



SECTOR / INDUSTRY BUSINESS CLASSIFICATION STUDY

ABSTRACT. This paper describes the various ways in which many major market data providers and federal agencies categorize and classify companies around the world. This paper will be used to analyze the disparities between their methodologies to create a standard for the GLX.com Capital Market Network.

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SECTOR / INDUSTRY BUSINESS CLASSIFICATION STUDY

OVERVIEW

Many of the world's major market data providers and federal agencies have developed their own methodology to create a standard to categorize and classify companies around the world. Below is the list that I studied and used as a basis for this paper.

- Thomson Reuters Business Classification (TRBC) - the most comprehensive, detailed and up to date sector and industry classification available. Covering over 72,000 securities in 130 countries to 5 levels of granularity.

<http://financial.thomsonreuters.com/en/products/data-analytics/market-data/indices/trbc-indices.html#tab-1>

- The Global Industry Classification Standard (GICS) is an industry taxonomy developed in 1999 by MSCI and Standard & Poor's (S&P) for use by the global financial community. The GICS structure consists of 11 sectors, 24 industry groups, 68 industries and 157 sub-industries into which S&P has categorized all major public companies.

<https://www.msci.com/gics>

- The Industry Classification Benchmark (ICB) is an industry classification taxonomy launched by Dow Jones and FTSE in 2005 and now owned solely by FTSE International. It is used to segregate markets into sectors within the macroeconomy. The ICB uses a system of 10 industries, partitioned into 19 supersectors, which are further divided into 41 sectors, which then contain 114 subsectors.

<http://www.icbenchmark.com>

- The Bloomberg Industry Classification Systems (BICS) is a proprietary hierarchical classification system, which classifies firms' general business activities. BICS for stock companies contains 10 macro sectors, which represent the broadest classification of general business activities. Each sector is further broken down into a hierarchical system of sectors (up to 8 levels of detail), which are classified into more narrowly defined business activities. The whole classification system counts up to 2294 unique sectors.

<http://journals.plos.org/plosone/article/asset?unique&id=info:doi/10.1371/journal.pone.0112525.s002>

- The Morningstar Global Equity Classification System (MGECS) was introduced in December of 2010 to allow for intelligent diversification to make it easier to understand the decisions being made by portfolio managers.

<http://corporate.morningstar.com/us/documents/methodologydocuments/methodologypapers/equityclassmethodology.pdf>

SECTOR / INDUSTRY BUSINESS CLASSIFICATION STUDY

- FactSet Revere Business Industry Classification System (RBICS) takes advantage of a business industry classification that provides a comprehensive structured taxonomy to classify companies by what they primarily do. FactSet RBICS derives its single-sector categorization of companies by leveraging the FactSet Revere Hierarchy's granular taxonomy. By combining the strengths of market-defined and bottom-up approaches to classification, FactSet RBICS delivers unprecedented precision and the granularity of about 1,400 sector groups.

https://www.factset.com/data/company_data/industry_sector

- Zacks maintains its own proprietary business classification system. Each ticker in the Zacks universe is assigned to one of 289 Expanded (X) Industries, linked to one of 63 Medium (M) Industries, linked to one of 16 Expanded (X) Sectors.

<http://www.zacksdata.com/data/zacks-sector-industry-classification>

- Sustainable Industry Classification System™ (SICS™) - Most major industry classification systems use sources of revenue as their basis for classifying companies into specific sectors and industries. However, a company's market value is determined by more than financial performance: it's estimated that in many industries as much as 80 percent of market capitalization is made up of intangibles. To better categorize companies that share similar resource intensity, as well as sustainability risks and opportunities, SASB has created the Sustainable Industry Classification System™ (SICS™).

<https://www.sasb.org/sics>

- The Hang Seng Industry Classification System ("HSICS") is a comprehensive industry classification system designed for the Hong Kong stock market. Prompted by the listing of a wide variety of companies in different industries in Hong Kong, it meets the need for a detailed industry classification that reflects stock performance in different sectors. Covering 11 industries, 30 sectors and 86 subsectors, the three-tier HSICS caters for the unique characteristics of the Hong Kong stock market while maintaining international compatibility with mapping to international industry classification systems.

https://www.hsi.com.hk/HSI-Net/static/revamp/contents/en/dl_centre/brochures/HSICS_E.pdf

- The Standard Industrial Classification (SIC) is a system for classifying industries by a four-digit code. Established in the United States in 1937, it is used by government agencies to classify industry areas. The SIC system is also used by agencies in other countries, e.g., by the United Kingdom's Companies House.

In the United States the SIC code is being supplanted by the six-digit North American Industry Classification System (NAICS), which was released in 1997; however certain government departments and agencies, such as the U.S. Securities and Exchange Commission (SEC), still use the SIC codes.

The SIC codes can be grouped into progressively broader industry classifications: industry group, major

SECTOR / INDUSTRY BUSINESS CLASSIFICATION STUDY

group, and division. The first 3 digits of the SIC code indicate the industry group, and the first two digits indicate the major group. Each division encompasses a range of SIC codes.

https://www.osha.gov/pls/imis/sic_manual.html

- The North American Industry Classification System (NAICS, pronounced Nakes) was developed as the standard for use by Federal statistical agencies in classifying business establishments for the collection, analysis, and publication of statistical data related to the business economy of the U.S.

NAICS was developed under the auspices of the Office of Management and Budget (OMB), and adopted in 1997 to replace the old Standard Industrial Classification (SIC) system.

It was also developed in cooperation with the statistical agencies of Canada and Mexico to establish a 3-country standard that allows for a high level of comparability in business statistics among the three countries.

<http://www.census.gov/eos/www/naics>

COMPARISONS

NAME	1st LEVEL	2nd LEVEL	3rd LEVEL	4th LEVEL	5th LEVEL	# OF
	CATEGORY	CATEGORY	CATEGORY	CATEGORY	CATEGORY	SECURITIES
TRBC	10 Economic Sectors	28 Business Sectors	54 Industry Groups	136 Industries	837 Activities	72,000
GICS	11 Sectors	24 Industry Groups	68 Industries	157 Sub-Industries		29,000
ICB	10 Industries	19 Supersectors	41 Sectors	114 Subsectors		75,000
BICS	10 Macro Sectors	46 First Level Microsectors	* 6 more unavailable levels of Microsectors			38,274
MGECS	3 Super Sectors	11 Sectors	69 Industry Groups	148 Industries		42,090
SIC	83 SIC2	1,005 SIC4	3,889 SIC6	18,754 SIC8		n/a
NAICS	20	99	312	713	1,065	n/a

To begin there is no clear universally accepted definition of Sector and Industry. From a top down analysis, the majority of the data sets reviewed herein seem to define the broadest category with the use of the word Sector. ICB seems to define the structure in reverse placing Industries on top down to Sub-Sectors.

Morningstar has tried to define a new sector structure that divides the stock universe into three major economic spheres or Super Sectors - Cyclical, Defensive and Sensitive. These Super Sectors seem to be defined by the included securities reaction to the economy.

SECTOR / INDUSTRY BUSINESS CLASSIFICATION STUDY

Levels of Granularity

Bloomberg goes the deepest with 8 levels of granularity, SIC has 6 levels, Thomson Reuters and NAICS use 5 and GICS, ICB and Morningstar stick to 4. To try and influence an industry standard the most logical definition and order would seem to be using five levels:

Six Levels of Granularity

Sector ⇨ Sector Group ⇨ Sub-Sector ⇨ Industry Group ⇨ Industry ⇨ Sub-Industry

Five Levels of Granularity - The GLX Sector-Industry Classifications (GSICs)

Sector ⇨ Sub-Sector ⇨ Industry ⇨ Sub-Industry ⇨ Type of Entity

Four Levels of Granularity

Sector ⇨ Sub-Sector ⇨ Industry ⇨ Sub-Industry

The ICB and GICS systems are more similar than they are different. Each has a four-layer hierarchical structure and a comparable number of subcategories within those structures.

The largest difference between the two is how consumer businesses are classified at the sector level. With the ICB, companies doing business with consumers are divided into providers of goods and providers of services; with the GICS, companies are classified by cyclical/non-cyclical distinctions, or between discretionary spending and the staples of everyday life.

With the exceptions of the consumer sectors, the other eight industries of the ICB correspond closely to the eight sectors of the GICS. At the lower levels, there are more differences, but their impact will not be significant to the highest levels. For example, in the ICB, coal companies are found in "basic materials", but under the GICS these companies are classified in "energy".

One similarity that exists across all of the datasets is that they are updated periodically. For example, in March of 2015 S&P Dow Jones Indices and MSCI announced that they had added Real Estate as a new Sector and Copper as a new Sub-Industry.

A March 2006 article stated that Bloomberg was dropping their BICS to adopt ICB and GICS. However in a September 2016 publication by Bloomberg on the Bloomberg Financial Services Gender-Equality Index (GEI), they state that the methodology used for the Bloomberg GEI comprises financial services companies, as classified by the Bloomberg Industry Classification System (BICS).

<http://www.watertechnology.com/inside-market-data/feature/1615886/bloomberg-drops-bics-icb-gics>

SECTOR / INDUSTRY BUSINESS CLASSIFICATION STUDY

THE GLX DIFFERENCE GLX SECTOR-INDUSTRY CLASSIFICATIONS (GSICs)

With the exception of the SIC and NAICS the rest seem to base their methodology and categorization around publicly traded securities. The GLX Capital Market Network is made up of many additional entities that we want to categorize in a similar fashion. For example, it is difficult to find classifications for legal and accounting entities in the GICS or the ICB. In fact there are a good number of entities that do not seem to be represented in the methodologies studied herein.

The following is a list of GLX Sectors and Industries that seem to be uncovered:

Sector	Sub-Sector	Industry	Sub-Industry	Definition
Government	Government	Global	International Bodies & Organizations	These are organizations that are made up primarily of sovereign states (referred to as member states). Notable examples include the United Nations (UN), Organisation for Economic Co-operation and Development (OECD), Organization for Security and Co-operation in Europe (OSCE), Council of Europe (COE), and World Trade Organization (WTO).
			Federal Level National Government	The government, or political authority that is put in place to maintain control of a nation.
			State Level Local Government	The administration of a particular town, county, or district, with representatives elected by those who live there.
			State & Provincial Government	A state government or provincial government is the government of a country subdivision in a federal form of government, which shares political power with the federal or national government.
Non-Profit	Non-Profit	Domestic	Advocacy Organizations	Also known as pressure groups, lobby groups, campaign groups, interest groups, or special interest groups) use various forms of advocacy in order to influence public opinion and/or policy.
			Charitable Organizations	Groups that center on philanthropic goals as well as social well-being.
			Churches & Religious Organizations	Groups that manage the upkeep of places of worship, such as mosques, churches, temples, synagogues, chapels and other buildings or other religious meeting places.
			Political Organizations	Any group that involves itself in the political process, including political parties, non-governmental organizations, advocacy groups and special interest groups.
			Private Foundations	A group which is usually created via a single primary donation from an individual or a business and whose funds and programs are managed by its own trustees or directors.
			Professional Associations	Also known as professional bodies, professional organizations, or professional societies. They seek to further a particular profession, the interests of individuals engaged in that profession and the public interest.
			Social & Membership Organizations	Any non-profit group that allows people to subscribe, and often requires them to pay a membership fee or "subscription".
			Trade Groups & Labor Unions	Any group intended to represent the collective interests of workers in negotiations with employers over wages, hours, benefits and working conditions.
			International NGOs	International Non-Governmental Organizations) are typically charities that are headquartered in one country but work in other countries. In some cases they overlap with other types of charities. Examples would include, International Development NGOs, Disaster Relief & Humanitarian NGOs, Peace & Human Rights NGOs, Conservation NGOs, and Child Sponsorship Organizations.

The **GLX Sector-Industry Classifications (GSICs)** system was developed by piggy-backing on the **Global Industry Classification Standard (GICS)** as a framework. GLX maintained the GICS structure but identified and added the uncovered categories of Government, and Non-Profit. GLX has also added a fifth layer of classification, which we call "Type of Entity", that is highly focused on industry designations within the Financials sector. GLX also changed the GICS label of Industry Group to Sub-Sector creating the labels below:

Sector ⇨ Sub-Sector ⇨ Industry ⇨ Sub-Industry ⇨ Type of Entity

For full details on how we use "Type of Entity" and the overall hierarchy and taxonomy please visit:

<https://docs.google.com/spreadsheets/d/1l-6LrSIDTX24YgfGM8QqFIEmXCnP7DhpkIR2HaBIlwg/edit?usp=sharing>

SECTOR / INDUSTRY BUSINESS CLASSIFICATION STUDY

CONCLUSION

Whether one of the methodologies herein is superior is a matter of preference and end use. In many cases, the end user does not have a choice; eg. all the indexes that are associated with MSCI and Standard & Poor's use the GICS, while those associated with Dow Jones Indexes and FTSE Group (FTSE) use the ICB.

At the current time there is fragmented and inconsistent global data. GLX has created the GLX-Global Economic Council, and is inviting members to join, in an attempt to lead an effort to unify this system. For more information or if interested in becoming a member please contact us.

ABOUT GLX - GLOBAL LISTING EXCHANGE

GLX is building the world's only Capital Market Directory and Social Finance Network at GLX.com. The destination is a global capital market news data portal and ground-breaking financial networking platform.

GLX is revolutionizing the way each and every member of the world's capital markets gets information, connects, communicates, and shares. Our mission is to make the world's capital markets more transparent, open and connected.

Sources:

Online research was done on Google using various sources including but not limited to the URL's provided herein, Wikipedia, Thomson Reuters, MSCI, Standard & Poor's, Bloomberg, the US Department of Labor, OSHA, Dow Jones, FTSE International, Investopedia, Morningstar, Taylor & Francis Online

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