

REGULATOR CONCERNS WITH SPREADSHEETS IN **RISK** **MANAGEMENT**



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EXECUTIVE SUMMARY

In the spring of 2013, Thomas Herndon, a student at the University of Massachusetts Amherst's doctoral program in economics, found a glaring error in Carmen Reinhart and Kenneth Rogoff's 2010 study, which had found that economic growth slowed dramatically when a government's debt exceeds 90 percent of a country's annual economic output. The findings have been cited by policymakers worldwide as reasoning for cutting spending. The error was a basic one: Reinhart and Rogoff's spreadsheet left some countries out of the calculations. For decades, financial institutions have utilized spreadsheets as a primary tool in the effective management of risk. Over-reliance upon these spreadsheets, however, has become an area of serious regulatory concern, as many of the apparent benefits offered by spreadsheets are often shadowed by underlying, potentially significant associated risks. These risks have and may continue to prove costly if not appropriately monitored and mitigated.

SEVEN COMMON CONCERNS OF USING SPREADSHEETS

Most of the benefits and underlying risks in utilizing spreadsheets for [risk management](#) may be categorized in the following seven categories, which also correspond with many of the most common concerns voiced by regulators. In this paper, each of these categories is presented, with pros, cons and risk-mitigating suggestions.

1. Familiarity – Almost everyone uses, or has used spreadsheets.
2. Manipulability – Little to no limits to what you can do with spreadsheets.
3. Consistency – Over time, new features have been added but still the same old spreadsheet.
4. Complexity – Multiple tabs, worksheets, formulas, etc.
5. Data Centralization/Accessibility – Most common data sources integrate or utilize spreadsheets.
6. Data & Calculations Accuracy – Users have control over how accurate the data and calculations are.
7. Regulatory Parameters – Spreadsheets can incorporate regulatory changes if updated by the user.

FAMILIARITY

Pros

The dependence that many financial institutions have upon [spreadsheets](#) is perhaps most attributable to the fact that common spreadsheet software is becoming more and more widely available and familiar to the masses. Most common spreadsheet software has been around for decades (did you know Microsoft Excel has been in use since the mid-1980s?), and virtually every computer is loaded with one spreadsheet software or another. Many professionals in Corporate America have been introduced to the program at an early age, and they have had abundant opportunities to study and utilize this software as they've progressed through their formal educations and advanced in their careers. Even those introduced to spreadsheets later in life can take advantage of the wide array of available training resources (e.g.; formal courses and/or web trainings, literature, colleagues, etc.). As a result, the spreadsheet is one of the most familiar and commonly used tools in business.

Cons

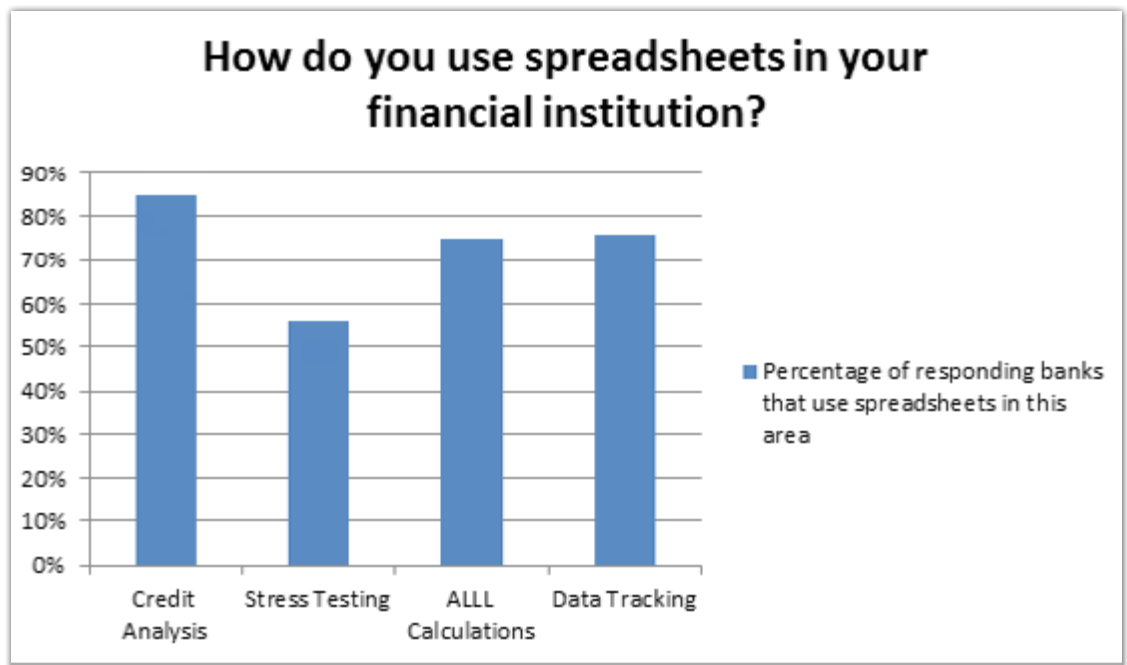
This familiarity, while certainly advantageous in many ways, has certain inherent risks that greatly concern regulators. For one, because individuals naturally tend to gravitate toward those tools with which they are most familiar, they risk becoming over-reliant on spreadsheets. Individuals or organizations may elect to utilize spreadsheets to perform certain tasks without considering other available tools or resources that may be more suitable. Moreover, familiarity can lead to complacency. As individuals become increasingly familiar with certain spreadsheet software, they may become more complacent in their use of it, which increases the risk of potential user error and/or the misconception that all other potential users of a particular spreadsheet will have the same level of expertise.

FAMILIARITY (CONT.)

Suggestions

Familiarity with spreadsheets and their functionality has truly become an essential skill in business, and individuals are encouraged to educate themselves to the fullest extent possible. However, in doing so, individuals should exercise caution in:

1. Selecting credible training resources.
2. Determining appropriate instances to utilize spreadsheets versus [other available tools](#).
3. Avoiding becoming complacent in their spreadsheet usage.



Poll conducted during webinar, "[Concerns examiners have about your spreadsheets and how to respond](#)", with over 170 financial institutions responding.

MANIPULABILITY

Pros

Rivaling familiarity as a primary cause of the ever-increasing dependency on spreadsheet software is the ease of data manipulability within the program. Spreadsheets are inherently simplistic in nature – a blank canvas against which an individual may easily add, format and manipulate data. This manipulability provides flexibility to incorporate specific sorting or formatting preferences and [methodologies](#), develop *ad hoc* reports, and/or alter data with relative ease.

Cons

This manipulability may be one of the most popular benefits of spreadsheet utilization, but it is also one of the key concerns voiced by regulators, as it injects quality control concerns and therefore requires [effective risk management](#). Complete flexibility with data manipulability means spreadsheets are more prone to both accidental and fraudulent modifications. Additionally, it may be especially difficult, if impossible, to identify individuals responsible for erroneous data, which could potentially lead to larger, more costly mistakes. Furthermore, while some programs offer safeguards to help reduce inadvertent changes or mistakes, not all users of spreadsheets use these safeguards to flag and/or prevent manipulation errors/wrongdoings. Regulators will seek assurance that the integrity of the data presented in critical spreadsheets has not been compromised due to faulty manipulation.

MANIPULABILITY (CONT.)

Suggestions

Institutions may mitigate the risks associated with the spreadsheet manipulability through the following best practices:

1. Ensure, where possible and appropriate, that calculations and spreadsheets are secured with password protections, and save the spreadsheets in a secured location that limits access.
2. Implement procedures mandating the maintenance of a manual audit log.
3. Educate all users on appropriate manipulations and best practices.
4. Reduce the number of “cooks in the kitchen” – individuals with the ability and permission to manipulate data.
5. Save data often, storing multiple copies, and/or considering using a working copy.

In a previous [article](#), Malcolm Trotter, chief executive of the International Association of Book-keepers, added that the key is to provide appropriate training and to implement robust policy and procedures governing spreadsheet use, secure storage and access.

CONSISTENCY

NOTE:

Download a recording of the webinar, “Concerns examiners have about your spreadsheets and how to respond.”

[Access recording](#)

Pros

Another perceived benefit of spreadsheet software in the work environment is that it offers individuals complete control over the consistency, or lack thereof, of any created spreadsheets. Spreadsheets may be copied and or replicated easily, saved in one place and transferred to/shared with another, and/or altered to reflect new preferences and/or methodologies. The responsibility of consistency lies with individual users.

Cons

This complete control over consistency, however, also presents an area of concern for regulators. Different users have the ability to incorporate their specific preferences and/or methodologies into these spreadsheets, and all too often, the end result may vary widely from one user to the next, from one location to the next, and/or from one institution to the next. This, of course, not only presents risks associated with potential inconsistencies, but also exposes institutions to potential regulatory scrutiny. Regulators must ascertain inconsistencies from prior reviews, and then validate the reasoning behind the changes.

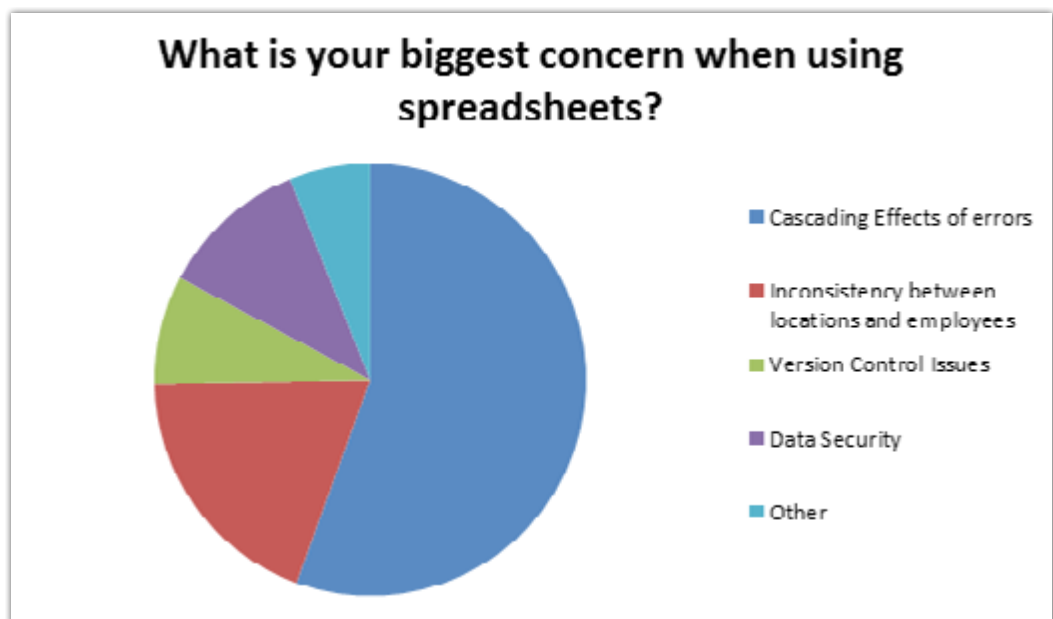
CONSISTENCY (CONT.)

Suggestions

To promote consistency in their spreadsheets, institutions should:

1. Establish formal policies and procedures that can serve as the guideline/blueprint to a defined desired output.
2. Assign a specific individual or group to take ownership of any and all spreadsheets, promoting accountability for accuracy and consistency.
3. Minimize how often each particular spreadsheet changes hands, including users changing data or taking ownership.

In a previously published [article](#), Rob Stabrou, director of integrated solutions at IT consultant Northdoor, noted that companies are increasingly aware that spreadsheets can create multiple “versions of the truth.” This can lead to questions surrounding the soundness and integrity of data used to make management decisions and to develop business strategies.



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COMPLEXITY

Pros

Another desirable benefit of spreadsheet software is that spreadsheets can be created to be as simplistic or as complex as desired. Spreadsheets are capable of tracking the most basic data or completing complex calculations, such as the allowance for loan loss reserves, which may span across 40+ different spreadsheet tabs, all interconnected with one another.

Cons

While the flexibility to create complex worksheets is a benefit, trying to do too much and getting too complex is certainly a concern of regulators. The more complex a spreadsheet, the more susceptible it is to potential error. In addition, the more complex the spreadsheet, the more difficult it is for secondary users to follow and interpret the data or to provide back-up in the primary user's absence.

Suggestions

Although it's generally best practice to "Keep it Simple", there are instances in which a specific task may require more intricate spreadsheets. Here are some recommendations for these instances:

1. Establish and document formal policies and procedures outlining step-by-step details on maintaining the spreadsheet.
2. Ensure consistency by allowing users, management and/or regulators ample opportunity to familiarize themselves with the complexity. In other words, take the time to explain and document difficult and overly-complex areas.
3. Keep other potential users in mind during creation and updates.
4. Document any changes when appropriate.

DATA CENTRALIZATION/ ACCESSIBILITY

Pros

Spreadsheets begin as blank canvases into which any accessible data may be loaded and manipulated. As such, they serve as a terrific, customizable repository of data. In fact, due to the universality of spreadsheets, most common data sources (e.g., an institution's core data system, other third party software modules, etc.) often include an export option directly to a spreadsheet. Additionally, because spreadsheets are often utilized in the tracking, calculating and reporting of key data, it is often simple to create a bridge by which data can be accessed, linked and/or transferred from one spreadsheet to the next. Finally, individuals may choose to utilize available functions or formulas within spreadsheets to access and organize certain data (e.g., vlookup tables, etc.)

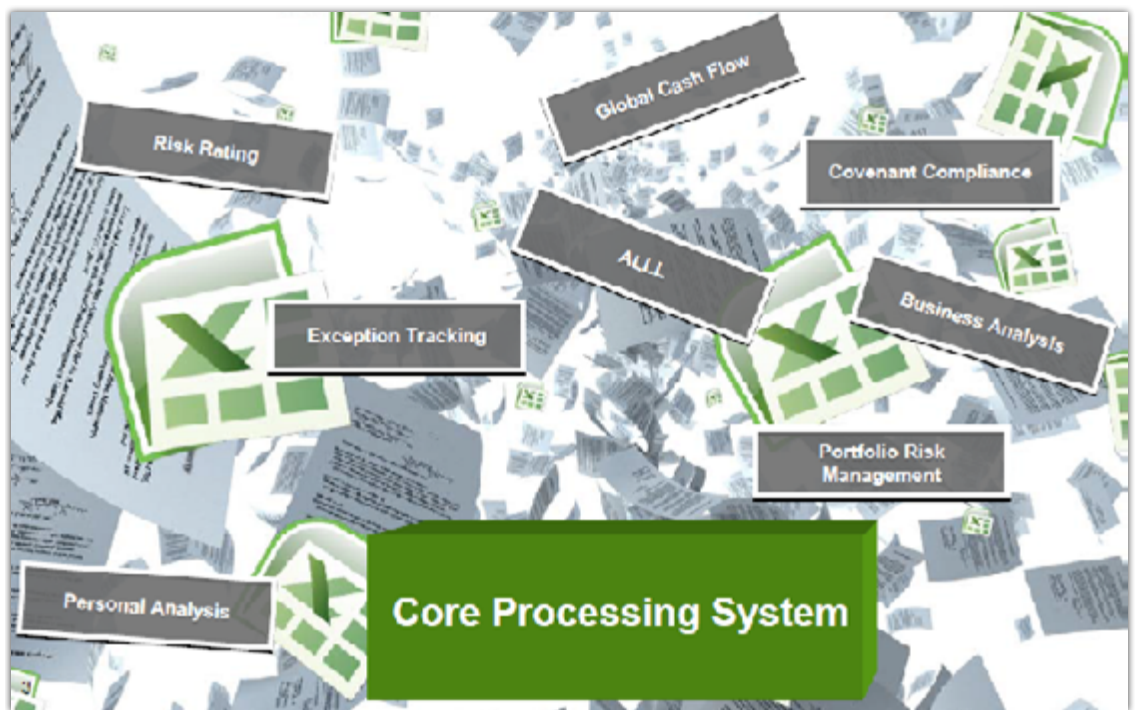
Cons

Notwithstanding the benefits listed above, regulators have concerns regarding limitations in this form of data transfer. For example, because there are typically disparate sources for the data going into spreadsheets, there is limited opportunity to automate the data-gathering process. Consequently, spreadsheets often require the user to transcribe or transfer data manually, which can introduce the risk of [data discrepancies](#). Moreover, spreadsheet files can be manipulated and saved by only one person at a time, which limits the opportunity for multiple users to work on the file concurrently. Next, changes in spreadsheet data are difficult to track, and breach of data security is always a threat. Finally, spreadsheets do not typically keep record of or provide access to historical trends that may otherwise be available in a more sophisticated system with access to archived data.

DATA CENTRALIZATION/ ACCESSIBILITY (CONT.)

Suggestions

Institutions looking to mitigate those risks associated with the manual transferring of data may consider dual control of the spreadsheet(s), which ensures multiple people take ownership for accuracy, consistency and version control. This helps to ensure a second set of eyes is validating and reconciling the data. Institutions may also consider ensuring consistency in the formatting of the underlying data.



Typical Scenario - [Disconnected Systems](#)

DATA & CALCULATIONS

ACCURACY

Pros

Spreadsheet software has long been utilized as a tool by which individuals may organize data and utilize established formulas to manipulate and/or run calculations against that data. Individuals have control over which formulas are utilized and how the data is ultimately organized.

Cons

Despite an individual's or institution's best efforts to ensure accuracy in spreadsheet information, the risk of inaccuracies is always prevalent and a primary concern of regulators. Ray Panko of the University of Hawaii has [noted](#), "Spreadsheets, even after careful development, contain errors in 1 percent or more of all formula cells." Seems relatively small doesn't it? Unfortunately, that 1 percent can prove extremely costly, even catastrophic. Even the smallest of errors continue to cost companies millions, even billions of dollars worldwide. When also considering the potential [cascading effect of errors](#) throughout a spreadsheet with intertwined data and calculations, regulators' concerns are certainly understandable.

Suggestions

Institutions may reduce the risk of data/calculation inaccuracies in several ways, but here are some primary recommendations:

1. Minimize changes to data/calculations as much as is possible. Be consistent with processes, peoples, etc.
2. Ensure all critical spreadsheets are reviewed, audited and validated for accuracy. This should be completed by someone other than the individual or group who created the spreadsheet and/or manipulated the data.

REGULATORY PARAMETERS

Pros

The manipulability of spreadsheet software allows institutions to quickly adapt to changes in regulatory parameters as they become available, enabling timely adaptations of methodologies and associated calculations.

Cons

This ability to make timely, [regulatory-driven adaptations](#) does, however, carry with it the inherent burden for the financial institution to be cognizant of those changes, their effective dates and how those changes impact reports generated in spreadsheets. Regulators are generally concerned as to whether or not institutions have the wherewithal to make those appropriate adaptations. They have also voiced concern that spreadsheets may prove ineffective for more complicated proposals. Consider for example the FDIC's recent comments regarding the implementation of their proposed ALLL [CECL model](#): "It is likely that many banks, particularly community banks, currently do not have readily available the types of data that would be needed to implement the CECL model."

Suggestions

When considering changes in regulatory parameters, it is recommended that individuals look to credible sources of the underlying guidance and/or formal interpretations of that guidance. Webinars, whitepapers and other published articles can serve as a terrific source of information, while consulting with third party risk management and/or accounting firms can also provide additional depth and address specific questions. Moreover, consider taking advantage of joining and participating in available bankers forums, which can lead to a collaboration of industry experts, ideas and knowledge.

NOTE:

The FASB released the CECL model exposure draft in December 2012, it could require up to 1000 times more data.

[See the Data Requirements](#)

CONCLUSION

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Financial institutions and individuals alike are encouraged to consider and evaluate the aforementioned pros, cons and recommendations in utilizing spreadsheets in risk management. Although certainly not an exhaustive list of all areas that could be appropriately addressed in regards to this topic, they do emphasize several of the more common areas of regulatory concern and potential for risk mitigation.

ABOUT SAGEWORKS & THE AUTHOR

Sageworks (www.sageworks.com) is a financial information company working with financial institutions, accountants and private-company executives across North America to collect and interpret financial information. Thousands of bankers rely on Sageworks' credit risk management solutions to streamline credit analysis, risk rating, [portfolio stress testing](#), loan administration and [ALLL calculation](#). Sageworks is also an industry thought leader, regularly publishing [whitepapers](#) and hosting webinars on topics important to bankers.

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their ALLL process and increase consistency in their methodology, making it defensible to auditors and examiners. Sageworks' risk management consultants also assist clients with the implementation of their ALLL models and guidance interpretation. To find out more, visit www.sageworksanalyst.com.

Regan Camp is a senior [risk management consultant](#) at Sageworks, where he serves as a specialist in assisting financial institutions with accurately interpreting and applying federal accounting guidance. Regan's primary focus is allowance for loan and lease loss provisions (ALLL) and stress testing loan portfolios. Prior to joining Sageworks, he served as a commercial lender and performed in various consulting capacities at Deloitte & Touche, L.P. and Dittrich & Associates LLC. Regan is a magna cum laude graduate of Brigham Young University's Marriott School of Business, where he studied business management and finance.

ADDITIONAL RESOURCES

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