

OPTIMISING COLLATERAL

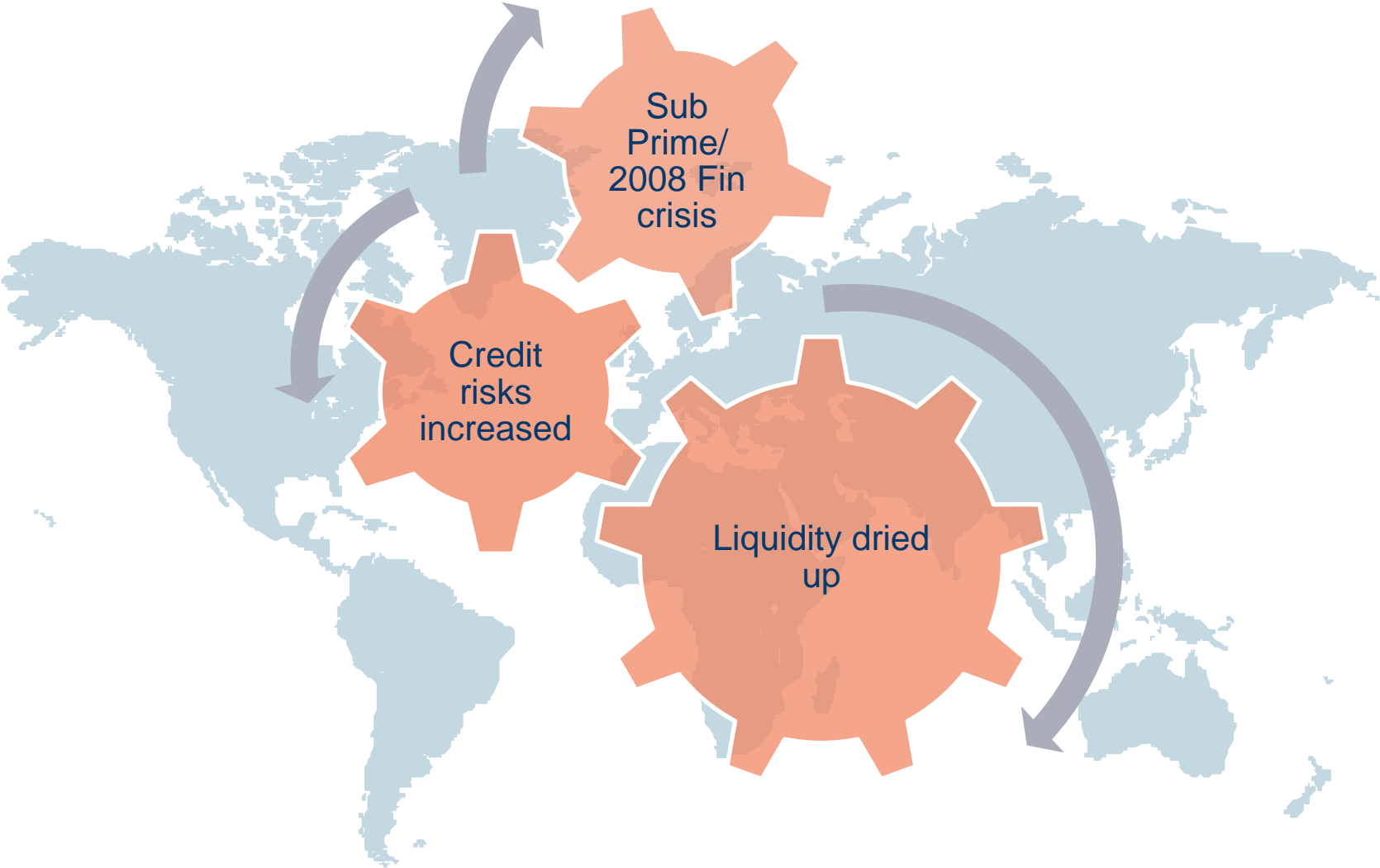
Jan Kotze

Absa CIBW – Collateral Optimisation

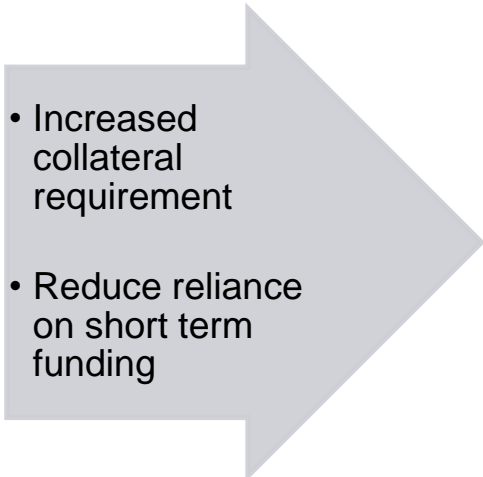
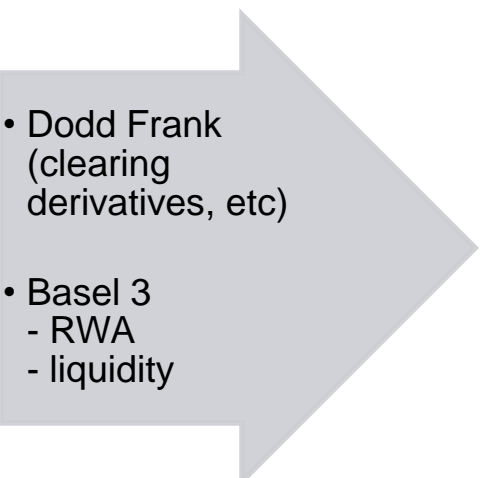
November 2012

CHALLENGES FACING THE COLLATERAL FUNCTION

1. Adoption of OIS discounting
2. Balance sheet adjustments of valuations
3. Different interpretations and therefore different implementations
4. Full sets of valuations curves
5. Attracting quantitative skills
6. Regulatory changes



BEHAVIOUR BEFORE AND AFTER THE FINANCIAL CRISIS

BEFORE	FINANCIAL CRISIS	AFTER
<ul style="list-style-type: none"> • Perception was that banks can't fail. • Default risk was historically not priced into trades. <i>(It was considered too complex to accurately estimate, during its life, when the trade would expose the bank to default risk.)</i> • Trades were funded in the short term market 	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #003366; color: white; padding: 10px; writing-mode: vertical-rl; transform: rotate(180deg); margin-bottom: 20px;">Market Reaction</div> <div style="background-color: #cccccc; padding: 10px; border-radius: 50%; width: 100px; height: 100px; display: flex; align-items: center; justify-content: center;">  </div> <ul style="list-style-type: none"> • Increased collateral requirement • Reduce reliance on short term funding </div> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #003366; color: white; padding: 10px; writing-mode: vertical-rl; transform: rotate(180deg); margin-bottom: 20px;">Regulatory Reaction</div> <div style="background-color: #cccccc; padding: 10px; border-radius: 50%; width: 100px; height: 100px; display: flex; align-items: center; justify-content: center;">  </div> <ul style="list-style-type: none"> • Dodd Frank (clearing derivatives, etc) • Basel 3 <ul style="list-style-type: none"> - RWA - liquidity </div>	<ul style="list-style-type: none"> • Increased focus on counterparty credit and liquidity risk <ul style="list-style-type: none"> • Risks of losses from default managed via collateral agreement • Funding tenor of derivative books increased • Banks introduce CVA and FVA spreads to take into account the credit risks and liquidity costs associated with a trade. • Regulators are moving towards clearing because it achieves the same objectives as collateral. <i>(Easier from an administration perspective; can include a broader participation)</i>

Pre-crisis it was assumed that risk free rates can be calculated from Swap curves built from libor rates, fra's and swaps.

LIBOR rates are the unsecured short-term borrowing rates of AA-rated financial institutions and swap rates correspond to the risk in a series of unsecured short term loans to AA rated financial institutions

OIS rates are much closer to risk free rates than the rates obtained from a swap curve.



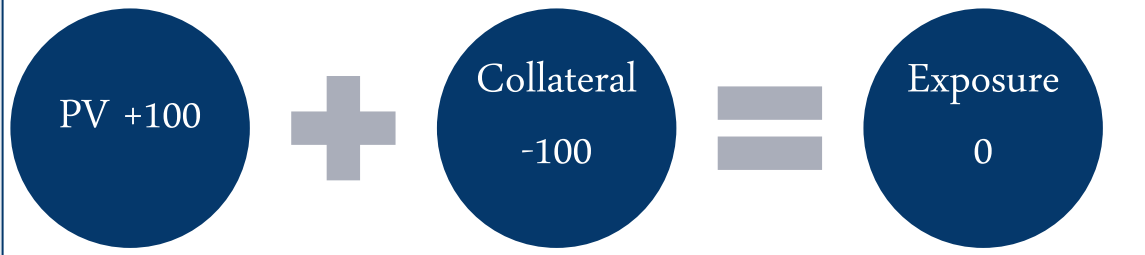
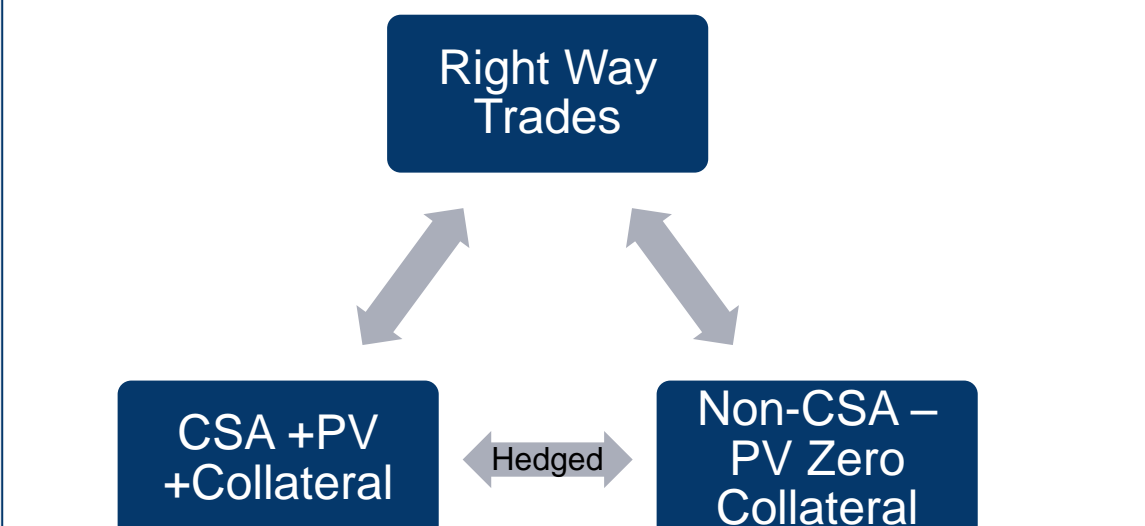
Considerations of providing paper assets instead of cash as collateral.

Paper comes with different benefits and therefore trades will not be priced the same as when collateral is in cash.

Higher administration requirement.

How will it impact on the ability of generating right way trades.

FUNDING CONSEQUENCES OF DERIVATIVE TRADING

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Collateralised Derivatives</p>	 <p>The diagram illustrates the funding consequences of collateralized derivatives. It shows three dark blue circles. The first circle contains 'PV +100'. To its right is a grey plus sign. The second circle contains 'Collateral -100'. To its right is a grey equals sign. The third circle contains 'Exposure 0'.</p>	<p>OIS Discounting</p> <ul style="list-style-type: none"> • Since the trade is risk free it should be discounted using the risk free rate (OIS) • If the collateral is not cash will the trade still be as risk free?
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Structures</p>	 <p>The diagram shows three dark blue rounded rectangles. At the top is 'Right Way Trades'. Below it are two boxes: 'CSA +PV +Collateral' on the left and 'Non-CSA - PV Zero Collateral' on the right. A double-headed grey arrow labeled 'Hedged' connects the two bottom boxes. Two double-headed grey arrows also connect 'Right Way Trades' to each of the bottom boxes.</p>	<p>Funding Value Adjustment</p> <ul style="list-style-type: none"> • Trades that require material amounts of funding will require an FVA in the determination of its price. • Structures that generate funding could be priced to the extent that the trade is won by pricing more liberally. However if the collateral is not cash this will affect the FVA and the price.

Legal, administrative and other hurdles

1. LEGISLATION

- SA Law does not allow for re-hypothecation which limits full use of the asset.
- Unintended taxes will be generated: STT, Capital Gains, Income tax, Dividend withholding tax.

2. ADMINISTRATION

- Increased administrative burden
- A proper IT Solution needs to be designed, costs will be significant and resource may already be constrained given all the other changes as discussed before

3. OTHER

- SA Market is small and will require full or near full participation to ensure adequate depth and breadth of sources of paper collateral

Paper Collateral supports business and trading growth

1. BUSINESS GROWTH

- It will allow business that are currently consumers of cash to be less so and even generate their own collateral for example CFD's.
- Stock Borrowing and Lending business could be stimulated by the increase in paper assets.

2. TRADING

- Trading strategies are limited due to the cost of paper being affected by a restrictive environment that limits the source of paper.
- Incentivises the right trading behaviour.
- Assets will no longer be under utilised.
- Cost of cash will find a more efficient price.

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