Credit Brief on Singaporean SMEs
May 2016

Jointly by Credit Research Initiative Team and Validus Capital Pte. Ltd.

This brief is a jointly published monthly article, between Validus and Credit Research Initiative at National University of Singapore (NUS-CRI), providing insights on industry-level Credit Risk of Singaporean SMEs and provides a summary of how loans generated through the Validus' platform incorporates the learnings from the industry-level Credit Analysis. The Credit Risk of the industries is measured via the Probability of Default (PD) model developed by the NUS-CRI team (www.rmicri.org). This analysis is conducted across 10 industries (Bloomberg classification) and the loans funded through Validus. (www.validus.sg)

Data note: Analysis in this report is based on the sample of public SMEs. Due to the small sample size in Singapore and similar credit characteristics of public SMEs across Singapore, Australia, Hong Kong and Korea, all CRI sector PDs are calculated as an average of PDs for the public SMEs in the four economies. This methodology is in agreement with Validus Capital Pte. Ltd. and is expected to reflect the Credit Risk profile of Singapore SMEs.

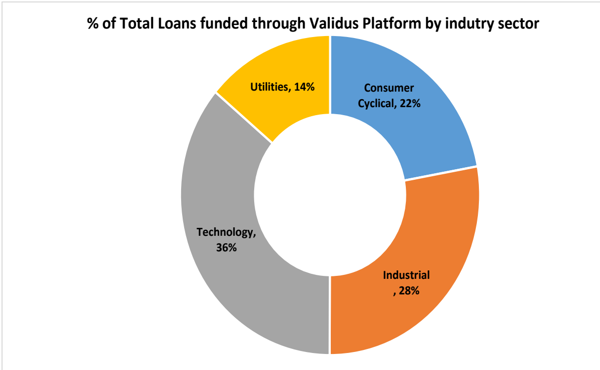
A. Key Highlights on Credit Risk

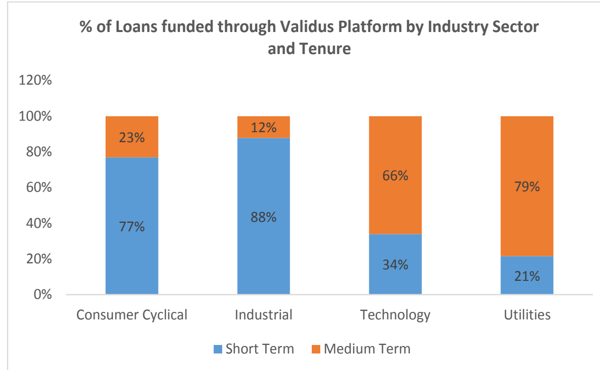
- SME energy sector sees the highest risk all over the short and medium term, while the non-cyclical consumer sector constantly delivers the best performance across tenures.
- SME basic materials sector is relatively risky among industries in the short term, while relatively safe in the medium term.
- Credit risk for energy sector ranks high in Medium and Micro Firms, but ranks low in Small Firms.
- Credit risk for basic materials sector ranks high in Medium and Small Firms, but ranks low in Micro Firms.
- Credit risk for financial sector ranks high in Medium and Small Firms, but ranks low in Micro Firms.
- The overall multiple of short term PD (1-month) to medium term PD (1-year) is 8x. This is an indicator denoting the extent of the behaviour of medium term PD compared to the short term PD which is further used as a benchmark for industry-level PD multiple. Any industry level PD multiple that is higher than the overall multiple indicates that medium term loans for those industry sectors are more risky than short term loans and vice versa.

B. How Validus incorporated these learnings?

- Loans funded[1] through Validus exclude companies in energy, basic materials and financial sectors.
- Loans are well diversified within four industry sectors, namely, Technology, Industrial, Consumer Cyclical and Utilities.
- Loans to companies within the industrial sector (mainly comprises of construction service related companies) are more short term and in line with the Credit Risk insights.
- Technology shows a short to medium PD multiple which is closer to that of all sectors combined, and the loans funded reflects this given most loans are medium term in nature.
- Consumer cyclical shows a short to medium PD multiple higher than that of all sectors combined and the loans funded reflects this given most loans are short term in nature.
- Profile of loans originated through Validus platform.

[1] This introductory report contains all loans funded through Validus.

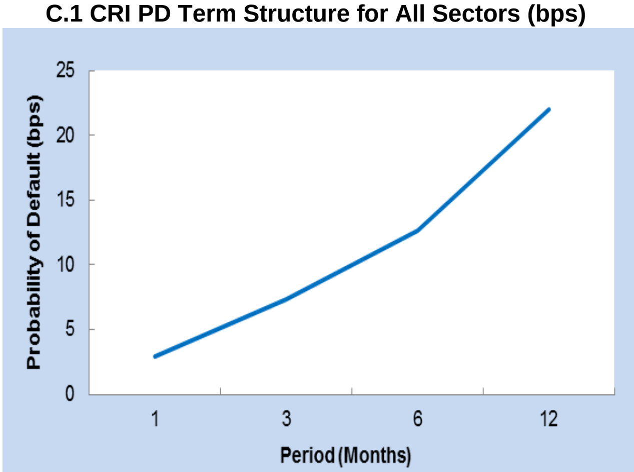




C. Credit Risk for Singaporean SMEs by Tenure

The CRI's credit risk model produces "forward-looking" probabilities of default (PDs) for horizon ranging from 1 month to 12 months. With the term structure, Chart C.1 and Table C.2 reveal the credit risk profiles for Singaporean SMEs over the short and medium terms, which are measured by CRI 1-month PD and 1-year PD respectively.

C.1 CRI PD Term Structure for All Sectors (bps)



Source: CRI, all figures are updated as of April 30, 2016

An upward trend is shown in the CRI PD term structure for all sectors of Singaporean SMEs. The short-term (1-month) and medium-term (1-year) PDs are 2.92bps and 21.99bps respectively. The increase in the slope of term structure reveals that the credit risk rises at an escalating speed as tenure lengthens.

C.2 CRI PD Term Structure by Sector (bps)

(month)	1	3	6	12
All Sectors	2.92	7.33	12.62	21.99
Financial	2.93	7.61	13.63	24.11
Basic Materials	3.28	7.53	11.78	18.32
Communications	2.88	7.44	13.10	23.59
Consumer (cyclical)	2.48	6.87	12.87	24.03
Consumer (non-cyclical)	2.39	5.91	9.99	17.23
Diversified	1.85	5.19	10.27	20.96
Energy	4.54	10.54	17.06	27.91
Industrial	2.89	7.71	13.81	24.98
Technology	2.61	6.68	12.07	22.57
Utilities	3.02	7.77	12.39	19.76

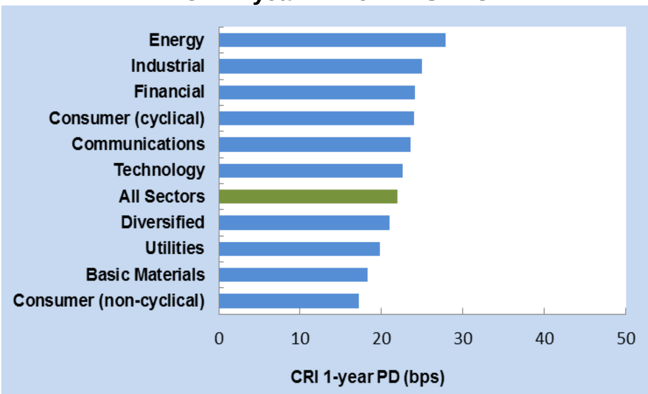
Source: CRI, all figures are updated as of April 30, 2016

The sector breakdown provides information of the PD term structure for each sector of Singaporean SMEs. Among industries, the energy industry sees the highest risk over the short and medium term, while the non-cyclical consumer industry constantly delivers the best performance. Notably, although the basic materials industry seems risky in the short term, it is much safer than most of the other sectors in the medium term. Likewise, the utilities industry has relatively high credit risk in the short term, but it is one of the safest industries in the medium term.

D. Credit Risk for Singaporean Industries by Company Size as defined by Validus

The CRI 1-year PD assesses the credit risk in the future one year. The comparison of CRI 1-year PD among industries gives a clear picture of the relative credit performance of each sector. Chart 1-4 display the credit profiles for all Singaporean SMEs of varying company size. By definition[2], firms with annual turnover equal to or below USD 2mn are considered Micro Firms, between USD 2-10mn are considered Small Firms, while larger than USD 10mn and equal to or below USD 100mn are considered Medium Firms.

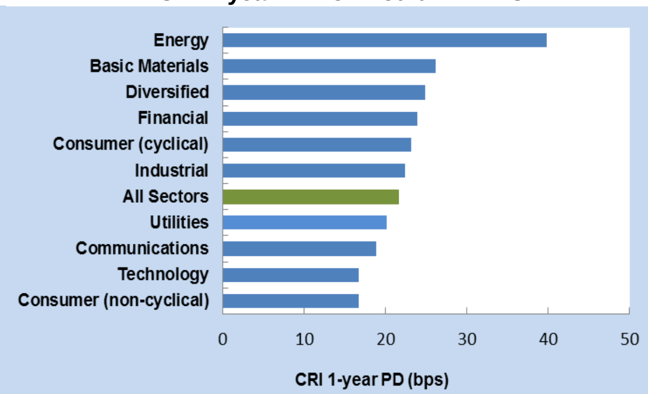
D.1 CRI 1-year PD for All SMEs



Source: CRI, all figures are updated as of April 30, 2016

Among all Singapore SMEs, the energy sector is the worst performer, followed by the industrial sector and the financial sector. By contrast, the utilities, basic materials and non-cyclical consumer industries perform more robust than the average of all sectors in terms of CRI 1-year PD.

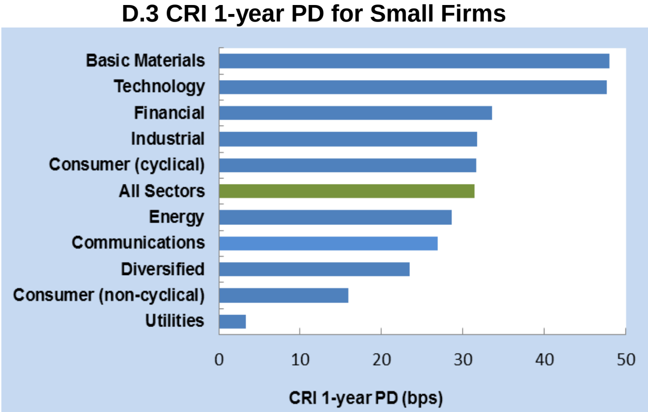
D.2 CRI 1-year PD for Medium Firms



Source: CRI, all figures are updated as of April 30, 2016

In Medium Firms, the energy, basic materials and financial sectors have the highest credit risk, while the communications, technology and non-cyclical consumer sectors perform best. The relative credit performance of the energy and non-cyclical consumer sectors for medium firms is in line with the performance for all SMEs. However, it is highlighted that the CRI 1-year PD for basic materials industry ranks number two in Medium Firms versus number two from the bottom in all SMEs.

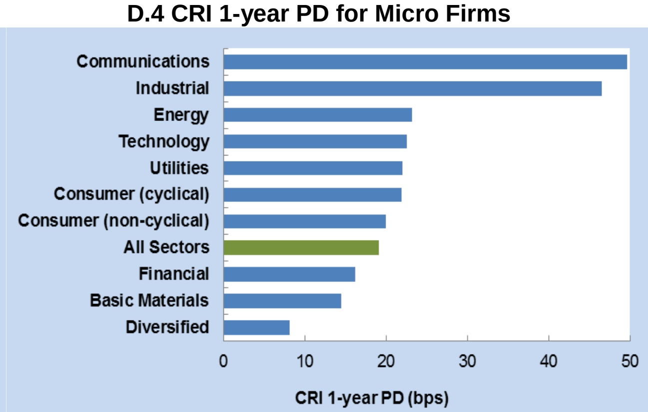
D.3 CRI 1-year PD for Small Firms



Source: CRI, all figures are updated as of April 30, 2016

In Small Firms, the basic materials, technology and financial sectors are the worst performers in terms of CRI 1-year PD, while the non-cyclical consumer and utilities are the best ones. The relative high credit risk of the basic materials in Small Firms is incongruous with the one in SMEs, where the basic materials industry shows a relatively low PD. Likewise, the CRI 1-year PD for the energy sector is relatively low in Small Firms, which is not in agreement with the one in all SMEs.

D.4 CRI 1-year PD for Micro Firms



Source: CRI, all figures are updated as of April 30, 2016

In Micro Firms, the CRI 1-year PD for the communications, industrial and energy sectors rank top in the list, while the financial and basic materials sectors show the best credit performance. Although the relative credit risk for energy and basic materials in Micro Firms is synchronized with the one in all SMEs, the financial industry performs much better in Micro Firms than in all SMEs.

[2] Defined by Validus Capital Pte. Ltd.