

The background of the cover features a dark blue and black color scheme with various financial data visualizations. On the right side, there is a 3D bar chart with several bars of varying heights. Below it, a line graph with multiple colored lines (yellow, red, blue) is overlaid on a grid. Some numerical values like '-05.22', '00.01', and '-00' are visible on the graph. The overall aesthetic is modern and data-driven.

THE Frontier Line

Thought leadership and insights from Frontier Advisors

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An Enterprise Risk Management Platform for Australian Asset Owners

Part 3: Selecting the right type of investment risk
system

Frontier Advisors has been at the forefront of institutional investment advice in Australia for over two decades and provides advice over more than \$235B in assets across the superannuation, charity, public sector and higher education sectors.

Frontier's purpose is to enable our clients to generate superior investment and business outcomes through knowledge sharing, customisation, client empowering technology and an alignment and focus unconstrained by product or manager conflict.



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An enterprise risk management platform for Australian asset owners

Part III: Selecting the right type of investment risk system

Part III of our Enterprise Risk Management Platform series focuses on the range of configuration options available to institutional investors seeking to integrate an investment risk system into their investment management framework. First and foremost, this is dictated by an investor's objectives, organisational structure and unique circumstances.

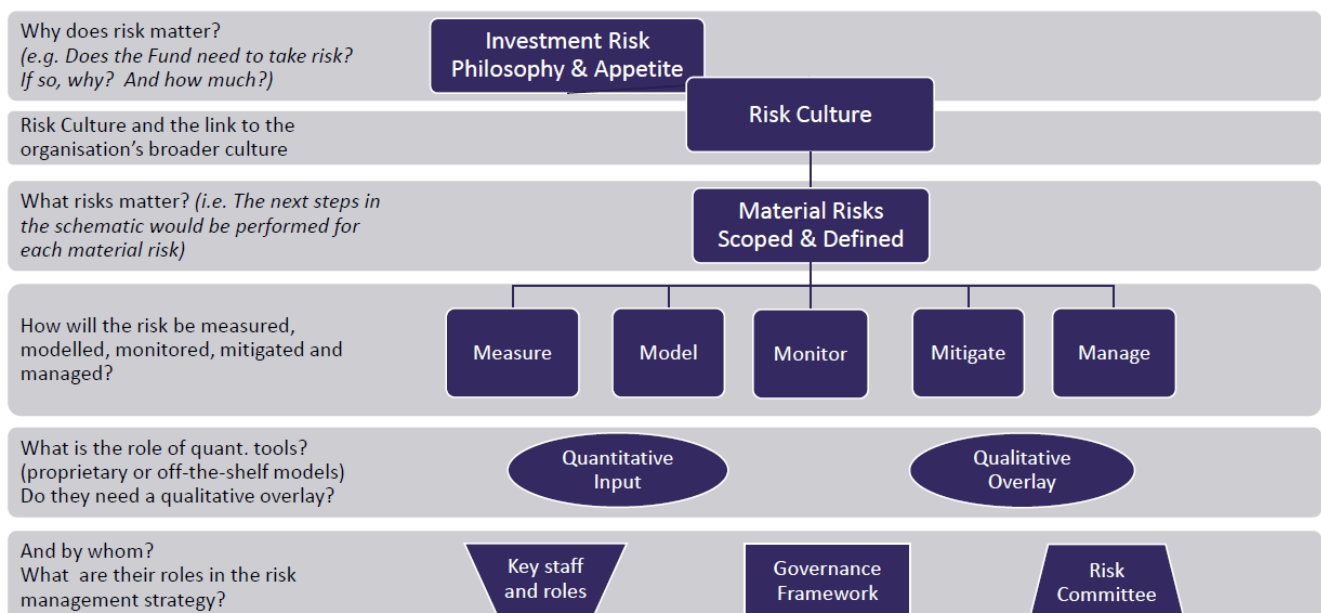
Being at the nexus of many different types of investors and investment risk system vendors, Frontier has seen firsthand that there is no one size fits all and no single solution for everyone. Rather, there is a spectrum of options available that can address regulatory requirements and add genuine value to the investment decision making process.

At the same time, there are pitfalls in implementing the wrong type of system – committing a large amount of resources to a project that may not deliver on its objectives or on its high expectations. Successful implementation is not defined solely by the system selected, but also the people involved, the supporting technology and the processes governing its use.

Building on Frontier's 2016 Look Forward paper, Figure 1 provides a clear risk strategy framework from which we derive our risk system configuration criteria.

This Frontier Line presents a practical checklist to examine the options available and determine which risk system configuration is most appropriate across a range of key dimensions, from portfolio complexity and anticipated future growth, to budget and resource constraints.

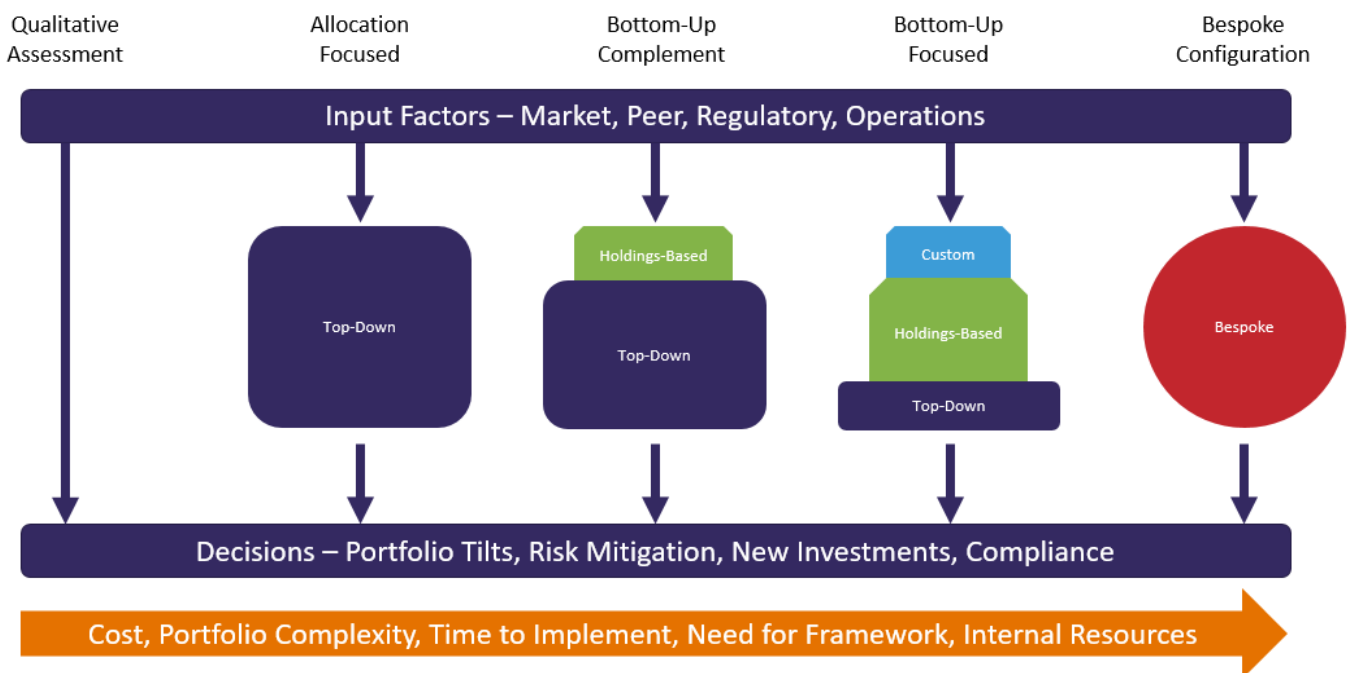
Figure 1: Risk strategy



Investment risk system configuration

We present five different risk system configurations. For each, we examine the suitability for different investors and also consider the internal triggers that flag a potential progression to the next configuration.

Figure 2: Frontier risk system configurations



The five configurations are:

1) **Qualitative Assessment** – while some analytics (e.g. spreadsheets) will be employed internally, information is largely qualitatively filtered, assessed and actioned. The investor’s investment governance framework outsources much of the modelling, stress testing and analytical monitoring.

2) **Allocation Focused** – risk analytics are conducted using a top down risk system, which derives analytics from representative benchmarks. This approach enables rapid analysis with simple and transparent models, minimal input-data requirements, and results that are not materially different to more detailed approaches (but equally not as granular or potentially as accurate).

3) **Bottom-up Complement** – an approach that centres on asset allocation, but uses a holdings-based system (e.g. Northfield, Barra, custom models) to supplement this analysis with a deeper understanding of individual security holdings for specific areas of focus. The latter focuses on large portfolio allocations, such as equities and fixed income, which are simpler to model. The key advantage is that security-level data and risk models for these asset classes are readily available and coverage by the vendor systems is very good.

Investment risk system configuration

4) Bottom-up Focused – a holdings-based system is the cornerstone of this approach and facilitates a comprehensive understanding of all asset classes on a security level. It is supported by a dedicated risk management function and data management solution. A key advantage is the ability to use highly granular and contemporary detail to understand the inter-relationships between asset classes and assets at the most fundamental level.

5) Bespoke Configuration – highly customised to the objectives and investment strategy. A Bespoke Configuration does not need to follow the traditional cascading strategies of Allocation Focused, Bottom-up Complement and Bottom-up Focused as detailed above. It is flexible and can include for example: smaller investors with insourced investment portfolios using a holdings-based risk system; or much larger and more complex investors pursuing a largely outsourced investment model necessitating only a top-down risk system approach. It depends entirely on the investment strategy.

The appropriateness of each of the above configurations for an investor should be assessed across four key dimensions.

Enterprise risk framework maturity – sophisticated and complex systems require a very clearly articulated and encompassing framework. This guides how the system will be used and its place in the broader governance hierarchy of the investor.

Portfolio complexity – complexity is usually a function of portfolio size. It covers the: portfolio construction philosophy; range of asset classes employed; types of investment vehicles (e.g. mandates); degree of internalised investment management; and size of the team.

Project constraints – time, budget and resources available to implement the system. Includes vendor selection, data management and integration, report customisation and change management.

Operational constraints – once the system is live and in use, the ongoing resources required to successfully operate the system. This includes consideration of data (collection, cleaning and loading), frequency of monitoring processes (daily, monthly, etc.) and ad hoc use of the system.



Configuration characteristics

The different configuration characteristics are detailed in the table below. Note these are for guidance only and are not definitive. A bespoke configuration reflects a composition of the below features and requirements depending on the investment strategy employed.

	Configuration	Enterprise Risk Framework	Portfolio Complexity	Project Constraints	Operational Constraints	Benefits
1	Qualitative Assessment	Investment governance outsources much of the analytical work	<\$1bn; Simple investment strategy; simple portfolio; reliant on external consulting and advice	Little or no explicit risk system budget	No dedicated risk resources	Assessment process to match simple and straight forward strategy
2	Allocation Focused	Clearly defined decision making framework	<\$10bn; Allocation focused investment strategy; well-diversified portfolio; small to medium internal team	Small risk system budget; limited project experience	No or limited risk resources	Efficient access to comprehensive metrics allowing appropriate monitoring and management
3	Bottom-up Complement	Comprehensive and formally incorporates use of a risk system	<\$50bn; Investment strategy that includes sector-customised portfolios; large and complex portfolio; some internal management; large internal team	Modest risk system budget; limited project experience; limited data management investment	1-2 FTE available to collect data and run systems	Sector-focused analytics; comprehensive understanding of internal investments; detailed analytical capabilities
4	Bottom-up Focused	Comprehensive, formal and holistic risk framework	>\$50bn; strategy focused on both asset allocation and underlying investments; complex and tailored portfolio; material insourcing; large internal team (with dedicated risk function)	Strategic program with adequate budget; integrated data management capability; internal project team or use of consultants	Dedicated data management, risk and IT teams	Comprehensive analysis of insourced investments; specific research projects; risk budgeting framework; comprehensive understanding of portfolio inter-relationships

The final words....

Responding to an increasingly complex market, peer and regulatory environment, investors are searching for risk tools to enhance their ability to govern their investment portfolios. There are many options available to them, ranging enormously in function, sophistication and cost.

In this regard, there is no panacea and no one-size-fits all solution. Investors need to comprehensively evaluate their unique objectives and requirements prior to picking or developing an appropriate risk system. Fit-for-purpose is an overarching requirement.

We encourage investors to talk to our experienced Quantitative Solutions Group about establishing an investment risk system program that is customised, practical and accretive to their investment governance framework.





About Frontier Advisors: Frontier Advisors is one of Australia's leading asset consultants. We offer a range of services and solutions to some of the nation's largest institutional investors including superannuation funds, charities, government / sovereign wealth funds and universities. Our services range from asset allocation and portfolio configuration advice, through to fund manager research and rating, investment auditing and assurance, quantitative modelling and analysis and general investment consulting advice. We have been providing investment advice to clients since 1994. Our advice is fully independent of product, manager, or broker conflicts which means our focus is firmly on tailoring optimal solutions and opportunities for our clients.

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