

# Large Corporate Scorecard Benchmarking

18/8/2014





# Agenda

## Large Corporate Scorecard Benchmarking

1

**Comparison of our LC Scorecard to Benchmark Model**

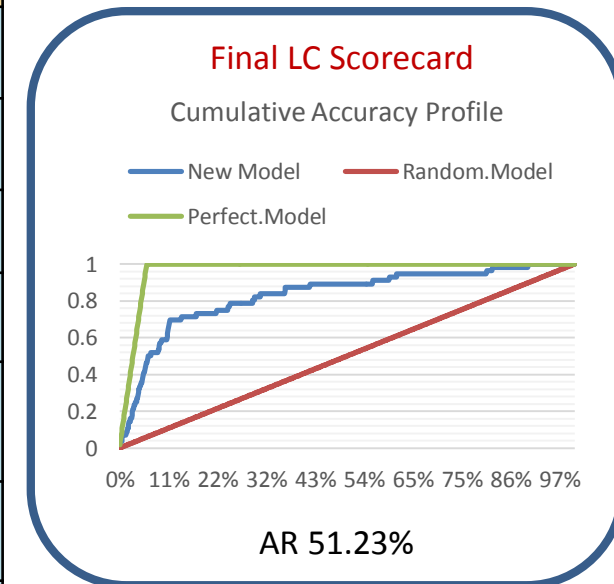
2

**Comparison of our Long-run Average PD to Benchmark  
Long-run Average PD**

# Review of the Large Corporate Scorecard Model



Variables	Formula	Weight (Abs.)
Return14n	$(\text{Operating Income} + \text{Investment Income}) / \text{Equity}$	15%
Profitability13	Profit after tax/COGS	20%
Efficiency3	$\text{Accounts Receivable} * 365 / \text{Sales}$	20%
Liquidity4	Working Capital / total Assets	5%
DSCR9	$(\text{cash} + \text{cash equivalents} + \text{short-term receivables} + \text{inventories}) / (\text{total debt} + \text{interest expenses})$	15%
Leverage10	Total Debt / (Total Equity+Long Term Liabilities)	10%
CIC7	What is the number of lenders outstanding from the CIC form?	15%



Weight of FS Score (85%)

Weight of CIC Score (15%)

## Definition of the Benchmark Model used by International Bank



Benchmark Variables	Formula	Weight (Abs.)
<b>EDBITDA to Interest</b>	EBITDA/Interest Expense	22.5%
<b>Net Cash to Liabilities</b>	Net Cash After Operation/Total Liabilities	20.0%
<b>Profitability2</b>	PBT/Net Sales	17.5%
<b>Size4</b>	Total Equity	17.5%
<b>Capital Structure</b>	Total Equity/Total Tangible Assets	15.0%
<b>Liquidity</b>	(PAT+Depreciation+Amortization-Other Non Cash Income)/Total Debt	7.5%

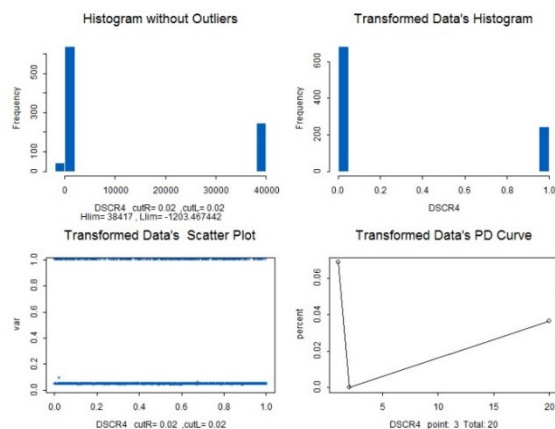


Proxy Variables	Formula	Weight (Abs.)
<b>DSCR4</b>	EBIT2/Interest Expense	22.5%
<b>DSCR23</b>	EBIT2/Total Liabilities	20.0%
<b>Profitability2</b>	PBT/Net Sales	17.5%
<b>Size4</b>	Total Equity	17.5%
<b>Gear1</b>	Total Equity/Tangible Fixed Assets	15.0%
<b>DSCR24</b>	PAT/Total Debt	7.5%

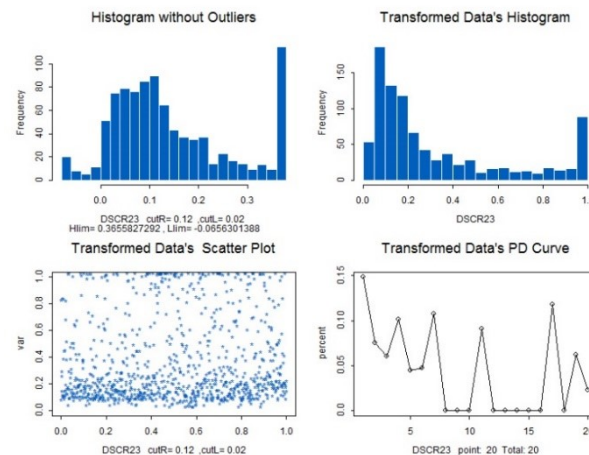
We calculate the variables based on 1-year financial statement data, but some items cannot be obtained from 1-year statement (e.g. Depreciation) or are unavailable in VPB's data (e.g. Net Cash After Operations), hence we use some proxies to replace them:

- EBIT2 → EBITDA, Net Cash After Operation
- Tangible Fixed Assets → Total Tangible Assets
- PAT → PAT + Depreciation + Amortization – Other Non Cash Income

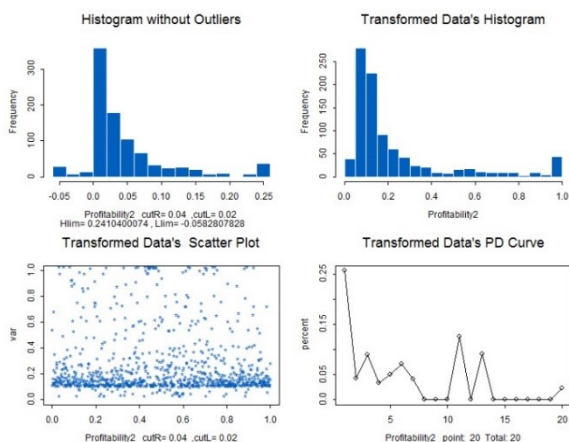
# Average PD Trend and Distribution of Variables in Benchmark Model (1/2)



**DSCR4**  
EBIT2/Interest Expense  
**AR = 30.06%**

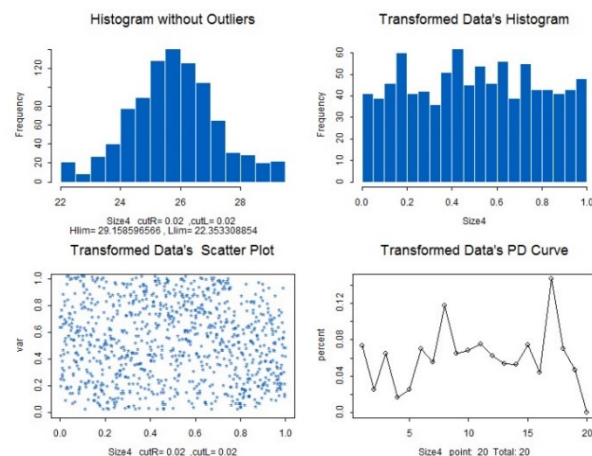


**DSCR23**  
EBIT2/Total Liabilities  
**AR = 27.75%**

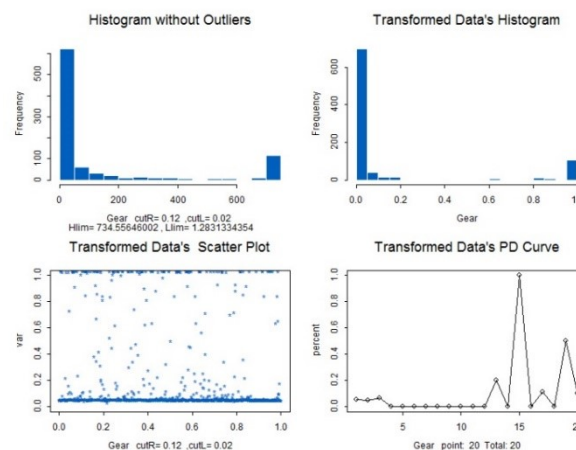


**Profitability2**  
PBT/Net Sales  
**AR = 20.80%**

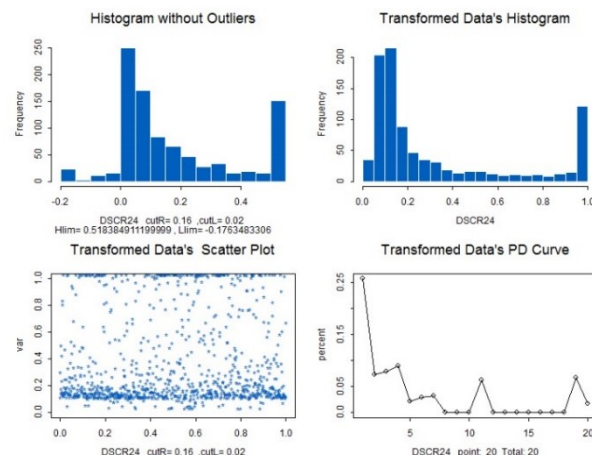
# Average PD Trend and Distribution of Variables in Benchmark Model (2/2)



Size4  
Total Equity  
AR = -2.47%



Gear1  
Total Equity/Tangible Fixed Assets  
AR = -0.84%



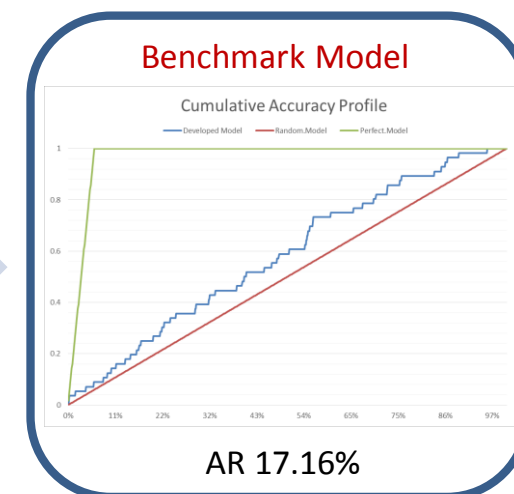
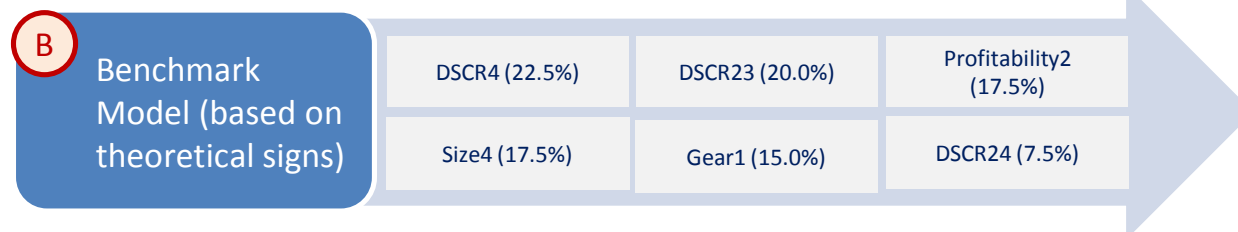
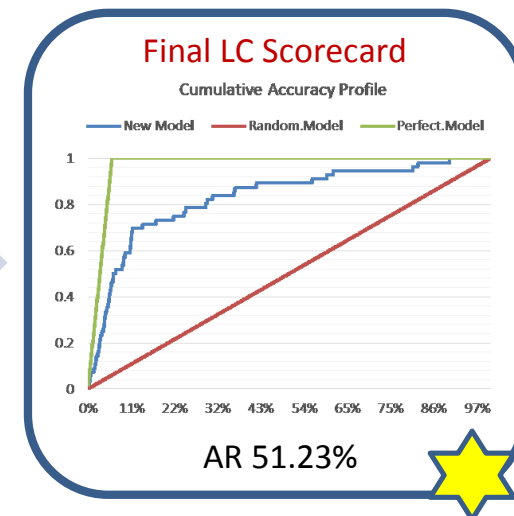
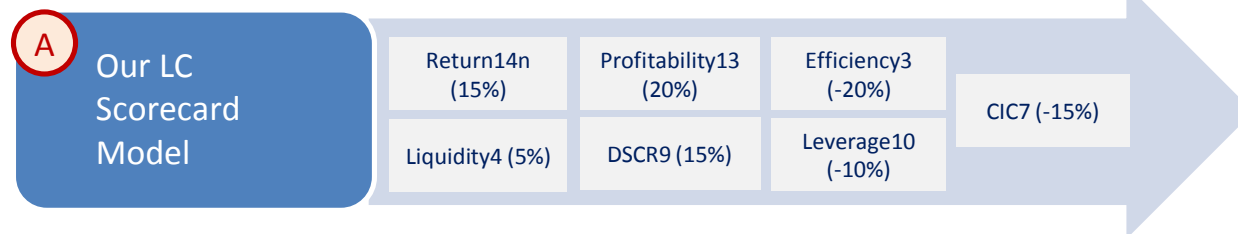
DSCR24  
PAT/Total Debt  
AR = 37.86%

Theoretically, we expect the signs of AR of all these variables to be positive (the larger the value, the more likely a customer is "Good") based on the industry experience from internal banks and business sense.

However, the empirical signs of AR of Size4 and Gear1 are negative for the Vietnam market.



## Comparison of our LC scorecard to the Benchmark Model



## Explanation to the Low AR of the Benchmark Model



C

Reference Model  
(based on  
empirical signs)

DSCR4 (22.5%)

DSCR23 (20.0%)

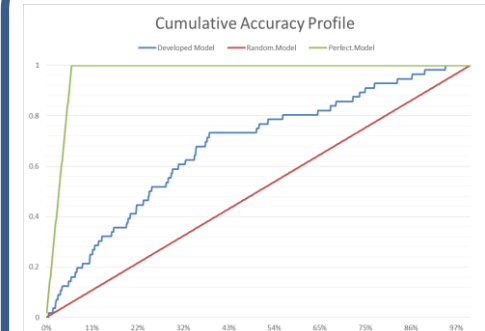
Profitability2  
(17.5%)

Size4 (-17.5%)

Gear1 (-15.0%)

DSCR24 (7.5%)

### Reference Model



AR 37.79%

From the previous analysis of PD trend and AR, we know that the signs of AR of Size4 and Gear1 are negative for the Vietnam market data, hence it indicates the directions of effects of these two variables to the score are empirically inconsistent to which we theoretically expect for the international markets.

In fact if we base the signs of the weights of the benchmark model on the empirical signs we perceive from the observed AR, i.e. changing the signs of Size4 and Gear1 to negative, then we will get a much better AR as shown above. This again indicates the Vietnam market has different credit characteristics than the other markets.





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**Comparison of our LC Scorecard to Benchmark Model**

2

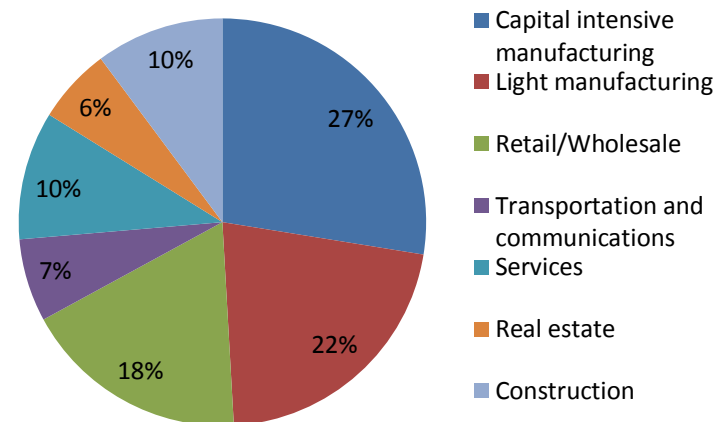
**Comparison of our Long-run Average PD to Benchmark  
Long-run Average PD**

# Empirical Distribution of Industries of Current Customers (CIB, CMB and SME with Sales > 400 Billion) of VPBank



Industry Grouping	Count	Proportion
1. Capital intensive manufacturing	46	27.54%
2. Light manufacturing	36	21.56%
3. Retail/Wholesale	30	17.96%
4. Transportation and communications	11	6.59%
5. Services	17	10.18%
6. Real estate	10	5.99%
7. Construction	17	10.18%
Total	167	100.00%

**Industries of VPBank Customers**  
Proportion of 7 Groups



Capital Intensive Manufacturing and Light Manufacturing occupy nearly half of the current VPB customers (CIB, CMB and SME with sales > 400 billion).

Retail/Wholesale is about 1/5 of the sample. The others are from 6-10%.

## Comparison of our Long-run Average PD to the Benchmark Long-run Average PD



Industry Grouping	A. Benchmark Long-run Average Default Rate #	B. Proportion (from previous page)	C = A × B . Weighted Benchmark Value
1. Capital intensive manufacturing	2.75%	27.54%	0.76%
2. Light manufacturing	4.00%	21.56%	0.86%
3. Retail/Wholesale	4.00%	17.96%	0.72%
4. Transportation and communications	4.00%	6.59%	0.26%
5. Services	4.00%	10.18%	0.41%
6. Real estate	4.25%	5.99%	0.25%
7. Construction	4.75%	10.18%	0.48%
<b>Benchmark Long-run Average PD (sum of C.)</b>			<b>3.75%</b>
<b>Long-run Average PD used by our scorecard</b>			<b>3.00%</b>

The Long-run Average PD estimate used by our scorecard is 3%, which is 4/5 of the benchmark Long-run Average PD value, 3.75%, which is referenced by the industry distribution of VPBank customers.

In conclusion, the departure of our Long-run Average PD estimate is not too far from the industry benchmark value, the **difference is acceptable.**

# See Table 21. Summary of long run default rate, p.45 of VietinBank Report - Corporate Credit Portfolio Probability of Default (PD) Estimation