

Wine Trade and the Economics of Import Duty and Excise Tax Drawbacks

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Duty Drawback

A duty drawback is a refund of import tariffs and is a very old policy instrument

- In the United States dates back to the Second Act of Congress, July 4, 1789
- Traditionally applies to Import Duty **only**
(No excise tax on most products)
- Types
 - Manufacturing Drawback
 - Unused Merchandise Drawback
 - Unused Merchandise **Substitution** Drawback

Wine Substitution Drawback Regulations

- Allows refund of 99% of import duty and **excise taxes**
- Applies to table wine only: Still wine of 14% alcohol content or less
U.S. Tax qualification
- Imports must be matched by commercially interchangeable exports within three years
- Interchangeability: wine of the same color having a price difference not to exceed 50 percent between the imported wine and the exported wine
- Exports to FTA countries cannot be used to qualify for drawback

This is a drawback under substitution provisions of the unused merchandise drawback rules that have basis in legislation and regulation

NOT a Manufacturing Drawback;

Excise Tax - Important

The U.S. Table Wine Import Duties and Excise Taxes

| Import Duty and Excise Tax Rates | Bottled Wine | | | | Bulk Wine | | | |
|---|------------------|-------------|------------------|-------------|---------------|-------------|---------------------|-------------|
| | MFN Importers | | Australia, Chile | | MFN Importers | | Australia, Chile | |
| | 2003 | 2015 | 2003 | 2015 | 2003 | 2015 | 2003 | 2015 |
| | Cents per liter | | | | | | | |
| Import Duty Rate | 6.3 | 6.3 | 6.3 | 0 | 14 | 14 | 14 | 0 |
| Excise Tax | 28.27 | 28.27 | 28.27 | 28.27 | 28.27 | 28.27 | 28.27 | 28.27 |
| Total | 34.57 | 34.57 | 34.57 | 28.27 | 42.27 | 42.27 | 42.27 | 28.27 |
| Share of Unit Value | 0.07 | 0.06 | 0.07 | 0.05 | 0.37 | 0.41 | 0.37 | 0.28 |

The Industry Cares about Wine Drawback

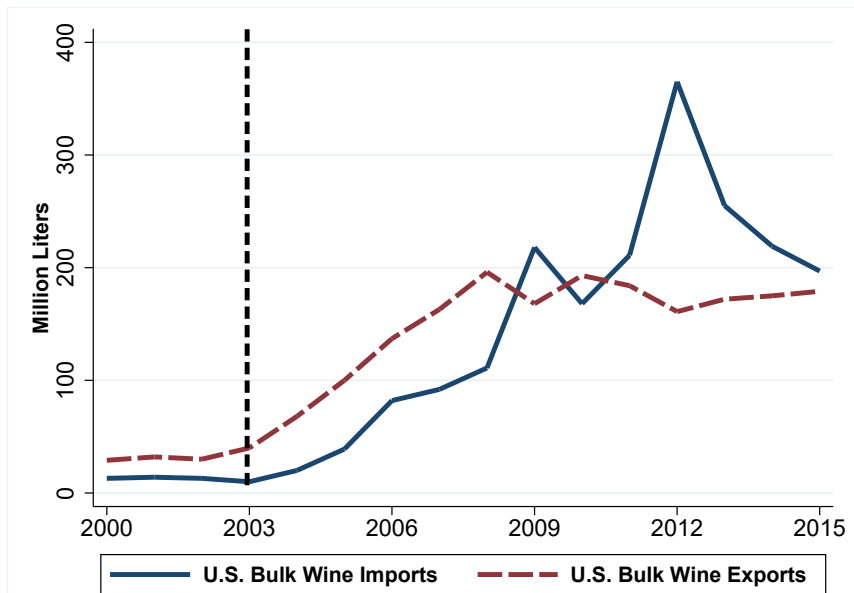
- Other products want to be included
Fosters Wine Estates (fortified wines.) Rejected in 2009
- In February 2016 the three year limit was extended to five years
Trade Facilitation and Trade Enforcement Act of 2015

Look at some data

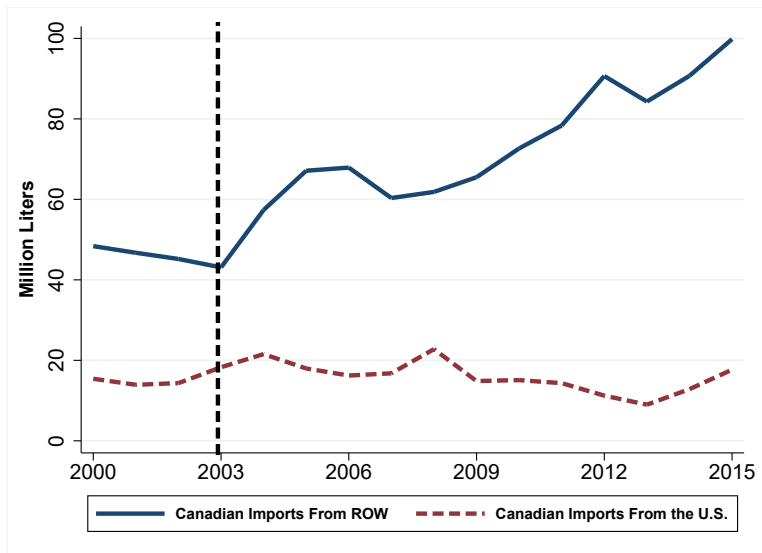
Annual U.S. Bottled Wine Import and Export Quantities, 2000 to 2015



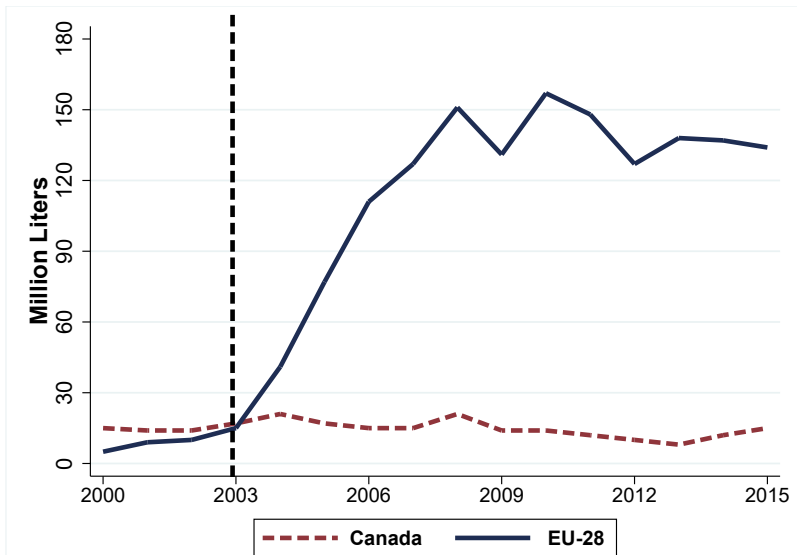
Annual U.S. Bulk Wine Import and Export Quantities, 2000 to 2015



Canadian Imports of Bulk Wine from US and ROW, 2000 to 2015



Example of Divergence of U.S. Bulk Table Wine Exports by Eligible and Non-eligible Destinations, 2000 to 2015



Literature: International Trade Policy

- Partial Tariff Reforms and Welfare Implications
Grinols and Wong (1991) and Ju and Krishna (2000)

- Free Trade Agreements, Trade Creation versus Trade Diversion
NAFTA Context De La Cruz et al. (2011)

Literature: Drawbacks

- Adam Smith Wealth of Nations Book 4, Chapter 4 (1776)
Used wine trade to explain duty drawbacks
(Unused Merchandise Drawback)
- Theory and welfare analysis Panagariya (1991)
Highlights implications of drawbacks for developing country
setting (Manufacturing Drawback)
- Drawbacks in Political Economy context Cadot et al. (2003)
Politics of manufacturing drawback
- Wine Drawbacks Sumner, Lapsley and Rosen-Molina (2011)
Description and welfare incidence

Literature: International Wine Trade

- Anderson and Wittwer (2013)
Exchange rates and China among others factors
- Mariani et al. (2012)
Trends and issues

Winery Profits:

$$\begin{aligned}\pi &= (P_{ud} - T)W_{ud} - C(W_{ud}) \\ &+ P_x W_{ux} - C(W_{ux}) \\ &+ (P_{md} - T - D)W_{md} - C(W_{md}).\end{aligned}$$

P is Prices, W is Wine quantity,

u is U.S. produced, d is domestic U.S. market,

x is export market, m is imported wine

T is Excise Tax, D is Import Duty

Basic Setup: First Order Conditions

$$\frac{\partial \pi}{\partial W_{ux}} = 0,$$

$$P_x - C'(W_{ux}) = (P_{ud} - T) - C'(W_{ud})$$

$$\frac{\partial \pi}{\partial W_{md}} = 0$$

$$P_{md} - (T + D) - C'(W_{md}) = 0$$

where I assume $dW_{ux} = -dW_{ud}$

Drawback Allocation

Wine drawback requires imports and exports to be linked

Who and how much of the drawback parties get to keep varies by transaction based on the availability of eligible exports relative to the backlog of eligible imports seeking a drawback

Benchmark Case: Introduction of Wine Drawbacks

Winery Profits:

$$\begin{aligned}\pi = & (P_{ud} - T)W_{ud} - C(W_{ud}) \\ & + (P_x + \delta(T + D))W_{ux} - C(W_{ux}) \\ & + (P_{md} - T - D + (1 - \delta)(T + D))W_{md} - C(W_{md}).\end{aligned}$$

δ is exporters' share of Duty Drawback

$(1 - \delta)$ is importers' share of Duty Drawback

Benchmark Wine Drawback Effect

Before Wine Drawbacks

$$P_x - C'(W_{ux}) = (P_{ud} - T) - C'(W_{ud})$$

$$P_{md} - (T + D) - C'(W_{md}) = 0$$

After Wine Drawbacks

$$P_x + \delta(T + D) - C'(W_{ux}) = (P_{ud} - T) - C'(W_{ud})$$

$$P_{md} - \delta(T + D) - C'(W_{md}) = 0$$

$\delta \in [0; 1]$; either increases the import quantity and/or the export quantity

After the Wine Drawback

- $\delta = 0$ the FOC of wine export quantity is unchanged
Importers keep all of the refund equivalent to not paying duty and excise tax in the United States.
- $\delta = 1$ the export unit value is increased by the full drawback amount
The FOC of the wine import quantity is unchanged
- $\delta \in (0; 1)$ exporters receive partial refund
Importers get some of the refund equivalent to paying only some of the duty and excise tax in the United States.

First Expectation

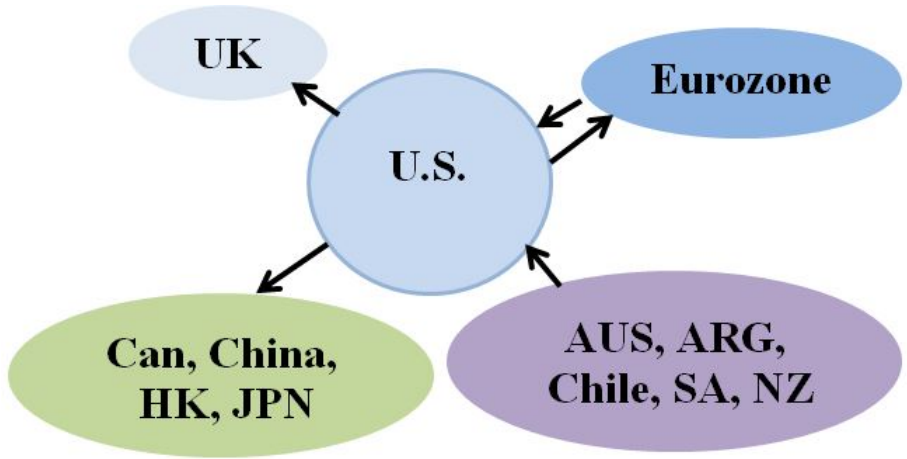
The U.S. table wine trade, (import quantities plus export quantities) increased due to the wine drawback.

Wine Trade Differentiated by Package Size

The derivations comparing, first order conditions for before and after the introduction of the wine drawback is developed in detail for firms trading wine in bulk and bottled

We expect: The U.S. bulk table wine trade, the import and export quantities, increased due to the wine drawback policy.

Bulk and Bottled Wine Trade Differentiated by Major Trade Partners



More Expectations

The ratio of the quantity of bulk wine exports to the Eurozone countries over the quantity of bulk wine exports to Canada has increased due to the wine drawback.

The ratio of the quantity of bulk wine exports to the United Kingdom over the quantity of bulk wine exports to Canada has increased due to the wine drawback.

U.S. Imports from Major Partners

| U.S. Imports From | Obs | Bulk 1,000L | Bottled 1,000L |
|-------------------|-----|-------------|----------------|
| | | Mean | Mean |
| Argentina | 192 | 2,461 | 2,745 |
| Australia | 192 | 3,195 | 10,417 |
| Chile | 192 | 2,804 | 4,640 |
| Eurozone | 192 | 1,243 | 28,868 |
| New Zealand | 192 | 487 | 1,455 |
| South Africa | 192 | 313 | 545 |

U.S. Exports from Major Partners

| U.S. Exports to | Obs | Bulk 1,000L Mean | Bottled 1,000L Mean |
|-----------------|-----|---------------------|------------------------|
| Canada | 192 | 1,215 | 2,254 |
| China | 192 | 103 | 469 |
| Eurozone | 192 | 4,256 | 3,312 |
| Honk Kong | 192 | 134 | 373 |
| Japan | 192 | 675 | 1,418 |
| United Kingdom | 192 | 3,400 | 5,559 |

Quantitative Measures of Wine Drawback

Turn to measuring the magnitude of the impacts of the wine drawback

Dependent variables: In logs

U.S export quantities of bulk and all table wine

U.S import quantities of bulk and all table wine

Key Explanatory Variable

- Represents the effect of wine drawback on imports and exports
- Data on magnitude of duty paid and allocation of drawback incentive between exports and imports

Maximum Unclaimed Drawback—Eligible Bulk Wine Imports *ACIM*

Three Rules

- The earliest imports are the first to be claimed by the exporters
Efficient matching
- No negative carryover of imports
Imports always have to occur before the matching exports
- Once the accumulated imports are zero it takes 36 months of positive accumulated imports before any of the imports can potentially expire for wine drawback purposes.

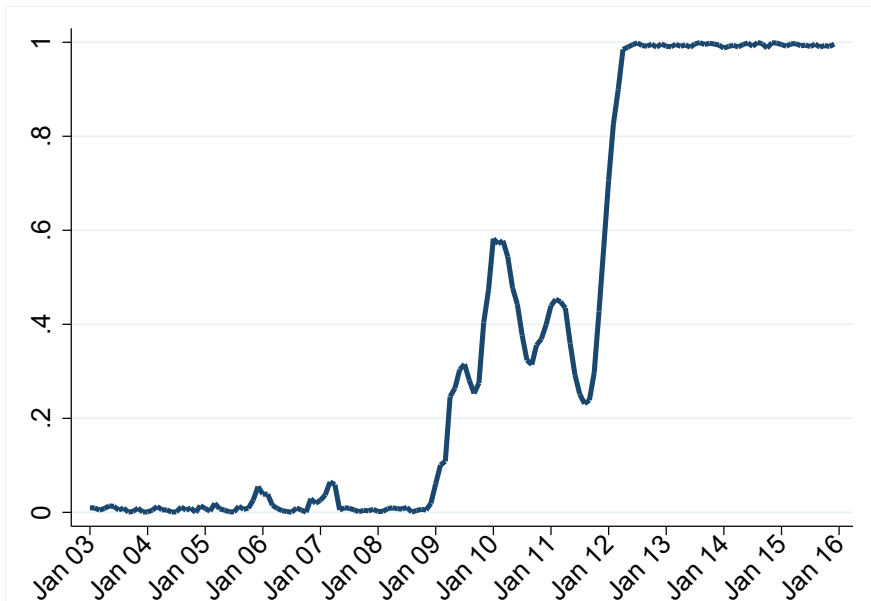
Bulk Wine Exporters' Share of Wine Drawback

$$ACIM_t = ACIM_{t-1} + W_{md_{t-1}}^{blk} - W_{ux_t}^{blk} - \left(\sum_{-35}^{-35+t} W_{md}^{blk} - \sum_0^t W_{ux}^{blk} \right).$$

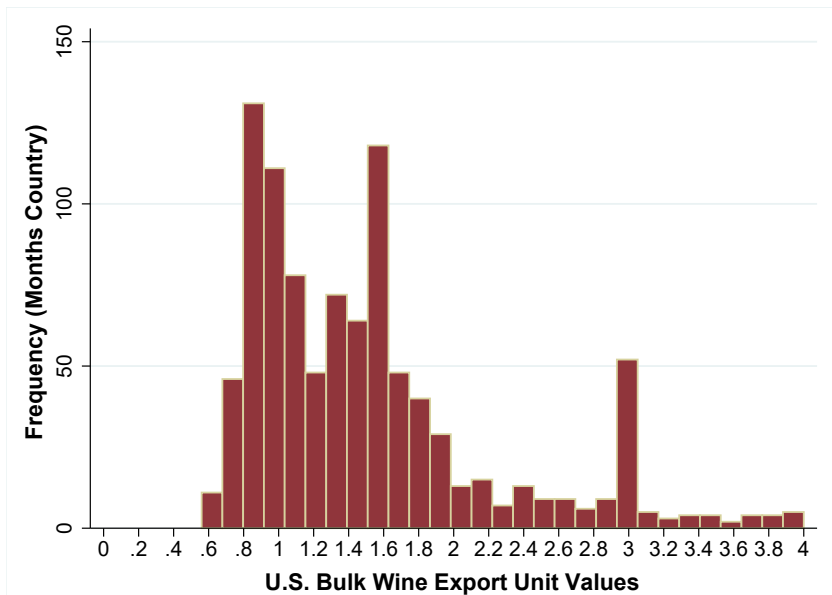
Based on the $ACIM$ we construct δ^{blk}

$$\delta^{blk} = \begin{cases} 1 - |\varepsilon| \approx 1 & \text{if } ACIM_t > \sum_{t-12}^{t-1} W_{ux}^{blk} \\ \frac{\sum_{t-12}^{t-1} W_{ux}^{blk}}{ACIM_t} & \text{if } 0 < \frac{\sum_{t-12}^{t-1} W_{ux}^{blk}}{ACIM_t} < 1 \\ |\varepsilon| \approx 0 & \text{if } ACIM_t = 0, \end{cases}$$

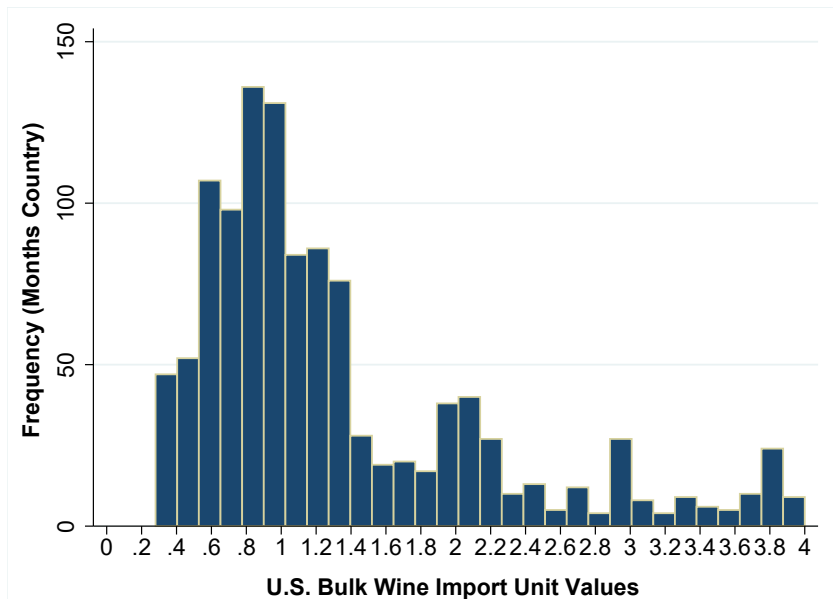
Bulk Wine Exporters' Share δ^{blk}



Bulk Export Unit Values



Bulk Import Unit Values



Export Specification

$$\ln Y_{it} = \alpha + \beta_1 X_{it} + \beta_2 REXrate_{it} \\ + \beta_3 TC_{it} + \beta_4 M_t + u_{it}.$$

Main variable of interest

$$X_{it} = S_{03_t} Can_t \delta_t^{blk} \left(T + D_{avg_t}^{blk} \right) / UV_{it}^{blk}$$

All converted to first difference

Y is export quantity, *REXrate* is exchange rate,

TC is transportation cost, *UV* is export unit value

M are monthly dummies, *S*₀₃ start of wine drawback

Can is zero if Canada

First Difference Regression Estimates

| Explanatory variables also in first differences | U.S. bulk table wine exports to each major export destination | U.S. all table wine exports to each major export destination | U.S. bulk table wine imports from each major import source countries | U.S. all table wine imports from each major import source countries |
|--|---|--|--|---|
| | (1) | (2) | (3) | (4) |
| | Coefficients (Std.error) | Coefficients (Std.error) | Coefficients (Std.error) | Coefficients (Std.error) |
| Drawback refund expected by exporters | 5.563 (0.987) | 1.786 (0.517) | | |
| Drawback refund expected by importers | | | 1.706 (0.446) | 0.236 (0.075) |

First Difference Regression Estimates for Total U.S. Wine Trade

| Explanatory variables also in first differences | U.S. bulk table wine trade with each major wine trade partner | U.S. all table wine trade with each major wine trade partner |
|--|---|--|
| | Coefficients (Std.error) | Coefficients (Std.error) |
| Wine Drawback Refund Variable | 1.956 (0.350) | 0.310 (0.103) |

The Economic Significance of Wine Drawback Based on First Difference Regression

| A Plausible Change Effectiveness of Drawback over unit value | | Drawback Refund | |
|---|----------------------------------|-----------------|--------|
| | | 0 | 0.3 |
| Bulk Exports | Change in Million Liters-Dollars | 66.75 | 354.19 |
| | % Change | | 431% |
| All Exports | Change in Million Liters-Dollars | 205.12 | 350.51 |
| | % Change | | 71% |
| | | Drawback Refund | |
| | | 0 | 0.6 |
| Bulk Imports | Change in Million Liters-Dollars | 89.14 | 248.1 |
| | % Change | | 178% |
| All Imports | Change in Million Liters-Dollars | 691.80 | 797.03 |
| | % Change | | 15% |

Wine Drawback Effect on Total U.S. Wine Trade Based on First Difference Regression

| A Plausible Change Effectiveness of Drawback over unit value | | Drawback Refund | |
|---|----------------------------------|-----------------|----------|
| | | 0 | 0.5 |
| Bulk | Change in Million Liters-Dollars | 167.74 | 446.05 |
| | % Change | | 166% |
| All Wine | Change in Million Liters-Dollars | 865.55 | 1,010.67 |
| | % Change | | 17% |

Conclusion

- Wine drawback created incentives that are both statistically and economically significant for bulk wine trade
- The U.S. bulk wine trade (imports and exports combined) increased by more than 160% assuming the wine drawback is 0.5 of the unit value
- For 2015, the wine drawback refund was \$55 million assuming all of the bulk wine exports except for the exports to Canada received the drawback

Thank You