KCG

Market Making Theory and Practice (Part 2)
做市理论与实践（第2部分）
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Market maker's critical role 做市商的重要作用

- **Intermediate between the buyers and sellers**买家和卖家之间的中介

- **Assume risk and provide liquidity**承担风险并提供流动性

- **Continuously reflect new information in the markets by adjusting prices**
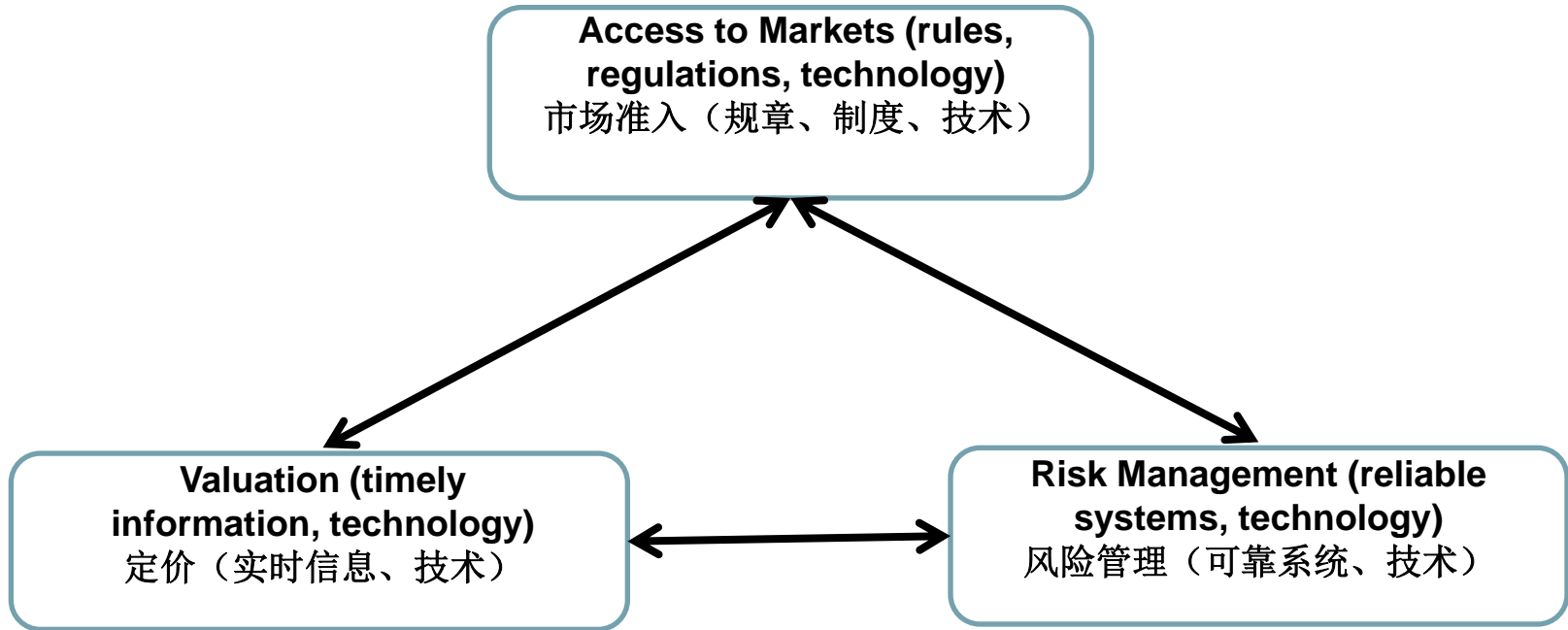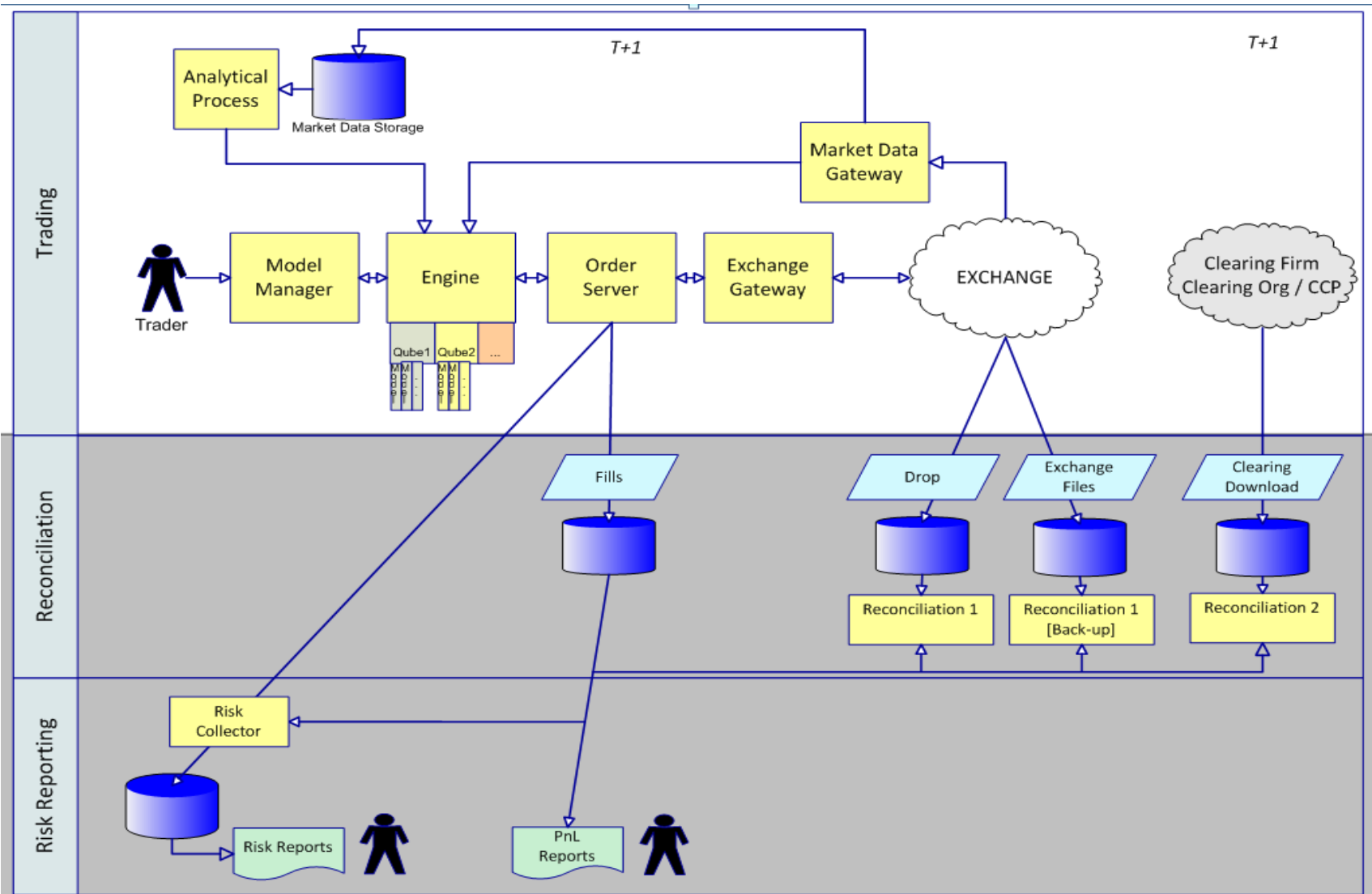
  通过调整价格，不断反映市场新信息

The effects of market making 做市商的作用

Create and Deepen Liquidity
创造并加强流动性

Narrow Spreads
缩小价差

Benefit All Participants
惠及市场参与者

Manage Risk
管理风险

Reduce Market Impact
减小市场冲击

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Essential components of a market making system
做市商系统的主要构成要素

Access to Markets (rules, regulations, technology)
市场准入（规章、制度、技术）

Valuation (timely information, technology)
定价（实时信息、技术）

Risk Management (reliable systems, technology)
风险管理（可靠系统、技术）

Trading technology infrastructure交易技术基础设施建设

Resource requirements 资源要求

- Technology 技术

- Operations 操作

- Trading/Quant 交易/报价

- Legal/Compliance 法律/合规

- Finance 财务

- Human Resources 人力

Liquidity and capital 流动性和资金

- Capital Requirements 资本要求

    - Capital Adequacy 资本充足率

    - Capital Reserves 资本准备金

        - Ordinary Requirements 一般性要求

        - Catastrophic Risk Requirements 突发性风险要求

- Liquidity Requirements 流动性要求

- Stress Testing 压力测试

Risk风险

- What is risk? 什么是风险？

- Monitoring, measuring and managing risk 风险监控、衡量和管理

- Market making risks:做市风险

  - Market risk 市场风险

  - Credit/counterparty risk 信用风险/交易对手风险

  - Operational risk 操作风险

  - Everything else! 其他

Risk philosophy 风险管理法则

Simple 简单

Keep trades simple 简单的交易

Keep risk model simple 简单的风险模型

Conservative 保守

Small positions through frequent transactions 少量持仓，频繁交易

Redundant systems, fail safe planning and extensive Business Continuity Planning, Testing and Implementation 多套备用系统、故障安全处理措施及广泛的经营持续性规划、测试和执行

Large capital reserves大量资本储备

Transparent 公开透明

All limits and controls are transparent to entire firm 所有交易头寸的限制和控制要对全公司公开

Extensive monitoring, reporting and alerting systems 覆盖面广的监督、报告和警示系统

Risk controls and limits 风险控制和限制

Single Order Risk 单一订单风险

The risk of an individual order being sent to an exchange 每一笔发送至交易所的指令所产生的风险

Position Risk 头寸风险

The risk associated with actual positions being carried 与实际持有头寸相关的风险

Potential Risk 潜在风险

The risk associated with the potential positions that would be created if working orders were filled 委托单成交后产生的潜在头寸相关的风险

Maximum Drawdown 最大相对损失

The maximum loss of a model from its highest level of profitability 每一交易模型最高利润率下的最大损失

Maximum Loss 最大亏损

The maximum absolute loss of a model or set of models 每一个模型或一组模型的最大绝对亏损值

Risk monitoring and reporting 风险监控和报告

Pre-trade Checks交易前审核

> **Ensure compliance with rules and regulations 确保符合规章制度**

> **Avoid behavior that might be disruptive to markets 避免可能破坏市场的行为**

Real Time Risk and P/L Monitoring 实时风险和损益监控

Position Reconciliation 头寸调整

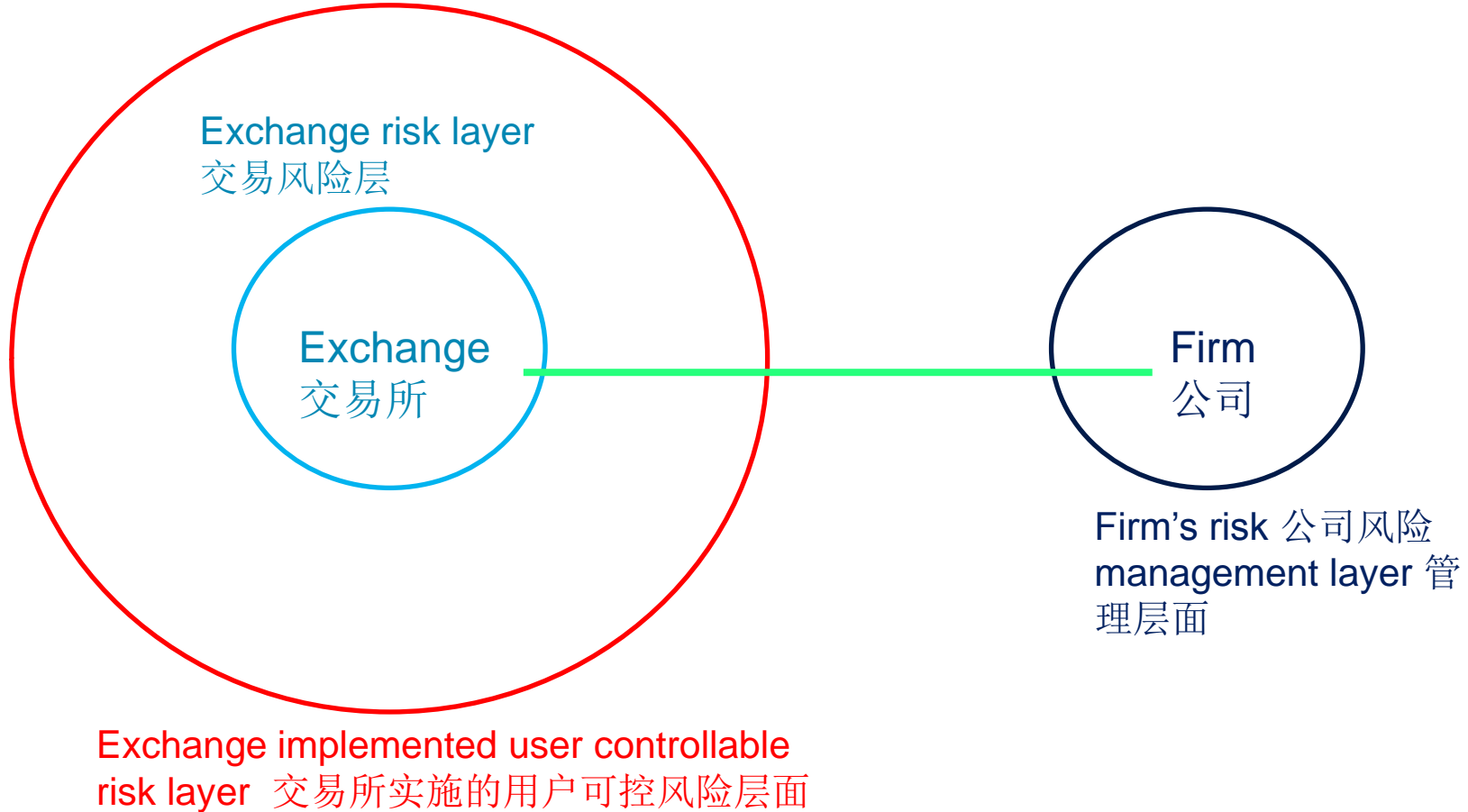> **Intraday 当日**

> **End of Day 日末**

Risk Alerts 风险警示

End of Day Risk Summary 日末风险汇总

Historical Reporting 历史报告

A collaborative risk management system协作式风险管理系统

❑ Who is responsible for risk management? Exchange or the trading firm?
风险管理的承担者——交易所还是交易公司？

Exchange risk layer
交易风险层

Exchange
交易所

Firm
公司

Firm's risk 公司风险
management layer 管
理层面

Exchange implemented user controllable
risk layer 交易所实施的用户可控风险层面

Options market making business model
期权做市商业模式

o　　Provide continuous prices to potential buyers and sellers

　　向潜在买家和卖家持续报价

o　　Capture a fraction of bid/ask spread

　　通过价差获利

o　　Manage risk prudently

　　谨慎管理风险

Speed is very important to market makers
做市商的速度至关重要

Ability to reflect new price information quickly

有能力快速反映最新价格信息

Ability to manage risk in real time

有能力实时管理风险

Key considerations for market making
做市商的重要考量

Access to liquidity (options and underliers)

提供流动性（期权和期权标的）

Rules that support market making

支持做市的规则

Cost structure

成本结构

Technology

技术

How to build market making systems?
如何构建做市商系统？

highly streamlined processing and reporting including drop copies, fast acknowledgement of orders and reporting of fills

高度流畅的处理及报告流程，包括实时信息报告、快速指令确认及交易报告

Risk mitigation measures that reduce operational risks such as "cancel on disconnect", "kill switch", "exchange side user specified risk mitigation", etc.

用各种减少风险的方法来降低操作风险，如"掉线时撤单"、"紧急交易停止功能"、"交易所端用户自定义风险消减"等。

Scalable and high capacity and throughput to avoid bottlenecks, throttling, and other undesirable and risky phenomena

可扩展且大容量及高流量，以防止瓶颈、限速和其他负面及有风险的现象发生。

Options market making around the world (best practices)全球期权做市（最佳实践）

- Clearly defined rules around margin 清晰的保证金规则

- The ability to short the underliers 能做空标的物

- The ability to trade other correlated assets 能交易其他相关资产

- Timing of expirations for options and futures 期权及期货的合约到期时间

- Settlement process for options and futures 期权及期货的结算流程

- Options types: European vs. American 期权种类：欧式VS 美式

- Regulatory rules around marking the options 期权相关监管法规

- Price-time priority vs. pro rata markets 价格-时间优先级与按比例分配市场

- Complex order books for spreads 复杂的套利价差指令簿

What every exchange should consider交易所应该考虑的事项

Be transparent 透明

Do not limit access 不要限制市场准入

Take a balanced approach to fees and costs 平衡收费和成本

Let natural flows find their way to the exchange 让交易流自然化

Invest in technology (hardware, software and bandwidth) 投资技术研发（硬件、软件及带宽）

Market making programs (incentives)
做市商项目（激励）

Market Maker Obligations做市商的义务

Provide two sided markets during x% of the time and within a sufficiently narrow spread

在x%的交易时间内进行满足最大价差要求的连续双边报价

Market Maker Exemptions做市商免除条款

Market makers need to adjust/modify their prices as new information comes in

做市商需根据最新信息调整/修改价格

Market makers need to adjust their inventory frequently 做市商需频繁调整头寸

Market Maker Competition做市商竞争

Limit the number of market makers to allow for competitive yet orderly development of the market 限制做市商的数量，以保证良性竞争和市场的有序发展

Final remarks 总结

❑ market making is a natural and essential aspect of successful markets

做市商是市场成功的必要条件

❑ Efficient risk transfer requires liquidity 高效的风险转移需要流动性

❑ Modern market making makes extensive use of technology

现代做市商广泛运用技术

❑ Well designed automated trading systems reduce errors and mistakes

设计完善的自动交易系统能减少错误和失误

❑ Well designed and well implemented risk management is essential for having robust and reliable trading systems and markets

正确建立和严格执行风险管理是建立稳健、可靠的交易制度和市场的关键

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Thank you