

OLIVER WYMAN

Corporate Risk

Corporate Portfolio Management

Capital allocation from a risk-return perspective



MARSH MERCER KROLL
GUY CARPENTER OLIVER WYMAN

Premise

Aligning the right information with the right people to make effective corporate decisions is one of the most common challenges facing senior management today. When addressing capital allocation and investment decisions, this challenge becomes even more formidable. The most critical determinant of an organization's long-term value is its ability to optimally allocate limited capital among large projects, new markets and merger and acquisition (M&A) decisions. Successful organizations make large investment and capital allocation decisions using a robust approach that analyzes each option's 'risk-return trade-off' and reflects each option's overall impact on the existing portfolio. Poor investments, on the other hand, can result in share price depression, lost market share, departure of key leadership and negative media attention.

By incorporating a risk-return perspective into **Corporate Portfolio Management**, organizations will be better equipped to answer the following questions:

1. How can risk¹ be incorporated into the decision making process so that multiple investment options are consistently evaluated?
2. Will the expected return in any single investment justify the level of risk required to pursue this option?
3. What is the optimal combination of investment options to achieve our mid- and long-term strategic objectives?
4. Where should I spend my next investment dollar?

¹ Risk refers to the volatility of performance (e.g. cash flow, earnings)

Utilizing a risk-return perspective to support these decisions will allow a firm to sustain growth and create long-term value. It can be applied to a wide variety of industry examples:

- Media and technology companies determining an appropriate business portfolio amid technological uncertainty
- Energy companies selecting an exploration portfolio amid political and price uncertainty
- Aerospace and automotive manufacturers choosing between business segments amid demand and project execution uncertainty
- Pharmaceutical companies allocating R&D dollars based on a portfolio view of their pipeline
- Companies considering a make vs. buy outsourcing decision within their supply chain
- Real estate companies determining the right mix of geographic vs. use combinations

Risk-based decision-making

Investment decision making has traditionally incorporated risk through the application of the Weighted Average Cost of Capital (WACC) to Discounted Cash Flow and Net Present Value calculations. However, the primary risk elements within WACC (risk premium and debt/equity mix) do not address all of the risks of the investment, especially those that are smaller and not easily quantifiable. For example, a WACC approach does not explicitly consider risks such as competitive response or technological shifts; these are reflected only in an intuitive manner. We have found that organizations often adjust the WACC ‘up or down, depending on how risky the investment intuitively feels.’ One Fortune 500 CFO candidly summed up this approach by stating, “If I like the investment, the WACC is 11%. If not, it’s 14%.”

This approach, however, relies far too heavily on judgment and intuition, and should be combined with a more robust analysis that considers factors beyond the current and expected states of the business. Such an analysis should incorporate all internal (strategic, operational and organizational) and external (macroeconomic, competitive, political and counterparty) risks that are introduced, as well.

By blending analytic risk assessment techniques into financial asset portfolio theory, senior management can utilize more robust decision making tools to answer the key questions surrounding optimal investment allocation outlined above. Additionally, senior management will be able to systematically include risk in investment evaluation, resulting in better management of corporate assets from a risk-return perspective, as illustrated by the case study presented in Figure 1.

Figure 1: Case Study

How a large manufacturing firm created an internal competitive capital marketplace?

Situation:

- The organisation had transformed itself from a state-owned conglomerate focusing mainly on domestic activities to a global player with multiple global assets
- With a high level of ongoing M&A activity, continual evaluation of highly capital-intensive investments and increasing exposure to international markets, the CFO wanted to improve the organisation's ability to compare multiple options from a true risk-return perspective in order to maximize value creation

Solution:

A three-pronged framework to support capital decision making: risk-return assessment, risk-adjusted WACC, and risk-return portfolio modelling

- **Risk assessments:** in each business unit are conducted using a Mercer Oliver Wyman methodology that supports consistent and systematic identification and quantification of all key risks within the business unit using common risk metrics
- **Risk-adjusted WACC:** Enables the organisation to incorporate the outputs from the risk assessment into the WACC for each BU and investment decision by defining the 'risk-adjusted capital structure' required (See Figure 2)
- **The risk-return portfolio model:** Defines the risk-return position of each of the company's assets, taking into consideration return on capital, risk, growth and correlations. The model allows the user to calculate the current position in the risk-return space (as a group) and evaluate how the group risk-return position would change as a consequence of new investments and/or acquisitions (See Figure 4)

Results:

- The organisation now accounts for the risk exposure within each business unit, investment opportunity or acquisition target using enhanced, quantitative risk assessment techniques.
- Decisions are based on strategic objective alignment as well as the prospective risk-adjusted return impact.
- Information is updated on an ongoing basis as relevant, new options emerge

Application

In our experience, we have found that the best approach utilizes three elements to develop a competitive internal capital marketplace for the organization: risk assessment, risk-adjusted WACC and risk-return portfolio optimization.

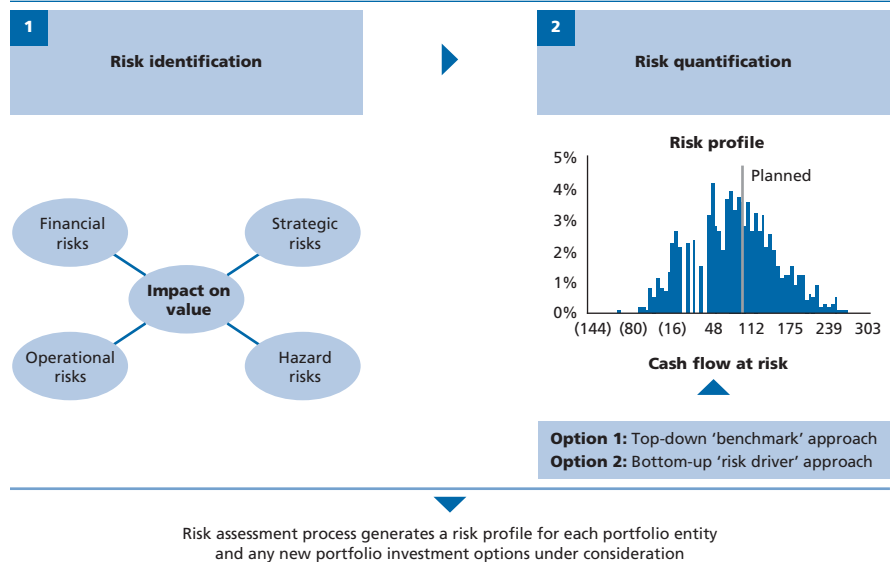
1. Risk assessment

Management should first undertake a detailed risk assessment that includes identification and quantification of all material risks in order to provide a clear understanding of current volatility in each portfolio entity (e.g. business unit, region, facility, program).

In this assessment process, management must first focus on developing a comprehensive understanding of risks from all risk categories (financial, strategic, operational, and hazard). The goal of the risk identification exercise is to highlight the risks that can have a material impact on the value of the company. The second step requires that a risk profile be developed through a quantitative analysis (either top-down or bottom-up) of volatility in the projected financial performance (Figure 2).

This type of assessment goes beyond the relative prioritization of key risks typically found on 'heat or risk maps' and offers quantitative risk metrics for use in decision making. In addition, this risk assessment highlights the cross-correlations between business units as well as new investment options, providing senior management with a more robust view of overall volatility and portfolio diversification effects.

Figure 2: Risk assessment



Once the risk assessment process has been completed, it provides the risk profile for each business unit detailed according to the methodology used. The bottom-up approach tends to be more fulsome, including specific information regarding each of the risks and risk drivers identified in the risk identification exercise. The top-down approach incorporates benchmarking information from across all relevant peer companies and sectors and focuses on using empirical data and scenario analysis in the development of the risk profiles.

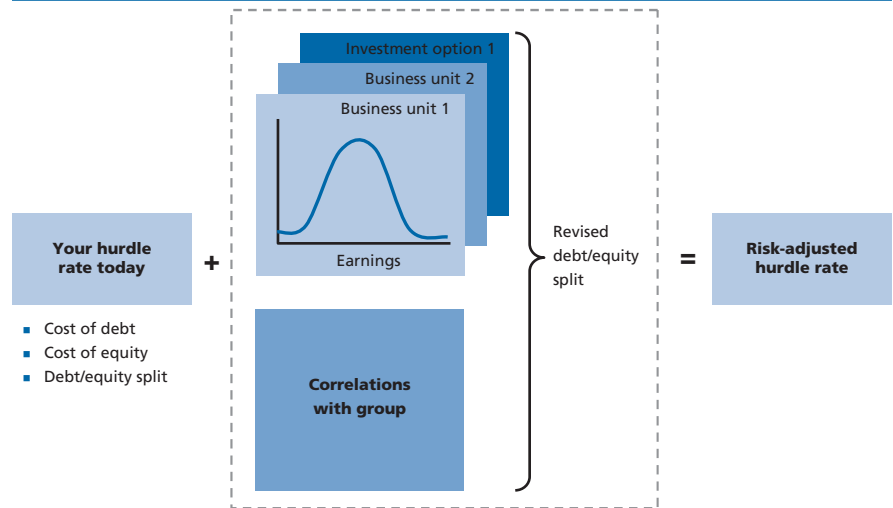
On its own, the traditional risk assessment does not solve the fundamental problem of integrating risk with decision making. In fact, most companies have conducted some form of risk assessment without forging this link. Our methodology ensures a more quantitative form of risk assessment that serves as the foundation for the two steps that follow.

2. Risk-adjusted WACC

Risk can be further integrated into investment decisions by adjusting the organization's existing WACC or investment hurdle rates according to the risk assessment outputs. This risk-adjusted WACC, which can be applied to business units or investment options, incorporates more than the typical cost of debt, cost of equity and debt/equity split components. The risk-adjusted WACC also reflects all risks and risk drivers for each current business and new investment option under consideration.

Operating under the theory of economic capital², our methodology adjusts the current hurdle rate according to the financial volatility of each portfolio entity and/or investment option under consideration. The volatility changes the equity capital requirement of each portfolio entity to create a 'risk-adjusted debt/equity split,' which is then used to determine the risk-adjusted WACC (Figure 3). This process also properly integrates diversification value into the analysis by considering the correlations between each of the portfolio components.

Figure 3: Risk-adjusted WACC



3. Risk-return portfolio modeling

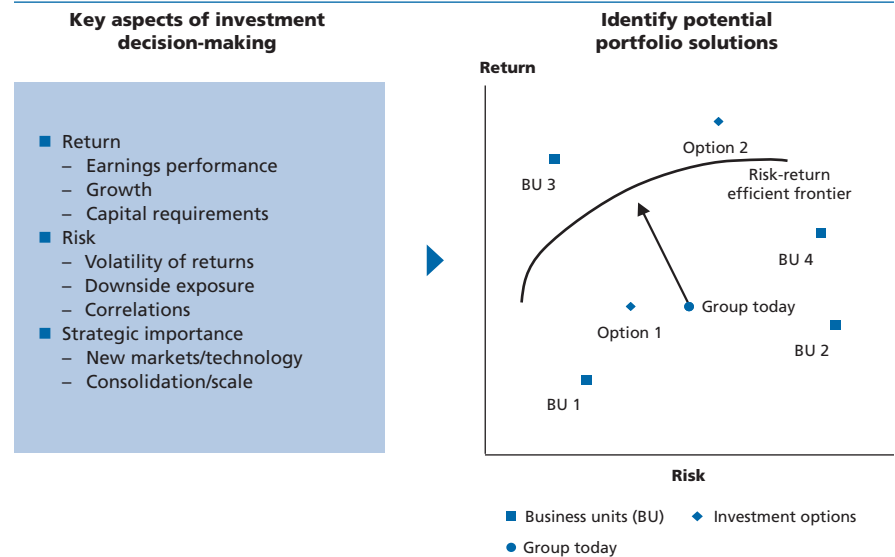
In addition to the risk-adjusted WACC approach described above, Oliver Wyman has developed a risk-return modeling exercise that provides management with:

- A before and after view of the business portfolio, pre and post new investments, from a 'risk-return perspective'
- A 'risk-return efficient frontier' that presents a series of potential options that boundary the optimal risk-return positions (knowing the efficient frontier can be especially effective in helping an organization define its risk appetite)
- A view of the direction of the company's portfolio and how it should migrate over time through a strategic plan
- The ability to plot new investment targets on the risk-return matrix and assess how well the organization is moving toward its optimal desired risk-return position

² The equity capital an organization should hold given the risk of its business activities, taking into account its own risk appetite

The portfolio modeling tool factors in a number of key inputs such as current returns, growth expectations and cross-correlations among existing business units, acquisition targets and investment opportunities. The quantitative risk metrics developed during the risk assessment are the most important of these inputs, as they provide the basis for including risk into capital allocation decisions (Figure 4).

Figure 4: Risk-return portfolio optimization



Strategic alternatives can then be viewed through a risk-return prism that defines new investments by analyzing the risk-return positions, the investment's impact on the group positioning and its relationship to the organization's overall risk appetite and direction.

Conclusion

While investment decisions should include the strategic concerns and management perspectives that pushed the company to initially investigate a given investment option, a risk-return quantitative analysis ensures that management will neither overpay for the potential strategic gain nor underestimate the potential risks of any new investment.

In comparison to current risk-based decision making practices, the Corporate Portfolio Management approach provides the following benefits:

- Increased decision making transparency through a more consistent evaluation of all business units and options
- A consistent approach to risk measurement
- A systematic way of including different views of risk in decision-making process
- A clear enhancement to the due diligence process
- Better understanding of value creation among new investment opportunities
- Consideration of the correlation and diversification effects of the organization's different businesses and investment options
- Guidance for strategic planning (e.g. identification of where the company needs to move to improve its risk-return position)
- Consideration of qualitative and non-financial implications

These benefits can easily be recognized across most organizations, regardless of size or industry. Our experience has shown us that a great deal of the information and expertise required by the Corporate Portfolio Management approach is already available within an organization. The key is to ensure that management understands and continually evaluates the risk-return position of both their organization's assets and new investment opportunities to create the most value in the long-term.

OLIVER WYMAN

Oliver Wyman is building the leading global management consultancy, combining deep industry knowledge with specialized expertise in strategy, operations, risk management, organizational transformation, and leadership development.

For more information please contact:

North America

marketingna@oliverwyman.com
+1 212 541 8100

EMEA

marketingeu@oliverwyman.com
+44 20 7333 8333

Asia Pacific

marketingasia@oliverwyman.com
+65 6510 9700

Copyright © 2006-2007 Oliver Wyman Limited. All rights reserved. This report may not be reproduced or redistributed, in whole or in part, without the written permission of Oliver Wyman and Oliver Wyman accepts no liability whatsoever for the actions of third parties in this respect.

The information and opinions in this report were prepared by Oliver Wyman.

This report is not a substitute for tailored professional advice on how a specific financial institution should execute its strategy. This report is not investment advice and should not be relied on for such advice or as a substitute for consultation with professional accountants, tax, legal or financial advisers. Oliver Wyman has made every effort to use reliable, up-to-date and comprehensive information and analysis, but all information is provided without warranty of any kind, express or implied. Oliver Wyman disclaims any responsibility to update the information or conclusions in this report. Oliver Wyman accepts no liability for any loss arising from any action taken or refrained from as a result of information contained in this report or any reports or sources of information referred to herein, or for any consequential, special or similar damages even if advised of the possibility of such damages.

This report may not be sold without the written consent of Oliver Wyman.



MARSH MERCER KROLL
GUY CARPENTER OLIVER WYMAN