

Quantifying GATT Trade Liberalization

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1 Introduction

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2 Literature

- There is a large qualitative literature on what happened through the GATT
 - Go back and list some of the books we read on, e.g., each round
 - “Tariff negotiations and renegotiations under the GATT and the WTO”
 - * What is Matt’s status with this?
 - USITC history papers (two of them)
 - Irwin’s big book
 - * 1994 Irwin NBER working paper
 - * Irwin (2020)?
 - Petros’ chapter on tariffs
- Three strands of quantitative literature
 - Old stuff
 - * Krause 1962, etc
 - Go through reference list
 - * Dur, Balassa, Kreinin
 - BSY (is there a second one?)

- Data since HS (some TSUS from Feenstra?)
 - * Bown and Irwin (2017)
 - * But what about “30 years of trade policy”?
- Need to include TOT literature if going to include TOT analysis

3 Institutional Context

- Background, general info on GATT
 - RTAA reductions between Smoot Hawley and 1946
 - * How do the two different documents we have relate to each other

In this paper, we are examining the extended episode of tariff liberalization that took place in the post-World War II period primarily from the point of view of the United States of America. The U.S. was arguably *the* driving force behind the GATT, and it was responding to a very specific sequence of events both at home and on the world stage.

In the midst of the Great Depression, U.S. President Herbert Hoover’s proposal to increase tariffs to protect the agricultural sector turned into the large and general upward revision of the U.S. tariff schedule in the Tariff Act of 1930, known as the Smoot Hawley Tariff.

- Hoover argued that the Act’s “revitalized flexible tariff provision” would resolve the objections to higher tariffs by creating a process for their reduction
 - But the process was cumbersome and time-consuming, led to demand for RTAA

3.0.1 RTAA

- Smoot Hawley was the last general congressional revision of the tariff
- Reciprocal Trade Agreements Act of 1934 (and all the others until 1962) was framed as an amendment to the Smoot-Hawley Act
 - Details at <https://github.com/kbuzard-SU/gradualism/discussions/82>
- decided whom to offer a cut based the the principal supplier rule
 - Through the operation of the unconditional most-favored-nation principle, the concession would be automatically and freely extended to all other nonnegotiating suppliers.

- * The bilateral negotiations were normally carried out with one of the top three suppliers of any commodity.
- 28 country subcommittees were formed

3.0.2 The Trade Agreements Extension Act of 1945

- The administration wished to continue FTA negotiations, so President Truman sought additional bargaining power.
 - Congress responded with an extension of his negotiating authority, allowing him to reduce any tariff rate by 50 percent of the rate existing on January 1, 1945
 - * 1945, the executive branch had cut in half—the maximum allowable reduction—the rates for about 42 percent of the dutiable imports (also in Irwin 2017)
 - * To provide U.S. negotiators with an indication of what the conditions were, the Commission published United States Import Duties, June 1946, a new compilation showing the current rates of duty on all U.S. imports, including the changes that had resulted from the President’s delegated authority to negotiate reductions
 - required President to give public notice of his intention to negotiate a trade agreement and to “seek information and advice”
 - * Then he could run individual rates up or down by as much as 50 percent

Although the Geneva talks were ostensibly multilateral, the procedure differed only slightly from the one employed during the bilateral trade negotiations from 1934 through 1945.

 - * A failed amendment would have required Congress to ratify any trade agreement (Irwin 2017)
 - Irwin 2017: this was the high point of legislative support for the trade agreements program, against the backdrop of the war where supply shortages were the main issue
- The Commission provided U.S. negotiators with lists of articles where tariff reduction should be sought. [RSB, Ch. 7]
 - The Commission prepared reports containing some 1,300 line items “on which the United States was prepared to offer concessions” [RSB, Ch. 7]

- A team from each country conducted the day-to-day bargaining with representatives of another nation on a bilateral basis (Irwin 2017: round opened in April 1947 in Geneva)
 - Irwin 2017: horizontal cuts were not allowed by the legislation, had to be product-by-product
 - Zinc, woolen goods and cotton textiles expected in particular to push back (Irwin 2017, p. 478)
- Principal supplier rule was followed
- Once the tariff concessions had been negotiated at the bilateral, level, each country consolidated the concessions it had agreed upon into a single schedule of concessions which was then annexed to, and became a part of, the General Agreement on Tariffs and Trade.
 - The negotiators at Geneva worked out approximately 123 bilateral agreements.
 - The negotiation of these concessions required 7 months for completion, until Oct. 19, 1947 (Irwin p. 482)
- As of January 1949, rates of duty applicable to 88 percent of dutiable imports into the United States had been reduced from the Smoot-Hawley levels as a result of the trade-agreement concessions negotiated since 1934, and an additional 6 percent were bound against increase.
 - Only the remaining 6 percent had not been subjected to either a reduction in rate or a binding restriction
 - Irwin 2017, p 485: Geneva reduced tariffs by 21%
 - * p. 486: half of dutiable imports saw reduction, ave. reduction of 35%
 - Effective Jan 1 1948 by exec order
 - The final product of the 1947 negotiations covered more than 45,000 items in the tariff schedules of the GATT member countries [RSB, Ch. 7]
 - GATT is a trade agreement put into effect by executive order (not a treaty or an organization). “Contracting parties” instead of members (Irwin 2017 p. 484)
 - *Executive Order No. 9832 also required that the Commission produce a yearly report documenting the changes that had occurred as a result of reciprocity activities, including a summary and analysis of concessions made by and to the United States. These reports began in 1948.* [RSB, Ch. 7]

- Irwin 2017 lists the most sensitive import interests (p.493-494) as glassware, pottery and tiles, textiles and apparel, bicycles, watches, paper and pulp, cutlery, coal, ball bearings, copper, lead and zinc, milk, mushrooms, umbrellas and wool.

3.0.3 The Trade Agreements Extension Act of 1948

- Added peril point requirement
 - Under the 1948 act, an investigation specifically addressed to the potential of injury preceded the negotiation of the trade agreement.
 - * Revoked in 1949 and revived in 1951
 - * peril point was included in each subsequent trade agreements extension act until 1962, when the Tariff Commission was directed to advise the President of the probable economic effect of tariff modifications without reference to a peril point.
- the United States began suffering an unfavorable balance of payments as a result of its heavy investments and expenditures overseas and the effects of an overvalued exchange rate for the dollar
- In the fall of 1948 the Tariff Commission received a list of approximately 400 items in the U.S. tariff schedules that the President proposed to offer at the next round of GATT negotiations
- The so-called Dillon Round at Geneva in 1961 and 1962 had only marginally reduced trade barriers. This disappointing result stemmed in part from the limited negotiating authority of the United States.

3.0.4 Annecy

- The special relationship between Geneva⁴⁷ and Annecy, that is some round was designed to mainly absorb more participant countries
 - 11 new contracting parties (Irwin 2017 p. 506); existing didn't negotiate with each other, but they did negotiate with the new adherents

3.0.5 The Trade Agreements Extension Act of 1949

- gave the President an additional 2 years of bargaining authority
- repealed the peril-point investigations

- Truman administration was able to participate in the third round of GATT negotiations at Torquay without the concern over peril points that had characterized its activities at the previous round of negotiations
 - exchange of concessions among old and new, 7 new adherents (West Germany most important) (Irwin 2017 p. 506)
 - * 34 contracting parties accounting for 80% of world trade by 1952

3.0.6 The Trade Agreements Extension Act of 1951

- restored the Tariff Commission's responsibility to find peril points
 - In practice, the peril points had the effect of restricting the flexibility of U.S. negotiators at international trade conferences
 - The Commission was not permitted to weigh the general economic advantages that the reduction of rates on a particular commodity might bring in other sectors; it could consider only how the reduced rates would affect the U.S. industry specifically engaged in producing the commodity concerned.
- At the fourth round of negotiations at Geneva in the mid-1950's, the U.S. representatives scrupulously avoided making any concessions below the peril points, but for the Dillon Round of negotiations, which took place in 1960-62, President Eisenhower authorized tariff reductions below the peril point on several commodities in order to obtain desirable concessions, particularly from the Common Market.

3.0.7 Tariff Simplification Act of 1954 (Public Law No. 83-768)

The Tariff Simplification Act directed the Commission to compile a revision of the tariff under the following guidelines: 1. Establish schedules of tariff classifications which would be logical in arrangement and terminology and adapted to the changes that had occurred since 1930 in the character and importance of articles produced in and imported into the United States and in the market in which they were sold. 2. Eliminate anomalies and illogical results in the classification of articles. 3. Simplify the determination and application of tariff classifications. [RSB, Ch. 7]

Tariff Classification Study (Nov. 15, 1960) comprised seven volumes and included the draft tariff itself, along with explanations and the record of proceedings. [RSB, Ch. 7] - Seven supplemental reports were issued through 1963. [RSB, Ch. 7]

3.0.8 1950s Tariff Acts

- One year renewal for Eisenhower in 1953
- Again in 1954, one year renewal (Irwin 2017, p. 513-4)
- 1955: introduced phase in, with 15% reduction allowed in 3 5% installments. Also could bring down very high tariffs to 50% (Irwin 2017 p. 515)
 - Geneva 1955-56 Round: added Japan
- 1958 renewal: 4 years, 20%, larger reductions for tariffs above 50% allowed
 - Dillon 1961-62: still had peril points, required to negotiate on a product-by-product basis (Irwin 2017 p. 521)
 - * Ended June 1962 before just negotiating authority authority expired
 - * 4% weighted average cut (Irwin 2017 p. 521)

3.0.9 The Trade Expansion Act of 1962

- First trade act since Smoot Hawley that stood on its own (not framed as a revision of Smoot Hawley)
- The law provided for removing the duty on articles for which the July 1, 1962, rate was 5 percent ad valorem or less, and reducing the rates on other articles by 50 percent of the July 1, 1962, rate.
 - Reserved some articles from negotiations
- Seeds were in The Trade Agreements Extension Act of 1953, which called for Randall Commission to conduct a thorough review of the entire trade situation
 - Congress directed that the Tariff Commission make a comprehensive study of the laws relating to the tariff status of imported articles and to submit to the President and the House Ways and Means and Senate Finance Committees a revision and consolidation of those laws
 - * May 1962, Congress authorized the President to implement the resulting rate schedules with the passage of the Tariff Classification Act.
 - The Tariff Commission then published in 1963 (effective August 31, 1963) the Tariff Schedules of the United States (TSUS), which by law are the official rate schedules.

- The TSUS attempted to provide descriptions of articles by name, in categories designating one or a group of related products, and sought to avoid more general descriptions of goods, such as by material of manufacture. [RSB, Ch. 7]
- * The eight schedules of product categories were set forth in a hierarchical arrangement, arranged by sectors from basic products to finished goods and broken into 5-digit primary or legal provisions and their duty rates. [RSB, Ch. 7]
 - The annotated version of the tariff incorporated further product detail by adding 2 more digits to designate statistical categories, designed to gather data on particular goods. [RSB, Ch. 7]
 - Combining the tariff's legal provisions with import statistical requirements in a single integrated nomenclature generally assured greater accuracy in reporting and publishing data. [RSB, Ch. 7]
 - To clarify the product scope of tariff provisions and to ensure that every imported good subject to the tariff was classified in one place and one place only, special legal rules, known as General or Schedule Headnotes, were inserted at appropriate places in the tariff. [RSB, Ch. 7]
 - Commission publishes the changes periodically in the Tariff Schedules of the United States Annotated (TSUSA)
- * On October 22, 1963, President Kennedy submitted a list that included nearly every one of the articles enumerated in the TSUS. The Tariff Commission had to conduct a full-scale review and make its assessments of the probable economic effect of what amounted to a general rate revision.
- Kennedy Round negotiations started in May 1964
 - Sections 211 and 213 of the 1962 act had assigned to the Tariff Commission a number of specific duties in anticipation of these negotiations, including the identification of all commodities fitting the criteria listed in the law for which the duties could be reduced more than 50 percent or to zero, as well as the items to be withheld from the negotiation process
 - The talks continued until the very day that the U.S. negotiating authority expired- June 30, 1967. (THREE YEARS!)
 - The Kennedy Round was one of the most comprehensive rounds of international

trade negotiations ever held.

- * 46 countries (Irwin 2017 p 528); 70 contracting parties by the end of the round; developing countries did not negotiate
- The major trading countries made across-the-board cuts ranging from 36 to 39 percent of previous tariff rate levels on most products
 - * had always been technically possible to conduct the negotiations in this manner under previous trade legislation, this was the first time that it had been seriously considered. The proposal was designed to expedite the negotiations.
 - * 53 participating countries
- Big failure: agricultural trade (EU import barriers remained intact)
- The final agreements called for a reduction in rates on most items, and the Tariff Commission was responsible for calculating the appropriate intermediate levels of the duties for the five annual stages in which the U.S. concessions were to be implemented
 - * largest cuts in machinery, transportation equipment, chemicals; then steel and iron
 - * Again, effective by executive order, staging started in 1968 and ran through 1972 (Irwin 2017, p529)
- The Commission had begun using automated data processing in its operation in the late 1960's, which increased its staff's productivity.

3.1 Nixon

- Containerization started to have an impact in the early 1970s (introduced in mid 1960s) (Irwin 2017 p535)
- Footwear vs. textiles as similar in terms of import competition, but footwear didn't get the protection textiles did because fewer workers and less regionally concentrated (Irwin 2017 p. 536)
- 1971 report said mounting import protection pressures from textiles, clothing, shoes, steel, electronic products, automobiles (Irwin 2017 p539)
- Multifiber Arrangement (MFA) created in 1974, after Long Term Arrangement on textiles

3.1.1 The Trade Act of 1974

- President lacked negotiating authority when Tokyo Round started in September 1973
 - it had lapsed in 1967 (Irwin 2017 p549)
- 1974 act grants the President a 5-year negotiating authority, allowing him to reduce by as much as 60 percent any tariff rate over 5 percent in force on January 1, 1975, and also allows him to remove the duty on any article for which the existing rate is 5 percent or less.
 - also residual 2 years of authority after first five expired
 - the President was authorized to extend most-favored-nation (MFN) treatment to countries not then receiving it.
 - * The only countries not enjoying these low, nondiscriminatory tariff rates were the Communist nations, except Yugoslavia and Poland.
 - Included fast track after Kennedy Round concessions on non-tariff issues were not implemented (Irwin 2017 551)–EEC reluctant to negotiate without fast track
 - By the time it took effect Ford had taken over after Watergate (Irwin 2017 p.551). Signed the act in January 1975
- “Tariff policy has seldom remained static for long, nor has it ever been predictable”

3.2 Tokyo Round

- Tariffs were reduced by formula as in Kennedy
 - higher duties cut proportionately more than lower ones instead of bilateral bargaining (Irwin 2017 p556)
- Failed to deal with agri trade (Irwin 2017 p556)
- Concluded April 1979
 - Seems like it was passed as the “Trade Agreements Act of 1979” (Irwin 2017 p558)
- Second FMA was concluded in 1977 in the middle of the round

3.3 Reagan era

Trade and Tariff Act of 1984: withheld negotiating authority, but surprisingly moderate given the protectionist pressures of the time (Irwin 2017 p598)

3.3.1 Omnibus Trade and Competitiveness Act of 1988

- President could reduce tariffs up to 50% (three year window, with two year extension unless Congress objected, p627), guaranteed fast track (Irwin 2017 p612)
 - Its provisions were needed to conclude Uruguay round, which had started in 1986
 - The bills to object to the two-year extension in 1991 were defeated in both houses of Congress (p.628)

3.3.2 Uruguay Round

- Concluded in 1993 (December 15) (Irwin 2017 p619/44)
- 117 countries, 7 years
- MFA abolished (on Jan 1, 2005, p. 653)
- Signed by 177 nations in April 1994 and scheduled to take effect Jan 1 1995 (Irwin 2017 p651)

3.4 Shift to harmonized system

3.4.1 Not sure of timing–Dobson was published in December 1976

In the last few years the Customs Cooperation Council has been attempting to update the BTN, and the Commission has recently worked out a draft conversion of the TSUS into the structure of the BTN. The Commission is also working to create a classification structure that will allow the publication of comparable data on U.S. imports, production, and exports.

- The Commission must constantly revise the TSUSA and its fundamental reference series, Summaries of Trade and Tariff Information

3.4.2 The Harmonized Tariff System

- Conversion of the Tariff Schedules of the United States Into the Nomenclature Structure of the Harmonized System, Report on Inv. No. 332-131 under Section 332 of the Tariff Act of 1930, Submitting Report, USITC Pub. 1400, at 15 [RSB, Ch. 7]

- The International Convention on the Harmonized Commodity Description and Coding System required contracting parties to use and apply all the headings and subheadings of the system, without exception, addition, or modification [RSB, Ch. 7]
 - Also, contracting parties had to make their import and export trade statistics available at least at the level of the HS 6-digit codes. [RSB, Ch. 7]

In preparing the new tariff, the Commission was to avoid rate changes “to the extent practicable and consistent with sound nomenclature principles.” [RSB, Ch. 7]

- In addition, the tariff was to be simplified “to the extent possible without rate changes significant for U.S. industry, workers, or trade.” [RSB, Ch. 7]
 - hundreds of proposed rate changes. [RSB, Ch. 7]
 - * Some resulted from combining tariff categories at trade-weighted average rates; [RSB, Ch. 7]
 - * others were based on a preponderance of trade, in the case of a small trade category being combined into a larger category. [RSB, Ch. 7]
 - extensive formal notification to the WTO [RSB, Ch. 7]
 - * related negotiations with U.S. trading partners, which took several years to complete. [RSB, Ch. 7]
 - The Commission would not propose modifying a rate for which there was yearly trade of over \$5 million—separate rate lines would be retained in those cases. Rate changes for imported goods generating less than \$5 million per year would not be proposed unless an interested party raised a justifiable objection. [RSB, Ch. 7]
 - the President directed the Commission to reflect units of quantity in metric terms [RSB, Ch. 7]

3.4.3 Omnibus Trade and Competitiveness Act, enacted in 1988 (1988 Act)

Adoption of the new tariff was one of the cornerstones of the act.

- The HTS was made effective in section 1217 of the 1988 Act with respect to articles entered on and after January 1, 1989.

4 Data

We are currently adding the Kennedy, Tokyo and Uruguay rounds for the U.S. and all rounds for several other countries. The sketch of preliminary findings reported herein is on the U.S. data on Smoot Hawley tariffs through the Dillon round.

In standardizing the tariff lines across rounds, we end up with 3031 lines. The changes through time that require this standardization effort are often interesting in themselves. For instance, Paragraph 353, which covers “electrical articles” such as motors, tools, telegraphs, telephones and xray apparatus, is one line with a common 35 percent *ad valorem* tariff in 1930. By the end of the Dillon Round in 1964, this paragraph has been split into 30 distinct lines with tariffs ranging from 5.5% (xray: other) to 17.5% (wiring).

4.1 Data sources

We have been able to locate the original documents that contain the consolidated GATT tariff schedules at the end of each of the eight round of negotiations. The GATT tariff schedule data is collected from the United Nation Treaty Collection (UNTC) website, which offers detailed tariff schedule of every country of each round of GATT negotiation from the first round of Geneva to the last Uruguay round.

We also collected data and background documents to support the process of aligning tariff lines across rounds from official U.S. government documents, some of which are publicly available and a few that we access using an institutional subscription to HathiTrust Digital Library (<https://www.hathitrust.org/>). Details for all data sources are in the [Data Appendix](#).

4.2 Digitization process

We are for now focused on the tariff schedules of United States of America. These schedules went through two systematical changes from the first round of GATT negotiation, Geneva 1947, to the last round of negotiation, Uruguay 1992. Between 1930 and 1962 the tariff classification system followed the paragraph numbers of the Tariff Act of 1930, known as “Smoot-Hawley” for the bill’s sponsors.

Via the Tariff Act of 1962, the US government shifted its tariff system from Smoot-Hawley to the “Tariff Schedule of United States” (TSUS). The schedule documents became known as “Tariff Schedule of the United States Annotated” (TSUSA). In the Omnibus Trade and Competitiveness Act of 1988, the United States adopted the international Harmonized System (HS); the U.S. implementation of the system is called the Harmonized Tariff Schedule (HTS).

The classifications systems used for the various GATT round are: - Smoot-Hawley system (five rounds): Geneva 1947, Annecy 1948, Torquay 1950, Geneva 1956 and Dillon 1960; - TSUS system (two rounds): Kennedy 1964, Tokyo 1979; - Harmonized system (one round): Uruguay 1992.

To date, we have digitalized and standardized the tariff data for the first five GATT rounds for the United States. We have done the same for the tariff schedule that was in effect in the United States before the start of the GATT—the so-called Smoot Hawley tariffs as well as 1946 tariff schedule that was published as the baseline for the GATT negotiations.

We have also digitized the two rounds under the TSUSA system with work on the standardization between these rounds and the earlier rounds ongoing. For more details, see [Details of the Digitization Process](#).

4.3 Concordance

We are building a concordance between the Smoot-Hawley and TSUS systems in order to create a consistent time series up through the Tokyo round. First we executed a keyword match line by line between the two. This gives us good matches for many lines, especially for the products that have relatively short and specific descriptions; The second step is to use the cross-reference table in Volume 9 of the US ITC’s *Tariff Classification Study*.¹ The cross-reference table provides linkage information between the paragraphs in Smoot-Hawley and the tariff item code in TSUSA, and we use this to assign TSUSA code(s) to each product in the Smoot-Hawley system schedule.

The second stage of the concordance building is both time and skill intensive and is still in process. When it is completed, we will move on to using the concordance between TSUS and HTS provided by the USITC² in order to integrate the Uruguay round into the dataset.

4.4 Trade weighting and *ad valorem* equivalents (AVEs)

We are in the early stages of collecting contemporaneous data on the volume and value of trade. This requires both digitizing the data (annual data is available from 1930-1946 in the U.S. Census Bureau’s “Foreign commerce and navigation of the United States” report on HathiTrust) and creating a digital concordance between the Smoot-Hawley paragraph system used to determine tariff rates and the import classification system of that era.

¹See more details about this document in “data sources”, data appendix.

²“Cross-Reference Between the Harmonized System and TSUSA Schedule” courtesy of Robert Feenstra at <https://cid.econ.ucdavis.edu/usixd/wp5515d.html> .

Once this is completed, we will be able to (a) trade-weight our summary statistics and (b) compute *ad valorem* equivalents for all specific tariffs.³ For the time being, we analyze *ad valorem* and *specific* tariffs separately.

4.5 Units

Any analysis of specific tariffs will be complicated by differences in units. We find that the Smoot-Hawley tariff system employed 59 types of units for specific tariffs. We have reduced the number of units to 27 through a standardization and normalization process.

The reason of normalization has two layers: first we want to keep the framework as simple as possible, second we want to make sure the values of tariff rate are comparable so that statistical inference based on the specific tariff rates will not be affected by the units. The normalization process contains steps including integrating units that have similar descriptive meanings, integrating units that have different basic units (cents per each, cents per 100 and cents per 1000), and finally transform all dollars based units to cents based units. The units keys system we created for Smoot-Hawley system also applies for the TSUSA system in later rounds. The detailed mappings of normalization process can be found in our data package.

4.6 Other issues

Some other issues arose during the digitization process, including dealing with **tariff intervals**, increasing detail in product description that necessitated **splitting paragraphs** and the occurrence of **multiple stages** of tariff reductions over time. These issues are mostly important for robustness and completeness of our data, so we include the detailed explanations, examples and corresponding solutions in the Data Appendix.

5 Results

5.1 Basic Facts

- Total tariff cuts from Smoot Hawley to last round we have
 - Specific vs. *ad valorem*
 - * Overlap in *ad valorem* and specific

³See Appedix C of Teti (2020) for a clear, concise explanation of conversion of specific tariffs into *ad valorem* equivalents.

- * Specific vs. ad valorem vs. compound (both specific and ad valorem)
- * Teti (2020) reports that 8% of U.S. tariffs were specific in 1988-2017
- * Teti (2020) also reports: "Mixed tariffs are expressed as either a specific or an ad valorem rate, depending on which generates the most (or sometimes the least) revenue. Then there are technical tariffs that depend on certain product characteristics for example duties might be 8% for butter with fat content between 9-40%. Tariff rate quotas are made up of a low tariff rate on the initial imports (the within-quota quantity) and a very high tariff rate on imports entering above the initial amount (outside-quota quantity).
- How many lines were simply bound at the Smoot Hawley level
 - This is in contrast in particular to lines that are free under Smoot Hawley but do not show up in a later negotiation—they are not *bound* to be free.
- Addition of new lines round-by-round
- Round by round cuts (focus on end of round)
- Magnitude and speed of liberalization across types of products
 - Any obvious patterns to which lines have largest/smallest cuts?

5.2 Spotlight on some interesting products

- Round by round graphs for specific, interesting lines
 - To do this the way I want to, need implementation dates
- Which lines from Smoot Hawley don't see any action?
 - Victor says: 1014, 1530e, 1544,1104a, 81, 82,318,412
- Are there differences in which lines get staging once staging starts?
 - Before Kennedy at least, where it was uniform...
 - * Was it *really* uniform?
- Can we quantify which types of products get a lot of splitting of lines?
- Metallic magnesium and metallic magnesium scrap, para 375, swiches from specific to ad valorem in Geneva56C; reduced from 50 to 45% in Dillon

- 1102b (wools nspf) go from ad valorem in every round to specific in Dillon
- 202.a switches from specific in S-H to ad valorem in Geneva
- Need to look into bicycles (para 375)—every other one gets a new specific tariff in Geneva, but was ad valorem in S-H?
- Para 209, item 6 has tariff double in Geneva^{56A}
 - 331 item 10 increases specific tariff from 3 to 4 in Torquay
 - 911
 - 1005.a.3 (something to do with hemp) S-H → Geneva unchanged; then increase
- Para 32, “change of tax formula”? Also 202.a, 232.c, 302.d,

5.3 Other things we learned

- How important was RTAA between 1934 and 1946?
- What do Column 2 tariffs really represent (1962)
- Can we test:
 - Trade Expansion Act of 1962 provided for removing the duty on articles for which the July 1, 1962, rate was 5 percent ad valorem or less, and reducing the rates on other articles by 50 percent of the July 1, 1962, rate. (Dobson)
 - * **The major trading countries made across-the-board cuts ranging from 36 to 39 percent of previous tariff rate levels on most products**
 - * Trade Act of 1974 grants the President a 5-year negotiating authority, allowing him to reduce by as much as 60 percent any tariff rate over 5 percent in force on January 1, 1975, and also allows him to remove the duty on any article for which the existing rate is 5 percent or less.
 - 1945, the executive branch had cut in half—the maximum allowable reduction—the rates for about 40 percent of the dutiable imports

5.4 Analysis

- What can we say about which / why lines have ad valorem vs. specific?
 - Is there variation over time?

- Can we posit an explanation for the variation in both the quantity and speed of liberalization across products?
 - Perhaps the number of countries who are negotiating?
 - * Look at correlations between the number of pages for the schedule for each country?

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{r child = 'results.Rmd'} #
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6 Non-U.S. Contracting Parties

Need table that Matt is creating with number of pages for each schedule for each round

- remember that time series doesn't make sense

7 Conclusion

Future plans

- What role did the presence of specific tariffs, combined with inflation, have in reducing the total level of tariff protection?
 - Need trade volume / value / price data
 - include our plans for TOT analysis, what data we're going to use - proof of concept using modern elasticity data would be great, even in a subset of lines

8 References

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{r child = 'references.Rmd'} #
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9 Data Appendix

9.1 Data sources

File name	Content	Sources
Geneva47_UNTC	Individual round schedules of Geneva 1947	UNTC official website, Registration number A-814, Volume number 61. ⁴
Annecy_UNTC	Individual round schedules of Annecy 1949	UNTC official website, Registration number A-814, Volume number 63. ⁵
Torquay_UNTC	Individual round schedules of Torquay 1951	UNTC official website, Registration number A-814, Volume number 144. ⁶
Geneva56_UNTC	Individual round schedules of Geneva 1956	UNTC official website, Registration number A-814, Volume number 245. ⁷
Dillon_UNTC	Individual round schedules of Dillon 1960	UNTC official website, Registration number A-814, Volume number 440. ⁸
Kennedy_UNTC	Individual round schedules of Kennedy 1964	UNTC official website, Registration number A-814, Volume number 624. ⁹
Tokyo_UNTC	Individual round schedules of Tokyo 1979	UNTC official website, Registration number A-814, Volume number 1189. ¹⁰
Uruguay_UNTC_1	Individual round schedules of Uruguay 1988, till chapter 63	UNTC official website, Registration number A-814, Volume number 1632. ¹¹
Uruguay_UNTC_2	Individual round schedules of Uruguay 1988, rest of the chapters	UNTC official website, Registration number A-814, Volume number 1634. ¹²
Torquay (black white)	Consolidated version of rounds: Geneva47, Annecy and Torquay	The hard copy was borrowed from the Library of University of Texas. We then scanned and digitized the copy. ¹³

File name	Content	Sources
Tariff Act of 1930 cleaner	Initial tariff schedule of 1930 Smoot-Hawley Tariff Act	Citation information: volume: 46 page: 590 npages: 175 file: STATUTE-46-Pg590.pdf congress: 71 type: publaw number: 361 citation: Pub. Law 71-361 topic: Tariff Act of 1930 title: AN ACT To provide revenue, to regulate commerce with foreign countries, to encourage the industries of the United States, to protect American labor, and for other purposes. June 17, 1930 590 Link for the file ¹⁴ ; link for citation information: ¹⁵
US pre-GATT tariff schedule	United States Import Duties, June 1946.	University of Minnesota, Hathitrust Online Library: ¹⁶ Citation information: United States Tariff Commission. (1946). United States import duties, June 1946. Washington: U.S. Govt. Print. Off.
Tariff Classification Study volume 9	Cross reference schedule between TSUSA system and Smoot-Hawley system in 1962	The Ohio State University, Hathitrust Online Library: ¹⁷ Citation information:United States Tariff Commission. (196061). Tariff classification study. Washington: U.S. Govt. Print. Off..

File name	Content	Sources
US 1962 Tariff Act	The first TSUSA tariff schedule system that bridged Dillon round and Kennedy round	The document can be found in various sources, the one we used for digitization is uploaded by University of Illinois at Urbana-Champaign, on Hathitrust Online Library ¹⁸

⁴<https://treaties.un.org/doc/Publication/UNTS/Volume%2061/v61.pdf>

⁵<https://treaties.un.org/doc/Publication/UNTS/Volume%2063/v63.pdf>

⁶<https://treaties.un.org/doc/Publication/UNTS/Volume%20144/v144.pdf>

⁷<https://treaties.un.org/doc/Publication/UNTS/Volume%20245/v245.pdf>

⁸<https://treaties.un.org/doc/Publication/UNTS/Volume%20440/v440.pdf>

⁹<https://treaties.un.org/doc/Publication/UNTS/Volume%20624/v624.pdf>

¹⁰<https://treaties.un.org/doc/Publication/UNTS/Volume%201189/v1189.pdf>

¹¹<https://treaties.un.org/doc/Publication/UNTS/Volume%201632/v1632.pdf>

¹²<https://treaties.un.org/doc/Publication/UNTS/Volume%201634/v1634.pdf>

¹³https://search.lib.utexas.edu/discovery/fulldisplay?context=L&vid=01UTAU_INST:SEARCH&search_scope=MyInst_and_CI&tab=Everything&docid=alma991056424989706011

¹⁴<https://govtrackus.s3.amazonaws.com/legislink/pdf/stat/46/STATUTE-46-Pg590.pdf>

¹⁵<https://github.com/unitedstates/legisworks-historical-statutes/blob/master/data/046.yaml>

¹⁶<https://catalog.hathitrust.org/Record/100721221?type%5B%5D=all&lookfor%5B%5D=united%20stat%20import%20duties%20june&ft=>

¹⁷<https://catalog.hathitrust.org/Record/102256592>

¹⁸<https://babel.hathitrust.org/cgi/pt?id=uiug.30112105143967&view=1up&seq=3>

9.2 Examples

Here we share images of our source files for an illustrative example. The product displayed is the pharmaceutical chemical *Hexamethylenetetramine*. Under the Smoot Hawley enumeration, it is assigned paragraph number 40, as shown in both the Geneva 1947 tariff schedule and the consolidated file from Torquay. Under the TSUSA system, it is assigned code 425.73.

As the figures below illustrate, the schedules usually consist of three parts: the item number (Smoot Hawley paragraph number or TSUSA code), the product description, and the rate of duty. We structure our data to follow this framework.

Tariff Act of 1930, paragraph	Description of Products	Rate of Duty
39	Flavoring extracts and natural or synthetic fruit flavors, fruit esters, oils, and essences, all the foregoing not containing alcohol, and not specially provided for	10% ad val.
40	Hexamethylenetetramine	5-1/2¢ per lb.

Figure 1: Example of an item in Geneva 1947 schedule

SCHEDULE XX - UNITED STATES OF AMERICA		
PART I (continued)		
Tariff Act of 1930, paragraph	Description of Products	Rate of Duty
40	Formaldehyde solution or formalin	7/8¢ per lb.
	Hexamethylenetetramine	5-1/2¢ per lb.
	Solid formaldehyde or paraformaldehyde .	4¢ per lb.

Figure 2: Example of an item in Torquay consolidated schedule

Item	Articles	Rates of Duty	
		1	2
425.18	Nitrogenous compounds (con.): Hexamethylenetetramine.....	4.5¢ per lb.	11¢ per lb.

Figure 3: Example of an item in 1962 Tariff Act

9.3 Details of the Digitization Process

9.3.1 The Smoot-Hawley System

We refer to the first document we found—a tariff schedule for the United States that consolidates the concessions in the Geneva, Annecy and Torquay rounds—as “Torquay (black white).” This document was in hard copy, borrowed from the University of Texas Libraries. We scanned the hard copy, conducted optical character recognition (OCR) and digitized the file in R. By running the R package *pdftools*,¹⁹ we obtain an editable Microsoft Excel file that consists of detailed product descriptions and their corresponding tariff rates. Since “Torquay (black white)” contains the schedules of the first three rounds, we were able to construct a benchmark schedule that includes most of the products from Smoot-Hawley through the Dillon Round.

Subsequently, we found more complete and systematic data in the United Nations Treaty Collection (UNTC). Here there are schedules for each round individually. For these we manually entered the United States tariff rate for each round line by line based on the framework we had constructed via “Torquay (black white).” To check the reliability of our benchmark file, we compared the three individual rounds we have from the UNTC (i.e., “Geneva47_UNTC,” “Annecy_UNTC” and “Torquay_UNTC”) with the consolidated version “Torquay (black white)” and found no differences in tariff rates.

Next, we located the original 1930 Tariff Act document (“Tariff Act of 1930 cleaner”) and entered its tariff rates in order to identify the Smoot-Hawley tariffs as a benchmark. The Smoot-Hawley tariffs make sense as a benchmark because they continued to be the prevailing legal tariffs of the U.S. unless modified by subsequent agreement or legislation. We therefore made sure to enter all products in the original Smoot-Hawley into our database. That is, even if some products did not show up in later rounds, they are still included for completeness.

To pin down more precisely the magnitude of the tariff reductions of the first round of GATT negotiations (Geneva 1947), we also digitized the US tariff schedule of the year 1946, using the file “United State Import Duties June 1946.” The file contains all tariff changes between 1930 and 1946, both unilaterally and through bilateral negotiations.

With the information above, we are able to identify the magnitude of tariff reductions of every GATT round that uses the Smoot-Hawley tariff system.

After manually cleaning the data in Excel, we save the file as a comma separated values file (csv) in the UTF-8 format and import into R for further data clean, standardizing units for

¹⁹<https://cran.r-project.org/web/packages/pdftools/pdftools.pdf>

specific tariffs and analysis.

9.3.2 TSUS system

The TSUS system was first utilized in GATT negotiations in the Kennedy round (1964). To incorporate this new system, we started a separate file for the TSUSA tariffs by digitizing the schedule in the Tariff Act of 1962.²⁰

The Tariff Act of 1962 is not related to GATT negotiations. Rather, we digitized it because it provides a comprehensive framework for the TSUS system and helps to fill the gap between the last round under the Smoot-Hawley system (Dillon) and the first round under the TSUS system (Kennedy). Everything we’ve learned so far indicates that the schedule associated with the Tariff Act 1962 represents the US tariff level after the Dillon round but organized under TSUSA system.²¹

Here we used an approach similar to the one described in the previous subsection. We began with the document “Tariff Act 1962” from United States International Trade Commission.²² We applied the same optical character recognition tools and constructed the framework of the tariff schedule system in Excel. We then used the tariff schedule files of the Kennedy and Tokyo rounds collected from the UNCTC website to manually enter the tariff rate data for each product, line by line. In the Tokyo round, some tariff codes from 1962 and the Kennedy Round are replaced by the introduction of new codes, so we also created an “exit and entry” column in our dataset to record these changes. Finally, we followed the same data cleaning and unit-normalization process as in the previous section.

9.4 Industrial Classification Systems

9.4.1 Smoot-Hawley: Schedule

Schedule	Category	Smoot-Hawley Paragraph
1	Chemicals, Oils, and Paints	1 to 97
2	Earths, Earthenware, and Glassware	201 to 236

²⁰This act formally changed the tariff system and became effective on August 31, 1963.

²¹Two main facts support our belief: (1) we observe that the tariff rates for similar products are exactly the same in the Tariff Act 1962 and the second stage of the Dillon round; (2) the time span between the effective dates of two documents is short: the second stage of Dillon round was effective in 1962 and the Tariff Act of 1962 was effective on August 31, 1963. We will be able to say something more definitive once we have completed the concordance between the Smoot-Hawley and TSUS systems.

²²Several pages are missing in this document, so we also used files from the Hathitrust Digital Library to complete the schedule.

Schedule	Category	Smoot-Hawley Paragraph
3	Metals and Manufactures of	301 to 398
4	Wood and Manufactures of	401 to 412
5	Sugar, Molasses, and Manufactures of	501 to 506
6	Tobacco and Manufactures of	601 to 605
7	Agricultural Products and Provisions	701 to 783
8	Spirits, Wines, and Other Beverages	801 to 815
9	Cotton Manufactures	901 to 924
10	Flax, Hemp, Jute, and Manufactures of	1001 to 1022
11	Wool and Manufactures of	1101 to 1122
12	Silk Manufactures	1201 to 1211
13	Manufactures of Rayon or Other Synthetic Textile	1301 to 1313
14	Papers and Books	1401 to 1413
15	Sundries	1501 to 1559
16	Title II - Free List	1601 to 1814

9.4.2 TSUSA: Section

Section	Category	TSUSA Code
1	Animal and Vegetable Products	100.01 to 193.25
2	Wood and Paper; Printed Matter	200.03 to 274.90
3	Textile Fibers and Textile Products	300.10 to 390.60
4	Chemicals and Related Products	401.02 to 495.20
5	Nonmetallic Minerals and Products	511.11 to 548.05
6	Metals and Metal Products	601.03 to 696.60
7	Specified Products: Miscellaneous and Nonemunerated Products	700.05 to 799.00
8	Special Classification Provisions	800 to 870.25

9.5 Free lists

Under the Smoot Hawley classification system, items that were free of duty were gathered together into Schedule 16 instead of being integrated into a schedule with like products. That is, the products in Schedule 16 all are free of duty, and unlike the products in Schedules 1-15, the free list products come from many industries. For now, we have not included Schedule 16

in the main data.

Products free-of-duty were organized differently under the TSUSA system. Using both keyword searches and the cross-reference table in Volume 9 of the 1962 Tariff Classification Study, it appears that almost all of the free-of-duty item from Smoot-Hawley are included in the section of TSUSA that corresponds to the industrial characteristics of the product. We will thus integrate the free-of-duty products once we have finished the concordances to the TSUSA Harmonized System classification systems.

Interestingly, the products in the free-of-duty Schedule 16 under the Smoot Hawley classification system entered the tariff schedule gradually. To be more specific, in each round only some of the free-of-duty products from the Tariff Act of 1930 (Smoot Hawley) are included in the tariff schedule.

Between 1930 and when a product enters one of the GATT schedules, the status is not entirely clear. We have not found conclusive evidence to resolve this issue. Given that the Smoot Hawley Act unilaterally set tariff policy free of international commitments, our educated guess is that the U.S. authorities could increase the duty on these products unilaterally. What is clear is that once these products enter a GATT schedule, the U.S. was committed to not subsequently charge a duty on these products. We thus infer that if a product was free of duty in the Tariff Act of 1930 but not included in the free list in the GATT negotiated schedules, the US government either wanted to have more flexibility on this product or had not yet found a negotiating partner who was willing to exchange commitments involving the product.

9.6 Tariff intervals

When, in addition to the usual ad valorem or specific tariff, a line also has a minimum or maximum tariff, we classify the line as being of the “tariff interval” type. For example Paragraph 210 *Rockingham earthenware* in the Geneva 1947 schedule has its rate description as “20 cents per doz. articles, but not less 7.5% nor more than 25%.”

To incorporate this type of tariff formula, we followed the approach used in the consolidated Torquay schedule and the TSUSA system, that is to divide the single line for that product into multiple lines according to the values of the minimums and maximums. In the consolidated Torquay schedule, *Rockingham earthenware* is listed as three separate lines: “*Rockingham earthenware, valued per dozen articles: under 80 cents - 25% ad valorem*”, “*Rockingham earthenware, valued per dozen articles: over 80 cents and under 266.67 cents - 20 cents per doz, articles*” and “*Rockingham earthenware, valued per dozen articles: over 266.67 cents -*

7.5% *ad valorem*”. Notice that the threshold value for each line is calculated based on the minimum and maximum of tariff rate. With this method, we manually transformed all the tariff interval type lines into separate lines based on their values.

One thing to note is that, as the tariff rates were reduced across rounds, some of the threshold values may also change. Usually these changes are trivial and adding more lines for each newly-calculated threshold would induce more distortion to the data than using the original thresholds. Therefore we use the original threshold value unless the tariff interval formula itself changed over time. We created an “Intervals” dummy variable to keep track of lines that are affected by the tariff interval issue.

9.7 Line splitting

Another frequent issue in aligning the tariff schedules through time is what we call line splitting. The original product descriptions in the Tariff Act of 1930 paragraphs are often quite general and sometimes ambiguous and we find that the descriptions are often split in later schedules to create product lines whose descriptions are narrower. This seems to happen when the negotiators wanted to apply two different tariffs to what was formerly a single line.

An example of this is Paragraph 24, which is described in the Tariff Act of 1930 as “*Flavoring extracts, and natural or synthetic fruit flavors, fruit esters, oils, and essences, all the foregoing and their combinations.*” In the Dillon round tariff schedule, the paragraph is divided into “*Flavoring extracts, and natural or synthetic fruit flavors, fruit esters, oils, and essences, all the foregoing and their combinations: unfit for beverage purposes, containing of alcohol . . .*” and “*Flavoring extracts, and natural or synthetic fruit flavors, fruit esters, oils, and essences, all the foregoing and their combinations: fit for beverage purposes, containing of alcohol . . .*”.

More restrictions on the descriptions or new types of delineation were introduced as the tariff system evolved. To deal with these splitting lines, we create new lines for each split and enter a uniform tariff rate in earlier schedules for any line that was previously included in the more general (un-split) line. In this way we keep the completeness of the schedule and avoid losing information on differentiated products.

9.8 Staging

Beginning in the Geneva 1956 round, the tariff reductions were made in multiple stages. In the source documents for Geneva 1956 and Dillon, there is a column for each stage.²³

²³Geneva 1956 has three stages while Dillon has two stages.

Typically there is one year between implementation of each stage. Although most products that are negotiated in each round have different tariffs in each stage, some products do have the tariff rate for more than one stage. To deal with staging, we created separate columns for these stages and track the tariff reduction across stages. However, when comparing the tariff reduction across rounds, we focus on the tariff rate in the final stage.

9.9 GATT contracting parties

TO BE ADDED WHEN READY