

# Package ‘competitiontoolbox’

May 8, 2026

**Type** Package

**Title** A Graphical User Interface for Antitrust and Trade Practitioners

**Version** 0.7.1

**Depends** R (>= 2.10), antitrust (>= 0.99.11), trade (>= 0.5.4), shiny,  
rhandsontable

**Imports** ggplot2

**Description**

A graphical user interface for simulating the effects of mergers, tariffs, and quotas under an assortment of different economic models. The interface is powered by the 'Shiny' web application framework from 'RStudio'.

**URL** <https://github.com/luciu5/competitiontoolbox>

**License** CC0

**Encoding** UTF-8

**LazyData** true

**RoxygenNote** 7.2.1

**NeedsCompilation** no

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**Repository** CRAN

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## Contents

antitrust_shiny . . . . .	2
ct_shiny . . . . .	2
indicboxdata . . . . .	3
indicboxmktCnt . . . . .	4

sumboxdata . . . . .	4
sumboxdata_trade . . . . .	5
sumboxmktCnt . . . . .	6
sumboxmktCnt_trade . . . . .	7
trade_shiny . . . . .	7

<b>Index</b>	<b>8</b>
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antitrust_shiny	<i>A Link to the Shiny Interface to the trade and antitrust Packages</i>
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### Description

Launch a shiny interface to simulate the effects of tariffs and mergers

### Usage

```
antitrust_shiny()
```

### Details

antitrust\_shiny calls ct\_shiny, which is a shiny interface for the antitrust and trade package. See [ct\\_shiny](#) for further details.

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ct_shiny	<i>A Shiny Interface to the trade and antitrust Packages</i>
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### Description

Launch a shiny interface to simulate the effects of tariffs and mergers

### Usage

```
ct_shiny()
```

### Details

ct\_shiny launches a shiny interface for the antitrust and trade packages. The shiny interface provides users with the ability to calibrate model parameters and simulate tariff effects using many of the supply and demand models included in the trade package. It also provides users with the ability to calibrate different consumer demand systems and simulate the effects of mergers under different competitive regimes included in the antitrust package.

### Author(s)

Charles Taragin, Paulette Wolak

## Examples

```
if(interactive()){ct_shiny()}
```

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indicboxdata

*Box Plot Statistics for "Indices" Tab*

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## Description

A dataset containing the summary statistics necessary to make boxplots according to supply, demand, and percent of outside share for horizontal mergers. This allows for examination of the relationship between industry price changes and commonly used merger indices.

## Usage

```
indicboxdata
```

## Format

A data frame with 2,303 rows and 10 variables

**Cut\_type** Firm Count, HHI, Delta HHI, UPP, CMCR, Harm 2nd, Party Gap

**Cut\_value** axis units depending on Cut\_type

**shareOutThresh** outside share threshold in percent (20–70)

**Supply** pooled, bertrand, cournot, auction

**Demand** pooled, log, logit, aids, ces, linear

**high\_wisk** maximum

**low\_wisk** minimum

**pct25** 25th percentile boxplot line

**pct50** 50th percentile boxplot line

**pct75** 75th percentile boxplot line

## References

Taragin, C., & Loudermilk, M. (2019). Using measures of competitive harm for optimal screening of horizontal mergers. mimeo.[doi:10.13140/RG.2.2.30872.85760/1](https://doi.org/10.13140/RG.2.2.30872.85760/1).

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indicboxmktCnt	<i>Number of Monte Carlo Simulations Performed in "Indices" Tab</i>
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### Description

A dataset containing the information necessary to calculate the number of merger simulations used to generate the plots for the "Indices" tab of "Numerical Simulations" for Horizontal Mergers based on the index of interest.

### Usage

indicboxmktCnt

### Format

A data frame with 35 rows and 3 variables

**Cut\_type** Firm Count, HHI, Delta HHI, UPP, CMCR, Harm 2nd, Party Gap

**Cnt** number of horizontal merger simulations (25,890 – 184,254)

**shareOutThresh** outside share threshold in percent (20–70)

### References

Taragin, C., & Loudermilk, M. (2019). Using measures of competitive harm for optimal screening of horizontal mergers. mimeo.[doi:10.13140/RG.2.2.30872.85760/1](https://doi.org/10.13140/RG.2.2.30872.85760/1).

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sumboxdata	<i>Box Plot Statistics for "Summary" Tab for Horizontal Mergers</i>
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### Description

A dataset containing the summary statistics necessary to make boxplots according to supply, demand, and percent of outside share for horizontal mergers so as to examine the distribution of outcomes.

### Usage

sumboxdata

**Format**

A data frame with 210 rows and 10 variables

**Demand** log, logit, aids, ces, linear

**Model** cournot:log, cournot: linear, bertrand:aids, bertrand:logit, bertrand:ces, auction:logit

**Outcome** post-Merger index of interest (Industry Price Change (percent), Merging Party Price Change (percent), Consumer Harm (dollars), Producer Benefit (dollars), Net Harm (dollars))

**Supply** bertrand, cournot, auction

**high\_wisk** maximum

**low\_wisk** minimum

**pct25** 25th percentile boxplot line

**pct50** 50th percentile boxplot line

**pct75** 75th percentile boxplot line

**shareOutThresh** outside share threshold in percent (20–70)

**References**

Taragin, C., & Loudermilk, M. (2019). Using measures of competitive harm for optimal screening of horizontal mergers. mimeo.[doi:10.13140/RG.2.2.30872.85760/1](https://doi.org/10.13140/RG.2.2.30872.85760/1).

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sumboxdata\_trade

*Box Plot Statistics for "Summary" Tab for Tariffs*

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**Description**

A dataset containing the summary statistics necessary to make boxplots according to supply, demand, and tariff percentage for tariffs so as to examine the distribution of outcomes.

**Usage**

sumboxdata\_trade

**Format**

A data frame with 162 rows and 10 variables

**Demand** Linear, CES, Logit

**Model** Cournot:Linear, Bertrand:CES, Bertrand:Logit, Auction2nd:Logit, Bargaining:Logit, Monopolistic Competition:CES, Monopolistic Competition:Logit

**Outcome** Consumer Harm, Domestic Firm Benefit, Foreign Firm Harm, Industry Price Change, Net Domestic Harm, Net Total Harm, Domestic Firm Price Change, Foreign Firm Price Change

**Supply** Cournot, Bertrand, Auction2nd, Bargaining, Monopolistic Competition

**high\_wisk** maximum

**low\_wisk** minimum  
**pct25** 25th percentile boxplot line  
**pct50** 50th percentile boxplot line  
**pct75** 75th percentile boxplot line  
**tariffThresh** tariff threshold in percent (10–30)

## References

Taragin, C., & Loudermilk, M. (2019). Using measures of competitive harm for optimal screening of horizontal mergers. mimeo.[doi:10.13140/RG.2.2.30872.85760/1](https://doi.org/10.13140/RG.2.2.30872.85760/1).

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sumboxmktCnt	<i>Number of Monte Carlo Simulations Performed in "Summary" Tab for Horizontal Mergers</i>
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## Description

A dataset containing the information necessary to calculate the number of merger simulations used to generate the plots for the Summary tab of Numerical Simulations for Horizontal Mergers.

## Usage

sumboxmktCnt

## Format

A data frame with 30 rows and 3 variables

**Outcome** post-Merger indice of interest (Industry Price Change (percent), Merging Party Price Change (percent), Consumer Harm (dollars), Producer Benefit (dollars), Net Harm (dollars))

**Cnt** number of horizontal merger simulations

**shareOutThresh** outside share threshold in percent (20–70)

## References

Taragin, C., & Loudermilk, M. (2019). Using measures of competitive harm for optimal screening of horizontal mergers. mimeo.[doi:10.13140/RG.2.2.30872.85760/1](https://doi.org/10.13140/RG.2.2.30872.85760/1).

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sumboxmktCnt_trade	<i>Number of Monte Carlo Simulations Performed in "Summary" Tab for Tariffs</i>
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**Description**

A dataset containing the information necessary to calculate the number of tariffs used to generate the plots for the Summary tab of Numerical Simulations for Tariffs.

**Usage**

```
sumboxmktCnt_trade
```

**Format**

A data frame with 24 rows and 3 variables

**Outcome** Consumer Harm, Domestic Firm Benefit, Foreign Firm Harm, Industry Price Change, Net Domestic Harm, Net Total Harm, Domestic Firm Price Change, Foreign Firm Price Change

**Cnt** number of tariffs simulated

**tariffThresh** tariff threshold in percent (10–30)

**References**

Taragin, C., & Loudermilk, M. (2019). Using measures of competitive harm for optimal screening of horizontal mergers. mimeo.[doi:10.13140/RG.2.2.30872.85760/1](https://doi.org/10.13140/RG.2.2.30872.85760/1).

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trade_shiny	<i>A Link to the Shiny Interface to the trade and antitrust Packages</i>
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**Description**

Launch a shiny interface to simulate the effects of tariffs and mergers

**Usage**

```
trade_shiny()
```

**Details**

trade\_shiny calls ct\_shiny, which is a shiny interface for the antitrust and trade package. See [ct\\_shiny](#) for further details.

# Index

## \* datasets

- indicboxdata, 3
- indicboxmktCnt, 4
- sumboxdata, 4
- sumboxdata\_trade, 5
- sumboxmktCnt, 6
- sumboxmktCnt\_trade, 7

antitrust\_shiny, 2

ct\_shiny, 2, 2, 7

indicboxdata, 3

indicboxmktCnt, 4

sumboxdata, 4

sumboxdata\_trade, 5

sumboxmktCnt, 6

sumboxmktCnt\_trade, 7

trade\_shiny, 7