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LISBON SCHOOL OF ECONOMICS & MANAGEMENT
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Cash conversion cycle and financing strategies

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1. CASH CONVERSION CYCLE

Measure of Liquidity Based on the Funding Structure of Working Capital Requirement

Liquidity in Euros:

$$\mathbf{NLB = WC - WCR \geq 0}$$

Liquidity in % of Revenues:

$$\frac{NLB}{Revenues} = \frac{WC}{Revenues} - \frac{WCR}{Revenues}$$

And Liquidity Ratio:

$$HV\ Liquidity\ ratio = \frac{Working\ Capital}{Working\ Capital\ Requirements}$$

NLB = Net Liquid Balance
WC = Working Capital
WCR = Working Capital Requirements

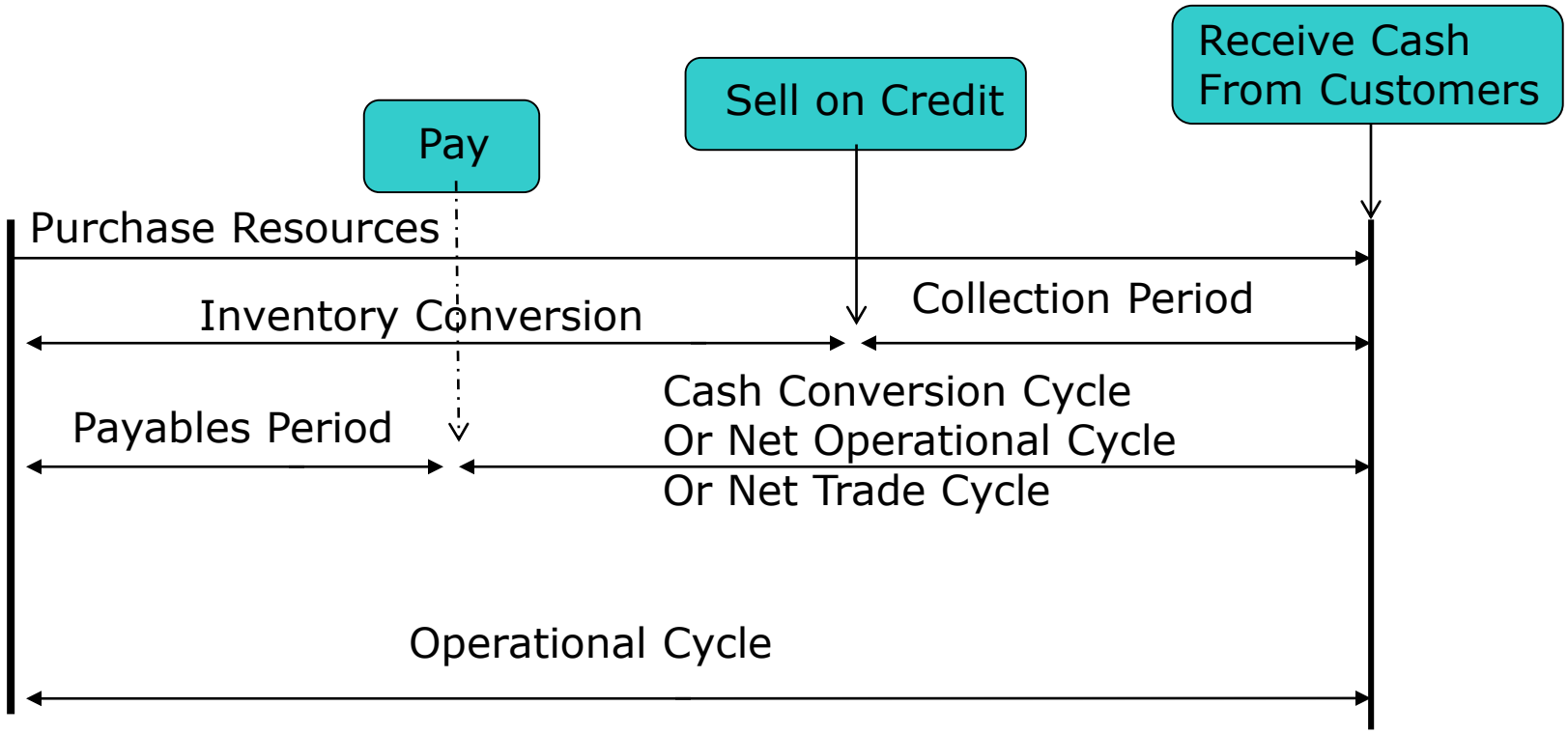
Session Outline

2.4. Improving liquidity through better management of the operating cycle

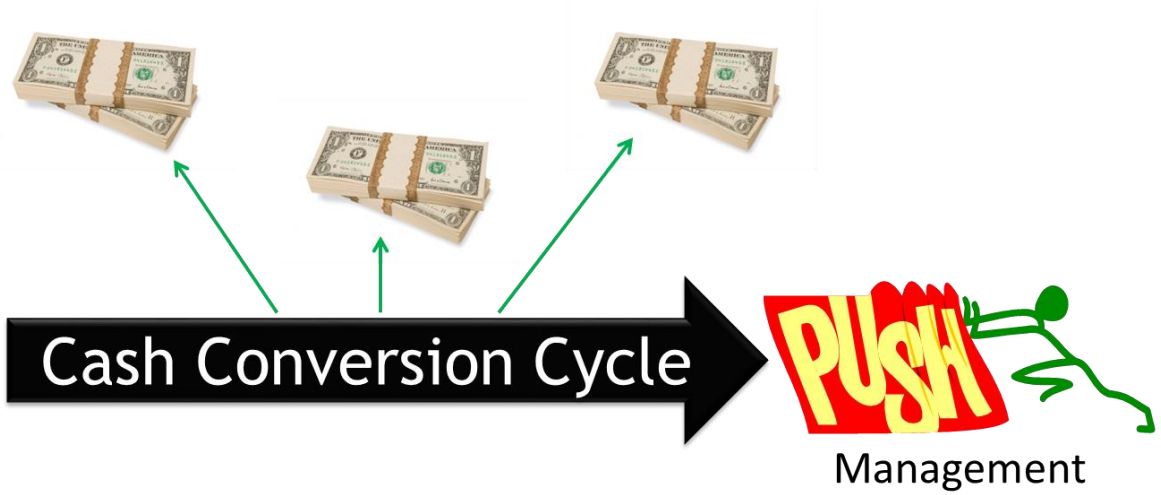
2.5. Financing strategies

2.4. IMPROVING LIQUIDITY THROUGH BETTER MANAGEMENT OF THE OPERATING CYCLE

Cash Conversion Cycle



Operational Efficiency to Improve Liquidity



$$NLB = WC - WCR \geq 0$$

Traditional Trade Cycle (Example ith the core WCR only)

$$+ Days\ in\ Inventory = \frac{Inventory}{Cost\ of\ Goods\ Sold} \times 365$$

$$+ Collection\ Period = \frac{Trade\ Accounts\ Receivables}{Revenues} \times 365$$

$$- Payment\ Period = \frac{Trade\ Accounts\ Payables}{Purchases\ including\ services} \times 365$$

Some authors use 365 days in a year.
Other authors use 360 days

Cash Conversion Cycle (Simplified using the core WCR only)

$$+ Days\ of\ Sales\ in\ Inventory = \frac{Inventory}{Revenues} \times 365$$

$$+ Collection\ Period = \frac{Trade\ Accounts\ Receivables}{Revenues} \times 365$$

$$- Days\ of\ Sales\ Payables\ Outsatnding = \frac{Trade\ Accounts\ Payables}{Revenues} \times 365$$

Some authors use 365 days in a year.
Other authors use 360 days

Traditional Net Trade Cycle Analysis

Illustration

Selected information from Technology Resources for the end of Year 1:

Sales for Year 1	$360,000
Receivables	40,000
Inventories*	50,000
Accounts payable†	20,000
Cost of goods sold (including depreciation of $30,000)	320,000

*Beginning inventory is $100,000.

†These relate to purchases included in cost of goods sold.

We estimate Technology Resources' purchases per day as:

Ending inventory	$ 50,000
Cost of goods sold	320,000
	370,000
Less: Beginning inventory	(100,000)
Cost of goods purchased and manufactured	270,000
Less: Depreciation in cost of goods sold	(30,000)
Purchases	$240,000

Purchases per day = $240,000/360 = $666.67

Then, the net trade cycle is computed as:

$$\text{Accounts receivable} = \frac{\$40,000}{\$360,000 \div 360} = 40.00 \text{ days}$$

$$\text{Inventories} = \frac{\$50,000}{\$320,000 \div 360} = 56.24 \text{ days}$$

$$96.24 \text{ days}$$

$$\text{Less: Accounts payable} = \frac{\$20,000}{\$240,000 \div 360} = 30.00 \text{ days}$$

$$\text{Net trade cycle (days)} = 66.24 \text{ days}$$

Source: K R Subramanyam and John J Wild (2009), Financial Statements Analysis, 10th Edition

Traditional approach to Inventory Efficiency Management

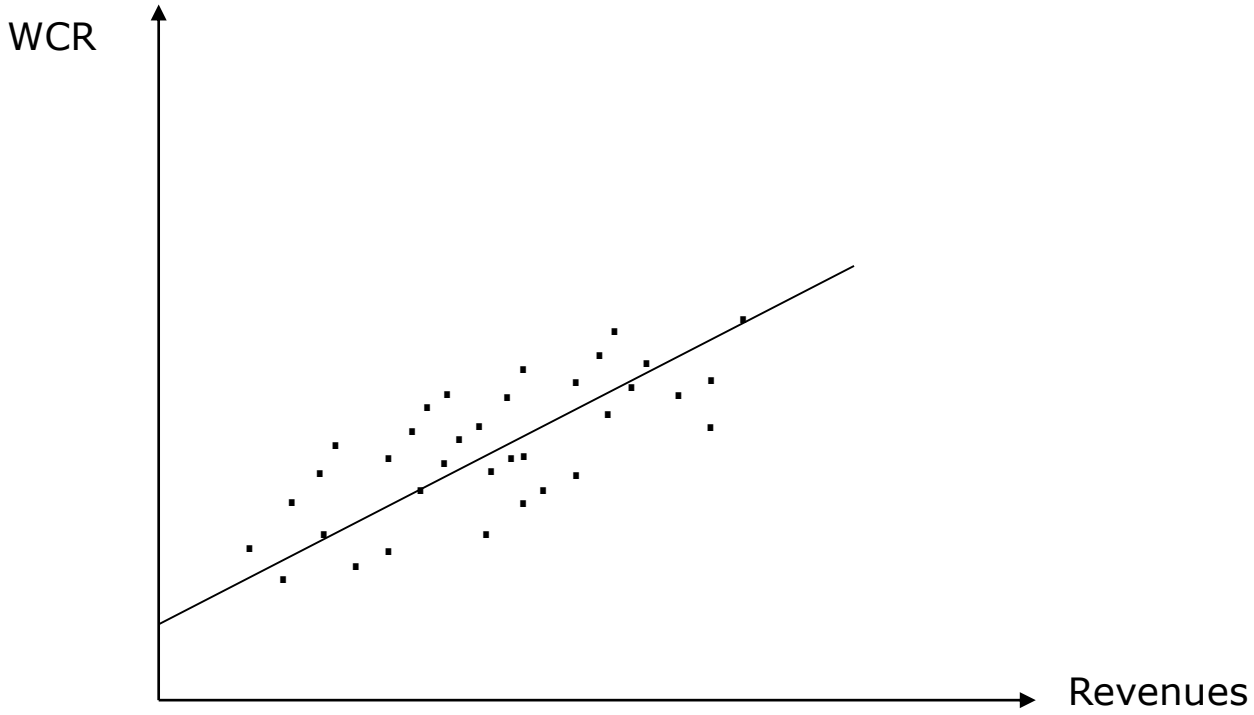
$$Days\ of\ Inventory\ Materials = \frac{Materials\ Inventory}{Materials\ Purchases} \times 365$$

$$Days\ of\ Inventory\ of\ Work\ in\ Progress = \frac{WIP\ Inventory}{Cost\ of\ Production} \times 365$$

$$Days\ of\ Inventory\ Final\ Products = \frac{Final\ Product\ Inventory}{Cost\ of\ Goods\ Sold} \times 365$$

$$Days\ of\ Inventory\ Merchandise = \frac{Merchandise\ Inventory}{Merchandise\ Purchase} \times 365$$

Correlation between WCR and Revenues



Best ratio to analyze efficiency of operational efficiency in managing the cash conversion cycle:

$$Cash\ Conversion\ Cycle\ in\ Days\ of\ Revenues = \frac{WCR}{Revenues} \times 365$$

Cash Conversion Cycle in Days of Revenues

$$+ Days\ Sales\ in\ Inventory = \frac{Inventory}{Revenues} \times 365$$

$$+ Collection\ Period = \frac{Trade\ Receivables}{Revenues} \times 365$$

$$+ Taxes\ Receivable\ Days\ of\ Sales\ Outstanding = \frac{Taxes\ Receivables}{Revenues} \times 365$$

$$+ Prepaid\ Expenses\ Days\ of\ Sales\ Outsatanding = \frac{Prepaid\ Expenses}{Revenues} \times 365$$

$$- Days\ of\ Sales\ Payables\ Outstanding\ = \frac{Trade\ Payables}{Revenues} \times 365$$

$$- Taxes\ Payable\ Days\ of\ Sales\ Outstanding = \frac{Taxes\ Payables}{Revenues} \times 365$$

$$- Accrued\ Expenses^{*}\ Days\ of\ Sales\ Outstanding = \frac{Accrued\ Expenses}{Revenues} \times 365$$

* And Deferred Revenues

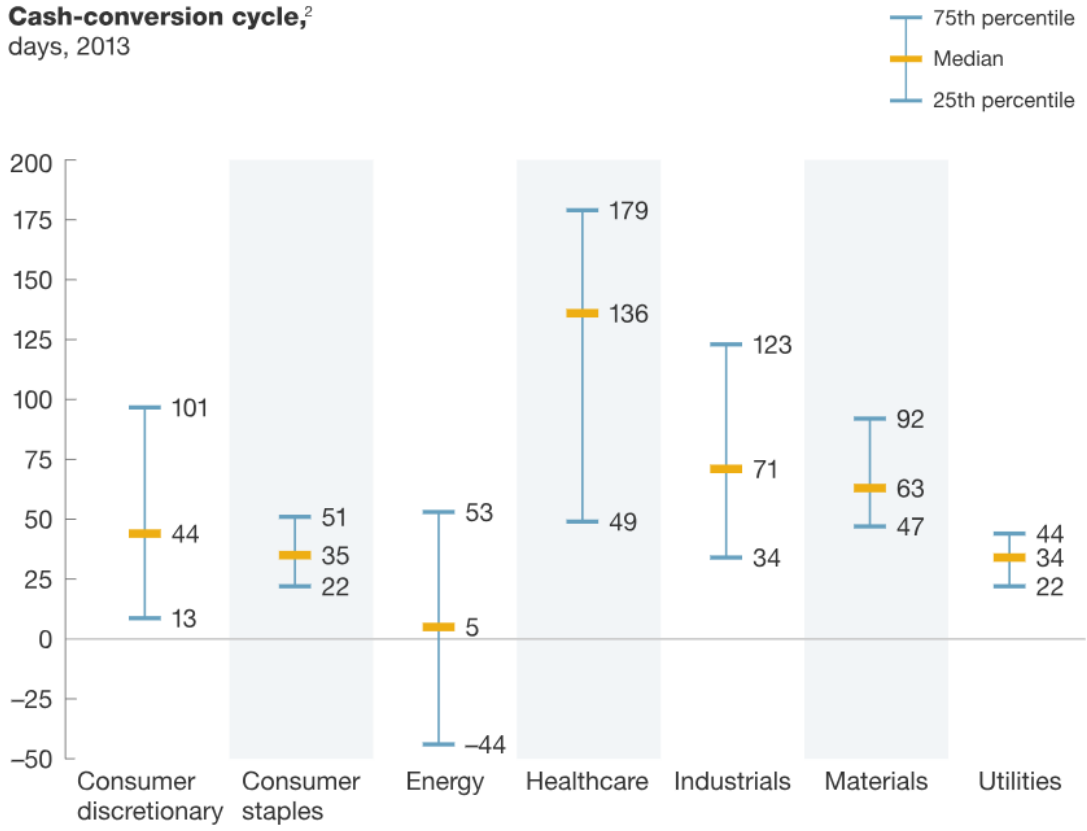
Cash Conversion Cycle – Influence of Sector

Industry Name	Cash Conversion Cycle in Days of Sales
Real Estate (General/Diversified)	697
Real Estate (Development)	291
Homebuilding	288
R.E.I.T.	158
Aerospace/Defense	113
Chemical (Diversified)	103
Tobacco	102
Semiconductor Equip	96
Drugs (Pharmaceutical)	95
Healthcare Products	93
Apparel	92
Machinery	87
Broadcasting	86
Healthcare Information and Technology	84
Steel	81
Shipbuilding & Marine	78
...	...
Retail (General)	11
Restaurant/Dining	10
Telecom (Wireless)	9
Oil/Gas (Production and Exploration)	8
Retail (Grocery and Food)	7
Air Transport	5
Cable TV	3
Retail (Online)	2
Advertising	-2
Green & Renewable Energy	-3
Telecom. Services	-6
Beverage (Soft)	-17
Computers/Peripherals	-22
Healthcare Support Services	-22
Total Market (without financials)	**36**

- Industry influences the Cash Conversion Cycle
- Within each Industry the Cash Conversion Cycle has a high variance showing that management has a crucial impact in term of efficiency

Source: Value Line as of January 2018

Cash Conversion Cycle
Influence of management



[1]We also see significant variation within subsectors.
[2]The cash conversion cycle (CCC) measures the time—in days—that it takes for a company to convert resource inputs into cash flows. In other words, the CCC reflects the length of time it takes a company to sell inventory, collect receivables, and pay its bills.

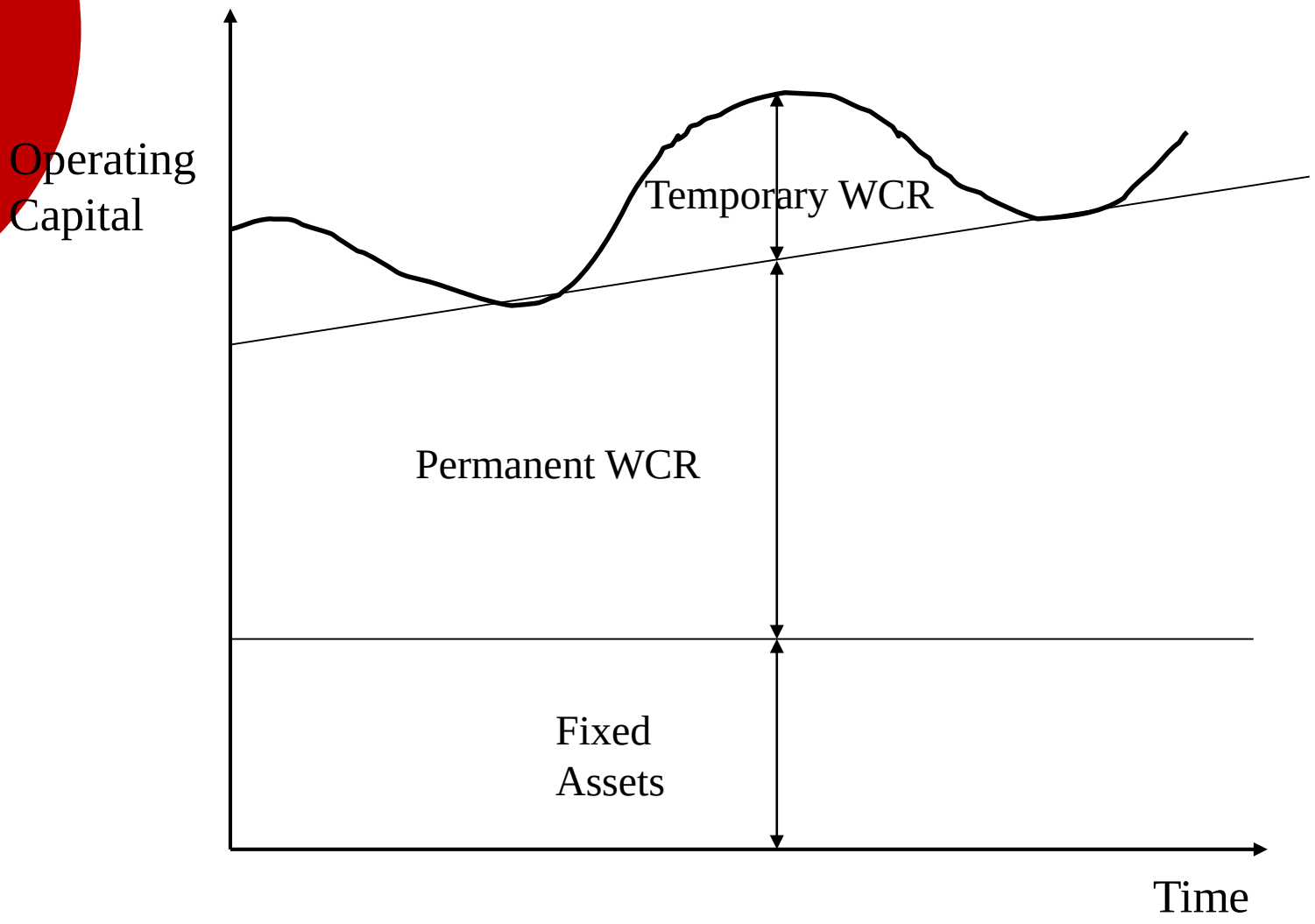
Ryan Davies and David Merin, Uncovering cash and insights from working capital, *Corporate Finance Practice, Mckinsey*, 2014, p.2

Questions

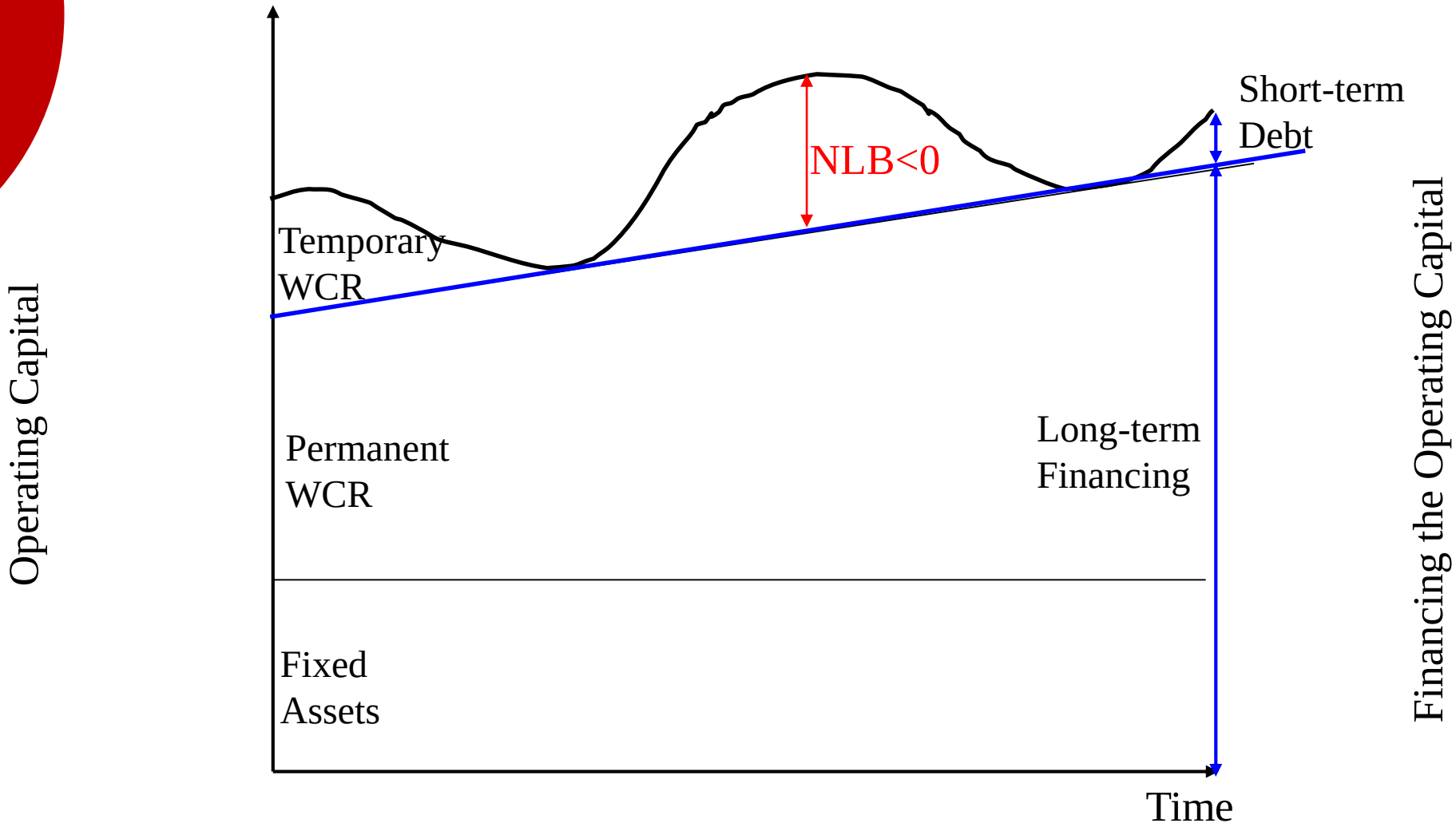
- Is the management of the cash conversion cycle efficient?
  - Benchmarking with peers?
  - Is possible to improve?
  - Which areas?
  - What possible actions?

2. FINANCING STRATEGIES

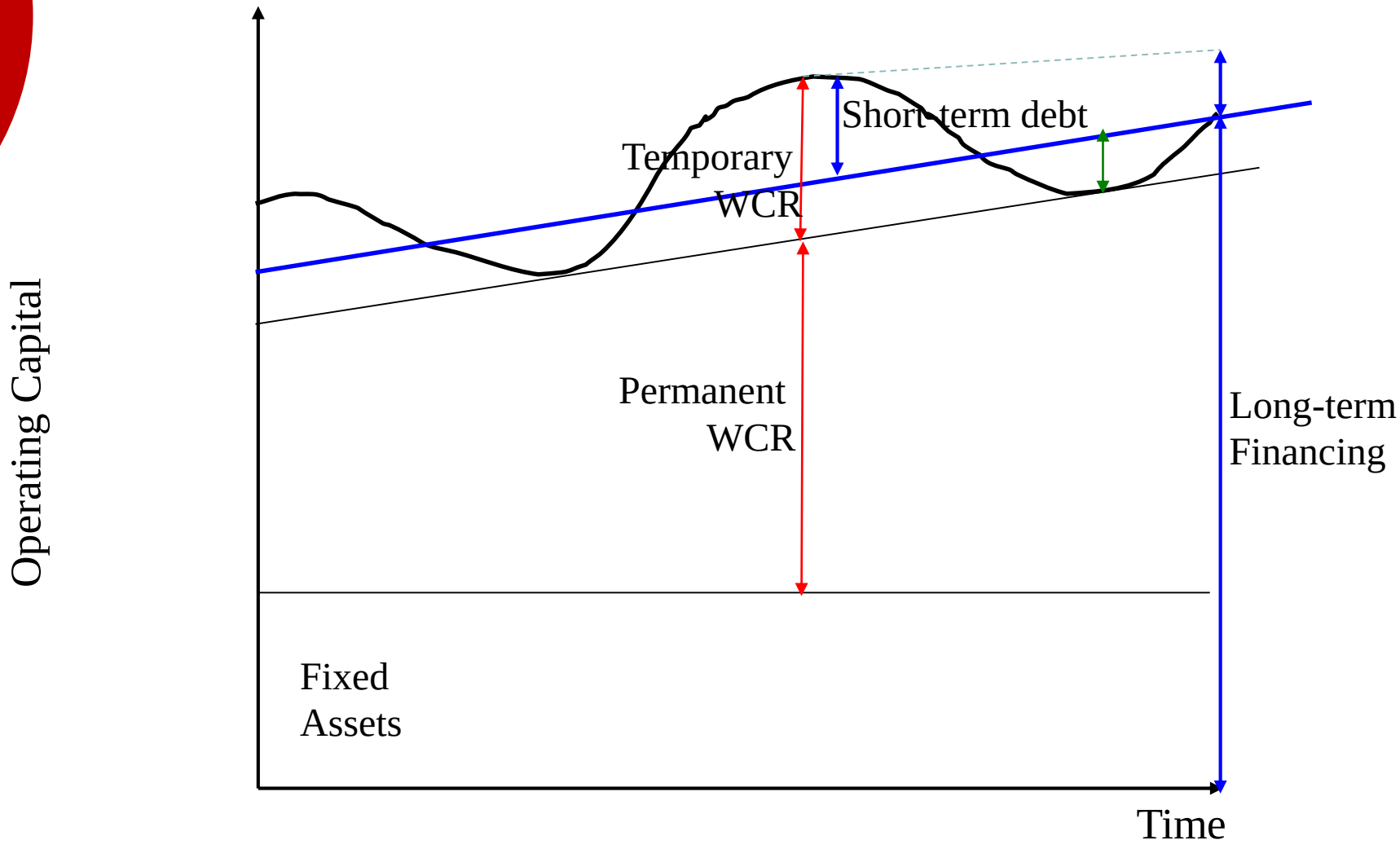
Financing the operating capital



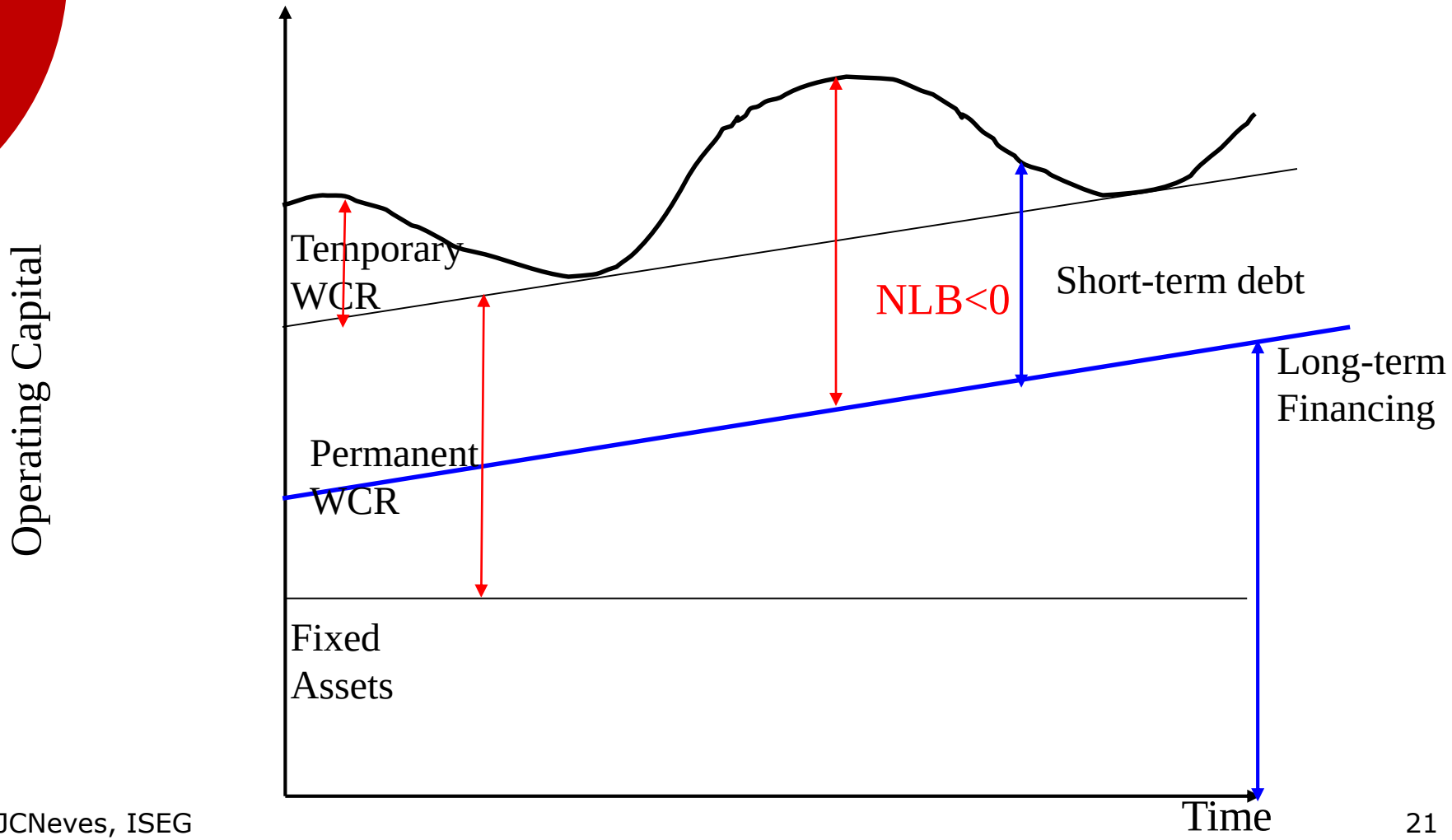
Maturity Matching Financing Strategy



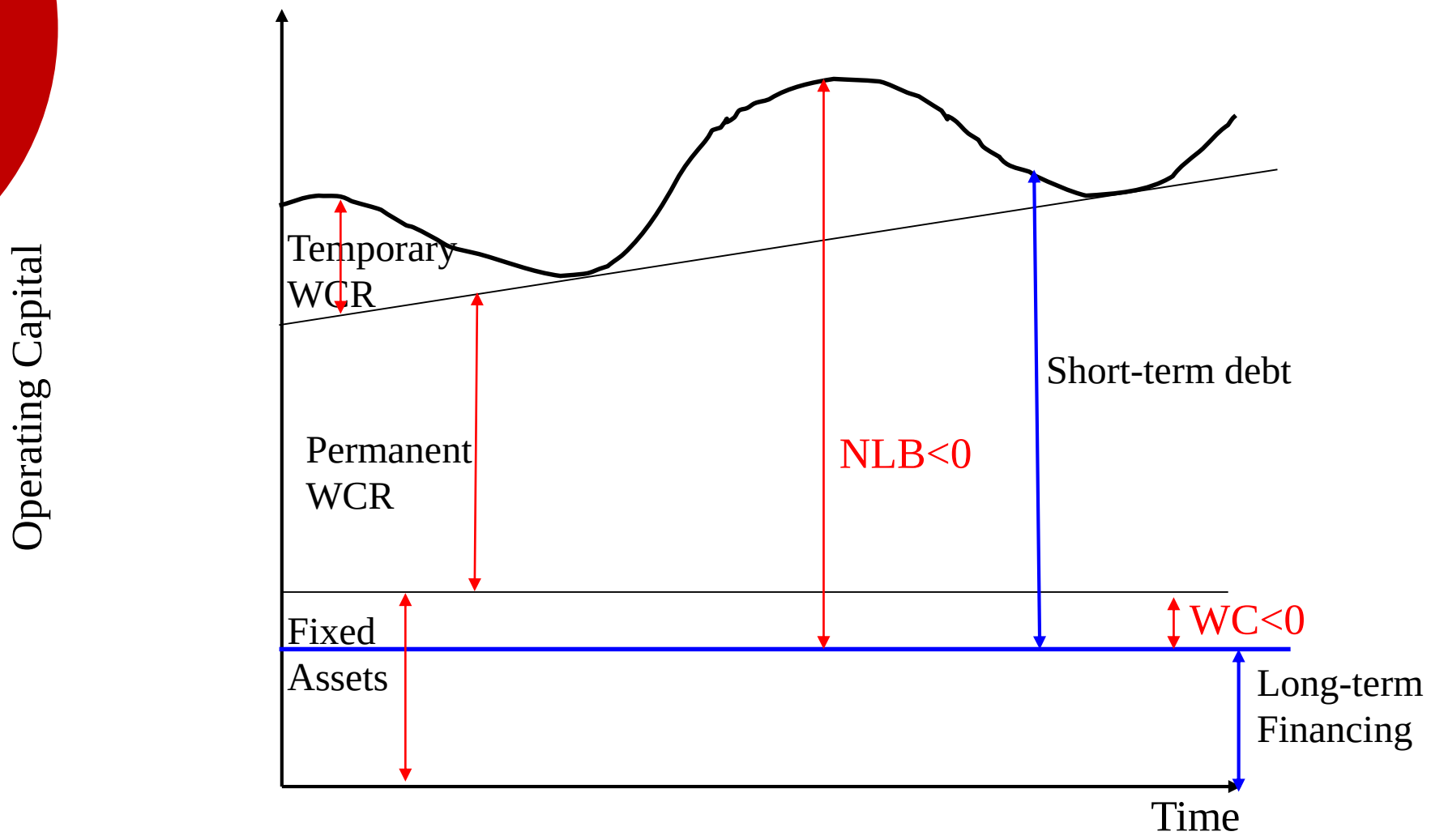
Conservative Financing Strategy



Aggressive Financing Strategy



Risky Financing Strategy



Questions

- How is the liquidity of the company?
- Is the financing policy consistent with the corporate strategy and inherent risk?
- Any suggestion for changing the financing strategy?