Package ‘competitiontoolbox’

October 12, 2022

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

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Encoding UTF-8

LazyData true

RoxygenNote 7.2.1

NeedsCompilation no

Author Charles Taragin [aut, cre], Kenneth Rios [aut], Paulette Wolak [aut]

Maintainer Charles Taragin <ctaragin+competitiontoolbox@gmail.com>

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antitrust_shiny

A Link to the Shiny Interface to the trade and antitrust Packages

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.

ct_shiny

A Shiny Interface to the trade and antitrust Packages

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
indicboxdata

Examples

if(interactive()){ct_shiny()}

indicboxdata

Box Plot Statistics for "Indices" Tab

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

indicboxmktCnt  Number of Monte Carlo Simulations Performed in "Indices" Tab

**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**


sumboxdata  Box Plot Statistics for "Summary" Tab for Horizontal Mergers

**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
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


sumboxdata_trade

Box Plot Statistics for "Summary" Tab for Tariffs

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
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


sumboxmktCnt

|sumboxmktCnt| Number of Monte Carlo Simulations Performed in "Summary" Tab for Horizontal Mergers|

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

**sumboxmktCnt_trade**

*Number of Monte Carlo Simulations Performed in “Summary” Tab for Tariffs*

**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**
```r
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**

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**trade_shiny**

*A Link to the Shiny Interface to the trade and antitrust Packages*

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

**Usage**
```r
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.
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