FINANCING INNOVATION IN THE MARITIME INDUSTRY

Japan – Norway Workshop, February 12th, 2016, Oslo

Future Technology and Finance in the Maritime Sector

Guillaume Dufour – Deputy General Manager, Maritime Asset Finance Department
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Bundesanstalt für Finanzdienstleistungsaufsicht
Deutsche Bundesbank

SMBC Frankfurt Branch
Bundesanstalt für Finanzdienstleistungsaufsicht
Deutsche Bundesbank

SMBC Regulators

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- Central Bank of Ireland
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- Banco d’Italia
- Commissione Nazionale per le Società e la Borsa
- Deutsche Bundesbank
- Autorité des Marchés Financiers
- Ceska národní banka

SMBCE Regulators

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- Autorité des Marchés Financiers
- Ceska národní banka
1. SMBC Group Presentation

SUMITOMO MITSUI BANKING CORPORATION

SMBC is a top-tier Japanese bank, which maintains relationships with over 103,000 companies in Japan. The history of the Sumitomo and Mitsui companies date back more than four centuries, and both were founded as banks in the nineteenth century. SMBC’s predecessor banks, Mitsui Bank was founded in July 1876 in Tokyo, and Sumitomo Bank in 1895 in Osaka.
SMBC was established in 2001 following the merger of the two leading banks: Sakura, formerly Mitsui Taiyo Kobe; and Sumitomo.

<table>
<thead>
<tr>
<th>CREDIT RATING FOR SMBC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moody’s</td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>Long term</td>
</tr>
<tr>
<td>Short term</td>
</tr>
</tbody>
</table>

Correct rating as of 17 November 2015

SMBC
Chairman of the Board
Teisuke Kitayama
President
Takeshi Kunibe
Capital stock*
US$14.7bn
Head office
1-2, Marunouchi 1-chome, Chiyoda-ku, Tokyo, Japan
Number of employees*
22,915
Network
439 domestic branches (Japan) (excluding sub-branches and agencies)
16 overseas branches (excluding sub-branches and representative offices)
Income* for fiscal year 2014-15
Ordinary income: US$ 19.7bn
Ordinary profit: US$ 8.0bn
Net income (loss): US$ 5.4bn
Total assets*
US$ 1,287.8bn
Capital ratio*
18.90% (BIS guidelines)
FX rate calculated @ JP¥ 120.15 / US$.
Information correct as of 31 March 2015 unless otherwise stated.
*SMBC non-consolidated.
1. SMBC Group Presentation

SUMITOMO MITSUI BANKING CORPORATION EUROPE LIMITED

SMBCE was established in March 2003 and is a wholly-owned subsidiary of SMBC. The bank carries out the majority of its activities in Europe, the Middle East and Africa.

SMBCE

Chief Executive Officer
Masahiko Oshima

Capital stock
US$3.2bn

Ownership
SMBC 100% (UK incorporated subsidiary of SMBC)

Head office
99 Queen Victoria Street, London, EC4V 4EH, United Kingdom

Number of employees*
902

Network
Amsterdam, Dublin, Madrid, Milan, Paris and Prague

Income* (SMBCE) for fiscal year 2014-15
Net interest income: US$ 234.4m
Operating income: US$ 550.0m
Profit before income tax: US$ 152.4m

Regulator
Authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority.

*Information correct as of 31 March 2015.
1. Maritime Finance at SMBC Group

A GLOBAL LEADER IN MARITIME FINANCE

- SMBC is a top 10 maritime finance commercial bank with over 50 years of experience in shipping and offshore finance
- Existing portfolio of over 500 vessels financed, over $10 bn of commitments
- Organised with a global maritime group headquartered in London
- Strategic focus on advising, arranging and financing high-value added, industrial maritime projects
- Long-standing expertise in arranging export credits for ships
- Well established track record in supporting maritime projects involving Norwegian and Japanese interests

INDUSTRY RECOGNITION

Sources: SMBC, PFI, Marine Money, Islamic Finance News, Dealogic
## 2. Involvement in Innovative Maritime Assets

<table>
<thead>
<tr>
<th>Ship Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGS <em>Ramform Titan</em></td>
<td>Delivered 2013. Dynamically Positioned Seismic Survey Vessel, with large capacity &amp; large sensors spread ability.</td>
</tr>
<tr>
<td>Yamal LNG ARC7 LNG Carriers</td>
<td>2016 onwards. Pioneering Ice-Breaking LNG Carriers able to sail through the Northern Sea Route.</td>
</tr>
<tr>
<td>Carnival LNG Powered Cruiseship</td>
<td>2018 onwards. Largest LNG-Powered Cruiseships, with advanced on board specifications.</td>
</tr>
</tbody>
</table>

*Sources: SMBC, Companies Websites*
3. Innovation

WHAT IS INNOVATION?

- **Innovation** = idea, process or device which meet new requirements, unarticulated or unsatisfied market needs

- Innovation generates **Economic Cycles**

INNOVATION IN THE MARITIME SPHERE

EXAMPLE OF MAJOR INNOVATION

2016: 60th anniversary of container shipping

INNOVATION IN THE MARITIME SPHERE HAS BEEN SLOWER COMPARED TO OTHER INDUSTRIES

<table>
<thead>
<tr>
<th>IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>World Trade</strong> – Enabled more efficient trade for finished goods – Seaborne trade multiplied by 2.5 1990-2015</td>
</tr>
<tr>
<td><strong>Containership Operators Strategies</strong> – Necessary adapted infrastructure needed, regional presence and niche markets development</td>
</tr>
<tr>
<td><strong>Container Transportation Financing</strong> – Adaptation to economic life of vessels and their ecosystem: container shipping, boxes, terminals, cranes, etc.</td>
</tr>
</tbody>
</table>

Sources: SMBC, Clarksons
4. Innovation is not an option

CHALLENGING FINANCIAL PERFORMANCES

Return on Equity

- Equipment Leasing 3YR AVG: 16%
- Container Boxes 3YR AVG: 16%
- Aircraft Leasing 3YR AVG: 10%
- Real Estate 3YR AVG: 8%
- Financial Institutions 3YR AVG: 7%
- Shipping 3YR AVG: 8%

IPOs in Shipping

- Amount Raised through Shipping IPOs (US$mio, lh)
- No. Shipping IPOs, rh

STRICT REQUIREMENT FOR MORE INNOVATION

- The Maritime Industry is a fragmented one – 90,000 ships worldwide, average of 5 ships per owner
- Historical focus on cost management and economies of scale
- Gap between role in Global Economy and Public Perception
- Value Creation hindered by current cycle

INNOVATION IS NOT AN OPTION FOR THE INDUSTRY, IT IS A MATTER OF SURVIVAL

Sources: SMBC, S&P Capital IQ (ROE Calculation based on a sample of companies in each industry)
4. Innovation is gaining momentum

**DISRUPTION IS THE NEW NORMAL IN THE MARITIME SPHERE**

**WORLD ECONOMY**
- Transition from industrialization to new growth models
- New consumption modes (Sharing / Circular Economy)

**WORLD TRADE – 80% Maritime**

**INHERENT CHALLENGES**
- Access to Capital
- Market Fragmentation
- Asset Obsolescence
- Maritime Cycles

**MARITIME BUSINESS MODELS**
- Increasing role played by Data Science
- Business models migrating towards integrated logistics
- Evolving technology for shipping assets
- Wider focus on "access" rather than "ownership"

**CURRENT INNOVATIONS SHAPING THE INDUSTRY’S FUTURE**

<table>
<thead>
<tr>
<th>Key Drivers</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets Upgrade</strong></td>
<td>• LNG as a fuel&lt;br&gt;• Shipbuilding Design&lt;br&gt;• Renewable Energies, apart from fossil fuels</td>
</tr>
<tr>
<td><strong>Business Models Mutation</strong></td>
<td>• Container tracking&lt;br&gt;• Integrated fleet management&lt;br&gt;• Personnel Employment</td>
</tr>
<tr>
<td><strong>Trading &amp; Process Patterns</strong></td>
<td>• Technology sharing with other industries (e.g. aerospatial)&lt;br&gt;• Ownership of assets questioned&lt;br&gt;• Arctic Shipping</td>
</tr>
</tbody>
</table>

- Change in Environmental Mindset
- Economies of Scale
- Changing Needs for Transformed Goods
- Operational Efficiency
- Data Collection
- Human Resources Management
- New industrial processes / new clients
- Changing World Trade
- Sharing / Circular Economy
4. Background on Maritime Finance

**A CAPITAL HUNGRY INDUSTRY**

Maritime Finance Deals

<table>
<thead>
<tr>
<th>Year</th>
<th>Corporate Bond</th>
<th>Convertible Bond</th>
<th>Bank Loan</th>
<th>Private Placement</th>
<th>Leasing</th>
<th>Private Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>4%</td>
<td>4%</td>
<td>6%</td>
<td>12%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>2015</td>
<td>2%</td>
<td>4%</td>
<td>6%</td>
<td>12%</td>
<td>4%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Maritime Finance Loans

<table>
<thead>
<tr>
<th>Year</th>
<th>Volume in US$b (lh)</th>
<th>No. Of Deals (rh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2007</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>100</td>
<td>0</td>
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<td>2010</td>
<td>100</td>
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<td>2011</td>
<td>100</td>
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<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>

**A CONSTRAINED FRAMEWORK FOR BANKS**

Basel III Capital Requirements

<table>
<thead>
<tr>
<th>Year</th>
<th>Common Equity Tier I</th>
<th>Additional Tier I</th>
<th>Tier II</th>
<th>Capital Conservation Buffer</th>
<th>Counter-Cyclical Buffer</th>
<th>Systemic Risk Buffer for GSIBs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>3%</td>
<td>6%</td>
<td>9%</td>
<td>12%</td>
<td>15%</td>
<td>18%</td>
</tr>
<tr>
<td>2016</td>
<td>3%</td>
<td>6%</td>
<td>9%</td>
<td>12%</td>
<td>15%</td>
<td>18%</td>
</tr>
<tr>
<td>2017</td>
<td>3%</td>
<td>6%</td>
<td>9%</td>
<td>12%</td>
<td>15%</td>
<td>18%</td>
</tr>
<tr>
<td>2018</td>
<td>3%</td>
<td>6%</td>
<td>9%</td>
<td>12%</td>
<td>15%</td>
<td>18%</td>
</tr>
<tr>
<td>2019</td>
<td>3%</td>
<td>6%</td>
<td>9%</td>
<td>12%</td>
<td>15%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Sources: SMBC, Dealogic, Marine Money

- Crisis Management, Banks’ Bail-outs
- Shift in Regulatory Environment
- Higher Capital and Liquidity Standards
- Business Model Rethinking
- Structural Changes (Basel III, GSIB, etc.)
- Active Anti Money Laundering
- Asset Quality Review
- International Sanctions
5. Being Innovative Together

HOW CAN MARITIME FINANCE SUPPORT INNOVATION?

- Enhance *Industry expertise* and knowledge sharing
- Embrace a *long term vision* to support the maritime industry
- *Adapt Financial Structures* to match business models’ evolution
- Sharing of financing *best practices* across sectors, wider than the maritime sphere

OPPORTUNITIES TO WORK TOGETHER

- *M&A / Acquisitions* throughout External Growth strategies
- *Business Models Integration* throughout Organic Growth strategies
- *Capital & Balance Sheet efficiency management*
- Access / *Diversification of funding sources*
- *JV financing* together with non-recourse debt

NEED FOR ENHANCED PARTNERSHIPS & EXCHANGES TO BUILD UP EXPERTISE, FINANCE INNOVATIVE BUSINESS MODELS AND ANTICIPATE CUSTOMER NEEDS
5. Case Study: LNG as a fuel and Small Scale LNG

A SOUND INDUSTRIAL RATIONALE

**Substantial Growth Opportunities**
- **LNG as a fuel:** Both Marine (bunkering) and road transport
- **Regional feeding:** Pipeline gas infrastructure, ship-to-ship transfer, etc.

**Using LNG as a fuel: Examples**

<table>
<thead>
<tr>
<th>Shipowner</th>
<th>Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carnival (U.S.)</td>
<td>Cruise</td>
</tr>
<tr>
<td>UECC (Norway)</td>
<td>Car Carriers</td>
</tr>
<tr>
<td>NYK/MC/Engie (Japan / France)</td>
<td>LNG BV</td>
</tr>
</tbody>
</table>

AN INTEGRAL & INTEGRATED VALUE CHAIN WITH RISKS TO BE ALLOCATED

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Development of the infrastructure enabling access to niche markets</td>
<td>× Low oil prices / cost competitiveness of LNG as a fuel</td>
</tr>
<tr>
<td>✓ Growth in maritime / bunkering LNG demand</td>
<td>× Significant capital investments required to develop SSLNG supply chain</td>
</tr>
<tr>
<td>✓ Extension of ECAs</td>
<td>× Limited liquidity of SSLNG vessels</td>
</tr>
</tbody>
</table>

Financial Support

- **Innovative market** – hence conservative financing terms for the 1st projects
- **Interest from** financiers willing to support long term environmental / social policy objectives
- Developments at a larger scale will require partnerships between industrial and financial players
6. Key Takeaways

The Maritime industry provides economic, environmental and geo-political benefits for the world economy, particularly so in Norway and Japan.

It is bound to be impacted by several crucial innovations which shall reshape its value proposition.

Financial Institutions must adapt to these ongoing changes, while also coping with both internal & external constraints.

Ship Owners will need to rely on sound and proof balance sheets, while showing ability to innovate and transform their business models successfully.

This calls for enhanced cooperation and expertise sharing between actors of the maritime sphere – be it ship owners, operators, and financiers, to properly allocate risks.