RESTORING FINANCIAL STABILITY

How to Repair a Failed System

Viral V. Acharya
Matthew Richardson

EDITORS

WILEY FINANCE

NEW YORK UNIVERSITY LEONARD N. STERN SCHOOL OF BUSINESS
The Operations’ Vignette

- RM Systems
- Models and Risk
- Process Excellence and Risk
  - Connection between “Process Thinking” and Risk
  - Governance processes and Incentive Architecture
  - Regulation: Rules vs Enforcement Processes
- Complexity
  - Standards, Customization and Product Complexity
  - Speed of product innovation vs support systems
  - LCFI, TBTF, and Focus; “Remote sites”
- Crisis Management
RM at Lehman

“Essential in our approach to risk management is a strong internal control environment with multiple overlapping and reinforcing elements. Our Risk Management Division develops policies and procedures to identify, measure and monitor the risks involved in our global trading, brokerage and investment banking activities. Our approach applies analytical rigor overlaid with sound practical judgment. We work proactively with the business before transactions occur to ensure appropriate risk mitigants are in place”

Lehman Brothers Risk Management Group,
RM at Lehman

“Essential in our approach to risk management is a strong internal control environment with multiple overlapping and reinforcing elements. Our Risk Management Division develops policies and procedures to identify, measure and monitor the risks involved in our global trading, brokerage and investment banking activities. Our approach applies analytical rigor overlaid with sound practical judgment. We work proactively with the business before transactions occur to ensure appropriate risk mitigants are in place”

Lehman Brothers Risk Management Group,
“Essential in our approach to risk management is a strong internal control environment with multiple overlapping and reinforcing elements. Our Risk Management Division develops policies and procedures to identify, measure and monitor the risks involved in our global trading, brokerage and investment banking activities. Our approach applies analytical rigor overlaid with sound practical judgment. We work proactively with the business before transactions occur to ensure appropriate risk mitigants are in place”

Lehman Brothers Risk Management Group,
RM at Merrill Lynch

Given our view that it is behavior – not quantitative modeling – that is important in managing process risk, our comments on the Basle proposal are as follows:

• the objective of regulation should be to motivate management to create robust process risk controls and procedures ....

• In summary, the key message is that management practices that oversee the effectiveness of controls critically determine the likelihood of losses – and preparation for unanticipated external events. This should be the focus of regulators.

• The current regulatory focus on quantitative modeling risks framing the entire topic as a complex computational problem.

• Our recommendation is that you allow the industry to provide leadership in pioneering the management disciplines that prove effective at controlling process risk – and then develop risk models that support the implementation of those disciplines.

RM at Merrill Lynch

Given our view that it is behavior – not quantitative modeling – that is important in managing process risk, our comments on the Basle proposal are as follows:

• the objective of regulation should be to motivate management to create robust process risk controls and procedures ....

• In summary, the key message is that management practices that oversee the effectiveness of controls critically determine the likelihood of losses – and preparation for unanticipated external events. This should be the focus of regulators.

• The current regulatory focus on quantitative modeling risks framing the entire topic as a complex computational problem.

• Our recommendation is that you allow the industry to provide leadership in pioneering the management disciplines that prove effective at controlling process risk – and then develop risk models that support the implementation of those disciplines.

Given our view that it is behavior – not quantitative modeling – that is important in managing process risk, our comments on the Basle proposal are as follows:

• the objective of regulation should be to motivate management to create robust process risk controls and procedures ....

• In summary, the key message is that management practices that oversee the effectiveness of controls critically determine the likelihood of losses – and preparation for unanticipated external events. This should be the focus of regulators.

• The current regulatory focus on quantitative modeling risks framing the entire topic as a complex computational problem.

• Our recommendation is that you allow the industry to provide leadership in pioneering the management disciplines that prove effective at controlling process risk – and then develop risk models that support the implementation of those disciplines.

Given our view that it is behavior – not quantitative modeling – that is important in managing process risk, our comments on the Basle proposal are as follows:

• the objective of regulation should be to motivate management to create robust process risk controls and procedures ....

• In summary, the key message is that management practices that oversee the effectiveness of controls critically determine the likelihood of losses – and preparation for unanticipated external events. This should be the focus of regulators.

• The current regulatory focus on quantitative modeling risks framing the entire topic as a complex computational problem.

• Our recommendation is that you allow the industry to provide leadership in pioneering the management disciplines that prove effective at controlling process risk – and then develop risk models that support the implementation of those disciplines.

Given our view that it is behavior – not quantitative modeling – that is important in managing process risk, our comments on the Basle proposal are as follows:

• the objective of regulation should be to motivate management to create robust process risk controls and procedures ....

• In summary, the key message is that management practices that oversee the effectiveness of controls critically determine the likelihood of losses – and preparation for unanticipated external events. This should be the focus of regulators.

• The current regulatory focus on quantitative modeling risks framing the entire topic as a complex computational problem.

• Our recommendation is that you allow the industry to provide leadership in pioneering the management disciplines that prove effective at controlling process risk – and then develop risk models that support the implementation of those disciplines.

RM at Merrill Lynch

“.... Former executives say Mr. Fakahany had weakened Merrill's risk management unit by removing longstanding employees who "walked the floor," talking with traders and other workers to figure out what kinds of risks the firm was taking on......... Mr. Semerci would chastise traders and other moneymakers who told risk management officials exactly what they were doing, a former senior Merrill executive said.”

RM at UBS

• We recognize that taking risk is core to our financial business and that operational risks are an inevitable consequence of being in business. Our aim is not, therefore, to eliminate all risks but to achieve an appropriate balance between risk and return.

• Business management is accountable for all the risks assumed throughout the firm ...

• An independent control process is implemented to provide an objective check on risk-taking ...

• Comprehensive, transparent and objective risk disclosure....

• “Good risk management and control lie at the heart of any business, particularly a financial services firm – they are integral parts of providing consistent, high-quality returns to shareholders. If we fail to adequately manage and control our risks we may suffer significant financial losses. Potentially more important is the resultant damage to our reputation, which could undermine our growth by reducing our client base and impairing our ability to retain talented employees. Ultimately, regulators might be forced to impose constraints upon our business” ....

UBS annual report, 2006
https://www.ubs.com/1/e/investors/annual_reporting2006/handbook/0016.html
We recognize that taking risk is core to our financial business and that operational risks are an inevitable consequence of being in business. Our aim is not, therefore, to eliminate all risks but to achieve an appropriate balance between risk and return.

Business management is accountable for all the risks assumed throughout the firm.

An independent control process is implemented to provide an objective check on risk-taking.

Comprehensive, transparent and objective risk disclosure.

“Good risk management and control lie at the heart of any business, particularly a financial services firm – they are integral parts of providing consistent, high-quality returns to shareholders. If we fail to adequately manage and control our risks we may suffer significant financial losses. Potentially more important is the resultant damage to our reputation, which could undermine our growth by reducing our client base and impairing our ability to retain talented employees. Ultimately, regulators might be forced to impose constraints upon our business” ....

UBS annual report, 2006
https://www.ubs.com/1/e/investors/annual_reporting2006/handbook/0016.html
RM at UBS

• We recognize that taking risk is core to our financial business and that operational risks are an inevitable consequence of being in business. Our aim is not, therefore, to eliminate all risks but to achieve an appropriate balance between risk and return....
• Business management is accountable for all the risks assumed throughout the firm ...
• An independent control process is implemented to provide an objective check on risk-taking ...
• Comprehensive, transparent and objective risk disclosure....

• “Good risk management and control lie at the heart of any business, particularly a financial services firm – they are integral parts of providing consistent, high-quality returns to shareholders. If we fail to adequately manage and control our risks we may suffer significant financial losses. Potentially more important is the resultant damage to our reputation, which could undermine our growth by reducing our client base and impairing our ability to retain talented employees. Ultimately, regulators might be forced to impose constraints upon our business” ....

UBS annual report, 2006
https://www.ubs.com/1/e/investors/annual_reporting2006/handbook/0016.html
We recognize that taking risk is core to our financial business and that operational risks are an inevitable consequence of being in business. Our aim is not, therefore, to eliminate all risks but to achieve an appropriate balance between risk and return.

Business management is accountable for all the risks assumed throughout the firm...

An independent control process is implemented to provide an objective check on risk-taking...

Comprehensive, transparent and objective risk disclosure....

“Good risk management and control lie at the heart of any business, particularly a financial services firm – they are integral parts of providing consistent, high-quality returns to shareholders. If we fail to adequately manage and control our risks we may suffer significant financial losses. Potentially more important is the resultant damage to our reputation, which could undermine our growth by reducing our client base and impairing our ability to retain talented employees. Ultimately, regulators might be forced to impose constraints upon our business”....

UBS annual report, 2006
https://www.ubs.com/1/e/investors/annual_reporting2006/handbook/0016.html
RM at UBS

- We recognize that taking risk is core to our financial business and that operational risks are an inevitable consequence of being in business. Our aim is not, therefore, to eliminate all risks but to achieve an appropriate balance between risk and return.
- Business management is accountable for all the risks assumed throughout the firm.
- An independent control process is implemented to provide an objective check on risk-taking.
- Comprehensive, transparent and objective risk disclosure.

“Good risk management and control lie at the heart of any business, particularly a financial services firm – they are integral parts of providing consistent, high-quality returns to shareholders. If we fail to adequately manage and control our risks we may suffer significant financial losses. Potentially more important is the resultant damage to our reputation, which could undermine our growth by reducing our client base and impairing our ability to retain talented employees. Ultimately, regulators might be forced to impose constraints upon our business”.

UBS annual report, 2006
https://www.ubs.com/1/e/investors/annual_reporting2006/handbook/0016.html
RM at UBS

• We recognize that taking risk is core to our financial business and that operational risks are an inevitable consequence of being in business. Our aim is not, therefore, to eliminate all risks but to achieve an appropriate balance between risk and return....

• Business management is accountable for all the risks assumed throughout the firm ...

• An independent control process is implemented to provide an objective check on risk-taking ...

• Comprehensive, transparent and objective risk disclosure....

• “Good risk management and control lie at the heart of any business, particularly a financial services firm – they are integral parts of providing consistent, high-quality returns to shareholders. If we fail to adequately manage and control our risks we may suffer significant financial losses. Potentially more important is the resultant damage to our reputation, which could undermine our growth by reducing our client base and impairing our ability to retain talented employees. Ultimately, regulators might be forced to impose constraints upon our business” ....

UBS annual report, 2006
https://www.ubs.com/1/e/investors/annual_reporting2006/handbook/0016.html
Models and Reality

• Analytic Thinking = Thinking within a modeling framework
Models and Reality

• Analytic Thinking = Thinking within a modeling framework (Economic, optimization, systems, game theoretic, behavioral......)
Models and Reality

• Analytic Thinking = Thinking within a modeling framework (Economic, optimization, systems, game theoretic, behavioral…….)

• Critical Analytic Thinking = Thinking within a modeling framework +
Models and Reality

• Analytic Thinking = Thinking within a modeling framework (Economic, optimization, systems, game theoretic, behavioral.......)

• Critical Analytic Thinking = Thinking within a modeling framework + keeping track of the model’s limitations
Models and Reality

• Analytic Thinking = Thinking within a modeling framework (Economic, optimization, systems, game theoretic, behavioral…….)

• Critical Analytic Thinking = Thinking within a modeling framework + keeping track of the model’s limitations

“AIG relied on those models to help figure out which swap deals were safe. But AIG didn't anticipate how market forces and contract terms not weighed by the models would turn the swaps, over the short term, into huge financial liabilities..... Martin Sullivan, then AIG's chief executive officer, told investors concerned about exposure to credit-default swaps that models helped give AIG "a very high level of comfort." Mr. Gorton explained at the meeting that ‘no transaction is approved’ by the chief of AIG’s financial-products unit ‘if it's not based on a model that we built.’ “

Models and Reality

- Analytic Thinking = Thinking within a modeling framework (Economic, optimization, systems, game theoretic, behavioral......)
- Critical Analytic Thinking = Thinking within a modeling framework + keeping track of the model’s limitations
- Thought leadership = The ability to entertain simultaneously several modeling frameworks, potentially with conflicting recommendations
## Process Culture: Rating System

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Process Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Process Design</td>
<td>Work Flow Architecture</td>
</tr>
<tr>
<td>Quality of Process Implementation</td>
<td>Information Flow Architecture</td>
</tr>
<tr>
<td></td>
<td>Feedback and Control Architecture</td>
</tr>
<tr>
<td></td>
<td>Incentives Architecture</td>
</tr>
<tr>
<td>Level</td>
<td>Process Culture</td>
</tr>
<tr>
<td>-------</td>
<td>----------------</td>
</tr>
<tr>
<td>1</td>
<td>Immature</td>
</tr>
<tr>
<td>2</td>
<td>Bureaucratic</td>
</tr>
<tr>
<td>3</td>
<td>Fit for purpose</td>
</tr>
<tr>
<td>4</td>
<td>Best in class</td>
</tr>
</tbody>
</table>
Governance and Incentive Architecture

- *Incentive Gaps:*
Governance and Incentive Architecture

• *Incentive Gaps:*
  – *Subunits and organization*
Governance and Incentive Architecture

• Incentive Gaps:
  – Subunits and organization
  – Organization and Shareholders
Governance and Incentive Architecture

• Incentive Gaps:
  – Subunits and organization
  – Organization and Shareholders
  – Shareholders and System
Governance and Incentive Architecture

- *Quis custodiet ipsos custodes?*
Governance and Incentive Architecture

- *Quis custodiet ipsos custodes?*

_Plato’s “Noble Lie”_
Governance and Incentive Architecture

• *Quis custodiet ipsos custodes?*

I hear always the admonishment of my friends: "Bolt her in, constrain her!" But **who will guard the guardians?** The wife plans ahead and begins with them!

Satires of Juvenal, First Century AC
The Operations’ Vignette

• RM Systems
• Models and Risk
• Process Excellence and Risk
  – Connection between “Process Thinking” and Risk
  – Governance processes and Incentive Architecture
  – Regulation: Rules vs Enforcement Processes
• Complexity
  – Standards, Customization and Product Complexity
  – Speed of product innovation vs support systems
  – LCFI, TBTF, and Focus; “Remote sites”
• Crisis Management
The Operations’ Vignette

• RM Systems
• Models and Risk
• Process Excellence and Risk
  – Connection between “Process Thinking” and Risk
  – Governance processes and Incentive Architecture
  – Regulation: Rules vs Enforcement Processes
• Complexity
  – Standards, Customization and Product Complexity
  – Speed of product innovation vs support systems
  – LCFI, TBTF, and Focus; “Remote sites”
• Crisis Management