Rating Methodology

Industry Risk Analysis Criteria for Corporate Ratings

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Contacts:

Ruangwud Jarurungsipong
ruangwud@trisrating.com

Wajee Pitakpaibulkij
wajee@trisrating.com

Parat Mahuttano
parat@trisrating.com

Raithiwa Naruemol
raithiwa@trisrating.com

Thiti Karoonyanont, Ph.D., CFA
thiti@trisrating.com

Suchada Pantu, Ph.D.
suchada@trisrating.com

WWW.TRISRATING.COM

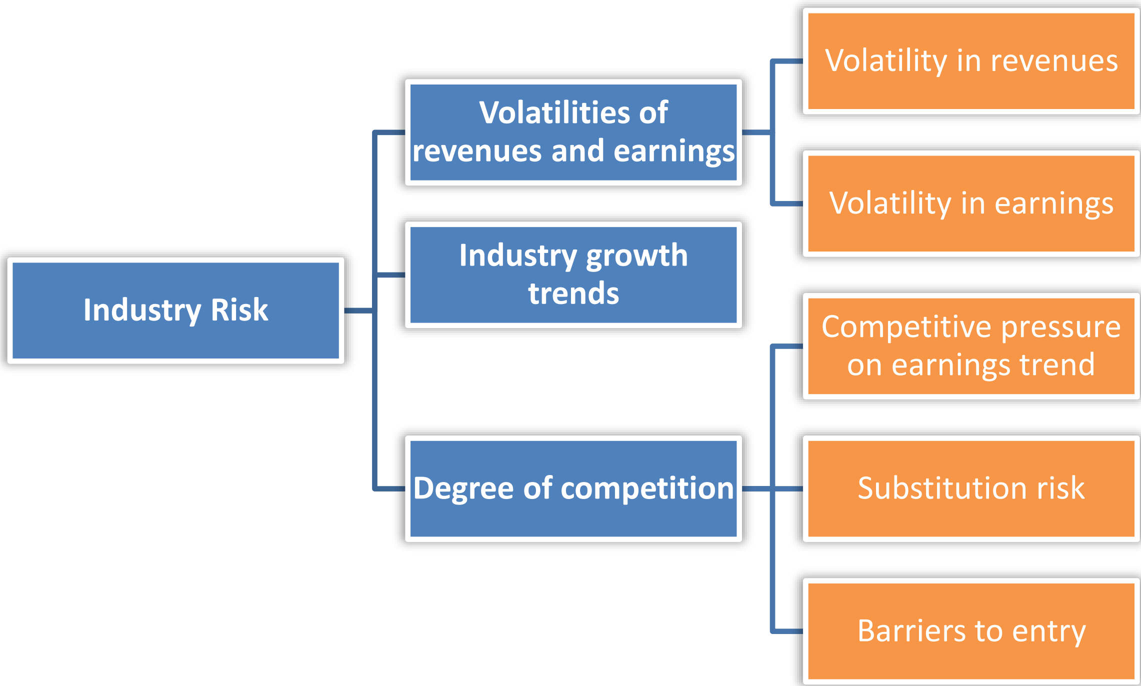
SCOPE OF THE CRITERIA

The criteria describe the methodology TRIS Rating applies for industry risk assessment. According to TRIS Rating's corporate rating framework, industry risk is considered together with country risk, and an entity's competitive position and profitability to define the business risk profile for the rated corporate entity. The criteria also apply to other sectors that require an analysis of industry risk. This article supersedes the "*industry risk analysis"* section in "Corporate Rating Methodology," published by TRIS Rating on 26 July 2019.

SUMMARY

The criteria assess the risks in the industries in which entities operate. The assessment classifies industry risk into five levels: 1) "very low", 2) "low", 3) "intermediate", 4) "moderately high", and 5) "high". The criteria consider three factors in making an industry risk assessment: the volatilities of revenues and earnings of companies in a specific industry, industry growth trends, and the degree of competition. The industry volatilities derive from the combination of volatility in revenues and earnings. The analysis of a sector's degree of competition is based on an industry's competitive pressure on earnings trend, substitution risk, and barriers to entry.

Figure 1: Industry Risk Analysis and Factors



METHODOLOGY

Industry risk is an important element in assessing the business risk profile and assigning the issuer credit rating for a corporate entity. The industry risk analysis reflects the risk and return potential for a company in that industry. Companies in the same industry all face the same industry risk. If a company involved in more than one industry, we will consider the industry that contributes at least 20% of its revenues, earnings, or assets. The aggregate industry risk score is then calculated based on the weighted average score of each industry. At present, TRIS Rating classifies industries for corporate entities into 39 sectors (see Appendix I)

TRIS Rating categorizes the risk of an industry into one of five levels: 1) “very low”, 2) “low”, 3) “intermediate”, 4) “moderately high”, and 5) “high”. The levels are based on a consideration of three factors: the volatilities of revenues and earnings of companies in a specific industry, industry growth trends, and the degree of competition. The risk levels assigned to each industry are detailed in the “Industry Risk Classification” in Appendix II.

1. Volatilities of revenues and earnings

The volatilities of revenues and earnings are measured from the peak-to-trough (PTT) changes in industry revenues and earnings during periods of crisis. The PTT decline is calculated based on the data covering the year before the crisis to the year the crisis ends. Sometimes, the period extends to the year after the end of the economic downturn as some industries lag the economic cycle. The higher the volatility, the higher the risk level assigned to an industry. Thailand has experienced two major economic crises in the past 25 years: the Asian financial crisis in 1997 and the global financial crisis in 2008. The scope of the assessment can then be extended to take into account additional economic crises in the future to continuously update the risks of the various industries.

Most industries went through a severe downturn during the 1997 financial crisis. The crisis resulted in the failure of a large number of financial institutions and corporations. The 2008 global financial crisis had a less severe effect on Thai businesses than the 1997 crisis. Financial institutions in Thailand were strengthened following the 1997 financial crisis, which helped lessen the impact of the 2008 crisis.

Our observations over both periods of market turbulence showed us that revenues and earnings are highly volatile in several industries. For instance, firms in the engineering & construction (E&C) industry, homebuilders and real estate developers, and cyclical transportation firms such as shipping and airlines, are highly volatile. In contrast, some industries experience low volatility in revenues and earnings, such as regulated utilities.

2. Industry growth trends

Industry growth trends tend to follow the stages of industrial development: initial, growth, mature, or declining. Generally, risk in industry growth trends is preliminarily observed by comparing the growth rate of the industry with the growth rate of the economy in the future. Industries with a growth rate higher than gross domestic product (GDP) growth are less risky than those with a lower rate. We need to evaluate the industry growth over a long period of time to ensure the sustainability of the growth trends. An entity in a high-growth industry does not always get a good rating since the industry might be in the initial phase of development or the industry might have experienced a temporary, rapid growth due to robust upturn of the economy.

Industries that are characterized by consistent and predictable cash flows, such as regulated utilities and transportation infrastructure, are regarded as less risky. In contrast, industries with high growth rates but volatile cash flows are considered riskier including leisure and sports (hotels), homebuilders and real estate developers, and E&C.

3. Degree of competition

TRIS Rating considers the degree of competition from three key factors: competitive pressure on earnings trend, substitution risk, and barriers to entry.

3.1 Competitive pressure on earnings trend

Normally, an industry's competitive conditions will affect operator's earnings. This factor evaluates the intensity of an industry's competitive pressure on the operator's earnings trend and volatility. The higher the competitive pressure on earnings, the higher the risk assigned to an industry. The pressure on industry earnings depends on several factors, including the number of competitors, the demand-supply situation, the extent of product differentiation in the industry, production input cost structure and volatility, and the regulatory framework. Overbuilding of production capacity in an industry will create more competition and earnings pressure, especially in the event of a cyclical downturn in demand. Earnings of companies in some industries, such as commodity trading, cement, petrochemicals, or steel, come under more competitive pressure than companies in other industries. Though companies in these industries are large, they have to compete with larger companies in regional or global markets. In addition, their products are often difficult to differentiate. Competition is thus primarily price based. Price cutting due to excess market supply is common in these industries.

In contrast, industries with large numbers of small competitors, such as homebuilders and real estate developers, face intense competition as well but of a different nature. Competition is largely confined to the domestic market but pressure on earnings is still high due to the large numbers of companies in the industry.

3.2 Substitution risk

Companies in some industries are vulnerable to threats from substituted products and/or low switching costs. It is difficult for these companies to raise product prices due to their low bargaining power. Technological breakthroughs and changes in government regulations can increase substitution risk, as can environmental and social concerns. Recent movements to reduce carbon emissions, for example, are challenging many industries to transform, to avoid being substituted by more innovative environment-friendly products.

3.3 Barriers to entry

Industries that tend to have high barriers to entry typically face a comparatively low degree of competition. Examples of barriers to entry include government licensing, capital intensity, and strong brand identity. Companies in regulated utility and transportation infrastructure industries tend to have high barriers to entry due to the limited number of licenses granted to operators. In addition, the licenses are usually long term, which guarantee entrance barriers to remain in the future. The contracts might also provide extra benefits that support revenues and margins, such as cost pass through mechanisms in power purchase agreements and construction contracts.

LIMITATION OF THE INDUSTRY RISK ASSESSMENT

Low data availability in some industries, such as from a small number of companies, cannot lead to a meaningful risk assessment. Lack of data accessibility of non-listed companies and the data confidentiality of some companies constrain the risk assessment. Therefore, we partially use analytic judgement or a proxy for assessing risk in some industry sectors.

APPENDIX I

SCOPE OF INDUSTRY

No.	Industry	Scope of Industry
1	Aerospace and Defense	Industry includes companies that design, manufacture, or repair civil aircraft (such as general aviation aircraft and helicopters) or supply related components or systems (including distributors of aircraft parts); design, manufacture, or service weapon systems or supply-related components; or provide defense-related services to government agencies or the military.
2	Agribusiness and Commodity Foods	Industry includes producers and distributors that generate earnings/revenues from primary agricultural products, commodity foods, and related processing products such as sugar, chicken, feed, and vegetable oil.
3	Auto Suppliers	Auto suppliers are companies that receive primary income from the production, assembly, sale, and distribution of automotive parts (including both original equipment manufacturers (OEM) and replacement equipment manufacturers (REM)).
4	Automakers	Companies derive most of their revenues from manufacturing and selling automobiles.
5	Branded Nondurables	Industry includes companies that generate earnings/revenues from manufacturing, marketing, and selling consumer nondurable products such as apparel, beverages, food, personal care and cosmetics, and household products. Consumer nondurable products are generally consumed over a shorter period than consumer durable good (less than three years).
6	Building Materials	Companies that produce and sell basic construction materials or building products (processed products), such as cement, brick, concrete, tile, glass, roof, plumbing, doors, etc. This industry excludes steel, lumber, and plywood producers.
7	Business and Consumer Services	Industry defines companies that generate earnings/revenues by offering businesses a more cost-effective way to carry out their non-core activities or by providing consumers with a variety of services. The industry includes consumer services, distribution services, facilities services, general support services, and professional services. Businesses choosing to outsource tend to continue outsourcing as it is costly to return services in-house.
8	Capital Goods	Companies that produce, sell, or service industrial equipment, e.g. machinery, industrial components, and systems. However, the industry excludes equipment producers whose products are very specific e.g. medical equipment, automotive, aerospace, or oil and gas equipment.
9	Commodity Chemicals	Companies that produce commodity chemicals, such as petrochemicals, fertilizers, agrochemicals and other commodity chemicals. This industry does not cover specialty chemicals companies and chemicals distributors.
10	Commodity Trading	Companies that generate most of their revenues from commodities trading and have logistical assets or operations as an integral part of their physical trading activities. Commodities trading means the buying and selling of commodities, which are not intended for internal processing (apart from storage and transportation) into more value-added products. Companies can use derivatives for hedging purposes.
11	Consumer Durables	Industry includes companies that generate earnings/revenues from the manufacturing and marketing of home appliances, furniture, home improvement products and fixtures, small appliances, and other durable goods.

12	Containers and Packaging	Industry includes companies that derive most of their revenue from plastic, paper, metal, and glass packaging products. Demand for aluminum cans and glass containers is mainly driven by demand for their end-market products such as food, alcoholic drinks, non-alcoholic beverages, pharmaceuticals, cosmetics, and chemicals.
13	Engineering and Construction	Industry includes operators that generate most of their income from engineering and design, construction, and maintenance work.
14	Environmental Services	Companies that provide waste management services from the collection, treatment, transportation, and disposal of various waste streams. This industry does not cover companies involved in environmental consulting or producers of air pollution control equipment.
15	Forest and Paper Products	Companies that harvest timber or convert wood or recycled cellulose fiber into products that are then sold as pulp, paper, or converted wood products.
16	Health Care Equipment	Companies that develop, manufacture, and market medical, surgical, and dental devices and instruments, including consumable items, implantable devices, conventional supplies, and capital equipment used by health care providers; contract manufacturers of health care equipment; life science companies that develop, manufacture, and market laboratory equipment, instruments, reagents, and diagnostic tests.
17	Health Care Services	Industry focuses on for-profit companies that provide health care services to patients.
18	Homebuilders and Real Estate Developers	Companies that develop and sell newly constructed residential or commercial properties.
19	Leisure and Sports	The industry includes operators that derive most of their revenues from lodging, hospitality, timeshare services, gaming, cruise lines, sport teams, fitness centers, theme parks or recreation.
20	Media and Entertainment	The industry includes companies in the following sub sectors: advertising media, advertising agencies, broadcast networks, printing and publishing, magazines, newspapers, movie exhibitors, radio stations, and TV stations.
21	Metals and Mining Downstream	Companies who earn most of their revenues from the manufacturing and distribution of metals, especially steel and aluminum. These companies may be integrated metal producers or metal distributors.
22	Metals and Mining Upstream	Companies that earn most of their revenues from the exploration and production of metals and minerals. This industry does not include operators who refine, process, and distribute the same metals and minerals, as well as mining companies that are integrated with downstream steel or aluminum operations.
23	Midstream Energy	Companies that derive most of their revenues from the transporting, processing, storage, and marketing of commodities such as crude oil, petroleum products, natural gas, and natural gas liquids (NGLs).
24	Oil and Gas Drilling, Equipment and Services	Industry comprises operators who generate revenues from providing drilling rigs, equipment, maintenance, and other services to oil and gas exploration and production (E&P) companies.
25	Oil and Gas Integrated, Exploration and Production	The industry includes companies that earn most of their income from exploration and production associated with oil and gas products and integrated oil and gas companies.
26	Oil and Gas Refining and Marketing	Companies that refine crude oil into various oil-related products, such as gasoline, diesel, and liquefied petroleum gas (LPG). Wholesale suppliers of refined products are also included in this industry.

27	Package Express and Logistics	Companies that provide services to support the movement of goods through the supply chain. Examples of the services provided by logistics companies include warehousing, transportation brokerage (acting as an intermediary in arranging transportation on behalf of customers), package express companies, freight railroads, returns processing, inventory management, and materials handling.
28	Pharmaceuticals	Companies that develop, manufacture, or market branded pharmaceuticals or generic drugs, and contract drug manufacturers.
29	Regulated Utilities	Companies that provide essential utility products or services (for instance electricity, water, and gas) and operate under laws and regulations or government policy. This industry is subject to tight regulation in terms of services and tariff rates.
30	REITs and Real Estate for Rent	Real estate investment trust (REIT) and real estate for rent industry focuses on operators that generate most of their revenue from rental properties. Generally, the revenue of operators is secured with long-term contracts of mainly three to five years. Types of real estates for rent comprise retail properties, office buildings, and warehouses.
31	Restaurants	Restaurants include chain restaurants and quick service restaurants. This industry does not include street food.
32	Retailers	Retailers refer to companies that sell products or services to end customers through physical stores, catalogues, online channels, or omni channels. Retailers include hypermarkets, supermarkets, convenience stores, and traditional stores.
33	Specialty Chemicals	Companies that produce specialty chemicals, such as special-grade fibers, industrial gases, coatings, and other advanced materials. This industry does not cover commodity chemicals companies and chemicals distributors.
34	Technology Hardware and Semiconductors	Producers and distributors of semiconductors and semiconductor equipment; computer hardware, storage, and peripherals; electronic components and equipment; office electronics; consumer electronics; communications equipment; and electronic manufacturing services.
35	Technology Software and Services	Companies that provide IT outsourcing and project services, transaction processing, and software services for both government and private sectors. Key clients of the industry are in government, telecommunications, automotive, and financial services sectors.
36	Telecommunication and Cable	Telecommunication companies that originate, transport, and terminate voice and data on owned and/or leased terrestrial networks, wireless networks or via satellite, or a combination of these modalities. Cable companies are operators that provide television or voice and data services, comprising direct-to-home (DTH), tower, fixed service satellite (FSS), and mobile satellite services (MSS).
37	Transportation Cyclical	Industry includes operators who derive their core income from transporting passengers and freight, such as airlines, trucking, shipping, ferry, etc. The industry does not include transportation infrastructure and logistics companies.
38	Transportation Infrastructure	Companies generate most of their revenue from commercial operation of electric railways, toll roads, airports, marine ports, and other transportation infrastructure assets and services, such as air and marine traffic controllers.
39	Unregulated Power and Gas	Companies generate revenue from selling utilities like power, gas, etc., which does not benefit from regulated agreement to the states. They are also exposed to competition in terms of marketing and prices.

APPENDIX II

INDUSTRY RISK CLASSIFICATION

Very Low Risk (1)	Low Risk (2)	Intermediate Risk (3)	Moderately High Risk (4)	High Risk (5)
Regulated Utilities	Transportation Infrastructure	Media and Entertainment	Homebuilders and Real Estate Developers	Commodity Trading
	Health Care Services	Containers and Packaging	Oil and Gas Refining and Marketing	Transportation Cyclical
	REITs and Real Estate for Rent	Auto Suppliers	Oil and Gas Drilling, Equipment and Services	Forest and Paper Products
	Branded Nondurables	Oil and Gas Integrated, Exploration and Production	Building Materials	
	Specialty Chemicals	Technology Software and Services	Engineering and Construction	
	Environmental Services	Leisure and Sports	Metals and Mining Upstream	
	Pharmaceuticals	Retailers	Commodity Chemicals	
	Health Care Equipment	Restaurants	Automakers	
	Package Express and Logistics	Telecommunication and Cable	Metals and Mining Downstream	
		Consumer Durables	Technology Hardware and Semiconductors	
		Capital Goods	Unregulated Power and Gas	
		Business and Consumer Services		
		Agribusiness and Commodity Foods		
		Midstream Energy		
		Aerospace and Defense		

TRIS Rating Co., Ltd.
Silom Complex Building, 24th Floor, 191 Silom Road, Bangkok 10500, Thailand. Tel: 0-2098-3000