fact that the description is unstructured and may include information such as the HS code claimed by the shipper, the number of units and pieces of the goods, the address of the consignee, and the container or the packing information, etc. There are about 110 millions of transactions, which makes manual extraction of the product from the description is not feasible, and we consider automated models with reliable extractions in this context. NLP is a field of Artificial Intelligence (AI) that concentrates on allowing machines to comprehend and process human language. One of the most popular uses of this technology is the extraction of information from text using NLP. We applied the NLP model and trained it to automatically recognize and obtain product information from unstructured text data of the manifest description. Provided below is a sample of manifest descriptions which are randomly drowned from the whole records, and the extracted products from the unstructured text.

[Table 1 is about here]

An expedient overview of the extraction outcomes can be attained by organizing the data according to the annual volume of imported goods and subsequently generating a word cloud. Figure 1 displays a word cloud that illustrates the prevalence of product terms from the bills of lading pertaining to U.S. imports from China. The size of each term within the word cloud indicates its relative frequency across the dataset. The analysis encompasses two distinct sets of word dictionaries: one representing the spectrum of imported products in 2014, and the other corresponding to 2022.

[Figure 1 is about here]

The analysis of the two subfigures reveals a continuity in certain products that the U.S. has consistently imported from China between 2014 and 2022, including items like "auto parts," "air conditioner," and "aluminum alloy." However, there are also notable shifts in the import landscape over this period, indicating substantial changes in the trade dynamics between China and the U.S. For instance, while chemical products such as "acid pmida"

and "phosphonomethyl acid" were prominent imports in 2014, their prevalence significantly declined by 2022. This shift may reflect the implications of policy changes, specifically the legislation introduced by Senator Tom Cotton and Congressman Mike Gallagher on March 19, 2020. The bill, titled "Protecting our Pharmaceutical Supply Chain from China Act," aimed to curtail U.S. reliance on Chinese pharmaceutical manufacturing, influencing the import patterns of related chemical products. These intriguing discoveries underscore the immense scholarly worth of the data gleaned from these descriptions of imported products.

3.3.2 U.S. Firm 10-Ks Product Description Extraction

In order to obtain information about the product space of U.S. companies, I consult two seminal studies that analyze the 10-K filings submitted by U.S. companies to the SEC. The 10-K reports are sourced from Edgar as described in Loughran and McDonald (2011, 2016).[4] After acquiring the necessary 10-K reports for each company annually, the extraction process of the product descriptions is in accordance with the method proposed by Hoberg and Phillips (2016). The specific regular expression (Regex) pattern that was employed can be found in the online appendix. The selection of companies is guided by the criteria described in Hombert and Matray (2018). In particular, the chosen companies must fall within the SIC code range of 2,000 to 3,999 as this study would concentrate in the manufacturing industries. After filtering out non-manufacturing firms, the sample ends up with 1,825 companies from year 2014 to 2022.

3.3.3 Text-based Import Competition Measures

Then for every company on an annual basis, I develop a measure of the import competition that a single company faces in a given year. This is achieved by performing a text-based analysis to determine the similarity between its business overview and the universe of imported goods. In creating the universe of imported goods, using China as an example, I

[4]For additional information on the extraction of 10-K reports, please see https://sraf.nd.edu/.

compile the products extracted from all the manifest descriptions that are not null in the import transactions from China. This results in a complete catalog of all the nouns associated with products imported from China by years. Any nouns that are names or locations are omitted from the dictionary. Additionally, common words, specifically nouns that appear in more than 5% of the manifest descriptions, are also left out. After implementing these selections, the import lexicon for China comprises, on average, approximately 22,000 distinct words from the period 2014 to 2022.

Then for each of the U.S. firm, the nouns regarding products and business are selected from its business description and also form into a unique set of products for this company. The selection process is mainly following Hoberg and Phillips (2016). Subsequently, the import competition exposure this corporation encounters from China can be quantified as the ratio of unique nouns covered by the Chinese imported goods lexicon to the aggregate count of unique product nouns within its proprietary product set. Specifically, for the exposure of firm i to the import competition from China in year t is constructed as:

$$\text{Products Exposed to China Imports}_{i,t} = \frac{\left|\text{Products}_{i,t} \cap \text{Imported Products}_{China,t}\right|}{\left|\text{Products}_{i,t}\right|} \quad (1)$$

where $\text{Products}_{i,t}$ is the set of unique product for firm i at year t, and $\text{Imported Products}_{China,t}$ is the set of unique product imported from China at year t. In addition, a further metric is also established that captures the similarity between these two sets:

$$\text{Jaccard Similarity to China Imports}_{i,t} = \frac{\left|\text{Products}_{i,t} \cap \text{Imported Products}_{China,t}\right|}{\left|\text{Products}_{i,t} \cup \text{Imported Products}_{China,t}\right|} \quad (2)$$

To further test the robustness of these measurements, another set of measures of import compeititon also constructed by comparing the similarity of U.S. company product sets

to imported goods from OECD developed countries.[5] The import lexicon for OECD comprises, on average, approximately 21,000 distinct words, and the measures are denoted as follows:

$$\text{Products Exposed to OECD Imports}_{i,t} = \frac{\left|\text{Products}_{i,t} \cap \text{Imported Products}_{OECD,t}\right|}{\left|\text{Products}_{i,t}\right|} \quad (3)$$

$$\text{Jaccard Similarity to OECD Imports}_{i,t} = \frac{\left|\text{Products}_{i,t} \cap \text{Imported Products}_{OECD,t}\right|}{\left|\text{Products}_{i,t} \cup \text{Imported Products}_{OECD,t}\right|} \quad (4)$$

In order to provide a broad overview of the time-series similarities between local U.S. product markets, imports from China, and imports from OECD, a demonstration of pair-wise similarity trends is presented in Figure 2. The initial sub-figure indicates that the congruence between domestically-produced U.S. goods and those imported from China remained constant up until 2019, followed by a pronounced decline commencing in 2020. This observation aligns with findings reported in Aral, Giambona, Lopez, and Phillips (2023), which attribute the onset of the Covid-19 pandemic during the first quarter of 2020 as a disruptive event significantly affecting production in China, the U.S.'s principal import trading partner, consequently leading to a reduction in the variety of products imported from that country. Interestingly, analogous trends are observable in the relationship between U.S. local products and imports from OECD nations, suggesting that the pandemic similarly impacted production capabilities in these countries.

The concluding sub-figure reveals an escalating similarity between imports from China and those from OECD countries over the years, as noted in Schott (2008), where it is documented that China's product overlap with OECD nations is both substantial and growing. This trend could pose mixed implications for local U.S. enterprises; on one hand, U.S. consumers dealing with OECD suppliers might shift towards Chinese suppliers due to cost advantages; on the other, U.S. firms previously contending with import competition

[5]The list of OECD countries is from the official website https://www.oecd.org/about/members-and-partners/. Countries which joined OECD after 2014 are excluded.

from OECD countries are now facing intensified competition from China. This heightened competition could prove particularly challenging due to the distinct cost benefits associated with labor in developing nations. In this study, my primary attention is on the impact of competition, and the subsequent sections will conduct empirical examinations.

3.4 The Industry/Sector Level of Import Competition

As I am building a new measure here, it is legitimate to compare this firm-level measures to the pro-founding sector-level import penetration measures. Based on Autor, Dorn, Hanson, and Song (2014); Acemoglu et al. (2016) and following the modification made by Lie and Yang (2023), I define the imports from China for the SIC three-digit industry j in year t as:

$$\text{Import Penetration China}_{j,t} = \frac{M_{jt}^{UC}}{Y_{j,91} + M_{j,91} - E_{j,91}} \tag{5}$$

In this equation, M_{jt}^{UC} represents the imports from China for year t, and the denominator captures the total market size in 1991, which includes industry shipments ($Y_{j,91}$), imports ($M_{j,91}$), and subtracts exports ($E_{j,91}$). The choice of 1991 as the base year aligns with the practice in the existing literature, marking the earliest year with extensive available data for bilateral industry-level trade analysis.

To construct this variable, I first downloaded bilateral trade flow data from the UN Comtrade platform[6]. Although Feenstra, Lipsey, Deng, Ma, and Mo (2005) provides detailed descriptions of the use of this platform for international trade flows prior to 2000, documenting my recent collection practices up to the year 2022 remains relevant. In addition to utilizing the newly developed API, another effective method for acquiring trade-flow data involves bulk downloads by searching through reporter countries' records. For example, to isolate imported commodities reported by the USA from China in 2005, one can filter by the partner country as China (country code 156) and specify the flow code "M". To assign these imports to specific SIC sectors, I first used the crosswalk provided by

[6]The website platform is https://comtradeplus.un.org/TradeFlow

Pierce and Schott (2012), which maps 10-digit HS products to four-digit SIC industries, allowing aggregation at the level of six-digit HS products and four-digit SIC industries where some HS products are mapped to multiple SIC industries. Upon completion of this aggregation, most HS codes were assigned to SIC industries, with a few exceptions handled according to another crosswalk used by Autor, Dorn, and Hanson (2013); Acemoglu et al. (2016); Autor, Dorn, and Hanson (2019). Consistent with this literature, the final dataset includes 392 manufacturing industries, with all import values adjusted to 2007 US dollars using the Personal Consumption Expenditure deflator.

Before applying my replication method for the period starting in 2014, I conducted a comparison of the import penetration variable constructed by Acemoglu et al. (2016) for the period from 1991 to 2011,[7] with my replicated import penetration variable for the same time frame. The comparison is depicted in Figure 3.

[Figure 3 is about here]

From the 3-D figure, it is evident that the blue dots largely overlap with the green dots. This observation indicates that my replicated import penetration variables from China align closely with those constructed in Acemoglu et al. (2016), thus supporting the validity of my replication method. Consequently, it appears feasible to extend the application of this methodology to expand the measure of import penetration from 2014 to 2022.

4 Empirical Design and Results

Upon developing text-based indicators of import competition confronting U.S. enterprises, the subsequent phase of this research entails an empirical examination of how such competition influences various outcomes pertinent to domestic firms. Initially, the analysis will address a prevalent inquiry: does intensified import competition diminish the sales of local businesses? Subsequently, the investigation will assess whether this competitive pressure

[7] Available from https://www.ddorn.net/data.htm.

impacts the profitability of U.S. firms. Further empirical analyses will determine whether domestic enterprises modify their payout policies (including dividends and share repurchases) and their strategies for cash holdings in anticipation of forthcoming competitive challenges. This study also explores two potential adaptive strategies: first, enhancing efforts in innovation and research and development to bolster product competitiveness; and second, refining the product focus towards more specialized offerings to mitigate exposure to import competition.

To support these analyses, I will merge stock market data obtained from the Center for Research in Securities Prices (CRSP) with accounting data from the CRSP-Compustat-Merged (CCM) database. I will also include additional variables relevant to the value of innovation, the competition of the local domestic market, and the breadth of company activities, referencing studies from Kogan, Papanikolaou, Seru, and Stoffman (2017) and Hoberg, Phillips, and Prabhala (2014); Hoberg and Phillips (2022). The subsequent subsection will present the summary statistics for all variables used in this study.

4.1 Summary Statistics

Table 2 presents a comprehensive statistical overview of the variables used in this study, encompassing the years 2014 to 2022.

[Table 2 is about here]

The table outlines key variables, notably the primary explanatory variables "Products Exposed to China/OECD Imports" and "Jaccard Similarity to China/OECD Imports," alongside outcomes of interest such as sales, profitability, payout policy, and product scope. Additionally, it includes control variables like asset tangibility, leverage, and fluidity, among others. The statistics provided include the mean, median, and standard deviation for each variable. Noteworthy observations include the variables related to the exposure of U.S. firms' products to imports from China and OECD countries. Both sets of exposure metrics

show that on average, about 23% to 24% of the firms' product nouns overlap with those in imported goods. The relatively lower Jaccard similarity score around 0.009 to 0.010 suggests that while there is some overlap in the product terms used in company and import descriptions, the overlap is quite minimal overall for each of the US firm compared with the total imported product space.

In addition, the summary includes financial metrics such as sales and profitability margins. The net profit margin and operating profit margins are negative on average, indicating a tough competitive environment or significant costs impacting U.S. firms. Meanwhile, the median values for sales and various profit margins provide a slightly positive glimpse, suggesting that while some firms face difficulties, others manage to achieve profitability.

These statistical insights are critical for understanding the degree to which U.S. firms are exposed to international competition and the broad financial implications of such competition on their operations. This detailed summary helps to frame the competitive landscape that U.S. companies navigate, highlighting the impact of global trade dynamics on local business strategies and financial health.

4.2 Sales and Import Competition

Much of the existing literature has examined the initial effects of import competition on local firms, particularly focusing on changes in sales dynamics. It is hypothesized that an increase in import competition could adversely affect local businesses' sales by allowing foreign competitors to capture market share or exert downward pressure by competing on prices (Lie and Yang (2023)). Therefore, heightened import competition is predicted to lead to reduced sales for domestic companies. To validate this fundamental characteristic of my firm-level import competition metrics, the first test applies the following regression model:

$$\text{Log of Sales}_{i,t} = \beta \cdot \text{Import Competition}_{i,t} + \lambda \cdot \text{Controls}_{i,t} + \delta_i + \theta_t + \chi_{j,t} + \epsilon_{i,j,t} \quad (6)$$

Here, the dependent variable is the logarithm of sales, representing the natural log of annual company-wide sales, which aids in stabilizing variance and normalizing distributions, thus providing a robust basis for statistical analysis. The primary explanatory variables, "Products Exposed to China Imports" and "Jaccard Similarity to China Imports", assess the degree to which domestic products, as described in the 10-K reports of firms, compete directly with similar imported goods from China. The results are detailed in Table 3.

[Table 3 is about here]

The regression analysis indicates a significant negative relationship between the level of product exposure to imports and company sales. Column (1) demonstrates that, without controls, a one-percent increase in the overlap of US domestic manufacturing products with Chinese imports correlates with a one percent decrease in sales. This relationship remains significant when controlling for firm and year fixed effects, addressing concerns related to unobserved heterogeneity where variables that do not vary across companies or over time could bias results. Moreover, unlike the industry-level import penetration measures previously used, the firm-level import variables developed in this study enable control tests for industry-by-year fixed effects, as documented in column (2). After adjusting for unobservable industry-specific trends and yearly economic fluctuations, a one percent increase in product exposure to imports from China is associated with a significant 1.9% reduction in sales. The third specification, shown in column (3), includes industry-level import penetration measures along with other controls like capitalization, tangibility, and Tobin's Q. The results suggest that the firm-level import competition measures capture a significant negative impact on sales, which industry-level measures and other controls do not fully address. Columns (4) to (6) reproduce these tests with the main explanatory variable being the Jaccard similarity between the product dictionary extracted from business descriptions and the import dictionary from China, yielding results consistent with the first three columns but with variations in magnitude.

These findings illustrate the competitive dynamics in markets where imported goods

directly challenge domestic products, potentially seizing market share and driving down the prices of local firms. Furthermore, the presence of imported goods can force domestic firms to reduce prices or increase marketing and innovation expenditures to maintain their market position, potentially negatively impacting their overall sales performance. This detailed analysis of sales data and import competition provides insightful perspectives on the impact of global trade on domestic industries and guides strategic decision making for firms in competitive international markets. Moreover, these precise tests show that textual measures at the firm level of import competition capture certain characteristics not fully addressed by industry-level import penetration measures previously used in the literature. This supports the continued use of these measures to further explore their effects on other outcomes of interest, such as profitability and payout policy.

4.3 Profitability and Import Competition

Upon analyzing the negative impacts of import competition on domestic company sales, the next logical step is to investigate whether this decline in sales leads to decreased profitability. The issue remains debated: does the sales decline due to import competition force local firms to reduce their product prices, thereby diminishing profitability? Extensive empirical research has shown that increased import competition significantly reduces domestic profitability.[8] Conversely, recent studies suggest that increased import competition may encourage firms to improve operational efficiency and address internal agency issues, potentially improving profitability.[9] Given the ongoing debate around import competition and profitability, and the enhanced ability of firm-level measures to capture more characteristics, re-evaluating this relationship using new measures is warranted. The model

[8]See, Pugel (1980) on the US market, Conyon and Machin (1991) on the UK market, Levinsohn (1993) on less-developed markets.

[9]See, Kambhampati and Parikh (2003); Ben Yahmed and Dougherty (2017); Lie and Yang (2023)

is specified as follows:

$$\text{Profitability}_{i,t} = \beta \cdot \text{Import Competition}_{i,t} + \lambda \cdot \text{Controls}_{i,t} + \delta_i + \theta_t + \chi_{j,t} + \epsilon_{i,j,t} \quad (7)$$

Three measures of profitability for U.S. firms are applied, specifically focusing on net profit margin, operating profit margin, and markup. Net profit margin takes into account all aspects of a company's profit, including operating costs, taxes, interest, and other non-operating costs, providing a comprehensive view of its profitability. Operating profit margin provides a measure of the company's operational efficiency without considering the impact of financing decisions (like interest on debts) and tax implications. Markup influences both operating profit and net profit by determining how much revenue exceeds the costs, thus impacting the profitability margins if the marked-up prices are accepted by the market. Each serves a different purpose, but together they help paint a complete picture of the profitability dynamics of a business. This analysis spans 2014 to 2022 and employs a sophisticated regression framework that controls for firm and year fixed effects, thus enabling a more precise understanding of the impact of import competition on firm profitability. The results are presented in Table 4

[Table 4 is about here]

The regression analysis reveals generally negative correlations between firm-level import competition and profitability, although the statistical significance varies across different profitability metrics. Columns (1) and (2) show that a company's net profit margin, a measure of overall profitability, is negatively influenced by import competition pressure from China; however, these results lack statistical significance, despite the consistency in the direction of the effect. Similar observations are noted in columns (3) and (4), where the focus is on the operating profit margin. These findings indicate that a company's operational efficiency, including or excluding other non-operating costs, tends to decline as external import pressure increases. This trend aligns with much of the existing literature,

such as Xu (2012). Interestingly, the positive coefficients for industry-level import penetration among our control variables suggest that considering import competition within a specific industry alone may correlate positively with overall profitability. This could be due to industry consolidation, where higher competition from imports leads to only the most efficient or innovative firms surviving, thereby enhancing the average profitability of remaining firms, or due to market expansion, where industry-level import competition indicates increased market demand, potentially benefiting domestic firms. This apparent contradiction between the adverse impacts at the firm level and the positive impacts at the industry level highlights the complex nature of economic competition and market dynamics. Thus, it is essential to further investigate firm-level exposure to import competition, given the extensive documentation at the industry level in the existing literature. In columns (5) and (6), markup, the difference between the cost of goods or services and their selling price relative to cost, is negatively correlated with the import competition faced. This implies that a company's pricing strategy is directly influenced by the likelihood that similar products are imported from China. The direction of the effect is consistent at both the firm and industry levels, with statistical significance observed only at the firm level, suggesting that firm-level measures may offer more precise insights than industry-level analyses.

4.4 Payout Policy, Cash Holding and Import Competition

Given the prior findings that firm-level measures of import competition significantly impact sales and profitability, it would be insightful to further examine how this heightened competitive environment influences corporate financial strategies, specifically concerning payout policies and cash holdings. As noted by Hoberg, Phillips, and Prabhala (2014), changes in these financial strategies are often direct responses to challenges from potential local product competition, reflected through measures of market fluidity. However, it remains unclear whether these strategic adjustments effectively mitigate the financial

uncertainties driven by increasing import competition. To investigate these hypotheses, the research methodology is outlined as follows:

$$\text{Payout Policy}_{i,t} = \beta \cdot \text{Import Competition}_{i,t} + \lambda \cdot \text{Controls}_{i,t} + \delta_i + \theta_t + \chi_{j,t} + \epsilon_{i,j,t} \quad (8)$$

This analysis, spanning from 2014 to 2022, evaluates three crucial aspects of U.S. firms' financial strategies: cash holding levels, dividend payment probability, and share repurchase activity. Cash holding levels, which reflect the amount of cash and cash equivalents a company maintains, serve as a buffer against financial uncertainties arising from both local (as indicated in Hoberg, Phillips, and Prabhala (2014)) and foreign market competition (will be tested in this paper). The other two metrics primarily assess payout policies, where firms with stable and predictable earnings are more likely to sustain consistent dividend payments or buy back shares. It is hypothesized that increased import competition prompts companies to maintain higher cash reserves while potentially reducing payout activities. A sophisticated regression framework accounting for firm-specific traits and annual fluctuations refines the understanding of import competition's impact on firm financial strategies. Detailed findings are presented in the table Table 5.

[Table 5 is about here]

Columns (1) and (2) indicate that a company's cash holdings are positively correlated with its exposure to imports from China. Specifically, a one percent increase in the proportion of products that overlap with imports from China leads to a 6% increase in the company's cash holdings, while a similar increase in the general similarity of product spaces between a domestic company and the China import universe results in an increase of 8. 7%. This positive relationship suggests that manufacturing firms more exposed to import threats tend to maintain higher cash reserves for flexibility and as a buffer. The results, statistically significant with the control for local product fluidity, affirm that international competition impacts firms' cash holding decisions even after accounting for local prod-

uct market competition. Furthermore, the inclusion of industry-level import penetration controls supports that firm-level import competition measures capture firm-level heterogeneity not addressed by industry-level measures. Regarding the payout policy, column (4) indicates that a one percent increase in the overall similarity between a company's products and those imported from China reduces the likelihood of dividend payouts by 2.5%. This finding is statistically significant, controlled for local market competition and industry-level import penetration. Column (3) provides similar results, but with less statistical significance. Regarding the repurchase of outstanding equity, columns (5) and (6) suggest that the likelihood of repurchase of shares is negatively associated with import competition, although this correlation does not reach statistical significance, hinting that share repurchase could be influenced by other factors beyond import competition, such as tax advantages or other incentives to manage capital structure. Overall, this analysis offers a nuanced understanding of how import competition influences corporate financial strategies, highlighting the strategic adjustments in payout policies and cash holdings that firms employ to navigate global market challenges. The results are consistent with prior literature,[10] enriched by the firm-level measures. This comprehensive insight is vital for guiding corporate decision-making and policy development in an increasingly interconnected economic environment.

4.5 Can Innovation Help Firms Escape Import Competition?

The results of previous analyses show that increased import competition from China reduces sales for domestic companies, prompting adjustments in their cash holdings and payout policies. In addition to these financial strategies, innovation is often regarded as an effective countermeasure against low-cost foreign competition, enabling firms to enhance product quality and distinguish their products from those imported from low-wage countries. Leamer (2007) posits that only firms that have invested in R&D and enhanced

[10] See, Zhou, Booth, and Chang (2013) and Booth, Wang, and Zhou (2019).

product quality can successfully compete against low-cost imports. Moreover, Hombert and Matray (2018) demonstrates that firm performance is less adversely affected by an increase in import competition when there has been substantial prior investment in R&D. However, this claim is based on industry-level import penetration data interacted with firm-level R&D inputs. Although robust tests using Compustat Business Segments data were conducted to create firm-level measures, conducting additional tests with newly constructed import competition measures at the firm level remains worthwhile. The analytical framework for this investigation is detailed below, which introduces a regression model that explores the interaction between a firm's innovation activities, its exposure to import competition and sales results.

$$\begin{aligned} \text{Sales or Profitability}_{i,t} = \beta \cdot \text{Import Competition}_{i,t} \times \text{Innovation}_{i,t} \\ + \mu \cdot \text{Import Competition}_{i,t} + \omega \cdot \text{Innovation}_{i,t} \\ + \lambda \cdot \text{Controls}_{i,t} + \delta_i + \theta_t + \epsilon_{i,s,r} \end{aligned} \tag{9}$$

The analytical model incorporates interaction terms between "Products Exposed to China Imports" and two innovation metrics. The first is R&D expenditure, reflecting the company's commitment to innovation. The second metric, the number of patent citations,[11] serves as an indicator of the industry's valuation of company innovations. In addition to these interaction terms, which are the main explanatory variables, the model controls industry-level import penetration and other observable factors such as the Log of Assets, Tangibility, Tobin's Q, Capex, Leverage, and Log of Age. The model also accounts for firm- and year-fixed effects to address unobservable time-variant heteroscedasticity. The results are presented in Table 6.

[Table 6 is about here]

[11] Citation data sourced from https://github.com/KPSS2017/Technological-Innovation-Resource-Allocation-and-Growth-Extended-Data as discussed in Kogan et al. (2017).

Empirical results from Table 6 reveal a complex relationship between innovation, import competition, and sales, as well as profitability. Notably, in column (1), the interaction terms involving R&D expenditure show significant positive coefficients, suggesting that firms with higher investments in research and development are better equipped to counteract import competition and boost sales. Specifically, firms experiencing the same level of import competition from China see approximately 3% less reduction in local sales for each 1% increase in R&D expenditure compared to their peers. Using patent citations as a proxy for innovation value, column (2) demonstrates similar significance, indicating that companies filing patents with higher application values, as evidenced by more citations, exhibit stronger sales resilience against Chinese import competition. This evidence supports the notion that innovation acts as a shield for local companies against foreign competition. However, the impact on profitability is more nuanced: while improved product quality may sustain sales, the increased costs associated with innovation activities could diminish profitability. The findings confirm this expectation: column (5) illustrates that higher R&D spending significantly enhances operating profit margins in the face of import competition, offsetting the increased costs of innovation. Meanwhile, columns (3) and (4) show that while the effect on overall profit levels remains positive, it is not statistically significant. Lastly, columns (7) and (8) suggest that innovative behavior strengthens pricing power, although this is not statistically significant. Overall, the findings align with those of Hombert and Matray (2018), suggesting that R&D activities may foster product innovations or enhancements that provide competitive advantages over imported goods, which could lead to superior market performance. The insights of Table 6 offer valuable perspectives on the strategic role of innovation in overcoming the challenges posed by import competition. The findings highlight the critical importance of focused and effective R&D activities that enhance product competitiveness and appeal, potentially leading to improved sales outcomes amid global market pressures.

4.6 How Firms Respond to Import Competition, by Re-scoping?

In an environment of increasing import competition, firms must dynamically adjust their strategic approaches to preserve their competitive edge. A critical aspect of this strategic adaptation is the adjustment of the product scope. As Grullon, Larkin, and Michaely (2019) highlights, over the past two decades, more than 75% of US industries have experienced increased concentration levels. Similarly, Hoberg and Phillips (2022) notes that, over the past three decades, US companies have expanded their operational scope. These observations raise questions about the strategic responses of US firms to increasing import competition. Do they broaden their product scope to mitigate risks associated with specific products vulnerable to imports, or do they focus more narrowly on products where they have competitive advantages, thus enhancing efficiency? This question extends beyond the realm of increased innovation, as innovation may involve improving product quality to emphasize vertical differentiation, or diversifying into new sectors to launch additional product lines. To examine these issues more closely, the research methodology is structured as follows to examine the relationship between company product scope and import competition measures:

$$\text{Scope}_{i,t} = \beta \cdot \text{Import Competition}_{i,t-1} + \lambda \cdot \text{Controls}_{i,t} + \delta_i + \theta_t + \epsilon_{i,s,r} \tag{10}$$

The dependent variable is the firm's scope, as measured by Hoberg and Phillips (2022) in the current year, which reflects the number of industries to which each firm likely belongs. To analyze potential adjustments in company scope, the primary explanatory variables include firm-level textual measures of import competition from China from the previous year, such as "Jaccard Similarity to China Imports" and "Products Exposed to China Imports". This analysis focuses on lagged effects to capture how firms respond and adapt their product lines to the increasing import competition. Although using a firm-level measure of import competition is more appropriate for explaining adjustments in

firm-level scope, industry-level import penetration measures are also considered as control to demonstrate that the observed relationships extend beyond mere industry or sector exposure. The results are presented in Table 7.

[Table 7 is about here]

Empirical results from Table 7 show that increased import competition from China in the previous year is significantly correlated with changes in US domestic firms' product scopes in the current year. Column (1) reveals that for a specific US company, a one percent increase in Jaccard similarity between its product space and imported goods from China leads to a 7% reduction in product scope in the following year. This finding is statistically significant under industry-year fixed effects, indicating that the relationship is not driven by unobserved industry-specific trends or annual economic fluctuations. Consistent findings in Column (2), under firm and year fixed effects with all observable controls including industry-level import penetration, demonstrate that a one percent increase in similarity with imported goods results in a 1.4% decrease in product scope. Although the magnitude is reduced compared to Column (1), the significance remains. The industry-level import penetration similarly shows a negative relationship, suggesting that exposure to imported goods at both the industry and firm levels prompts companies to narrow their product scope, concentrating on core or most competitive products. Interestingly, the findings also suggest that US firms adopt different strategies in response to competition from local and international markets. As shown in Column (2), while import competition is negatively related to the scope of the company, the fluidity of the local product market, indicative of the threat of competition from local markets, is positively correlated with the scope. This implies that US firms might expand their scope or sectors to contend with increasing local competition but reduce their scope and focus on product differentiation when competing against imports from low-wage countries like China. This might reflect a strategic shift towards climbing the quality ladder and focusing on more advanced markets, supporting theories of global allocation and outsourcing. More research is needed to explore whether

enhanced import competition prompts US companies to pursue vertical differentiation, necessitating the development of measures for vertical product differentiation.

5 Conclusion

This paper has endeavored to enhance the understanding of import competition dynamics that U.S. domestic companies face by introducing a novel, firm-level metric derived from textual analysis. This metric effectively links the product descriptions in U.S. firms' 10-K filings to descriptions of imported goods, providing a nuanced and dynamic measure of import competition. Our findings reveal that increased competition from imports correlates with reductions in sales and profitability for U.S. firms, prompting strategic adaptations such as increasing cash reserves and adjusting payout policies. These adjustments highlight the importance of flexibility and innovation in maintaining competitiveness in a globally integrated market. Furthermore, the application of this metric underscores the potential for future research to further dissect the impacts of global trade dynamics at a more granular, firm-specific level, moving beyond traditional industry-wide analyses that may obscure individual firm experiences and responses.

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6 Tables and Figures

Figure 1: Summary of top products imported from China

The figure below presents a word cloud that reflects the frequency of product terms found in the bills of lading related to US imports from China. The magnitude of a specific word signifies its recurrence in the entire content. Two sets of word dictionaries are offered: one for the universe of imported products in 2014, and the other for the same in 2022.

Year 2014, Summary of top 200 products

Year 2022, Summary of top 200 products

Figure 2: Product-universe similarities among US local market, imports from China, and imports from OECD

Figure below shows the pairwise product-universe similarities among the imported goods universes between China and OECD countries and the local products of US domestic companies. The year period is 2014 to 2022.

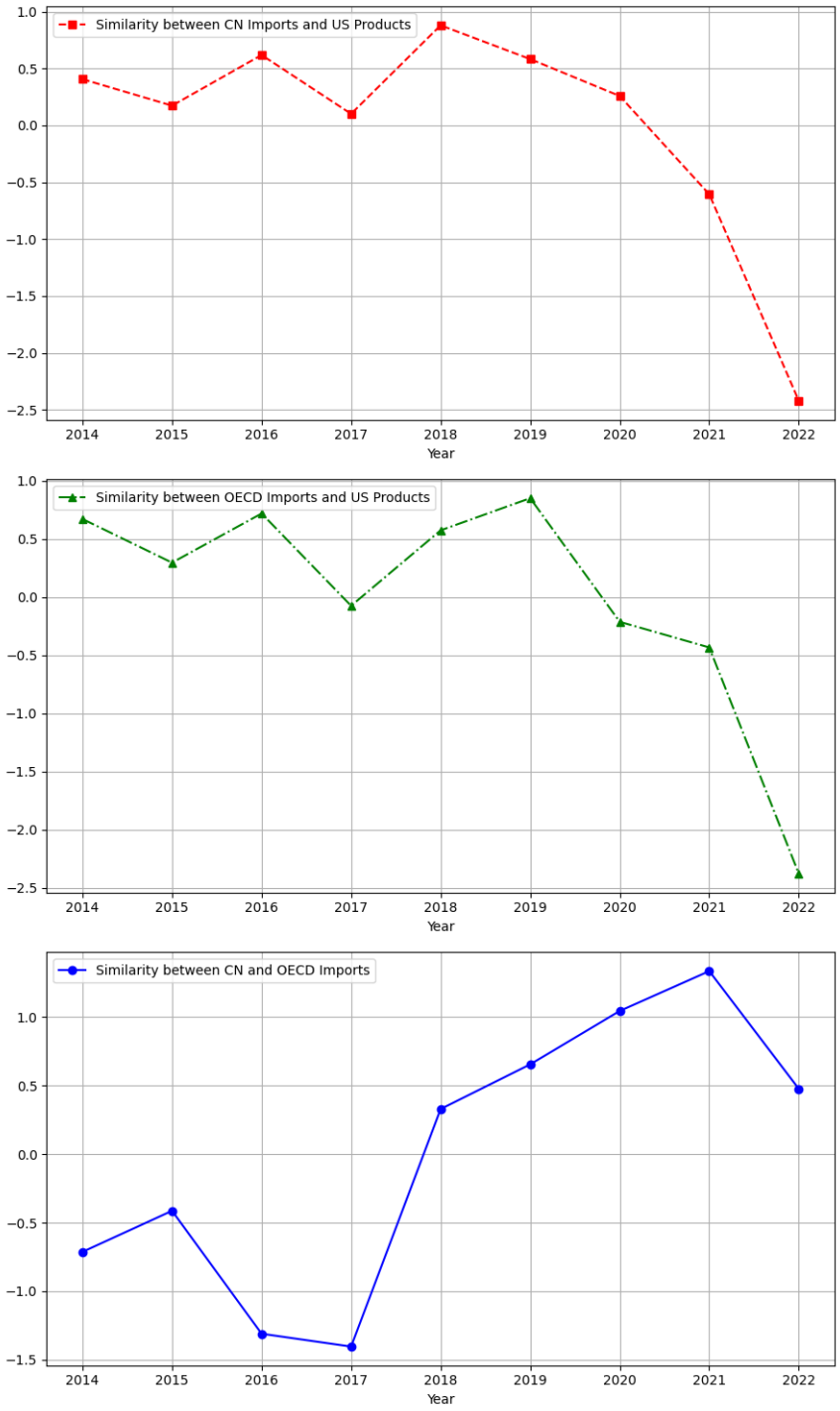

Figure 3: Replication of the industry-level import penetration

The figure below illustrates the comparison between two constructions of industry-level import penetration from China. The first method, represented with blue dots, was developed and utilized by the authors in Acemoglu et al. (2016).[12] The second method, shown with green dots, represents my replication based on prior literature. This comparison is presented in a 3-D figure, where the x-axis corresponds to the SIC code, the y-axis to the year, and the z-axis to the import penetration values.

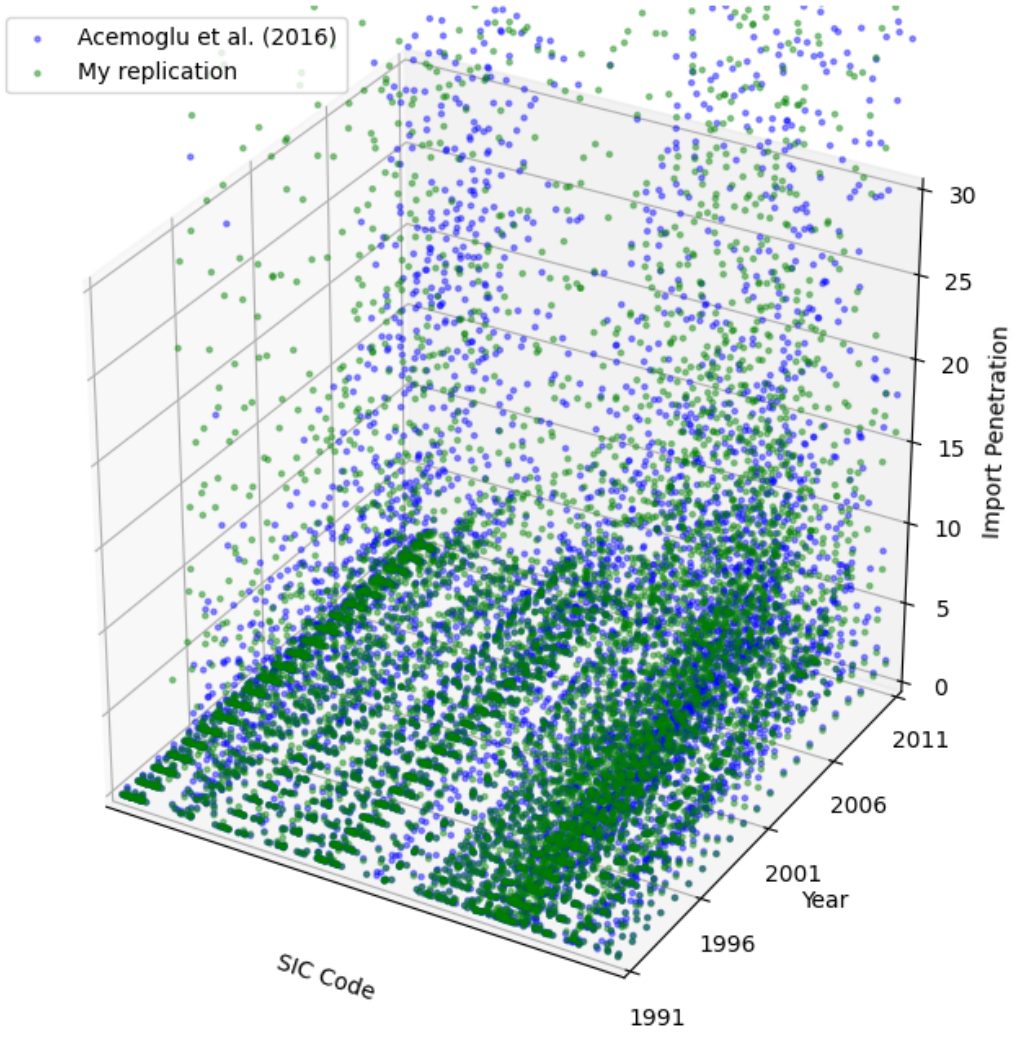

Table 1: Sample of description & extraction

The subsequent table delineates a representative selection of the extraction outcomes derived from the manifest description in the bill of lading. The left column encapsulates the initial unstructured textual information sourced from the 'Product Description' within the bill of lading as it appears in the shipping transaction. The right column incorporates the words extracted by the program from the aforementioned left text.

manifest_desc	**manifest_desc_extract**
LUBE OIL SAMPLES VALUE $6,MADE IN USA,TO BE OFFLOADED AND NTROB,CF:3461,PO#HQ703974S-PA.	lube oil samples
1X40FT FCL FROZEN LAMB LAMB SHOULDER BRT 85CL YM IW NET WEIGHT 8198.640 KGS GROSS WEIGHT 8590.515 KGS	frozen lamb shoulder brt 85cl
40" DRY CARGO 19 PALLETS, 1260/ 1350 KG NET/ GROSS OFMATERIALPRIME SYNTHETIC POLYISOPRENE RUBBER,SKI-3 GROUP 2, 798 BALES PER CONTAINE RHARMONIZED CODE: 4002.60.00.00P.O.16946NET: 23 940 KGSBRUTTO:25 650 KGS	synthetic polyisoprene rubber
1 X 20'ST CONTAINER TOTAL 383 CARTONS ONLY TOTAL THREE HUNDRED EIGHTY THREE CARTONS ONLY CONTAINING GLASS ARTWARES HANDICRAFTS PO KS.2654 DT 16.09.2015 HS CODE :9405.50.4000 SB NO.5809535 DT.11.02.2016	glass artwares handicrafts
3RD NOTIFY PARTY : DAMCO DIS TRIBUTION SERVICES INC. 5011 EAST FIRESTONE PLACE : SOUT H GATE, CA 90280 USA FOR E SCALATIONS: 323-568-2526 THE SHIPMENT IS CONSISTENT WITH THE LAST NEGOTIATED PURCHASE	null
BOOKS PACKED ON 2 PALLET BOOKS H.S. CODE 490199	books
HARD DRIVE, MADE IN MALAYSIA, VALUE $600, CF 3461, 4 PCS IN 1 BOX	hard drive
SHIPPER'S LOAD COUNT: 1X40'HC TIRES SCAC SABC THIS MASTER BILL COVERS ONE AUTOMATED NVOCC H BILL: SABC109707H01448 CMA S/C 18-1888 APP-2 BULLET AUTO PART	tires
S/O TANKCONTAINER BEING PRODUCT UN 2922, CORROSIVE LIQUID, TOXIC, N.O.S. CONTAINS SODIUM HYDROSULFIDE,CLASS 8 6.1,PG II,FLP 62C,MARINE POLLUTANT,EMS F-A,S-B GROSS WEIGHT 25980 KGS	sodium hydrosulfide
ENGINEERED QUARTZ STONE SLABS ENGINEERED QUARTZ STONE SLABS N/A EBUY DEVELOPMENT LTD. HS CODE 68029990 @TEL 0755-82173379 FAX 0755-82172131	engineered quartz stone slabs
CEILING FAN PO#163070167,1630 70168,1630701 69 THIS SHIPME NT DOES NOT CONTAIN SOLID WOO D PACKING MATERIAL. THE SHIP MENT PRODUCTS COMPLY WITH TSC A TITLE VI. M.V.VESSEL: MAER SK STADELHORN 215E	ceiling fan
PARTS AND ACCESSORIES OF THE MOTOR VEHICLES O F HEA - AUTO SPARE PARTS	auto spare parts
LEAD ACID ACCUMULATORS	lead acid accumulators
550 BAGS CLEAN COLOMBIAN COF FEE COLOMBIAN EXCELSO EP 201 5/2016 CROP GREEN COFFEE B EANS BASC CERTIFIED SHIPPE D ON BOARD INSURANCE BY ACCOU NT OF THE BUYERS FREIGHT TO BE CREDITED TO SC 820895 FNC	colombian coffee beans
PURIFIED TEREPHTHALIC ACID - PTA (ACIDO TEREFTALICO PURIFICADO - PTA)	purified terephthalic acid - pta
WINE 21 SLIP SHEET WITH 20 CASES OF WINE WITH 06 BOTTLES 750 ML. EACH ONE 1550 CASES OF WINE WITH 12 BOTTLES 750 ML. EACH ONE BAJO CUBIERTA, LINEA DE FLOTACION	wine
KITCHEN FURNITURE AND EQUIPMENT AS PER INVOICE HS CODE 34025090, 39211100 39249000, 39259010 39263000, 39269097	kitchen furniture and equipment
SHIPPERS LOAD,STOW,COUNT AND SEALED 13 BE-BUNDLE CONTENIENDO ARENA SILICA RECUBIERTA NCM:38249099 CARGA CONSOLIDADA	arena silica recubierta
SWITCHING POWER SUPPLY SINE WAVE INVERTER SWITCHING BATTERY CHARGER PCB REMOTE CON-TROL BATTERY BACKUP MODULE	switching power supply sine wave inverter
2 X 40' HC CONTAINER TOTAL 54 JUMBO BAGS ONLY TOTAL FIFTY FOUR JUMBO BAGS ONLY GUAR GUM TREATED AND PULVERISED PACKI NG: 903 KGS PACKED IN EACH JUM BO BAGS PALLETIZED, WRAPPED A ND STRAPPED S.B.NO. # 8144941	guar gum treated and pulverised
44 PALLETS (FORTY FOUR PAL LETS ONLY) POLYEST ER FLOCK FIBER FLOCK/FLOCK FIBRE/1 .5/5/FLOCK HS CODE: 5601 3 0 00 BARNET PO : XX2104271 1 0 DAYS FREE TIME FOR LIN E CONTAINER DETENTIO N AT T HE PORT OF DESTINATION = T HANE BELAPU R ROAD, GHANSOL I,NAVI MUMBAI -400701, MAH AR ASHTRA INDIA FREIGHT:PRE PAID S/BILL NO. 2215	polyester flock fiber
6X CONTAINERS PURE VIRGIN KRAFT EXTENSIBLE FOR THE PRODUCTION OF MULTI LAYER SACKS FOR THE PACKING OF CEMENT GIBBS-WHITE COLOR HS CODE- 4804.29 FREIGHT PREPAID - DTHC COLLECT	pure virgin kraft extensible
3100 3400 3525MM L W H PER PIECE 2570 HUB M ACHINING FOR WIND TURBINE EQUIPMENTS RC NO 6 50048205 2000 PO NO 650048205 OCEAN ID 2005 37214	hub machining for wind turbine equipments
STC 540 CARTON(S) LAWN MOWERN-A DAS DISTRIBU ORSCS#11210024182S-C 274831FREIGHT COLLECT STC 540 CARTON(S) LAWN MOWERN-A DAS DISTRIBU ORSCS#11210024182S-C 274831FREIGHT COLLECT STC 540 CARTON(S) LAWN MOWERN-A DAS DISTRIBU ORSCS#11210024182S-C 274831FREIGHT COLLECT STC 540 CARTON(S) LAWN MOWERN-A DAS DISTRIBU	lawn mower

Table 2: Summary statistics

This table offers a comprehensive statistical overview of the variables utilized in this study. It encompasses key variables, notably the primary explanatory variables "Products Exposed to China/OECD Imports" and "Jaccard Similarity to China/OECD Imports", and outcomes of interest such as sales, profitability, payout policy, and product scope. It also incorporates control variables such as asset, tangibility, leverage, fluidity, etc. The statistics include the mean, median, and standard deviation for each variable, in addition to the total number of observations. For an in-depth understanding of the construction of these variables, see Table A1. The data spans from 2014 to 2022.

Variables	N	Mean	Median	std. dev
Products Exposed to China Imports	11,704	0.235	0.225	0.079
Products Exposed to OECD Imports	11,704	0.244	0.235	0.078
Jaccard Similarity to China Imports	11,704	0.009	0.009	0.005
Jaccard Similarity to OECD Imports	11,704	0.010	0.009	0.005
Import Penetration from China	11,399	12.365	5.203	15.168
Log of Sales	11,704	5.458	5.956	2.942
Net Profit Margin	10,837	-1.595	0.024	4.621
Operating Profit Margin	10,834	-1.398	0.099	4.317
Markup	11,704	0.865	1.049	0.451
Cash Holding	11,704	0.322	0.196	0.305
Dividend Payer	11,704	0.656	1.000	0.475
Equity Repurchaser	11,704	0.539	1.000	0.499
Scope	10,739	10.763	10.000	6.869
Log of Assets	11,704	6.316	6.250	2.223
Tangibility	11,702	0.171	0.126	0.160
Tobin's Q	11,704	2.688	1.895	3.006
Capex	11,698	0.029	0.021	0.034
Leverage	11,663	0.246	0.205	0.275
Log of Age	6,622	2.402	2.773	0.968
Local Product Fluidity	10,676	6.587	5.178	4.347
TNIC HHI	9,905	0.340	0.224	0.301
R&D	9,909	0.165	0.063	0.317
Citation	11,704	1.118	0.000	1.915

Table 3: Sales and Import Competition

This table shows the regression investigating the impact of exposure to import competition on a company's sales. The dependent variable, denoted as **Log of Sales**, is computed as the natural logarithm of the aggregate sales per company annually. The model incorporates four explanatory variables. The variable **Products Exposed to China Imports** quantifies the ratio of terms in the 10-K business description that also appear in the imported goods domain from either China. **Jaccard Similarity to China Imports** variable gauges the Jaccard similarity between the product space of each company annually and the imported product space from China. Columns (1), (3), (5), (7) exclude control variables, while Columns (2), (4), (6), (8) incorporate control variables, including Log of Assets, Tangibility, Tobin's Q, Capex, Leverage, and Log of Age. The regressions encompass firm and year fixed effects, and the standard errors are clustered at the firm level. Cluster-adjusted t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Products Exposed to China Imports	-1.0042***	-1.9774***	-1.0019***			
	(-5.24)	(-4.74)	(-3.46)			
Jaccard Similarity to China Imports				-11.1787***	-18.4603***	-10.5381***
				(-4.39)	(-3.85)	(-3.01)
Import Penetration from China			0.0022			0.0025
			(0.94)			(1.05)
Log of Assets			0.7013***			0.7012***
			(31.23)			(31.21)
Tangibility			0.8199***			0.8258***
			(4.90)			(4.93)
Tobin's Q			0.0073*			0.0072*
			(1.81)			(1.80)
Capex			0.0633			0.0513
			(0.15)			(0.13)
Leverage			0.4204***			0.4178***
			(9.25)			(9.19)
Log of Age			0.3954***			0.4117***
			(11.23)			(11.71)
Industry-Year FEs	✗	✓	✗	✗	✓	✗
Firm FE	✓	✗	✓	✓	✗	✓
Year FE	✓	✗	✓	✓	✗	✓
Obs.	11,702	11,407	6,427	11,702	11,407	6,427
Adj. R^2	0.95	0.43	0.94	0.95	0.43	0.94

Table 4: Profitability and Import Competition

This table shows the regression investigating the impact of exposure to import competition on a company's profitability. The outcome of interests are **Net Profit Margin**, **Operating Profit Margin** and **Markup**. The model incorporates four explanatory variables. The variable **Products Exposed to China Imports** quantifies the ratio of terms in the 10-K business description that also appear in the imported goods domain from either China. **Jaccard Similarity to China Imports** variable gauges the Jaccard similarity between the product space of each company annually and the imported product space from China. The control variables are Log of Assets, Tangibility, Tobin's Q, Capex, Leverage, and Log of Age. The regressions encompass firm and year fixed effects, and the standard errors are clustered at the firm level. Cluster-adjusted t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Net Profit Margin		Operating Profit Margin		Markup	
	(1)	(2)	(3)	(4)	(5)	(6)
Products Exposed to China Imports	-0.6227		-0.5676		-0.1394*	
	(-0.51)		(-0.50)		(-1.79)	
Jaccard Similarity to China Imports		-9.8969		-4.8632		-0.4820
		(-0.65)		(-0.34)		(-0.51)
Import Penetration from China	0.0054	0.0055	0.0048	0.0050	-0.0002	-0.0002
	(0.54)	(0.56)	(0.53)	(0.54)	(-0.35)	(-0.30)
Log of Assets	0.6378***	0.6361***	0.6029***	0.6022***	0.0795***	0.0797***
	(6.19)	(6.17)	(6.35)	(6.34)	(13.19)	(13.21)
Tangibility	1.4403*	1.4432*	1.3074*	1.3127*	-0.0952**	-0.0935**
	(1.94)	(1.94)	(1.91)	(1.92)	(-2.12)	(-2.08)
Tobin's Q	-0.0610***	-0.0612***	-0.0445**	-0.0447**	0.0025**	0.0025**
	(-2.92)	(-2.93)	(-2.31)	(-2.32)	(2.29)	(2.28)
Capex	-4.5905***	-4.6065***	-5.2698***	-5.2777***	0.0938	0.0939
	(-2.61)	(-2.62)	(-3.26)	(-3.26)	(0.86)	(0.86)
Leverage	0.4843**	0.4798**	0.6520***	0.6501***	0.0227*	0.0227*
	(2.35)	(2.33)	(3.44)	(3.43)	(1.86)	(1.86)
Log of Age	0.4937***	0.5049***	0.4267***	0.4347***	0.0362***	0.0379***
	(2.91)	(2.98)	(2.73)	(2.79)	(3.83)	(4.01)
Firm FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Obs.	5,892	5,892	5,891	5,891	6,427	6,427
Adj. R^2	0.68	0.68	0.69	0.69	0.85	0.85

Table 5: Cash Holding, Payout Policy and Import Competition

This table presents a regression analysis examining the influence of import competition exposure on a firm's payout strategy and cash reserves. The dependent variables comprise **Cash Holding**, defined as the ratio of cash or equivalent to assets; **Dividend Payer**, a binary variable set to one if the firm declared dividends this year, and zero otherwise; and **Equity Repurchaser**, another binary variable set to one if the firm repurchased its own shares this year, and zero otherwise. There are four explanatory variables. The variable **Products Exposed to China Imports** quantifies the ratio of terms in the 10-K business description that also appear in the imported goods domain from either China. **Jaccard Similarity to China Imports** variable gauges the Jaccard similarity between the product space of each company annually and the imported product space from China. Following Hoberg, Phillips, and Prabhala (2014), the control variables are Local Product Fludity, TNIC HHI, Log of Assets, Capex, and R&D. The regressions encompass firm and year fixed effects, and the standard errors are clustered at the firm level. Cluster-adjusted t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Cash Holding		Dividend Payer		Equity Repurchaser	
	(1)	(2)	(3)	(4)	(5)	(6)
Products Exposed to China Imports	0.0641*		-0.0259		-0.0156	
	(1.71)		(-0.45)		(-0.13)	
Jaccard Similarity to China Imports		0.8669*		-2.5039***		-0.9515
		(1.69)		(-3.21)		(-0.60)
Import Penetration from China	0.0001	0.0001	-0.0001	-0.0000	0.0008	0.0008
	(0.45)	(0.37)	(-0.15)	(-0.10)	(0.84)	(0.85)
Local Product Fluidity	0.0038***	0.0040***	0.0001	-0.0004	0.0015	0.0013
	(5.78)	(6.09)	(0.08)	(-0.37)	(0.71)	(0.62)
TNIC HHI	-0.0112	-0.0121	-0.0468***	-0.0448***	0.0456	0.0464*
	(-1.24)	(-1.34)	(-3.41)	(-3.27)	(1.62)	(1.65)
Log of Assets	-0.0053	-0.0053	-0.0021	-0.0026	0.0328***	0.0326***
	(-1.52)	(-1.51)	(-0.39)	(-0.49)	(3.00)	(2.98)
Capex	-0.6100***	-0.6067***	-0.1836**	-0.1932**	0.1259	0.1222
	(-11.64)	(-11.57)	(-2.30)	(-2.42)	(0.77)	(0.75)
R&D	-0.0832***	-0.0831***	0.0046	0.0042	-0.0483*	-0.0485*
	(-8.93)	(-8.92)	(0.33)	(0.29)	(-1.66)	(-1.67)
Firm FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Obs.	8,091	8,091	8,091	8,091	8,091	8,091
Adj. R^2	0.88	0.88	0.90	0.90	0.61	0.61

Table 6: Import Competition, Innovation and Sales

This table presents the linear regression analysis based on a firm-year panel. The first dependent variable, referred to as **Log of Sales**, is calculated as the natural logarithm of the total annual sales per company. The other three outcomes of interests are **Net Profit Margin**, **Operating Profit Margin** and **Markup**. Explanatory variables consist of the interaction between **Products Exposed to China Imports**, which measures the proportion of terms in the 10-K business description that also exist in the domain of goods imported from China, and indicators of innovation effort such as **R&D** capital adjusted by asset as per Hombert and Matray (2018), along with **Citation** of the patents as per Kogan et al. (2017). The control variables include Log of Assets, Tangibility, Tobin's Q, Capex, Leverage, and Log of Age. The regressions encompass firm and year fixed effects, and the standard errors are clustered at the firm level.Cluster-adjusted t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Log of Sales		Net Profit Margin		Operating Profit Margin		Markup	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Products Exposed to China Imports * R&D	3.0359***		3.2398		5.8878*		0.0406	
	(4.25)		(0.87)		(1.72)		(0.21)	
Products Exposed to China Imports * Citation		0.1768**		0.1836		0.2981		0.0380
		(2.00)		(0.49)		(0.86)		(1.60)
Products Exposed to China Imports	-0.1951	-0.7434**	-0.1429	-0.3767	0.2377	-0.1317	-0.0357	-0.0806
	(-0.56)	(-2.34)	(-0.10)	(-0.28)	(0.17)	(-0.11)	(-0.39)	(-0.94)
R&D	-1.8920***		-4.9505**		-6.6007***		-0.0884	
	(-4.00)		(-1.98)		(-2.87)		(-0.70)	
Citation		-0.1219*		-0.0853		-0.1913		-0.0320*
		(-1.82)		(-0.30)		(-0.73)		(-1.78)
Import Penetration from China	0.0015	0.0017	0.0065	0.0048	0.0048	0.0040	-0.0003	-0.0003
	(0.56)	(0.73)	(0.58)	(0.49)	(0.47)	(0.44)	(-0.45)	(-0.50)
Log of Assets	0.7063***	0.7009***	0.3611***	0.6371***	0.3467***	0.6020***	0.0705***	0.0796***
	(27.04)	(31.22)	(2.95)	(6.18)	(3.07)	(6.34)	(10.11)	(13.21)
Tangibility	0.9217***	0.8185***	1.9165**	1.4390*	1.8122**	1.3048*	-0.0819	-0.0954**
	(4.84)	(4.89)	(2.20)	(1.94)	(2.26)	(1.91)	(-1.61)	(-2.12)
Tobin's Q	0.0044	0.0079*	-0.0057	-0.0599***	0.0095	-0.0430**	0.0034***	0.0026**
	(1.00)	(1.96)	(-0.24)	(-2.85)	(0.43)	(-2.23)	(2.94)	(2.39)
Capex	-0.5628	0.0624	-5.0623**	-4.5784***	-5.8111***	-5.2703***	0.0179	0.0921
	(-1.18)	(0.15)	(-2.41)	(-2.61)	(-3.01)	(-3.26)	(0.14)	(0.84)
Leverage	0.4142***	0.4210***	0.8186***	0.4865**	0.9707***	0.6531***	0.0221*	0.0227*
	(8.39)	(9.27)	(3.57)	(2.36)	(4.59)	(3.45)	(1.68)	(1.86)
Log of Age	0.3670***	0.3896***	0.7129***	0.4624***	0.6053***	0.4066**	0.0460***	0.0386***
	(9.41)	(10.87)	(3.72)	(2.70)	(3.43)	(2.57)	(4.41)	(4.01)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Obs.	5,653	6,427	5,121	5,892	5,121	5,891	5,653	6,427
Adj. R^2	0.94	0.94	0.68	0.68	0.69	0.69	0.85	0.85

Table 7: Firm Scope and Import Competition

This table presents the linear regression analysis based on a firm-year panel, testing whether firms would adjust their scope of products as a reaction to the import competition they are facing. The dependent variable is company **Scope** from Hoberg and Phillips (2022), which indicates the degree of product market scope for the given firm in the given year. And the four explanatory variables are **Products Exposed to China Imports** quantifies the ratio of terms in the 10-K business description that also appear in the imported goods domain from either China; **Jaccard Similarity to China Imports** variable gauges the Jaccard similarity between the product space of each company annually and the imported product space from China. All the explanatory variables are one year before the dependent variables. The control variables are Local Product Fludity, TNIC HHI, Assets, Capex, and R&D. The regressions encompass either industry-by-year fixed effects (columns (1) and (3)), and firm and year fixed effects (columns (2) and (4)), and the standard errors are clustered at the firm level.Cluster-adjusted t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
L.Jaccard Similarity to China Imports	-699.5245***	-145.3845***		
	(-48.17)	(-8.67)		
L.Products Exposed to China Imports			-0.6039	-1.8564
			(-0.43)	(-1.61)
Import Penetration from China		0.0076		0.0074
		(0.85)		(0.82)
Local Product Fluidity		0.2162***		0.2200***
		(11.23)		(11.32)
TNIC HHI		-2.3320***		-2.3858***
		(-8.66)		(-8.79)
Log of Assets		0.9605***		0.9914***
		(8.02)		(8.22)
Capex		-0.1452		0.4669
		(-0.08)		(0.26)
R&D		1.3544***		1.3900***
		(4.24)		(4.32)
Industry-Year FEs	✓	✗	✓	✗
Firm FE	✗	✓	✗	✓
Year FE	✗	✓	✗	✓
Obs.	8,006	6,163	8,006	6,163
Adj. R^2	0.36	0.87	0.15	0.87

Appendix A. Appendix

Table A1: Variable definitions

Firm-level Import Competition Variables	
Products Exposed to China Imports$_{i,t}$	For company i at year t, the measure equals $\frac{\lvert\text{Products}_{i,t} \cap \text{Imported Products}_{China,t}\rvert}{\lvert\text{Products}_{i,t}\rvert}$
Products Exposed to OECD Imports$_{i,t}$	For company i at year t, the measure equals $\frac{\lvert\text{Products}_{i,t} \cap \text{Imported Products}_{OECD,t}\rvert}{\lvert\text{Products}_{i,t}\rvert}$
Jaccard Similarity to China Imports$_{i,t}$	For company i at year t, the measure equals $\frac{\lvert\text{Products}_{i,t} \cap \text{Imported Products}_{China,t}\rvert}{\lvert\text{Products}_{i,t} \cup \text{Imported Products}_{China,t}\rvert}$
Jaccard Similarity to OECD Imports$_{i,t}$	For company i at year t, the measure equals $\frac{\lvert\text{Products}_{i,t} \cap \text{Imported Products}_{OECD,t}\rvert}{\lvert\text{Products}_{i,t} \cup \text{Imported Products}_{OECD,t}\rvert}$
Industry-level Import Competition Variables	
Import Penetration from China$_{j,t}$	For company i classified as industry j at year t, the measure is equal to $\frac{M^{UC}_{jt}}{Y_{j,91}+M_{j,91}-E_{j,91}}$
Firm Performance Variables	
Log of Sales	Natural logarithm of firm sales [COMPUSTAT: SALE]
Net Profit Margin	Net income scaled by firm sales [COMPUSTAT: NI/SALE]
Operating Profit Margin	Operating income before depreciation scaled by firm sales [COMPUSTAT: OIDBP/SALE]
Return on Asset	Net Income divided by total assets [COMPUSTAT: NI / AT]
Markup	Sales over sales minus operating income after depreciation [COMPUSTAT: SALE/(SALE-OIADP)]
Dividend Payer	Dummy equals to one if company i paid dividend at year t [COMPUSTAT: DVPSX_F > 0]
Equity Repurchaser	Dummy equals to one if company i repurchased shares at year t [COMPUSTAT: (PRSTKC-PSTKRV) > 0]
Cash Holding	Cash and equals scaled by asset [COMPUSTAT: CHE/AT]
R&D	Research and development expenses divided by total assets [COMPUSTAT: XRD/AT]
Citation	Patent citation numbers as in Kogan et al. (2017)
Scope	Firm scope measures as in Hoberg and Phillips (2022)
Control variables	
Market Cap	Total market capitalization [COMPUSTAT: CSHO×PRCC_F]
Log of Assets	Natural log of (1 + Firm's total asset [COMPUSTAT: AT])
Leverage	Firm's total debt divided by total assets [COMPUSTAT: (DLTT + DLC)/AT]
Tangibility	Property, plant, and equipment scaled by asset [COMPUSTAT: PPENT/AT]
CAPEX	Capital expenditures divided by total assets [COMPUSTAT: CAPEX/AT]
Tobin's Q	Sum of total assets plus market value of equity minus book value of equity divided by total assets [COMPUSTAT: (AT+CSHO× PRCC_F - CEQ) / AT)]
Age	Year of firm operates until year t
Local Product Fluidity	Product market fluidity as in Hoberg, Phillips, and Prabhala (2014)
TNIC HHI	Market concentration measure as in Hoberg, Phillips, and Prabhala (2014)

Table A2: Cash Holding and Import Competition, without Fluidity control

This table presents a regression analysis examining the influence of import competition exposure on a firm's payout strategy and cash reserves. The dependent variables comprise **Cash Holding**, defined as the ratio of cash or equivalent to assets. There are four explanatory variables. The variable **Products Exposed to China/OECD Imports** quantifies the ratio of terms in the 10-K business description that also appear in the imported goods domain from either China/OECD. **Jaccard Similarity to China/OECD Imports** variable gauges the Jaccard similarity between the product space of each company annually and the imported product space from China/OECD. Following Hoberg, Phillips, and Prabhala (2014), the control variables are TNIC HHI, Log of Assets, Capex, and R&D. The regressions encompass firm and year fixed effects, and the standard errors are clustered at the firm level. Cluster-adjusted t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Cash Holding	
	(1)	(2)
Products Exposed to China Imports	0.0821**	
	(2.20)	
Jaccard Similarity to China Imports		0.4866
		(0.96)
Import Penetration from China	0.0002	0.0001
	(0.47)	(0.38)
TNIC HHI	-0.0152*	-0.0161*
	(-1.70)	(-1.80)
Log of Assets	-0.0048	-0.0049
	(-1.36)	(-1.39)
Capex	-0.6008***	-0.5985***
	(-11.46)	(-11.40)
R&D	-0.0829***	-0.0829***
	(-8.89)	(-8.89)
Firm FE	✓	✓
Year FE	✓	✓
Obs.	8,118	8,118
Adj. R^2	0.88	0.88