

Axioma Case Study

SEB's Implementation of Axioma Risk

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“We have now put in place one of the most sophisticated risk systems in the world,” says Hans Johnsson, Head of Risk Control - Wealth Management, for Skandinaviska Enskilda Banken AB (SEB). In this case study, Axioma examines SEB's implementation of Axioma Risk™, the global, enterprise-wide multi-asset class risk management system that unifies the front and middle offices.

“Before Axioma Risk, the investment managers were looking at risk in one way and the risk-control people were looking at it in another way,” adds Rikard Andersson, Asset Class Head - Equities. “We now have one common system, with everyone talking about risk using the same numbers and looking at those numbers in the same system. And that has really moved us forward, not only in terms of knowledge, but in terms of cooperation within the organization itself.”

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Case Study: SEB's Implementation of Axioma Risk

Axioma Risk processes 45 different asset classes for SEB, ranging from simple listed equities to complex OTC derivative contracts

Ask for the impressions of those involved in SEB's implementation of Axioma Risk—from both the SEB and the Axioma sides—and you will get roughly the same answer: "It was much harder than we expected."

That said, when asked how SEB feels about where they are now, Hans Johnsson, Head of Risk Control - Wealth Management, said, "We have now put in place one of the most sophisticated risk systems in the world." To which Rikard Andersson, Asset Class Head - Equities, added, "At first, we saw it only as an investment in infrastructure. But now, looking at what actually happened, it was an investment in the knowledge of the organization."

For Axioma and SEB, the work is not yet complete. Implementing a global, enterprise-wide risk management system in an organization like SEB is not, needless to say, a turn-key process—SEB and Axioma continue to work on enhancements. But the biggest hurdles have been surmounted. The collaborative effort by SEB and Axioma has resulted, first and foremost, in a solution that is ramping up to SEB's high expectations. "Beyond that, pioneers always make the way easier for those who come after them," said Ian Webster, Axioma's MD for Europe. "Thanks to the collaborative work we continue to do with SEB, future implementations of Axioma Risk will be simpler and faster—and the product itself more robust."

For Skandinaviska Enskilda Banken AB (SEB), one of the largest financial institutions in northern Europe with more than €180 billion in assets under management, the shortcomings of the company's existing risk management system began to manifest themselves in 2011.

"What was really missing was the link to the investment-management unit," said SEB's Johnsson. "The investment management unit thought they could use their own system to look at risk and—for a number of reasons—that was not the best way forward from an overall risk-management perspective."

It was essentially a matter of alignment between the risk-management team and the investment team.



“The numbers the risk management team was looking at said that the front office guys were exceeding their risk targets,” explained Frederik Gärdfors, Account Manager at Axioma. “So the investment-management unit would be told to rebalance to get within limits. The front office would respond by saying, ‘no way, the risk numbers we’re looking at say we’re OK—and rebalancing is going to cost us money and alpha.’ At the end of the day, just too much time was being wasted arguing over whose numbers were right.”

And in the wake of both the global financial crisis and increasing client demands for transparency, the regulatory landscape was also changing. To address those changes, SEB had successfully layered solutions on top of its existing risk platform. But that was clearly only a stopgap solution.

“The requirements—and the scope of the requirements—have gone up significantly over the years,” said SEB’s Andersson. “We saw that we needed a system that could address these changing requirements.”

“Transparency is very high on our agenda—being able to not only show the risks, but to explain them,” added Andersson.

SEB had been a client of Axioma since 2010, when it implemented Axioma Portfolio™ on the equities side of the business. The Axioma Portfolio suite (Axioma Portfolio Optimizer™, Axioma Backtester™, Axioma Portfolio Attribution™ and Axioma Portfolio Analytics™) is used by portfolio managers to implement investment strategies quickly and accurately.

“SEB had made very effective use of Axioma Portfolio—it improved their processes and that led to a good relationship with us,” said Webster. “We knew that they were looking at their risk-management platform, so as we were launching Axioma Risk in 2010, we offered them the opportunity to join the Charter Group.”

The Charter Group approach has been used effectively by Axioma since the company was founded on 2000. When developing a new product, Axioma invites a small group of clients to join the Charter Group. Participants benefit from substantial savings in return for their active collaboration in testing, enhancing and refining the product, often in ways that deliver specific benefits to each of the Charter Group members. For example, SEB’s participation resulted in features that address unique Nordic requirements.

Axioma Risk was developed over a three-year period by a team assembled by Axioma specifically for the project. The result is a “unified” multi-asset class risk-management platform for middle-to-front office users, providing portfolio managers, risk officers, asset owners and consultants with risk reporting, risk analysis and decision support for multi-asset class portfolios. It is called a “unified” platform because when managers build portfolios, they look at risk in a way that aligns with their specific strategies. In contrast, a risk control officer takes a



much broader view that looks at risk in the context of the entire firm. Axioma Risk provides both views on a single unified platform, enabling portfolio managers and risk officers to speak the same language when it comes to risk.

“Before Axioma Risk, the investment managers were looking at risk in one way and the risk-control people were looking at it in another way,” said Andersson. “We now have one common system, with everyone talking about risk using the same numbers and looking at those numbers in the same system. And that has really moved us forward, not only in terms of knowledge, but in terms of cooperation within the organization itself.”

Axioma Risk helps meet the needs of both SEB’s risk- and investment-management teams by providing multiple ways of looking at risk for multi-asset class portfolios—granular and factor models, stress testing, VaR, sensitivities—in one system sitting atop a consistent data source.

One of SEB’s specific requirements was that Axioma be able to model all the assets in SEB’s book. Axioma not only proved that it covered all the basic instruments across SEB’s fixed income, hedge fund and CTA portfolios, but went on to demonstrate how it could quickly add analytics for new asset types by modelling specific Swedish fixed-income assets.

Axioma Risk is also beginning to prove its value to SEB’s investment team, as PMs learn to use Axioma Risk as a pre-trade system, running “what-if” scenarios and identifying trade alternatives. The risk-management team uses Axioma Risk’s API to run their daily batch process of pre-defined reports across SEB’s entire book. Risk managers can then run ad hoc reports to analyze outlying assets.

In addition, the configurability of Axioma Risk allows both PMs and risk managers to tailor risk analytics to their unique perspective. This new capability enables SEB managers to experiment with stress tests configured for different scenarios, rather than relying on the hard-coded reports of their existing provider.

The fact that Axioma Risk is fully customizable appealed to SEB, because it enables both portfolio managers and risk managers to tailor risk reporting and analysis to their specific needs, but within the same system and with comparability. Users may choose single or multi-step simulations, historical (empirical) simulations, Monte Carlo simulations or linear parametric models. The simulation-based analytics utilize Axioma’s Robust Factor Models, which are fully integrated into the platform. Multiple built-in options enable users to fine-tune their analyses and results, and to create stress tests to measure the impact of potential events. Front-office quality analytics utilize a leading pricing library, and the platform is fully integrated with market data, thus providing a solution for handling exchange-traded and illiquid securities.

“Looking back, it was a very challenging process, because I think we misunderstood how mature the system was when we first engaged with Axioma,” said Andersson. “But the one thing that



we saw was that they could solve the analytical problems, and that gave us a way forward. We knew then that if things popped up, we could see a way forward and that was the opportunity.”

Ian Webster has nothing but praise for his counterparts at SEB. “An effective collaboration effort requires great partners, and the team at SEB are a very, very good group to work with—straightforward, honest, patient, no nonsense and unwilling to settle for anything but the best.”

Indeed, SEB sees even greater potential for the system. “We have a lot of goals and aspirations, in terms of making this a truly global, truly enterprise-wide risk-management system for all asset classes. We now have a very strong foundation in place. The basics are all there. The next step is to further develop the risk measures, to make them more granular and more suited to SEB’s specific needs—and that process is ongoing with Axioma. Complete harmonization of risk systems between portfolio management and risk control is our next goal.”

Axioma is also in the process of developing a new graphical interface for the platform. The improved GUI is designed to take into account specific workflows and allows users to custom configure those complex flows in ways that makes them easier to digest and manage.

“Right now we have a number of superusers who fully grasp the system, but we need to make it more user friendly in order to widen the number of people who can use it on a daily basis—that’s the challenge for this year,” said Johnsson.

After completing a thorough proof of concept, SEB chose to standardize on Axioma Risk, and to discontinue its use of MSCI’s BarraOne.

Through the proof-of-concept, SEB thoroughly evaluated its risk-management practices and existing and potential needs, and concluded that it could address SEB’s most critical requirements with Axioma Risk.

- Axioma Risk proved itself as a true enterprise-wide, multi-asset class risk solution, with the sophistication to understand interactions between portfolios.
- Axioma Risk delivered all the analytics necessary to meet SEB’s regulatory requirements, and SEB is confident that Axioma Risk has the flexibility to meet the demands of a constantly evolving regulatory environment.
- Axioma Risk allowed SEB’s risk managers and portfolio managers to understand each other, by providing a common language of risk, for the better management of risk.



- Axioma Risk—and Axioma’s collaborative approach—continues to give SEB the support and flexibility it needs to develop a truly unique and powerful enterprise-wide multi-asset class risk-management platform

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