Package ‘competitiontoolbox’

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Type Package
Title A Graphical User Interface for Antitrust and Trade Practitioners
Version 0.1.2
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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’.
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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.

c_t_shiny  

A Shiny Interface to the trade and antitrust Packages

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

Usage
c_t_shiny()

Details
c_t_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()){c_t_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, betrand, 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 and Loudermilk 2019

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

Taragin and Loudermilk 2019

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### sumboxdata

<table>
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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 180 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 indice of interest (Industry Price Change (%), Merging Party Price Change (%), Consumer Harm ($), Producer Benefit ($), Net Harm ($)
- **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 and Loudermilk 2019
sumboxmktCnt

Number of Monte Carlo Simulations Performed in "Summary" Tab

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.

Usage

```r
sumboxmktCnt
```

Format

A data frame with 151 rows and 6 variables

- **Outcome**: post-Merger indice of interest (Industry Price Change (%), Merging Party Price Change (%), Consumer Harm ($), Producer Benefit ($), Net Harm ($))
- **Cnt**: number of horizontal merger simulations
- **shareOutThresh**: outside share threshold in percent (20–70)

References

Taragin and Loudermilk 2019

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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