Thoughts on the Supervision of Assets Securitization

5th Advanced Programme for
Central Bankers and Regulators

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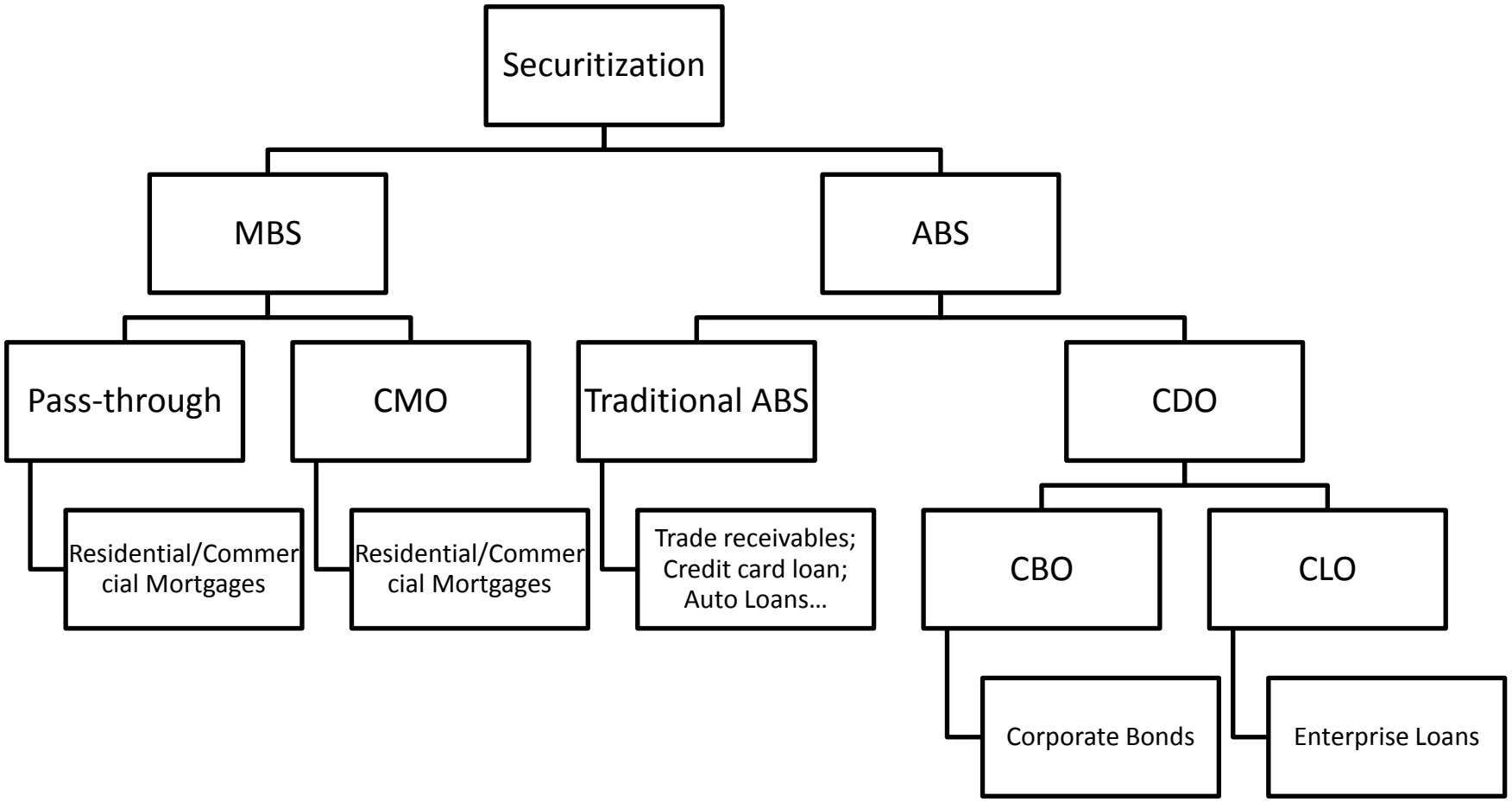
Outline

- Definition
- Procedure
- Purposes of securitization
- Benefits and risks
  - Systemic perspective
- Key issues
- Market development
- Failure case
- Basel II on securitization
- Weaknesses exposed, and Basel III
- Thoughts: have the problems been resolved?

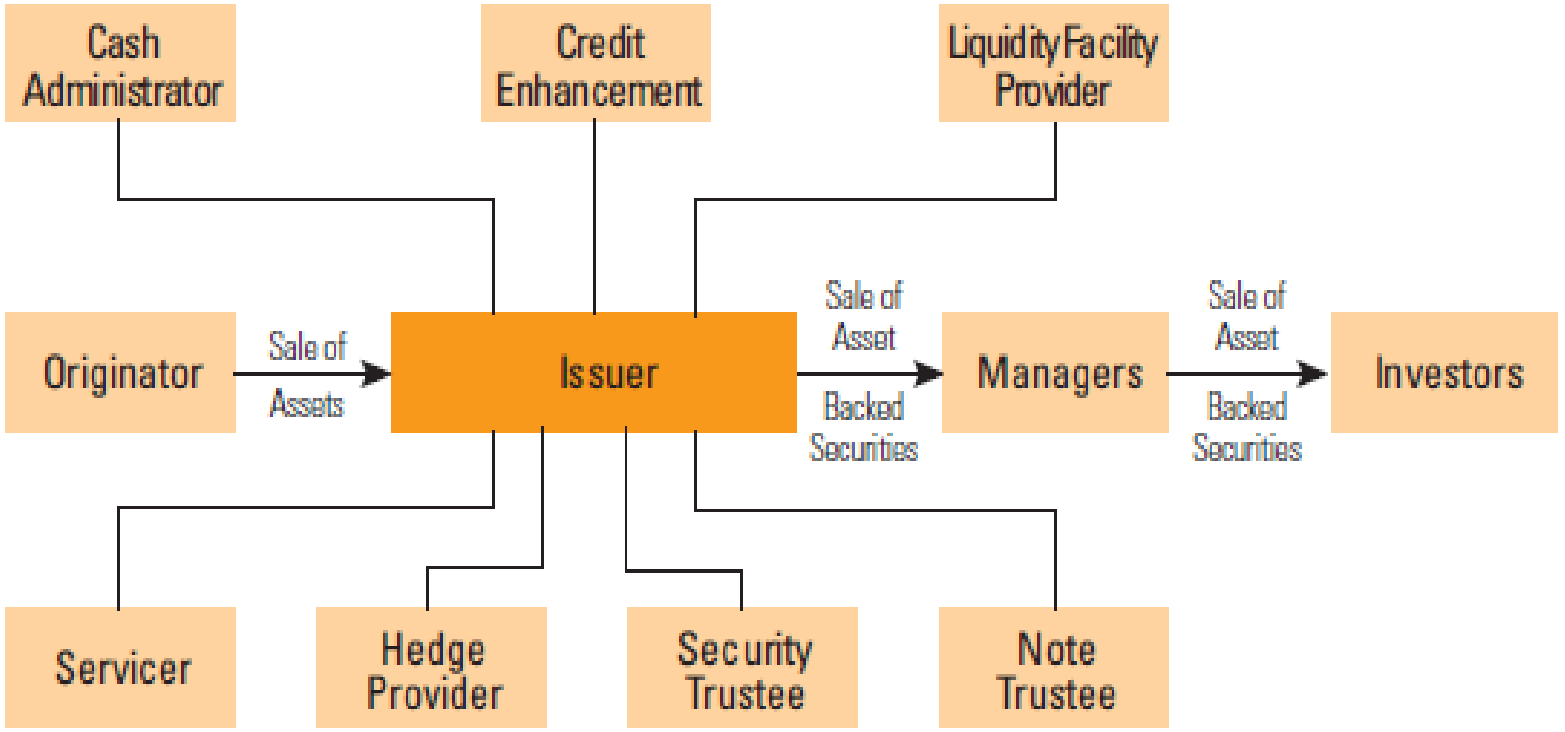
Definition

- Securitization
  - Traditional securitization
  - Synthetic securitization
- Examples:
  - ABS, MBS
  - Credit enhancements, liquidity facilities, credit derivatives, etc.
- Securitization versus covered bond

Definition - Examples



Procedure


Cash Administrator
Credit Enhancement
Liquidity Facility Provider
Originator
Sale of Assets
Issuer
Sale of Asset Backed Securities
Managers
Sale of Asset Backed Securities
Investors
Servicer
Hedge Provider
Security Trustee
Note Trustee

Purposes of securitization

- Risk transfer/diversification
- Regulatory capital relief
- Tap different funding sources: from banks to capital market
- Reducing liquidity mismatch

Benefits & risks - a systemic perspective

- Benefits
  - Deepen the capital market
  - Efficient tool for market participants
  - Help the development of other markets(e.g. U.S.)
- Risks
  - Risk diversification?
  - procyclicality
    - While the capital charge is proportional, the risk associated is exponential

Key issues

- Quality of underlying assets
- True sale/Credit risk mitigation(CRM)
- Structure
- Credit enhancement
- Rating
- Due diligence

Key issues: Quality of underlying assets

- Underlying assets:
  - any assets or entitlements representing future cash flows
  - Include mortgage receivables, auto loans, credit card receivables, trade receivables, commitments, corporate bonds, equity securities, asset-backed and mortgage-backed securities etc.
- The quality of underlying assets is key

Key issues: True sale/CRM

Conditions of true sale-traditional securitization

1)Significant credit risk associated with the underlying exposures has been transferred to third parties

2)The transferor does not maintain effective or indirect control over the transferred exposures. The exposures are legally isolated from the transferor. Banks should obtain legal opinion that confirms true sale

3)The securities issued are not obligations of the transferor

4)The transferee is an SPE and the holders of the beneficial interests in that entity have the right to pledge or exchange them without restriction

5)Clean-up call conditions

6)The securitisation does not contain any clause that requires the originating bank to alter the underlying exposures

Key issues: True sale/CRM

Recognised CRM-synthetic securitization

1. Qualifying credit risk mitigants
2. Eligible collateral
3. Eligible guarantors
4. Banks must transfer significant credit risk associated with the underlying exposures to third parties
5. The instruments used to transfer credit risk may not contain terms or conditions that limit the amount of credit risk transferred
6. legal opinion that confirms the enforceability of the contract
7. Clean-up calls conditions

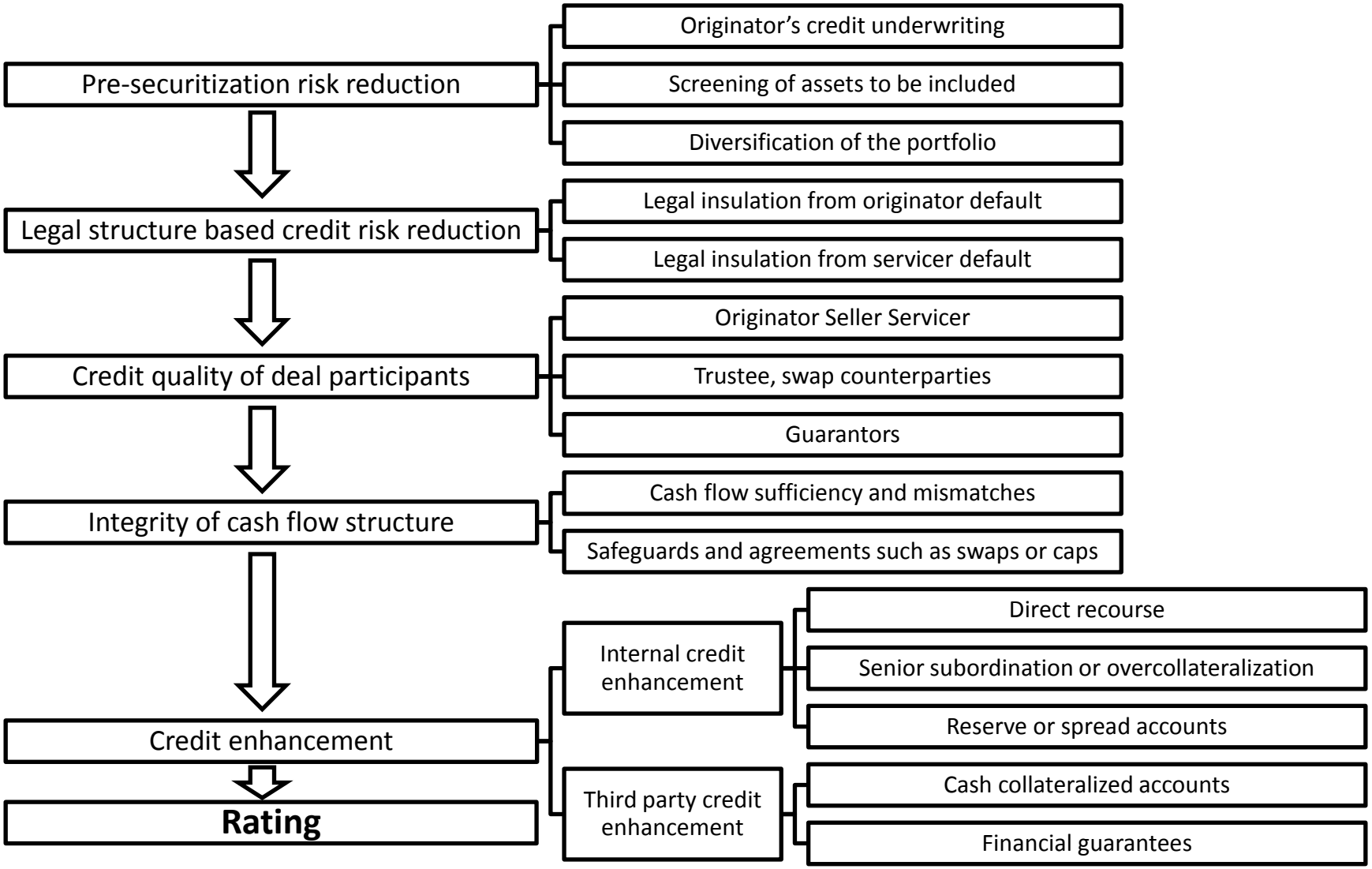
Key issues: Structure

- Structure being over-complicated prior to the crisis
- S.T.C.
  - Simple
  - transparent
  - comparable

Key issues: Credit enhancement

- To what extent can the credit risk mitigants, collateral and guarantors mitigate the risks?

Key issues: Rating



Key issues: Due diligence

Banks should -

- Have comprehensive understanding of the risk characteristics of its individual securitization exposures, and the risk characteristics of the pools underlying its securitization exposures
- Be able to access performance information on the underlying pools on an ongoing basis in a timely manner
- Have a thorough understanding of all structural features of a securitization transaction that would materially impact the performance of the bank's exposures to the transaction

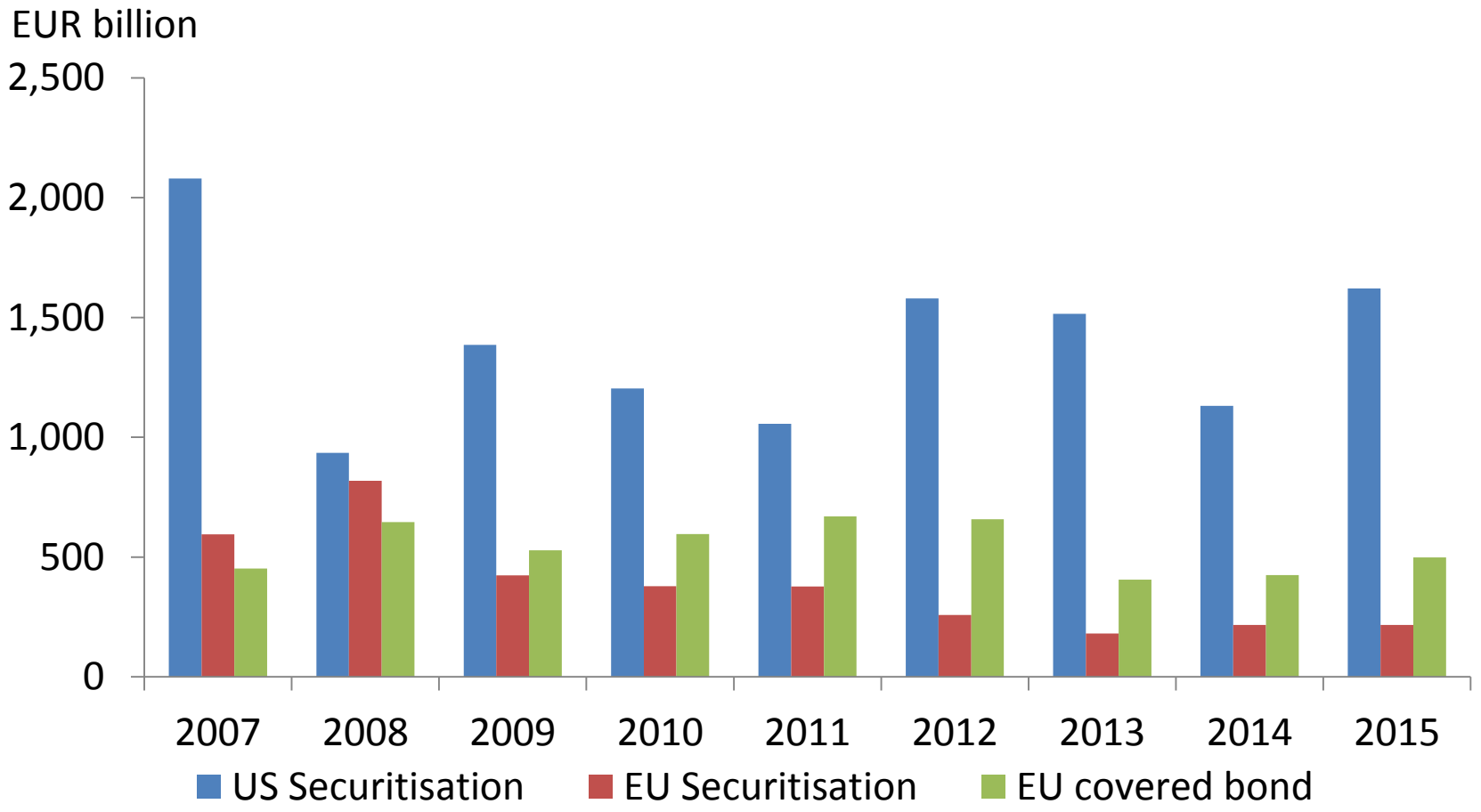
Market development: US

- 1970's – Begin
  - The securitization of residential mortgages by the Government National Mortgage Association.
- 1980's – Growth
  - The introduction of new asset classes e.g. auto loans and credit card receivables
- 1990's – Grow exponentially
  - Expanding to include virtually all types of assets yielding future cash flows

Market Development: EU

- 1980's – Developing
  - Residential mortgages and consumer loans
- 1990's – Rapid development
  - **Covered bonds** replacing securitization as main funding instruments

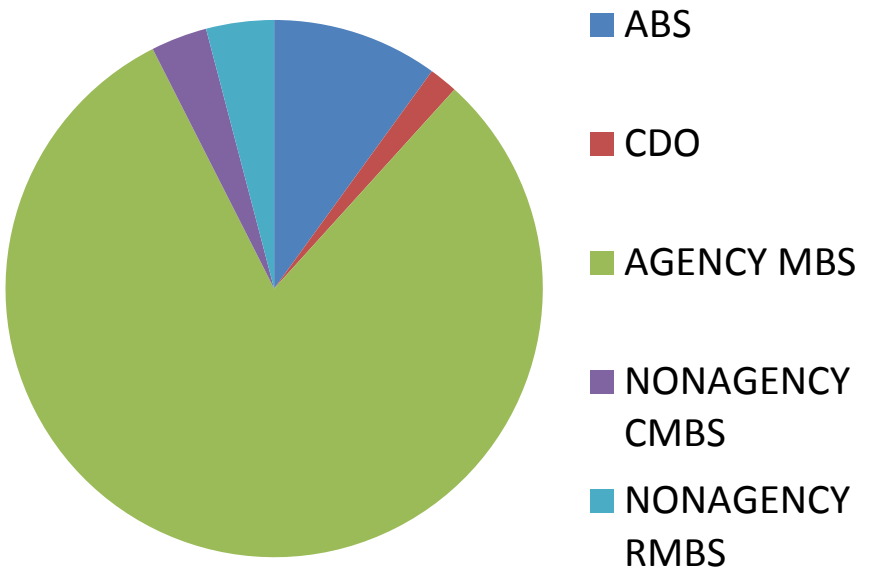
Market development



Sources: European Covered Bond Council,
Association for Financial Markets in Europe

Market development

US Issuance by Collateral
2016 Q1-Q3



EU Issuance by Collateral
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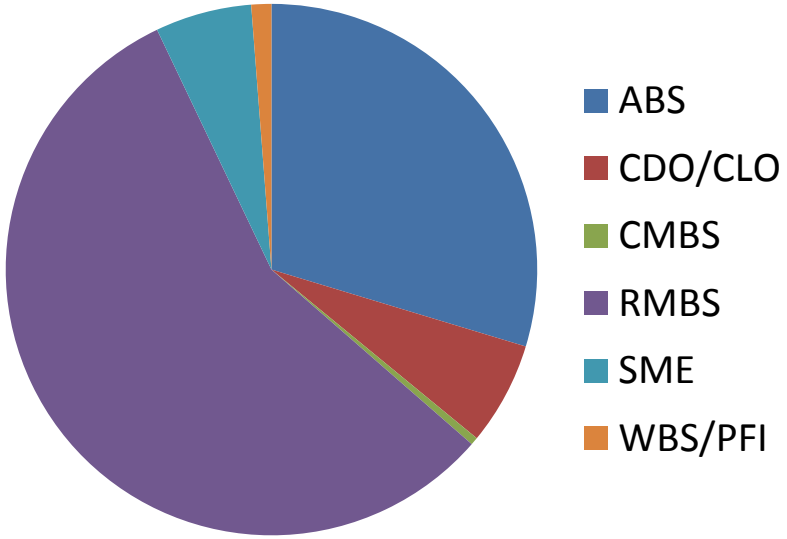
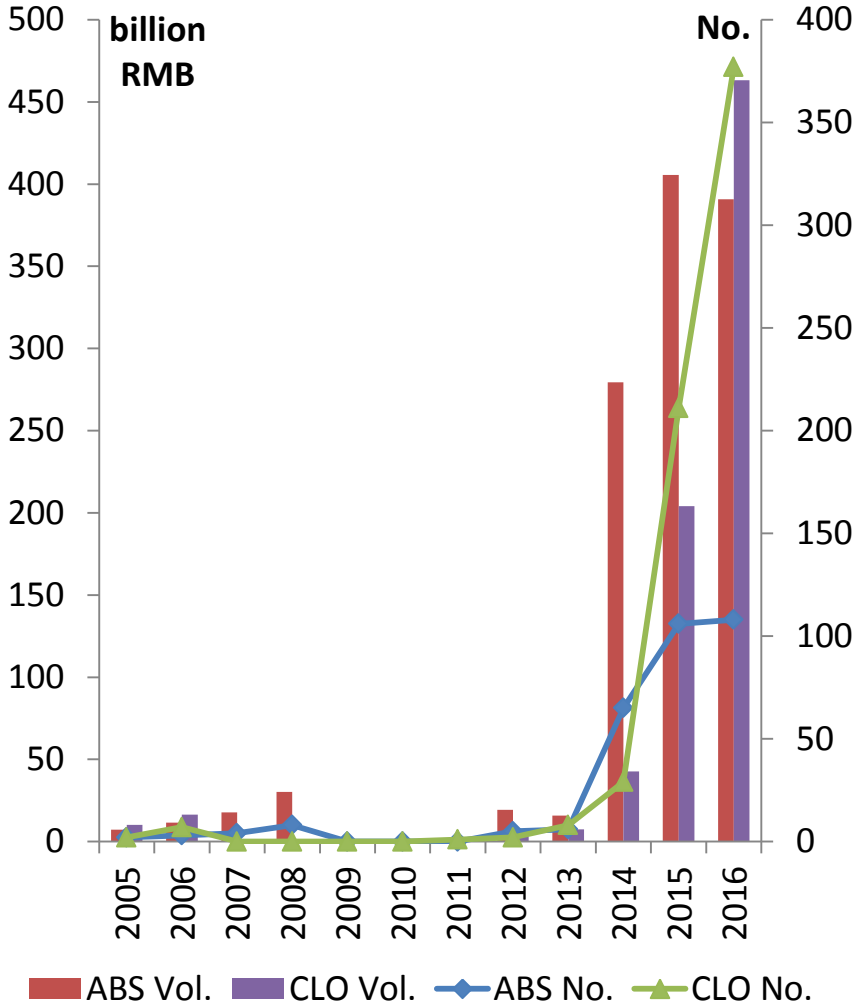


- 2016 Q1-Q3
  - US Total: **1212** billion EUR; EU Total: **172.2** billion EUR

Market development: China

- 2005 - Begin
- 2009 to 2011 - Suspend
  - Influenced by financial crisis
- 2012 to present - Grow exponentially

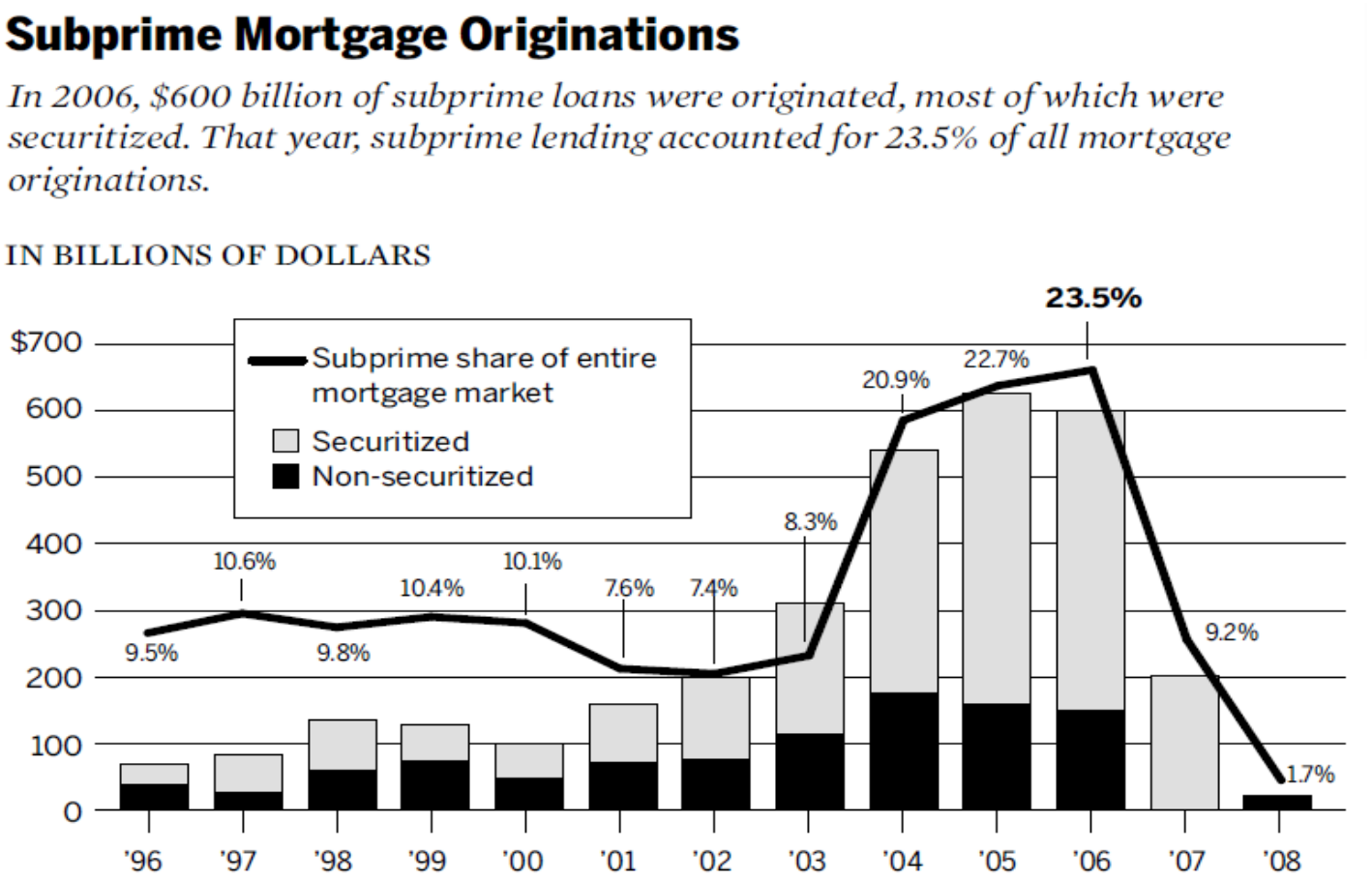


Source: Wind

Failure case

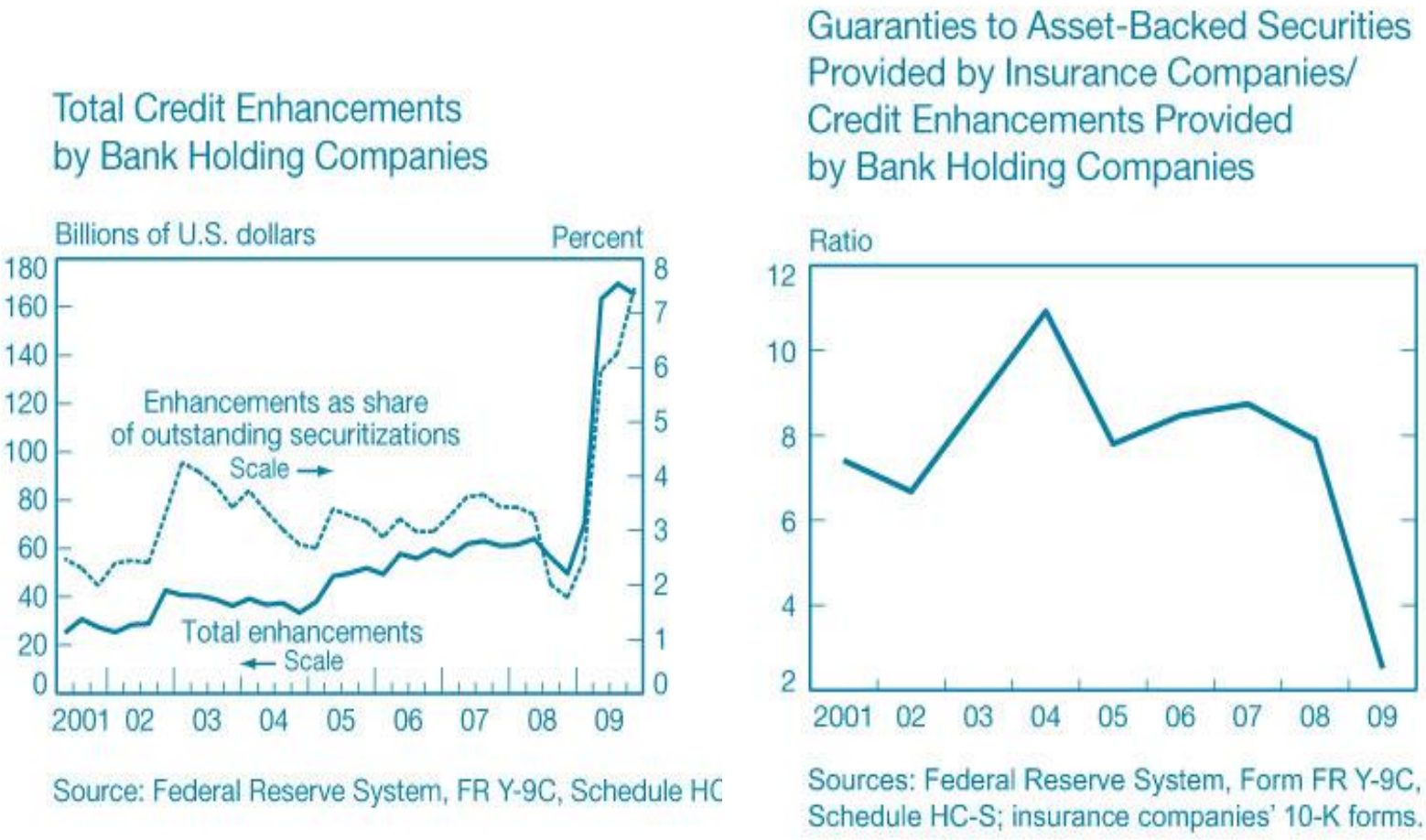
- US subprime crisis
  - Risk associated with securitization underestimated
  - Reputation risk

Failure case: US subprime crisis



Source: The Financial Crisis Inquiry Report

Failure case: US subprime crisis



Source: The Role of Bank Credit Enhancements in Securitization

Failure case: US subprime crisis

Panel A: Distribution of impairments

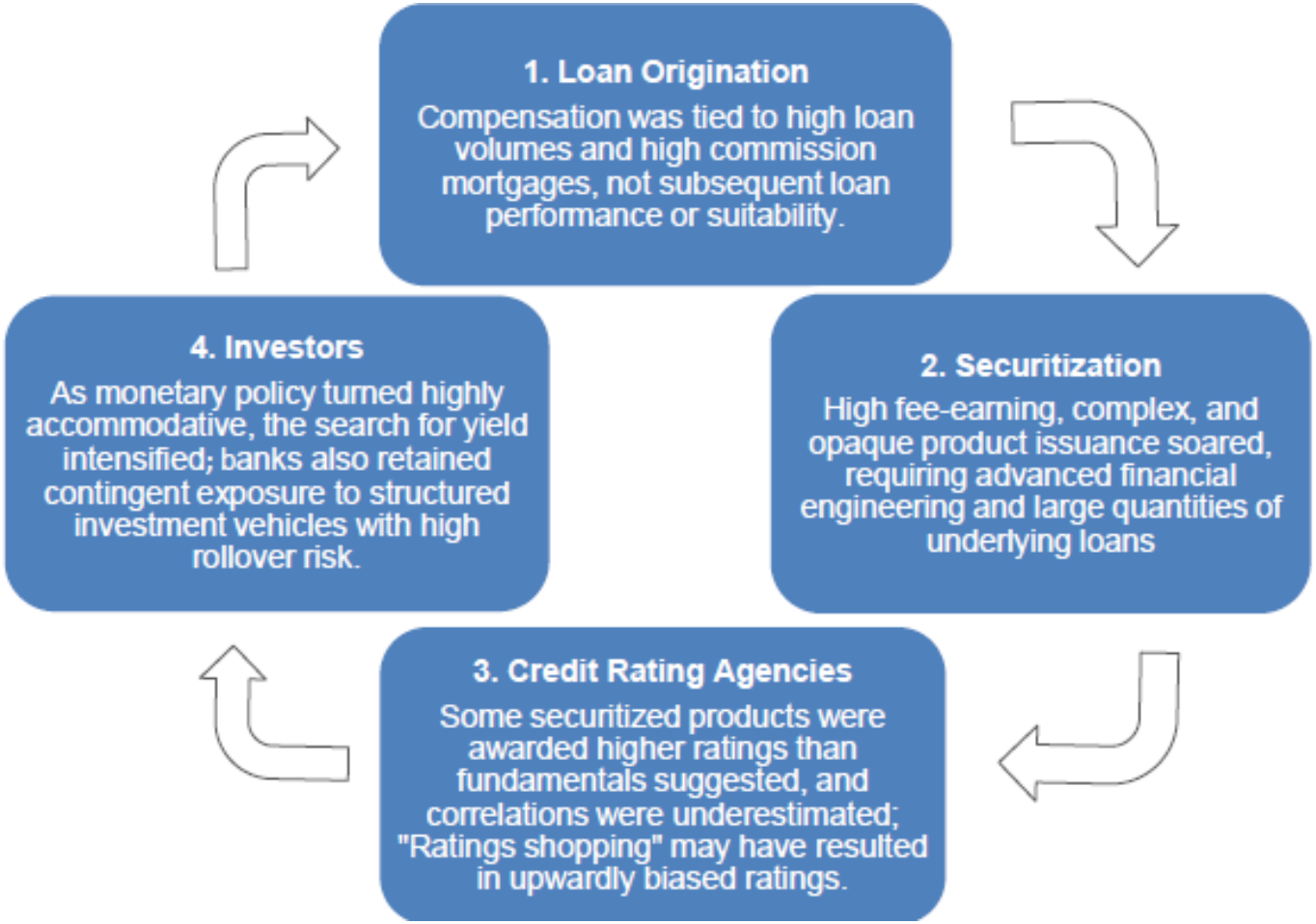
	2001	2002	2003	2004	2005	2006	2007	2008
ABS	29	107	96	137	18	32	27	31
CDO	52	111	47	49	23	17	209	2,073
RMBS	4	3	3	7	8	6	97	2,942
HEL	13	14	30	13	21	25	912	6,313
CMBS	5	17	23	19	20	22	9	95
Total	103	252	199	225	90	102	1,254	11,454
Imp. Rate	(0.63%)	(1.34%)	(0.93%)	(0.99%)	(0.32%)	(0.25%)	(2.17%)	(17.26%)
No of rated tranches	16,309	18,814	21,416	22,728	28,302	41,247	57,661	66,374

Panel B: Rating one year prior to default

	2001	2002	2003	2004	2005	2006	2007	2008
Aaa-A3	8	25	16	70	3	0	163	5,388
	(0.06%)	(0.16%)	(0.09%)	(0.40%)	(0.01%)	(0.00%)	(0.37%)	(10.68%)
Baa1-B3	91	221	170	126	71	54	1,057	5,969
	(3.76%)	(6.94%)	(4.13%)	(2.55%)	(1.10%)	(0.59%)	(8.20%)	(39.56%)
Caa1-C	4	6	13	29	16	48	34	97
	(12.50%)	(26.10%)	(23.14%)	(28.97%)	(13.06%)	(17.29%)	(16.74%)	(77.82%)

Source: The Path to Impairment: Do Credit Rating Agencies Anticipate Default Events of Structured Finance Transactions?

Failure case



Do we need securitization?

And if yes, which sort of securitization?

Basel II on securitization

Standardized banks

- The Standardized Approach (SA)

IRB banks

- The Ratings-Based Approach (RBA),
- The Supervisory Formula Approach (SFA) and
- The Internal Assessment Approach (IAA)

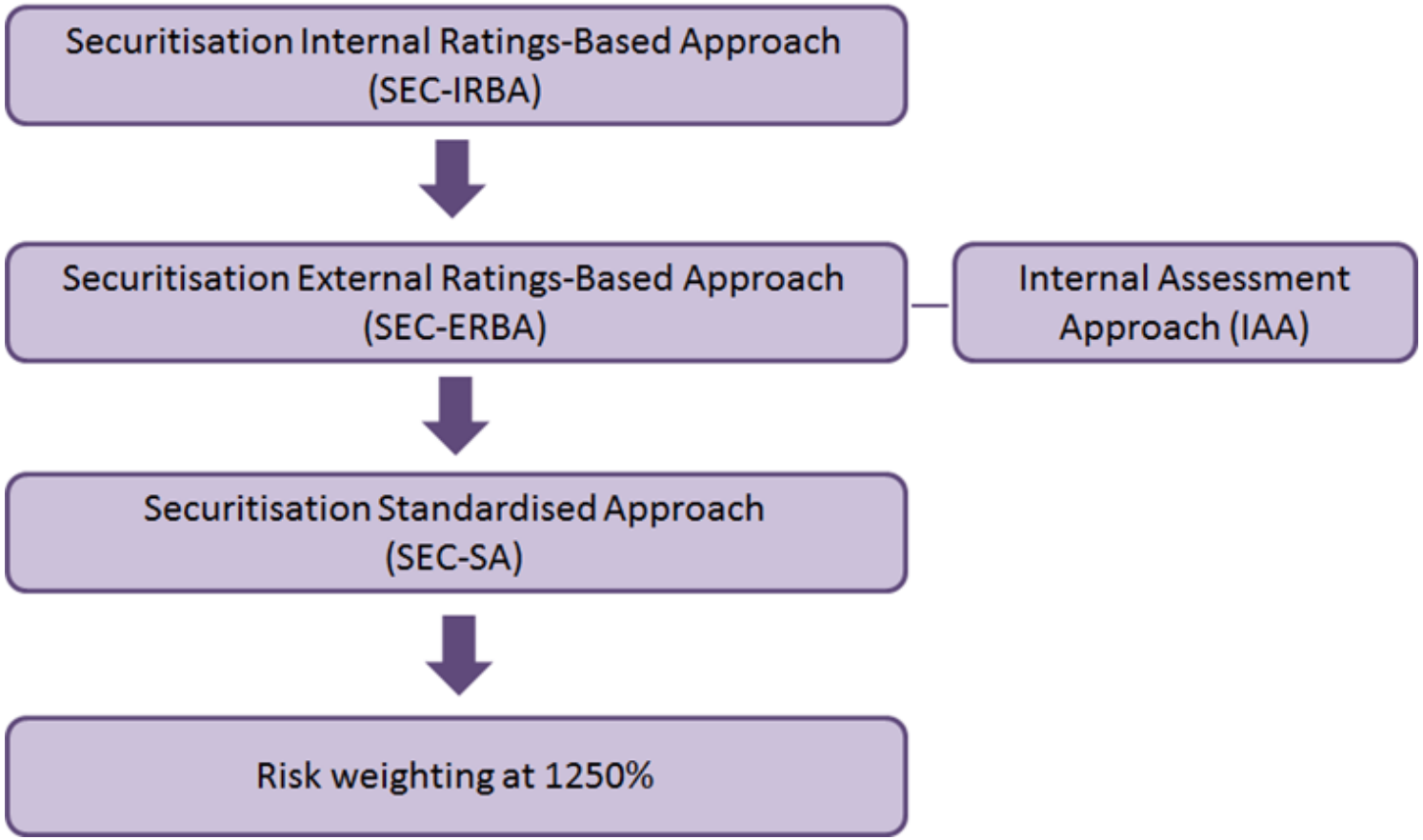
Weakness exposed, and Basel III

- Mechanical reliance on external ratings
- Insufficient risk sensitivity of the framework
  - Excessively low risk weights for highly rated securitization exposures, and vice versa
  - Cliff effects

Revised securitisation framework

- Published in December 2014, and further revised in July 2016
- Most significant revisions:
  - Reducing reliance on ratings
  - Enhanced risk sensitivity
  - Additional inputs to risk drivers

Revised securitisation framework: Hierarchy



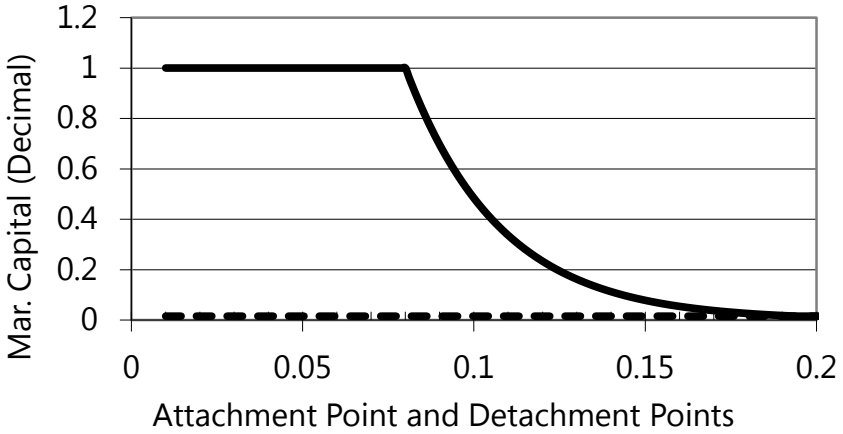
Revised securitisation framework: SEC-IRBA

Current SFA inputs + **Tranche maturity (M_T)**:

$RW^{IRBA}=f(K_{IRB}, A, D, p)$

where

$p=f(K_{IRB}, N, LGD, M_T)$



Supervisory parameter 'p' takes different value for:

Wholesale	Senior, Granular (N ≥ 25)
	Senior, Non-granular (N < 25)
	Non-senior, Granular (N ≥ 25)
	Non-senior, Non-granular (N < 25)
Retail	Senior
	Non-senior

Revised securitisation framework: SEC-ERBA

RW^{ERBA}=f (rating, seniority, **tranche maturity, thickness**)

Rating	Senior tranche		Non-senior (thin) tranche	
	Tranche maturity (M_T)		Tranche maturity (M_T)	
	1 year	5 years	1 year	5 years
AAA	15%	20%	15%	70%
AA+	15%	30%	15%	90%
AA	25%	40%	30%	120%
AA–	30%	45%	40%	140%
A+	40%	50%	60%	160%
A	50%	65%	80%	180%
A–	60%	70%	120%	210%
BBB+	75%	90%	170%	260%
BBB	90%	105%	220%	310%
BBB–	120%	140%	330%	420%
BB+	140%	160%	470%	580%
BB	160%	180%	620%	760%
BB–	200%	225%	750%	860%
B+	250%	280%	900%	950%
B	310%	340%	1050%	1050%
B–	380%	420%	1130%	1130%
CCC+/CCC/CCC–	460%	505%	1,250%	1,250%
Below CCC–	1,250%	1,250%	1,250%	1,250%

*For **non-senior**: RW= [RW from table after adjusting for maturity] * [1 – min(T; 50%)]*

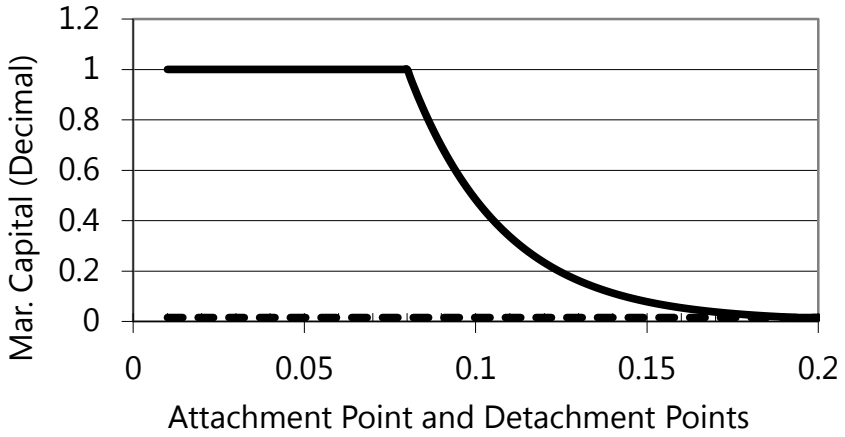
Revised securitisation framework: SEC-SA

$RW^{SA} = f(K_A, A, D, p)$

where

$K_A = (1-w)*K_{SA} + w*0.5$

w = % **delinquent assets** in the underlying pool



Securitisations:

- p=1

Resecuritisations:

- p=1.5
- w=0 for securitised exposure in the pool

Revised securitization framework

- S.T.C. products
  - Products meeting the S.T.C requirements will be subject to a reduced capital charge

Thoughts: have the problems been resolved?

- Risks at individual level being measured in a more risk-sensitive manner

- More would be needed to reflect the systemic risk associated with securitization

- Thank you!