

Article Title: Sector And Industry Variables | General Criteria: Industry Risk Methodology Data: (Editor's note: This sector and industry variables report incorporates content previously covered in the industry risk criteria and the industry risk assessments commentary. Specifically, tables 1 and 2 were in "Methodology: Industry Risk," published Nov. 19, 2013, and tables 3-6 were in "Industry Risk Assessments Update," published Jan. 27, 2021.) Overview And Scope Here S&P; Global Ratings provides additional information on the variables it uses to apply the criteria "Methodology: Industry Risk," published Nov. 19, 2013. This report is intended to be read in conjunction with those criteria. For a further explanation of sector and industry variables reports, please see the description at the end of this article. We will periodically update these sector and industry variables as market conditions warrant. Key Publication Information This article is related to "Methodology: Industry Risk," published Nov. 19, 2013. We will update this publication as market conditions warrant. Sector And Industry Variables Table 1 - EBITDA Margin PTT Declines (%) PTT DECLINE BY RECESSION INDUSTRY AVERAGE PTT DECLINE 1952-1955 1956-1958 1959-1962 1968-1971 1972-1975 1979-1982 1989-1992 2000-2002 2007-2009 Transportation cyclical (59.1) (42.3) (93.4) (41.7) Auto OEM (38.0) (18.1) (22.8) (4.6) (34.1) (49.5) (79.5) (39.9) (27.9) (65.4) Metals and mining downstream (30.8) 0.0 (7.0) (13.2) (25.2) (24.0) (56.3) (52.4) (27.3) (71.4) Metals and mining upstream (30.0) (9.9) (29.9) (7.0) (16.1) (8.6) (64.3) (40.3) (37.7) (55.8) Homebuilders and developers (26.0) 0.0 (2.4) (52.9) (34.8) (36.6) 0.0 (55.4) Oil and gas refining and marketing (22.1) (5.9) (15.9) (2.8) (30.3) (25.7) (36.8) (20.3) (11.3) (50.0) Forest and paper products (19.6) (3.8) (9.5) (20.0) (23.8) (13.4) (41.5) (33.8) (18.1) (12.4) Building materials (16.1) 0.0 (15.7) (18.4) (18.6) (7.0) (32.1) (30.6) (7.3) (15.5) Oil and gas integrated, exploration and production (15.5) (6.2) (17.4) (2.9) (4.4) (19.0) (27.5) (22.2) (12.2) (27.4) Agribusiness and commodity foods (15.3) (4.5) (7.6) (4.2) (12.5) (1.0) (25.4) (31.4) 0.0 (50.9) Leisure and sports (14.9) (16.2) (9.8) (28.7) (30.4) (15.7) (14.1) (8.4) 0.0 (10.6) Commodity chemicals (14.8) (7.2) (9.9) (10.2) (15.8) (7.5) (16.4) (27.5) (27.4) (11.0) Auto suppliers (13.5) (6.5) (6.2) (12.5) (17.9) (20.2) (11.9) (10.0) (18.8) (17.5) Aerospace and defense (12.9) (7.2) (16.4) (25.6) (11.7) (12.1) (13.1) (6.3) (9.6) (13.9) Technology hardware and semiconductors (12.8) (8.0) (2.4) (3.3) (12.0) (4.9) (7.7) (18.7) (42.3) (16.3) Specialty chemicals (11.5) 0.0 (9.3) (12.6) (11.1) (21.2) (19.0) 0.0 (14.0) (15.9) Capital goods (11.1) (13.1) 0.0 (17.7) (8.4) (3.1) (20.3) (5.5) (10.3) (21.8) Engineering and construction (10.9) (12.0) (7.5) (10.6) (29.8) (12.5) (6.5) 0.0 (16.6) (2.5) Real estate investment trusts (REITs) (10.8) (15.4) (33.3) (2.9) (9.1) (3.9) 0.0 Railroads and package express (10.6) (8.6) (8.3) (14.8) Business and consumer services (10.2) (50.0) (9.2) 0.0 (6.6) (9.6) (10.7) (1.9) 0.0 (4.0) Midstream energy (10.0) 0.0 (4.8) (12.0) (12.2) (13.2) (19.2) (9.5) (8.8) Technology software and services (9.4) (13.3) 0.0 (4.4) (28.8) (24.6) (3.1) 0.0 0.0 (10.5) Consumer durables (9.9) (1.0) (7.9) (10.7) (12.1) (18.4) (7.3) (2.3) (11.6) (18.1) Containers and packaging (8.8) 0.0 (0.8) (8.9) (15.9) (6.3) (24.2) (10.6) (6.3) (6.5) Media and entertainment (8.1) 0.0 0.0 (17.4) (19.4) (7.2) (8.0) (6.3) (7.5) (6.9) Oil and gas drilling, equipment and services (7.7) 0.0 (5.8) (8.5) (21.6) (0.4) (4.6) (5.6) (13.5) (9.0) Retail and restaurants (7.1) (1.9) (6.2) (9.5) (9.0) (13.1) (7.1) (9.9) (1.1) (5.6) Health care services (6.2) (5.7) (16.6) (1.6) (6.8) (2.5) (3.8) Transportation infrastructure (6.1) (6.1) Environmental services (6.0) (4.9) (10.9) (6.7) 0.0 (8.4) (1.3) (9.9) Regulated utilities (5.3) 0.0 0.0 (5.3) (11.2) (16.6) (8.4) (1.9) 0.0 (4.3) Unregulated power and gas N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A Pharmaceuticals (4.0) 0.0 (5.4) (3.1) (9.0) (7.4) (3.7) (1.7) (3.5) (1.8) Transportation leasing (3.7) (8.2) 0.0 0.0 (7.6) (3.9) (4.7) (3.8) 0.0 (5.2) Telecommunications and cable (3.3) (5.3) (2.6) (0.4) (5.1) Health care equipment (3.3) (8.5) 0.0 0.0 (11.1) (3.4) (4.5) 0.0 0.0 (1.8) Branded nondurables (3.2) 0.0 0.0 (2.6) (4.6) (9.8) (0.3) (3.6) (2.2) (5.4) Note: Empty cells in the table refer to recessionary periods before sector data were available. N/A--Not applicable, historical data is not representative. Table 2 - Revenue PTT Declines (%) PTT DECLINE BY RECESSION INDUSTRY AVERAGE PTT DECLINE 1952-1955 1956-1958 1959-1962 1968-1971 1972-1975 1979-1982 1989-1992 2000-2002 2007-2009 Homebuilders and developers (20.1) 0.0 (31.1) (26.4) (18.8) 0.0 (44.5) Metals and mining downstream (17.4) (16.1) (21.1) (8.1) (6.1) (16.0) (24.2) (24.2) (6.5) (34.3) Auto OEM (16.5) (10.3) (24.0) (5.8) (16.9) (15.7) (30.0) (8.2) (6.9) (30.7) Midstream energy (15.3) (0.4) (3.4) 0.0 (2.6) (12.1) (59.3) (29.2) Metals and mining upstream (12.6) (1.4) (27.4) (1.3) (8.2) (7.3) (25.9) (15.5) (5.7) (20.6) Oil and gas refining and marketing (11.7) (15.2) (18.0) (2.4) 0.0 (2.1) (11.5) (15.4) (9.5) (31.4) Transportation cyclical (10.7) (0.2) (14.7) (17.3) Auto suppliers (9.5) (10.4) (8.1) (6.7) (5.4) (6.1) (20.3) (5.2) (4.9) (18.9) Building materials (8.0) (1.8) (6.3) (2.2) 0.0 (8.4) (23.6)

(11.5) (1.5) (16.9) Oil and gas integrated, exploration and production (7.9) (0.2) (7.3) 0.0 0.0 (0.7) (12.0)
 (14.2) (3.9) (33.2) Oil and gas drilling, equipment and services (7.7) (1.0) (17.7) 0.0 0.0 0.0 (9.7) (10.2)
 (9.4) (21.5) Capital goods (7.7) (7.0) (9.1) (0.2) 0.0 (1.4) (14.7) (10.0) (5.3) (21.8) Transportation
 leasing (7.7) (17.5) (23.5) (0.9) 0.0 0.0 (5.0) (3.0) (6.3) (12.6) Real estate investment trusts (REITs)
 (7.4) 0.0 (11.7) (8.8) (11.5) 0.0 (12.1) Commodity chemicals (7.3) (1.6) (6.8) 0.0 (4.8) (2.1) (2.4) (13.1)
 (12.1) (22.9) Railroads and package express (6.6) (2.5) (3.7) (13.5) Regulated utilities (6.1) 0.0 0.0 0.0
 0.0 0.0 0.0 (6.1) (42.6) (6.2) Unregulated power and gas N/A N/A N/A N/A N/A N/A N/A N/A N/A
 Technology software and services (5.9) (17.8) 0.0 (2.3) (11.9) (9.0) 0.0 0.0 0.0 (11.8) Forest and paper
 products (5.6) 0.0 0.0 0.0 (2.6) (8.8) (16.1) (9.3) (2.5) (11.4) Consumer durables (7.4) (8.1) (5.6) 0.0
 (3.7) (7.8) (15.3) (2.0) (5.9) (18.5) Engineering and construction (4.8) (12.6) (4.7) (4.5) 0.0 0.0 0.0 (8.1)
 (0.6) (12.3) Business and consumer services (4.4) 0.0 (23.0) 0.0 0.0 (2.6) (3.0) 0.0 (2.1) (9.3)
 Aerospace and defense (4.4) (4.1) (4.5) 0.0 (15.3) (0.4) (2.9) (8.2) 0.0 (4.0) Technology hardware and
 semiconductors (4.4) 0.0 0.0 0.0 (1.0) 0.0 0.0 (1.5) (19.4) (17.6) Specialty chemicals (3.8) 0.0 0.0 0.0
 0.0 (4.2) (9.7) (2.0) (0.3) (18.3) Agribusiness and commodity foods (3.7) (10.8) (5.1) (6.9) 0.0 0.0 (3.3)
 0.0 0.0 (6.7) Containers and packaging (3.5) (0.4) (1.2) (1.9) 0.0 (1.7) (20.2) 0.0 (1.1) (5.0)
 Telecommunications and cable (3.0) (0.9) (0.6) (5.6) (5.0) Environmental services (2.3) 0.0 (1.5) (0.9)
 0.0 (6.9) (4.5) Leisure and sports (1.6) 0.0 0.0 0.0 0.0 (3.1) 0.0 (2.8) (0.8) (7.3) Branded nondurables
 (1.1) 0.0 0.0 0.0 0.0 0.0 (1.4) 0.0 (4.4) (3.8) Health care equipment (0.8) (5.3) 0.0 0.0 0.0 0.0 0.0 0.0
 (1.5) Media and entertainment (0.6) 0.0 (0.4) 0.0 (1.8) 0.0 0.0 0.0 0.0 (3.3) Retail and restaurants (0.6)
 (0.5) 0.0 0.0 0.0 (1.4) 0.0 0.0 0.0 (3.4) Transportation infrastructure (0.4) (0.4) Pharmaceuticals (0.2)
 0.0 0.0 0.0 0.0 0.0 (1.2) 0.0 0.0 (0.4) Health care services 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Note: Empty cells
 in the table refer to recessionary periods before sector data were available. N/A--Not applicable,
 historical data is not representative. Table 3 - Industry Risk Assessments INDUSTRY --CYCLICALITY
 ASSESSMENT-- --COMPETITIVE RISK AND GROWTH ENVIRONMENT ASSESSMENT-- --GLOBAL
 INDUSTRY RISK ASSESSMENT-- Transportation cyclical High risk 5 Moderately high risk 4 High risk 5
 Homebuilders and developers High risk 5 Intermediate risk 3 Moderately high risk 4 Metals production
 and processing High risk 5 Intermediate risk 3 Moderately high risk 4 Mining High risk 5 Intermediate
 risk 3 Moderately high risk 4 Auto OEM High risk 5 Intermediate risk 3 Moderately high risk 4 Auto
 suppliers Moderately high risk 4 Moderately high risk 4 Moderately high risk 4 Commodity chemicals
 Moderately high risk 4 Moderately high risk 4 Moderately high risk 4 Technology hardware and
 semiconductors Moderately high risk 4 Moderately high risk 4 Moderately high risk 4 Oil and gas
 refining and marketing Moderately high risk 4 Moderately high risk 4 Moderately high risk 4 Oil and gas
 integrated, exploration and production Moderately high risk 4 Moderately high risk 4 Moderately high
 risk 4 Unregulated power and gas Moderately high risk 4 Moderately high risk 4 Moderately high risk 4
 Forest and paper products Moderately high risk 4 Moderately high risk 4 Moderately high risk 4
 Engineering and construction Intermediate risk 3 Moderately high risk 4 Moderately high risk 4 Oil and
 gas drilling, equipment and services Intermediate risk 3 Moderately high risk 4 Moderately high risk 4
 Agribusiness and commodity foods Moderately high risk 4 Intermediate risk 3 Intermediate risk 3
 Leisure and sports Moderately high risk 4 Intermediate risk 3 Intermediate risk 3 Building materials
 Moderately high risk 4 Intermediate risk 3 Intermediate risk 3 Aerospace and defense Moderately high
 risk 4 Intermediate risk 3 Intermediate risk 3 Midstream energy Intermediate risk 3 Intermediate risk 3
 Intermediate risk 3 Capital goods Intermediate risk 3 Intermediate risk 3 Intermediate risk 3 Consumer
 durables Intermediate risk 3 Intermediate risk 3 Intermediate risk 3 Business and consumer services
 Intermediate risk 3 Intermediate risk 3 Intermediate risk 3 Technology software and services
 Intermediate risk 3 Intermediate risk 3 Intermediate risk 3 Containers and packaging Intermediate risk 3
 Intermediate risk 3 Intermediate risk 3 Media and entertainment Intermediate risk 3 Intermediate risk 3
 Intermediate risk 3 Retail and restaurants Intermediate risk 3 Intermediate risk 3 Intermediate risk 3
 Transportation leasing Low risk 2 Intermediate risk 3 Intermediate risk 3 Telecommunications and cable
 Low risk 2 Intermediate risk 3 Intermediate risk 3 Health care services Low risk 2 Intermediate risk 3
 Intermediate risk 3 Real estate investment trusts (REITs) Intermediate risk 3 Low risk 2 Low risk 2
 Railroads and package express Intermediate risk 3 Low risk 2 Low risk 2 Specialty chemicals
 Intermediate risk 3 Low risk 2 Low risk 2 Health care equipment Low risk 2 Low risk 2 Low risk 2
 Transportation infrastructure Low risk 2 Low risk 2 Low risk 2 Environmental services Low risk 2 Low

risk 2 Low risk 2 Branded nondurables Low risk 2 Low risk 2 Low risk 2 Pharmaceuticals Low risk 2
 Low risk 2 Low risk 2 Regulated utilities Low risk 2 Very low risk 1 Very low risk 1 Table 4 - Industry
 Risk Assessments For Financial Services Sectors INDUSTRY --CYCLICALITY ASSESSMENT--
 --COMPETITIVE RISK AND GROWTH ENVIRONMENT ASSESSMENT-- --GLOBAL INDUSTRY RISK
 ASSESSMENT-- Asset managers Intermediate risk 3 Intermediate risk 3 Intermediate risk 3 Financial
 market infrastructure companies Low risk 2 Low risk 2 Low risk 2 Financial services finance companies
 Moderately high risk 4 Moderately high risk 4 Moderately high risk 4 Table 5 - Competitive Risk And
 Growth Subfactors INDUSTRY NAME EFFECTIVENESS OF BARRIERS TO ENTRY LEVEL AND
 TREND OF INDUSTRY PROFIT MARGINS RISK OF SECULAR CHANGE AND SUBSTITUTION OF
 PRODUCTS, SERVICES, AND TECHNOLOGIES RISK IN GROWTH TRENDS Transportation cyclical
 High risk High risk Medium risk Medium risk Homebuilders and developers Medium risk High risk
 Medium risk Medium risk Metals production and processing Medium risk High risk Medium risk Medium
 risk Mining Medium risk Medium risk Low risk Medium risk Auto OEM Low risk High risk Medium risk
 Medium risk Auto suppliers Medium risk High risk Medium risk High risk Commodity chemicals High
 risk High risk Medium risk Medium risk Technology hardware and semiconductors Medium risk High
 risk High risk Low risk Oil and gas refining and marketing Low risk High risk Medium risk High risk Oil
 and gas integrated, exploration and production Medium risk High risk Medium risk High risk
 Unregulated power and gas Medium risk High risk Medium risk High risk Forest and paper products
 Medium risk High risk Medium risk High risk Engineering and construction High risk High risk Low risk
 Medium risk Oil and gas drilling, equipment and services Medium risk High risk Medium risk High risk
 Agribusiness and commodity foods Medium risk High risk Medium risk Medium risk Leisure and sports
 Medium risk Medium risk Medium risk Medium risk Building materials Low risk Medium risk Medium
 risk Medium risk Aerospace and defense Medium risk Medium risk Low risk Medium risk Midstream
 energy Low risk Medium risk Medium risk Medium risk Capital goods Medium risk Medium risk Low risk
 Medium risk Consumer durables Medium risk Medium risk Low risk Medium risk Business and
 consumer services Medium risk Medium risk Low risk Medium risk Technology software and services
 Medium risk Medium risk Low risk Low risk Containers and packaging Medium risk Medium risk
 Medium risk Medium risk Media and entertainment Medium risk Medium risk Medium risk Medium risk
 Retail and restaurants Medium risk High risk Medium risk Medium risk Transportation leasing Medium
 risk Low risk Medium risk Low risk Telecommunications and cable Low risk Low risk Medium risk
 Medium risk Health care services Medium risk Medium risk Low risk Low risk Real estate investment
 trusts (REITs) Medium risk Low risk Low risk Low risk Railroads and package express Low risk Low
 risk Medium risk Low risk Specialty chemicals Low risk Medium risk Low risk Low risk Health care
 equipment Low risk Medium risk Low risk Low risk Transportation infrastructure Low risk Low risk Low
 risk Medium risk Environmental services Low risk Low risk Low risk Medium risk Branded nondurables
 Medium risk Low risk Low risk Low risk Pharmaceuticals Low risk Low risk Low risk Medium risk
 Regulated utilities Low risk Low risk Low risk Low risk Table 6 - Competitive Risk And Growth
 Subfactors For Financial Services Sectors INDUSTRY NAME EFFECTIVENESS OF BARRIERS TO
 ENTRY LEVEL AND TREND OF INDUSTRY PROFIT MARGINS RISK OF SECULAR CHANGE AND
 SUBSTITUTION OF PRODUCTS, SERVICES, AND TECHNOLOGIES RISK IN GROWTH TRENDS
 Asset managers Medium risk Low risk Medium risk Low risk Financial market infrastructure companies
 Low risk Medium risk Low risk Low risk Financial services finance companies High risk Medium risk
 Medium risk High risk Related Criteria General Criteria: Methodology: Industry Risk, Nov. 19, 2013
 Related Research Evolution Of The Methodologies Framework: Introducing Sector And Industry
 Variables Reports, Oct. 1, 2021 This is a sector and industry variables report. A sector and industry
 variables report is a publicly available criteria-related publication that describes sector, industry, asset
 class, or regional variables that we expect to periodically update mainly to reflect our views on changing
 macroeconomic and market conditions. Sector and industry variables reports are not criteria because
 they do not establish a methodological framework for determining credit ratings.