

欧洲期交所利率衍生产品合约 标准及交易方法简介

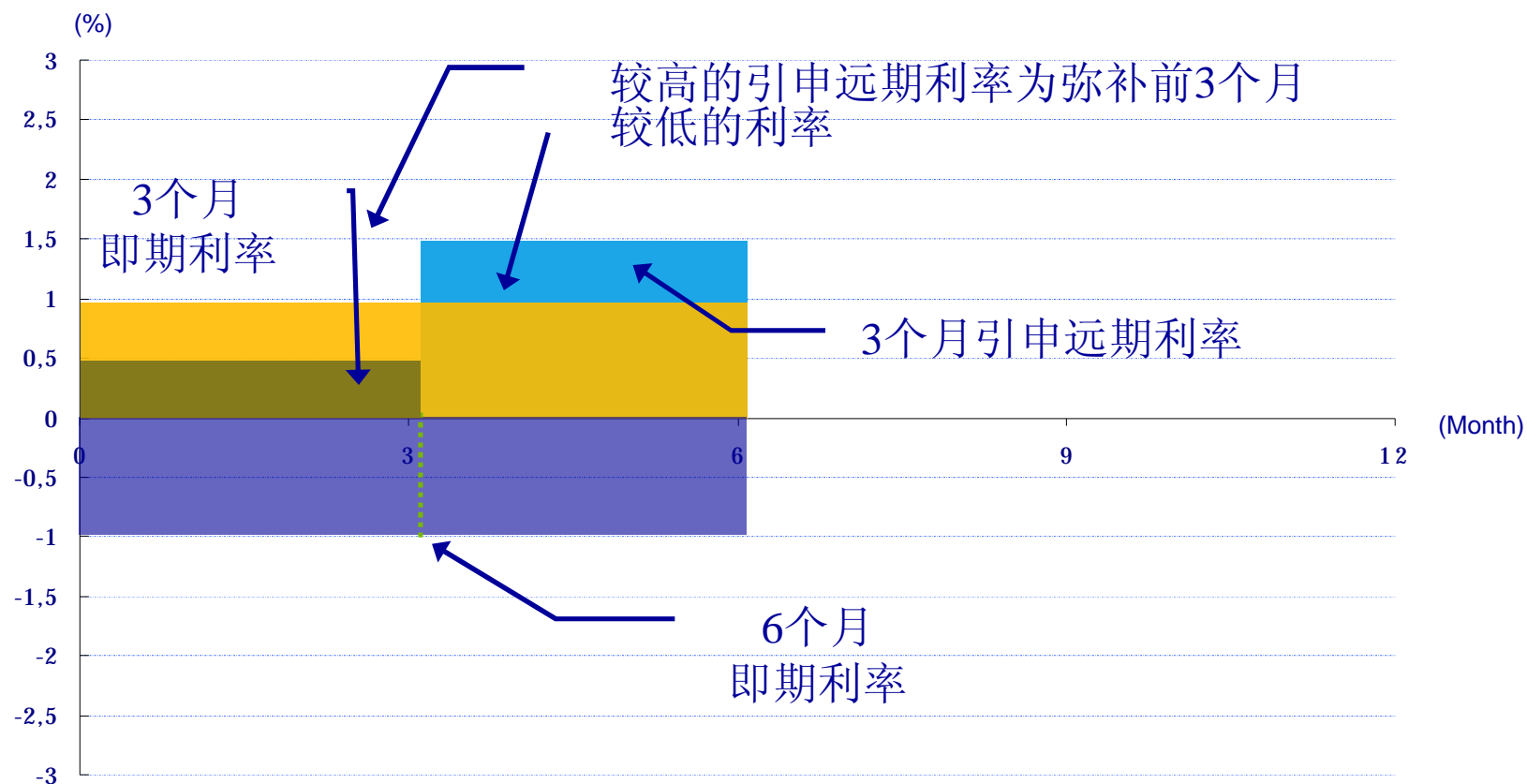
Simon Ting
欧洲期交所/香港证券专业学会

运用利率期货进行交易和对冲的技巧

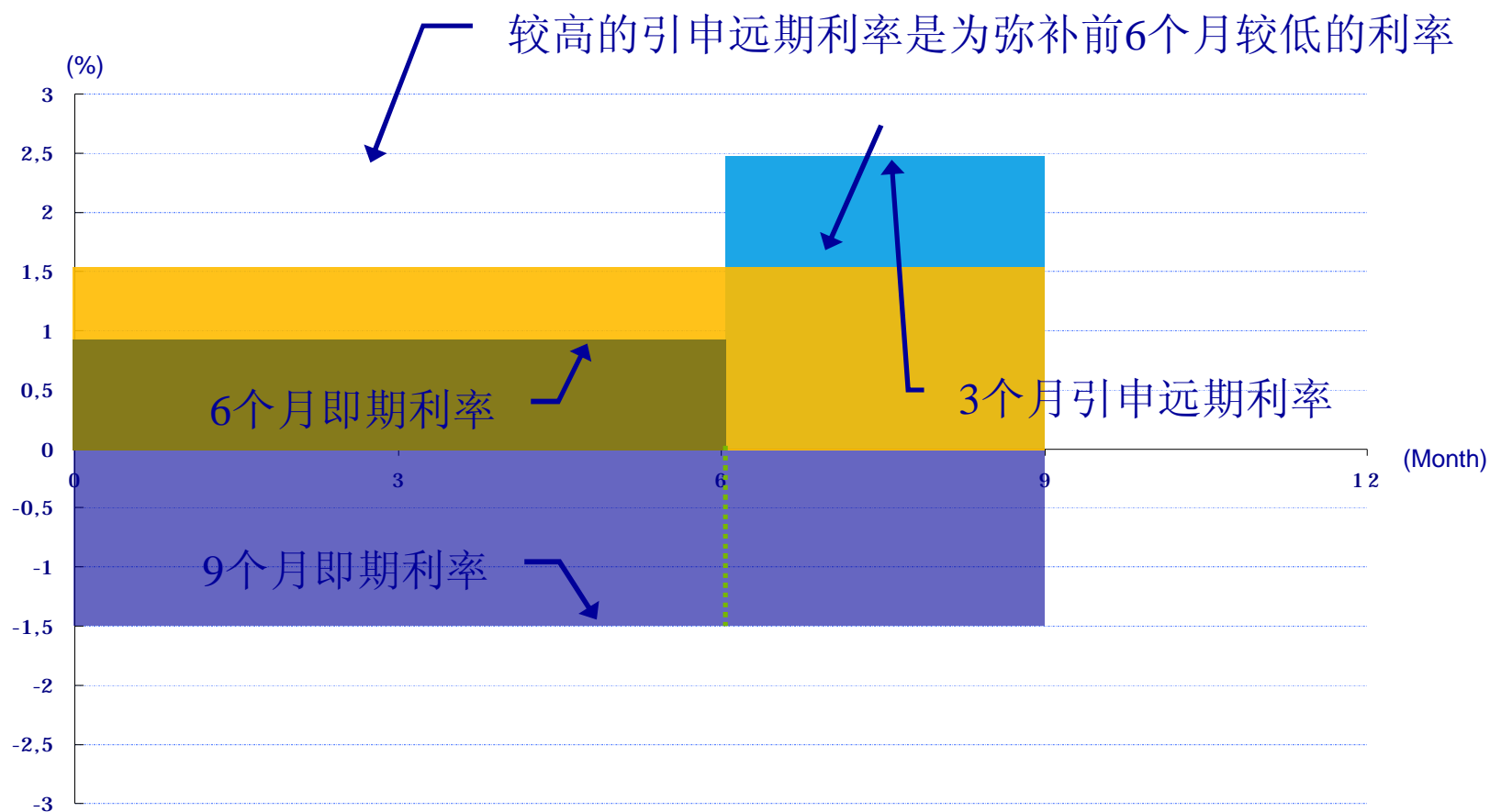
- n 定息债券期货交易相比实物债券交易的优势
 - 高度的市场流动性和透明度;
 - 简化空头交易;
 - 占用现金量少, 只需要存入初始保证金和追加保证金。

- n 短期利率期货合约
 - Euribor (欧元货币市场基准利率) 期货合约 (也可以通过Euronext-LIFFE交易平台进行交易)
 - 一个月期EONIA(欧元银行同业隔夜拆借利率)期货

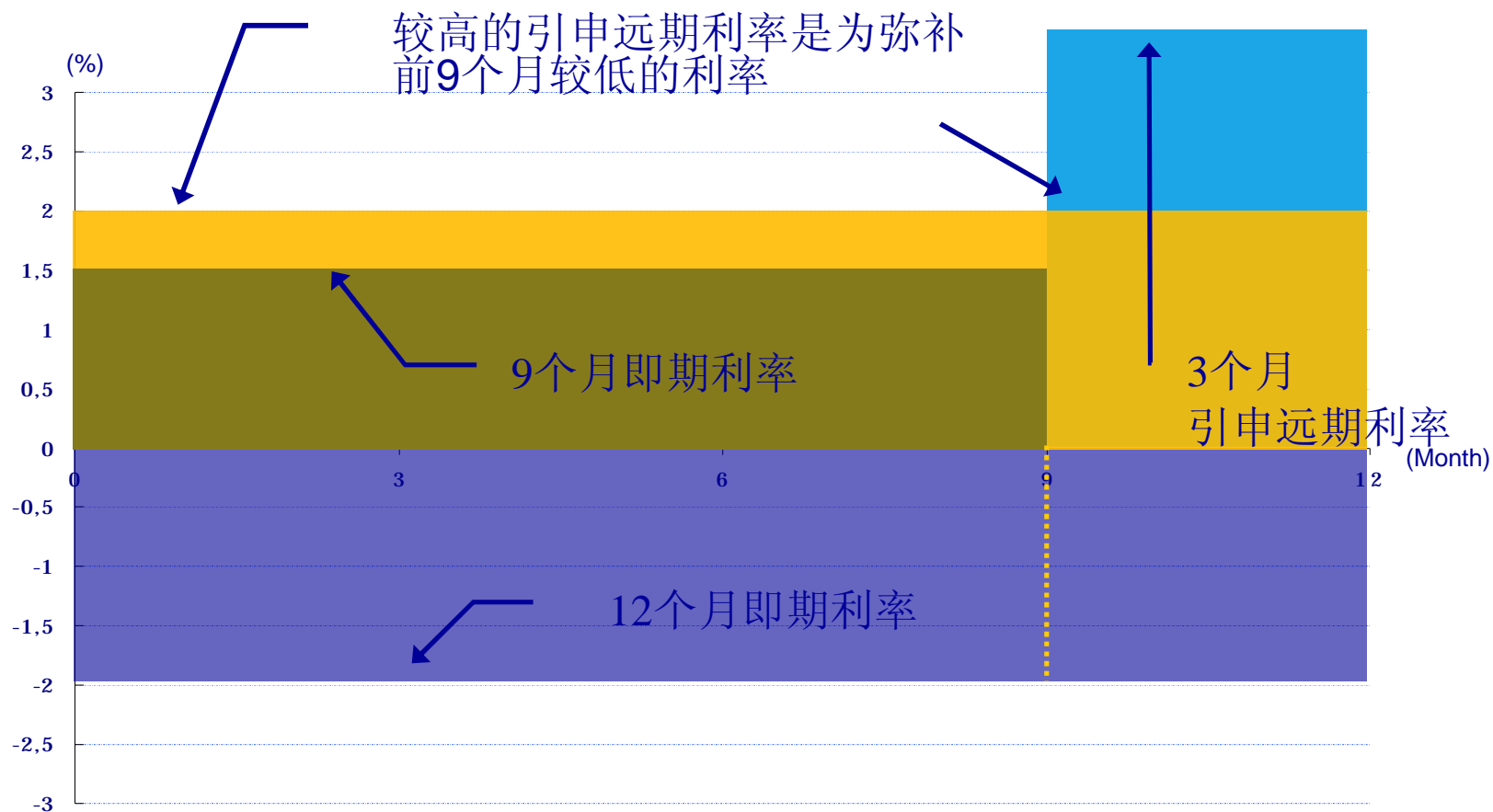
引申远期利率



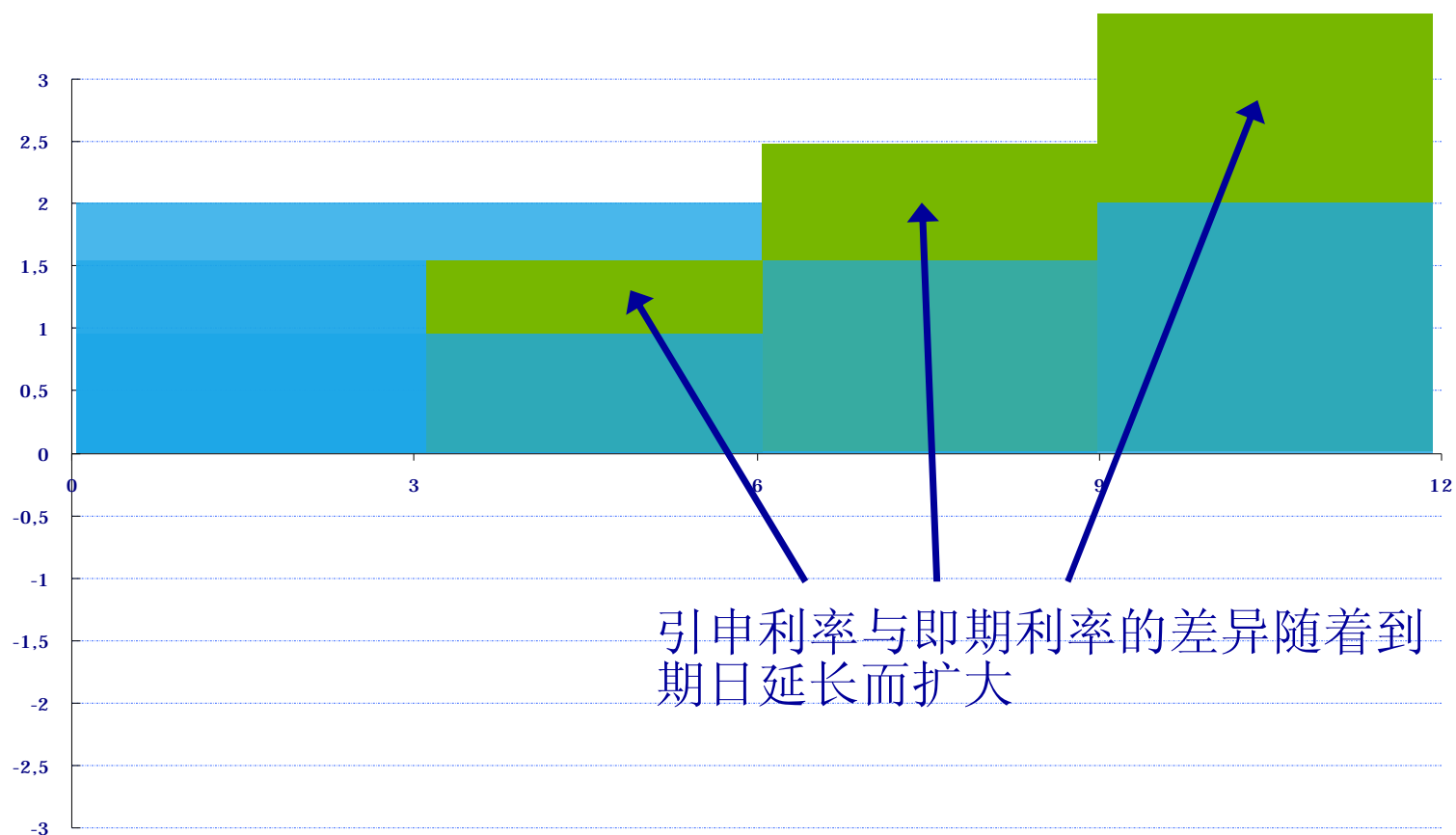
引申远期利率



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利率管理工具的应用

n 固定利率证券

- 票面息率
- 收益率

n 德国政府发行

- 2年内德国联邦短期国债(FGBSc1)
- 5年内德国联邦中期债券(FGBMc1)
- 10年内德国联邦长期债券(FGBLc1)

n 应计利息

- 债券购买者付给卖出者介于上一息票日和买入交易日期间的利息收入

n 收益率曲线

- “正常”的收益率曲线为：剩余有效期较长的债券的收益率高于剩余有效期较短的债券
- 反转收益率曲线：剩余有效期较长的债券的收益率低于剩余有效期较短的债券

利率管理工具的应用

n 麦考利久期

- 是一种衡量票面息率和债券剩余有效期如何影响其利率敏感性的方法。具体的计算将每次债券现金流的现值除以债券价格得到每一期现金支付的权重，并将每一次现金流的时间同对应的权重相乘,最终合计出整个债券的久期。

n 修正久期

- 是计算当资本市场利息率变化一个单位（一个基点）时，债券现值变化的百分比

n 债券凸性 - 调整久期偏差(久期的追踪误差)

- 修正久期假设债券现值和市场利息率之间是线性关系。实际上，债券现值和市场利息率之间是呈凸性关系的。

运用利率期货进行交易和对冲的技巧

n 固定利率证券期货价格（公允价值）

- 期货价格 = 现货市场价格 + 融资成本 - 现货市场头寸的收入
- 累积利息降低了期货的价格
- 短期再融资利息率（也叫回购利息率），通常是用于银行间存款利息支付，其存款期应与期货合约的有效期相同

n 转换因子（价格因子）

- 转换因子使得在实物交割时不同的可交割债券的价值比较成为可能
- 一个可交割债券的票息越低，则其转换因子越低，相应地，其交割价格越低

运用利率期货进行交易和对冲的技巧

n 最便宜交割债券（CTD债券）

- 举例：以下哪种债券是最廉价交割债券（CTD）？
- 债券A：债券在现货市场的出售收益为：104,930欧元；该债券交割价格为：105,117欧元。
- 债券B：债券在现货市场的出售收益为：105,090欧元；该债券交割价格为：104,992欧元。

n 答案: 债券A是CTD债券

- 在实物交割时，它会有187欧元（ $105,117 - 104,930$ ）的价格获利。而债券B在实物交割时，比较其市场价值，会产生98欧元（ $104,992 - 105,090$ ）的损失。所以,总的来说，债券A比债券B有285欧元（ $187 + 98$ ）的价格优势。

运用利率期货进行交易和对冲的技巧

- n 联邦票据/债券价差（收益率曲线交易）
 - i.e. 例如：短期国债，中期债券，长期债券多头/空头交易
 - DV01（基差点价值）
 - 当利息率变化一个基点时，债券价值的变化
 - 按价格上下变化的平均取值

- n 举例：一个5年联邦票据（中期债券）息票率6%年息
 - 当收益率 = 4%， 债券价格 = 108.90365
 - 当收益率 = 3.99%， 债券价格 = 108.95068
 - 当收益率 = 4.01%， 债券价格 = 108.85664
 - 基差点价值 = $(0.04703 + 0.04701) / 2 = 0.04702$

运用利率期货进行交易和对冲的技巧

n 举例: 一个10年联邦债券（长期债券）息票率6%年息

当收益率 = 4%, 债券价格 = 116.22179

当收益率 = 3.99%, 债券价格 = 116.31102

当收益率 = 4.01%, 债券价格 = 116.13265

基差点价值 = $(0.08923 + 0.08914) / 2 = 0.089185$

因此, 10年债券基差点价值 / 5年债券基差点价值 = $0.089185 / 0.047020$

= 1.8967

或, 100 份10年债券 = 189份 5年债券

运用利率期货进行交易和对冲的技巧

n 直接交易 (与股票/股指相同)

- 基于基本面和技术面
- 市场风险更大

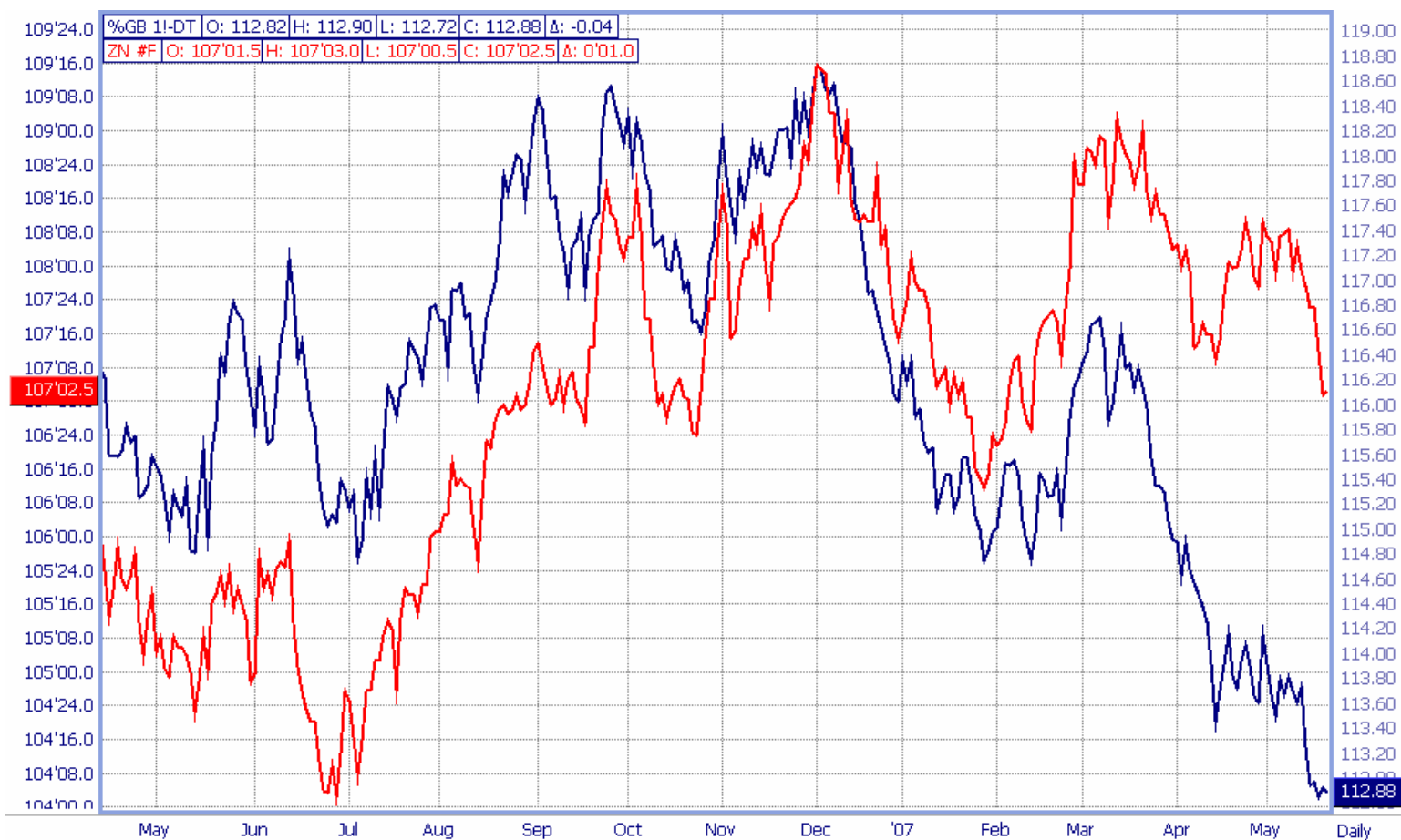
n 市场内交易

- 不同指数间的交易
- 品种内交易
- 取决于相关系数，通常风险较小

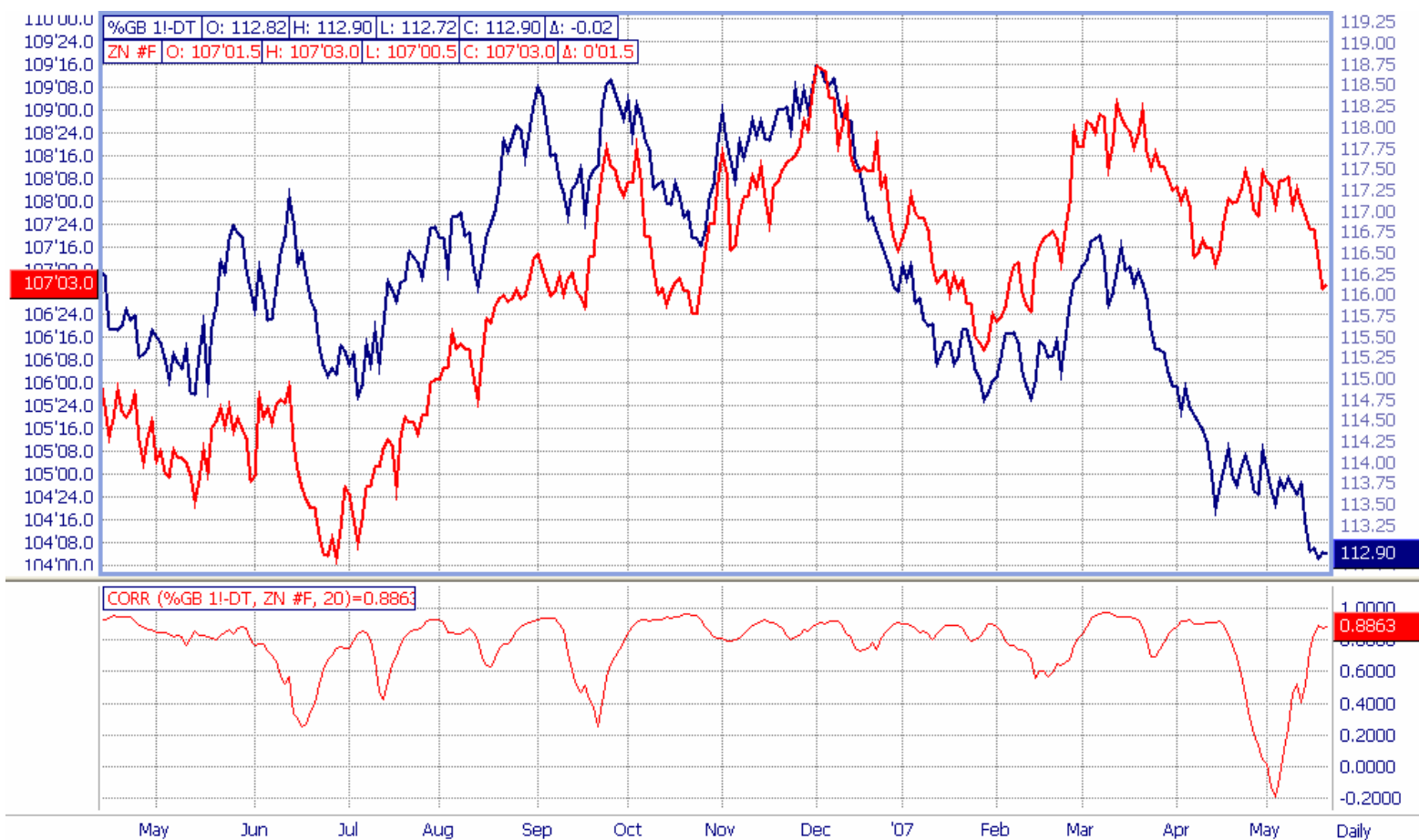
n 市场间交易

- 品种间交易
- 同时多头和空头不同月份的合约
- 一般来说，风险最小

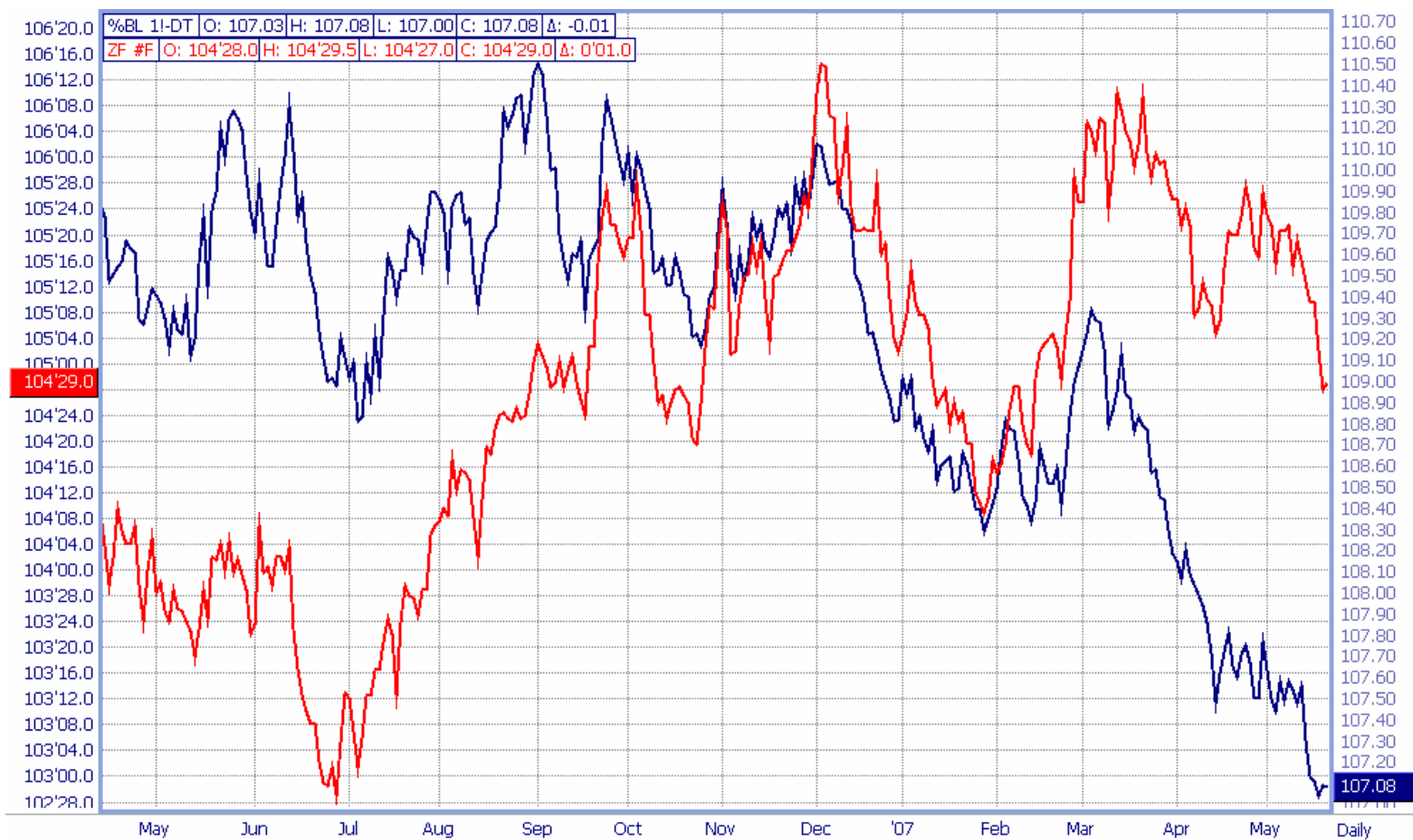
相关性 (长期债券与10年期国债比较)



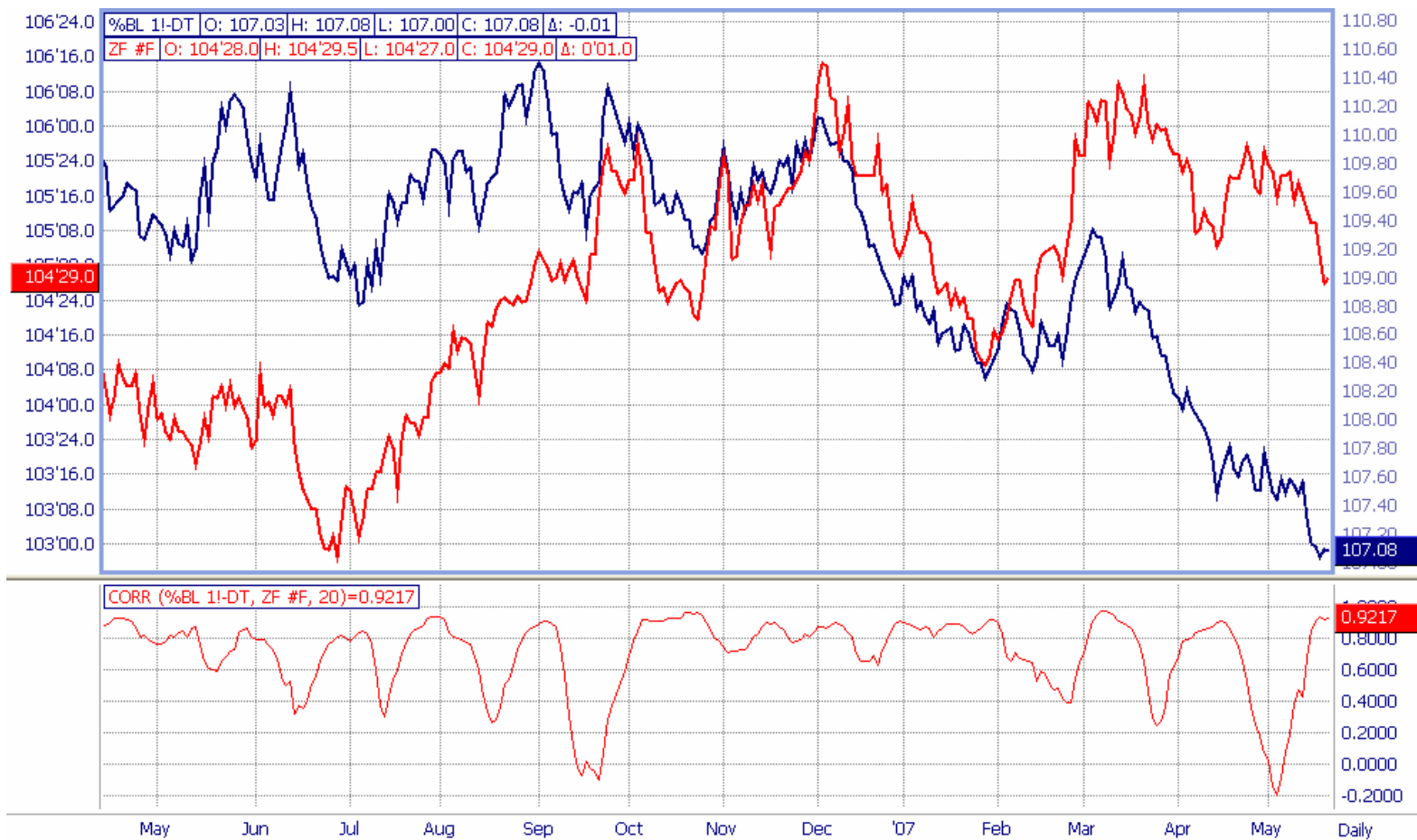
相关性 (长期债券与10年期国债比较)



相关性 (中期债券与5年国债比较)

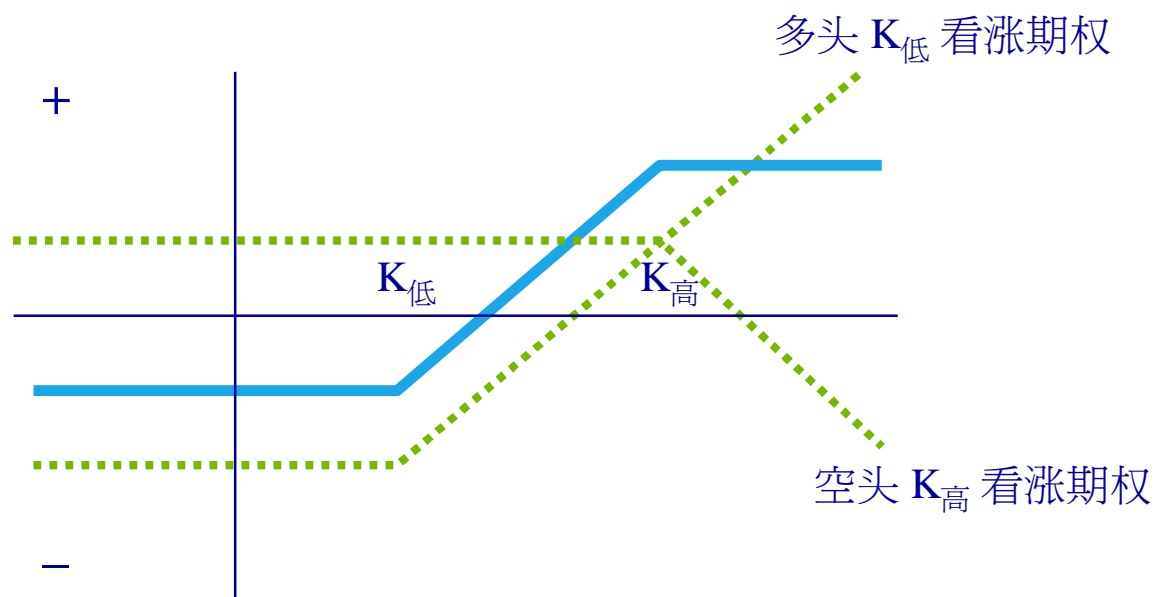


相关性 (中期债券与5年国债比较)



牛市看涨期权价差

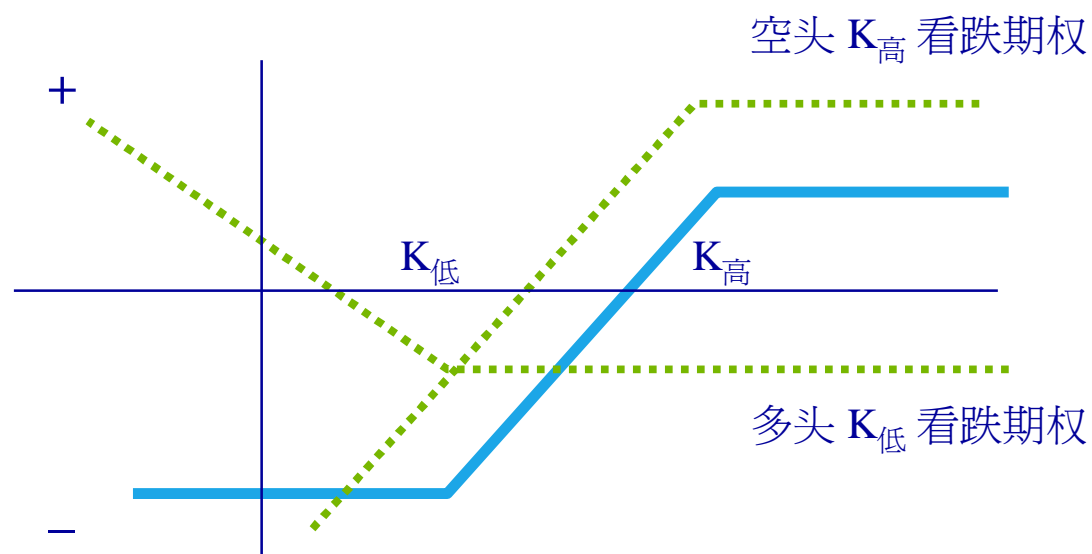
n 买入一份看涨期权，同时卖出一份执行价更高的看涨期权



- 预期：上涨趋势
- 回报：符合预期，有限收益
- 风险：不符预期，有限损失

牛市看跌期权价差

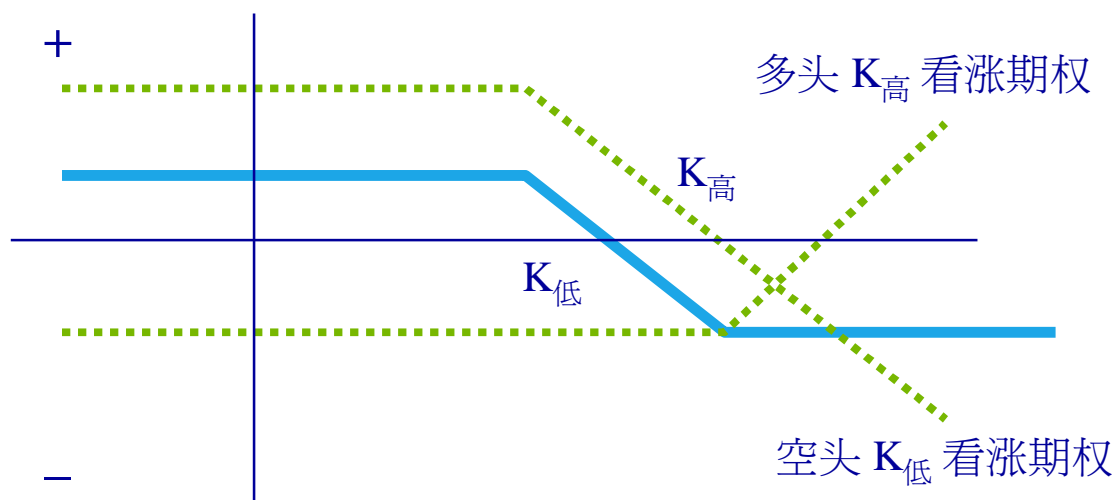
n 买入一份看跌期权，同时卖出一份执行价更高的看跌期权



- 预期：无波动或上涨趋势
- 回报：符合预期，有限收益；如无波动，收益为权酬
- 风险：不符预期，有限损失

熊市看涨期权价差

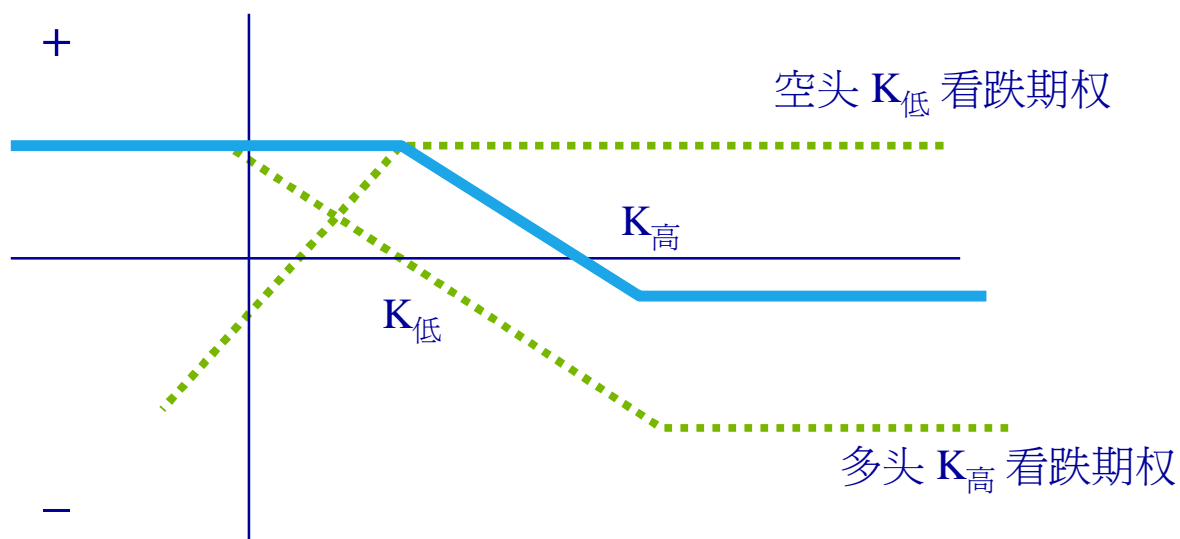
- n 买入一份看涨期权，同时卖出一份执行价较低的看涨期权



- 预期：无波动或下跌趋势
- 回报：符合预期，有限收益；如无波动，收益为权酬
- 风险：不符预期，有限损失

熊市看跌期权价差

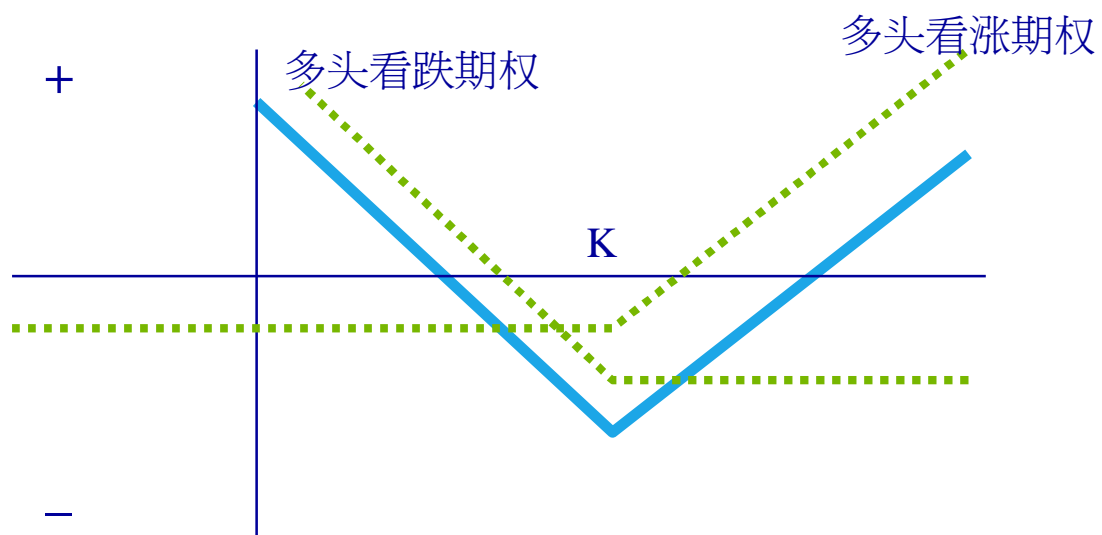
n 买入一份看跌期权，同时卖出一份执行价较低的看跌期权



- 预期：下跌趋势
- 回报：符合预期，有限收益
- 风险：不符预期，有限损失

跨式期权

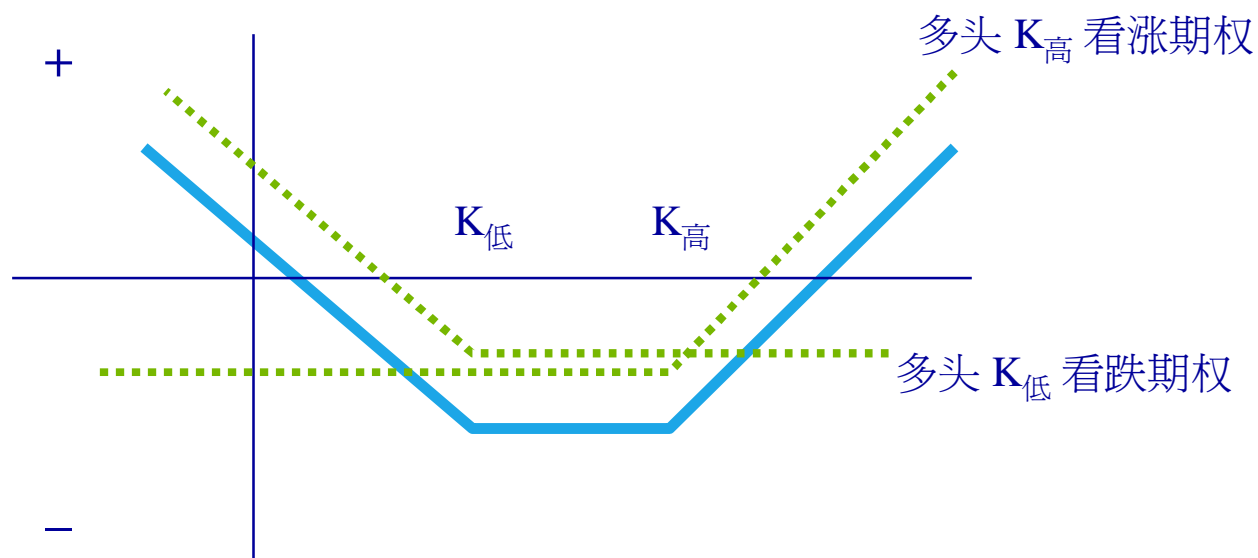
n 同时买入执行价相同的看涨期权和看跌期权



- 预期：波动，但无法预测方向
- 回报：符合预期，收益全部价格涨幅或跌幅
- 风险：不符预期，有限损失

宽跨式期权

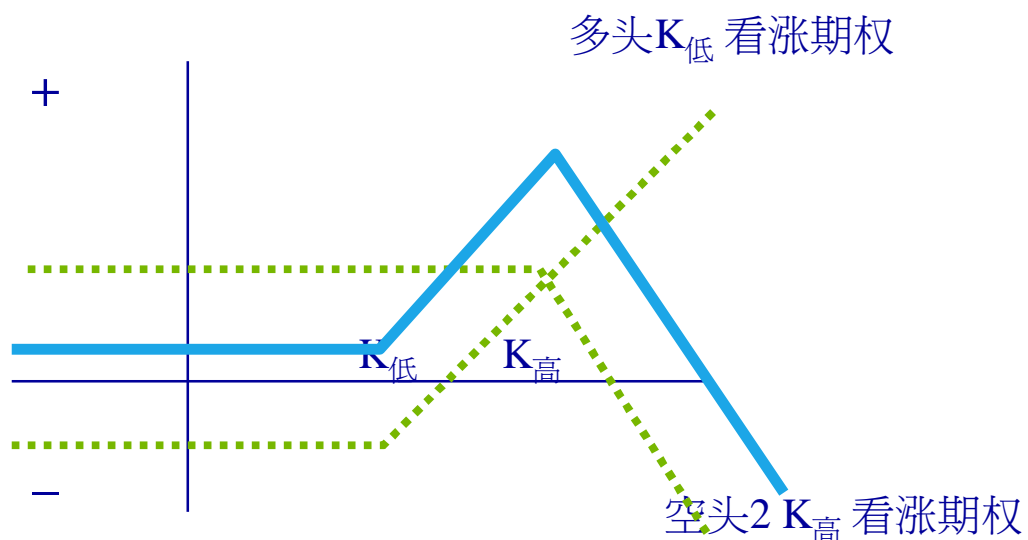
- n 买入一份看涨期权，同时买入一份执行价格较低的看跌期权



- 预期：波动剧烈，但无法预测方向
- 回报：符合预期，收益全部价格涨幅或跌幅
- 风险：不符预期，有限损失

配比式牛市看涨期权价差

- n 买入一份看涨期权，同时卖出两份执行价较高的看涨期权



- 预期：有限上涨，下跌机率小
- 回报：有限上涨时收益最大，如下跌则收益权酬
- 风险：如价格持续上涨则严重损失

盈亏平衡点

n 牛市价差

- 牛市看涨期权价差
= 低行权价看涨期权的执行价格 + 净权酬
- 牛市看跌期权价差
= 高行权价看跌期权的执行价格 - 净权酬

n 看跌期权价差

- 熊市看跌期权价差
= 高行权价看跌期权的执行价格 - 净权酬
- 熊市看涨期权价差
= 低行权价看涨期权的执行价格 + 净权酬

盈亏平衡点

n 跨式期权

- 多头跨式期权
 - = 看涨期权执行价格 + 净权酬 /
 - = 看跌期权执行价格 - 净权酬
- 空头跨式期权
 - = 看涨期权执行价格 + 净权酬 /
 - = 看跌期权执行价格 - 净权酬

n 宽跨式期权

- 多头宽跨式期权
 - = 看涨期权执行价格 + 净权酬 /
 - = 看跌期权执行价格 - 净权酬
- 空头宽跨式期权
 - = 看涨期权执行价格 + 净权酬 /
 - = 看跌期权执行价格 - 净权酬

盈亏平衡点

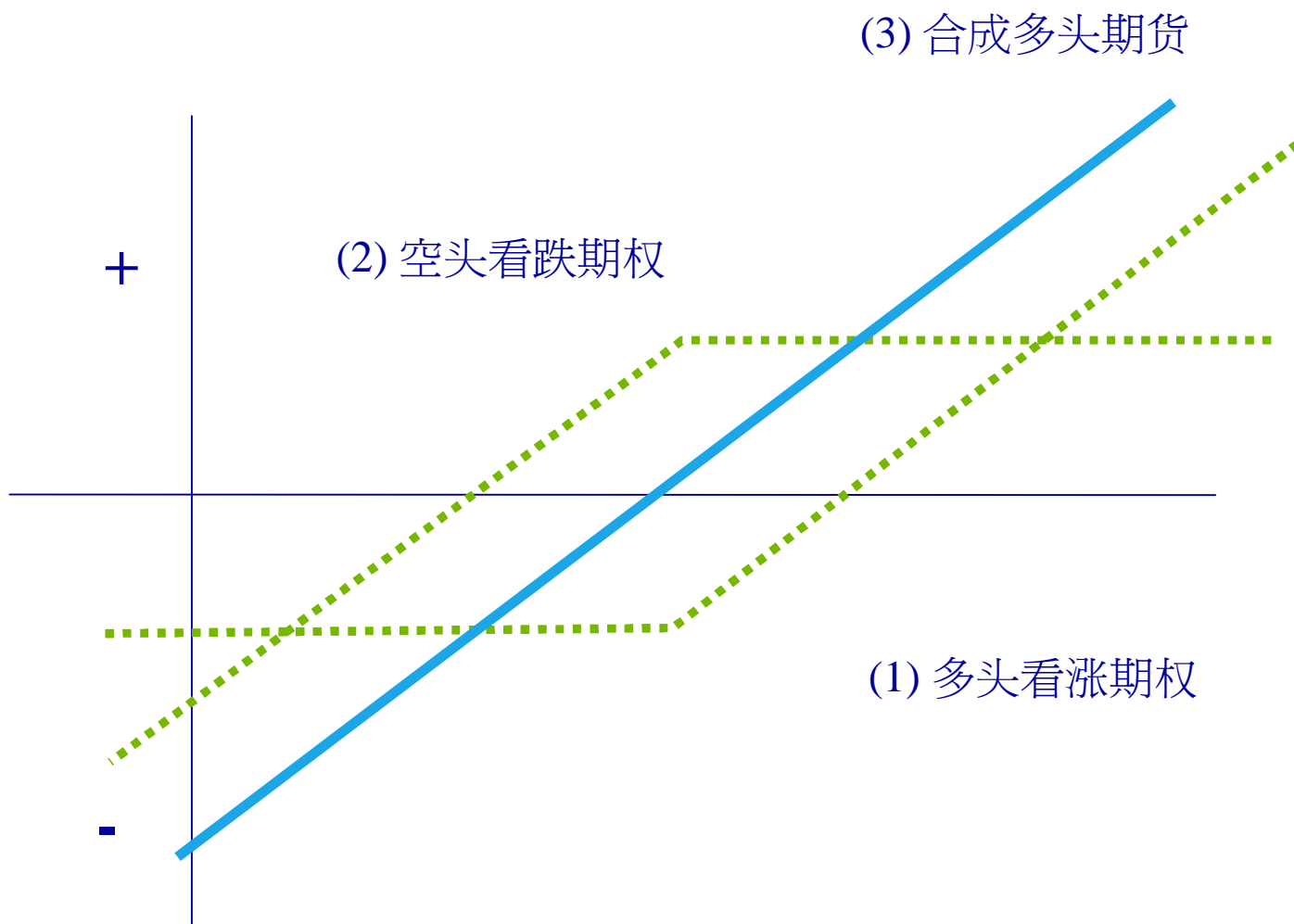
n 配比式看涨期权价差

= 空头看涨期权的执行价格 + 两个期权的执行价格差 + 净权酬

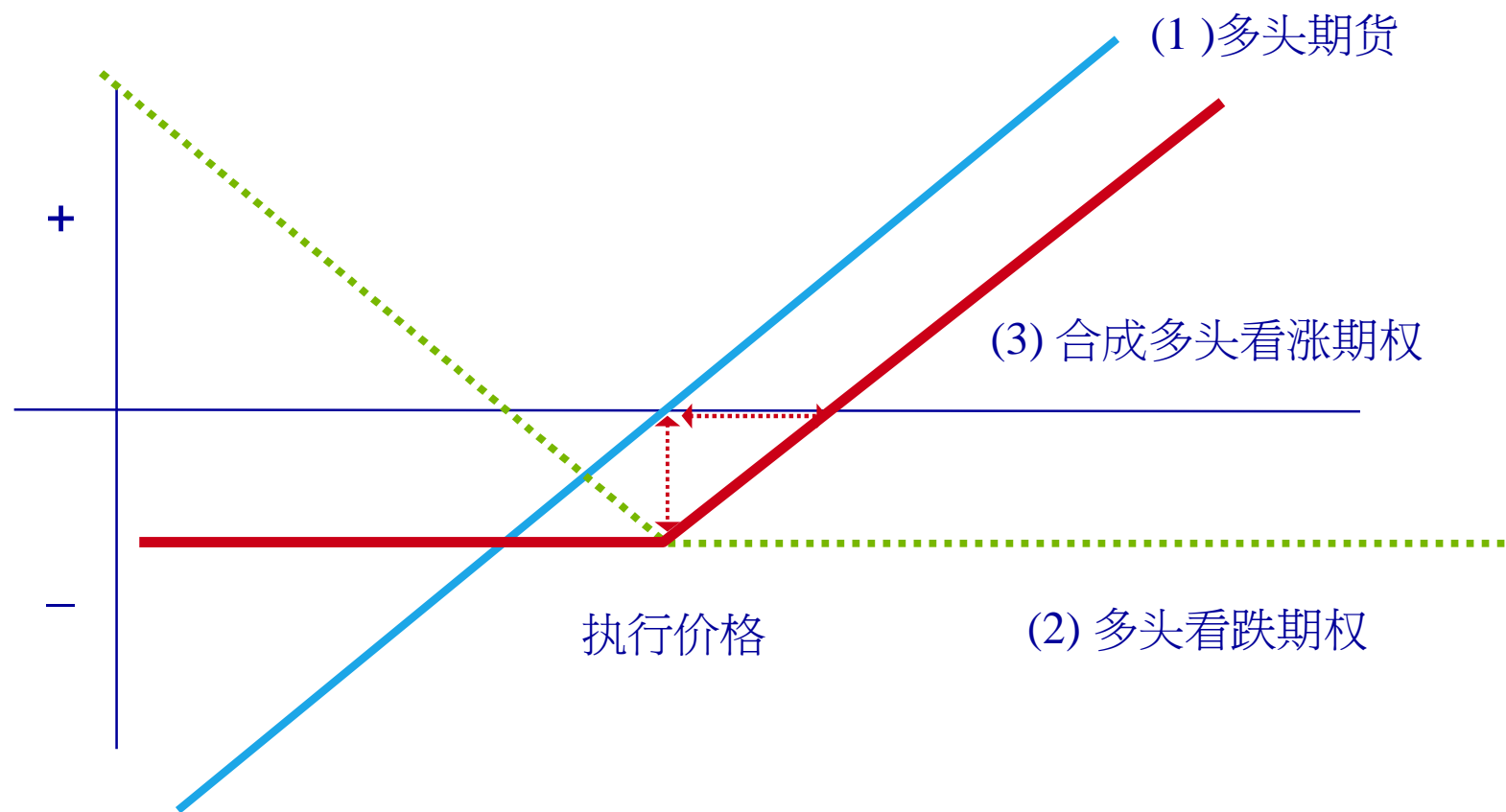
n 配比式看跌期权价差

= 空头看跌期权的执行价格 + 两个期权的执行价格差 - 净权酬

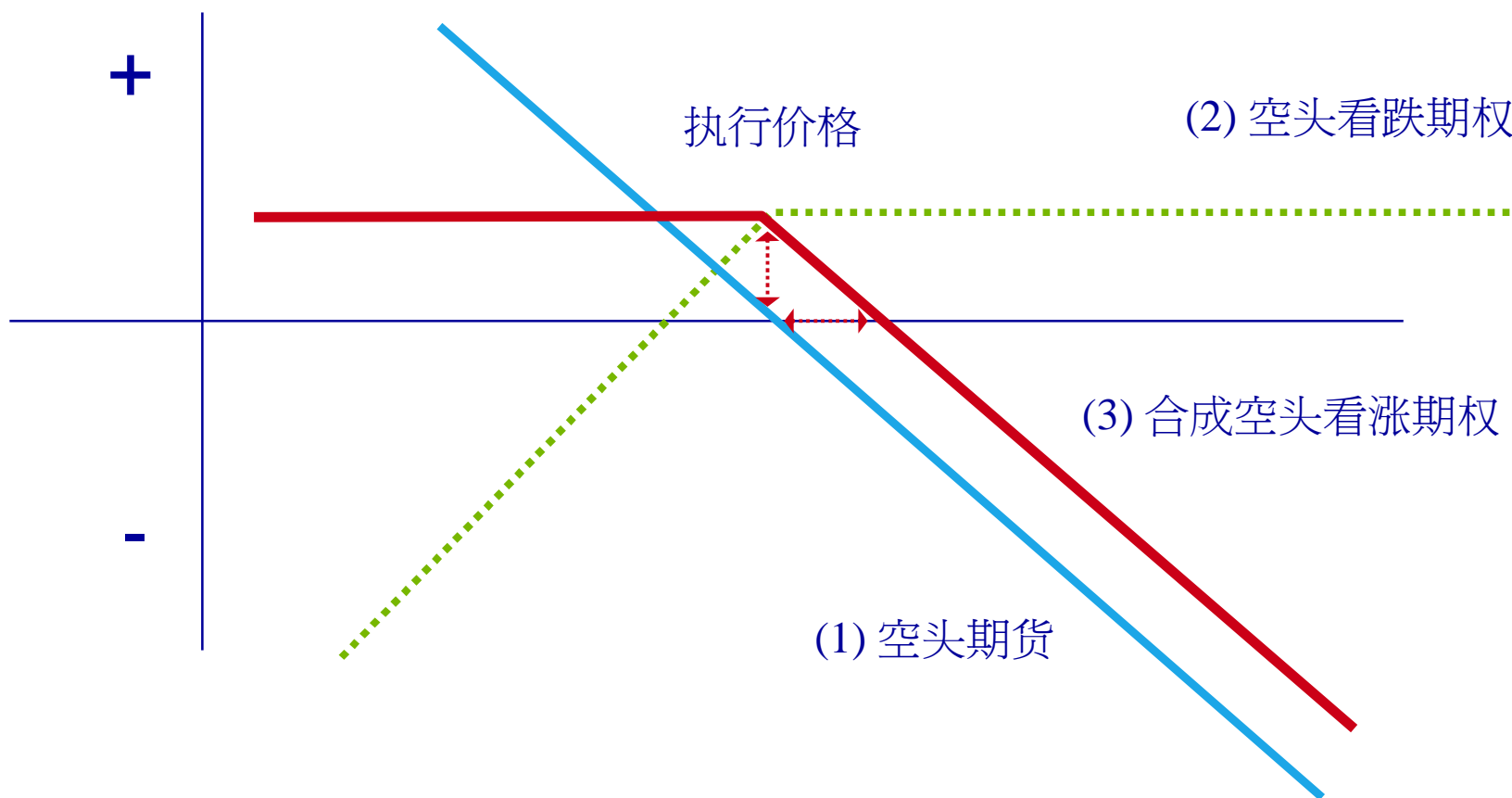
合成多头期货



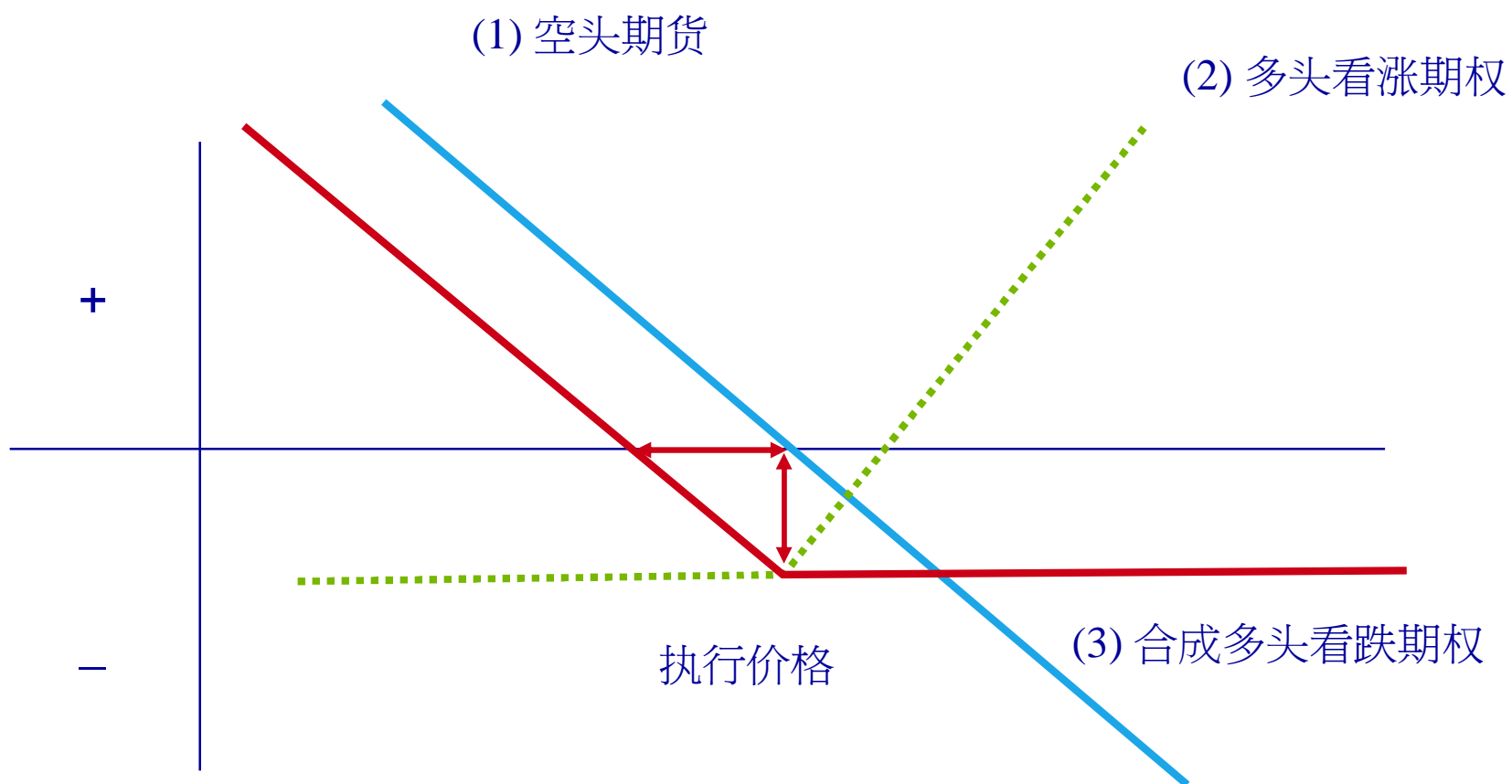
合成多头看涨期权



合成空头看涨期权



合成多头看跌期权



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