

Quantifying GATT Trade Liberalization

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1 Introduction

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{r child = 'intro.Rmd'} #
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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

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{r child = 'context.Rmd'} #
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4 Data

- Where we got these files
 - Victor to update source data table, will include in appendix
- How we digitized the data
 - Dealing with paragraph splitting, new lines
 - Dealing with two changes in coding
 - * Historical context on those changes
 - * The 1962 document we have represent the US tariff rate under TSUSA for the Dillon B round (I assume we will include this round data in the analysis, namely 1962->Kennedy->Tokyo)
- Other issues that arose
 - 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).

- Variation in units for specific tariffs, how we standardized them
- Tariff intervals
- Free list
- Staging (starting with Geneva A/B/C)
- Ad valorem equivalents (AVE) and trade weighting

* See Appedix C of Teti (2020)

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. 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.

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 2997 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).

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
- 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 swiches 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 Geneva56A
 - 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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6 Non-U.S. Contracting Parties

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

7 Terms of Trade Analysis

At least include our plans, what data we're going to use - proof of concept using modern elasticity data would be great, even in a subset of lines

8 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

9 References

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

- include source table
 - Victor is updating to include concordance sources

Where will GATT participants / lengths of schedules go? A separate appendix?

10.1 Data sources

File name	Content	Sources
Geneva47_UNTC	Individual round schedules of Geneva 1947	UNTC official website, Registration number A-814, Volume number 61. ¹
Annecy_UNTC	Individual round schedules of Annecy 1949	UNTC official website, Registration number A-814, Volume number 63. ²
Torquay_UNTC	Individual round schedules of Torquay 1951	UNTC official website, Registration number A-814, Volume number 144. ³

File name	Content	Sources
Geneva56_UNTC	Individual round schedules of Geneva 1956	UNTC official website, Registration number A-814, Volume number 245. ⁴
Dillon_UNTC	Individual round schedules of Dillon 1960	UNTC official website, Registration number A-814, Volume number 440. ⁵
Kennedy_UNTC	Individual round schedules of Kennedy 1964	UNTC official website, Registration number A-814, Volume number 624. ⁶
Tokyo_UNTC	Individual round schdules of Tokyo 1979	UNTC official website, Registration number A-814, Volume number 1189. ⁷
Uruguay_UNTC_1	Individual round schedules of Uruguay 1988, till chapter 63	UNTC official website, Registration number A-814, Volume number 1632. ⁸
Uruguay_UNTC_2	Individual round schedules of Uruguay 1988, rest of the chapters	UNTC official website, Registration number A-814, Volume number 1634. ⁹
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. ¹⁰

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 ¹¹ ; link for citation information: ¹²
US pre-GATT tariff schedule	United States Import Duties, June 1946.	University of Minnesota, Hathitrust Online Library: ¹³ 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: ¹⁴ 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 ¹⁵

¹<https://treaties.un.org/doc/Publication/UNTS/Volume%2061/v61.pdf>

²<https://treaties.un.org/doc/Publication/UNTS/Volume%2063/v63.pdf>

³<https://treaties.un.org/doc/Publication/UNTS/Volume%20144/v144.pdf>

⁴<https://treaties.un.org/doc/Publication/UNTS/Volume%20245/v245.pdf>

⁵<https://treaties.un.org/doc/Publication/UNTS/Volume%20440/v440.pdf>

⁶<https://treaties.un.org/doc/Publication/UNTS/Volume%20624/v624.pdf>

⁷<https://treaties.un.org/doc/Publication/UNTS/Volume%201189/v1189.pdf>

⁸<https://treaties.un.org/doc/Publication/UNTS/Volume%201632/v1632.pdf>

⁹<https://treaties.un.org/doc/Publication/UNTS/Volume%201634/v1634.pdf>

¹⁰https://search.lib.utexas.edu/discovery/fulldisplay?context=L&vid=01UTAU_INST:SEARCH&search_scope=MyInst_and_CI&tab=Everything&docid=alma991056424989706011

¹¹<https://govtrackus.s3.amazonaws.com/legislink/pdf/stat/46/STATUTE-46-Pg590.pdf>

¹²<https://github.com/unitedstates/legisworks-historical-statutes/blob/master/data/046.yaml>

¹³<https://catalog.hathitrust.org/Record/100721221?type%5B%5D=all&lookfor%5B%5D=united%20states%20import%20duties%20june&ft=>

¹⁴<https://catalog.hathitrust.org/Record/102256592>

¹⁵<https://babel.hathitrust.org/cgi/pt?id=uiug.30112105143967&view=1up&seq=3>

10.2 Examples

Listed below are the pictures of our source file. In particular, we presented the product “Hexamethylenetetramine” in three files, it has paragraph number 40 in the Smoot Hawley tariff system (In file Torquay consolidated and Geneva47) and is assigned code 425.73 in the TSUSA system. As we can see in the below figures, the schedules usually consist of three parts: Tariff paragraph (TSUSA code), Product description and Rate of duty, and the structure of our data set also follows this framework.

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 Hexamethylenetetramine Solid formaldehyde or paraformaldehyde .	7/8¢ per lb. 5-1/2¢ per lb. 4¢ per lb.

Figure 1: Example of an item in Torquay_consolidated schedule

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 2: Example of an item in Geneva 1947 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

10.3 Schedule contents of Smoot-Hawley system

Schedule	Category	Tariff Act of 1930 Paragraph Number
1	Chemicals, Oils, and Paints	1 to 97
2	Earths, Earthenware, and Glassware	201 to 236
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

10.4 Sections contents of TSUSA system

Section	Category	TSUSA Code Number
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

10.5 Free list product

The free list schedule is relatively special compared to previous schedules. The products in the free list all are free of duty, and more importantly unlike the normal products in previous schedules 1-15, the free list products cover across many industries, the similarity they share is the industrial characteristic of the product itself, the the common feature of “free of duty”. Therefore we have not included them in the main data set but documented them in a separate file. However this arrangement of specifying “free list” was changed in the TSUSA system, by both keyword search and cross-reference table, we identified most of the free list products from Smoot-Hawley in TSUSA and found out that they are now within the industrial section, among the normal products, despite of the unchanged “free of duty” tax rate.

One more interesting observation about the free list product is that they actually entered the GATT negotiation gradually. To be more specific, in each round only some of the free list products are included in the tariff schedule, but how about the rest of the free list products, are they “free of duty” as well? If so, why not including them in the negotiated tariff schedule? So far we don’t have a solid answer for this question, our best guess is that the 1930 Tariff Act is more of a unilateral tariff schedule that was only bounded or dependent by (on) the US government which means that the president of US, or other related authorities can adjust the rate when necessary; however the negotiated GATT schedules are multi-national MFN tariff which have strict restrictions on unilateral tariff changes. This implies that if a free list product was free in the 1930 Tariff Act, but not included in the free list in the GATT negotiated schedules, then the reason behind it could be that the US government wanted to have more control and flexibility on this product even it was free of duty at that moment. We found most of the free list products were included (and still free) in the TSUSA system, but we still lack of the information on these products within the period of the first round of Geneva and Dillon round. More work will be done with respect to this part in the near future.

10.6 Special lines

There are several interesting cases of special lines during the data collection work, we will discuss them in this section:

1. **Tariff intervals:** one interesting type of description is the tariff interval, to be more specific, the tax rates for certain products have extra maximum and minimum tax rate besides their usually rates. For example Paragraph 210 210 Rockingham earthenware in the Geneva 1947 document has its tax rate description as *“20 cents per doz. articles, but not less 7.5% nor more than 25%”*. To incorporate this kind of narrative tax rate formula, we followed the same approach used in **Torquay consolidated** when also in later TSUSA round, that is to divide the single line of product into multiple lines based on different values of the product. For the same product in **Torquay consolidated**, it is documented in 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 applied tax rate. With this method, we manually transformed all the tax interval type lines into separate lines based on their values. One thing to notice is that, as the tax rates were reduced across rounds, some of the threshold value of these rounds may also change, however these changes are usually trivial and it will add unnecessary lines to the structure we created, therefore we will just the original line and threshold value unless the tax interval fomula itself changed over time.
2. **Splitting lines:** another typical situation we dealt with during the digitization process is the splitting line. Since the original product description in 1930 Tariff Act is relatively general and ambiguous, we find some more specified lines in later round. An example of this is Paragraph 24 *“Flavoring extracts, and natural or synthetic fruit flavors, fruit esters, oils, and essences, all the foregoing and their combinations:”* was not specified in Geneva 1947 document (which is the same description as in 1930 Tariff Act), but in Dillon round the paragraph is further 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 or new types were introduced as the tariff system improved. To deal with these splitting lines, we first create new lines for them, and also entered uniform tax rate for them before the round of the splitting or new lines showed up, in this way we keep the completeness of the schedule and avoid losing information on differentiated products.

3. **Staging:** in Dillon round and Geneva 1956 round, the tax reduction happened in multiple stages. There are plural columns in the schedule indicating that the tax rate will be lower and lower in every period¹⁶, usually there is one year period of effectiveness between the two stages, that means for every tax rate in the first stage, it should be at least to be effective for year and then the tax rate of that product goes to the rate of the next column. Although most of the products went through this staging process, some products remain the same tax rate for more than one stages. To deal with this staging problem, we created separated columns for these stages and track the tariff reduction across stages, but when comparing the tax reduction across rounds, we will only compare the tax rate in the final stage.

¹⁶Geneva 1956 has 3 stages while Dillon round has two stages