Get smart or get out: Structured finance
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Summary

Structured finance is an apparently attractive business. From its trough in 2002, the market has grown rapidly. In 2005, global origination of structured finance loans reached an all time high of $1 TN, generating $60 BN in revenues for the financial services industry.

Beneath these impressive figures, however, lies significant variation in economic return to financial institutions. Arrangers capture 40% of total revenues and typically enjoy a return on economic risk capital in the range of 20 to 30%. Yet competition for the arranger role is stiff, and a low success rate can spoil the average return of those few deals that are won. Nor is participation uniformly profitable. Because structured finance deals are complex and often lack public ratings, their risk can be difficult to measure. Unsophisticated participants frequently underestimate and therefore under-price the risk.

In structured finance, the best do much better then the rest: a fact that current market trends will only reinforce. For although demand for structured finance is growing – driven by an M&A boom, increasing global trade and infrastructure investment – supply is growing faster, with large institutional investors entering the market in search of yield and diversification. As margins decline and deals get riskier, so unsophisticated players will increasingly participate in under-priced deals. And growing competition for the profitable arranger role will drive down the success rate and average returns of all but the most skillful.

We have identified four structured finance business models that we believe to be viable:

- **Smart participant** – Highly selective participation based on sophisticated cash flow simulation-based risk measurement tools
- **Smart arranger** – As above, plus a focussed arrangement strategy with a high conversion rate, strong distribution capabilities and tight cost management
- **Cross-sell focused arranger** – As above, plus systematic capture of cross-sell revenues
- **Integrated arranger** – As above, plus structured finance functionally integrated with the broader financing and capital markets business to capture the 'profitability multipliers' inherent in an end-to-end credit business
These smart business models are not the industry norm. Most structured finance players exemplify one of the following unsustainable models:

- **Typical arranger** – Targets lead arranger role but insufficient focus results in a low conversion rate, heavy participation and inflated costs designed for a larger business

- **Typical participant** – Views structured finance as more profitable deployment of capital than vanilla credit, but lacks the risk measurement capabilities to select the most profitable deals

With competition increasing, even players with smart models will need to invest in retaining and developing talent to sustain profitability. Typical participants will need to undertake a dramatic transformation of their business. For many, the task will be too hard. They should exit the market, since the risks from adverse deal selection are great. The message is harsh but simple: get smart or get out.
**What is structured finance?**

Throughout this report we have categorised structured finance into four product categories:

- **Acquisition finance**, including corporate M&A finance, LBO finance and recapitalisation finance
- **Project finance**, including PPP/PFI finance
- **Export finance**, structured ECA (Export Credit Agency) backed only
- **Asset finance**, large ticket only, including aircraft, shipping and rail finance

These structured finance products have the following distinctive characteristics:

- **Maturity**: Structured finance deals are long term (maturity greater than one year)
- **Use of funds**: Funds are provided for a specific purpose (e.g. to finance a project or the acquisition of specific assets, with revenues from the project or asset legally tied to loan interest and capital repayments)
- **Deal structure**: The loan is tailor-made to specific client needs, in terms of repayment profile, risk mitigation structures, interest rates, legal structure (e.g. in several cases the borrower is an SPV established specifically for the transaction)
- **Payments and recourse**: Most structured finance loans are non-recourse. Payments are funded by the cash flows linked to the special purpose vehicle (SPV), project or asset being financed and the lender has recourse only to the linked assets or project in case of default. This disconnects the risk of the loan from the borrower’s credit rating

The table below contrasts structured finance products with vanilla finance (e.g. corporate revolvers, general purpose loans).

<table>
<thead>
<tr>
<th></th>
<th>Vanilla finance</th>
<th>Structured finance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use of funds</strong></td>
<td>Non-specific and not legally binding</td>
<td>Legally linked to a specific asset or project</td>
</tr>
<tr>
<td><strong>Deal structure</strong></td>
<td>Simple, sometimes collateralised, with limited tailoring</td>
<td>Complex and often highly tailored to suit specific needs and cash flows</td>
</tr>
<tr>
<td><strong>Payments and recourse</strong></td>
<td>Paid by borrower, with recourse to entire borrower asset base (subject to seniority)</td>
<td>Paid directly by linked cash flows, with no (or limited) recourse to the borrower’s other assets</td>
</tr>
</tbody>
</table>
Structured finance products provide several benefits to both borrowers and lenders, as shown below.

<table>
<thead>
<tr>
<th>Borrower benefits</th>
<th>Lender benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Larger and longer facilities available: access to international pools of liquidity</td>
<td>• Higher profitability due to higher fees and higher margins compared to vanilla lending</td>
</tr>
<tr>
<td>• Lower cost of credit for lower-rated borrowers</td>
<td>• Reduced risk due to collateralisation and legally binding use of funds</td>
</tr>
<tr>
<td>• Loans are often off-balance sheet and so do not affect key ratios and indicators</td>
<td>• Access to larger deals which would otherwise have been beyond the reach of smaller participants</td>
</tr>
<tr>
<td>• Higher leverage ratios can be achieved, without any risk contamination in case of failure</td>
<td>• Extensive due-diligence reduces potential for unexpected risks</td>
</tr>
<tr>
<td>• Flexibility around terms of the loan: structuring of loan to match asset or project</td>
<td></td>
</tr>
</tbody>
</table>
Market context: Size and trends

Global origination of structured finance loans reached an all time high in 2005 of $1 TN across acquisition, project, asset and export finance. This is more than double the levels of the recent trough in 2002 and equivalent to a ~40% 3-year CAGR (Compound Annual Growth Rate).

Figure 1: Global structured finance new loan volumes by product type

Structured finance volumes experienced rapid growth in the late 1990s as booming M&A markets fuelling acquisition and project finance deals. However, the telecommunications and energy crashes, the M&A slowdown and global airline crisis over 2001 and 2002 drove origination volumes down by more than 40%. Increased default rates created uncertainty around all products.

The market returned to growth in 2003 with renewed interest across all products on both the demand and supply sides. We expect this growth to continue, albeit with different trajectories across products:

- **Acquisition finance**: Sustained growth driven by the continued high, but unpredictable, level of M&A activity. LBO Finance will grow as funds continue to flow into the Private Equity business. Institutional investors will be a growing source of funds as they search for yield and diversification.

- **Project finance**: Pockets of growth, particularly infrastructure finance in both developing countries (driven by good macroeconomic indicators and high commodity prices) and PPP/PFI in developed countries (as governments look for alternative ways to fund infrastructure development).

- **Asset finance**: Continued growth, with shipping driven by increasing export volumes and a recovery in the US aviation industry adding to activity in Europe and Asia.
Export finance: Continued growth driven by world trade and export volumes, although at a slightly slower rate, as the improved credit environment allows importers to access local credit without ECA guarantees

Acquisition finance

Acquisition finance is the largest product category in structured finance, contributing 68% of total volumes across corporate M&A finance, LBO finance and recapitalisation finance. Origination reached $725 BN in 2005, after growing at 47% CAGR since 2002.

The technology and internet boom of the late 1990s generated strong growth in both the M&A and acquisition finance markets, particularly in the telecom sector. After the bubble burst, acquisition finance volumes fell to less than $250 BN in 2002, 50% down on the 2000 peak.

Figure 2: Acquisition finance volumes by region and type of deal

Volumes have rebounded strongly since 2003. Private equity has seen a substantial inflow of capital as investors turn to alternative asset classes targeting higher returns which triggered a wave of LBO activity. This demand for finance has found a willing supply of funding from institutional investors and hedge funds seeking higher returns on debt investments. Indeed, supply has been stronger than demand in the US, due to the lack of M&A activity in the region and the maturity of the institutional investor market. Recapitalisations are also growing, following a lagging trend to LBO finance, as financial sponsors look to re-leverage their investments and realise returns by extracting cash.

Acquisition finance net interest margins have been stable over the last five years, with LBO and recapitalisation loans hovering around 250 bps and corporate M&A lending around 100 bps. Up-front fees are low for corporate M&A, at around 50 bps for arrangers (and 25 bps for participants), while LBOs and recapitalisations can generate 150 to 200 bps for arrangers (and half that for participants).
While margins have been flat, risk taking has increased. Leverage ratios (the ratio of debt to EBITDA – Earnings Before Interest, Taxes, Depreciation and Amortisation) have risen and the risk mitigating terms and conditions attached to these leveraged loans have become weaker. Many banks over-estimate the risk adjusted profitability of deals because their risk methodologies cannot reflect the impact of changes to terms and conditions. Default rates remain low and the impact on recovery rates has not yet been tested. However, the concerns indicated by several players could lead to a future increase in margins or slower growth in the supply of funds.

The acquisition finance market is concentrated, with the top five players arranging more than 33% of volumes. Banks with a strong presence in the M&A market are ideally positioned to provide acquisition finance, as they are already involved in deals. This is true of banks advising sellers as well as buyers. ‘Stapled financing’ – where an adviser for the seller of a business provides financing for the buyer – is now a common feature of leveraged deals. This can encourage interest from financial sponsors, who know that at least one funding package is on offer, but it can also lead to conflicts of interest.

We expect continued strong growth in acquisition finance in the short term. The M&A boom looks set to continue through 2006 and will bring with it the need for financing. Asia and Europe are likely to be the areas of highest growth. Further out, however, volumes are difficult to predict and several market participants have expressed concern over a slowing of the M&A pipeline. Nevertheless, we expect continued growth in the private equity market to provide a sustained pipeline for LBO finance.
Project finance

Project finance contributes approximately 17% of total structured finance volume. Origination reached $175 BN globally in 2005 (including loans and bonds), growing at a 35% CAGR since 2002.

Figure 4: Historical project finance volumes (loans and bonds) by region

![Graph showing historical project finance volumes by region from 2000 to 2005. The graph indicates the dominance of the US market, followed by Europe and the Rest of the World (ROW).](source)

Source: Thomson Financial, Project Finance International, Oliver Wyman

Project finance grew rapidly in the late 1990s, particularly in the US telecoms and energy sectors, and in the UK PPP/PFI sector. The US energy crisis and the bursting of the telecoms bubble caused a sharp decline in 2002 and changed expectations of the projects being financed, with a deterioration in credit grades and a substantial increase in provisioning by many lenders.

The emerging markets led the recovery in 2004, with volumes growing to 44% of global origination in 2005. Asia, the Middle East and Latin America all experienced growth rates over 100%, with South Korea, Qatar and Mexico each generating volumes over $5 BN in 2005. Strong economic development in these countries has generated both the local pressure as well as the funding required to develop better local infrastructure. The rise of oil prices has also provided some developing countries with large cash flows, and improved the attractiveness of oil related projects such as extraction and refineries.

We expect project finance to continue growing strongly in both developed and developing markets. A joint study by the ADB, JBIC and the World Bank released in 2005 reported that emerging countries in East Asia alone need an estimated $200 BN in annual investments until 2010 to develop their local roads, water, communications, power and other infrastructure.

The sector breakdown of project finance volumes varies considerably between regions and has changed markedly over time. Telecoms was the second largest global sector in 2000 after power, representing 25% of global volumes, as companies invested in third generation infrastructure. Volumes have since dropped significantly to 7% of global origination.
Infrastructure finance has been the fastest growing sector, more than doubling from 14% of volumes in 2000 to 34% in 2005. This growth has been driven mainly by upgrading old infrastructure in Europe, (where the PPP/PFI structure pioneered in the UK has been adopted by several other countries) and by new infrastructure investments in emerging economies. North America is a relatively small market for infrastructure finance, because tax efficient municipal bonds provide a cheaper way for the government to finance investments.

The competitive landscape in project finance has changed considerably over the last five years. The market has become more fragmented, with the arranging share of the top 10 global players falling from 66% in 2000 to 30% in 2005. The economic turmoil in the US energy and telecoms sectors resulted in a number of high profile project finance defaults. Several players with large exposures to these sectors scaled back significantly. This included two of the top five arrangers, who publicly withdrew from the market completely. Regional and smaller local players stepped in to capture share as volumes recovered.

Despite the high default rates in 2001/02, actual losses were less dramatic. In the power sector, for example, recovery rates were up to 90%. Those banks that remained committed to project finance throughout the downturn avoided the level of losses initially feared (and provisioned for) by managing the restructuring and recovery process effectively.

The complexity of project finance deals allows arrangers to charge up-front fees in the region of 75 to 125 bps, and occasionally up to 250 bps on smaller deals. However, significant effort and expense is involved in analysing the cash flows and structuring deals to align risks and returns. Participants’ lower up-front investment in deal analysis means they tend to receive up-front fees between 40 and 60 bps.
Interest margins have been under significant pressure as market liquidity has outpaced the rapid growth in demand. Average interest margins across all project finance deals globally have declined steadily from 150 bps in 1999 to 110 bps in 2005. Also driving down overall margins is the larger portion of lower risk-return infrastructure finance. Many recent PPP/PFI deals have enjoyed ratings of AA and above.

**PPP/PFI**

Public Private Partnerships (PPPs) and Public Finance Initiatives (PFIs) refer to projects in which the public and private sectors work together to develop services and infrastructure. A PPP is any alliance between public bodies, local authorities or central government and private companies. PFI is one of the principal models of PPP, where the public sector transfers to the private sector responsibility for the provision of infrastructure, products and services.

PPP/PFI has three main advantages over traditional public investment:

- Deals may sit outside the public sector’s balance sheet and therefore do not affect macroeconomic debt indicators
- By introducing private sector investors who put their own skills and capital into the project, the public sector benefits from commercial efficiencies and innovations and timely delivery. (On-time and on-budget delivery is typically twice as frequent, and overall costs are 15 to 20% cheaper)
- Risks are allocated between the public and private sector to the party best able to manage them

PPP/PFI structures were originally developed in the UK but have recently been adopted by other countries across Europe, North America and Asia. Future demand is expected to be strong, with over $200 BN of global investment needs already publicly announced as planned for the next 5 to 10 years by various governments. Legal frameworks and responsible public bodies are being put into place, development and investment plans are being drafted and the potential private participants are lining up to arrange the finance, building, execution and operation of the projects.
Asset finance

Asset finance represents 8% of total structured finance volumes, with recent new loan volumes of $80 BN in 2005. Volatility of asset finance volumes over the past six years has been lower than other categories of structured finance, because the different cycle timing of the underlying products (aircraft, ships and rolling stock) provides some diversification.

Until 2000 the market was dominated by aircraft financing deals, which accounted for 60% of global origination. However, recent events have increased the overall importance of ship and rail finance, which represented 40% and 15% of total volumes respectively in 2005. This shift was driven by the continuing crisis in the airline industry, the boom of global trade with Asia and the increased pace of railroad privatisations in Europe.

Aircraft finance

The aviation industry has been through turbulent times since 2001. With most airlines struggling, particularly in the US, aircraft financing fell sharply from its peak in 2001 to the trough in 2004. Aircraft manufacturers saw many orders cancelled and deliveries fell for the first time in years. Cargo volumes recovered faster than passenger volumes, helping to reduce the overall impact of the crisis.

Volumes have recently started to pick up again as European budget airlines continue to flourish and traditional airlines refinance and modernise their fleets to reduce costs, particularly the large Asian players. However, the US has been slower to recover, with four major carriers remaining in Chapter 11 at the end of 2005. Airlines will continue to invest in revitalising their fleets, but depressed economics should restrict financing growth and banks will continue to operate cautiously.

After the crisis in 2001, margins in aircraft finance increased in line with the higher risk associated with lending to a struggling sector.
Deals attracted net interest margins as high as 250 to 300 bps. However, the newfound excessive supply of funding to asset finance means that margins are at an all time low; 30 to 100 bps is now typical for high-quality, low-risk aircraft finance deals.

**Ship finance**

Shipping is a global industry with flows of goods often involving both developed and emerging markets. Ship finance slowed during the late 1990s as over-capacity in worldwide shipping reduced the demand for new ship building and financing. However, led by cheap Asian exports and the boom in China, world trade volumes have exploded since 2002. And with 90% of world trade transported by sea, there has been a dramatic reduction in spare shipping capacity and improved financial results for shipping companies. Demand for ship finance has increased, as has banks’ willingness to supply it as their perception of the sector's risk improves.

The capital intensity of the sector is enormous and we expect that volumes will continue to grow as a result of the predicted growth in world trade. Competition amongst banks has driven down spreads, encouraging shipping companies to refinance existing deals at better rates and further fuelling volumes.

**Rail finance**

Rail finance has historically been dominated by the UK and US, where borrowers range from the big 'Class 1' railroads to small local short-lines, including freight companies and rolling stock leasing companies. The asset class has only recently started to grow in continental Europe, as rail networks are privatised and publicly run railroads consider asset finance as an attractive alternative to typical methods of public financing.

Unlike aircraft and shipping, rail is not a global industry. Differing specifications, such as rail gauge and safety requirements, mean that rolling stock is generally not internationally tradable. Consequently, rail finance is still relatively local. However, growing standardisation across Europe is making stock more interchangeable and helping to create a European-wide market.

Each class of asset finance is relatively concentrated among specialised banks who enjoy close relationships with manufacturers, borrowers and other lenders. A high degree of specialist knowledge is required to understand fully the risks involved and this creates a significant barrier to entry for potential competitors. One exception is aircraft finance, where fierce competition is leading to a near commoditisation of the product. The resulting margin squeeze is pressuring large players to look for deals in other asset classes.
Export finance

Export finance represents 8% of total structured finance volume, with $80 BN in new loans for 2005. Overall export finance volumes have been growing strongly, fueled by strong growth in global world trade between developed and emerging countries, especially in Asia.

Figure 8: Export finance volumes over time and world exports

Source: Thomson Financial, Oliver Wyman, World Bank, Export Credit Agencies, WTO

Export finance is the financing of exports of capital goods (and related services) from OECD to non-OECD or emerging countries. The financing is covered by an Export Credit Agency (ECA), which provides protection against political or corporate default risk. Financings of this type have tenors in a range of 2 to 12 years.

Historically, deals guaranteed by ECAs involved only Tier 1 corporates. More recently, however, the US Eximbank has given smaller borrowers access to export finance by reducing the minimum deal size to as little as $1 MM. When compared to other structured finance products, export finance deals are typically small, at an average $10 to 20 MM. This allows them to be financed bilaterally, with little to no demand for syndication of export finance loans.

Success in the export finance market depends on the lending bank’s ability to secure an ECA guarantee and knowledge of the international accounting and legal practices. Large banks with a strong international or regional presence, and with close relationships to the ECAs, dominate the export finance market. The market is concentrated, with the top 10 global arrangers capturing more than 40% of the origination volume. European and Japanese banks dominate the league table as important promoters of local exports. Apart from one global player, the US banks are small players in this market. Only 1% of American exports are ECA covered, compared to 4% in Europe.

Margins in export finance can vary significantly depending on the underlying terms and conditions of each deal and the level of ECA coverage. Country risk and the term of the loan are key factors in
determining the cost of the underlying ECA guarantee. Typical margins, net of ECA guarantees, are in the range of 50 to 75 bps. The bank retains the risk of the uncovered portion of the loan – typically 5 to 15% – and the counterparty risk of the ECA itself.

The recent interest of banks in providing export finance to the most successful emerging markets, such as Russia, Eastern Europe and China, together with ECAs providing up to 100% coverage to boost trade, is crowding the market and fees are being squeezed. Banks are now looking for higher returns from fringe emerging markets, such as India, Iran and lower profile Latin American countries such as Paraguay and Bolivia. However, ECA coverage in these countries is more difficult to acquire. Banks must instead rely on commercially available guarantees, which tend to be more expensive, more restrictive (in terms of tenor and coverage ratios) and slower to pay claims.

**Cross-product trends**

Beyond these product-specific market trends, several cross-product trends should be noted.

**Demand side**

- **Economic growth in emerging markets:** Emerging market economies have been undergoing a period of strong growth, driven both by robust domestic demand and rapidly rising exports. Growth is forecast to continue to outstrip developed markets significantly and the resulting investment will increase demand for finance across the range of structured finance products. The highly structured and collateralised nature of structured finance lending makes it particularly attractive to banks which can mitigate the otherwise high risk of lending to emerging markets and allows borrowers to escape the limitations of national funding.

- **Increasing corporate CFO sophistication:** Corporate CFOs are becoming increasingly sophisticated and are using more complex financial products to improve the capital structure of their businesses and to manage the risks being taken. Many corporates have invested in developing sophisticated techniques to analyse the financial impact and risks associated with acquiring an asset or undertaking a project. Corporates are now more open to innovative financing structures and products tailored to meet their risk appetite (notwithstanding the continuing taint of the Enron debacle). This increasing sophistication can also be observed outside the structured finance area. For example, we estimate that corporate spend on derivatives, used primarily to manage interest rate, FX and commodity price risks, has more than doubled over the last five years.

**Supply side**

- **Increase in primary participation of institutional investors:** Over the last 10 years, there has been a dramatic increase in institutional investor participation in primary structured finance deals, attracted by the healthy returns and opportunities to diversify risk. This is particularly the case for acquisition finance, the largest product type,
where institutional investors now comprise approximately half of the primary leveraged loan market, up from less than 20% in the late 1990s. This trend is most advanced in the US, where institutional investors provide over 70% of funds. In Europe their share is approximately 40%, and in Asia they are relatively inactive. CLO funds, which acquire, season and securitise pools of leveraged loans now make up a large portion of the institutional investor market.

We expect the institutional investors’ share of primary participation to continue to grow, with Europe and Asia following the US trend in leveraged finance. We also expect increased interest in other asset classes, as the search for yield and diversification continues.

Figure 9: Leveraged loan issuer by type of lender

Increase in secondary market liquidity: In parallel to an increase in institutional investor primary participation, we expect an increase in secondary market liquidity, driven by whole loan trades, but also by other methods, such as securitisations. Banks increasingly securitise on-balance-sheet loans to transfer risk and increase capital velocity. Securitisations are not limited to leveraged loans. There have been examples of pure structured finance securitisation across almost all asset classes, including UK PFI loans, shipping loans and ECA-backed loans.

The secondary market is still relatively small and illiquid, but we expect it to grow as banks increasingly use securitisations to release capital and to actively manage their portfolio. This will be particularly important for banks active in specific niches of the market, such as shipping, where significant concentrations can develop. On the investor side, access to single asset class securitisations can be attractive, enabling diversification and strategic positioning along the risk-return spectrum. However, increased investor demand (and therefore liquidity) will depend on improved risk transparency allowing investors to become comfortable with underlying risks.
Focus on cross-sell: Arranger banks are increasingly focusing on cross-sell to augment the economics of structured finance deals. The most successful arrangers generate a dollar of cross-sell fee revenue for every dollar of structured finance fees.

The complexity of the cash flows and risks involved in a structured finance deal requires the arranging bank to gain a strong understanding of the client and expertise in the industry. Risk mitigation products, such as high margin structured derivatives, can be a requirement for executing a deal and other product opportunities can be identified based on the broader understanding of client economics. The lion's share of cross-sell products are awarded to lead banks, increasing the competition and raising the bar for arranging mandates in structured finance.

Example products

<table>
<thead>
<tr>
<th>Structured finance</th>
<th>Cross-sell</th>
</tr>
</thead>
<tbody>
<tr>
<td>LBO finance</td>
<td>M&amp;A advisory</td>
</tr>
<tr>
<td></td>
<td>Equity derivatives</td>
</tr>
<tr>
<td></td>
<td>Bridging loan</td>
</tr>
<tr>
<td></td>
<td>Corporate banking services for the acquisition target</td>
</tr>
<tr>
<td></td>
<td>FX, cash and derivatives</td>
</tr>
<tr>
<td></td>
<td>Interest rate derivatives</td>
</tr>
<tr>
<td></td>
<td>Recapitalisation finance</td>
</tr>
<tr>
<td></td>
<td>High yield bond issuance</td>
</tr>
<tr>
<td></td>
<td>Equity issuance, as the exit for financial sponsors</td>
</tr>
<tr>
<td>Project finance</td>
<td>Interest rate derivatives</td>
</tr>
<tr>
<td></td>
<td>Commodity derivatives, particularly oil, gas and power</td>
</tr>
<tr>
<td></td>
<td>Inflation derivatives, particularly for infrastructure finance</td>
</tr>
<tr>
<td></td>
<td>FX, cash and derivatives</td>
</tr>
</tbody>
</table>

A public example of structured finance being at the heart of a series of cross-sold products is the 2004 Goldman Sachs Texas Genco deal described as “serial dealmaking”. Goldman advised the buyout firms, made a one-day $700,000 bridge loan to help repurchase Texas Genco’s public shares, joined in a $1.5 BN leveraged loan, co-managed a $1.1 BN private placement of high yield bonds and finally agreed to buy electricity from Texas Genco’s new owners on a fixed price contract.

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1 Private Equity Firms are Moving Up, Wall Street Journal, December 29, 2004

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Product economics

Here we explore the drivers of structured finance profitability for arrangers and participants.

Both arrangers and participants have specific revenues, costs and risk/capital characteristics, based on the different services provided. Arrangers are typically awarded higher up-front fees, compensating for the substantial effort that is committed to each deal, even before the mandate is secured. Participants must commit funds and capital throughout the life of the deal, and are compensated primarily by net interest margins on the drawn positions.

<table>
<thead>
<tr>
<th></th>
<th>Arranger</th>
<th>Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key revenues</strong></td>
<td>Up-front, fixed fees as % of deal value, plus revenue from cross-sold products</td>
<td>Interest margins on drawn positions</td>
</tr>
<tr>
<td><strong>Operating costs</strong></td>
<td>High: Time-intensive analytics and structuring, requiring high levels of human capital expertise and knowledge</td>
<td>Low: Monitoring and servicing costs</td>
</tr>
<tr>
<td><strong>Risk &amp; capital</strong></td>
<td>Medium: Reputation risk and underwriting risk</td>
<td>High: Financial and operational risk</td>
</tr>
</tbody>
</table>

Overall profitability of structured finance products is high, especially when compared to the low returns of other vanilla loan products.

Revenues

Structured finance origination represented approximately 15% of total global corporate lending origination volumes in 2005. However, we estimate that, at $60 BN, structured finance contributed approximately 35% of total lending revenues.

Figure 10: Global lending volumes and revenues by product

As % of total

<table>
<thead>
<tr>
<th></th>
<th>$6.5 TN</th>
<th>$150 BN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volumes</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Revenues</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Oliver Wyman
This skew between volumes and revenues has two causes:

- Structured finance lending tends to be very long term, especially for products such as project finance and asset finance which frequently have maturities of 15 years or more.
- Fees and net interest margins are higher for structured finance than vanilla lending, due to its greater complexity.

Acquisition finance (including LBO and recapitalisation finance) and project finance are the two largest revenue generators. At $35 BN and $15 BN respectively, they contribute almost 85% of total structured finance revenues. Figure 11 shows the product breakdown and two other important splits of the total revenue pool: between fee and net interest margin, and between arranger and participant.

**Figure 11: Total structured finance up-front fees and margins by product and by role**

<table>
<thead>
<tr>
<th>Product</th>
<th>Total Revenues $BN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition finance</td>
<td>$35 BN</td>
</tr>
<tr>
<td>Project finance</td>
<td>$15 BN</td>
</tr>
<tr>
<td>Asset finance</td>
<td></td>
</tr>
<tr>
<td>Export finance</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
</tr>
</tbody>
</table>

Source: Oliver Wyman

On average, up-front fees contribute ~35% of arranger revenues. Arrangers earn fees for their advisory, structuring or underwriting role in executing a transaction. At up to 200bp, they are a significant and attractive revenue source. In addition to fees, arrangers earn net interest income on the share of the lending which they provide, although this 'final take' can often be a small proportion of the total arranger volume. However, net interest income is generated not only on new originations but also on the stock of existing loans, and so contributes approximately one third of the average arranger revenue. This share of revenue will vary considerably between deals and arrangers, depending on the level of final take, and has a significant impact on profitability.

Total revenue generated by participants is approximately three times larger than arranger revenues. However, the revenue mix is dramatically different, with net interest margin comprising over 90% of revenues for participants. Additionally, not all of the $35 BN participation revenue is captured by banks: institutional investors are increasingly participating in primary acquisition finance loans, particularly in the US. We estimate...
that approximately 30% of participation revenue is captured by investors rather than banks.

Asset and export finance together generate revenue of approximately $10 BN, most of which is net interest margin. The majority of these deals are executed on a club or bilateral basis and so the economics are a combination of arrangement and participation. A significant share of asset finance revenue is also captured by non-banks, such as GE Commercial Finance, and GMAC, which are large players in aviation finance.

**Operating costs**

The different roles played by banks in a structured finance deal generate different operating costs but, overall, cost/income ratios are relatively low at ~40%.

The pure origination activity of arrangers, excluding participation in the final take, is cost intensive due to the high level of expertise required during the advisory, structuring, underwriting and distribution phases. Cost/income ratios are typically over 50% for these activities. However, since many of these costs are incurred before a mandate is won (and the revenue generated), cost/income ratios can be considerably higher, particularly for players with a low conversion rate.

Participation costs are considerably lower than arranging costs, with operating cost/income ratios at around 20-30%. Operating costs are incurred during the up-front analysis of deal feasibility and economics, and in the on-going monitoring and servicing of active deals.

Given the difference in operating cost between arranging and participating, it is important to measure the economics of each activity separately. By looking at an aggregate of both activities, or applying the same cost/income ratio to each, several players significantly underestimate the economics of participation. Additionally, the overall cost/income level will be affected by the relative proportion of arranging and participation. A shift towards more arranging will likely increase the aggregate cost/income ratio and could be viewed negatively, despite the more attractive risk-adjusted economics.

**Risk and capital**

Structured finance loans are complex, and the true underlying risk of each deal can be difficult to analyse. Because these deals are non-recourse, their risk depends on the economic sustainability of the underlying project or asset being financed, and the cash flows it generates against the loan servicing costs it needs to pay.

Risks are therefore deal specific and each facility needs to have its risk carefully assessed. Risks can also vary significantly through the life of a transaction. Project finance loans, for example, tend to be constructed around two main phases: construction and operation. The risk of each phase can differ substantially, driven by project-specific factors such as interest rates, currencies and commodity prices.
Basel 2 and Regulatory Capital Requirements

The approach to specialised lending under the new Basel 2 capital adequacy framework has been the subject of much debate since initial proposals were released in October 2001.

Initial reaction was extremely negative, as the first working paper took as its starting point the assumption that project finance is riskier than corporate lending. Unless a bank met stringent modelling and data criteria for the IRB-Advanced approach, they would have to use a foundation approach. This would result in much higher capital charges than under the previous framework. This would make all but the strongest specialised finance transactions uneconomic from a regulatory capital perspective.

Studies have shown that recovery rates in project finance are generally high. The mean recovery rate in the observed sample is 72% (with a median of 100%). This compares favourably with other forms of secured and unsecured corporate debt, where recovery rates are typically in the range of 40 to 60%.

As a result, the Basel rules have relaxed in two ways. First, the use of industry-wide pooled data has been deemed acceptable to qualify for IRB-Advanced. Second, risk weightings have been reduced for project finance loans, reducing but not eliminating the penalty for failing to qualify for IRB-Advanced. The approximate capital charges under each approach are shown below.

**Figure 13: Estimated capital charges under different BIS approaches**

<table>
<thead>
<tr>
<th>BIS assigned supervisory class</th>
<th>Foundation approach</th>
<th>Advanced approach</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Risk weight</td>
<td>Equivalent external rating</td>
</tr>
<tr>
<td>Strong</td>
<td>70%</td>
<td>BBB- or better</td>
</tr>
<tr>
<td>Good</td>
<td>90%</td>
<td>BB+ or BB</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>115%</td>
<td>BB- or B+</td>
</tr>
<tr>
<td>Weak</td>
<td>250%</td>
<td>B to C-</td>
</tr>
<tr>
<td>Default</td>
<td>0%</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: BIS, Oliver Wyman

Larger banks, which will be IRB-Advanced, stand to gain at the expense of smaller institutions. This has already led to a partial shake-out of bank participants, but fears of a major liquidity crunch as non-Advanced banks withdraw capital from the market have not yet materialised.
While economic capital requirements for most products are in the 4% to 8% range, export finance deals can require significantly less due to the ECA guarantee involved. Capital can be as low as 50 bps, although the cost of the guarantee, which depends on the risk of the country and borrower, must be taken into account.

In addition to the financial risks discussed above, there is an important additional risk involved with structured finance deals which often goes unmeasured: namely, underwriting risk.

Arrangers are responsible for distributing the deal, by finding the participants who will provide the funding. If there is an adverse change in market conditions, arrangers might not be able to distribute the deal to participants as originally intended. In this situation, they must either fund the deal themselves, which exposes them to greater financial risk and ties up significant capital, or re-structure the deal, which can publicly damage the arranger’s and borrower’s reputation. This is particularly an issue in LBO finance, where several deals have faltered over the last few years, leaving the arranger with substantially more exposure than they intended. While typically not capitalised, these risks must be monitored and can be mitigated through close cooperation between the origination and distribution functions.

**Profitability**

Overall profitability² of structured finance products is high, with some of the highest returns on capital across lending products. Returns are particularly attractive in comparison to vanilla lending, where RAROCs of 5 to 10% are common.

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² Profitability measures used in this report are based on RAROC (risk adjusted return on capital) and EP (economic profit) methodologies.
As shown in figure 14, profitability varies between products and roles. Export, LBO and recapitalisation finance stand out as the most profitable products. Export finance delivers strong returns because ECA guarantees can cover the majority of the risk of these transactions. Capital requirements are therefore generally low, resulting in high risk-adjusted returns, despite relatively thin net margins. LBO and recapitalisation finance are also highly profitable, driven by high fee levels which have not come under as much pressure as in other products.

Arranging is significantly more profitable than participation for all products, on average delivering approximately 10 percentage points higher return. Arranger profitability is often further enhanced by cross-selling ancillary products, such as derivatives.

**Figure 14: Typical RAROC ranges by product and by role**

We also observe significant variation around the average RAROC results within a product, with ranges of 10% or more around the mean. One cause of variation for arrangers is the level of the final take, since this determines the mix between pure fee income and capital-intensive net interest margin. The figure below shows the impact of the final take on profitability for an example project finance deal. Decreasing the final take from 30% of arranging volume to 10% increases RAROC by 10%, from 17% to 27%, but reduces total lifetime revenue (not discounted) from $3.4 MM to $1.8 MM on a typical sized $100 MM deal. Arrangers vary with respect to their willingness to commit balance sheet. Strong distribution capabilities or a focus on pure advisory are pre-requisites for those looking to minimise final take.
Variation in profitability, particularly for participants, is also driven by the risk/return characteristics of individual deals. As shown in figure 16, there is a wide range of deal-level RAROC, with deals of similar risk delivering returns of -20% to +50%. Given the lumpiness of many structured finance portfolios, with relatively few large transactions, this can have a significant impact on overall profitability.

Risk opacity is the main cause of this variation in deal profitability. Many deals are not publicly rated and banks therefore rely solely on their own internal risk measurement capabilities. However, these capabilities are often inadequate and do not capture the complexities and unique characteristics of structured finance transactions. For example, traditional balance sheet based rating tools are not suitable for assessing the risk of an SPV established to execute a project, where the
ability to repay depends on the cash flows from the project. Similarly, standard recovery estimates do not reflect the value of mitigation structures or assets.

As a result, pricing is often improperly related to risk: some deals are richly priced while others are severe value-destroyers. This contrasts with vanilla syndicated lending, where pricing has converged to a very narrow range for any given level of risk.

As risk measurement improves, we expect pricing to become better aligned with risk. However, in the short term, the range of pricing presents opportunities for players who properly understand the risk-adjusted economics. At the same time, there is a threat of adverse selection for less sophisticated players who will be left with the least profitable deals.

Revenue and economic profit projections

Total market revenue looks set to continue growing, driven by increased issuance volumes. We expect overall origination to grow at around 10% per year for the next five years across the entire structured finance market, although there will be pockets of growth (products and geographies) where this figure will be considerably higher.

However, we expect this volume growth to be partially offset by downward pressure on both participation margins and arranger fees.

Participation margins will decline as bank and investor appetite for structured finance debt continues to outstrip growth in demand. Up-front participation fees will also continue on their downward trend, driven by an increasing share of institutional investor tranches where zero up-front fees are commonplace. On the positive side, however, we expect the recent trend of increasing risk to be a relatively short term phenomenon. Leverage ratios and lending standards will gradually return to normal as the heat of the recent recovery subsides.

We expect several factors to drive increased competition for arranger roles and subsequent fee erosion. First, the decreasing economics of pure participation described above will prompt more players to target the arranger role to boost returns on capital. Second, the arranger market is becoming increasingly global, in part because of the availability of pooled data on international risks. Recent data pooling initiatives in project finance, for example, allow banks to evaluate risks and therefore enter new sectors and geographies, as illustrated by the wide range of arrangers in recent Middle East project finance deals. Finally, constrained balance sheet capacity is encouraging traditional participants to target arranger mandates.
In short, we project revenue growth of ~50% from 2005 to 2010. However, market economic profit will remain relatively flat, due to fee and margin erosion. Growing, or even maintaining, current profitability levels will present banks with a considerable challenge.
Business models and strategic implications

Business models

There are six main business models in the structured finance market. These models vary in terms of the capabilities they require, the resulting mix between participation and arranger roles and success in using structured finance deals to sell other products.

- **Typical participant:** approaches structured finance as a more profitable alternative to vanilla lending, but does not have deep sector or regional expertise due to participation across a broad range of deals. Unsophisticated risk measurement capabilities, based on relatively simple rating tools with limited tailoring for structured finance transactions.

- **Smart participant:** highly selective participation based on standalone risk-adjusted profitability of individual deals, with risks measured using sophisticated cash flow simulation-based tools. Strategic focus on specific sectors, products and geographies with deep expertise allowing the cherry-picking of the most profitable deals. Aggressive cost management, recognising the need for efficient portfolio management.

- **Typical arranger:** targets arranging roles, but is outside the top five in any region or sector. Heavy participation to win, or recover sunk costs from, arranger pitches rather than based on standalone profitability. Unsophisticated risk measurement capabilities, based on relatively simple rating tools with limited tailoring for structured finance transactions. Limited secondary loan sales and securitisation capabilities.

- **Smart arranger:** focused arrangement strategy with high conversion rate due to deep expertise and top five league table position in target sectors and regions. Limited participation, with final takes minimised and pure participation only in exceptional cases (e.g. to build expertise in a new area). Sophisticated cash flow simulation-based risk tools. Strong primary syndication, secondary loan sales and CLO/CDO capabilities to increase capital velocity. Aggressive cost management, with origination managed separately from portfolio management.

- **Cross-sell focused arranger:** as above, plus systematic capture of cross-sell revenues from directly related products (e.g. commodity derivatives, interest rate derivatives, FX, inflation derivatives).

- **Integrated arranger:** as above, plus structured finance function integrated with other products to capture the extra profit delivered by an end-to-end credit model.
Because structured finance can be very product and sector specific, some banks will exemplify more than one business model. For example, a bank may be a smart arranger in LBO finance and power-sector project finance, a typical arranger in other project finance sectors and not present at all in certain geographies. For most banks, however, one business model will be dominant.

As well as the different characteristics described above, each business model has a different revenue mix between net interest margin, fees and cross-sell revenue. Participants primarily capture net interest margin, with low fees and virtually non-existent cross-sell. Cross-sell focused arrangers, by contrast, have roughly an equal split between the three revenue sources.

**Figure 18: Revenue composition by business model**

<table>
<thead>
<tr>
<th>Cost/ income ratio</th>
<th>Typical participant</th>
<th>Smart participant</th>
<th>Typical arranger</th>
<th>Smart arranger</th>
<th>Cross-sell focused arranger</th>
<th>Integrated arranger</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-40%</td>
<td>20-25%</td>
<td>40-50%</td>
<td>30-40%</td>
<td>25-35%</td>
<td>25-35%</td>
<td></td>
</tr>
</tbody>
</table>

Revenue mix drives profitability. Because capital is closely linked to net interest income, a higher proportion of fees and cross-sell generally leads to a higher return on capital. However, we estimate that banks representing approximately 75% of the market by number and 50% by volume are in either the typical arranger or typical participant categories, which have the lowest average returns.

<table>
<thead>
<tr>
<th></th>
<th>Current RAROC</th>
<th>Future RAROC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical participant</td>
<td>5-15%</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>Smart participant</td>
<td>15-20%</td>
<td>10-20%</td>
</tr>
<tr>
<td>Typical arranger</td>
<td>5-20%</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>Smart arranger</td>
<td>20-30%</td>
<td>15-25%</td>
</tr>
<tr>
<td>Cross-sell focused arranger</td>
<td>&gt;30%</td>
<td>&gt;25%</td>
</tr>
<tr>
<td>Integrated arranger</td>
<td>&gt;40%</td>
<td>&gt;30%</td>
</tr>
</tbody>
</table>
The market trends described earlier will affect the profitability of each business model. They will be especially challenging for banks currently in the typical participant and typical arranger models, which will face strategic decisions over their level of ambition. Participants must either invest in sophisticated risk measurement capabilities and aggressive cost management in order to become smart participants or consider exiting the market completely. Typical arrangers will need to decide whether to invest in becoming smart arrangers or scale back their arranging ambitions and become smart participants.

The challenge for banks with the other business models will be to move towards the integrated model in order to maintain current profitability levels. Not all banks will be able to do so; the successful players will be those that define a clear strategy based on competitive advantages, and execute it successfully.

Figure 19: Strategic paths available by business model

Strategic implications

We believe there are five building blocks on which all players must focus to maintain or improve profitability in the changing structured finance market.

Strategic implications building blocks
Strategy

The most basic decision to be made is the choice of strategy, including which products, sectors and regions to compete in and which business model to adopt. The right answer depends on the specific characteristics and capabilities of individual banks. We recommend four steps in developing the appropriate strategy:

- **Identify competitive advantages**: Banks need to identify competitive advantages which can be used to win structured finance deals. Examples include balance sheet capacity, structuring expertise in specific products, derivatives capabilities, market knowledge in various sectors, local presence and relationships and distribution capabilities.

- **Determine risk appetite**: Participating in the structured finance market requires an appetite for risk. Borrowers are often highly leveraged or newly formed SPVs with no historical cash flows. Furthermore, transactions are typically large, particularly in acquisition and project finance. In order to win arranger mandates, banks need to be able to commit capital to participate in or underwrite deals. Pitching for a deal but subsequently having the proposal rejected can waste time and money, but most importantly, destroy credibility in the market. It is critical that a bank’s risk appetite be clearly defined up-front in terms of what risks are and are not acceptable.

- **Define target business model**: A realistic target business model needs to be selected, defining the relative focus on participation, arranging and cross-sell and taking into account existing capabilities and commitment to invest in the business. Products, sectors and regions, in which clear competitive advantages exist, should be targeted while other segments are clearly identified as out of scope.

- **Explore alternative non-debt business models**: Several banks have employed skills from structured finance and capital from private equity to move into alternative business areas, including direct equity participation and establishing third party funds (e.g. infrastructure funds). This can provide an incremental return on capital or, in some cases, lead to the development of a sustainable business in its own right.

**Equity participation**

As project finance margins have been squeezed, especially on relatively low risk infrastructure deals, banks have turned to equity participation to boost returns.

Banks are participating in several different ways. Some debt financing teams take equity stakes alongside the loans. Other banks have separated these activities and involve separate private equity teams in parallel with the debt team. Others have created funds to invest third party capital in infrastructure projects.

Direct equity participation uses the sector knowledge and skills embedded within project finance teams and can deliver attractive...
The performance of a structured finance division can be significantly affected by its organisational position within the bank and by its internal organisation. Its arrangement must ensure that sufficient specialist expertise is developed and that cross-sell is maximised by linkages between adjacent products.

**Positioning of structured finance:** The best position for structured finance varies, depending on the overall business mix of a bank. The structured finance division must be close to the deal flow and to the products to be cross-sold. While there is no single best solution, we observe two successful models. For banks with significant investment banking and capital markets capabilities, positioning structured finance within the fixed income division ensures proximity to other financing products and derivatives. For commercial banks, with a greater focus on traditional corporate banking products (lending, cash management etc.), a position close to vanilla lending can help shift the balance of lending from vanilla to structured finance.

**Organisation within structured finance:** There are two main dimensions to be considered when defining the internal team structure of structured finance. First, is the balance between product, sector and regional coverage. Typically, structured finance is organised into product teams, with either regional or sector sub-teams. Acquisition finance and rail finance tend to be run regionally, while project, aircraft and shipping finance tend to be run with global sector teams. Export finance is often run separately from other structured finance products, for example close to trade finance, although links to other structured finance products can be required, particularly for ECA-backed project and asset finance deals. The second dimension is origination vs. portfolio management (i.e. management of the loan book). The different economics of each activity (particularly in terms of costs) mean that these activities are best managed separately.

**Organisational ‘software’:** In addition to optimising the organisational structure, common elements of organisational ‘software’ underpin most successful players. This includes processes that ensure teams work together effectively, such as involving acquisition financiers early on in M&A advisory work, or creating...
a joint project/acquisition finance deal team for a transaction containing elements of both products. Performance metrics should also be constructed to incentivise cross-sell, for example by splitting or shadowing revenue from interest rate derivatives sold on the back of a project finance deal to both the project financier and derivatives desk.

**Risk and profitability measurement**

Understanding risk is crucial to structured finance. Risks need to be properly assessed, quantified and incorporated into consistent performance metrics so that informed decisions can be made both within the business and at higher levels (e.g. capital allocation). There is substantial work to be done in this area, as the risks and economics of the business are often opaque and not fully understood outside the front office (e.g. within the risk function and at senior management levels).

Three tasks are important:

- **Upgrade risk measurement tools**: Risk measurement tools must be upgraded to allow all risks to be consistently quantified, in terms of expected loss and economic capital requirements. In the case of project and asset finance, this requires cash flow simulation tools, which are the only way comprehensively to assess the complex risks involved. Across all product types, the approach to risk measurement must reflect the characteristics of individual transactions, including covenants, guarantees, level in the borrower's capital structure, etc.

- **Embed risk measures in decision support tools**: Consistent and transparent risk measures must be embedded in decision support tools and profitability calculators to allow pricing of structural features (e.g. pre-payment options) and to support deal selection decisions.

- **Embed risk measures in profitability metrics**: Profitability metrics used to measure *ex post* performance at the deal and business level should systematically include consistent risk measures. This will allow an apples-to-apples comparison with other deals and business units.

**Expertise**

Expertise is the key to winning structured finance mandates. Banks that can attract the best staff are able to offer the best ideas, the best products and the best execution. As a result, they achieve leading and more profitable roles in transactions and gravitate towards the top of borrowers' provider lists. This helps to raise productivity and, thus, compensation levels, thereby creating a virtuous circle of attracting and retaining the best talent and deepest expertise. The flipside of attracting business with expertise is that it increases concentration and risk in specific sectors, making portfolio management more important. There are four main areas of expertise to be developed:

- **Structuring**: Innovative products and structuring solutions can enable banks to stay one step ahead of competition. For example, sophisticated risk mitigation or tax efficiency optimisation can enable a lower interest margin to be achieved, providing a competitive advantage in winning an arranger mandate.
- **Sector knowledge**: Deep sector expertise can give banks an advantage in terms of understanding risks and, hence, proper pricing. Such expertise is especially valuable in highly specialised areas such as telecoms, power and shipping.

- **Primary syndication capabilities**: Developing primary syndication capabilities is critical for arrangers. Strong distribution provides a competitive advantage when pitching for arranger and underwriting mandates and also ensures that underwriting risk can be managed and exposure sold down to the desired level. Commercial banks generally have more work to do in this area than investment banks, who benefit from strong pre-existing investor franchises.

- **Derivatives expertise**: As described above, derivatives offer an opportunity to significantly augment the standalone economics of structured finance. Derivatives can also be included in deal structures to mitigate risks, such as inflation risk, to an acceptable level for both borrower and investor, thereby enabling deals that could not otherwise be executed.

**Portfolio management and secondary markets**

Banks require portfolio management and secondary markets capabilities to benefit from the increasing level of secondary market liquidity. Effective use of the secondary market allows banks to improve risk management, increase capital velocity and capture investor revenues.

- **Risk management**: Banks need to closely monitor the risks within their structured finance portfolio, including correlation and concentration effects, which can be significantly more pronounced than in general lending portfolios. Portfolio managers should have the capability and the mandate to execute transactions to reduce risks on individual exposures or to transfer portfolio-level risk to protect against systematic migration or remove high correlations (in a shipping portfolio, for example).

- **Capital velocity**: Banks should establish securitisation capabilities not only to manage risk but also to increase capital velocity. This is particularly important for those players facing capital constraints.

- **Investor revenues**: Portfolio managers should work closely with investor coverage teams to identify attractive asset classes which can be packaged and distributed to capture investor revenues.

**Case studies**

The following pages describe two ‘hypothetical case studies’. They give examples of how a typical participant and a typical arranger might improve their performance by attending to the building blocks of success in structured finance.
Typical participant

Context

A UK bank has a $5 BN structured finance portfolio – mostly European project and acquisition finance, with a focus on UK PPP/PFI but also a range of other sectors. The bank usually acts as a participant, resulting in a revenue mix of 90% net interest margin and 10% fees, with limited cross-sell. Average portfolio RAROC is 1%, compared to the Group target of 15% and the average 7% on vanilla lending. Due to the relatively small portfolio, the structured finance team uses simple risk tools.

Uplift opportunity

Figure 21: Improving economics of typical participant

- **Strategy**: Gain senior management commitment to invest in structured finance in order to meet profitability targets (or else exit). Identify PPP/PFI as a target due to its low risk-return characteristics (in line with Group risk appetite) and the bank’s existing expertise in this sector. Decide to target arranger status in this segment, initially in the UK, but with the intention of moving into the growing European and Canadian markets. Continue to participate in other sectors, provided deals are above target on a stand-alone basis and within defined risk limits. Agree not to use resources to pitch for arranger deals in other segments. Confirm business case and targets with senior management.

- **Risk and profitability measurement**: Invest in the development of a cash flow simulation-based rating tool for project finance transactions and tailor the general corporate rating tool to allow rating of pro-forma accounts for LBO transactions. Integrate risk measures into a standalone profitability calculator, including a scenario generator to analyse stress scenarios. Introduce a strict profitability criterion of >17% for non-PPP/PFI transactions and a review process for PPP/PFI transactions below this threshold.

- **Organisation**: Establish a dedicated PPP/PFI team, and a cross-product account planning process with the public sector coverage team.

- **Expertise**: Hire two to three specialists to cover French and Spanish PPP/PFI markets.

- **Portfolio management**: Develop a simulation-based portfolio model to monitor the loan book’s risk profile and concentration. Establish rules of engagement with credit the derivatives desk to provide hedging execution capability.
Typical arranger

Context

A European commercial bank has a $20 BN structured finance portfolio across all products, regions and sectors. The bank targets arranger mandates, but has significant participation, either to help win deals or to recover sunk costs on unsuccessful pitches. Fees represent about a third of revenues, overall cost/income is 45% and the RAROC is 17%. Some cross-sell is achieved, but this is not systematically tracked at the customer level. Lending volumes have increased across the group, resulting in strict capital constraints for vanilla lending and structured finance.

Figure 22: Improving economics of typical arranger

- **Strategy**: Identify specific segments in which to target top five position (mid-market European acquisition finance, oil & gas, power and asset finance). Discontinue pure participation, except for strategic purposes (e.g. to gain expertise in a particular country or segment). Determine senior management’s risk appetite in terms of maximum underwriting volumes and final takes, and translate this into target deals sizes and underwriting policies.

- **Risk and profitability measurement**: Increase the transparency of aggregate performance and risk reporting to demonstrate the high profitability (vis a vis vanilla lending) and increase share of capital.

- **Organisation**: Embed a small team of derivatives marketers within origination teams to identify and convert cross-sell opportunities. Establish a revenue-sharing agreement with the derivatives desk and systematically track revenues. Create a cross-product financial-sponsors coverage team. Separate the origination and portfolio management functions and develop performance metrics to improve the focus and efficiency of each activity. Consider integration with the broader capital markets business.

- **Expertise**: Re-deploy resources into target segments. Work with the derivatives desk to enhance derivatives capabilities in areas of potential cross-sell, particularly inflation and commodities. Strengthen primary syndication capabilities to minimise final participation and reduce underwriting risks.

- **Portfolio management**: Build a secondary loan sales desk and develop securitisation, structuring and distribution capabilities to allow the recycling of capital.
Conclusion

Structured finance is a large, diverse and growing market. And it is generally profitable, with leading banks generating returns on capital of 25% and better. However, there is wide variation in profitability, both between products and between deals within a product. This variation in profitability is caused, in part, by the opacity of (risk adjusted) profitability and, in part, by the disproportionate share of economic profit captured by arrangers.

These two facts make structured finance a smart players’ business. Winning mandates and selecting the right deals in which to participate are all about expertise – in structuring deals for clients and in measuring the risks those deals entail. Strong distribution is also essential, to maximise the profitability of individual deals and to increase capital velocity and origination capacity.

For players who can maintain or build the required smarts, structured finance will remain a profitable business. Other players should redeploy their resources – both human and capital – in less challenging businesses.