MRM PROGRAM MATURITY ASSESSMENT

ABSTRACT

An effective, mature Model Risk Management program can contribute to the bank's bottom line by avoiding losses, reducing costs, and improving efficiency in capital planning. To assess the maturity of MRM practices within banks we evaluate program maturity by focusing on nine characteristics of such programs.

ECON | Analysis, LLC

January 2020

MODEL RISK MANAGEMENT: **PROGRAM MATURITY ASSESSMENT**

1. Introduction

In recent years, the importance of Model Risk Management ("MRM") in the financial services industry has increased dramatically. An increasing reliance on models coupled with increasing regulatory challenges required banks to invest substantially in developing a model risk management function. The scarcity of talent in the area requires bank to strive for increased efficiency in model risk management.

As the number of models and their complexity increases the MRM function is evolving. An effective, mature MRM program can contribute to the bank's bottom line by avoiding losses, reducing costs, and improved efficiency in capital planning.

2. Model Risk

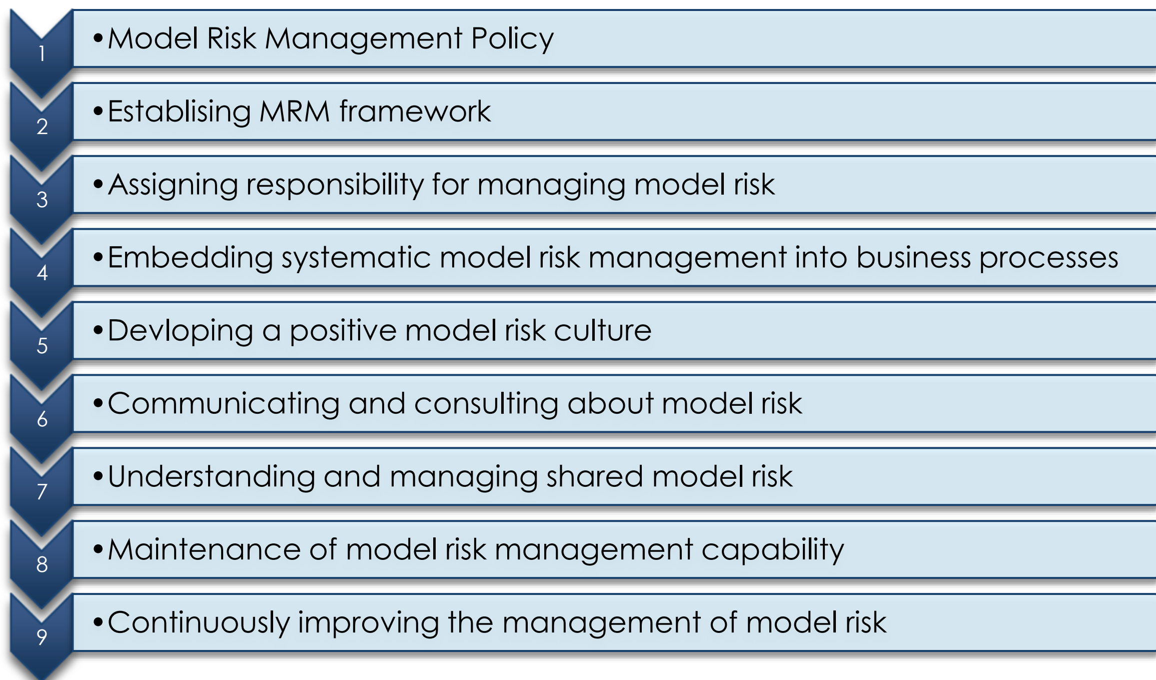
Data-based financial models can improve business decisions. However, financial models and their implementation are complex, and their complexity increases as markets, regulations, and business conditions continuously change. Relying on financial models exposes banks to model risk, which stems from either relying on erroneous models or model misuse (or both.) If a model is erroneous or inappropriate, forecasts will be biased, planning and resource allocation will be flawed, risk factors will be hidden or their estimated magnitude will be biased, and policy will not be effective. Basing decisions on incorrect models or misinterpreting, and consequently, misusing the models' results can cause banks adverse consequences including direct financial loss, loss of competitive position, wasted time and resources, and possible exposure to legal suits. It is thus imperative that banks actively manage the risks posed by relying on financial models.

3. How to assess the maturity of an MRM program?

A bank's ability to effectively manage model risk depends on the maturity of its MRM program.

To assess the maturity of model risk management practices within banks we evaluate the level of maturity of nine elements (See Figure 1). The first, most basic, element to examine is whether the bank has established a model risk management policy. Such policy should define the approach and rationale for managing model risk within the bank and has to be endorsed by the relevant authority within the bank. The second element is the establishment of a model risk management framework which optimally specifies the techniques to identify, analyze, and measure current and future model risk. The third element to examine is whether the bank has clearly identified the business units responsible for managing model risks. The fourth element to examine is whether model risk management is embedded consistently across the bank into business processes such as planning, budgeting, and reporting, and the degree of model risk that is tolerable is clearly defined and utilized at all levels of the bank.

Figure 1: Elements of Model Risk Management Maturity



The fifth element examines to what degree does the culture of the bank demonstrate and promotes an open and proactive model risk management. The sixth element requires the development and use of a common model risk "language" across the bank so that risks are communicated to and are understood by all staff members. The seventh element examines to what extent the concept of shared model risk and the arrangements for managing it, including recording, monitoring, and reporting, are reflected in the bank's governance framework and business processes. The eighth element examines the allocation of resources dedicated to maintaining the bank's model risk capability including budgeting, training of personnel, the practices surrounding the dissemination of model risk information within the bank, and the processes for allocating resources for the management of current, future, and emerging model risks. The ninth element examines the bank's efforts to improve the effectiveness of the model risk management program. A mature MRM program strives to continuously monitor its processes and learn about its outcomes. Its review is often conducted by an independent third-party.

While some of these elements necessarily present in any MRM program, they might be present at a fundamental level or they can be more evolved and integrated to different degrees in the bank's decision-making processes. Models continuously change for different reasons (e.g., the input data may be updated or the business environment may change) which results in a change in the risks associated with the models. Consequently, a mature model risk management program has to include a self-evaluation component which should provide the bank a practical way to determine its current maturity levels with respect to model risk management practices and define a targeted level of maturity.

About ECON | analysis, LLC

ECON | Analysis, LLC is a provider of risk management consulting services, dedicated to helping financial institutions identify, quantify and mitigate model risk. ECON | Analysis, LLC combines academic, technical, and business expertise to provide highly-customized solutions to the model risk management problems our clients face. We deliver unmatched value to our clients by relying on research-based analyses and by offering full transparency about our work.

Visit us online at www.econ-analysis.com for more information.

ECON | Analysis, LLC

80 Hillside Terrace
Belmont, MA 02478
info@econ-analysis.com

©Copyright 2020, ECON | Analysis, LLC. All rights reserved. No part of this document may be reproduced, stored in a retrieval system, transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the express written permission from ECON | Analysis, LLC. The information contained herein is subject to change without notice. All other trademarks mentioned herein are the property of their respective owners.