RELIABLE CONTINUITY IN TIMES OF UNCERTAINTY

Morgan Stanley "European Financials Conference 2012 – Creating Value in a Deleveraging Environment"

London, 29 March 2012

Jörg Schneider
In 2011 Munich Re coped well with historically high nat cat claims and severe capital market disruption …

10-year German Bund yield
-113 bps

Credit spreads
+145 bps

EURO STOXX 50
-17%

Natural catastrophes – Economic losses of US$ 380bn, thereof US$ 105bn insured

Severe weather, tornados
USA, 20–27 May / 22–28 April

Wildfires
Canada, 14–22 May

Floods
USA, April–May

Hurricane Irene
USA, Caribbean 22 Aug.–2 Sep.

Earthquake, tsunami
Japan, 11 March

Floods
Thailand, Aug.–Nov.

Floods, flash floods

Earthquakes
New Zealand, 22 Feb. / 13 June

In a year of extremes, Munich Re achieved an annual result of €712m and maintained a stable dividend of €6.25 per share

1 Change between 31.12.2010 and 31.12.2011. 2 IBOXX EURO Corporate vs. BofAML German Government 7–10 years. 3 Source: Geo Risks Research, NatCatSERVICE.
Munich Re highlights

... while Munich Re's long-term shareholder return remains attractive

### Years of volatile macroeconomic environment

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>Subprime crisis</td>
</tr>
<tr>
<td>2008</td>
<td>Credit crisis</td>
</tr>
<tr>
<td>2009</td>
<td>Global recession</td>
</tr>
<tr>
<td>2010/2011</td>
<td>Sovereign crisis</td>
</tr>
<tr>
<td></td>
<td>Ongoing uncertainty</td>
</tr>
</tbody>
</table>

### Impact

- Austerity measures and quantitative easing leading to ongoing low interest rates while macroeconomic uncertainty remains
- **Earnings pressure**
  - Gradual reduction of investment income
- **Higher volatility**
  - Returns becoming less predictable

### Risk/return profile

<table>
<thead>
<tr>
<th>Total shareholder return (p.a.)</th>
<th>Volatility of total shareholder return (p.a.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Munich RE</td>
<td>Peer 1</td>
</tr>
<tr>
<td>Peer 2</td>
<td>Peer 3</td>
</tr>
<tr>
<td>Peer 4</td>
<td>Peer 5</td>
</tr>
<tr>
<td>Peer 6</td>
<td></td>
</tr>
</tbody>
</table>

### Munich Re focusing on liability side as main source of value creation

### Stringent risk management and high level of portfolio diversification – in core insurance business and investments

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1 Annualised total shareholder return defined as price performance plus dividend yield over the period from 1.1.2005 until 21.3.2012; based on Datastream total return indices in local currency; volatility calculation with 250 trading days per year. Peers: Allianz, Axa, Generali, Hannover Re, Swiss Re, Zurich Financial Services.
Munich Re highlights

Key achievements in 2011 remain building blocks of Munich Re's future development

<table>
<thead>
<tr>
<th>Key achievements in 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Disciplined asset-liability management</td>
</tr>
<tr>
<td>Investment and duration management mitigate capital market disruption</td>
</tr>
<tr>
<td>2 Deeply-embedded risk management</td>
</tr>
<tr>
<td>Continuity in terms of risk profile - cycle management at work</td>
</tr>
<tr>
<td>3 Sound capital base</td>
</tr>
<tr>
<td>Economic solvency ratio resilient to withstand another extreme year</td>
</tr>
<tr>
<td>4 Well-balanced business portfolio</td>
</tr>
<tr>
<td>Complementary profiles with relatively low gearing to the economic cycle</td>
</tr>
</tbody>
</table>

Munich Re well-set for a deleveraging environment
Disciplined asset-liability management

Prudent investment approach

Unrealised gains\(^1\)  \(\%\)

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>3.1</td>
<td>4.3</td>
<td>3.8</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Asset gearing\(^2\)  \(\%\)

- "Safe haven" gov. bonds: 191%
- Bank bonds: 28%
- Structured credit: 27%
- "PIIGS" gov. bonds: 25%
- Net equities: 18%

Interest rate sensitivity (DV01)\(^4\)  \(€m\)

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinsurance</td>
<td>-9.5</td>
</tr>
<tr>
<td>Primary insurance</td>
<td>21.2</td>
</tr>
<tr>
<td>Munich Re (Group)</td>
<td>11.7</td>
</tr>
</tbody>
</table>

Well-balanced investment portfolio safeguarding low capital market gearing of shareholders' equity

- Limited risky asset exposure
- Overweight in high quality bonds – gains on "safe haven" bonds more than compensate for losses in "PIIGS" government bonds

1 Total on- and off-balance-sheet reserves divided by market value of investments. 2 Gross exposure divided by shareholders' equity. 3 German and US government bonds. 4 Sensitivity to parallel upward shift of yield curve by one basis point reflecting portfolio size (DV01). Economic view – not fully comparable with IFRS figures. As at 31.12.2011.
Disciplined asset-liability management

Active asset management on the basis of a well-diversified portfolio

Investment portfolio

<table>
<thead>
<tr>
<th>Category</th>
<th>%</th>
<th>Change (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land and buildings</td>
<td>2.6</td>
<td>(2.9)</td>
</tr>
<tr>
<td>Shares, equity funds and participating interests</td>
<td>3.2</td>
<td>(4.0)</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>10.5</td>
<td>(9.7)</td>
</tr>
<tr>
<td>Loans</td>
<td>27.5</td>
<td>(25.7)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>€207bn</strong></td>
<td></td>
</tr>
</tbody>
</table>

Major changes in 2011

- Shift from weaker to high-quality government bonds, esp. Germany and western Europe
- Stronger focus on emerging market debt
- Significant reduction of bank bonds
- Further cautious increase of corporate bonds
- Reduction of equity exposure to 2.0% after hedges

Broad diversification remains key as Munich Re is well-prepared for different capital market scenarios

Investment strategy
Further optimisation on the basis of a defensive risk profile

1 Disciplined asset-liability management

Market expectations of MEAG

"Relief"
- Considerable rise in interest rate level; high but still manageable inflation
- Significant equity performance

~15% probability

"Euro-Recession"
- Interest rates rise moderately, but stay low; inflation recedes somewhat due to base effects
- Equities perform moderately

~70% probability

"Further escalation"
- Interest rates fall below the lowest level ever seen; low inflation
- Equities drop sharply

~15% probability

General investment strategy

- No intention to increase asset risk significantly
- Cautious shift from safe-haven governments to strong corporates to optimise credit risk
- Reduce exposure to financial institutions
- Further increase of solid non-financial corporate bonds at the longer end and ABS/MBS at the shorter end of the yield curve as buy and hold investments
- Further diversification into real assets, such as renewable energy and infrastructure
- Equity investments will remain at low levels

Sustainable strategy with flexibility to take investment opportunities
Extensive strategic asset-liability management measures in 2011

**Asset-side measures**

**ERGO life**
- Substantial measures taken at early stage to address interest rate sensitivity
  - Reinvestments in long-duration bonds
  - Purchase of receiver swaptions
- Effect: Increase of ~1.2 years asset-side duration
  - Enhanced cash flow matching
  - Reduced convexity risk

**Reinsurance**
- Strategic increase of asset-side duration for the reinsurance segment to optimise Munich Re Group's duration mismatch
- Effect: "Duration hedge" between primary and reinsurance has worked

**Liability-side measures**

**Focus on own business portfolio**
- New product development in primary life focusing on guarantees that can be hedged more efficiently

**Focus on clients**
- Complex hedging capabilities already developed and established since 2007 ...
  - … leveraged to support clients' needs to develop and set up new products with an improved risk-return profile
  - Asset protection in life reinsurance proved successful throughout turbulent year 2011

**Demonstrated commitment to optimising Munich Re Group's duration mismatch through active duration steering**
Munich Re benefits from strong diversification between natural catastrophe risks

Attractive risk-return profile

<table>
<thead>
<tr>
<th>Premiums</th>
<th>Losses</th>
<th>Expenses</th>
<th>Cost of capital</th>
<th>Economic profit</th>
</tr>
</thead>
</table>

Munich Re's nat cat risk profile

- Munich Re's capital model (MRCM) uses 35 nat cat scenarios representing the bulk of the overall nat cat loss cost
- According to MRCM, the probability of experiencing an aggregated loss from natural catastrophes as in 2011 is 2% for Munich Re

Strategy in peak scenarios

**Atlantic Hurricane**
Opportunistically taking advantage of positive pricing trend and model refinements

**Storm Europe**
Reduction of exposure due to clear focus on profitability in a still competitive market environment

**Earthquake Japan**
Opportunistically taking advantage of positive pricing trend

Even including exceptional years like 2005 and 2011, Munich Re's nat cat business has been profitable for more than 15 years

### Sound capital position according to all metrics

#### Capital structure

<table>
<thead>
<tr>
<th>Year</th>
<th>€bn</th>
<th>Senior and other debt</th>
<th>Subordinated debt</th>
<th>Shareholders’ equity</th>
<th>Debt leverage (^2) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>25.3</td>
<td>4.9</td>
<td>20.8%</td>
<td></td>
<td>17.7%</td>
</tr>
<tr>
<td>2008</td>
<td>21.1</td>
<td>5.0</td>
<td>19.2%</td>
<td></td>
<td>20.8%</td>
</tr>
<tr>
<td>2009</td>
<td>22.3</td>
<td>4.8</td>
<td>19.0%</td>
<td></td>
<td>19.2%</td>
</tr>
<tr>
<td>2010</td>
<td>23.0</td>
<td>4.8</td>
<td>19.0%</td>
<td></td>
<td>19.0%</td>
</tr>
<tr>
<td>2011</td>
<td>23.3</td>
<td>4.7</td>
<td>18.3%</td>
<td></td>
<td>18.3%</td>
</tr>
</tbody>
</table>

#### Solvency ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>Solvency I ratio</th>
<th>Economic solvency ratio</th>
<th>Solvency II ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>269</td>
<td>268</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>261</td>
<td>238</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>245</td>
<td>194</td>
<td></td>
</tr>
</tbody>
</table>

#### Economic capital position

<table>
<thead>
<tr>
<th>Year</th>
<th>€bn</th>
<th>Capital at Solvency II calibration</th>
<th>Additional 75% buffer</th>
<th>31.12. 2011</th>
<th>31.12. 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>25.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>21.1</td>
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<td></td>
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<td>2010</td>
<td>23.0</td>
<td></td>
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</tr>
<tr>
<td>2011</td>
<td>23.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Other debt includes bank borrowings of Munich Re and other strategic debt.

2 Strategic debt (senior, subordinated and other debt) divided by total capital (= sum of strategic debt + shareholders’ equity).

3 Solvency II capital based on VaR 99.5%, Munich Re internal risk model based on 175% of Solvency II capital.

4 After announced dividend payout of ~€1.1bn for 2011 to be paid in April 2012 (subject to AGM approval). 31.12.2010: after dividend of €1.1bn for 2010 and €0.4bn share buy-back.

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Munich Re one of the least leveraged groups in the industry
3 Sound capital base

Moderate impact of capital market scenarios on Munich Re's solvency position

<table>
<thead>
<tr>
<th>Strong economic solvency position¹</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratio as at 31.12.11</td>
<td>111</td>
</tr>
<tr>
<td>Interest-rate +100bps</td>
<td>134</td>
</tr>
<tr>
<td>Interest-rate –100bps</td>
<td>85</td>
</tr>
<tr>
<td>Spread +100bps</td>
<td>95</td>
</tr>
<tr>
<td>Equity markets +30%</td>
<td>117</td>
</tr>
<tr>
<td>Equity markets –30%</td>
<td>108</td>
</tr>
</tbody>
</table>

Limit at 80% according to Munich Re's risk strategy

Munich Re able to withstand further stress scenarios

¹ Solvency ratio defined as Available Financial Resources (AFR) over Economic Risk Capital (ERC; 175% of Solvency II calibration); AFR after announced dividend for 2011 of €1.1bn to be paid in April 2012.
Economic capital – Management intervention much more granular than supervisory scheme

Munich Re solvency ratio

- MRCM
- Solvency II
- Solvency ratio adjusted for capital repatriation

Munich Re actions

- >120% Excellent capitalisation
  - Capital repatriation
  - Increased risk-taking
  - Holding excess capital to meet external constraints
- 100%–120% Comfortable capitalisation
  - Tolerate and monitor
  - (Partial) suspension of capital repatriation
- 80%–100% Adequate capitalisation
  - Risk transfer
  - Scaling down of activities
  - Raising of (hybrid) capital
- <80% Below target capitalisation
  - Risk transfer
  - Scaling down of activities
  - Raising of (hybrid) capital

Regulatory actions

- MCR–100% Below target capitalisation
  - Obligation to submit a comprehensive and realistic recovery plan
  - Insurer to take necessary measures to achieve compliance with the SCR

- <MCR Insufficient capitalisation
  - Obligation to submit a short-term realistic finance scheme
  - Regulator may restrict or prohibit the free disposal of insurer’s assets
  - Ultimate supervisory intervention: Withdrawal of authorisation

1 Based on Munich Re capital model (MRCM): 175% of VaR 99.5%.
2 Based on Solvency II calibration: VaR 99.5%.
3 MCR = Minimum Capital Requirement, typically between 25% and 45%; for groups called “Group SCR floor.”
Sustainable book value … €

CAGR: 8.5%

155.4

CAGR: 5.7%

129.9

2005 2011

… and dividend growth €

CAGR: 12.4%

6.25

3.10

2.7

2005

Dividend yield1 (%) 2011

3.5

4.1

5.0

5.3

5.5

Sustainable dividend growth for decades2 – Providing attractive dividend yield even in challenging times

1 Dividend divided by year-end share price.
2 1969 was the only year since 1952 with a decreased dividend per share.
4 Well-balanced business portfolio

Business portfolio of complementary profiles performing in any market environment

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**Primary life**
In particular, products with investment component dependent on interest rate development

**Primary non-life**
Quite robust to macroeconomic changes delivering stable earnings

**Primary health**
Yearly price adjustments to reflect medical inflation in addition to high client retention

**Reinsurance non-life**
Nat cat and some other businesses hardly correlated with macroeconomic cycle

**Reinsurance life**
Potentially more client demand for capital relief in addition to further business expansion in Asia

**ERGO International**
Cautious business expansion in CEE and Asia in a macroeconomic-sensitive environment

**Munich Health**
Managing political risks and portfolio consolidation while long-term growth opportunities persist

Balancing long-term growth opportunities and capital generation – Relatively low gearing to economic cycle

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European Financials Conference 2012
Ongoing price increases expected in upcoming reinsurance renewals

Well-balanced business portfolio

### January
- **Worldwide**
- **Asia/Pacific/Africa**
- **North America**
- **Latin America**
- **Europe**

**TOTAL** €8.5bn

Renewal focus on **Europe** – showing flat price development

- **Nat cat portion** only 11% – with significant price increases
- **Casualty portion** quite high

### April
- **Worldwide**
- **Rest of Asia/Pacific/Africa**
- **Europe**
- **Latin America**

**TOTAL** €1.1bn

Renewal focus on **Japan/Korea**

- **Nat cat portion** ~30% – More impact at April/July renewals
- Significant price increases for nat cat expected, as especially loss-affected regions will be renewed
- Trend of nat cat price increases expected to continue

### July
- **Worldwide**
- **Rest of Asia/Pacific/Africa**
- **Europe**
- **Australia/New Zealand**
- **North America**

**TOTAL** €1.8bn

Renewal focus on **USA, Latin America and Australia**

Continuation of portfolio improvement expected
Munich Re well positioned to manage changes and capture opportunities arising from Solvency II

### Key open issues
- Valuation of insurance liabilities, especially
  - Triggers and level of the Counter-Cyclical Premium
- Method for the determination of the Matching Adjustment
- Overburdening reporting requirements (Pillar 3)

### Further process for 2012
- Adoption of Omnibus II Directive
- Finalisation of Level 2 measures
- Drafting and finalisation of Level 3 binding technical standards
- Transposition into national law

### Start of Solvency II
- Phasing in: 2013
- Application of Solvency II starting in 2014 with transitional measures
- Non-compliance with SCR and reporting requirements tolerated for a transitional period

### Munich Re’s positions
- In favour of balance between smooth transition to Solvency II and adhering to the spirit of the Solvency II Directive in the long run
- Timely introduction of Solvency II is possible with common efforts

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1. Draft Report on Omnibus II by Burkhard Balz, 16.03.2012, agreed by the ECON Committee on 21.03.2012.
2. SCR: Solvency Capital Requirement.

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**Soft-launch of Solvency II during the first year after transposition and transitional measures is a good compromise**
Solvency II allows for an adequate reporting of the insurance business model

Outlook Solvency II

Purpose
- Detailed summary of own funds – shows legal origin and mix of own funds
- Disclosure of tiers permits assessment of quality of own funds
- Compares own funds with capital requirement/minimum capital requirement

Requirements
- To be produced quarterly ...
- ... though only published annually
- Required for both legal entities and groups (the latter with additional information)

Increased transparency on own funds components and quality

1 Economic balance sheet.
### Munich Re (Group)

<table>
<thead>
<tr>
<th><strong>Gross Premiums Written</strong></th>
<th><strong>Return on Investment</strong></th>
<th><strong>Net Result</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>€48–50bn</td>
<td>~3.5%</td>
<td>~€2.5bn</td>
</tr>
</tbody>
</table>

**Reinsurance**
- Reinsurance: €25–27bn
- Primary insurance: €17–18bn
- Munich Health: slightly above €6bn

**Ongoing low interest rate environment gradually reducing running yield to slightly below 4%**

**RoRac target of 15% after tax over the cycle to stand**

**Significantly improving technical result**

### Reinsurance
- **Combined ratio**: ~96% over the cycle
- **Net result**: €1.9–2.1bn

### Primary insurance
- **Combined ratio**: <95%
- **Net result ERGO**: ~€400m

### Munich Health
- **Combined ratio**: ~99%
- **Net result**: €50–100m
### Key takeaways

**Munich Re geared to “creating value in a deleveraging environment”**

<table>
<thead>
<tr>
<th>Good track record of dealing with challenging economic conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>We remain a strong partner for clients and reliable for shareholders in times of uncertainty</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integrated business model safeguarding sustainable value generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on insurance risks – Limited correlation to economic cycles and capital markets</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rigorous approach to risk management – High level of investment diversification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able to cope with all kinds of scenarios – Actively managing the low-yield environment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strong capital position providing flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowing us to seize opportunities for profitable growth</td>
</tr>
</tbody>
</table>
## Financial calendar

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 April 2012</td>
<td>Annual General Meeting, Munich</td>
</tr>
<tr>
<td>27 April 2012</td>
<td>Dividend payment</td>
</tr>
<tr>
<td>8 May 2012</td>
<td>Interim report as at 31 March 2012</td>
</tr>
<tr>
<td>15 May 2012</td>
<td>Deutsche Bank &quot;German, Swiss &amp; Austrian Conference&quot;, Frankfurt</td>
</tr>
<tr>
<td>22–23 May 2012</td>
<td>Credit Suisse &quot;West Coast Conference&quot;, San Francisco</td>
</tr>
<tr>
<td>23 May 2012</td>
<td>Autonomous &quot;Rendez-Vous 2012&quot;, London</td>
</tr>
<tr>
<td>13 June 2012</td>
<td>Goldman Sachs &quot;Annual Financials Conference&quot;, Brussels</td>
</tr>
<tr>
<td>7 August 2012</td>
<td>Interim report as at 30 June 2012</td>
</tr>
<tr>
<td>7 November 2012</td>
<td>Interim report as at 30 September 2012</td>
</tr>
</tbody>
</table>
For information, please contact

**INVESTOR RELATIONS TEAM**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Contact Information</th>
</tr>
</thead>
</table>
| Christian Becker-Hussong     | Head of Investor & Rating Agency Relations | Tel.: +49 (89) 3891-3910  
E-mail: cbecker-hussong@munichre.com |
| Ralf Kleinschroth             |                                | Tel.: +49 (89) 3891-4559  
E-mail: rkleinschroth@munichre.com |
| Thorsten Dzuba                |                                | Tel.: +49 (89) 3891-8030  
E-mail: tdzuba@munichre.com |
| Christine Franziszi           |                                | Tel.: +49 (89) 3891-3875  
E-mail: cfranziszi@munichre.com |
| Britta Hamberger              |                                | Tel.: +49 (89) 3891-3504  
E-mail: bhamberger@munichre.com |
| Andreas Silberhorn            |                                | Tel.: +49 (89) 3891-3366  
E-mail: asilberhorn@munichre.com |
| Dr. Alexander Becker          | Head of External Communication ERGO | Tel.: +49 (211) 4937-1510  
E-mail: alexander.becker@ergo.de |
| Andreas Hoffmann              |                                | Tel.: +49 (211) 4937-1573  
E-mail: andreas.hoffmann@ergo.de |
| Ingrid Grunwald               |                                | Tel.: +49 (89) 3891-3517  
E-mail: igrunwald@munichre.com |

Münchener Rückversicherungs-Gesellschaft | Investor & Rating Agency Relations | Königinstraße 107 | 80802 München, Germany  
Fax: +49 (89) 3891-9888 | E-mail: IR@munichre.com | Internet: www.munichre.com
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