

Notes and Communications

“Always Follow the Money”: A Call to Investigate Financial Records*



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RÉSUMÉ Cet article fait un survol de la littérature sur les documents financiers et conclut qu'on a très peu écrit à ce sujet. Remarquant qu'il y a au moins vingt ans l'Association of Canadian Archivists recommandait que des cours soient donnés aux archivistes pour les sensibiliser à ce genre de documents, l'auteure réclame que de la recherche soit faite sur les documents financiers et les documents d'institutions financières. L'article décrit comment le nouveau UBC Centre for the Investigation of Financial Electronic Records (CiFER) vise à mener de la recherche sur les documents financiers et les documents d'institutions financières. L'article soutient que de nouvelles études sur ce genre de documents permettront aux archivistes de mieux les préserver, tout en favorisant la mise en pratique de la théorie archivistique. De plus, ces études offriront aux archivistes une meilleure compréhension des facteurs qui contribuent à la stabilité économique et à la stabilité des institutions financières, ce qui montrera comment les études en archivistique peuvent contribuer de façon pratique et pertinente au développement de la société. L'article présente un nombre de projets de recherche du CiFER et montre comment ceux-ci contribueront à notre connaissance, tout en mettant à l'épreuve la théorie. L'article termine en invitant les archivistes intéressés à participer au réseau de recherche du CiFER.

ABSTRACT This article surveys the literature on financial records and finds that very little has been written on the subject. Noting that as much as twenty years ago the Association of Canadian Archivists called for course content that would increase archivists' awareness of these records, the author calls for research into financial records and the records of financial institutions. The article describes how the newly formed UBC Centre for the Investigation of Financial Electronic Records (CiFER) aims to conduct research on financial records and the records of financial institutions. The article argues that new studies on financial records and the records of financial institutions will both better prepare archivists to preserve these types of records and

* The author would like to express her gratitude to Professor Terry Eastwood, who commented on an early draft of this article, and to Professor Luciana Duranti, for reminding her of the old adage “always follow the money,” which inspired the title for this piece. Thanks also are owed to two anonymous reviewers whose comments led to a much-improved version of this article.

provide opportunities to test and explore archival theory, as well as provide greater insight into the factors leading to economic stability and the stability of financial institutions, showing how archival studies can make practical and very relevant contributions to society. The article discusses a number of CiFER's research initiatives and how these will contribute to filling knowledge gaps and testing theory. The paper concludes with an invitation to interested archivists to become involved in the CiFER research network.

Introduction

It is fair to say that very little has been written in the North American archival literature on financial records and the records of financial institutions, and few formal archival studies of them exist. As far back as twenty years ago, the Association of Canadian Archivists observed that, "Many of the records in the archivist's care have a financial nature. In order to appraise, arrange, describe and communicate them, archivists must be knowledgeable about the characters of financial activities and processes, financial terminology, and accounting methods."¹ The ACA advocated course content that included: basic accounting concepts and methods, the financial system in Canada, the practices of major financial institutions, theories of financial processes, examination of financial statements, financial books, and types of financial documents and their relationships. Until now, this call for greater awareness has not been answered. Research has finally begun thanks to the creation of the Centre for the Investigation of Financial Electronic Records (CiFER) at the School of Library, Archival, and Information Studies, University of British Columbia. The School will soon be set to offer new courses based on this ongoing program of investigation. This article discusses CiFER's mission and vision, its research focus, and current research initiatives. The article suggests three main reasons why this research is important to archivists and the wider society: 1) to equip newly "minted" archivists entering the profession with the knowledge and skills to deal effectively with the management,² as necessary, and preservation of financial records; 2) to use the study of financial records and financial contexts of records creation and keeping as a means to test and potentially

- 1 Education Committee, Association of Canadian Archivists, "Guidelines for the Development of a Two-Year Curriculum for a Master of Archival Studies Programme (December 1988)," *Archivaria* 29 (Winter 1989–90), p. 140.
- 2 The author takes the view that in many settings, archivists will themselves have some responsibility for records and information management, or will have to liaise with those who do. Therefore, it is important for archivists to understand how to manage financial records. Even in situations where the archivist has no responsibility for the management of records, and no contact with those who do, effective execution of the archival functions (acquisition, appraisal, arrangement and description, and preservation) – especially of digital records – requires that archivists have an understanding of financial records and the context in which they are created and kept.

expand or revise current archival theory and practice; and 3) to explore how knowledge of financial records in context can lead to greater understanding of the factors that generate or inhibit economic stability and the viability of financial institutions.

Many organizations and individuals create and maintain records of “a financial nature,” to use the ACA’s turn of phrase. A search of the main archival glossaries yields no specific definition of “financial records.” In the absence of a pre-existing archival definition of the term, we can develop a definition based on how the term is used in context; the ACA’s use of the term is a good place for Canadian archivists to start. The passage quoted above suggests that financial records are records arising from financial and, more specifically, accounting activities and processes. Indeed, it is accounting records that most often come to mind as the prototypical financial record. More broadly, the types of records that fall within the meaning of the term “financial records” can be said to originate from financial functions, activities, processes, and transactions undertaken in personal, public, or private sector settings and by and large, are distinguished by the fact that they contain a proportionately large amount of structured numeric content. Many of these records – whether bank statements or balance sheets – are in forms that are well known to most people, although the nature of the processes that generate them may be unfamiliar to many archivists. For the purposes of this article, then, the term “financial records” should be taken to mean: all those records, regardless of the context of creation, arising from financial functions, activities, processes, and transactions. A function, activity, process, or transaction may be considered financial if it has to do with money.

Financial Records Research and Writing: Current Status

A survey of North American, archival literature demonstrates how limited the resources continue to be for archivists who wish to gain an understanding of financial records. The very first issue of *Archivaria* included an article by Arthur J. Ray on the account books of the Hudson’s Bay Company.³ It was not until twenty issues and ten years later, however, that Douglas McCalla’s study of accounting records and everyday life in Upper Canada appeared.⁴ Apart from those studies, there is only Patricia Kennedy’s review of the Collins and Morris thesaurus for Business Records and an article on the Jamaican banking crisis of the late 1990s written by this author.⁵ The article on the Jamaican

3 Arthur J. Ray, “The Early Hudson’s Bay Company Account Books as Sources for Historical Research: An Analysis and Assessment,” *Archivaria* 1 (Winter 1975–76), pp. 3–38.

4 Douglas McCalla, “Accounting Records and Everyday Economic Life in Upper Canada,” *Archivaria* 21 (Winter 1985–86), pp. 149–57.

5 Patricia Kennedy, “COLLINS and MORRIS Thesaurus for Business Records,” *Archivaria* 46 (Fall 1998), pp. 198–200. The review is of Paul S. Collins and Peter Morris, *Thesaurus for*

banking crisis remains the only article devoted to increasing archivists' understanding of the types of financial records created and kept by financial institutions that has appeared in *Archivaria* over the years. Studies of public accounts seem to have been completely neglected.⁶ The situation is no better in the *American Archivist*, where no study of financial records has been published; what little reference is made to financial records appears most often in the context of broader discussions of business archives.⁷ Not one of these articles, however, aims to increase archivists' understanding of different types of financial records, the processes of which they form part, the wider organizational contexts in which they are created and kept, and the ways in which existing archival theory and practice may or may not be applicable to them.

The field of records management has fared only slightly better when it comes to increasing knowledge of financial records. Very little of the literature is focused on the specific challenges of managing these types of records; those publications with a financial records focus, such as Nan Hildenbrandt Morrissette's *Financial Institutions Records Retention Manual*, tend to address only retention scheduling.⁸ Hildenbrandt Morrissette's earlier volume, *Setting Up a Bank Records Management Program*, has slightly wider coverage but as it does not consider the impact of landmark legal cases (such as *Zubulake v. UBS Warburg*, which had a profound impact upon the requirements for managing the records of financial institutions), its value is limited.⁹

The current state of North American research and scholarship on financial records shows a serious – even surprising – gap considering the extent of financial records created and maintained in both public and private sector settings. Given the significance of financial records and their related processes within organizations of all types and in the wider society, one would certainly expect to find much more about them in the literature on archives and related fields.

Business Records (Halifax, 1996); Victoria Lemieux, "Let the Ghosts Speak: An Empirical Exploration of the 'Nature' of the Record," *Archivaria* 51 (Spring 2001), pp. 81–111.

- 6 A search of e-*Archivaria* under financial records yields 139 hits, of which only Lemieux relates directly to the study of these records per se.
- 7 This conclusion was reached on the basis of conducting a search of *The American Archivist*, *Archivaria*, *Archival Science*, and the *Journal of the Society of Archivists* for bibliographic records containing the search string "business archives." Financial records are sometimes mentioned in these articles but not always, and they are not the focus of the articles. The author would like to thank her research assistant, Sherry Xie, for compiling this data.
- 8 Nan Hildenbrandt Morrissette, *Financial Institutions Records Retention Manual*, 5th ed. (Chicago, 2005).
- 9 Nan Hildenbrandt Morrissette, *Setting Up A Bank Records Management Program* (Santa Barbara, 1993). *Zubulake v. UBS Warburg* was one of several landmark, legal cases that took place from 2001–2003, setting out a clear duty of a litigant to maintain and provide access to electronic records. See http://www.lexisnexis.com/applieddiscovery/lawlibrary/focus_07.asp (accessed on 9 October 2009).

CiFER's Research Focus

Understanding the Records of the Canadian Financial System

CiFER's research will focus on various aspects of financial records in the context of the Canadian financial system. Non-financial records created and kept in financial contexts, such as the human resources records of a financial institution or the information technology processing functions of a bank, will be excluded from the research focus. A wide array of public bodies, quasi-public bodies, and private financial institutions comprise the Canadian financial system. Financial institutions, themselves, include a broad spectrum of organizations: from banks, credit unions, insurance companies, and brokerages, to more "boutique" types of institutions, such as hedge funds and private equity funds, or smaller financial advisors. Some other less obvious examples of organizations that have been legally defined as financial institutions in some contexts include:

- an issuer, redeemer, or cashier of travelers' cheques, cheques, money orders, or similar instruments;
- a dealer in precious metals, stones, or jewels;
- a pawnbroker;
- a travel agency that operates a currency exchange;
- a telegraph company that wires funds;
- a postal service that offers cheque cashing and deposit taking services;
- a casino.

In general, much less has been researched and written about private records creation and keeping contexts than about public sector or personal records creation and keeping contexts, as will be discussed in greater detail below. It is for this reason that CiFER's research agenda favours financial records created and kept by these private sector organizations.¹⁰

What ties all of these financial contexts together – the personal, the public, and the private sector – is that they all take place within the wider context of what is commonly referred to as the Canadian "financial system." In a 2007 Speech to the Canadian Club of Toronto and the Empire Club of Canada, the former Governor of the Bank of Canada, David Dodge, defined the financial system as "financial institutions and markets, together with the clearing and settlement systems through which financial assets flow."¹¹ The following excerpt

10 It is worth making the point that though I use the terms "private sector" and "public sector" for explanatory purposes, I do not subscribe to a view that sees these spheres of activity as sharply defined. The boundaries of what takes place in the public sector versus what takes place in the private sector are increasingly porous, as recent government takeovers of financial institutions in both the UK and US illustrate.

11 Bank of Canada, "Remarks by David Dodge, Governor of the Bank of Canada to the

from the Bank of England's website explains in very straightforward terms the importance of the financial system to society:

The financial system is central to the functioning of the economy and modern life.

The system handles millions of regular transactions – spending in the shops, paying bills, wages and savings – every day. Financial institutions, such as banks, manage vast sums of money on behalf of individuals and businesses. Financial markets facilitate trade across the world on a minute-by-minute basis – everything from company shares and commodities like oil, to complex financial instruments and, of course, money itself. And large IT systems facilitate payments between financial institutions, companies and individuals.

One of the main purposes of the financial system is to bring together savers and investors, and so put money to work. One person's savings are the finance for another person's investment – for example, household savings are invested by pension funds in shares issued by companies to expand their business.

For the financial system to function properly, people need to have confidence that it is safe and stable.¹²

By looking at each different financial context through the lens of the financial system, it is possible to explore how each one relates to another through shared functions, activities and transactions, and ultimately, shared information and records.

Understanding Financial Record Types

The context of records creation and keeping is important to research but so are the records themselves.¹³ There are, in fact, important differences between financial records and other types of records that warrant investigation. One characteristic of financial records that makes them different from other types of records is that their content is often expressed in numeric – though this is not always the case – as opposed to textual form (e.g., financial reports usually contain numeric and textual data). This difference alone is well worth exploring for its impact upon the work of archivists. Consider for example, cartographic records. If cartographic records are considered by Canadian archivists

Canadian Club of Toronto and the Empire Club of Canada Toronto, Ontario," 10 December 2007, <http://www.bankofcanada.ca/en/speeches/2007/sp07-22.pdf> (accessed on 8 October 2009).

12 Bank of England website, <http://www.bankofengland.co.uk/financialstability/index.htm> (accessed on 13 October 2009).

13 CiFER's research focuses greater, though not exclusive, attention on financial records in digital form (generally speaking those that have been "born" digital). Financial records can, of course, be created and kept in both digital and other forms (e.g., paper, microfilm); however, it is still the records in digital form that present the greatest preservation challenge for archivists.

to be sufficiently different from other types of records that they merit their own unique chapter in *Rules for Archival Description*, is there a case for affording financial records similar treatment? It is too early in CiFER's research program to comment on whether it would be justified to take a similar approach to the description of financial records, but it is a question worth exploring. Another potentially valuable contribution to the development of archival descriptive theory and practice is in the area of metadata; by gaining a clearer picture of the context in which financial records are generated, it may be possible to identify how descriptive metadata can be appended to the record in a manner that is institutionally sustainable and technically possible. This would allow the archival description process to begin before the records are transferred to an archival repository, thereby alleviating some of the descriptive burden after transfer.

Financial records research is important not only because many types of financial records are different from other types of records but also because they can be quite similar. Financial records created using spreadsheet software applications, for example, will share many common features with other types of records that have been created with the same software. A large proportion of financial records is in spreadsheet form and the use of spreadsheets in financial institutions may even be described as ubiquitous. They are the tools of choice for traders because of their flexibility and speed in building pricing models for complex financial products. They are also the favoured tools for risk managers who use them, among other things, to make value-at-risk (VAR) calculations needed to evaluate whether risk positions are within acceptable limits.¹⁴ Finally, they are often used as tactical system interfaces to export data from one system, and manipulate or transform it so that it can be used by another system. A 2005 study of the uses of spreadsheets in the City of London found that, “[p]ut simply and succinctly, despite the higher operational risk, Excel is everywhere – it is the primary front-line tool of analysis in the financial business ... Excel is utterly pervasive. Nothing large (good or bad) happens without it passing at some time through Excel.”¹⁵

Even though the use of spreadsheets in the financial services industry is widespread they are not reliable records. The UK Financial Services Authority expressed public concerns in 2003 and subsequently began to levy surcharges on their use so as to motivate banks to curtail the use of this type of record.¹⁶ A comprehensive study of the content and form of financial spreadsheets could

14 Value-at-risk (VAR) is a common measure of market risk that is equal to one standard deviation of the distribution of possible returns on a portfolio of positions. A risk position is a measure of the amount of risk that a person or organization is willing to tolerate.

15 Grenville J. Croll, “The Importance and Criticality of Spreadsheets in the City of London” (2005), <http://arxiv.org/abs/0709.4063> (accessed on 15 August 2009).

16 Ibid.

generate insights that are equally applicable to non-financial spreadsheets. In this way, the study of financial records has the potential to create new knowledge about records of a non-financial nature, which can be used to prepare students entering the archival profession or archivists beginning work in new organizational contexts.

Putting Macroappraisal to the Test

Much of archival theory and practice has emerged from the public archives tradition. A study of financial records created, transmitted, and preserved by financial institutions offers the possibility of testing existing theory and practice to discover whether these records fit the mold and, if not, how existing theory might be expanded or revised to improve applicability. Appraisal offers a case in point. In Canada, macroappraisal theory has dominated the “archival imagination,” to coin a phrase.¹⁷ This researcher has long been a follower of the macroappraisal approach, but recognizes that experiments with, and implementations of, macroappraisal theory have, by and large, been carried out in public sector records contexts. Indeed, concepts of “the citizen” and “the state” are at the heart of this theory, as its chief proponent, Terry Cook, has explained:

In the discussion that follows, I am adopting the terminology of the *citizen* interacting with the *state*, which is appropriate to government records at all levels. I do this *only* to save the reader excessive qualification at each point it is mentioned. I believe the model may be applied equally well to other institutions, where the terminology might more appropriately be the university and the student, the business and its clients, the church and its parishioners, the union and its members, etc.¹⁸

Cook’s belief that the model applies equally well to other institutions has never been explicitly tested on financial institutions. Is it sufficient to conceive of the core interactions as that between the business and its clients as Cook suggests? Initial research on financial records and private contexts of records creation and keeping would suggest that this is an oversimplification. There are many agents in financial markets: brokers, dealers, exchanges, clients, shareholders, regulators, self-governing bodies, etc., all interact and influence the market in varying ways.

The CiFER research program is only just underway. It is too early to draw any conclusions, and the questions themselves are only just taking shape; how-

17 This turn of phrase comes from the following publication: Barbara L. Craig, ed., *The Archival Imagination: Essays in Honour of Hugh A. Taylor* (Ottawa, 1992).

18 Terry Cook, “Mind Over Matter: Towards a New Theory of Archival Appraisal,” *The Archival Imagination*, p. 66 (emphasis in original).

ever, early indications are that some archival theories, concepts, and processes, such as macroappraisal, may benefit from rethinking in relation to financial records and financial contexts.

Understanding the Role of Financial Records for the Stability of the Financial System

Another reason to conduct research on financial records is to gain a greater understanding of the factors that generate or inhibit the viability of financial institutions and the stability of financial systems. Economic theory links information to financial system stability,¹⁹ and much of the information transmitted through a financial system manifests in the form of financial records. On this point, former Governor of the Bank of Canada, David Dodge, once again is instructive. Discussing turbulence in the financial markets in 2007, he stated that:

... more recently, we have seen the emergence of increasingly complex structured products, which were developed in response to the demand for higher returns. And as these securities have become more complex and opaque, in many cases, it has become harder to assemble and understand all the information needed to determine what kinds of assets are backing the security, the quality of those assets, and the counterparty risk involved.²⁰

Dodge's statement predicted the set of circumstances that would lead to the spectacular collapse of Lehman Brothers in September 2008, and the reason why so many other banks were affected by it. Following the collapse, a report issued by the Committee of European Securities Regulators (CESR) noted that "[m]aintaining adequate documentation of investments is an essential part of firms' systems and controls, and is particularly important in stressed conditions; those firms with good records were best placed to assess their exposure to Lehman Brothers as the bank entered administration."²¹ What could possibly link poor records management practices any more clearly to the viability of financial institutions and recent instability in the global financial system?

Lack of integrity in spreadsheets used to value financial products has also been linked to imbalances in banks' balance sheets and problems in the global financial system. In a recent paper, the Chairman of the European Spreadsheet Risks Interest Group put forward a case that spreadsheets played a significant

19 In 2001, the Nobel Prize in Economics was awarded to George Akerlof, Michael Spence, and Joseph E. Stiglitz for their analyses of markets with asymmetric information.

20 Bank of Canada, "Remarks by David Dodge."

21 Committee of European Securities Regulators, "The Lehman Brothers Default: An Assessment of the Market Impact," <http://www.cesr.eu/popup2.php?id=5646> (accessed on 13 October 2009).

role in the recent collapse of the financial system:

During the course of the preparation of this article, we have identified a further set of risks associated with spreadsheets and other forms of end user computing. These give rise to the suspicion that the global financial system is fatally flawed and perhaps even beyond economic repair. Despite the recent recapitalisation and part nationalisation of the institutions, all of the spreadsheets still remain. In many cases these spreadsheets will now be operated by people not familiar with them and almost certainly outside of the domain where their assumptions and formulae were hoped to hold true. We are confident in predicting that further obvious problems with the financial system will come to light for some time unless and until untested and controlled spreadsheets play a less significant role in the financial system.²²

More research into the information upon which financial systems rely, the documentary (or in some cases non-documentary) forms that this information takes, and the risks associated with the way such documents, records, and information are created, communicated, and preserved may suggest ways to prevent records from contributing to, or exacerbating, other factors leading to institutional failure and financial instability. Armed with this knowledge, those with responsibility for the management of records within financial institutions, including archivists and other records professionals, would be better qualified to assist their institutions with strategies to mitigate records-related risks, and to collaborate with financial institutions and financial regulators to identify “systemically significant” financial records and the rules that need to be established to govern them effectively.

CiFER’s Research Activities

What emerges from the above discussion is that financial records and the settings in which they are created and preserved warrant further investigation. There must be further research into the records themselves, their provenance, and the implications of their treatment as records for archival theory, the operation of financial institutions, and the stability of financial systems. CiFER has been established with these goals in mind.

CiFER’s research activities follow five core streams: 1) developing a core understanding of financial records and financial contexts; 2) confidentiality; 3) integrity; 4) availability; and 5) developing solutions and best practices. These research streams derive from one of the basic premises upon which CiFER was founded: that insufficient understanding and control of the records of financial institutions are at the root of many current records and information-related risks

22 Grenville J. Croll, “The Big Black Swan: The Role of Spreadsheets in the Collapse of the Financial System,” unpublished paper (April 2009).

experienced by financial institutions, their clients, and the financial system.

Functional Analysis of the Canadian Financial System

A functional analysis of the Canadian financial system will be the cornerstone of all of CiFER's work. Foundational research will provide basic data upon which to build future research initiatives and improve the management of financial records. This project aims to identify and model the actors, functions, and boundaries of the Canadian financial system, the records upon which the system relies to operate effectively, and the rules governing creation, retention, destruction, and communication of those records – just as the ACA called for so many years ago. In first setting out his macroappraisal theory, Terry Cook instructed archivists to ask: “Who – in articulating and implementing the key functions of the institution (as assigned it by the broader society) – would have had cause to create a record, what type of record would it be, and with whom would that corporate person cooperate in either its creation or its later use?”²³ The key questions to be explored in CiFER's inaugural study include:

- Who are the participants in the Canadian financial system and what are their roles?
- What information is exchanged between participants in the Canadian financial system?
- What processes does this information form part of, what forms (documentary and non-documentary) does it take, and what technology does it rely upon?
- What are the rules governing the creation, communication, retention, and disposal of this information in its various forms?
- What are, or have been, the common risks to the flow of this information?
- What is the observed impact of these risks when they materialize?

As the scope of the Canadian financial system is quite broad and there is a wide variety of financial actors within it, the focus of phase one of this research (scheduled to run until Spring 2011), will be on Canadian banks. Similar research on other types of financial institutions, such as insurance companies and investment firms, will follow.

This foundational research will set the stage to explore how a greater understanding of the context of financial records can be reconciled with the existing body of archival theory and practice on appraisal, arrangement and description, and preservation. The research will also support such practical initiatives as developing a model records management framework for financial institutions, as well as feeding into policy initiatives at the federal government level that examines how to identify “systemically important” elements of the Canadian

23 Cook, “Mind over Matter,” p. 47.

financial system in order to promote macro-prudential stability.

Visual Analytics

The research team is compiling raw data and analysis using a qualitative data management and analysis software package, NVIVO 8. The team is exploring ways to visually represent and analyze the Canadian financial system and the relationships between and among institutions, groups, and other elements of the system, on the one hand, and records and information, on the other hand, for dissemination on the CiFER website. To achieve this goal, the research team is looking to use visual analytics (VA). VA may be defined as the science of analytical reasoning facilitated by interactive visual interfaces. VA combines computer science, with cognitive and perceptual sciences to generate interactive applications for knowledge work that are based on scientific underpinnings. VA techniques and technologies facilitate the analysis of large datasets of documents to, for example, develop competing hypotheses about events, determine relationships between people, and elaborate the time sequence in which events have unfolded.²⁴ In addition to exploring how VA can be used for visualization and analysis of the Canadian context of financial electronic records, CiFER is beginning to investigate the application of this technology to explore and manage the risks associated with large repositories of records in financial institutions (e.g., repositories of customer data or email archives).

While VA offers interesting new possibilities when applied to the field of archives, archival science has much to offer visual analytics as well. VA works by developing models of different documentary forms, or data representations, which are then transformed using mathematical algorithms that display as visual “artefacts” of those data. In order to render different representations of data, much of the work has drawn on the field of linguistics; as a result, VA understanding of the linguistic content of data is much more developed than VA understanding of data in context. It is the archival understanding of data as documents and records existing in relationship to other documents and records that has potential to add greater depth to VA representations of data.²⁵

24 James A. Thomas and Kristin A. Cook, *Illuminating the Path: The Research and Development Agenda for Visual Analytics* (Washington, 2004), http://nvac.pnl.gov/docs/RD_Agenda_VisualAnalytics.pdf (accessed on 5 August 2009).

25 Adam Perer, Ben Shneiderman, and Douglas W. Oard, “Using Rhythms of Relationships to Understand E-mail Archives,” *Journal of the American Society for Information Science and Technology*, vol. 57, no. 14 (2006), pp. 1936–48; Judith Donath, “Visualizing Email Archives” (2004), <http://smg.media.mit.edu/papers/Donath/EmailArchives.draft.pdf> (accessed on 15 July 2009).

Records Management Guidance

Another CiFER project is the Canadian Bank Records Management Guidance Initiative. Envisioned as an action, research-based project aimed at working with Canada's banks and financial regulators on a public–private policy partnership in the area of records management, this project follows a similar initiative that was used to develop UK investment bank customer data management guidance.²⁶ As global leaders review and revise the world's regulatory and supervisory frameworks for banking, there can be no better time to undertake a case study of the efficacy of using a public–private policy partnership model as a framework for creating new bank supervisory guidance. Public–private partnerships have been widely used in the area of policy implementation, but much less so in the area of policy formation. With respect to financial regulation, policy formation typically is driven by the regulators and includes a period of consultation with stakeholders, but not outright collaboration.

Stephen Linder and Pauline Vaillancourt Rosenau note that there has been an increasing enthusiasm for the private sector to play a greater role in the policy sector over the past decades. They cite growing dissatisfaction with the perceived inefficiencies of the public sector along with an ideological preference for private sector leadership as being among the drivers of this trend.²⁷ While many functions that were once within the public sphere have migrated in one form or another to the private sector in recent years, collaboration between the public and private sectors on policy projects is rare. Collaboration on an oversight function, such as financial regulation, is almost, if not entirely, unheard of. At first glance, it may seem as though the aims of the financial regulators (prudential soundness) and those of the regulated institutions (profit maximization) are at complete odds and that there exists no common ground for collaboration. However, as recent events illustrate, financial institutions cannot compete in a financial environment that has become completely unstable and these same institutions realize that they have a role to play in helping to maintain the stability that is essential to proper functioning of financial markets. Similarly, regulators recognize that too much regulation, or ineffective regulation, may reduce

26 In 2008 CiFER partnered with JWG-IT, a UK-based financial services think tank, on the Customer Data Management Guidance (CDMG) project. CiFER's role in the CDMG Project was to develop minimum technical guidelines for the management of customer data, drawing upon records management and security standards, guidance, and practices. In addition, CiFER's goal was to identify relevant issues surrounding the achievement of minimum technical guidance. CiFER also had a brief to develop a model of customer data management infrastructure (e.g., how stored, how transmitted, what types of systems commonly used to manage and process) and practices.

27 Stephen H. Linder and Pauline Vaillancourt Rosenau, "Mapping the Terrain of the Public–Private Partnership," in *Public Private Policy Partnerships*, ed. Pauline Vaillancourt Rosenau (Boston, 2000), p. 4.

competitiveness and lead to a flight of capital from one jurisdiction to another (as happened when the US introduced the *Sarbanes-Oxley Act*²⁸): a healthy balance must be struck. In our globally connected, interdependent financial markets, there is a case to be made that a collaborative approach to policy formation may prove to be the most effective and efficient way to develop new regulation. The CiFER study seeks to determine the extent to which these assumptions bear out in reality, and to understand points of resistance and common interest in a collaborative financial regulatory process.

This project will use current record-keeping guidance from the Office of the Superintendent of Financial Institutions (OSFI) as the focus of research; OSFI is the lead supervisor of Canadian-owned and operated banks and, as a result, the banks are obliged to comply with its guidance. Previous studies have shown that records management is a critical aspect of effective business and financial practice.²⁹ Other studies have linked sound records management practices in banks with the ability of financial regulators and supervisors to provide effective oversight of the financial system, hold banks accountable to shareholders and the public, and intervene in the operations of a bank in the event of a collapse.³⁰ This research is expected to yield insights into how collaboration on the policy front might best take place across the financial sector. As the study moves forward, it also aims to work with the Canadian banking sector to identify industry standard records management guidance.

Data Loss and Identity Theft

A smaller research initiative focuses on the processes by which data loss and leakage – often accompanied by poor management of records – can lead to financial crimes, such as identity theft. Researchers at the University of

- 28 The *Sarbanes-Oxley Act* is an American federal law enacted on 30 July 2002, as a reaction to a number of major corporate and accounting scandals including those affecting Enron, Tyco International, Adelphia, Peregrine Systems, and WorldCom. A McKinsey & Company study commissioned by New York City Mayor Michael Bloomberg and United States Senator Charles Schumer (D-NY), cites this as one reason America's financial sector is losing market share to other financial centres worldwide. See http://www.senate.gov/~schumer/SchumerWebsite/pressroom/special_reports/2007/NY_REPORT%20_FINAL.pdf (accessed on 15 October 2009).
- 29 Victoria L. Lemieux, "Competitive Viability, Accountability and Record Keeping: A Theoretical and Empirical Exploration Using a Case Study of Jamaican Commercial Bank Failures" (unpublished PhD diss., University College London, 2002).
- 30 Victoria L. Lemieux, "The Jamaican Financial Crisis: Accounting for the Collapse of Jamaica's Indigenous Commercial Banks," in *Archives and the Public Good: Accountability and Records in Modern Society*, eds. Richard Cox and David Walsh (Westport, 2002), pp. 265–81; and Committee of European Securities Regulators (CESR), "The Lehman Brothers Default: An Assessment of the Market Impact, CESR" (March 2009), <http://www.cesr-eu.org/popup2.php?id=5646> (accessed on 23 August 2009).

Glamorgan, Wales, working in collaboration with researchers at Edith Cowan University in Australia and Longwood University in the United States who purchased three hundred used hard drives in the UK, Australia, and the US have found that an alarming 34 percent held personal details, including personal bank account information from financial institutions.³¹ Recognizing a problem and concerned about identity theft, the UK Financial Services Authority issued a 2008 report prognosticating future guidance with respect to data protection and security.³² CiFER researchers have begun to study the underlying causes of data breaches in financial institutions and recently presented a paper at the 10th Annual Privacy and Security Conference, held in Victoria, British Columbia.³³ CiFER plans to continue its work to build up a database of knowledge about the root causes of data breaches in financial services firms; early research indicates that basic records management failures are often responsible.

The CiFER Network

Critical to the success of CiFER's overall research agenda is the establishment of a network of individuals interested in researching financial records or working with them. To facilitate creation of such a network of individuals and organizations, CiFER has created a website to link network members and provide a platform for collaborative work on research projects.³⁴ Through the website and other vehicles, CiFER will operate as a think tank for individuals and organizations engaged in financial processes, and participating in the Canadian and global financial systems to identify strategies to achieve better understanding and management of financial records and management of records in financial contexts. With this goal in mind, CiFER already has reached out to archivists, records managers, and others with responsibility for records within Canadian financial institutions in order to build a network of individuals with expertise in, and knowledge of, financial records and financial records contexts. To date, CiFER's network extends to working in the largest Canadian banks, large for-

- 31 *BBC Online News Service*, "Missile data found on hard drives" (7 May 2009), http://news.bbc.co.uk/2/hi/uk_news/wales/8036324.stm (accessed on 23 August 2009). The article refers to a study that has been written up in Andy Jones, Craig Valli, Glenn S. Dardick, and Iain Sutherland, "The 2007 Analysis of Information Remaining on Disks Offered for Sale on the Second Hand Market," *International Journal of Liability and Scientific Enquiry*, vol. 2, no. 1 (2007), pp. 53–68.
- 32 UK Financial Services Authority, Financial Crime and Intelligence Division, "Data Security in Financial Services" (April 2008), http://www.fsa.gov.uk/pubs/other/data_security.pdf (accessed on 23 August 2009).
- 33 Victoria L. Lemieux, "Data Loss and Leakage," paper given at the 10th Annual Privacy and Security Conference, Victoria, British Columbia, 3–4 February 2009.
- 34 See <http://www.ciferresearch.org> (accessed on 15 October 2009).

eign-owned banks operating in Canada, Canadian insurance companies, Canadian financial and securities regulators, as well as to similar individuals in US and UK financial institutions. Working with this network of individuals, CiFER aims to build up a clear picture of who is responsible for records management and preservation within these institutional settings, how they go about performing these functions, and what they experience as their challenges in doing so. This research will allow archivists and records managers working in financial organizational contexts to benchmark their operations against similar ones. It will also help CiFER target research areas that may be particularly beneficial to explore in order to meet challenges or address program gaps. Finally, through interaction with this network of individuals CiFER will tap collective expertise and knowledge relating to research in each of its core research streams.

Archival and Societal Implications of Financial Records Research

On the heels of a global financial crisis, from which the world is still recovering, could there be a better time to research financial records and the contexts in which they are created? For this researcher, the answer is a resounding no. Recent events only serve as proof that much more needs to be understood about the records that support complex financial systems; without this understanding we are doomed to keep repeating the same mistakes. In difficult financial times, recordkeeping is among the most important functions.

Financial records also take archivists to the periphery of their known world. Here at the border between what archivists know well and what, in general, they know less well lies a hinterland in which archival ideas can be tested and stretched, and in which archivists have the opportunity to contribute to the ideas of many other fields (e.g., accounting, finance, and economics). This research also provides archivists with another avenue to make practical and very relevant contributions to society. CiFER aims to tackle an ambitious research agenda, one that can certainly not be realized by a single researcher working alone. It will rely on a global network of scholars and practitioners who wish to contribute to developing a greater knowledge of financial records and financial contexts of records creation and keeping. The hope is that archivists will find the call for this research sufficiently compelling that they join the small, but growing, group of researchers and practitioners who now form the CiFER network.