Package 'r2dii.data'

March 25, 2024

Title Datasets to Measure the Alignment of Corporate Loan Books with Climate Goals

Version 0.5.0

Description These datasets support the implementation in R of the software 'PACTA' (Paris Agreement Capital Transition Assessment), which is a free tool that calculates the alignment between corporate lending portfolios and climate scenarios (<https://www.transitionmonitor.com/>). Financial institutions use 'PACTA' to study how their capital allocation decisions align with climate change mitigation goals. Because both financial institutions and market data providers keep their data private, this package provides fake, public data to enable the development and use of 'PACTA' in R.

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URL https://rmi-pacta.github.io/r2dii.data/, https://github.com/RMI-PACTA/r2dii.data

BugReports https://github.com/RMI-PACTA/r2dii.data/issues

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R topics documented:

`abcd_demo` *An asset-based company dataset for demonstration*

Description

Fake data about physical assets (e.g. wind turbine power plant capacities), aggregated to company-level. These data are used to assess the climate alignment of financial portfolios. It imitates data from market-intelligence databases.

Demo datasets are synthetic because most financial data is strictly private; they help to demonstrate and test the implementation in R of 'PACTA' (https://www.transitionmonitor.com/).

Usage

```
abcd_demo
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 4972 rows and 14 columns.

Definitions

- abcd_timestamp (character): Date at which asset data was sourced from the data provider., * company_id (character): The id of the company owning the asset created by the data provider., * country_of_domicile (character): Country where company is registered., * emission_factor (double): Company level emission factor of the technology., * emission_factor_unit (character): The units that the emission factor is measured in., * is_ultimate_owner (logical): Flag if company is the ultimate parent in our database., * lei (character): The legal entity identifier of the company owning the asset., * name_company (character): The name of the company owning the asset., * plant_location (character): Country where asset is located., * production (double): Company level production of the technology., * production_unit (character): The units that production is measured in., * sector (character): Sector to which the asset belongs., * technology (character): Technology implemented by the asset., * year (integer): Year at which the production value is predicted.

See Also

data_dictionary

Other demo datasets: co2_intensity_scenario_demo, loanbook_demo, overwrite_demo, region_isos_demo, scenario_demo_2020

Examples

```
head(abcd_demo)
```

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co2_intensity_scenario_demo

A prepared co2 intensity climate scenario dataset for demonstration

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Description

Fake co2 intensity climate scenario dataset, prepared for the software PACTA (Paris Agreement Capital Transition Assessment). It imitates climate scenario data (e.g. from the International Energy Agency (IEA)) including the change through time in production across industrial sectors.

Demo datasets are synthetic because most financial data is strictly private; they help to demonstrate and test the implementation in R of 'PACTA' (https://www.transitionmonitor.com/).

Usage

```
co2_intensity_scenario_demo
```

Format

An object of class tbl_df (inherits from tbl, data.frame) with 22 rows and 7 columns.

Definitions

- emission_factor (double): The target sector level emissions factor that the scenario prescribes., * emission_factor_unit (character): The units that the emissions factor is measured in., * region (character): The region to which the pathway is relevant., * scenario (character): The name of the scenario., * scenario_source (character): The source publication from which the scenario was taken., * sector (character): The sector to which the scenario prescribes a pathway., * year (integer): The year at which the pathway value is prescribed.

See Also

data_dictionary

Other demo datasets: abcd_demo, loanbook_demo, overwrite_demo, region_isos_demo, scenario_demo_2020

Examples

```
head(co2_intensity_scenario_demo)
```

---

data_dictionary *Column definitions of all datasets*

Description

This dataset provides metadata about all datasets in the package r2dii.data.

Usage

```
data_dictionary
```

Format

An object of class tbl_df (inherits from tbl, data.frame) with 109 rows and 4 columns.

Definitions

- column (character): The name of a dataset-column., * dataset (character): The name of a dataset., * definition (character): The definition of a dataset-column., * typeof (character): The result of typeof(), one of double, integer, logical, or character..

Examples

```
head(data_dictionary)
```

gics_classification *Dataset to bridge (translate) common sector-classification codes*

Description

This dataset serves as a translation key between common sector-classification systems and sectors relevant to the 'PACTA' tool (https://www.transitionmonitor.com/).

Usage

```
gics_classification
```

Format

An object of class tbl_df (inherits from tbl, data.frame) with 282 rows and 5 columns.

Definitions

- borderline (logical): Flag indicating if PACTA sector and classification code are a borderline match. The value TRUE indicates that the match is uncertain between the PACTA sector and the classification. The value FALSE indicates that the match is certainly perfect or the classification is certainly out of PACTA's scope.., * code (character): Original GICS code., * description (character): Original GICS description., * sector (character): Associated PACTA sector., * version (character): Column identifying to which GICS version the code belongs.

Details

Classification datasets help to standardize sector classification codes from the wild to a relevant subset including 'power', 'oil and gas', 'coal', 'automotive', 'aviation', 'concrete', 'steel', and 'shipping'.

See Also

data_dictionary.

Other datasets for bridging sector classification codes: isic_classification, nace_classification, naics_classification, psic_classification, sector_classifications, sic_classification

Examples

```
head(gics_classification)
```

increasing_or_decreasing

Determine if a technology is increasing or decreasing

Description

This dataset provides a simple lookup table to determine if a technology is meant to increase or decrease to align with a scenario that predicts a less than 2 degree temperature rise.

Usage

```
increasing_or_decreasing
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 20 rows and 3 columns.

Definitions

- `increasing_or_decreasing` (character): If the technology is increasing or decreasing, as defined by the Paris-aligned IEA scenarios., * `sector` (character): The sector to which the technology belongs., * `technology` (character): The technology sub-category within the sector.

See Also

data_dictionary

Examples

```
head(increasing_or_decreasing)
```

isic_classification

Dataset to bridge (translate) common sector-classification codes

Description

This dataset serves as a translation key between common sector-classification systems and sectors relevant to the 'PACTA' tool (https://www.transitionmonitor.com/).

Usage

```
isic_classification
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 830 rows and 6 columns.

Definitions

- `borderline` (logical): Flag indicating if PACTA sector and classification code are a borderline match. The value TRUE indicates that the match is uncertain between the PACTA sector and the classification. The value FALSE indicates that the match is certainly perfect or the classification is certainly out of PACTA's scope.., * `code` (character): ISIC Rev 5 code with top-level letter prepended., * `description` (character): Original ISIC Rev 5 title., * `original_code` (character): Original ISIC Rev 5 code., * `revision` (character): Column identifying to which ISIC revision the code belongs.., * `sector` (character): Associated PACTA sector.

Details

Classification datasets help to standardize sector classification codes from the wild to a relevant subset including 'power', 'oil and gas', 'coal', 'automotive', 'aviation', 'concrete', 'steel', and 'shipping'.

See Also

data_dictionary.

Other datasets for bridging sector classification codes: `gics_classification`, `nace_classification`, `naics_classification`, `psic_classification`, `sector_classifications`, `sic_classification`

Examples

```
head(isic_classification)
```

`iso_codes` *Countries and codes*

Description

This dataset maps countries to codes.

For information about the ISO standard for country codes see https://www.iso.org/iso-3166-country-codes.html.

Usage

```
iso_codes
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 286 rows and 2 columns.

Definitions

- `country` (character): Country name., * `country_iso` (character): Corresponding ISO code.

See Also

data_dictionary

Other iso codes: region_isos, region_isos_demo

Examples

```
head(iso_codes)
```

---

loanbook_demo *A loanbook dataset for demonstration*

Description

Fake financial portfolio.

Demo datasets are synthetic because most financial data is strictly private; they help to demonstrate and test the implementation in R of 'PACTA' (https://www.transitionmonitor.com/).

Usage

```
loanbook_demo
```

Format

An object of class tbl_df (inherits from tbl, data.frame) with 283 rows and 19 columns.

Definitions

- fi_type (character): Financial instrument name or asset class., * flag_project_finance_loan (character): Project finance flag denoting whether a loan is given out to a particular asset or not., * id_direct_loantaker (character): Borrower identifier unique to each borrower/sector combination in loanbook., * id_intermediate_parent_n (character): Optional input: id of the n-th intermediate parent company within the company structure that can be used for more granular mapping than the ultimate parent. Smaller values of n are closer to the direct_loantaker., * id_loan (character): Unique loan identifier., * id_ultimate_parent (character): Ultimate parent identifier unique to each ultimate parent/sector combination., * isin_direct_loantaker (logical): Optional input: providing the isin identifier of the direct loan taker to improve the matching coverage., * lei_direct_loantaker (logical): Optional input: providing the lei (legal entity identifier) of the direct loan taker to improve the matching coverage., * loan_size_credit_limit (double): Total credit limit or exposure at default., * loan_size_credit_limit_currency (character): Currency corresponding to credit limit., * loan_size_outstanding (double): Amount drawn by borrower from total credit limit., * loan_size_outstanding_currency (character): Currency corresponding to outstandings., * name_direct_loantaker (character): Name of the company directly taking the loan., * name_intermediate_parent_n (character): Optional input: name of intermediate parent company within the company structure that can be used for more granular mapping than the ultimate parent. Smaller values of n are closer to the direct_loantaker.,

* name_project (logical): Required input for loans with the flag_project_finance_loan = TRUE: Name of the project being financed., * name_ultimate_parent (character): Name of the ultimate parent company to which the borrower belongs. Can be the same as borrower., * sector_classification_direct_loantaker (double): Sector classification code of the direct loantaker., * sector_classification_input_type (character): Flag identifying if the sector classification code or character description is used., * sector_classification_system (character): Name of the sector classification standard being used.

See Also

data_dictionary

Other demo datasets: abcd_demo, co2_intensity_scenario_demo, overwrite_demo, region_isos_demo, scenario_demo_2020

Examples

```
head(loanbook_demo)
```

---

nace_classification *Dataset to bridge (translate) common sector-classification codes*

Description

This dataset serves as a translation key between common sector-classification systems and sectors relevant to the 'PACTA' tool (https://www.transitionmonitor.com/).

Usage

```
nace_classification
```

Format

An object of class tbl_df (inherits from tbl, data.frame) with 1047 rows and 6 columns.

Definitions

- borderline (logical): Flag indicating if PACTA sector and classification code are a borderline match. The value TRUE indicates that the match is uncertain between the PACTA sector and the classification. The value FALSE indicates that the match is certainly perfect or the classification is certainly out of PACTA's scope., * code (character): NACE version 2.1 code with top-level letter prepended., * description (character): Original NACE version 2.1 description., * original_code (character): Original NACE version 2.1 code., * sector (character): Associated PACTA sector., * version (character): Column identifying to which NACE version the code belongs.

Details

Classification datasets help to standardize sector classification codes from the wild to a relevant subset including 'power', 'oil and gas', 'coal', 'automotive', 'aviation', 'concrete', 'steel', and 'shipping'.

See Also

data_dictionary.

Other datasets for bridging sector classification codes: `gics_classification`, `isic_classification`, `naics_classification`, `psic_classification`, `sector_classifications`, `sic_classification`

Examples

```
head(nace_classification)
```

---

naics_classification *Dataset to bridge (translate) common sector-classification codes*

Description

This dataset serves as a translation key between common sector-classification systems and sectors relevant to the 'PACTA' tool (https://www.transitionmonitor.com/).

Usage

```
naics_classification
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 2125 rows and 5 columns.

Definitions

- `borderline` (logical): Flag indicating if PACTA sector and classification code are a borderline match. The value TRUE indicates that the match is uncertain between the PACTA sector and the classification. The value FALSE indicates that the match is certainly perfect or the classification is certainly out of PACTA's scope.., * `code` (character): Six-digit NAICS code., * `description` (character): Original NAICS sector title., * `sector` (character): Associated PACTA sector., * `version` (character): Column identifying which year the classification was published in..

Details

Classification datasets help to standardize sector classification codes from the wild to a relevant subset including 'power', 'oil and gas', 'coal', 'automotive', 'aviation', 'concrete', 'steel', and 'shipping'.

See Also

data_dictionary.

Other datasets for bridging sector classification codes: gics_classification, isic_classification, nace_classification, psic_classification, sector_classifications, sic_classification

Examples

```
head(naics_classification)
```

`overwrite_demo` *A demonstration dataset used to overwrite specific entity names or sectors*

Description

Fake dataset used to manually link loanbook entities to mismatched asset level entities.

Demo datasets are synthetic because most financial data is strictly private; they help to demonstrate and test the implementation in R of 'PACTA' (https://www.transitionmonitor.com/).

Usage

```
overwrite_demo
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 2 rows and 5 columns.

Definitions

- `id_2dii` (character): IDs of the entities to overwrite., * `level` (character): Which level should be overwritten (e.g. direct_loantaker or ultimate_parent)., * `name` (character): Overwrite name (if only overwriting sector, type NA)., * `sector` (character): Overwrite sector (if only overwriting name, type NA)., * `source` (character): What is the source of this information (leave as "manual" for now, may remove this flag later).

See Also

data_dictionary

Other demo datasets: abcd_demo, co2_intensity_scenario_demo, loanbook_demo, region_isos_demo, scenario_demo_2020

Examples

```
head(overwrite_demo)
```

psic_classification *Dataset to bridge (translate) common sector-classification codes*

Description

This dataset serves as a translation key between common sector-classification systems and sectors relevant to the 'PACTA' tool (https://www.transitionmonitor.com/).

Usage

```
psic_classification
```

Format

An object of class tbl_df (inherits from tbl, data.frame) with 1271 rows and 5 columns.

Definitions

- borderline (logical): Flag indicating if PACTA sector and classification code are a borderline match. The value TRUE indicates that the match is uncertain between the PACTA sector and the classification. The value FALSE indicates that the match is certainly perfect or the classification is certainly out of PACTA's scope.., * code (character): Formatted PSIC classification code., * description (character): Original PSIC classification sector name., * sector (character): Associated PACTA sector., * version (character): Column identifying which year the classification was published in..

Details

Classification datasets help to standardize sector classification codes from the wild to a relevant subset including 'power', 'oil and gas', 'coal', 'automotive', 'aviation', 'concrete', 'steel', and 'shipping'.

See Also

data_dictionary.

Other datasets for bridging sector classification codes: gics_classification, isic_classification, nace_classification, naics_classification, sector_classifications, sic_classification

Examples

```
head(psic_classification)
```

region_isos *A dataset outlining various region definitions*

Description

This dataset maps codes representing countries to regions.

For information about the ISO standard for country codes see https://www.iso.org/iso-3166-country-codes.html.

Usage

```
region_isos
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 7455 rows and 3 columns.

Definitions

- `isos` (character): Countries in region, defined by iso code., * `region` (character): Benchmark region name., * `source` (character): Source publication from which the regions are defined.

See Also

data_dictionary

Other iso codes: `iso_codes`, `region_isos_demo`

Examples

```
head(region_isos)
```

region_isos_demo *A dataset outlining various region definitions*

Description

This dataset maps codes representing countries to regions. It is similar to but smaller than region_isos.

Demo datasets are synthetic because most financial data is strictly private; they help to demonstrate and test the implementation in R of 'PACTA' (https://www.transitionmonitor.com/).

For information about the ISO standard for country codes see https://www.iso.org/iso-3166-country-codes.html.

Usage

```
region_isos_demo
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 358 rows and 3 columns.

Definitions

- `isos` (character): Countries in region, defined by iso code., * `region` (character): Benchmark region name., * `source` (character): Source publication from which the regions are defined.

See Also

Other iso codes: `iso_codes`, `region_isos`

Other demo datasets: `abcd_demo`, `co2_intensity_scenario_demo`, `loanbook_demo`, `overwrite_demo`, `scenario_demo_2020`

Examples

```
region_isos_demo
```

---

scenario_demo_2020 *A prepared climate scenario dataset for demonstration*

Description

Fake climate scenario dataset, prepared for the software PACTA (Paris Agreement Capital Transition Assessment). It imitates climate scenario data (e.g. from the International Energy Agency (IEA)) including the change through time in production across industrial sectors.

Demo datasets are synthetic because most financial data is strictly private; they help to demonstrate and test the implementation in R of 'PACTA' (https://www.transitionmonitor.com/).

Usage

```
scenario_demo_2020
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 1512 rows and 8 columns.

Definitions

- region (character): The region to which the pathway is relevant., * scenario (character): The name of the scenario., * scenario_source (character): The source publication from which the scenario was taken., * sector (character): The sector to which the scenario prescribes a pathway., * smsp (double): Sector market share percentage of the pathway calculated in 2020., * technology (character): The technology within the sector to which the scenario prescribes a pathway., * tmsr (double): Technology market share ratio of the pathway calculated in 2020., * year (integer): The year at which the pathway value is prescribed.

See Also

data_dictionary

Other demo datasets: abcd_demo, co2_intensity_scenario_demo, loanbook_demo, overwrite_demo, region_isos_demo

Examples

```
head(scenario_demo_2020)
```

---

sector_classifications

A view of available sector classification datasets

Description

This dataset lists all sector classification code standards used by 'PACTA' (https://www.transitionmonitor.com/).

Usage

```
sector_classifications
```

Format

An object of class tbl_df (inherits from tbl, data.frame) with 6692 rows and 4 columns.

Definitions

- borderline (character): Flag indicating if 2dii sector and classification code are a borderline match. The value TRUE indicates that the match is uncertain between the 2dii sector and the classification. The value FALSE indicates that the match is certainly perfect or the classification is certainly out of 2dii's scope.., * code (character): Formatted code., * code_system (character): Code system., * sector (character): Associated 2dii sector.

Details

Classification datasets help to standardize sector classification codes from the wild to a relevant subset including 'power', 'oil and gas', 'coal', 'automotive', 'aviation', 'concrete', 'steel', and 'shipping'.

See Also

data_dictionary.

Other datasets for bridging sector classification codes: `gics_classification`, `isic_classification`, `nace_classification`, `naics_classification`, `psic_classification`, `sic_classification`

Examples

```
head(sector_classifications)
```

---

sic_classification *Dataset to bridge (translate) common sector-classification codes*

Description

This dataset serves as a translation key between common sector-classification systems and sectors relevant to the 'PACTA' tool (https://www.transitionmonitor.com/).

Usage

```
sic_classification
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 1005 rows and 5 columns.

Definitions

- `borderline` (character): Flag indicating if PACTA sector and classification code are a borderline match. The value TRUE indicates that the match is uncertain between the PACTA sector and the classification. The value FALSE indicates that the match is certainly perfect or the classification is certainly out of PACTA's scope.., * `code` (character): Original SIC code., * `description` (character): Original SIC description., * `sector` (character): Associated PACTA sector., * `version` (character): Column identifying to which SIC version the code belongs.

Details

Classification datasets help to standardize sector classification codes from the wild to a relevant subset including 'power', 'oil and gas', 'coal', 'automotive', 'aviation', 'concrete', 'steel', and 'shipping'.

See Also

data_dictionary.

Other datasets for bridging sector classification codes: `gics_classification`, `isic_classification`, `nace_classification`, `naics_classification`, `psic_classification`, `sector_classifications`

Examples

```
head(sic_classification)
```

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