

Appendix 2: Sector Classification

In this Appendix, I explain how I determine the sector membership of all firms in my data sample.

For me to determine which sustainability issues that are material to each firm, I must assign each firm to the appropriate sector. SASB operates with its own Sustainable Industry Classification System (SICS), which is linked to the Bloomberg Industry Classification System (BICS) (SASB, 2016). The Form 10-Ks, on the contrary, are marked with the firms' Standard Industrial Classification (SIC). The SIC codes were created by the U.S. government in 1937 to better analyze economic activity (Kenton, 2019). However, newer, more accurate industry classification schemes have emerged since then, including the North American Industry Classification System (NAICS), which is the classification standard used by U.S. federal statistical agencies (United States Census Bureau, 2020a). While SIC codes consist of four digits, NAICS codes consist of six digits (NAICS, 2017). This leads to increased specificity (NAICS, 2017). However, the most significant difference between the SIC- and the NAICS codes, is that the NAICS system uses a product-oriented screening process that identifies companies by their primary economic activity, while the SIC system is based on a market-oriented logic (NAICS, 2017). In that way, the NAICS code more closely resembles Hoberg and Phillips' Text-Based Industry Classifications (TNIC) (2016), which has been frequently utilized in previous literature (KILDE). Both NAICS and TNIC are based on what kind of products businesses make.

When retrieving annual financial data from the CRSP/Compustat Merged Database, there is an option to include firms' NAICS code. I choose to include the NAICS code when gathering data for my further analyses. Since SASB offers reporting standards on an industry level, it would be ideal to analyze firms' material sustainability reporting on an industry level. However, SASB has defined 77 unique sectors, which makes for a too extensive analysis. Instead, I analyze firms' material sustainability reporting efforts on a sector level. SASB has defined a total of 11 sectors, but I do not have access to the before-mentioned SICS codes. Therefore, I must match firms' NAICS codes with the SASB sectors.

NAICS consist of 20 sectors which can be separated into 99 subsectors (United States Census Bureau, 2020b). The first two digits of the NAICS code represent the sector, while

the first three digits represent the subsector (United States Census Bureau, 2020b). Thus, the more digits that are included, the more granular the NAICS code becomes. While the 20 sectors defined by NAICS are too unspecific to be successfully matched with either of the 11 sectors defined by SASB, I believe that NAICS' 99 subsectors provide enough specificity to be matched with the SASB sectors.

To match the two industry classification schemes, I manually map each of the 99 NAICS subsectors to the appropriate SASB sector. In most cases, this process is intuitive. For instance, NAICS code 481 (Air Transportation) is a good match with SASB's Transportation sector, while NAICS code 622 (Hospitals) is a good match with SASB's Health Care sector. Therefore, I do not believe this process causes too much subjectivity. I use SASB's sector descriptions and NAICS' subsector descriptions to further enhance the quality of my sector mapping. There are four subsectors that I am unable to confidently match with any of the SASB sectors. These are labelled "Undefined". All firms in my sample that belong to any of these four subsectors, are removed from my sample during the sample creation process.

Table 6 shows the 99 NAICS subsector codes, what these subsectors are called, and which SASB sector each of the subsectors have been assigned to.

Table 6. NAICS subsector matched with SASB sector

NAICS	Description	SASB
111	Crop ProductionT	Sector.Food_and_Beverage
112	Animal Production and AquacultureT	Sector.Food_and_Beverage
113	Forestry and LoggingT	Sector.Renewable_Resources_and_Alternative_Energy
114	Fishing, Hunting and TrappingT	Sector.Food_and_Beverage
115	Support Activities for Agriculture and ForestryT	Sector.Renewable_Resources_and_Alternative_Energy
211	Oil and Gas ExtractionT	Sector.Extractives_and_Minerals_Processing
212	Mining (except Oil and Gas)T	Sector.Extractives_and_Minerals_Processing
213	Support Activities for MiningT	Sector.Extractives_and_Minerals_Processing
221	UtilitiesT	Sector.Infrastructure
236	Construction of BuildingsT	Sector.Infrastructure
237	Heavy and Civil Engineering ConstructionT	Sector.Infrastructure
238	Specialty Trade ContractorsT	Sector.Infrastructure
311	Food ManufacturingT	Sector.Food_and_Beverage
312	Beverage and Tobacco Product ManufacturingT	Sector.Food_and_Beverage
313	Textile MillsT	Sector.Consumer_Goods
314	Textile Product MillsT	Sector.Consumer_Goods
315	Apparel ManufacturingT	Sector.Consumer_Goods
316	Leather and Allied Product ManufacturingT	Sector.Consumer_Goods
321	Wood Product ManufacturingT	Sector.Renewable_Resources_and_Alternative_Energy
322	Paper ManufacturingT	Sector.Renewable_Resources_and_Alternative_Energy
323	Printing and Related Support ActivitiesT	Sector.Services
324	Petroleum and Coal Products ManufacturingT	Sector.Extractives_and_Minerals_Processing
325	Chemical ManufacturingT	Sector.Resource_Transformation
326	Plastics and Rubber Products ManufacturingT	Undefined
327	Nonmetallic Mineral Product ManufacturingT	Sector.Extractives_and_Minerals_Processing
331	Primary Metal ManufacturingT	Sector.Extractives_and_Minerals_Processing
332	Fabricated Metal Product ManufacturingT	Sector.Extractives_and_Minerals_Processing
333	Machinery ManufacturingT	Sector.Resource_Transformation
334	Computer and Electronic Product ManufacturingT	Sector.Technology_and_Communications
335	Electrical Equipment, Appliance, and Component ManufacturingT	Sector.Technology_and_Communications
336	Transportation Equipment ManufacturingT	Sector.Transportation
337	Furniture and Related Product ManufacturingT	Sector.Consumer_Goods
339	Miscellaneous ManufacturingT	Undefined
423	Merchant Wholesalers, Durable Goods	Sector.Consumer_Goods
424	Merchant Wholesalers, Nondurable Goods	Sector.Consumer_Goods
425	Wholesale Electronic Markets and Agents and Brokers	Sector.Consumer_Goods
441	Motor Vehicle and Parts Dealers	Sector.Consumer_Goods
442	Furniture and Home Furnishings Stores	Sector.Consumer_Goods
443	Electronics and Appliance Stores	Sector.Consumer_Goods
444	Building Material and Garden Equipment and Supplies Dealers	Sector.Consumer_Goods
445	Food and Beverage Stores	Sector.Food_and_Beverage
446	Health and Personal Care Stores	Sector.Food_and_Beverage
447	Gasoline Stations	Sector.Extractives_and_Minerals_Processing
448	Clothing and Clothing Accessories Stores	Sector.Consumer_Goods
451	Sporting Goods, Hobby, Musical Instrument, and Book Stores	Sector.Consumer_Goods
452	General Merchandise Stores	Sector.Consumer_Goods
453	Miscellaneous Store Retailers	Sector.Consumer_Goods
454	Nonstore Retailers	Sector.Consumer_Goods
481	Air TransportationT	Sector.Transportation
482	Rail TransportationT	Sector.Transportation
483	Water TransportationT	Sector.Transportation
484	Truck TransportationT	Sector.Transportation
485	Transit and Ground Passenger TransportationT	Sector.Transportation
486	Pipeline TransportationT	Sector.Transportation
487	Scenic and Sightseeing TransportationT	Sector.Transportation
488	Support Activities for TransportationT	Sector.Transportation
491	Postal ServiceT	Sector.Transportation
492	Couriers and MessengersT	Sector.Transportation
493	Warehousing and StorageT	Undefined
511	Publishing Industries (except Internet)T	Sector.Services
512	Motion Picture and Sound Recording IndustriesT	Sector.Services
515	Broadcasting (except Internet)T	Sector.Services
517	TelecommunicationsT	Sector.Technology_and_Communications
518	Data Processing, Hosting, and Related ServicesT	Sector.Technology_and_Communications
519	Other Information ServicesT	Sector.Technology_and_Communications
521	Monetary Authorities-Central BankT	Sector.Financials
522	Credit Intermediation and Related ActivitiesT	Sector.Financials
523	Securities, Commodity Contracts, and Other Financial Investments and Related ActivitiesT	Sector.Financials
524	Insurance Carriers and Related ActivitiesT	Sector.Financials
525	Funds, Trusts, and Other Financial Vehicles	Sector.Financials
531	Real EstateT	Sector.Infrastructure
532	Rental and Leasing ServicesT	Sector.Infrastructure
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)T	Undefined
541	Professional, Scientific, and Technical ServicesT	Sector.Services
551	Management of Companies and EnterprisesT	Sector.Services
561	Administrative and Support ServicesT	Sector.Services
562	Waste Management and Remediation ServicesT	Sector.Infrastructure
611	Educational ServicesT	Sector.Services
621	Ambulatory Health Care ServicesT	Sector.Health_Care
622	HospitalsT	Sector.Health_Care
623	Nursing and Residential Care FacilitiesT	Sector.Health_Care
624	Social AssistanceT	Sector.Health_Care
711	Performing Arts, Spectator Sports, and Related IndustriesT	Sector.Services
712	Museums, Historical Sites, and Similar InstitutionsT	Sector.Services
713	Amusement, Gambling, and Recreation IndustriesT	Sector.Services
721	AccommodationT	Sector.Services
722	Food Services and Drinking PlacesT	Sector.Food_and_Beverage
811	Repair and MaintenanceT	Sector.Services
812	Personal and Laundry ServicesT	Sector.Services
813	Religious, Grantmaking, Civic, Professional, and Similar OrganizationsT	Sector.Services
814	Private HouseholdsT	Sector.Services
921	Executive, Legislative, and Other General Government Support	Sector.Services
922	Justice, Public Order, and Safety Activities	Sector.Services
923	Administration of Human Resource Programs	Sector.Services
924	Administration of Environmental Quality Programs	Sector.Services
925	Administration of Housing Programs, Urban Planning, and Community Development	Sector.Services
926	Administration of Economic Programs	Sector.Services
927	Space Research and Technology	Sector.Technology_and_Communications
928	National Security and International Affairs	Sector.Services