2012 Appraisal Institute Annual Meeting

Aug. 1–3
Loews Coronado Bay Hotel
San Diego, CA

appraisalinstitute.org/aiconnect
Introduction

- According to Trepp data, the U.S. CMBS delinquency rate (30 days) rose to 10.16% in June, and has risen 79 basis points in four consecutive months of increases since February.
- With more than $200 billion loans originated in 2007 that come due this year, $76 billion worth of loans are in, or near, default.
- As of 4th Qtr. 2011 of $252,532,300,000 in Eurozone covered bond (Pfandbrief) pool only $354,300,000 were 90 days past due . . . That’s 0.14%!

Luck? Skill? ….or maybe Structure
The Quiet Giant: Explaining the Stability of Europe's Largest Real Estate Market

Presented by:

- Stephen D. Roach, MAI, SRA - Moderator
  President, Jones, Roach & Caringella, Inc.
- Wolfgang Kälberer
  Head of EU Affairs, Association of German Pfandbrief Banks (vdp)
- Reiner Lux
  President and CEO, HypZert GmbH
- Wayne A. Nygard, MAI
  Principal, NeuBridge LLC
Panel Agenda

1. Stability Drivers of the German Property Market
2. Real Estate Finance & Valuation under the Basel Accords
3. The Value at Risk Approach
4. The Solution for the German Financial Industry - HypZert
5. Mortgage Lending Valuation in the USA - the Previous Cycle
1. Stability Drivers of the German Property Market

- Long term mortgage financing (approx. 30 to 33 years)
- Fixed rate mortgages (10 – 15 years fixed)
- Conservative lending policy, borrowers are requested to invest 20-30% of equity
- No subprime lending
- Conservative property valuation
- Low home ownership ratio (approx. 45%), i.e. well performing and affordable rental market
- Conservative consumer behavior – Property is a “once in a lifetime“ investment (low consumer mobility). No equity release mortgages
- Well diversified regional mortgage markets (no market concentrations)
- Appropriate fiscal environment – low level of tax incentives
vdp* Price Index for Houses in Germany

* Verband Deutscher Pfandbriefbanken (Ass’n of German Pfandbrief Banks)
House & Apt. prices selected countries (Y 2000 = 100)

sources: vdpResearch, national statistics, BIS
Office Market Germany: Capital Value

Source: vdpResearch
8/1/2012
Office Market Germany – Rents & Capital Values

Source: vdpResearch
Comparison Rents & Capital Values for Office Buildings in Germany and the US

Source: vdpResearch

Source: TW – CBRE EA; RCA
The German Loan Default Experience in Germany 2008-2011

- Loans for commercial real estate funded by mortgage Pfandbriefe (within 60% LTV) perform well
- Percentage of loans in default remains clearly under 1%

Source: vdp
The German Loan Default Experience in the U.S.A. 2008-2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Loans (in Mill. €)</th>
<th>Loans 90 days in default (in Mill. €)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>6,449.6</td>
<td>2.8 (0.04%)</td>
</tr>
<tr>
<td>2010</td>
<td>6,893.8</td>
<td>3.1 (0.04%)</td>
</tr>
<tr>
<td>2009</td>
<td>5,848.2</td>
<td>-</td>
</tr>
<tr>
<td>2008</td>
<td>4,668.7</td>
<td>-</td>
</tr>
</tbody>
</table>

- German commercial real estate loans in the U.S.A. perform very well
- No losses in 2008 and 2009

Source: vdp
The Loan Default Experience in the U.S.A. 2005-2012

- Commercial real estate loans:
- Charge-off rate (removed from books) peaks in 2009 and 2010 at 2.3%
- Delinquency rate (past due 30 days or more) peaks in 2010 at 8.5%

Source: Federal Reserve System
The Basel Accords (I, II & III)

- Establish a harmonized capital framework for internationally active banks and to put banks on the same footing
- Ensure that banks use the same “yard stick” (depending on sophistication level) to measure the level of capital relative to risk
- Ensure that the level of capital is adequate relative to the amount of risk to which the bank exposes itself through its lending and investment practices.
- Theoretically, this means that the greater risk to which the bank is exposed, the greater amount of capital the bank will hold to safeguard its solvency and overall economic stability.
- "Basel III proposals, must be fully implemented through national regulations by the end of 2012. The United States is committed to meeting these deadlines." (September 22, 2010 - Treasury Secretary Timothy F. Geithner, Written Testimony House Financial Services Committee)
2. Real Estate Finance & Valuation under the Basel Accords

Distinct treatment of residential and Commercial Real Estate (CRE) mortgages. Within CRE, additional distinctions between income producing real estate (IPRE) and high volatility commercial real estate (HVCRE) (i.e. construction loans)

<table>
<thead>
<tr>
<th>Comparison of approaches</th>
<th>Basel I</th>
<th>Basel II</th>
<th>Basel III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Mortgage</td>
<td>50% Risk Weight (&quot;RW&quot;)</td>
<td>• RW based on internal Probability of Default (&quot;PD&quot;) / Loss Given Default (&quot;LGD&quot;) estimates</td>
<td>RW approach is same, but requires more rigorous stress testing</td>
</tr>
<tr>
<td>Commercial Real Estate (CRE) Mortgages</td>
<td>100% Risk Weight (&quot;RW&quot;)</td>
<td>• Valuation directly impacts the capital calculation, as PD / LGD parameters depend on LTV</td>
<td></td>
</tr>
<tr>
<td>Impact on Valuation</td>
<td>• Basel I calculation doesn't directly depend on valuation; (except that, for fair value exposures i.e. fair value option, AFS portfolios), valuation is needed to calculate the exposure amount</td>
<td>• Generally, requires current value of the property, less certain adjustments</td>
<td>Additionally, requires estimation of projected valuation under downturn scenarios</td>
</tr>
<tr>
<td></td>
<td>• Additional supervisory requirements around valuation</td>
<td>• For HVCRE, needs the estimation of projected value, upon completion of construction</td>
<td></td>
</tr>
</tbody>
</table>

8/1/2012
The Basel Capital Allocation Formula

\[
\frac{\text{Total regulatory capital}}{\text{Risk weighted assets}} = 8\% 
\]

Corporate Loan: 1 M $

Regulatory capital: 80,000 $
\[
\frac{80,000}{100\% \text{ risk weight}} = 8\% 
\]

Residential Mortgage Loan: 1 M $

Regulatory capital 28,000 $
\[
\frac{28,000}{35\% \text{ risk weight}} = 8\% 
\]

Standardized Approach: risk weights provided by law (Basel framework)

Internal Ratings Based Approach: risk weights based on EAD, PD, LGD, M
Basel II: Mortgage Collateral as Credit Risk Mitigation Tool

- **Standardized Approach:**
  - Claims secured by residential property: 35% (instead of 75%) risk weight based on strict prudential criteria:
    - the value of the property exceeds the claim by a substantial margin
    - strict valuation rules
  - Claims secured by commercial real estate: 100% risk weight in principle
    - Exceptionally: 50% risk weight for the tranche of the loan that does not exceed 50% of the market value or 60% of the mortgage lending value of the property & additional circumstances (stable markets, low loss rates etc.)
- **Internal Ratings Based Approach (IRBA):**
  - Real estate is eligible for recognition as collateral if a certain number of requirements are met, thereof the assessment of the objective market value of the collateral
  - Recognition of real estate collateral through lower LGDs: 35% (instead of 45%)
  - Advanced IRBA: banks’ own LGD measurement offer another significant leverage driving LGDs down to approx. 20% (LGD Grading)
Basel II Provisions on Property Valuation

- **Objective market value of the property:**
  - the property must be valued at or less than the current fair value under which the property could be sold under private contract between a willing seller and an arm’s-length buyer on the date of valuation

- **Monitoring and revaluation:**
  - the bank is expected to monitor the value of the collateral on a frequent basis and at a minimum once every year. More frequent monitoring is suggested where the market is subject to significant changes in conditions (statistical methods, e.g. house price indices may be used). A qualified professional must evaluate the property when information indicates that the value of the collateral may have declined materially relative to general market prices or when a credit event, such as default, occurs.
3. The Value-at-Risk Approach

Risk Management

Asset side
Capital allocation to the mortgage portfolio

Liability side:
Funding of the mortgage portfolio (Covered Bond)

Risk-sensitive property valuation
## Covered Bond vs. MBS (Mortgage Backed Security)

<table>
<thead>
<tr>
<th>Covered Bond (Pfandbrief)</th>
<th>ABS/MBS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>issuer of bonds</strong></td>
<td>licensed credit institution =&gt; bank debt collateralized by registered cover assets</td>
</tr>
<tr>
<td><strong>key features</strong></td>
<td>- cover assets remain on balance, - product is standardized by law =&gt; highly homogenous, simple and transparent</td>
</tr>
<tr>
<td><strong>eligibility criteria</strong></td>
<td>strict legal requirements (asset class restrictions, LTV limits, conservative valuation of cover assets)</td>
</tr>
<tr>
<td><strong>regulation of issuers and issues</strong></td>
<td>general and special supervision by national supervisory authorities (GER: BaFin and Bundesbank)</td>
</tr>
<tr>
<td><strong>liquidity of bonds</strong></td>
<td>provided by market making system and issuers</td>
</tr>
<tr>
<td><strong>access to funds</strong></td>
<td>rate product =&gt; reliable access to funds at low cost</td>
</tr>
</tbody>
</table>

8/1/2012
Transposition of Basel II into European Law

- Value-at-risk concerns motivated the European legislator to introduce – in addition to market value – a mortgage lending value based approach:
  - ‘Mortgage lending value’ means the value of the property as determined by a prudent assessment of the future marketability of the property taking into account long-term sustainable aspects of the property, the normal and local market conditions, the current use and alternative appropriate uses of the property. Speculative elements shall not be taken into account in the assessment of the mortgage lending value. The mortgage lending value shall be documented in a transparent and clear manner.

- Qualification requirements for valuers:
  - Valuers must be independent. This means a person who possesses the necessary qualifications, ability and experience to execute a valuation and who is independent from the credit decision process.
Principles of Mortgage Lending Value

- **Net rental income**
  - The income stream of the property should be no more than the sustainable net rental income that the type of property usually produces over time in the specific local market on the basis of a judgment of past and current long-term market trends, excluding any actual over-rent and other extraordinary cash flows.

- **Operational cost**
  - Deduction from the net rental income of all operational and administrative cost, allowances for obsolescence, reinvestment, annual maintenance, vacancy risk, tenant default risk and further risks to the rent.

- **Capitalization rate**
  - The application of the capitalization rate must reflect long term market trends and exclude all short term expectations regarding the return on investment of the property. The assessment shall include the sustainably income producing capacity of the property, multi-purpose or appropriate alternative uses as well as the future marketability of the property.

- **Mortgage Lending Value applies throughout the life of the loan**
Sustainable rent maximum on market rent level – depends on cycle situation, history and future perspective.

8/1/2012
### Market Value vs. Mortgage Lending Value

#### Income Value Method - Market Value

<table>
<thead>
<tr>
<th>Description</th>
<th>Calculation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rental Income</td>
<td>1,779 sq.ft. x $18.50 per sq.ft. x 12 months = rental income per year</td>
<td>$394,938</td>
</tr>
<tr>
<td>Equivalent Yield</td>
<td>7.00%</td>
<td></td>
</tr>
<tr>
<td>Multiplier</td>
<td>14.29 PV factor into perpetuity</td>
<td>5,643,664</td>
</tr>
<tr>
<td>Income Value</td>
<td>394,938 x 14.3 =</td>
<td></td>
</tr>
<tr>
<td>Less: additional purchase costs @ 5.75%</td>
<td></td>
<td>324,511</td>
</tr>
<tr>
<td>Market Value (rounded)</td>
<td></td>
<td>$5,320,000</td>
</tr>
</tbody>
</table>

#### Income Value Method - Mortgage Lending Value

<table>
<thead>
<tr>
<th>Description</th>
<th>Calculation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Gross Income based on the incoming rent</td>
<td>1,779 sq.ft. x $17.00 per sq.ft. x 12 months = rental income per year</td>
<td>$362,916</td>
</tr>
<tr>
<td>Less operating costs (individual evidence)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>Risk of rent loss</td>
<td>3.0%</td>
<td></td>
</tr>
<tr>
<td>Maintenance / Revitalization</td>
<td>5.0%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9.0%</td>
<td></td>
</tr>
<tr>
<td>Minimum estimate</td>
<td>15.0%</td>
<td></td>
</tr>
<tr>
<td>Less: Ttl. Exp. based on minimum estimate</td>
<td></td>
<td>54,437</td>
</tr>
<tr>
<td>Total annual net income</td>
<td></td>
<td>308,479</td>
</tr>
<tr>
<td>Less: income attributable to the land</td>
<td>950,000 x 6.50% =</td>
<td>61,750</td>
</tr>
<tr>
<td>Building income</td>
<td></td>
<td>246,729</td>
</tr>
<tr>
<td>Present Value of Building calculation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remaining Economic Life</td>
<td>60 years</td>
<td></td>
</tr>
<tr>
<td>Property capitalization rate</td>
<td>6.50%</td>
<td></td>
</tr>
<tr>
<td>Multiplier (PV factor)</td>
<td>15.03</td>
<td></td>
</tr>
<tr>
<td>Present Value of Building</td>
<td>3,709,063</td>
<td></td>
</tr>
<tr>
<td>Plus Land Value</td>
<td>950,000</td>
<td></td>
</tr>
<tr>
<td>Total Property Value</td>
<td>4,659,063</td>
<td></td>
</tr>
<tr>
<td>Less: additional purchase costs @ 5.75%</td>
<td></td>
<td>267,896</td>
</tr>
<tr>
<td>Mortgage Lending Value (rounded)</td>
<td></td>
<td>$4,390,000</td>
</tr>
</tbody>
</table>

*Ertragswert vs. Beleihungswert*
Conservative valuation of real estate

- Assessment of the Mortgage Lending Value on the basis of detailed statutory & regulatory criteria
- Based on sustainable features of the property
- Market Value is the upper limit (ceiling) for the Mortgage Lending Value
- ‘Event related review’ of the Mortgage Lending Value
- Mortgages are eligible as cover assets for Covered Bonds only up to 60% of the Mortgage Lending Value
Spread Tables Funding Instruments (vs. Mid Swaps)
Basel Accords - Summary

• Value-at-risk aspects of property valuation progressively materialized with the Basel rules since the late 1980s – and this applies to both asset & liability sides of banks’ balance sheets:
  • Lower risk weights: under the Basel framework, property valuation is now a prerequisite for mortgage lenders to get access to lower risk weights
  • Lower funding costs: investor protection requires legislators to introduce solid and prudent valuation rules when the safety of the funding instrument is based on the value of the underlying properties
• Property valuation is more and more recognized as an important risk management tool for the measurement of the risk sensitivity of real estate finance.
LGD: Background & Point of Departure

Basel II

Pillar I
Minimum capital requirements

- Modified standard approach
  - Risk weighting 0%, 50%, 100%, 150%
  - Allocation based on external ratings
  - Rating gap in Germany

Foundation approach

- PD: Probability of Default
  - Estimate by institution
  - Credit rating

- LGD: Loss-Given-Default
  - Regulatory standard value

- EAD: Exposure at Default
  - Regulatory standard value

- M: Maturity
  - Mark-up or deduction factor

Pillar II

Internal rating approach
- Basic values for the determination of risk weighting PD, LGD, EAD, M

Advanced Approach

- PD: Probability of Default
  - Estimate by institution
  - Credit rating

- LGD: Loss-Given-Default
  - Grading

- EAD: Exposure at Default
  - Repayment scheme

- M: Maturity
  - Mark-up or deduction factor

8/1/2012
**Calculation Example of the LGD at Settlement**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Recovery rates</th>
<th>Duration of collateral execution</th>
<th>Allocation of costs</th>
<th>%LGD_A = LGD_A/EAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of claims in the event of default</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proceeds from furnished collaterals, guarantees and insolvent estate</td>
<td></td>
<td>Interest costs</td>
<td>Settlement costs</td>
<td></td>
</tr>
<tr>
<td>Non-serviced claims</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery after interest and settlement costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
...for Example

### LGD calculation for the following year:

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claim at default*</td>
<td>900 (+)</td>
</tr>
<tr>
<td>Market value of the asset today</td>
<td>1.200</td>
</tr>
<tr>
<td>× Market value prognosis (flat, Munich)</td>
<td>106 %</td>
</tr>
<tr>
<td>= Forecasted market value</td>
<td>1.272</td>
</tr>
<tr>
<td>mortgage lending value (B)</td>
<td>1.157</td>
</tr>
<tr>
<td>= Expected market value ** = B + k (PM-B)</td>
<td>1.215</td>
</tr>
<tr>
<td>× Recovery rate (flat, metro area, high purchasing power)</td>
<td>59 %</td>
</tr>
<tr>
<td>= Proceeds from asset</td>
<td>717 (-)</td>
</tr>
<tr>
<td>Settlement costs and calculated interest costs</td>
<td>89 (+)</td>
</tr>
<tr>
<td>Loss = Claims – proceeds + costs</td>
<td>272 (=)</td>
</tr>
</tbody>
</table>

- **LGD** at settlement = Loss / Claim at default = 272/900 = 30 %
- **LGD** = Settlement rate × **LGD** at settlement + composition rate × **LGD** at composition
- **LGD** = 65 % × 30 % + 5 % × 16 %
- **LGD** = 20 %

* Nominal capital + Interest + (if any) costs
** k = 50 % (illustrative)
## 4. The Solution for the German Financial Industry: HypZert GmbH

<table>
<thead>
<tr>
<th>Association</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BVR</td>
<td>Federal Association of German „Volksbanken und Raiffeisenbanken“ Co-operative Banks</td>
</tr>
<tr>
<td>bankenverband</td>
<td>Federal Association of German Banks</td>
</tr>
<tr>
<td>VöB</td>
<td>The Association of German Public Banks</td>
</tr>
<tr>
<td>Finanzgruppe Deutscher Sparkassen- und Giroverband</td>
<td>Saving Banks Finance Group</td>
</tr>
<tr>
<td>vdp</td>
<td>The Association of Pfandbrief Banks</td>
</tr>
<tr>
<td>Association of Private Building Societies</td>
<td></td>
</tr>
</tbody>
</table>
HypZert Certifications

CIS HypZert (M)
Real Estate Valuer for Market Value Analysis
Market Value Analysis (international)

Delta Exam to gain CIS HypZert (M)
Focus on International Methods and Markets

CIS HypZert (F)
Real Estate Valuer for Financial Purposes
Market and Mortgage Lending Valuation for Standard and Special Use Properties

CIS HypZert (MLV)
Real Estate Valuer for Mortgage Lending Valuation
Mortgage Lending Valuation for Properties outside of Germany

Delta Exam to gain CIS HypZert (F)
Focus on Special Use Properties/Complex Commercial Properties

CIS HypZert (S)
Real Estate Valuer for Standard Properties
Market and Mortgage Lending Valuation for Standard Properties

Real Estate Valuers of other accredited certification bodies, members of RICS or Appraisal Institute to gain CIS HypZert (F)
Focus on Mortgage Lending Valuation

8/1/2012
HypZert Admissions, Certification & Re-Certification Procedure

1. Application
2. Admission Procedure
3. Certification Examination
4. Issue of the Certificate (valid for five years)
5. Monitoring the Certificate holder (during period of validity)
6. Recertification (before validity expires)
Admission Requirements for CIS HypZert (F)

University graduates
- Completed studies at university, e.g.: architecture, law, economics, business administration, etc.
- At least 5 years of professional practice in real estate business
- At least 3 years of professional practice in real estate valuation

Practitioners
- At least 8 years of professional practice in real estate business
- At least 5 years of professional practice in real estate valuation
# Structure and Process of Exams - CIS HypZert (F)

## I. Written Exam

<table>
<thead>
<tr>
<th>Part I:</th>
<th>Part II:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drafting of two valuations, one market value and one mortgage lending value appraisal</td>
<td>Plausibility check of an incorrect mortgage lending value appraisal with high degree of difficulty</td>
</tr>
<tr>
<td>duration of exam: 2 hours 15 minutes</td>
<td>duration of exam: 1 hour</td>
</tr>
</tbody>
</table>

## II. Oral Exam

After written exam is passed, an oral exam with questions from the examination list takes place

duration: 30 min. per candidate
Re-Certification

- Every 5 years
- Precondition for participation – Positive assessment of the certificate holder during the ongoing monitoring process
- Expert interview – 30 minutes, including a short presentation of one the appraisals submitted during the ongoing monitoring process
Cooperation with the Appraisal Institute

- Cross approval Appraisal Institute and HypZert
- Seminars and lectures in the other partner country relating to the property market in the U.S. or in Germany
- Exchange of information, data and results of the research
- Creation of international standards and cooperation with organizations such as WAVO, IVSC and TEGoVA
- Proctoring Comprehensive Exam in Germany
CERTIFICATE

THE EUROPEAN GROUP OF VALUERS’ ASSOCIATIONS (TEGoVA)

and

VERBAND DEUTSCHER PFANDBRIEFBANKEN e.V. (vdp)

and

BUNDESVERBAND ÖFFENTLICHER BANKEN DEUTSCHLANDS e.V. (VÖB)

 certify that the person named below, having met all the requirements stipulated in the Recognition Document, is admitted to use the title of

Recognised European Valuer and the designatory letters REV

Marcus Braun REV

RECOGNISED EUROPEAN VALUER

Certificate Registration Number: REV-Dvdp-VÖB-HypZert/2016/1

Issued on: 01/12/2016

Valid until: 30/11/2018

signature

Roger Messenger
Chairman
TEGoVA

signature

Reiner Lux
Managing Director
Hypzert

This Certificate is held subject to its renewal on 1 December 2018 and in compliance with the Recognised European Valuer Recognition Document to which the above associations are party:

. Verband Deutscher Pfandbriefbanken e.V. (vdp).
. Georgenstrasse 12, D-10117 Berlin, Germany.
. Bundesverband Öffentlicher Banken Deutschlands e.V. (VÖB).
. Lenninstrasse, D-10587 Berlin, Germany.
5. Mortgage Lending Value in the U.S. - The Previous Cycle

- Commercial Real Estate loan syndications
  - Worked well with stabilized properties
- Capital stack
  - the most risk at the top, traveling down the stack to the position with the least risk. Highest position is first loss.

- Benefit of participations with Pfandbrief Banks
  - Lower weighted average cost of capital
## Benefits of Pfandbrief Financing

<table>
<thead>
<tr>
<th>Capital Stack</th>
<th>% Ttl</th>
<th>% Loan</th>
<th>Cost of Funds</th>
<th>Cost of Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior A-Note</td>
<td>$22,500,000</td>
<td>52.6%</td>
<td>69.9%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Subordinate B-Note</td>
<td>9,700,000</td>
<td>22.7%</td>
<td>30.1%</td>
<td>4.5%</td>
</tr>
<tr>
<td><strong>Total Loan Amount</strong></td>
<td><strong>$32,200,000</strong></td>
<td><strong>75.2%</strong></td>
<td><strong>LTV</strong></td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td>10,600,000</td>
<td>24.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td><strong>$42,800,000</strong></td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the $22.5mm to qualify for inclusion in a Pfandbrief pool, the mortgage lending value would need to be at least $37,500,000 (60% LTV) which would mean the market value would likely be in the $47-$54mm range - this assuming the B-Note is fully subordinate.

<table>
<thead>
<tr>
<th>Loan Terms</th>
<th>with Pfandbrief</th>
<th>without Pfandbrief</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spread</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>Index: 3-yr. Treasury</td>
<td>4.2%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Interest rate</td>
<td>5.30%</td>
<td>5.30%</td>
</tr>
<tr>
<td>Less: Cost of funds</td>
<td>3.1%</td>
<td>4.5%</td>
</tr>
<tr>
<td><strong>Spread to the lender</strong></td>
<td><strong>2.20%</strong></td>
<td><strong>0.80%</strong></td>
</tr>
</tbody>
</table>
Expense parameters for the determination of the mortgage lending value for a commercial building in accordance with the Regulation on the Determination of the Mortgage Lending Value*:

- Management Costs – 1% to 3% of the annual net effective rent; includes all owner’s staff costs, office costs, legal, accounting, permits, bookkeeping, etc.
- Maintenance Costs - 0.4% to 1% of construction costs (lower limit: 9.00€/m²) for high quality commercial properties, e.g. costs > 2,000 €/m² (±$230/sf).
- Rent Loss Risk – 4.0% or more
- Modernization risk - 0.2% to 1.2% of construction costs
- Total expenses must be at least 15% of annual income

*Beleihungswertermittlungsverordnung - BelWertV
### Mortgage Lending Value Derived from Market Value

#### U.S. Market Value

<table>
<thead>
<tr>
<th>Description</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Rent</td>
<td>$4,875,000</td>
<td>$32.50</td>
</tr>
<tr>
<td>Vacancy &amp; Credit Loss @ 5%</td>
<td>243,750</td>
<td>1.63</td>
</tr>
<tr>
<td>Effective Gross Income</td>
<td>4,631,250</td>
<td>30.88</td>
</tr>
<tr>
<td>Operating Expenses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payroll</td>
<td>112,205</td>
<td>0.75</td>
</tr>
<tr>
<td>Cleaning</td>
<td>261,811</td>
<td>1.75</td>
</tr>
<tr>
<td>Utilities</td>
<td>299,212</td>
<td>1.99</td>
</tr>
<tr>
<td>Repairs &amp; Maint.</td>
<td>157,086</td>
<td>1.05</td>
</tr>
<tr>
<td>Management (2%)</td>
<td>89,764</td>
<td>0.60</td>
</tr>
<tr>
<td>R.E. Taxes</td>
<td>503,221</td>
<td>3.35</td>
</tr>
<tr>
<td>Insurance</td>
<td>149,606</td>
<td>1.00</td>
</tr>
<tr>
<td>Reserves</td>
<td>23,808</td>
<td>0.16</td>
</tr>
<tr>
<td>Total Op. Ex.</td>
<td>1,596,713</td>
<td>10.64</td>
</tr>
<tr>
<td>Net Operating Income</td>
<td>3,034,537</td>
<td>20.23</td>
</tr>
<tr>
<td>Capitalized at 6.0%</td>
<td>$50,600,000</td>
<td>$337.33</td>
</tr>
</tbody>
</table>

### Mortgage Lending Value

- **$4,350,000** Potential Gross Income (full service rent)
- **$1,335,031** Property Expenses (paid by tenant)
- **$3,014,969** Annual income (Net Equivalent Rent)
- **$30,150** Management Costs @ 1.0%
- **$172,500** Maintenance Costs @ $1.15/sf (10€/m²)
- **0.58% of Building Cost New**
- **$120,599** Risk of Rent Loss @ 4%
- **$60,000** Modernization Risk @ 0.2%
- **$383,248** Total annual expenses
- **12.7%** Operating Exp. Ratio - at least 15%
- **$452,245** Total annual expenses (BefWertV)
- **15.0%** Operating Exp. Ratio (MLV)
- **$2,562,724** Annual net income
- **$810,000** Less Income to the Land
- **$1,752,724** Building Income
- **$27,089,802** Value of Building (by Multiplier)
- **$13,500,000** Land Value
- **$40,589,802** Mortgage Lending Value
- **80%** MLV as % of Market Value

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8/1/2012
Covered Bonds gaining popularity though not issued by U.S. banks
- 6% of outstanding covered bonds are dollar-denominated
- To date in 2012, 14% were dollar-denominated, up from 1% in 2009
- as of June 30, 2012 the BNP Index weighted coupon average was 2.1% with average maturity of 3.56 years.
- A recent $500mm dollar-denominated covered bond by a German bank was oversubscribed at 1.35%

**H.R.940 - United States Covered Bond Act of 2011**
- To establish standards for covered bond programs and a covered bond regulatory oversight program, and for other purposes.
- In Committee since June 2011 – likely dead for now.
- Neither the words ‘appraisal’ nor ‘valuation’ appear in text
- [http://www.govtrack.us/congress/bills/112/hr940](http://www.govtrack.us/congress/bills/112/hr940)
Mortgage Lending Value in the U.S.?

- Investors demand a higher level of analysis
- Rating agency valuations
  - Fitch using a ‘Sustainable Home Price’ model to adjust a property’s current price to its sustainable value for RMBS ratings
  - sLTV - calculated based on the lower of appraisal value (effectively the original CLTV) and the value determined by Fitch’s SHP model
- Price vs. Fundamentals (App. Journal – Spring’11)
  - Mortgage Lending Value is based on a property’s sustainable fundamental value – it is not Market Value nor is used as such
  - As a counter-cyclical analysis, it assists a user in loan underwriting
  - Mortgage Lending Value expands the use of the appraisal
Mortgage Lending Value – Final Thoughts

- Time to Re-engineer the Appraisal?
  - Real estate is cyclical, market value reporting is also cyclical
  - Financing decisions based on market value can be long-term
  - Mortgage Lending Valuation as a counter-cyclical analysis has contributed to the stability of the German real estate market

Mortgage Lending Value is not Market Value

One is an apple, one is a tomato – they are both fruit but good judgment tells us not to put a tomato in fruit salad!
Contacts:

Stephen D. Roach, MAI, SRA
  Jones, Roach & Caringella, Inc.
  Telephone (858) 565-2400
  steve@jrcvaluation.com

Wolfgang Kälberer
  Association of German Pfandbrief banks (vdp), Brussels office
  Telephone +32 2 732 4638
  kaelberer@pfandbrief.de
  www.pfandbrief.org

Reiner Lux
  HypZert GmbH
  Telephone +49 30 20 62 29 10
  lux@hypzert.de
  www.hypzert.com

Wayne A. Nygard, MAI, CIS
  HypZert (MLV)
  NeuBridge LLC
  Telephone 973 584 8741
  wnygard@neubridgellc.com