Credit Brief on Singapore SMEs
June 2016

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

This brief is a jointly published monthly article, by Validus and Credit Research Initiative at National University of Singapore (NUS-CRI), providing insights on industry-level Credit Risk of Singapore 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.

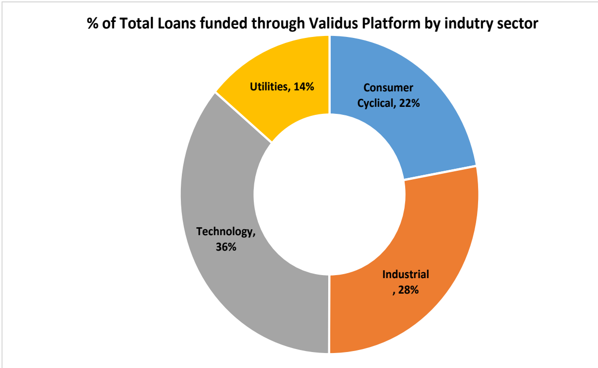
A. Key Highlights on Credit Risk

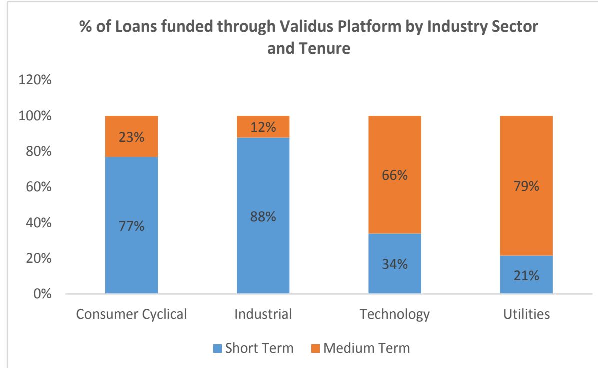
- The SME energy sector is the most risky in the short and medium term, while the utilities and consumer non-cyclical sectors have the lowest credit risk in the short and medium term respectively.
- The basic materials sector is relatively safe in the medium term despite high credit risk in the short term.
- Credit risk for energy sector ranks high in Micro and Medium Firms, but ranks low in Small Firms.
- Credit risk for basic materials sector ranks high in Small and Medium Firms, but ranks low in Micro Firms.
- Credit risk for financial sector ranks high in Medium Firms, but ranks low in Micro Firms.
- The overall multiple of short term PD (1-month) to medium term PD (1-year) is 7x. 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 riskier 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.

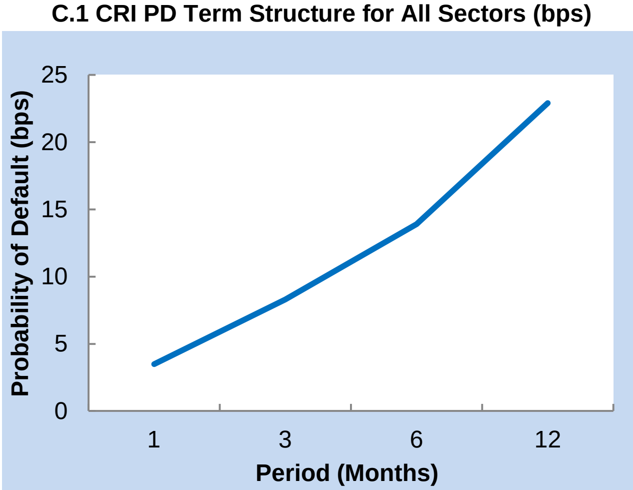




C. Credit Risk for Singapore SMEs by Tenure

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 Singapore SMEs over the short (1-month) and medium (1-year) 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 May 31, 2016

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

(month)	1	3	6	12
All Sectors	3.49	8.30	13.91	22.91
Financial	3.80	9.54	16.00	26.13
Basic Materials	3.77	8.15	12.40	18.69
Communications	3.34	8.36	14.56	24.18
Consumer (cyclical)	3.00	7.93	14.82	26.29
Consumer (non-cyclical)	2.82	6.61	10.89	17.52
Diversified	2.25	5.79	10.48	19.08
Energy	5.79	12.42	19.19	29.37
Industrial	3.19	8.07	14.59	25.45
Technology	3.48	8.42	14.06	24.30
Utilities	2.16	5.70	10.05	19.05

Source: CRI, all figures are updated as of May 31, 2016

Figure C.1 shows the CRI PD term structure for all sectors of Singapore SMEs. The short-term and medium-term PDs are 3.49bps and 22.91bps respectively.

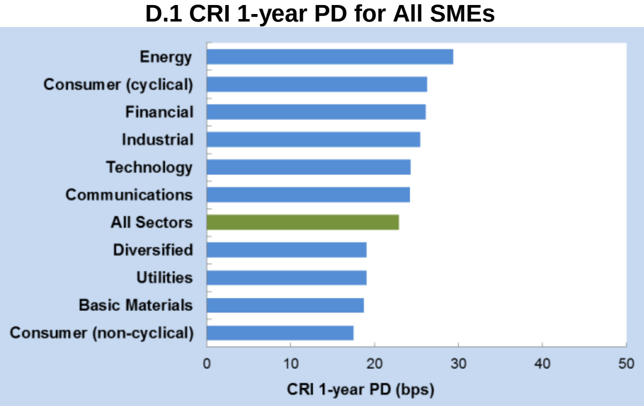
The sector breakdown provides information of the PD term structure for each sector of Singapore SMEs. Generally, the energy industry has the highest credit risk, while the utilities industry is the least risky. In addition, the utilities and consumer non-cyclical industries act as the safest industries in the short and medium term respectively.

Notably, the credit risk for the basic materials industry gradually declines as the tenure lengthens, while the credit risk for the consumer cyclical industry escalates.

D. Credit Risk for Singapore 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 Singapore 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.

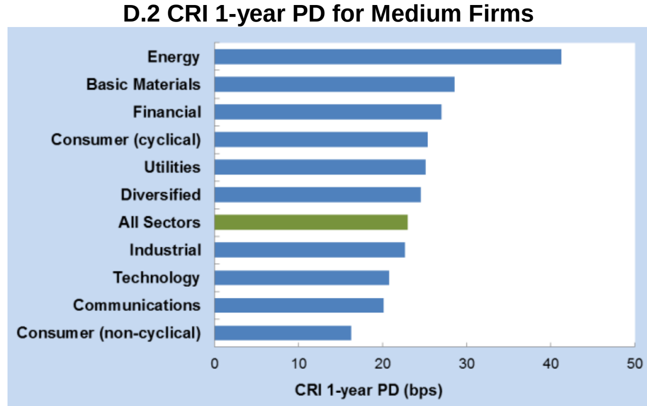
D.1 CRI 1-year PD for All SMEs



Source: CRI, all figures are updated as of May 31, 2016

Among all Singapore SMEs, the CRI 1-year PD for the energy sector performed worst, followed by the consumer cyclical sector and the financial sector, which fared marginally better than the consumer cyclical sector in terms of relative credit performance. In contrast, the consumer non-cyclical sector, basic materials sector and utilities sector displayed robust performances, outperforming the average CRI 1-year PD for all sectors.

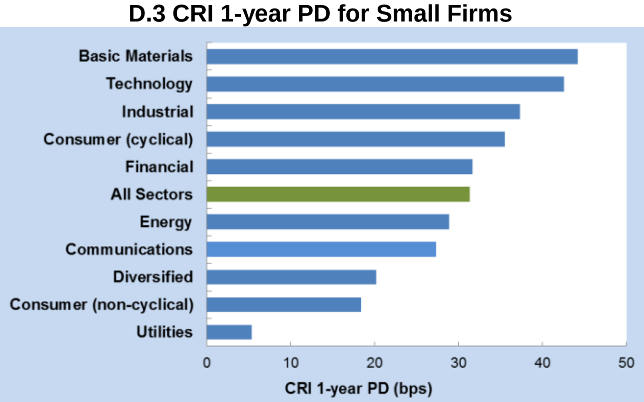
D.2 CRI 1-year PD for Medium Firms



Source: CRI, all figures are updated as of May 31, 2016

In Medium Firms, the energy sector, basic materials sector and financial sector rank among the highest in terms of CRI 1-year PD, whereas the credit risk for the energy sector is much higher than the basic materials sector. It is noteworthy that the basic materials sector shows the widest disparity between in the category of all SMEs and in the category of Medium Firms, as it has the second highest CRI 1-year PD in the Medium Firms, while clinching the second lowest spot for all Singapore SMEs.

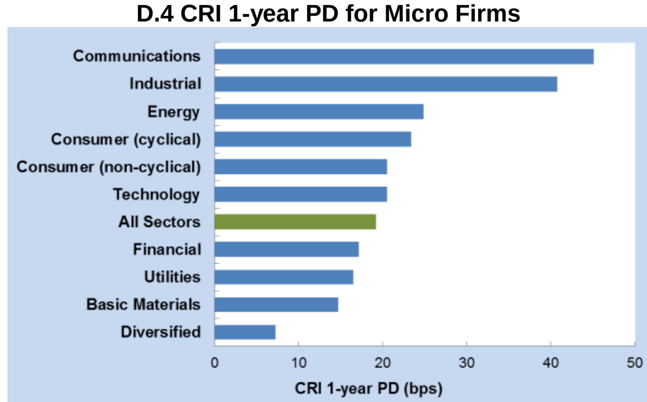
D.3 CRI 1-year PD for Small Firms



Source: CRI, all figures are updated as of May 31, 2016

In Small Firms, the basic materials, technology and industrial sectors are the worst performers among all sectors, possessing a higher credit risk in contrast with the average of all sectors. The basic materials sector demonstrates poor credit performance in both Small Firms and Medium Firms. On the other hand, the utilities sector fares the best for credit performance among all sectors.

D.4 CRI 1-year PD for Micro Firms



Source: CRI, all figures are updated as of May 31, 2016

In Micro Firms, the communications, industrial and energy sectors exhibit the worst credit performances, while the basic materials and utilities sectors possess the lowest CRI 1-year PD. The credit performance for the basic materials sector in Micro Firms is more consistent with its performance in all SMEs but differs greatly from the one in both Small Firms and Medium Firms.

[2] Defined by Validus Capital Pte. Ltd.