Data Appendix for
"China's Experience under the Multifiber Arrangement and the Agreement on Textile and Clothing"[1]

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This appendix provides additional detail about the data used in the main text. We describe the raw data as well as the cleaning procedure used to create the dataset. The dataset is available for download on the authors' websites. If you use these data, please cite:

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I. Introduction

As described in the main text, the Multifiber Agreement (MFA) was initiated in 1974 and governed the textile exports from the developing to the developed world until 1994. In 1994, it was replaced by the Agreement on Textiles and Clothing (ATC), which implemented a gradual phase-out of the quota restrictions formerly imposed under the MFA. Those products whose quotas were removed were thereafter governed by the General Agreement on Textiles and Trade (GATT) or the World Trade Organization (WTO).

Table 1: ATC Integration Schedule

Phase	Starting Date	Share of Import Volume Integrated	Increase in Quota Growth Rate (%)	Number of HS Products Integrated (USA)
I	January 1, 1995	16	16	318
II	January 1, 1998	17	25	744
III	January 1, 2002	18	27	745
IV	January 1, 2005	49	n/a	2978

Table 1 summarizes the phase-out timeline developed under the ATC. The specific products to have their quotas removed were decided individually by the importing countries, provided: a) these products included all four major textile and clothing categories; and b) these products represented a certain volume of that countries imports, as determined by the phase of the ATC and specified in the table. The specific number of Harmonized System codes that the United States chose to integrate in each phase is given in the final column of the table.

The ATC also provided for an increase in the growth rate of the quota restrictions placed on exporting countries. During each phase, the quotas would grow at an accelerated amount equal to the base growth rate for that country, times a multiplier determined by the phase and specified in the table (1.16, 1.25, and 1.27 for phases I, II, and III respectively).

II. Raw Data and Cleaning Procedures

The data were taken from Expired Performance Reports used by the U.S. Office of Textiles and Apparel. These reports were available in PDF format for the years 1967-1999 and in the form of .FEX files (equivalent to text files readable with Notepad or WordPad) for 2000-2004. Our database covered the years 1984-2004, excluding 1986 for which data was not available.

A sample page from one of the PDF files is provided in Figure 1. This is page 4 of 1991.pdf. The country (Bangladesh) is listed in the upper left, along with the Agreement Term. The Agreement Period is listed next to the MFA category number in the data below.

Figure 1

In the center of the page are two dates, labeled "Census" and "Customs." Customs' status reports were used to compile data on products under import control, and census reports were used to compile data on all other products. The Census and Customs dates listed here correspond to the latest such reports that were used at the time that the data was compiled and recorded.

In the upper-right corner of the page is the date on the Expired Performance Report, as well as a page number that corresponds to the country. This sample page reads "Page 1" so it is the first page in the report on Bangladesh. It is worthwhile to note that while the pages in each country's report generally appear sequentially, there are occasional instances where the pages were scanned into the PDF file in the wrong order.

The next line displays the headings for each of the columns, which we will describe in more detail. Since this is the first page in the report, it denotes "Agreement #1" which is the agreement referred to by the Agreement Term and Agreement Period at the top of the page. Most countries only have one agreement, though in a few country-years there are second agreements with different durations and which cover other textile products.

The next line down reads, "Specific Limits." This denotes the type of restriction that was applied to each of the categories listed underneath it. Note that this restriction type is *not* listed at the beginning of every page, but rather is only stated if the subsequent categories have restrictions of a type different from those previously listed for that country-year. All of the categories on this page have Specific Limit restrictions.

There were several other types of restrictions, but correspondences with OTEXA confirmed that only the Specific Limit restrictions were considered binding. Brambilla, Khandelwal and Schott (2010) only use quotas under Specific Limits in their analysis. A list of the various restriction types we observed is provided in Table 2.

Table 2: Class Variable

Restriction Category	Variable Value
Specific Limit	1
Designated Consultation Level	2
Minimum Consultation Level	3
Other Categories	4
Restraint Limit	5
Guaranteed Access Level	6
Consultation Provision (including E-type Consultation Provisions)	7
Agreed Limit	8
Tariff Preference Level (TPL)	99

Now examine the fifth row of data on the page. The first column ("Level Coverage and Description") gives a category number, a date range, and a description of the items in that category. The category number (336/636, in the fifth row) is the MFA category number assigned to "Cotton & MMF dresses" and the accompanying date is the agreement period referred to at the top of the page. The agreement periods are specific to the categories.

Note that frequently categories are listed together, as is the case in our example. When this occurs, the individual MFA categories that make up the joint category are listed in the rows below the set. In this example, 336 and 636 are each given their own row underneath the family 336/636.

The second column gives the units in which that category is measured (here, dozens), as well as a multiplier in the second line that allows for conversion of those units into square yards or square meters.[2]

The third column lists the base quota level as determined by the applicable trade agreements and related preset quota growth rates. The first line gives the base quota in the standard units for that MFA category, while the second line gives the quota as converted to square yards or meters. Continuing with our example of the joined categories, only one quota was applied to the aggregated category 336/636, while the individual categories are unrestricted (base quotas of 0), providing their sum does not exceed the aggregate quota.

The fourth column lists adjustments made by the exporting country to their base quota. The type of adjustment is denoted by an acronym, the meaning of which is described in a footnote at the bottom of every page. This first row of data had a "Shift Added" adjustment applied to it, abbreviated SA. We were unable to determine the meaning of every type of adjustment, but the major types are described in section III of the associated paper (Brambilla, Khandelwal, and Schott 2007).

The next column, Adjusted Level, provides the new quota level applied to that MFA category, both in units and in square yards/meters.

The sixth column, Imports Charged, provides the number of imports in that MFA category that were recorded as arriving from the associated country. Note that in an aggregated category, such as the 336/636 we have been observing, the imports of the individual categories sum to the imports of the aggregate.

The seventh column, "% Fill," which we will refer to as the Fill Rate, is defined as follows:

$$FillRate = \begin{cases} \dfrac{Imports}{Adjusted\ Level} & \text{if an adjusted level is provided} \\[2ex] \dfrac{Imports}{Base\ Quota} & \text{if only a Base Quota} \neq 0 \text{ is provided} \\[2ex] 0 & \text{otherwise} \end{cases}$$

The final column denotes whether there is a footnote available for that category. Our data do not include the footnotes, but rather only specifies whether one is available. The footnotes are found in the PDF files after each country to which they pertain. They generally describe in more detail the type of quota adjustments that were applied in each of the categories.

The coverage of the data is described in Table 3. Note that all ranges listed should be read as *not* including 1986, since no data was available for that year. Also note that that this table describes the coverage of the data found in the *mfa8404_raw.dta* file. The *mfa8404b* file

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[2] Whether the multiplier converts to squares yards or square meters depends on both the exporting country and the year. The type of multiplier (metric or English) that is provided is not denoted explicitly anywhere in the data, and must be inferred from the context of the data within that country-year. In our final dataset (mfa8404b.dta), we attempted convert all quantities into square meters.

will have lesser coverage, because it excluded all observations that were not classified as Specific Limit restrictions. Furthermore, note that the years given in this table correspond to the year of the associated Expired Performance Reports, not necessarily the year in which we classified the imports (see the description of the **year_ann** variable below for the distinction).

Table 3: Data Coverage

Country	Years of Coverage	Country	Years of Coverage
Argentina	89-91	Macau	84-88, 92-04
Bahrain	93-04	Macedonia	93-95, 97-04
Bangladesh	85-04	Malaysia	84-04
Barbados	84	Maldive Islands	84-87
Belarus	00-04	Mauritius	84-91, 93-00
Brazil	84-04	Mexico	84-03
Bulgaria	87-88, 93-04	Nepal	87-04
Burma	87-03	Nigeria	90-92
Cambodia	97, 99-104	Northern Marianas	85-90
Canada	95-99	Oman	92-04
China	84-04	Pacific Islands Trust	84
Colombia	84-85, 88-89, 92-04	Pakistan	84-04
Costa Rica	84-85, 88, 90-04	Panama	84-93
Czech Republic	93-04	Peru	84-91
Czechoslovakia	88-92	Philippines	84-04
Dominican Republic	84-85, 88-04	Poland	84-04
Egypt	84-85, 88-04	Portugal	85
El Salvador	88-04	Qatar	92-04
Fiji	90-04	Republic of South Africa	85
East Germany	88-89	Romania	84-89, 91-04
Guam	84-85, 88-93	Russia	97-04
Guatemala	85, 88-04	Singapore	84-04
Haiti	84-85, 88-94	Slovak Republic	93-04
Honduras	94-97	Spain	84-85
Hong Kong	84-85, 88-04	Sri Lanka	84-04
Hungary	84-85, 88-04	Taiwan	84-04
India	84-85, 88-04	Thailand	84-89, 91-04
Indonesia	84-04	Trinidad and Tobago	88-91
Jamaica	87-04	Turkey	84, 87-04
Japan	84-91	United Arab Emirates	88-04
Kenya	94-00	Ukraine	94-04
South Korea	84-04	Uruguay	84-04
Kuwait	94-04	USSR	87-91
Laos	93-04	Vietnam	03-04
Lebanon	92	Yugoslavia	85-92
Lesotho	92-93		

The data for 1984-1999 were typed into Excel files by an outside agency and were thereafter imported into Stata. They were then manually cleaned in order to remove errors. The primary procedures used in the cleaning process were as follows:

1. Spelling errors in country names were corrected. Countries that had multiple names over the observation period were standardized to have only one name. (Myanmar was renamed to Burma. Kampuchea was renamed to Cambodia.)
2. Errors in the MFA category numbers were corrected by relating them to the associated category descriptions in the data and checking for outliers.
3. Abbreviated MFA category numbers were elucidated and indicators of partial categories were standardized across the dataset to be denoted by a short string of letters following a dash. (For example 333/5 was changed to 333/335 and 359Coveralls-C was changed to 359-C.)
4. Errors in conversion factors were corrected by relating them to other conversion factors used for identical MFA categories. Blank conversion factors were replaced with 1, since these corresponded to categories were the units were already given in square meters.
5. Errors in imports, adjusted levels, and base levels were corrected by searching for instances where fill rates exceeded 100% (however, there were several instances in the data where fill rates greater than 1 coincided with the original data)
6. Further errors in the adjusted levels, and also adjustments made were found by finding all instances where the presence of an adjusted level was not accompanied by a corresponding adjustment type applied (and vice versa).
7. Country-years with multipliers that converted their units to square yards had their imports, base quotas, and adjusted levels modified in order to have their units given in square meters after multiplication by the conversion factor.
8. Base level growth rates were corrected by looking at aggregated changes in base levels for individual countries across years and investigating instances where these behaved in an unexpected manner.
9. Lines in the dataset not containing to any specific data were removed (such as those lines only used to denote that all lines following them were specific limit categories). These changes were only made after the information contained in the deleted lines was incorporated into the actual data.
10. Errors in the agreement terms and agreement periods were corrected whenever found, and furthermore, whenever an error was discovered using any of the above techniques, rows and columns in the vicinity of the error were also checked for accuracy against the original data in the PDF files.

Several additional variables were also added to the data during the cleaning process. These variables appear in either (or all) of the files that we distribute:

o **adjmade2** – assigns a unique, single-character symbol to each type of adjustment that appears in the **adjmade** column; MFA categories with multiple adjustments applied have these denominators separated by commas

- **mfa** – a more standardized version of the **mfa_ogl** column (which is how the data was originally imported). The **mfa** column incorporates the changes listed in item 3 above.
- **remark** – comments we inserted about a particular line of the data
- **remarks** – empty variable
- **osort** – a unique index number assigned to each line of the data; it generally corresponds to the order in which the data appeared in the expired performance reports; osort numbers that appear to be out of sequence with the majority of the data represent portions of the dataset that were appended after the initial importation
- **ocsort** – an index number similar to the **osort**, but which resets to 1 for each new country-year; not available for every observation in the data
- **class** – numerical value that identifies the type of restriction applied to the given quota, to be interpreted according to Table 3 below
- **pair** – dummy variable; takes the value 1 for those individual observations that are also part of a joined category; is 0 otherwise (for example if the imports for categories 336 and 636 were counted in the joined category 336/636, the two individual categories would have pair = 1, while 336/636 would have pair = 0) (*mfa8404* only)
- **adm** – dummy variable that equals 1 if an adjustment was applied to the given quota
- **adm_ct** – dummy variable that equals 1 if a cross-time adjustment was applied to the given quota; the following are considered cross-time adjustments for the purposes of this variable: carryforward, carryover, carryforward used, shortfall used
- **adm_cs** – dummy variable that equals 1 if a cross-section adjustment was applied to the given quota; the following are considered cross-section adjustments for the purposes of this variable: swing, shift added, shift subtracted, overshipment, consultation level increase, Guaranteed Access Level (GAL) increase, Designated Consultation Level (DCL) decrease, DCL increase, prorated, other
- **year_ann** – gives the year in which the majority of the agreement period can be found; this variable helps account for observations whose agreement periods overlapped more than one year (for instance, June 1985 – May 1986); it is distinct from the **year** variable, which gives the year of the associated PDF file
- **group** – dummy variable that equals 1 if the observation has a joined MFA category (such as 347/348)
- **subset** – dummy variable that equals 1 if the associated MFA category represents only a subset of the textiles in that category (for instance, 369 is "other cotton manufactures," but the subset 369-D is only dish towels)
- **txt** – dummy variable that equals 1 if the associated MFA category is considered a textile; the following categories were considered textiles for the purposes of this variable: 218, 219, 220, 222, 223, 224, 225, 226, 227, 229, 313, 314, 315, 317, 326, 410, 414, 611, 613, 614, 615, 617, 618, 619, 620, 621, 622, 624, 625, 626, 627, 628, 629, 810, 200, 201, 300, 301, 400, 600, 603, 604, 606, 607, 800
- **mfa_root** – provides the root MFA category associated with each observation; for regular or joined categories, the MFA root is identical to the MFA category itself; for subset categories (see above) the MFA root is the MFA category in which that subset falls (for instance, the MFA root for 369-D would be 369)

- **fr** – the fill rate described above; although the fill rates were already computed in the Expired Performance Reports, occasionally the numbers were inaccurate; thus, the fill rate that we used was a result of our own computations, done according to the equation given above
- **root_subset** – dummy variable that equals 1 for every MFA root category that is immediately followed by an associated MFA subset category and also for every subset category immediately preceded by the associated root category (thus if category 647 is immediately followed by category 647-N in the data, both observations will have root_subset = 1)
- **adjbase** – the adjusted level if one is provided, the base quota otherwise
- **id** – categorical variable that divides the data into subsets according to country, MFA category, and class (found in *mfa8404b* only)
- **ctrynum** – U.S. Census Bureau country code (*mfa8404b* only)
- **region** – geographical region in which a country is found (*mfa8404b* only)
- **grp** – categorizes **region** into four groups (*mfa8404b* only):
  - China
  - East/Southeast Asia
  - South Asia
  - Other

Our conversations with OTEXA revealed that Specific Limits were in fact the most restrictive quota type while the other categories were often used to monitor imports. We therefore use specific limits as the measure of the quota in Brambilla, Khandelwal and Schott (2010).

Guaranteed access levels, or GALs, are the specific negotiated quota levels for particular products being given more favorable treatment because the products are made from fabric formed and cut in the United States. Generally the GALs being proposed by the United States as part of its overall restraints considerably exceeded the levels of current trade and would, therefore, have no real impact on trade in such products. (Managing the Challenges of WTO Participation: 45 Case Studies, By Peter Gallagher, Patrick Low, Andrew L. Stoler, page 184).

We were unable to track down precise definitions for the other restriction categories.

III. Data Files Available for Download

There are three files that contain the quota information. The first file is *mfa8404_raw.dta.* These data are not cleaned. Instead, the file provides the raw data imported from the original PDFs documents.

The second file is *mfa8404.dta* which contains the processed data. This file contains all the restrictions (specific limits, consultation provisions, etc). We do not use these data in Brambilla, Khandelwal and Schott (2010), but we make these data available.

The final file contains the final dataset used in Brambilla, Khandelwal and Schott (2010): *mfa8404b.dta*. This file contains specific limits only and converts all units into square meter equivalents using the conversion factor. This file also contains the additional variables **id, ctrynum, region,** and **grp**, which are not found in *mfa8404.*