

sanity_check

April 19, 2023

1 Why different oil articles are selected from before

```
[8]: import numpy as np
import pandas as pd
from collections import Counter
from tqdm import tqdm

'''
old : topic allocation results in 2020-11-16
new : oil info in 2023
raw : raw news in 2023, including that not related to oil
lengths are mismatched since July 2007
'''

# 200801
old = pd.read_csv('old.csv')
new = pd.read_csv('new.csv')
raw = pd.read_csv('new_raw.csv')
assert len(old) != len(new)

# 200701
old07 = pd.read_csv('old07.csv')
new07 = pd.read_csv('new07.csv')
raw07 = pd.read_csv('new07_raw.csv')
assert len(old07) == len(new07)

# energy tag list
tag = pd.read_csv('energytag.csv')['energytag'].values
tag = ['N2:' + i for i in tag]

# tag description
n2k = pd.read_excel('N2K_Template_2015-06-08.xls', index_col=0)
newcodes = pd.read_excel('4_NewsCodes_20170927.xls', index_col=0)

[9]: def print_def(tagName, df):
    row = df.loc[tagName[3:]]
    try:
```

```

        print('* ' + tagName[3:] + ' ' + row['Description'] + '\n---- ' + row['Topic_
↳Definition'])
    except TypeError:
        assert(np.isnan(row['Topic Definition']))
        print('* ' + tagName[3:] + ' ' + row['Description'])

def get_topic_def(tags):
    for tagName in tags:
        try:
            print_def(tagName, newcodes)
        except KeyError:
            try:
                print_def(tagName, n2k)
            except KeyError:
                print('* ' + tagName[3:] + '\n---- NOT FOUND')

```

```

[10]: def get_diff_tags(old, new, squeeze=True):
    diffHeadlines = set(old['headline']).difference(new['headline'])
    if diffHeadlines != set():
        diffIdx = raw[raw['headline'].isin(diffHeadlines)].index
        diffSubjects = raw['subject'].iloc[diffIdx]
        tagLists = [list(set(eval(diffSubject)).difference(tag)) for
↳diffSubject in diffSubjects]
        if squeeze:
            return [item for sublist in tagLists for item in sublist if item.
↳startswith('N2:')]
        else:
            return tagLists

    else:
        print('Matching headlines')

```

1.1 200701

```

[11]: # 200701
print(f'Old length: {len(old07)}; New length: {len(new07)}')
idx = raw07[raw07['Id'].isin(new07['Id'])].index
subs = raw07['subject'].iloc[idx]
oldTags = [item for sublist in subs for item in eval(sublist) if item.
↳startswith('N2:')]
display(Counter(oldTags).most_common(15))
get_topic_def(set(oldTags).intersection(tag))

```

Old length: 6798; New length: 6798

```

[('N2:LEN', 6798),
 ('N2:RTRS', 6798),

```

('N2:CRU', 4132),
('N2:PROD', 3311),
('N2:US', 3133),
('N2:ENR', 2799),
('N2:ASIA', 2184),
('N2:EMRG', 2136),
('N2:NGS', 2089),
('N2:EUROPE', 1736),
('N2:ELG', 1452),
('N2:WEU', 1090),
('N2:DRV', 905),
('N2:NEWS', 888),
('N2:MEAST', 864)]

* MOG Gasoline

---- Production, transport, processing, trading / broking, demand for and use of gasoline / petrol.

* CO2 Carbon / Emissions Markets

---- Trading in permits to emit carbon dioxide and other greenhouse gases. Policy, allowances, regulations, monitoring and enforcement governing greenhouse gas emissions as well as related technology in energy intensive industries, including carbon capture and storage.

* CRU Crude Oil

---- Exploration, extraction, transport, processing, trading / broking, demand for and use of crude oil and gas condensate. Organisations associated with crude oil.

* PROD Refined Products

---- Production, transport, processing, trading / broking, demand for and use of refined oil products including fuel oil, naphtha, gasoline, petroleum, gas oil, jet kerosene and petrochemicals. News on refineries and on policy affecting petroleum products, such as new specifications for sulphur content.

* BIOF Biofuels

---- Production, transport, processing, trading / broking, demand for and use of biofuels, including ethanol (derived from sugar cane), biodiesel (from animal or vegetable oils) and other fuels derived from living organisms.

* RNW Renewable Energy

---- Production, transport, processing, trading / broking, demand for and use of renewable energy, including wind, wave, solar, tidal, geothermal and hydro power, biomass and biofuels used for transport. Policy and regulations governing renewable energy.

* NGS Natural Gas

---- Production, transport, processing, trading / broking, demand for and use of natural gas. Organisations associated with natural gas.

* BUN Bunker Fuel

---- Production, transport, processing, trading / broking, demand for and use of bunker fuel, the heavy fuel oil used by ships, and marine diesel.

* NAP Naphtha

---- Production, transport, processing, trading / broking, demand for and use of

naphtha.

* PETC Petrochemicals

---- Production, transport, processing, trading / broking, demand for and use of petrochemicals including ethylene, propylene, butylene, benzene, toluene, styrene, xylene, ethyl benzene and cumene.

* OPEC Organization of the Petroleum Exporting Countries

---- OPEC policy, statements, meetings, output and exports; compliance by member countries with the crude oil producer group's decisions. See also OPEC Countries [OPECC].

* JET Jet Fuel / Kerosene

---- Production, transport, processing, trading / broking, demand for and use of jet kerosene as a jet fuel and for heating.

* LNG Liquefied Natural Gas

---- Production, transport, processing, trading / broking, demand for and use of liquefied natural gas.

* PLAS Polymers / Plastics

---- Production, transport, trading / broking, demand for and use of polymer materials, typically thermoplastic or thermosetting resins. Processing new or recycled plastics resins into intermediate or final products including packaging.

* HOIL Heating Oil / Gasoil

---- Production, transport, processing, trading / broking, demand for heating oil, the gas oil or middle distillate chiefly used as a heating fuel or in industry.

* COA Coal

---- Extraction, transport, processing, trading / broking, demand for and use of coal. Organisations associated with coal.

* RFO Fuel Oil

---- Production, transport, processing, trading / broking, demand for and use of heavy or residual fuel oil, including high-sulphur, low sulphur and bunker fuel oil as well as vacuum gasoil.

1.2 200801

```
[12]: # 200801
print(f'Old length: {len(old)}; New length: {len(new)}')
diffTags = get_diff_tags(old, new)

subs = raw07['subject']
oldTagsRaw = [item for sublist in subs for item in eval(sublist) if item.
               ↪startswith('N2:')]
subsetTags = [tag for tag in tqdm(diffTags) if tag not in oldTagsRaw]
display(Counter(subsetTags).most_common(15))

get_topic_def(set(diffTags).difference(oldTagsRaw))
```

Old length: 8038; New length: 7628

100%| | 10896/10896 [01:15<00:00, 143.98it/s]

```
[('N2:RFOD', 432),  
 ('N2:NCYC', 431),  
 ('N2:FDRT', 422),  
 ('N2:CYCS', 266),  
 ('N2:SHOP', 210),  
 ('N2:FINS', 145),  
 ('N2:DEPT', 142),  
 ('N2:BSVC', 127),  
 ('N2:INDS', 124),  
 ('N2:CEEU', 91),  
 ('N2:RETS', 86),  
 ('N2:SEEU', 81),  
 ('N2:CYCP', 76),  
 ('N2:INVS', 69),  
 ('N2:RETA', 66)]
```

* PHON Integrated Telecommunications Services (TRBC)

---- Providers of telecommunication services other than wireless only. Includes integrated providers of both fixed-line and wireless services offering voice, data and high-density data transmission services, as well as Voice over Internet Protocol (VoIP) services.

* OFCE Office Equipment (TRBC)

---- Manufacturers of office technology equipment such as photocopiers, facsimile, calculators, cash registers, bar code readers, electronic tags, coin and currency counting devices, as well as scientific and analytical equipment and precision instruments.

* MTAL Metals & Mining (TRBC)

---- Miners and processors of precious metals and minerals, steel, aluminum and specialty metals and minerals.

* AERO Aerospace & Defense (TRBC)

---- Producers of commercial, military and private aircraft and spacecraft. Includes manufacturers of military equipment, vehicles, explosive ordnance, guidance systems, artillery, ammunition and other related weaponry. Includes also manufacturers of satellites.

* ENVS Environmental Services (TRBC)

---- Providers of air, water and soil purification equipment, solid waste disposal, filtration systems and other pollution-reducing control equipment and environmental consulting services. Includes producers of commercial climate control and regulator systems, and plastic, paper, metal and glass recycling equipment and services.

* BSUP Business Support Services (TRBC)

---- Providers of commercial support services such as legal, cleaning, educational, security, office equipment rental, management consulting, architectural/interior design, payroll, accounting, basic data processing, credit agencies and other related services. Includes ATM operators that are not banks, as well as data processing companies.

* FOBE Food & Beverages (TRBC)

---- Producers and processors of food, beverages and tobacco. Includes operators of farms and fisheries, as well as brewers, distillers and distributors, and packagers of Food & Beverages.

* ENTS Hotels & Entertainment Services (TRBC)

---- Operators of hotels, motels, cruise lines, restaurants, casinos, gaming operations, sports stadiums, golf courses, amusement parks and other recreational services.

* CHEM Chemicals (TRBC)

---- Producers and refiners of agricultural, commodity and specialty chemicals.

* STEE Iron & Steel (TRBC)

---- Miners and processors of iron ore and coke coal and producers of iron and steel. Includes providers of metal ore exploration and mining services, operators of iron and steel foundries for beneficiating, smelting, rolling, forging, spinning, recycling, stamping, polishing and plating of iron and steel products such as pipes, tubes, wire, spring, rolls and bars, and providers of metal processing services and wholesalers of iron and steel products.

* WEAR Apparel & Accessories (TRBC)

---- Manufacturers of clothing such as, men's, women's, children's and pet clothing, uniforms, jackets, hats, socks, gloves, robes, hosiery and swim suits. Includes producers of accessories such as handbags, attache cases, umbrellas, cosmetic bags, jewelry, watches, luggage.

* COFS Consumer Financial Services (TRBC)

---- Providers of personal loan services, such as credit card services, mortgage lenders and brokers, and consumer leasing providers, such as for automobiles, as well as personal and student loan services.

* WLES Wireless Telecommunications Services (TRBC)

---- Providers of wireless communication services, such as paging, cell phone and other satellite telecommunication services, such as provided by mobile virtual network operators (MVNO) and mobile other licensed operators (MOLO) who do not own the telecommunication network infrastructure.

* TCOM Telecommunications Services (TRBC)

---- Owners and operators of fixed line and wireless telecommunication networks and services. The sector serves consumers of voice, video and data transmission.

* APPA Textiles & Apparel (TRBC)

---- Manufacturers of fabrics, leather and other textiles, apparel, accessories and footwear.

* PHAG Generic & Specialty Pharmaceuticals (TRBC)

---- Manufacturers and marketers of over-the-counter, prescription and veterinary drugs.

* COMS Communications Equipment (TRBC)

---- Manufacturers of telecommunications equipment such as modems, cable decoders, carrier switches, fiber cable, wireless and satellite communication equipment. Includes producers of cellular and voice-over-Internet-protocol (VoIP) phones.

* HARW Computer Hardware (TRBC)

---- Assemblers and manufacturers of computers, computer hardware and computer peripherals. Includes producers of storage devices, circuit boards, keyboards, printers, monitors, pointing devices, Webcams and PC cameras, as well as ATM

machines.

* RETS Miscellaneous Specialty Retailers (TRBC)

---- Retailers operating specialized stores and dealerships. Includes operators of office supply, book, toy, vision care, video rental, sporting equipment and other focused retail outlets.

* HELE Heavy Electrical Equipment (TRBC)

---- Manufacturers of large scale electrical equipment, such as elevators, escalators, industrial conveyor belt systems and electrical machinery. Includes producers of hydraulic, steam and gas turbines, large generators and power grid equipment, such as transformers.

* INVT Investment Trusts (TRBC)

---- Operators of listed closed-end investment funds, as well as listed open-end investment funds, exchange-traded funds, unit investment trusts and blank check companies.

* HBHG

---- NOT FOUND

* HPAS Healthcare Providers & Services (TRBC)

---- Operators of healthcare facilities and providers of managed healthcare.

* HPRO Household Products (TRBC)

---- Manufacturers of non-durable goods such as cleaning products, detergents, disinfectants, brooms, mops, towels and rags, disposable plates and cutlery.

* REAL Real Estate (TRBC)

---- Developers and managers of real estate operations and related services. The industry also includes residential and commercial real estate investment trusts.

* PINS Property & Casualty Insurance (TRBC)

---- Insurance underwriters and carriers of property, fire, marine, auto, title, professional liability, funeral, bonding, fidelity and other surety policies.

* MEMI Specialty Mining & Metals (TRBC)

---- Miners and processors of non-ferrous metals such as copper, zinc, lead, tin, nickel, cobalt, graphite, titanium and other non-ferrous metals. Includes non-metallic minerals.

* FARM Fishing & Farming (TRBC)

---- Operators of commercial farms and fisheries, as well as providers of genetic research and modification for agricultural purposes. Includes growers of fruits, vegetables, grains, animal feeds and other produce. Includes also harvesters of fish and operators of aquaculture, as well as raisers of livestock such as cattle, pigs and poultry.

* CYCS Cyclical Consumer Goods & Services (TRBC)

---- Manufacturers of automobiles, household goods, textiles and other products, as well as homebuilders and retailers, and providers of consumer services, such as hotel, entertainment and media services.

* RORA Transportation, Ground (TRBC)

---- Providers of locomotive, trucking and road transportation services for freight and passengers. The group also includes owners and operators of transport infrastructure, such as toll roads, bridges and tunnels.

* CEEU Central / Eastern Europe

* NCYC Non-Cyclical Consumer Goods & Services (TRBC)

---- Producers, processors and Retailers of food, tobacco and beverages, and

manufacturers of household and personal products, as well as providers of personal services.

* LIQS Distillers & Wineries (TRBC)

---- Manufacturers of wine, champagne and sparkling wine, as well as distilled alcoholic beverages such as vodka, brandy, whisky, gin, sake and other malt and blended alcoholic beverages.

* MDIA Media & Publishing (TRBC)

---- Providers of advertising, marketing, broadcasting, entertainment production and publishing services.

* SHOP Retailers excl Food and Drug Specialists (TRBC)

---- Retailers that operate department, discount, catalog and internet, apparel & accessories, computers and electronics and other specialty stores.

* TRAN Transportation (TRBC)

---- Transporters of freight and passengers by air, land and sea, and operators of supporting services.

* SEEU South-Eastern Europe

* ROAD Highways & Rail Tracks (TRBC)

---- Operators and owners of transport infrastructure such as rail tracks, tunnels, bridges and roads. Includes toll collection, parking lot operations, emergency road services and towing, street cleaning, and independent bus terminal operators.

* APRE Applied Resources (TRBC)

---- Producers of wood-based products and providers of related services, as well as manufacturers of paper and non-paper products, containers and packaging.

* CELE Consumer Electronics (TRBC)

---- Manufacturers of home audio and video equipment such as television sets, VCR and DVD players, home projection equipment, stereo systems, consumer-oriented photographic equipment and other related electronics.

* SHIP Marine Services (TRBC)

---- Providers of sea freight transportation and marine port support services.

* FOOD

---- NOT FOUND

* SOFA Home Furnishings (TRBC)

---- Manufacturers of furniture, non-upholstered kitchenware, floor coverings, wall coverings and related furnishings. Includes producers of couches, mattresses, bed frames and headboards, desks, tables, chairs, tables, draws, entertainment centers and stands, wall units, outdoor furniture, carpets, rugs, wall paper, blinds, shades and curtains.

* CARM Auto & Truck Manufacturers (TRBC)

---- Manufacturers of automobiles, consumer-oriented light trucks, minivans, sports utility vehicles, motorcycles, snowmobiles and all-terrain vehicles.

* ITSE IT Services & Consulting (TRBC)

---- Producers of customized software development, ISP providers, online support services, online database management, interactive data access and auctioning services.

* BCST Broadcasting (TRBC)

---- Providers of television, radio, cable internet, satellite/non-cable broadcasting services.

* CMSS Commercial Services & Supplies (TRBC)
 ---- Providers of environmental, employment, business support and commercial printing services and supplies.

* PHAR Pharmaceuticals (TRBC)
 ---- Manufacturers and marketers of generic and specialty drugs, as well as researchers and developers of new drugs, medical products and procedures.

* SHOE Footwear (TRBC)
 ---- Manufacturers of footwear such as dress shoes, sneakers, slippers, boots, galoshes, sandals and athletic and trade related footwear. Includes producers of footwear parts such as shoe laces, buckles, clasps, inner soles, heels and padding.

* BMAT Basic Materials (TRBC)
 ---- Manufacturers, extractors and refiners of chemicals, minerals, precious metals, steel, aluminum, forest products, and construction and other raw materials.

* AIRP Airport Services (TRBC)
 ---- Operators of fueling, repair, inspection, runway maintenance, hangar rental, passenger parking fields, landing services, catering, duty-free shops and other airport services.

* PART Auto, Truck & Motorcycle Parts (TRBC)
 ---- Manufacturers of original and replacement parts for cars, light trucks and motorcycles.

* RINS Reinsurance (TRBC)
 ---- Property and casualty, and life and health reinsurance carriers.

* TXTL Textiles & Leather Goods (TRBC)
 ---- Operators of cotton farms, and woven and non-woven fabric mills, as well as manufacturers of basic leather goods. Includes producers of stock and primary leather goods, cotton, wool, rayon, polyester, silk, velvet, hemp, lace and other fabric mills, fur bearing animal production and basic textile goods such as linens, cloths, rags and bed sheets.

* JARS Non-Paper Containers & Packaging (TRBC)
 ---- Manufacturers of metal, glass and plastic containers, and providers of diversified, paper and non-paper container and packaging services.

* RETA Apparel & Accessories Retailers (TRBC)
 ---- Retailers of men, women and children's clothing and accessories stores, including retailers of handbags, footwear, leather goods, luggage, jewelry and watches.

* SEAS Freight Transportation, Marine (TRBC)
 ---- Operators of marine and inland water transportation services for freight. Includes deep-sea freight and cargo, barge, inland water, vessel chartering and other freight transportation operations.

* INDG Industrial Goods (TRBC)
 ---- Manufacturers of aerospace and defense equipment, as well as industrial vehicles, machinery, equipment and components.

* DFIN Diversified Financial Services (TRBC)
 ---- Diversified institutions engaged in banking, insurance and other financial services. Includes holding companies with interests in industrial operations, as well as financial services.

* FOTB Food & Tobacco (TRBC)
 ---- Producers and processors of Food & Tobacco. Includes operators of farms, aquaculture and fisheries.

* REOP Real Estate Operations (TRBC)
 ---- Developers and managers of real estate who build, rent and lease residential and commercial properties. Includes real estate brokerage and agency services, real estate appraisal services and consulting services.

* HOME Homebuilding (TRBC)
 ---- Builders of residential homes, mobile homes and prefabricated homes. Includes centralized homebuilding operators where work is channeled to specialized contractors.

* CHIP Semiconductors (TRBC)
 ---- Designers and fabricators of high-value microcircuits, microprocessor chips, integrated circuits and memory chips. Includes operators of foundries and producers of chip components designed for specific industries.

* PAPR Paper Products (TRBC)
 ---- Operators of pulp and paper mills. Includes manufacturers of stationery, computer and construction paper, book and newsprint.

* LEIS Leisure Products (TRBC)
 ---- Manufacturers of toys, games, computer games and consoles, as well as recreational products, such as sporting goods, camping equipment, musical instruments and bicycles.

* UTIM Multiline Utilities (TRBC)
 ---- Producers and distributors both electric power and natural gas. Includes utility companies with significant operations in multiple utility operations consisting of electric, natural gas, water and other regulated utility operations.

* RUBB Tires & Rubber Products (TRBC)
 ---- Manufacturers of tires, basic rubber products and rubber plantation operations. Includes wholesalers of new and used tires and providers of tire retreading and repairing materials, as well as producers of molded and mechanical rubber goods.

* ENGN
 ---- NOT FOUND

* HSVC
 ---- NOT FOUND

* HMAC Heavy Machinery & Vehicles (TRBC)
 ---- Manufacturers of heavy trucks, road paving and earth movers, tractors, cranes, planting and harvesting machinery, such as balers, graders, cotton ginning machinery, locomotives and rolling stock, as well as commercial shovels, lawnmowers and landscaping equipment.

* SEMI Semiconductors & Semiconductor Equipment (TRBC)
 ---- Designers and manufacturers of semiconductors, as well as producers of testing and manufacturing equipment for semiconductor manufacturers.

* RDRU Drug Retailers (TRBC)
 ---- Retailers operating pharmacies. Includes retail drug operators with auxiliary food and household good product lines.

* AUTO Automobiles & Auto Parts (TRBC)

---- Manufacturers of automobiles, light trucks, motorcycles, as well as related vehicle parts, tires and primary rubber products.

* WOOD Forest & Wood Products (TRBC)

---- Producers of lumber, plywood, sawdust, wood flooring, shingles, tiles, laminated veneer, fencing and other primary wood products. Includes operators of timber tracks and nurseries and providers of cutting, logging, transporting, as well as other forest management services.

* SFIN Specialty Financials (TRBC)

---- Providers of commercial loans for long-term equipment leases, import-export banks and international trade financing.

* CONS Construction Supplies & Fixtures (TRBC)

---- Manufacturers of value-added building products and home improvement components. Includes, door and window frames, moldings and trims, tile, roofing, gutters, floorboards, insulating material, plumbing fixtures, cabinets and other building supplies.

* AIRL Airlines (TRBC)

---- Providers of airline transportation services primarily for consumer and business passengers.

* MEDQ Medical Equipment, Supplies & Distribution (TRBC)

---- Manufacturers and distributors of basic medical equipment and supplies. Includes producers of forceps, surgical knives and gloves, bandages and dressings, syringes, stethoscopes, medical laboratory equipment, x-ray films, dental drills, veterinarian instruments and other related supplies.

* COMP Computers & Office Equipment (TRBC)

---- Manufacturers of computer hardware and peripherals, as well as electronic office equipment such as copiers, facsimile machines, scientific instruments and analytical devices.

* INDS Industrials (TRBC)

---- Manufacturers of industrial equipment and commercial supplies, as well as providers of related services, such as diversified trading, distribution operations and transportation services.

* HECA Healthcare (TRBC)

---- Manufacturers, developers and marketers of pharmaceuticals, medical equipment and supplies, as well as advanced therapeutic treatments and devices, and providers of healthcare facilities and medical research and development.

* PEPS Personal & Household Products & Services (TRBC)

---- Manufacturers of non-durable household goods, personal products and providers of personal services.

* DEPT Department Stores (TRBC)

---- Retailers operating department store chains offering a diversified product line. Includes auxiliary internet and mail order facilities.

* AGRC Agricultural Chemicals (TRBC)

---- Producers of potash, soda ash and peat humus, and nitrogenous, phosphoric, and ammonia-based fertilizers and minerals, as well as insecticides, fungicides, weed and rodent poisons, agricultural salts and other agricultural related products.

* BSVC Banking Services (TRBC)

---- Providers of retail and commercial banking, consumer financial services and

commercial loans for long-term equipment leases. Includes bank holding companies. Excludes providers of investment banking services, classified in Investment Banking.

* DPUB Diversified Media (TRBC)

---- Large corporations with operations in broadcasting, entertainment production or publishing, where at least two of the business lines comprise a substantial portion of the company's total operation.

* TEEQ Technology Equipment (TRBC)

---- Manufacturers of semiconductors, communications equipment, computer hardware and technology-related office equipment.

* READ Publishing (TRBC)

---- Publishers of books, magazines, newspapers, directories, maps and catalogs, as well as printed and electronic databases.

* BEER Brewers (TRBC)

---- Manufacturers of beer and malt liquor.

* COEN Construction & Engineering (TRBC)

---- Builders and engineers that undertake commercial building, civil engineering, utility and other industrial plant construction projects. Includes builders of transport infrastructure, dam and water works as well as hotel, office buildings and other large scale construction projects such as shipbuilding. Also includes manufacturers of heavy machinery for permanent installation.

* FINS Financials (TRBC)

---- Operators of commercial and investment banks, investment trusts and financial markets, as well as providers of investment, insurance and real estate services.

* RELX Leisure & Recreation (TRBC)

---- Tour operators, travel agencies, amusement parks, golf courses, gaming and fishing preserves, sport stadiums, sports teams, movie theaters, dance and theatrical Companies, recreational goods rentals and other leisure services.

* FDRT Food & Drug Retailing (TRBC)

---- Retailers operating pharmacies, grocery, convenience, liquor and specialty food stores.

* SPEC Specialty Chemicals (TRBC)

---- Producers of specialized chemicals such as pigments, inks, dyes, cellular fiber, filaments and polymers, synthetic chemicals, adhesives, glues and epoxies.

* UTIL Utilities (TRBC)

---- Producers and distributors of electricity, natural gas, water and steam, among other utility services, whose distribution facilities and infrastructure are regulated by government. The sector serves private and industrial consumers.

* AIRS Airline Services (TRBC)

---- Providers of commercial airline and support services.

* INVS Investment Banking & Investment Services (TRBC)

---- Providers of security brokerage services, as well as investment banking and investment management services without significant commercial banking operations. Includes investment services such as stock exchanges, transfer agents and information retrieval services focused on serving the investment

community.

* ELCO Electrical Components & Equipment (TRBC)

---- Manufacturers of small scale electrical equipment such as motors, electric heating and cooling systems, small generators, storage batteries and related equipment. Includes producers of electrical components such as wires, cables transistors, electron tubes and insulators.

* ISER Industrial Services (TRBC)

---- Providers of construction, engineering and commercial supply services, as well as diversified trading and distribution operations.

* BEVS Beverages (TRBC)

---- Brewers, distillers, producers and distributors of beer and malt liquor, wine and distilled liquors, as well as non-alcoholic beverages including water, fruit drinks, sodas and other flavored beverages.

* PHAD Diversified Pharmaceuticals (TRBC)

---- Large pharmaceutical companies engaged in the research, development, manufacturing and marketing of drugs.

* SWIT Software & IT Services (TRBC)

---- Developers and marketers of generic system and application software, as well as providers of consulting and IT services.

* INDM Industrial Machinery & Equipment (TRBC)

---- Manufacturers of industrial machinery ranging from basic power and hand tools to advanced factory machinery; industrial components, such as drills, nuts, bolts, screws, springs; bearings; testing and measuring equipment; pumping equipment; compressors; welding and soldering equipment; industrial process furnaces; cylinders and actuators; vending machinery; industrial moulds and valves, and machine tools, such as metal working machines.

* SODA Non-Alcoholic Beverages (TRBC)

---- Manufacturers of non-alcoholic beverages such as water, fruit drinks, soft drinks, coffee and tea, as well as other flavored beverages.

* LINS Life & Health Insurance (TRBC)

---- Insurance underwriters and carriers of accidental death and dismemberment, disability, dental, health, medical and life policies, as well as the management of annuity plans.

* COMC Commodity Chemicals (TRBC)

---- Producers and refiners of industrial chemicals and gases, petrochemicals, liquid hydrocarbons, vinyl, casein and other plastic resin materials, stains, paints, tanning and softening agents, explosives and other commodity chemicals.

* CONG Industrial Conglomerates (TRBC)

---- Large organizations engaged in multiple business lines within the industrial sector, where at least two business lines comprise a substantial portion of the company's total operation. Companies in the industry typically conduct business on a global scale.

* CIGS Tobacco (TRBC)

---- Farmers, processors and manufacturers of tobacco and tobacco products. Includes also producers of e-cigarettes and vaporisers.

* TOOL Appliances, Tools & Housewares (TRBC)

---- Manufacturers of kitchen appliances, hand and light power tools, gardening tools, cookware, silverware and other household goods. Includes manufacturers of

stoves, refrigerators, blenders, washer/dryers, vacuum cleaners, pottery, hairdryers, clocks, home use drills, lawnmowers, rakes, shovels, as well as silverware, china, cutlery, cooking utensils and other related house wares.

* RRLF Freight Transportation, Ground (TRBC)

---- Providers of railroad and trucking freight transportation services. Includes operators of short-term truck and trailer rental, as well as freight warehousing and crating.

* RETE Computer & Electronics Retailers (TRBC)

---- Retailers of computers and peripherals, consumer electronics and other technology products. Includes retailers of household appliances, audio and video equipment, consumer software, digital cameras, cell phones and components, and other electronic goods.

* STAY Hotels, Motels & Cruise Lines (TRBC)

---- Operators of accommodation services including hotels, bed and breakfast inns, motels, cabins, cottages, youth hostels, cruise lines and other tourist and boarding lodges.

* GAME Casinos & Gaming (TRBC)

---- Operators of casinos and gambling operations. Includes stand-alone casinos, casino hotels, riverboat casinos, bingo halls, gambling machine manufacturers, lottery services, internet gambling services, bookmaking and other gambling services.

* CYCP Cyclical Consumer Products (TRBC)

---- Manufacturers and producers of durable goods such as household goods, as well as textiles, apparel and accessories. Includes homebuilders.

* CAFE Restaurants (TRBC)

---- Operators of restaurants, diners, taverns, pubs, nightclubs, banquet halls, fixed location snack bars, food cart vendors, food service contractors and wholesalers of commercial food service equipment.

* ADVT Advertising & Marketing (TRBC)

---- Print and broadcast media advertising agencies, marketing research, public opinion research, public relations and other marketing and consulting services.

* CCOS Cyclical Consumer Services (TRBC)

---- Providers of accommodation, entertainment and leisure services, marketing and advertising services and media & publishing services.

* INSR Insurance (TRBC)

---- Underwriters and carriers of property, casualty, life and health insurance policies, as well as reinsurance carriers.

* TREE Paper & Forest Products (TRBC)

---- Operators of forests, pulp and paper mills, producers and manufacturers of wood and paper products, and providers of related services.

* COMA Construction Materials (TRBC)

---- Miners and producers of raw materials for roads and construction. Includes extractors of sand, gravel, rock, clay, granite, limestone, marble, slate, gypsum, lime, and producers of cement, concrete, and bricks, as well as operators of filtering, bleaching, crushing, cutting, sizing and processing services.

* HFAC Healthcare Facilities & Services (TRBC)

---- Operators of hospitals, physician and dental clinics, psychiatric

facilities, nursing homes, consultancy services (nutritionists, homeopathic therapies) and home healthcare agencies. Includes medical laboratories that support healthcare facilities, such as blood analysis, pathology, urinalysis, medical x-ray and other diagnostic laboratories. Also includes veterinary services.

* PSVC Personal Services (TRBC)

---- Providers of accounting, counseling and rehabilitation, childcare, legal, marriage, laundry, lawn maintenance and funeral services, as well as personal enrichment services, such as test preparation, colleges and dance classes. Includes rental services for tuxedos and gowns, furniture, consumer electronics, movies and games.

* ELEU Electric Utilities (TRBC)

---- Generators and distributors of electric power. Includes hydroelectric, fossil fuel, nuclear, solar, tidal, wind and independent electric power generators.

* PPRO Personal Products (TRBC)

---- Manufacturers of toiletries, personal hygienic and birth control products. Includes producers of combs, toothbrushes, mouthwash, perfumes, cosmetics, deodorants, hand and body soaps, sunscreen lotion, walking canes, burial caskets, hair pieces, prophylactics, spectacles, contact lenses and other personal products.

* PORT Marine Port Services (TRBC)

---- Providers of marine freight support services such as port loading and unloading, canal, harbor and docking services, longshoreman support, tugboat, navigational control and other related services.

* PACK Containers & Packaging (TRBC)

---- Manufacturers of containers, as well as providers of packaging services.

* AIRF Air Freight & Courier Services (TRBC)

---- Air cargo and mail carriers, packaging and logistic air freight services, courier and postal delivery services, as well as land-based logistics and courier services.

* PXP

---- NOT FOUND

* HLTH Healthcare Services (TRBC)

---- Manufacturers of medical equipment and supplies, as well as operators of healthcare facilities and providers of managed healthcare.

* DISC Discount Stores (TRBC)

---- Retailers operating stores with a diversified product lines at a discount. Includes discount stores with auxiliary or primarily internet and mail order facilities.

* SOFW Software (TRBC)

---- Developers and marketers of system and application software. Includes developers of operating systems, word processors, spreadsheet applications, CAD and database engines.

* GASU Natural Gas Utilities (TRBC)

---- Producers and distributors natural gas under governmental regulation.

* CHPT Semiconductor Equipment & Testing (TRBC)

---- Producers of semiconductor testing equipment and semiconductor

manufacturing equipment. Includes providers of semiconductor testing services.

* BANK Banks (TRBC)

---- Deposit-taking institutions such as commercial banks, savings and loans banks, credit institutions and universal banking institutions, as well as bank holding companies.

* MACH Machinery, Equipment & Components (TRBC)

---- Manufacturers of industrial, construction, agricultural and electrical machinery, equipment and components.

* INCA

---- NOT FOUND

* MINE Mineral Resources (TRBC)

---- Miners and processors of steel, aluminum, precious and specialty metals and minerals, and construction related materials.

* RFOD Food Distribution & Convenience Stores (TRBC)

---- Retailers operating grocery, convenience, liquor and specialty food stores. Includes operators of grocery stores with an auxiliary drug department and vending machines.