

HD EDUCATION

UNSW FINS2615

Week 5 Working Capital Management

TUTOR: Yuki





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关于 HD EDUCATION

海道教育（HD·EDUCATION）成立于2018年，是一家专注于留学后市场的教育科技公司，是腾讯重点孵化项目，曾获得蓝色光标、险峰长青等知名机构千万级融资。

作为一个坚持让年轻人成为知识的创造者、传播者及受惠者的教育组织，我们日夜朝着一个目标努力，那就是成为最受年轻人喜爱的教育品牌。

HD·EDU的成长有你陪伴

成立四年来，海道教育一直秉持着“提升中国留学生核心竞争力”的信念，围绕留学生的多阶段需求进行产品布局，打造出符合留学生全生命周期的三大业务模块：课业同步辅导(HD Class 和 HD 1v1)、职场规划(HD Career)、申研考学(HD Offer)。目前海道教育业务已覆盖英国、美国、澳大利亚、新西兰4大主流留学国家40多所院校，已为超30万中国留学生提供高品质教育产品服务。

TUTOR

Self-Introduction

自我介绍

#

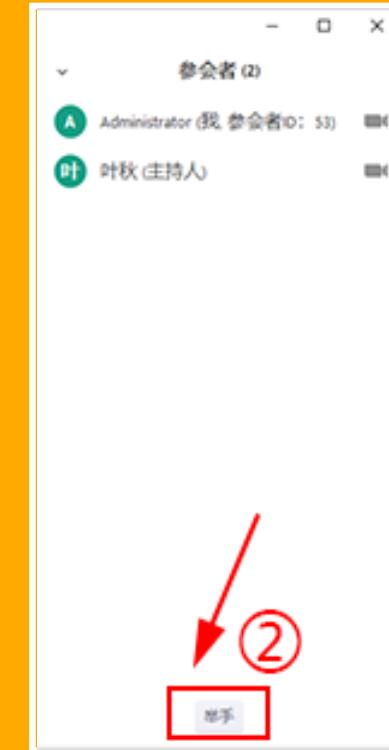
- 新加坡南洋理工大学，南洋商学院，金融硕士学姐，
semester 满绩点5/5, A+ grade。
- 扎实的金融专业基础，**First Class Honor Degree**
- 两年大学**Teaching Assistant**工作经历，带过多门金融
专业课程
- 带过的课程均获得学生的好评，曾帮助**problem student**得到A（专业排名前15%）
- 干货型授课，擅长举例、用不同的方法表达，帮助
学生理解根本，擅长梳理知识点，构建知识框架。
- 现任债券市场分析师

TUTOR: Yuki



同学们
有问题
怎么办?

方法一：
举手



- 1.点【参会者】
- 2.点【举手】即可与老师实时互动
- 3.问题被解答了还可以【手放下】

同学们
有问题
怎么办?

方法二：
文字提问



红圈处输入问题提问

学科特点及学习方法

学科特点：

1. 知识点内容较多，需要结合理解和记忆，比如FCF, cost of capital, valuation 等概念，需要首先理解逻辑，同时牢记计算公式
2. 对数学计算有一定要求，考试中计算题较多，需要准确使用相应的公式
3. 知识点之间有联系，但同时可能又涉及公司金融的细分领域，需要将公司作为整体，将细小的零碎知识点补充进框架，形成对公司金融的整体认知

学习方法：

1. 熟悉财务报表，摸清财务报表之间的联系，复习财务报表基础
2. 重点公式重点记忆，熟练运用
3. 抓住**time value of money**的核心基础思想，形成做题必画时间轴的习惯
4. 小tip, 做题的时候先向初高中生解数学题一样，把“已知条件”罗列一遍，“未知必需条件”就是解题的入手点，先解决未知的必需条件，再用所有条件形成解题过程

Assessment

Tutorial contribution: 5%, 按时参加辅导课, attendance算分, 积极完成练习题, 多和老师交流~

Online forum contribution: 5%, 至少3次参与贡献, 比如回答其他同学的问题, 分享经验或者观点, 提供建议等等。

Homework assignments: 10%

每周都会有作业, 一共有9次小作业, 但是只有得分最高的6次会计入最后的总成绩, 作业题目和期中
期末相近, 可以作为复习参考~

Team assignments: 30%

4-5个同学一组, 对一家上市公司提出投资建议, 当然投资建议基于你对公司的估值和分析结果, 具体
来讲, 本次作业会分成A,B两部分, 每部分会有针对性的要求~

CFA Ethics: 5%

自学CFA Code of Ethics相关内容并完成线上quiz, 可能会有许多章节, 每章节都对应有quiz, 相关的内
容在mid-term和final中都有可能出现, 需要相对认真对待哦。

Midterm quiz: 20%

难度和题型都和平时的homework assignment及每周课后练习题相似, **Coverage: Topic (week): 1 – 5.**

Date: week 8 Tue. 7:30pm.

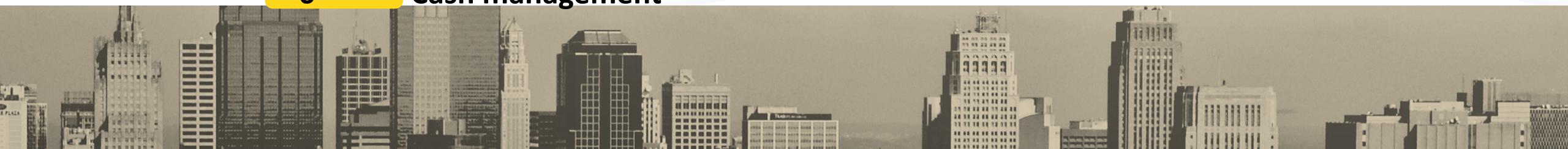
Final exam: 25%

难度和题型都和平时的homework assignment及每周课后练习题相似, 考察重点为**week 7-10.**

 代表重要程度，不是难度

本章节知识点

-
- 1 What is NWC  
 - 2 Trade credit 
 - 3 Receivables management
 - 4 Payables management
 - 5 Inventory management
 - 6 Cash management



知识点讲解



1. What is NWC

回顾先关的现金流计算公式

$$1. \text{EBITDA} = \text{Revenue} - \text{COGS} - \text{S&A}$$

$$2. \text{Cash Flow (CF)} = \text{NI} + \text{Depr} - \text{Chg NWC}$$

$$3. \text{Free Cash Flow} = \text{NI} + \text{Depr} - \text{Chg NWC} - \text{Capex}$$

$$4. \text{Free Cash Flow to Equity} = \text{NI} + \text{Depr} - \text{Chg NWC} - \text{Capex} + \text{Debt issued}$$

$$5. \text{Free Cash Flow to the Firm} = \text{EBIT}(1-T) + \text{Depr} - \text{Chg NWC} - \text{Capex}$$

现金流的计算基本都必须要考虑 change in NWC，原因是change in NWC属于 cash item
具体什么是NWC呢？

Net Working Capital includes all the materials and services you need to run the daily operations of the firm. 其实就是公司能够继续进行日常的经营所需要的资源和服务。

1. What is NWC

Net Working Capital (NWC)= Current Assets – Current Liabilities

CA主要包括inventories ,accounts receivables, Cash (excluding excess cash not needed in daily operations)

CI主要包括accounts payable

在课件上将NWC解释为“有多少长期的资金覆盖了短期的运营”

其实更简单一点，我们可以理解为

“为维持公司未来的日常经营，公司现在持有的‘短期净资产’”

Change in NWC= NWC t – NWC 0

如果**change in NWC>0**,按照我们“净资产”的理解方法，可以认为是期末净资产>期初净资产，净资产的增加，当然是需要公司“花钱”

如果**change in NWC>、<0**,按照我们“净资产”的理解方法，可以认为是期末净资产<期初净资产，净资产的减少，可以理解为处置、卖出，所以是“得到钱”

1. What is NWC

对于WC的组成部分，公司需要讨论它们“是否充足”，因此会用“天数”进行衡量

Inventory days: 公司要用多少天把现有存货全部清空，转化为销售；因此，天数越短说明公司清库存越高效！

Accounts receivable days: 公司要用多少天才能把“赊账销售”的客户欠款收回来；因此，天数越短说明公司回笼资金的能力比较强！

Accounts payable days: 公司需要多少天把欠supplier的账款还清；因此，天数不长不短才刚好，过长说明欠债太多或还款太慢，过短则可能说明公司没有充分利用“赊账”能力。

$$\text{Inventory Days} = \frac{\text{Inventory}}{\text{Average Daily Cost of Goods Sold}}$$

$$\text{Accounts Receivable Days} = \frac{\text{Accounts Receivable}}{\text{Average Daily Sales}}$$

$$\text{Accounts Payable Days} = \frac{\text{Accounts Payable}}{\text{Average Daily Cost of Goods Sold}}$$

1. What is NWC

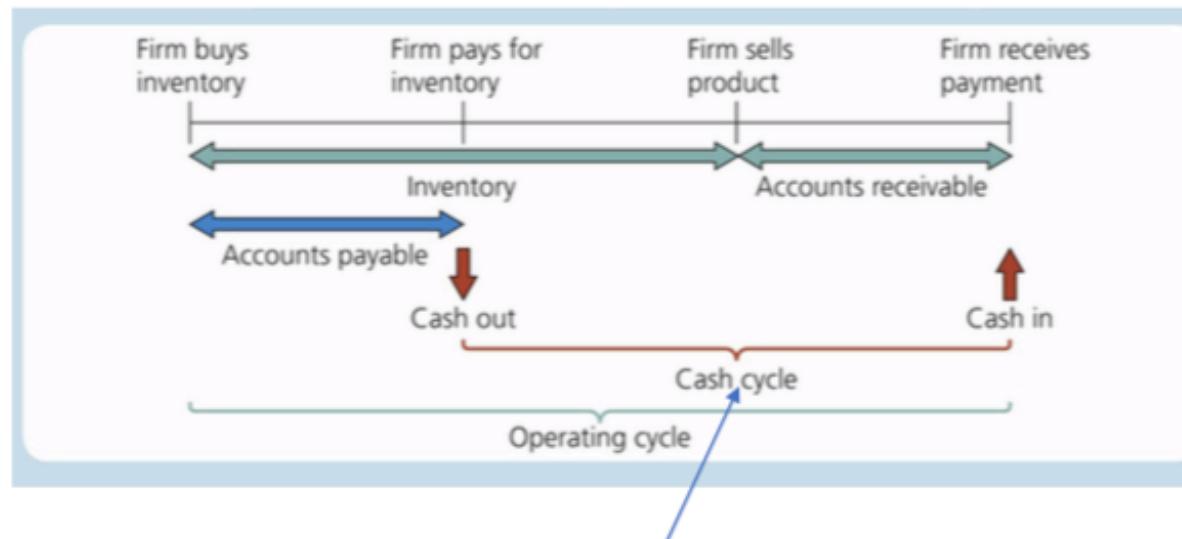
Cash cycle: 从把钱花出去（购买存货）到把钱再赚回来（卖出商品）

$$\text{CCC} = \text{Inventory Days} + \text{Accounts Receivable Days} - \text{Accounts Payable Days}$$

Operating cycle: 不关注现金流，而是更关注动作，从购买存货这个动作到卖出商品收回现金这个动作，叫做一个完整的operating cycle

$$\text{Operating Cycle} = \text{Inventory Days} + \text{Accounts receivable days}$$

= Average days from purchasing inventory to receiving cash for goods/services



Cash conversion cycle期间公司是“没有钱”的状态，所以需要外部融资。这个时期越长，说明公司资金越紧张，融资成本越高！

From a finance perspective, investors need to fund the Cash Conversion Cycle!
The longer the cycle, the more capital is tied up, the greater the funding cost.

1. What is NWC

例题 计算CCC并进行解释：

Woolworths partial Income Statement
& Balance Sheet:

Sales	58,276
Cost of Good Sold	42,677
Total Accounts Receivable	519
Total Inventory	4,559
Total Accounts Payable	6,266

1. What is NWC

Working capital=CA-CL

Any reduction in working capital requirements generates a positive free cash flow that the firm can distribute immediately to shareholders.

FFO-change in NWC=CFO

所以，要补充的WC少，公司剩余的自由现金流会更多，公司价值能实现最大化，这就是管理working capital的重要性

加速回款并且减缓支出能够使cash flow cycle缩短，但是这有trade-off

– Managing float

-Collection float- gap between customer paying and cash being available (minimise)

-Disbursement float –gap between firm paying and supplier getting the cash

-Now less important with electronic funds transfer • But important where payment is made by cheque

2. Trade credit

“信用消费”，可以理解为“赊账”，属于欠款、负债，buyer日后需要偿还
这笔消费对购买方来说，应该计入“accounts payable”，对卖出方应该计入“accounts receivable”

“a customer purchase on credit” 千万不能理解为 “purchasing with their credit card or BNPL account! ”

原因：如果是“用信用卡购买”，实际情况是消费者欠银行钱，而卖出方已经收到了款

要找到最优的credit policies，financial manager一般从以下3方面分析考量：

- 1.Trade credit terms
- 2.Trade credit market frictions
- 3.Flot management

2. Trade credit

1. Trade credit terms

会计概念-这样的表达方式要理解 “**2/10, Net 30**”

If the buyer pays within 10 days, they will receive a 2% discount, otherwise the full amount is due in 30 days.

10 days is “discount period” ; 30 days is “credit period”

2. Trade Credit Market Frictions

对消费者来说是一种**benefit**,

例： – Assume a firm sells a product for \$100 and offers its customer terms of 2 /10, net 30.

在这种情况下， consumer可以选择十天之内完成付款，且可以享受折扣，只需要付款98.

或者，手里有钱，但先不去支付，而是先把这98贷出，再过20天之后拿出来，需要支付100块价格

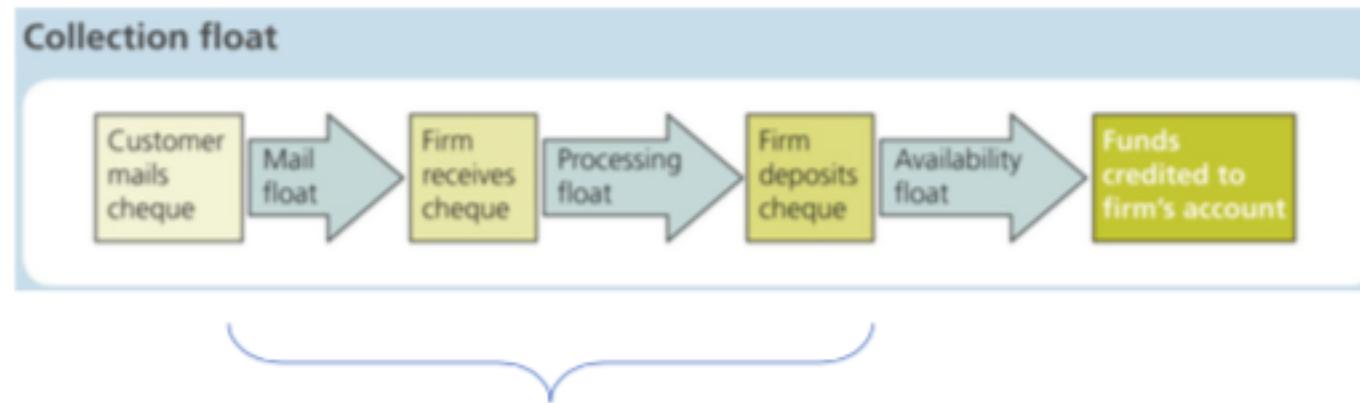
这时候，我们实现的20天收益为2元，本金98，计算出年化回报率为45%，所以公司如果这样，可以赚取的回报率很高。

优：简单方便成本低，灵活，可能是企业唯一融资途径，如果能够提前还款则为低成本融资

存在原因：吸引更多消费，相比银行来讲更了解客户信用资质，如果买方违约，可以将存货作为抵押物。

2. Trade credit

3. Trade Credit Float Management



Because of financial technologies, direct customer bank transfers to supplier bank have significantly speeded up these processes and even eliminated them.

Collection float 越短越好越高效，如果过长，则说明公司需要向working capital投资越多。

3. Receivables management

刚才讲的是sales on credit, 那赊账卖出之后，就需要考虑receivables, 考虑能否收回账款，多久能收回

1. 需要确定credit policy

Establishing Credit Standards : 明确谁可以赊账

Establishing Credit Terms : 明确赊账期限，和提前还款discount

Establishing a Collection Policy : 实时监测应收账款，确定如果买方无法还款该怎么办

2. Accounts Receivable Days 管理衡量指标

average number of days that it takes a firm to collect on its sales.

A firm can compare the accounts receivable days to the credit terms.

– For example, if the credit terms specify “net 30” and the accounts receivable days outstanding is 45 days, the firm can conclude

3. Aging Schedule

其实就是预估一下，还没收回来的这些账，在未来分批次次确定时间分别能收回来多少

Days Outstanding	Number of Accounts	Percentage of Accounts (%)	Amount Outstanding (\$)	Percentage Outstanding (%)
1-15	220	38.6	530,000	33.1
16-30	190	33.3	450,000	28.1
31-45	80	14.0	350,000	21.9
46-60	60	10.5	200,000	12.5
60+	20	3.5	70,000	4.4
	570	100.0	1,600,000	100.0

4. Payables management

1. 只有当**trade credit**是最便宜的融资方式时，公司才会采取**payables** 融资

The cost of the trade credit depends on the credit terms.

- The higher the discount percentage offered, the greater the cost of forgoing the discount.
- The shorter the loan period, the greater the cost of forgoing the discount.

2. Firms should always pay on the lastest day possible

3. A firm should monitor its accounts payable to ensure that it is making its payments at an **optimal time**.

Calculate the accounts payable days outstanding and compare it to the credit terms.

- If the accounts payable outstanding is 45 days and the terms are 2/10, net 30, the firm can conclude that it generally pays late and may be risking supplier difficulties.
- If the accounts payable days outstanding is 20 days, the firm is paying too early. It could be earning another 10 days' interest on its money.

4. 尽量避免**Stretching the Accounts Payable**

延期兑付，其实就是可以理解为违约，到期了但是还没有支付，可能会被罚款哦

4. Payables management

Berk Example 19.7

If a firm stretches its accounts payable to 60 days on credit terms of 1/15, net 40, what is the effective annual cost of its credit?

5 . Inventory management

存货管理，多见于商品销售行业

Benefits of Holding Inventory

- Prevent stock-outs
- Seasonality in demand

Costs of Holding Inventory

- Acquisition costs
- Order costs
- Carrying costs

Just-in-Time (JIT) Inventory Management

- When a firm acquires inventory precisely when needed so that its inventory balance is always zero, or very close to it
- JIT is often used to reduce carrying costs as much as possible

6 . Cash management

- Motivation for Holding Cash
 - Transactions Balance 日常欠款、应付款需要公司手里有钱去还钱
 - Precautionary Balance 未来现金流波动不可预测，手里有钱，心里不慌，很重要
 - Compensating Balance 银行机构可能会要求公司预留现金，作为支付给银行某些业务服务的酬金
- Thus far, it has been assumed that the firm will invest any cash in short-term securities.**

重难点总结



重难点总结与回顾

WC是什么， NWC是什么， 如何计算， change in NWC又是什么

对现金流的影响

对firm value的影响

如何衡量WC， Inventory days, AR days, AP days, operating cycle, cash conversion cycle计算与解释

Trade credit

经典题型讲解



经典题型讲解

Question parameters

Credit terms: Net 20

Assume every month has 30 days

Each sale reduces inventory by 1

Sales: 1/3 pay cash in the same month, 2/3 pay cash next month

Inventory: 1/3 payable this month, 2/3 pay next month

Q. Complete the spreadsheet

Month:	1	2	3	4	5	6
Beginning Invent.	200.0					
Beginning Acc Rec	100.0					
Beginning Acc Pay	50.0					
Beginning Cash	100.0					
New inventory	230.0	230.0	230.0	230.0	230.0	230.0
Sales	200.0	250.0	300.0	325.0	200.0	150.0
Cash collections						
Cash payments						
Net Cash Flow						
End Inventory						
End Acc Receiv.						
End Acc Payable						
End Cash						

下节课预告



下节课预告

WEEK 7
Risk and return

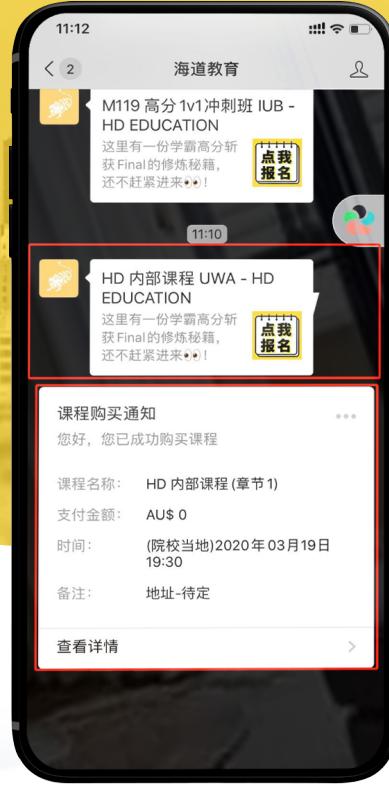
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请给予我们提高和改进的机会，感谢您对 HD · EDUCATION 课程和服务的信任！

· 填写问卷操作流程 ·



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第二步

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第三步

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