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GUIDE TO ICE DATA UNIFORM SECTOR CLASSIFICATIONS

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ICE Data Indices has introduced new uniform sector classifications

ICE Data Indices, LLC has introduced the ICE Data Uniform Sector Classifications (USC) schema that is applied across equity and fixed income securities and indices thus ensuring a consistent framework that supports multi-asset risk and performance attribution analysis.

New Corporate classifications add granularity

The new uniform schema provides significantly more granularity for Corporate issuers than the level of detail provided in the traditional fixed income schema used for our bond index family. The USC schema drills down into 66 Industries, which is comparable to the 70 Sub-Categories in the most detailed level of the traditional fixed income schema. But where the traditional fixed income schema leaves off, the USC continues to further segment Corporate issuers into 113 Sub-Industry Groups and 268 Sub-Industries.

Traditional fixed income Corporate classifications will still be provided

The Detail Business Classifications (DBC) that are at the foundation of USC can also be mapped to the traditional fixed income Corporate classifications that have supported the fixed income index family for decades and that we will continue to provide.

Guide to ICE Data Uniform Sector Classifications

ICE Data Indices has introduced a new uniform sector classification schema for equity and fixed income indices.

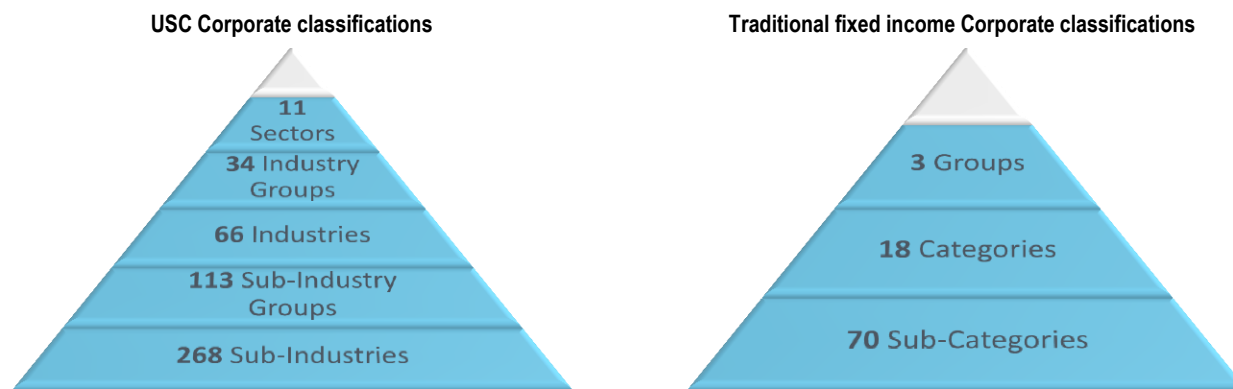
ICE Data Indices, LLC has introduced a new security sector classification schema that is uniformly applied across equity and fixed income securities and indices. For corporate issuers, the ICE Data Uniform Sector Classifications (“USC”) begin with 277 Detail Business Classifications (DBC’s) that are assigned at the entity level and are used to derive sector classifications for both equity and debt securities issued by that entity. The DBC’s are rolled up into a six-tier classification schema that is used for all constituents across the ICE fixed income and equity index families thus providing a consistent framework that supports multi-asset risk and performance attribution analysis. For non-Corporate issuers, USC uses the same Level 1-4 classifications that are used for the traditional fixed income schema. For these issuers, USC Level 5 and 6 classifications are the same as Level 4. The complete USC schema appears in Exhibit C.

The DBC’s can also be mapped to the traditional fixed income Corporate classifications that have supported the fixed income index family for decades and that we will continue to provide (refer to ICE BofAML [Bond Index Methodologies](#) for a complete description of the traditional fixed income classification schema). Therefore, those using ICE and ICE BofAML Corporate bond indices have a choice of continuing to use the same classifications that have always been provided, or adopting the new IDUSC classifications. The mapping of DBC’s to USC Level 6 and traditional fixed income Level 4 Corporate classifications is provided in Exhibit D.

The new schema adds significantly more granularity to Corporate issuer classifications.

The new uniform schema adds significantly more granularity to Corporate issuer classifications than the level of detail provided in the traditional fixed income schema (Exhibit A). The new USC schema starts with 11 sectors, which is roughly halfway between the 3 Groups and 18 Categories in the traditional fixed income schema. The USC schema then segments issuers into 66 Industries, which is comparable to the 70 Sub-Categories in the traditional fixed income schema. But where the traditional fixed income schema left off, USC continues to further segment Corporate issuers into 113 Sub-Industry Groups and 268 Sub-Industries.

Exhibit A: USC vs. traditional fixed income Corporate sector classification categories



Key differences between Bond Index Family and new Uniform Sector Classifications

In addition to the greater level of granularity provided at the lowest USC classification tiers relative to the Bond Index Family schema, there are other notable differences in the way the DBCs that drive both schemas roll up into higher level classification tiers. In some cases there is a strong overlap, but in others there are significant differences.

To highlight some of the key differences, we ran a cross-matrix of the number of DBCs that fall into the USC Level 2 classifications and the Bond Index Family Level 3 classifications (Exhibit B), both of which target the primary Corporate sectors. In some cases there is a one to one match (Healthcare, Technology, Utilities). In other cases, apart from the naming conventions, they are largely the same with just a few differences around the edges (e.g., Consumer Goods vs. Consumer Staples). But in some categories the two deviate significantly. A few of the notable differences include:

- **Consumer Discretionary**, which combines DBCs associated with Bond Index Family Level 3 classifications Retail and Leisure, along with those associated with the retail-oriented segments of Automotive and Technology & Electronics, as well as non-food and drug Consumer Goods, etc.
- **Industrials**, which combines DBCs associated with a wide range of Bond Index Family Level 3 classifications such as Capital Goods, Basic Industry, Transportation, Services, etc.
- **Media & Communications**, which largely combines Bond Index Family Level 3 classifications Media and Telecommunications, but also combines DBCs associated with Technology & Electronics and Leisure.

Exhibit B: Comparison of Detail Business Classifications roll-up to Uniform Sector Classifications (Level 2) and Bond Index Family Classifications (Level 3)

		ICE Data Uniform Sector Classifications (Level 2)											Total Detail Business Classifications
		Consumer Discretionary	Consumer Staples	Energy	Financials	Healthcare	Industrials	Materials	Media & Communications	Real Estate & REITs	Technology	Utilities	
Bond Index Family Classifications (Level 3)	Automotive	5					1						6
	Banking				3								3
	Basic Industry			2			4	22					28
	Capital Goods						14	5					19
	Consumer Goods	6	21										27
	Energy			13									13
	Financial Services				17		1						18
	Healthcare					19							19
	Insurance				7								7
	Leisure	11							1	1			13
	Media						1		9				10
	Real Estate				1					16			17
	Retail	20	3										23
	Services	4					15						19
	Technology & Electronics	1			2				1		23		27
	Telecommunications								4	1			5
	Transportation						10						10
	Utility											13	13
		Total Detail Business Classifications	47	23	16	30	19	46	27	15	18	23	13

ICE Data Uniform Sector Classification schema

Note: the Corporate class covers all equity and fixed income securities issued by Corporations, including convertible bonds and preferred stock.

Exhibit C: ICE Data Uniform Sector Classification schema

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Class	Sector	Industry Group	Industry	Sub-Industry Group	Sub-Industry
Corporate	Consumer Discretionary	Automotive	Automotive	Automobile Manufacturers	Car & Light Truck Manufacturers
					Motorcycle Manufacturers
				Automotive Equipment & Services	Automotive Parts & Services
					Tire & Rubber
		Consumer Goods	Apparel & Textiles	Accessories & Luxury Goods	Accessories & Luxury Goods
				Apparel	Activewear
					Footwear
					General Apparel
				Textiles	Textiles
			Consumer Goods	Consumer Electronics	Consumer Electronics
				Cosmetics & Perfume	Cosmetics & Perfume
				Recreational & Leisure Goods	Firearms & Ammunition
					Leisure Goods
					Recreational Vehicles
			Household Goods	Household Goods	Home Appliances & Housewares
					Home Furnishings
		Consumer Services	Consumer Services	Consumer Services	Accounting & Tax Preparation
					Educational Services
					Fitness
					Specialized Consumer Services
					Vehicle Rental
		Entertainment, Hospitality & Leisure	Entertainment	Entertainment	Leisure Facilities
					Motorsports
					Movie Theaters

Exhibit C: ICE Data Uniform Sector Classification schema

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Class	Sector	Industry Group	Industry	Sub-Industry Group	Sub-Industry
					Stadiums & Teams
					Theme & Amusement Parks
			Hotels, Resorts & Casinos	Casinos & Gaming	Gaming & Casinos
					Gaming Infrastructure & Equipment
			Restaurants	Hotels & Resorts	Hotels & Resorts
				Restaurants	Casual & Fine Dining
			Travel & Tourism	Travel & Tourism	Fast Food
					Cruise & Touring Services
		Retail	Retail		Travel Services
				Department Stores	Department Stores
				Discount Retail	Discount Retail
				Diverse Specialty Retail	Automotive Retail
					Electronics Retail
					General Apparel Retail
					Home Goods Retail
					Home Improvement Retail
					Online & Direct Retail
					Specialty Stores
	Consumer Staples	Consumer Products	Household Products	Household Products	Household Products
			Personal Products	Personal Products	Personal Products
		Food & Staples Sales	Food & Staples Sales	Grocery & Food Wholesale	Food Wholesale
					Convenience Stores
					Grocery Retail
					Membership & Bulk Retail
				Pharmacy	Pharmacy
		Food, Beverage & Tobacco	Beverage	Alcohol	Beer
					Spirits
					Wine
				Non-Alcoholic Beverages	Coffee & Tea
					Water, Juice & Soda
			Food	Meat, Dairy & Whole Foods	Agricultural Products
					Dairy

Exhibit C: ICE Data Uniform Sector Classification schema

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Class	Sector	Industry Group	Industry	Sub-Industry Group	Sub-Industry
					Meat, Poultry & Fish
				Pet Food	Pet Food
				Processed Foods	Chocolate & Confectionary
					Diversified Packaged Foods
					Health Food & Vitamins
					Snacks
				Seed & GMO	Seed & GMO
			Tobacco, Vaping & Cannabis	Tobacco, Vaping & Cannabis	Cannabis Products
					Tobacco & Vaping Products
	Energy	Alternative Fuels	Alternative Fuels	Alternative Fuels	Alternative Fuels
		Downstream & Midstream Energy	Oil & Gas Pipelines & Storage	Oil & Gas Pipelines & Storage	Oil & Gas Pipelines & Storage
			Oil & Gas Refining & Marketing	Oil & Gas Refining & Marketing	Oil & Gas Marketing
					Oil & Gas Refining
					Oil & Gas Refining & Marketing
		Upstream Energy	Coal & Uranium	Coal & Uranium	Thermal Coal
			Integrated Oil & Gas	Integrated Oil & Gas	Uranium
					Integrated Oil & Gas
			Oil & Gas Exploration & Production	Oil & Gas Exploration & Production	Natural Gas Exploration & Production
					Offshore Oil & Gas Exploration & Production
					Oil & Gas Exploration & Production
					Onshore Oil & Gas Exploration & Production
			Oil & Gas Services	Oil & Gas Services	E&P Support Services
					Offshore Oil & Gas Drilling
					Oil & Gas Drilling Equipment
					Onshore Oil & Gas Drilling
	Financials	Banking & Credit	Banking	Banking	National & Multi-National Banks
			Credit	Credit	Regional Banks
					Commercial Finance
					Consumer Finance
					Education Loans

Exhibit C: ICE Data Uniform Sector Classification schema

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Class	Sector	Industry Group	Industry	Sub-Industry Group	Sub-Industry
					Private & Commercial Real Estate Lending
		Insurance	Insurance	Insurance Brokerage	Insurance Brokerage
				Life Insurance	Life Insurance
				Monoline Insurance	Liability & Warranty Insurance
				Multi-Line Insurance	Mortgage Insurance
				Property, Casualty & Reinsurance	Multi-Line Insurance
					Property & Casualty Insurance
		Investments & Financial Services	Financial Services	Diverse Financial Services	Reinsurance
					Collection Services
					Loan Servicing
				Financial Research & Advisory	Miscellaneous Financial Services
					Consumer Credit Ratings & Services
			Investments	Business Investments	Market Research & Data Services
					Asset Managers
					Asset Managers
					Business Development Company
					Diversified Holding Companies
					Mortgage REIT
					Private Equity & Venture Capital
				Capital Markets	Special Purpose Acquisition Company
					Brokerage & Market Making
					Exchanges & Trading
				Custody Bank	Investment Banking & Brokerage
					Custody Bank
			Payments & Payment Processing	Payments & Payment Processing	Payment Processing
					Payments
	Healthcare	Biopharma	Biopharma	Biotechnology	Biotech Therapeutics
					Biotech Tools & Diagnostics
				Pharmaceuticals	Generic Pharmaceuticals
					Pharmaceuticals
		Healthcare Equipment &	Healthcare Services	Health Support Services	Deathcare

Exhibit C: ICE Data Uniform Sector Classification schema

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Class	Sector	Industry Group	Industry	Sub-Industry Group	Sub-Industry
		Services			Healthcare Business Support Services
					Healthcare Technology Support Services
					Home Healthcare Providers
					Pharmacy Benefits Management
				Healthcare Facilities	Inpatient, Assisted Living & Hospice
					Hospitals
					Outpatient Clinics
				Managed Care	Managed Care
			Medical Equipment & Supplies	Medical Equipment & Supplies	Medical Equipment & Devices
					Medical Supplies
					Life Science Equipment, Instruments & Supplies
			Medical Services	Medical Services	Diagnostics & Testing
					Medical Services
			Veterinary Services	Veterinary Services	Veterinary Services
					Construction
		Building & Construction	Construction & Construction Services	Construction Services & Supplies	Construction Engineering & Services
					Construction Supplies
			Homebuilders	Homebuilders	Modular Homebuilders
					Onsite Homebuilders
	Industrials	Business & Commercial Services	Commercial Services	Equipment Leasing & Rental	Equipment Leasing
					Equipment Rental
				Professional Support Services	Consulting & Research
					Employment & HR Services
					Legal & Advisory
				Support Services	Business Supplies & Services
					Commercial Printing
					Data Processing & Outsourced Services
					Diversified Support Services
					Facilities Services

Exhibit C: ICE Data Uniform Sector Classification schema

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Class	Sector	Industry Group	Industry	Sub-Industry Group	Sub-Industry
					Office Products & Furniture
					Vendors & Distributors
					Security & Guard Services
			Environmental Services	Environmental Services	Other Environmental Services
					Recycling Services
					Waste Services
		Capital Goods	Aerospace & Defense	Aerospace	Aerospace Engineering & Components
					Aircraft Manufacturing
					Space & Satellite Equipment
				Defense	Diversified Defense Contractors
					Shipbuilding
					Weapons & Weapons Systems
			Diverse Manufacturing	Electrical Equipment	Electrical Components & Power Equipment
					Manufacturing Systems & Components
				General Industrials	Industrial Conglomerates
					Specialized Manufacturing
				OEM Automotive Components	OEM Automotive Components
			Equipment & Machinery	Equipment & Machinery	Agricultural Equipment & Machinery
					Construction Equipment & Machinery
					Transportation Equipment
					General Equipment & Machinery
		Transportation	Passenger & Freight Transportation	Freight Transportation	Air Freight
					Maritime Freight
					Oil & Gas Freight
					Rail Freight
					Truck Freight
				Passenger Transportation	Airlines
					Passenger Rail & Bus Transportation
			Transportation Services	Transportation Services	Airport & Terminal Services

Exhibit C: ICE Data Uniform Sector Classification schema

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Class	Sector	Industry Group	Industry	Sub-Industry Group	Sub-Industry
					Freight Logistics
					Road & Railway Construction & Operation
	Materials	Chemicals	Chemicals	Coatings & Specialty Chemicals	Coatings
					Specialty Chemicals
					Synthetic Oil & Fuel
				Commodity & Industrial Chemicals	Commodity Chemicals
					Industrial Gases
					Nitrogen & Fertilizer
				Diverse Chemicals	Diversified Chemicals
					Flavor & Fragrance
					Cement & Aggregates
		Manufactured Materials	Construction Materials	Construction Materials	Other Construction Materials
			Metal Fabrication	Metal Fabrication	Aluminum
					Industrial Metal Products
					Steel
			Packaging & Containers	Packaging & Containers	Diversified Packaging
					Glass Containers
					Metal Containers
					Paperboard Packaging
					Plastic Packaging
		Natural Resources	Forestry & Paper	Forestry & Paper	Pulp & Paper
			Metals & Mining	Diverse Metals & Mining	Timber & Lumber
					Copper
					Diversified Base Metals
					Metallurgical Coal
					Titanium
				Precious Metals & Mining	Gold
					Platinum Group Metals & Gemstones Mining
					Silver
					Broadband & Internet Backbone
	Media & Communications	Communications	Communications	Broadband, Wireline & Internet Services	Integrated Telecommunications

Exhibit C: ICE Data Uniform Sector Classification schema

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Class	Sector	Industry Group	Industry	Sub-Industry Group	Sub-Industry
				Wireless & Satellite	Services
					Wireline Services
					Satellite Telecommunications
					Wireless
		Media	Media	Media Content	Cable & Satellite TV
					Diversified Media
					Filmed Entertainment
					Publishing
					Audio Content
					Video Content
					Video Games
				Media Services	Advertising & Marketing Services
					Entertainment Production & Services
					Social Media, Search & Online Marketing
	Real Estate & REITs	Real Estate	Real Estate	Real Estate Development & Management	Housing Association
					Real Estate Development
					Real Estate Development & Management
					Real Estate Operating Companies
		REITs	REITs	Real Estate Services	Real Estate Services
				Retail REITs	Retail REITs
				Diversified REITs	Diversified REITs
				Healthcare REITs	Healthcare REITs
				Hotel & Resort REITs	Hotel & Resort REITs
				Industrial REITs	Industrial REITs
				Office REITs	Office REITs
				Residential REITs	Residential REITs
				Specialized REITs	Communication REITs
					Energy REITs
					Gaming REITs
					Other Specialized REITs

Exhibit C: ICE Data Uniform Sector Classification schema

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Class	Sector	Industry Group	Industry	Sub-Industry Group	Sub-Industry
	Technology	Electronics & Electronics Engineering			Storage REITs
					Timberland REITs
			Electronic Components	Electronic Components	Electronic Components
			Electronic Engineering	Electronic Engineering	Battery Technology
					Electronic Equipment & Instruments
					Electronic Manufacturing Services
					Solar Cells
			Semiconductors	Semiconductors	Semiconductor Equipment
					Semiconductors
		Software & Technology Services	Networks	Networks	Internet Services & Infrastructure
			Software	Software	Network Security
					Application Software
					Blockchain Applications
					Enterprise Software
			Technology Research & Advisory	Technology Research & Advisory	Technology Consulting
			Technology Services	Technology Services	Technology IP Holders
					Identity & Authentication
					Platform As A Service
					Software As A Service
		Technology Hardware & Equipment	Technology Hardware & Equipment	Hardware, Devices & Storage	Components & Peripherals
					Computers & Computing Devices
					Storage Devices
				Technology Infrastructure & Equipment	Communications Equipment
					Communications Technology
					Network Infrastructure
	Utilities	Electricity	Electricity Generation	Electricity Generation - Non-Renewable	Electricity Generation - Non-Renewable
				Electricity Generation - Renewable	Electricity Generation - Renewable
			Integrated Electricity & Distribution	Electricity Distribution &	Electricity Distribution &

Exhibit C: ICE Data Uniform Sector Classification schema

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Class	Sector	Industry Group	Industry	Sub-Industry Group	Sub-Industry
				Transmission	Transmission
				Integrated Electricity	Integrated Electricity
		Gas	Gas	Gas	Natural Gas
					Propane
		Multi-Utilities	Multi-Utilities	Multi-Utilities	Multi-Utilities
		Water	Water	Water	Potable Water
					Wastewater & Desalination
Sovereign	Sovereign	Sovereign	Sovereign	Sovereign	Sovereign
Quasi & Foreign Government	Quasi & Foreign Government	Agency	Agency	Agency	Agency
		Foreign Sovereign	Foreign Sovereign	Foreign Sovereign	Foreign Sovereign
		Government Guaranteed	Government Guaranteed	Government Guaranteed	Government Guaranteed
		Local-Authority	Local-Authority	Local-Authority	Local-Authority
		Supranational	Supranational	Supranational	Supranational
		U.S. Taxable Municipal	Pre-Refunded	Pre-Refunded	Pre-Refunded
			Taxable ETM	Taxable ETM	Taxable ETM
			Taxable GO - Local	Taxable GO - Local	Taxable GO - Local
			Taxable GO - State	Taxable GO - State	Taxable GO - State
			Taxable Revenue - Airport	Taxable Revenue - Airport	Taxable Revenue - Airport
			Taxable Revenue - Education	Taxable Revenue - Education	Taxable Revenue - Education
			Taxable Revenue - Health	Taxable Revenue - Health	Taxable Revenue - Health
			Taxable Revenue - Hospitals	Taxable Revenue - Hospitals	Taxable Revenue - Hospitals
			Taxable Revenue - Industrial Development Revenue	Taxable Revenue - Industrial Development Revenue	Taxable Revenue - Industrial Development Revenue
			Taxable Revenue - Leasing COPS & Appropriations	Taxable Revenue - Leasing COPS & Appropriations	Taxable Revenue - Leasing COPS & Appropriations
			Taxable Revenue - Misc	Taxable Revenue - Misc	Taxable Revenue - Misc
			Taxable Revenue - Multi-Family Housing	Taxable Revenue - Multi-Family Housing	Taxable Revenue - Multi-Family Housing
			Taxable Revenue - Pollution Control	Taxable Revenue - Pollution Control	Taxable Revenue - Pollution Control
			Taxable Revenue - Power	Taxable Revenue - Power	Taxable Revenue - Power
			Taxable Revenue - Single Family Housing	Taxable Revenue - Single Family Housing	Taxable Revenue - Single Family Housing
			Taxable Revenue - Tax	Taxable Revenue - Tax	Taxable Revenue - Tax

Exhibit C: ICE Data Uniform Sector Classification schema

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Class	Sector	Industry Group	Industry	Sub-Industry Group	Sub-Industry
			Taxable Revenue - Tobacco	Taxable Revenue - Tobacco	Taxable Revenue - Tobacco
			Taxable Revenue - Toll & Turnpike	Taxable Revenue - Toll & Turnpike	Taxable Revenue - Toll & Turnpike
			Taxable Revenue - Transportation	Taxable Revenue - Transportation	Taxable Revenue - Transportation
			Taxable Revenue - Utilities - Other	Taxable Revenue - Utilities - Other	Taxable Revenue - Utilities - Other
			Taxable Revenue - Water & Sewer	Taxable Revenue - Water & Sewer	Taxable Revenue - Water & Sewer
Securitized/Collateralized	Covered	Covered Bonds	Mortgage Covered Bonds	Mortgage Covered Bonds	Mortgage Covered Bonds
			Other Covered Bonds	Other Covered Bonds	Other Covered Bonds
			Public Loan Covered Bonds	Public Loan Covered Bonds	Public Loan Covered Bonds
	Securitized	Asset Backed	ABS Automobile	ABS Automobile	ABS Automobile
			ABS Credit Cards	ABS Credit Cards	ABS Credit Cards
			ABS Home Equity Loans	ABS Home Equity Loans	ABS Home Equity Loans
			ABS Manufactured Housing	ABS Manufactured Housing	ABS Manufactured Housing
			ABS Miscellaneous ABS	ABS Miscellaneous ABS	ABS Miscellaneous ABS
			ABS Utilities	ABS Utilities	ABS Utilities
		Collateralized Mortgage Obligation	CMO Other	CMO Other	CMO Other
			PAC	PAC	PAC
			PAC Z	PAC Z	PAC Z
			Sequential	Sequential	Sequential
			Sequential Z	Sequential Z	Sequential Z
			Structured IO	Structured IO	Structured IO
			Structured PO	Structured PO	Structured PO
			Support Z	Support Z	Support Z
			Trust IO	Trust IO	Trust IO
			Trust PO	Trust PO	Trust PO
		Commercial Mortgage Backed	Commercial Mortgage Backed	Commercial Mortgage Backed	Commercial Mortgage Backed
		Mortgage Backed	Mortgage Backed	Mortgage Backed	Mortgage Backed
U.S. Tax-Exempt Municipals	GO	GO - Local	GO - Local	GO - Local	GO - Local
		GO - State	GO - State	GO - State	GO - State
	Refunded	Refunded	ETM	ETM	ETM
			Pre-Refunded	Pre-Refunded	Pre-Refunded
	Revenue	Revenue - Airport	Revenue - Airport	Revenue - Airport	Revenue - Airport

Exhibit C: ICE Data Uniform Sector Classification schema

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Class	Sector	Industry Group	Industry	Sub-Industry Group	Sub-Industry
		Revenue - Education	Revenue - Education	Revenue - Education	Revenue - Education
		Revenue - Health	Revenue - Health	Revenue - Health	Revenue - Health
		Revenue - Hospitals	Revenue - Hospitals	Revenue - Hospitals	Revenue - Hospitals
		Revenue - Industrial Development Revenue	Revenue - Industrial Development Revenue	Revenue - Industrial Development Revenue	Revenue - Industrial Development Revenue
		Revenue - Leasing COPS & Appropriations	Revenue - Leasing COPS & Appropriations	Revenue - Leasing COPS & Appropriations	Revenue - Leasing COPS & Appropriations
		Revenue - Misc	Revenue - Misc	Revenue - Misc	Revenue - Misc
		Revenue - Multi-Family Housing	Revenue - Multi-Family Housing	Revenue - Multi-Family Housing	Revenue - Multi-Family Housing
		Revenue - Pollution Control	Revenue - Pollution Control	Revenue - Pollution Control	Revenue - Pollution Control
		Revenue - Power	Revenue - Power	Revenue - Power	Revenue - Power
		Revenue - Single Family Housing	Revenue - Single Family Housing	Revenue - Single Family Housing	Revenue - Single Family Housing
		Revenue - Tax	Revenue - Tax	Revenue - Tax	Revenue - Tax
		Revenue - Tobacco	Revenue - Tobacco	Revenue - Tobacco	Revenue - Tobacco
		Revenue - Toll & Turnpike	Revenue - Toll & Turnpike	Revenue - Toll & Turnpike	Revenue - Toll & Turnpike
		Revenue - Transportation	Revenue - Transportation	Revenue - Transportation	Revenue - Transportation
		Revenue - Utilities - Other	Revenue - Utilities - Other	Revenue - Utilities - Other	Revenue - Utilities - Other
		Revenue - Water & Sewer	Revenue - Water & Sewer	Revenue - Water & Sewer	Revenue - Water & Sewer
Derivative	Swap	Inflation Swap	Inflation Swap	Inflation Swap	Inflation Swap
		Interest rate Swap	Interest rate Swap	Interest rate Swap	Interest rate Swap
CASH	CASH	CASH	CASH	CASH	CASH

Detail Business Classification map

Exhibit D: Detail Business Classification map to USC Level 6 and traditional fixed income Level 4 Corporate classifications

Detail Business Classification	USC Level 6 classification	Traditional Fixed income Level 4 classification
Accessories & Luxury Goods	Accessories & Luxury Goods	Specialty Retail
Activewear	Activewear	Specialty Retail
Children's Clothes	General Apparel	Specialty Retail
Footwear	Footwear	Specialty Retail
General Apparel	General Apparel	Specialty Retail
Maternity Apparel & Goods	General Apparel	Specialty Retail
Men's Clothes	General Apparel	Specialty Retail
Textiles	Textiles	Specialty Retail
Women's Clothes	General Apparel	Specialty Retail
Automotive Parts & Services	Automotive Parts & Services	Auto Parts & Equipment
Captive Finance Auto Lending	Car & Light Truck Manufacturers	Auto Loans
Car & Light Truck Manufacturers	Car & Light Truck Manufacturers	Automakers
Motorcycle Manufacturers	Motorcycle Manufacturers	Automakers
Tire & Rubber	Tire & Rubber	Auto Parts & Equipment
Consumer Electronics	Consumer Electronics	Tech Hardware & Equipment
Cosmetics & Perfume	Cosmetics & Perfume	Personal & Household Products
Firearms & Ammunition	Firearms & Ammunition	Personal & Household Products
Leisure Goods	Leisure Goods	Personal & Household Products
Recreational Vehicles	Recreational Vehicles	Personal & Household Products
Fitness	Fitness	Recreation & Travel
Specialized Consumer Services	Specialized Consumer Services	Support-Services
Accounting & Tax Preparation	Accounting & Tax Preparation	Support-Services
Vehicle Rental	Vehicle Rental	Support-Services
Educational Services	Educational Services	Support-Services
Leisure Facilities	Leisure Facilities	Recreation & Travel
Motorsports	Motorsports	Recreation & Travel
Movie Theaters	Movie Theaters	Theaters & Entertainment
Stadiums & Teams	Stadiums & Teams	Recreation & Travel
Theme & Amusement Parks	Theme & Amusement Parks	Recreation & Travel
Gaming & Casinos	Gaming & Casinos	Gaming
Gaming Infrastructure & Equipment	Gaming Infrastructure & Equipment	Gaming
Hotels & Resorts	Hotels & Resorts	Hotels
Home Appliances & Housewares	Home Appliances & Housewares	Personal & Household Products
Home Furnishings	Home Furnishings	Personal & Household Products
Casual & Fine Dining	Casual & Fine Dining	Restaurants
Fast Food	Fast Food	Restaurants
Automotive Retail	Automotive Retail	Specialty Retail
Department Stores	Department Stores	Department Stores
Electronics Retail	Electronics Retail	Specialty Retail
General Apparel Retail	General Apparel Retail	Specialty Retail
Discount Retail	Discount Retail	Discount Stores
Home Goods Retail	Home Goods Retail	Specialty Retail
Home Improvement Retail	Home Improvement Retail	Specialty Retail
Membership & Bulk Retail	Membership & Bulk Retail	Food - Wholesale
Online & Direct Retail	Online & Direct Retail	Specialty Retail
Specialty Stores	Specialty Stores	Specialty Retail
Cruise & Touring Services	Cruise & Touring Services	Recreation & Travel
Travel Services	Travel Services	Recreation & Travel
Beer	Beer	Beverage
Spirits	Spirits	Beverage
Wine	Wine	Beverage
Grocery Retail	Grocery Retail	Food & Drug Retailers
Convenience Stores	Convenience Stores	Food & Drug Retailers
Food Wholesale	Food Wholesale	Food - Wholesale
Pharmacy	Pharmacy	Food & Drug Retailers
Agricultural Products	Agricultural Products	Food - Wholesale
Chocolate & Confectionary	Chocolate & Confectionary	Food - Wholesale

Exhibit D: Detail Business Classification map to USC Level 6 and traditional fixed income Level 4 Corporate classifications

Detail Business Classification	USC Level 6 classification	Traditional Fixed income Level 4 classification
Coffee & Tea	Coffee & Tea	Food - Wholesale
Dairy	Dairy	Food - Wholesale
Diversified Packaged Foods	Diversified Packaged Foods	Food - Wholesale
Health Food & Vitamins	Health Food & Vitamins	Food - Wholesale
Meat, Poultry & Fish	Meat, Poultry & Fish	Food - Wholesale
Pet Food	Pet Food	Food - Wholesale
Seed & GMO	Seed & GMO	Food - Wholesale
Snacks	Snacks	Food - Wholesale
Water, Juice & Soda	Water, Juice & Soda	Beverage
Household Products	Household Products	Personal & Household Products
Personal Products	Personal Products	Personal & Household Products
Cannabis Products	Cannabis Products	Tobacco
Tobacco & Vaping Products	Tobacco & Vaping Products	Tobacco
Uranium	Uranium	Metals/Mining Excluding Steel
Thermal Coal	Thermal Coal	Metals/Mining Excluding Steel
Integrated Oil & Gas	Integrated Oil & Gas	Integrated Energy
Natural Gas Exploration & Production	Natural Gas Exploration & Production	Energy - Exploration & Production
Onshore Oil & Gas Exploration & Production	Onshore Oil & Gas Exploration & Production	Energy - Exploration & Production
Offshore Oil & Gas Exploration & Production	Offshore Oil & Gas Exploration & Production	Energy - Exploration & Production
Oil & Gas Exploration & Production	Oil & Gas Exploration & Production	Energy - Exploration & Production
Oil & Gas Refining & Marketing	Oil & Gas Refining & Marketing	Oil Refining & Marketing
Oil & Gas Refining	Oil & Gas Refining	Oil Refining & Marketing
Oil & Gas Marketing	Oil & Gas Marketing	Oil Refining & Marketing
E&P Support Services	E&P Support Services	Oil Field Equipment & Services
Offshore Oil & Gas Drilling	Offshore Oil & Gas Drilling	Oil Field Equipment & Services
Oil & Gas Drilling Equipment	Oil & Gas Drilling Equipment	Oil Field Equipment & Services
Oil & Gas Pipelines & Storage	Oil & Gas Pipelines & Storage	Gas Distribution
Onshore Oil & Gas Drilling	Onshore Oil & Gas Drilling	Oil Field Equipment & Services
Alternative Fuels	Alternative Fuels	Food - Wholesale
National & Multi-National Banks	National & Multi-National Banks	Banking
Regional Banks	Regional Banks	Banking
Business Development Company	Business Development Company	Investments & Misc Financial Services
Commercial Finance	Commercial Finance	Cons/Comm/Lease Financing
Education Loans	Education Loans	Cons/Comm/Lease Financing
Equipment Leasing	Equipment Leasing	Cons/Comm/Lease Financing
Private & Commercial Real Estate Lending	Private & Commercial Real Estate Lending	Banking
Consumer Finance	Consumer Finance	Cons/Comm/Lease Financing
Consumer Credit Ratings & Services	Consumer Credit Ratings & Services	Investments & Misc Financial Services
Market Research & Data Services	Market Research & Data Services	Investments & Misc Financial Services
Collection Services	Collection Services	Investments & Misc Financial Services
Miscellaneous Financial Services	Miscellaneous Financial Services	Investments & Misc Financial Services
Loan Servicing	Loan Servicing	Investments & Misc Financial Services
Insurance Brokerage	Insurance Brokerage	Insurance Brokerage
Liability & Warranty Insurance	Liability & Warranty Insurance	Monoline Insurance
Life Insurance	Life Insurance	Life Insurance
Mortgage Insurance	Mortgage Insurance	Monoline Insurance
Multi-Line Insurance	Multi-Line Insurance	Multi-Line Insurance
Property & Casualty Insurance	Property & Casualty Insurance	P&C
Reinsurance	Reinsurance	Reinsurance
Special Purpose Acquisition Company	Special Purpose Acquisition Company	Investments & Misc Financial Services
Asset Managers	Asset Managers	Investments & Misc Financial Services
Brokerage & Market Making	Brokerage & Market Making	Brokerage
Custody Bank	Custody Bank	Investments & Misc Financial Services
Diversified Holding Companies	Diversified Holding Companies	Investments & Misc Financial Services
Exchanges & Trading	Exchanges & Trading	Investments & Misc Financial Services
Investment Banking & Brokerage	Investment Banking & Brokerage	Brokerage
Private Equity & Venture Capital	Private Equity & Venture Capital	Investments & Misc Financial Services
Payments	Payments	Software/Services
Payment Processing	Payment Processing	Software/Services

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Exhibit D: Detail Business Classification map to USC Level 6 and traditional fixed income Level 4 Corporate classifications

Detail Business Classification	USC Level 6 classification	Traditional Fixed income Level 4 classification
Biotech Tools & Diagnostics	Biotech Tools & Diagnostics	Health Services
Biotech Therapeutics	Biotech Therapeutics	Pharmaceuticals
Inpatient, Assisted Living & Hospice	Inpatient, Assisted Living & Hospice	Health Facilities
Deathcare	Deathcare	Health Services
Healthcare Business Support Services	Healthcare Business Support Services	Health Services
Healthcare Technology Support Services	Healthcare Technology Support Services	Health Services
Managed Care	Managed Care	Managed Care
Home Healthcare Providers	Home Healthcare Providers	Health Facilities
Hospitals	Hospitals	Health Facilities
Pharmacy Benefits Management	Pharmacy Benefits Management	Health Services
Outpatient Clinics	Outpatient Clinics	Health Facilities
Medical Equipment & Devices	Medical Equipment & Devices	Medical Products
Medical Supplies	Medical Supplies	Medical Products
Life Science Equipment, Instruments & Supplies	Life Science Equipment, Instruments & Supplies	Medical Products
Diagnostics & Testing	Diagnostics & Testing	Health Services
Medical Services	Medical Services	Health Services
Generic Pharmaceuticals	Generic Pharmaceuticals	Pharmaceuticals
Pharmaceuticals	Pharmaceuticals	Pharmaceuticals
Veterinary Services	Veterinary Services	Health Facilities
Aerospace Engineering & Components	Aerospace Engineering & Components	Aerospace/Defense
Aircraft Manufacturing	Aircraft Manufacturing	Aerospace/Defense
Diversified Defense Contractors	Diversified Defense Contractors	Aerospace/Defense
Shipbuilding	Shipbuilding	Aerospace/Defense
Space & Satellite Equipment	Space & Satellite Equipment	Aerospace/Defense
Weapons & Weapons Systems	Weapons & Weapons Systems	Aerospace/Defense
Airlines	Airlines	Air Transportation
Passenger Rail & Bus Transportation	Passenger Rail & Bus Transportation	Transport Infrastructure/Services
OEM Automotive Components	OEM Automotive Components	Auto Parts & Equipment
Business Supplies & Services	Business Supplies & Services	Support-Services
Commercial Printing	Commercial Printing	Printing & Publishing
Consulting & Research	Consulting & Research	Support-Services
Diversified Support Services	Diversified Support Services	Support-Services
Employment & HR Services	Employment & HR Services	Support-Services
Equipment Rental	Equipment Rental	Support-Services
Facilities Services	Facilities Services	Support-Services
Legal & Advisory	Legal & Advisory	Support-Services
Office Products & Furniture	Office Products & Furniture	Support-Services
Vendors & Distributors	Vendors & Distributors	Support-Services
Security & Guard Services	Security & Guard Services	Support-Services
Construction	Construction	Building & Construction
Construction Supplies	Construction Supplies	Building Materials
Electrical Components & Power Equipment	Electrical Components & Power Equipment	Diversified Capital Goods
Industrial Conglomerates	Industrial Conglomerates	Diversified Capital Goods
Specialized Manufacturing	Specialized Manufacturing	Diversified Capital Goods
Modular Homebuilders	Modular Homebuilders	Building & Construction
Onsite Homebuilders	Onsite Homebuilders	Building & Construction
Agricultural Equipment & Machinery	Agricultural Equipment & Machinery	Machinery
Construction Engineering & Services	Construction Engineering & Services	Support-Services
Construction Equipment & Machinery	Construction Equipment & Machinery	Machinery
Transportation Equipment	Transportation Equipment	Machinery
General Equipment & Machinery	General Equipment & Machinery	Machinery
Manufacturing Systems & Components	Manufacturing Systems & Components	Machinery
Environmental Services	Other Environmental Services	Environmental
Recycling Services	Recycling Services	Environmental
Waste Services	Waste Services	Environmental
Air Freight	Air Freight	Air Transportation
Airport & Terminal Services	Airport & Terminal Services	Transport Infrastructure/Services
Freight Logistics	Freight Logistics	Transport Infrastructure/Services
Maritime Freight	Maritime Freight	Transport Infrastructure/Services

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Exhibit D: Detail Business Classification map to USC Level 6 and traditional fixed income Level 4 Corporate classifications

Detail Business Classification	USC Level 6 classification	Traditional Fixed income Level 4 classification
Oil & Gas Freight	Oil & Gas Freight	Transport Infrastructure/Services
Rail Freight	Rail Freight	Rail
Road & Railway Construction & Operation	Road & Railway Construction & Operation	Transport Infrastructure/Services
Truck Freight	Truck Freight	Trucking & Delivery
Coatings	Coatings	Chemicals
Commodity Chemicals	Commodity Chemicals	Chemicals
Diversified Chemicals	Diversified Chemicals	Chemicals
Flavor & Fragrance	Flavor & Fragrance	Chemicals
Industrial Gases	Industrial Gases	Chemicals
Nitrogen & Fertilizer	Nitrogen & Fertilizer	Chemicals
Specialty Chemicals	Specialty Chemicals	Chemicals
Synthetic Oil & Fuel	Synthetic Oil & Fuel	Chemicals
Cement & Aggregates	Cement & Aggregates	Building Materials
Other Construction Materials	Other Construction Materials	Building Materials
Pulp & Paper	Pulp & Paper	Forestry/Paper
Timber & Lumber	Timber & Lumber	Forestry/Paper
Aluminum	Aluminum	Metals/Mining Excluding Steel
Industrial Metal Products	Industrial Metal Products	Metals/Mining Excluding Steel
Steel	Steel	Steel Producers/Products
Titanium	Titanium	Metals/Mining Excluding Steel
Copper	Copper	Metals/Mining Excluding Steel
Metallurgical Coal	Metallurgical Coal	Metals/Mining Excluding Steel
Diversified Base Metals	Diversified Base Metals	Metals/Mining Excluding Steel
Gold	Gold	Metals/Mining Excluding Steel
Platinum Group Metals & Gemstones Mining	Platinum Group Metals & Gemstones Mining	Metals/Mining Excluding Steel
Silver	Silver	Metals/Mining Excluding Steel
Diversified Packaging	Diversified Packaging	Packaging
Glass Containers	Glass Containers	Packaging
Metal Containers	Metal Containers	Packaging
Paperboard Packaging	Paperboard Packaging	Packaging
Plastic Packaging	Plastic Packaging	Packaging
Wireline Services	Wireline Services	Telecom - Wireline Integrated & Services
Cable & Satellite TV	Cable & Satellite TV	Cable & Satellite TV
Integrated Telecommunications Services	Integrated Telecommunications Services	Telecom - Wireline Integrated & Services
Broadband & Internet Backbone	Broadband & Internet Backbone	Telecom - Wireline Integrated & Services
Satellite Telecommunications	Satellite Telecommunications	Telecom - Satellite
Wireless	Wireless	Telecom - Wireless
Advertising & Marketing Services	Advertising & Marketing Services	Advertising
Diversified Media	Diversified Media	Media - Diversified
Entertainment Production & Services	Entertainment Production & Services	Theaters & Entertainment
Filmed Entertainment	Filmed Entertainment	Media Content
Publishing	Publishing	Printing & Publishing
Audio Content	Audio Content	Media Content
Social Media, Search & Online Marketing	Social Media, Search & Online Marketing	Advertising
Video Content	Video Content	Media Content
Video Games	Video Games	Media Content
Housing Association	Housing Association	Housing Association
Real Estate Development	Real Estate Development	RealEstate Dev & Mgt
Real Estate Development & Management	Real Estate Development & Management	RealEstate Dev & Mgt
Real Estate Operating Companies	Real Estate Operating Companies	RealEstate Dev & Mgt
Real Estate Services	Real Estate Services	RealEstate Dev & Mgt
Retail REITs	Retail REITs	REITs
Communication REITs	Communication REITs	Telecom - Wireless
Diversified REITs	Diversified REITs	REITs
Energy REITs	Energy REITs	REITs
Gaming REITs	Gaming REITs	Gaming
Healthcare REITs	Healthcare REITs	REITs
Hotel & Resort REITs	Hotel & Resort REITs	REITs
Industrial REITs	Industrial REITs	REITs

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Exhibit D: Detail Business Classification map to USC Level 6 and traditional fixed income Level 4 Corporate classifications

Detail Business Classification	USC Level 6 classification	Traditional Fixed income Level 4 classification
Mortgage REIT	Mortgage REIT	REITs
Office REITs	Office REITs	REITs
Other Specialized REITs	Other Specialized REITs	REITs
Residential REITs	Residential REITs	REITs
Storage REITs	Storage REITs	REITs
Timberland REITs	Timberland REITs	REITs
Platform as a Service	Platform As A Service	Software/Services
Software as a Service	Software As A Service	Software/Services
Identity & Authentication	Identity & Authentication	Software/Services
Network Security	Network Security	Software/Services
Battery Technology	Battery Technology	Electronics
Electronic Equipment & Instruments	Electronic Equipment & Instruments	Electronics
Solar Cells	Solar Cells	Electronics
Electronic Components	Electronic Components	Electronics
Semiconductor Equipment	Semiconductor Equipment	Electronics
Semiconductors	Semiconductors	Electronics
Communications Technology	Communications Technology	Tech Hardware & Equipment
Components & Peripherals	Components & Peripherals	Tech Hardware & Equipment
Computers & Computing Devices	Computers & Computing Devices	Tech Hardware & Equipment
Storage Devices	Storage Devices	Tech Hardware & Equipment
Communications Equipment	Communications Equipment	Tech Hardware & Equipment
Internet Services & Infrastructure	Internet Services & Infrastructure	Software/Services
Network Infrastructure	Network Infrastructure	Tech Hardware & Equipment
Blockchain Applications	Blockchain Applications	Software/Services
Technology Consulting	Technology Consulting	Software/Services
Technology IP Holders	Technology IP Holders	Software/Services
Application Software	Application Software	Software/Services
Data Processing & Outsourced Services	Data Processing & Outsourced Services	Support-Services
Electronic Manufacturing Services	Electronic Manufacturing Services	Electronics
Enterprise Software	Enterprise Software	Software/Services
Electricity Generation - Non-Renewable	Electricity Generation - Non-Renewable	Electric-Generation
Electricity Distribution & Transmission	Electricity Distribution & Transmission	Electric-Distr/Trans
Integrated Electricity	Integrated Electricity	Electric-Integrated
Natural Gas	Natural Gas	Non-Electric Utilities
Propane	Propane	Non-Electric Utilities
Multi-Utilities	Multi-Utilities	Electric-Integrated
Geothermal Power	Electricity Generation - Renewable	Electric-Generation
Biomass Power	Electricity Generation - Renewable	Electric-Generation
Solar Power	Electricity Generation - Renewable	Electric-Generation
Wave Power	Electricity Generation - Renewable	Electric-Generation
Wind Power	Electricity Generation - Renewable	Electric-Generation
Potable Water	Potable Water	Non-Electric Utilities
Wastewater & Desalination	Wastewater & Desalination	Non-Electric Utilities

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