

Guide to Chinese export restrictions data from “The Persistence of Trade Policy in China After WTO Accession”

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November 2016

1 Introduction

This package of data is made up of several files. First, it includes several ‘raw’ datasets, each of which includes information on one of the individual policy instruments studied in the paper, processed only minimally from the original sources. It also includes a ‘ready-to-use’ dataset with the key export tax variable used in the paper: the joint export tax equivalent of China’s VAT export rebate policies and export duties. All files contain annual product-level data, using the Chinese version of the HS product classification. Versions of the ready-to-use dataset at both the six-digit and eight-digit level are included. All continuous variables are in percentage points in the raw data files but divided by 100 in the ready-to-use data files (e.g. a 17.5% export duty is coded as 17.5 in the raw data files but 0.175 in the ready-to-use data files).

All data is provided in both .csv and .dta (readable by Stata 11 and later) formats. If using .csv files, note that HS codes should be imported as strings in order to prevent ambiguity about the number of digits in the HS codes in some files.

The raw data files include:

- China VAT export rebates 2002-2013 data (.csv, .dta)
- China VAT export rebates 1994-2001 data (.csv, .dta)
- China export licenses and quotas 2002-2013 data (.csv, .dta)
- China processing trade prohibitions 2005-2013 data (.csv, .dta)
- China export prohibitions 2002-2013 data (.csv, .dta)

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The ready-to-use data files include:

- China calculated export taxes 6-digit 1997-2013 data (.csv, .dta)
- China calculated export taxes 8-digit 1997-2013 data (.csv, .dta)

2 Raw data files

2.1 VAT export rebates, 2002-2013

Data for 2002 to 2013 relating to VAT export rebates is from policy updates that are periodically disseminated to firms in electronic format from official sources. Data from 2004 to 2013 is sourced from the web site www.taxrefund.com.cn, data for 2003 is from www.cnnsr.com and data from 2002 is from the *2001-2002 Export Commodity Code and Tax Rebate Rate Quick Reference Handbook* (State Administration of Taxation 2002). This dataset contains the following variables:

- vat - VAT rate
- vatalt - alternative VAT rate (where applicable)
- rebate - export rebate rate
- rebatealt1 - alternative export rebate rate (where applicable)
- rebatealt2 - second alternative export rebate rate (where applicable)
- policy - policy type (see below)

The data is mostly at the ten-digit HS product level, though some products are listed at the eight-digit, nine-digit or eleven-digit level. Policies may be updated at any time during the year; I use the policies prevailing on January 1 of each year. There are three policy types, as discussed in the paper's data appendix: 'nz' (nonzero rebate, not tax-exempt), 'zr' (zero rebate, not tax-exempt) and 'te' (exempt from taxes). Note that the 2002 data source does not provide information on policy type or on alternative VAT rebate rates. I distinguish between policy types 'zr' and 'te' for 2002 by extrapolation from the 2003 data.

2.2 VAT export rebates, 1994-2001

Data for 1994 to 2001 relating to VAT export rebates is an extrapolation of the 2002 VAT export rebate data (discussed above), using a table of pre-2002 changes in VAT export rebate rates at the industry level from the *China Master Tax Guide* published by Deloitte Touche Tomatsu (2005). This dataset contains the following variables:

- vat - VAT rate

- vatalt - alternative VAT rate (where applicable)
- rebate - export rebate rate
- rebatealt1 - alternative export rebate rate (where applicable)
- policy - policy type

Because this product-level data is extrapolated backwards from the 2002 data, it uses the 2002 HS product classification, and therefore is not contemporaneous with the product classifications actually used by China in 1994 to 2001. Also, because the extrapolation relies on industry-level information, this product-level dataset should be treated as less reliable than the 2002-2013 data. Policies may be updated at any time during the year; I use the policies prevailing on January 1 of each year.

2.3 Export duties

Data for 1997 to 2013 on export duties is from the annual official publication *Customs Import and Export Tariff of the People's Republic of China*. This dataset contains the following variables:

- exptax - export duty rate
- exptax2 - alternative export duty rate (where applicable)

All data is at the eight-digit HS product level. The data for 1997 to 2001 uses the 2002 HS product classification; I use this classification so that the data can be readily merged with the pre-2002 VAT export rebate data discussed above. Note that the dataset includes only products with nonzero export duties in a given year, and excludes all other products in that year.

Where rates are announced as changing over the course of the year (because of the existence of ‘high season’ and ‘low season’ rates), I calculate a single annual rate using a weighted average according to the number of months in which each rate is applied. For rates that rise when a reference product price is exceeded, I use only the below-reference-price duty rate. For a few cases of specific export duties, I calculate ad valorem duties using unit values of Chinese exports of that product from the year before the introduction of the specific duty. For a set of specific export duties on apparel products in 2005, I instead use unit values from 2006, because of the existence of apparel export quotas due to the Multifiber Arrangement in 2004. For several of these apparel products, the units in which the specific export duty is calculated do not match the units reported in the trade data; I assign to these products the mean export duty across the apparel products for which ad valorem duties can be calculated.

2.4 Export licenses, quotas, state trading and designated trading

Data for 2002 to 2013 on products requiring export licenses, subject to export quotas, or subject to designated trading or state trading requirements is from the annual official notices announcing this list of products. This dataset contains the following dummy variables:

- license - equals 1 if requires a license for export to any destination
- licensedestinonly - equals 1 if requires a license for export to a specific subset of destinations
- quota - equals 1 if subject to a quota for export to any destination
- quotadestinonly - equals 1 if subject to a quota for export to a specific subset of destinations
- statetrading - equals 1 if exports to any destination are subject to state trading
- desigtrading - equals 1 if exports to any destination are subject to designated trading
- desigtradingdestinonly - equals 1 if exports to a specific subset of destinations are subject to designated trading

Note that policies for some products apply to exports to any destination, while others apply only to exports to a specific subset of destinations. I use different variables to code these policies; for example, if a license is required for export of a given product to a certain destination but not others, licensedestinonly equals 1 but license equals 0.

The data is mostly at the ten-digit HS product level, though some products are identified by the policies at the eight-digit or nine-digit level. The dataset includes only products that require licenses or quotas or are subject to designated trading or state trading requirements in a given year, and excludes all other products in that year (i.e. for every observation in the dataset, at least one of the variables equals 1).

I do not include textiles and apparel products affected by the Multifiber Arrangement or subsequent bilateral agreements. I also exclude goods on lists of dual-use products subject to export quotas or lists relating only to small-scale border trade. Some categories of goods are moved from the ‘main’ list to the list of dual-use products during the sample period, and I do not include these products in any year. I do include a separately published list of tobacco products that are subject to export restrictions throughout the period.

2.5 Prohibitions of exports and/or imports via processing trade

Data for 2005 to 2013 on products prohibited from export and/or import via processing trade is from ad hoc official notices (starting 2004) updating the list of these products. This dataset contains the following dummy variables:

- expprocban - equals 1 if prohibited from export via processing trade

- `impprocban` - equals 1 if prohibited from import via processing trade
- `expprocbanexcept` - see below
- `impprocbanexcept` - see below
- `impprocbanusedonly` - equals 1 if import prohibition only applies to used goods

I use the policies prevailing on January 1 of each year as the data for that year, with the exception of 2008, when I also include major changes to the list of prohibited products that took effect in mid-January. The data is observed at the ten-digit product level, but the list of prohibited products in the data for each year is not necessarily contemporaneous with the product classification existing in that year, because I usually identify lists of prohibited products from policies published in earlier years. Because of this, if the data is collapsed to the six-digit level so as to use internationally accepted HS codes, the data for 2005 to 2007 uses the HS02 classification, while the data for 2008 to 2013 uses the HS07 classification.

Note also that the dataset includes only products that are prohibited from export or import via processing trade in a given year, and excludes all other products in that year (i.e. for every observation in the dataset, either `expprocban` or `impprocban` equals 1). If the policy indicates that only a subset of products within a particular ten-digit product code is prohibited from export (and/or import) via processing trade, I code `expprocban` (and/or `impprocban`) as equal to 1.

The `except` variables equal 1 when policies specify exceptions to the processing trade prohibition (other than cases in which a only a subset of products within a particular code is prohibited). Examples of exceptions include:

- Cases where inputs must be exclusively imported (e.g. exports of sawnwood via processing trade are allowed if all of the wood serving as inputs is imported);
- Cases where lists specify eligible input or output industries (e.g. processing of paper pulp is allowed if it is transformed into certain categories of paper goods);
- Cases where ‘deep processing’ is allowed (e.g. processing of pulp and paper goods is allowed if this constitutes ‘deep processing’).

Although exports (and/or imports) of products via processing trade are not allowed for products that are prohibited from export (and/or import) via all modes of trade, I do not include these products here; see instead the export prohibitions dataset discussed below. Also, some other goods are identified as prohibited from processing trade in the relevant notices without reference to specific HS codes, and I do not include these in the dataset. These include used books with pornographic content, harmful and/or radioactive industrial waste and toy guns. These also include imports of seeds, spores, breeding animals, fertilizer, animal feed, additives and antibiotics, for cultivation and then export of plants and animals via processing trade.

2.6 Export prohibitions

Data for 2002 to 2013 on goods prohibited from export is assembled from a set of ad hoc official notices. This dataset contains the following dummy variable:

- expban - equals 1 if prohibited from export

The notices used to assemble this data provide start dates for export prohibitions, and information on the prohibited goods' HS codes using the product classification contemporaneous to those start dates. For each of the products from these notices, I checked for changes over time in products' HS codes using publicly available concordances between six-digit HS classifications as well as descriptions of more disaggregate Chinese product categories from the Chinese VAT export rebate data. I used this information to assemble this dataset, which lists each prohibited product by its current HS code in all years in which the prohibition is in effect as of January 1. Because all HS codes in this dataset are therefore also in the 2002-2013 VAT export rebate data, these two datasets can be straightforwardly merged.

Note that the dataset includes only products that are prohibited from export in a given year, and excludes all other products in that year. Note also that because many products in the 2013 Chinese VAT export rebate data are observed at the eight-digit level, while products prohibited for export are usually defined at the ten-digit level, the 2013 data is incomplete. In particular, eight-digit products in 2013 that encompass ten-digit products prohibited from export as well as ten-digit products whose export is allowed are not included in this dataset.

3 Ready-to-use data files

Data for 1997 to 2013 on the export tax equivalents of China's VAT export rebate policies and export duties is calculated as discussed in the paper's data appendix. This dataset contains the following variables:

- tax - joint export tax equivalent of VAT export rebate policies and export duties
- vattax - export tax equivalent of VAT export rebate policies only
- exptax - export tax equivalent of export duties only (equals export duty rate)

I include versions of the dataset at the six-digit and eight-digit HS product levels. Because the 1997-2001 data on VAT export rebate policies is extrapolated backwards from the 2002 data, the data for 1997 to 2001 uses the 2002 HS product classification. Also, as discussed above, because this extrapolation relies on industry-level information, the data for 1997-2001 should be treated as less reliable than the 2002-2013 data. Policies may be updated at any time during the year; I use the policies prevailing on January 1 of each year. Note that unlike the dataset I use in the paper, I do not drop products subject to export prohibitions from this dataset.

To create this dataset from the raw data discussed above, I first divide products with more than one VAT rate, rebate rate and/or export duty rate into separate observations. For the small number of products where there are two VAT rates and two rebate rates, always with VAT rates of 13 and 17 and rebate rates of 5 and 13, I associate the VAT rate of 13 with the rebate rate of 5 and the VAT rate of 17 with the rebate rate of 13. I then calculate export tax equivalents for each observation, using the formulas discussed in the paper’s data appendix. Finally, I aggregate the data to the eight-digit and six-digit levels by sequentially taking simple averages of export tax equivalents. I first aggregate the products divided into separate observations because they have multiple VAT rates, rebate rates or export duty rates (as discussed above), by averaging the export tax equivalents of the observations relating to each of these products. I next aggregate eleven-digit products to the ten-digit level in the same way. I then aggregate ten-digit products and nine-digit products (weighting these equally) to the eight-digit level, producing the eight-digit dataset. Finally, I aggregate eight-digit products to the six-digit level, producing the six-digit dataset.

Calculation of export tax equivalents for products in the ‘exempt from taxes’ category requires me to calculate input VAT rates for these products, as discussed in the paper’s data appendix. To do so, I first calculate an estimated average input VAT rate for each sector in the 2002 Chinese input-output table, using information on VAT rates and input shares by sector. I then use a concordance between HS products and 2002 Chinese input-output sectors to apply these rates to each product in the ‘exempt from taxes’ category.

References

- [1] Deloitte Touche Tomatsu (2005). *China Master Tax Guide 2005*, The Hague: Kluwer Law International.
- [2] State Administration of Taxation, Import and Export Tax Department (2002). *2001-2002 Export Commodity Code and Tax Rebate Rate Quick Reference Handbook*, Dalian: Dalian University of Technology Press.