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Gary P. Spraakman

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Gary P. Spraakman  
YORK UNIVERSITY

## MANAGEMENT ACCOUNTING AT THE HISTORICAL HUDSON'S BAY COMPANY: A COMPARISON TO 20TH CENTURY PRACTICES

*Abstract:* Using an environmental contingency approach, Johnson and Kaplan [1987] argued that virtually all management accounting practices used at the time of their study had been developed by 1925 in response to increased uncertainty caused by geographical expansion and large-scale operations. During the 1821 to 1860 subperiod, the Hudson's Bay Company had significant uncertainty which was largely a result of the dynamic environment of its fur-trade operation. Consequently, it should have developed management accounting practices in response to uncertainty. Moreover, the management accounting practices should have been less extensive in the subperiods before and after 1821 to 1860, as these subperiods had less uncertainty. The Company's accounting and related records were examined for 1670 to 1914, and provided evidence to support the contention of Johnson and Kaplan that management accounting practices evolved positively with uncertainty.

### INTRODUCTION

Johnson and Kaplan [1987, p. 12] argued that by 1925 virtually all management accounting practices used at the time of their study had been developed. Those practices had evolved in the 19th and early 20th centuries to serve the information and control needs of manufacturing and retail managers facing a higher level of uncertainty caused by increasingly complex and geographically dispersed operations. Complexity, Johnson and Kaplan argued, had increased as these organizations grew in size to capture economies of scale available with new tech-

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nologies and expansion from single to multiple activity operations.

The Johnson and Kaplan [1987, p. 62] argument was premised on the environmental contingency approach; management accounting practices develop in response to the uncertainty. Accordingly, the fur-trading operation of the historical, London-based Hudson's Bay Company (HBC) should have developed management accounting practices for information and control purposes as it faced substantial uncertainty while trading for furs in the frontiers of North America. Uncertainty was greatest, it will be shown, from 1821 to 1860, but less in the earlier (1670 to 1774) and later (1880 to 1914) subperiods. Drawing upon the contingency approach as did Johnson and Kaplan [1987], it is expected that given the extensive uncertainty, the HBC's management accounting practices would have been the most developed for the 1821 to 1860 subperiod. Consequently, as there was less uncertainty for 1670 to 1774 and for 1880 to 1914, management accounting would have been less developed during those subperiods.

As for the organization of the paper, the next section briefly describes the setting for the study. The subsequent section reviews in more detail the HBC's uncertainty. Then, the HBC's specific management accounting practices are described for each subperiod. The penultimate section discusses the association between uncertainty and management accounting practices. The final section contains some concluding comments about the different ways management accounting practices were used.

## THE SETTING

The HBC is the world's oldest commercial entity that continues its original line of business [Milgrom and Roberts, 1992, p. 9]. Economists have judged the fur-trading HBC to have been one of the few companies in the world to have earned an economic rent, or, in other words, to have been uniquely successful [Schoemaker, 1990, p. 1180]. The HBC is also unique in that from 1670 to 1914, accounting and related documents have been preserved and made accessible to researchers through the Hudson's Bay Company archives (HBCA).<sup>1</sup> Because of the es-

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<sup>1</sup>The HBCA are located at the Manitoba Archives in Winnipeg, Manitoba, Canada. The archives cover the entire company history except for the last 30 years, which are still confidential. Researchers access the 1670 to (approx-

tablished business practices that prevailed during the study period, a large part of the instructions between superiors and subordinates was carefully recorded in letters. In addition, traders and other officers were required by the Committee (or, as it was called in the latter part of the 19th century, the Board of Directors) to maintain narrative journals of their daily business activities, thereby adding to the archive's richness.

In 1670, the HBC was incorporated by a royal charter from England's King Charles II to Prince Rupert and his 17 fellow adventurers. The charter provided a monopoly on trade and commerce for Rupert's Land, consisting of the lands whose rivers and streams drain into the Hudson Bay. The HBC soon established posts (e.g.; Albany, Moose, and York) at the mouths of rivers flowing into the Hudson Bay. This pattern was known as a "factory system," meaning that the HBC had opted for the trading methods used by other English merchants in Africa and Asia [Ray and Freeman, 1978, p. 30]. With this system the bulk of the trade was conducted at coastal establishments rather than from aboard ships. For the first hundred years, the approach to fur acquisition was to wait for the aborigines at the bayside posts and then to convince them to return annually.

Early competition came from the French colony in Canada known as New France. Confrontation was often violent as the HBC posts were being captured by the French colonists. In 1713, the Treaty of Utrecht confirmed the British possession of the Hudson Bay. Without direct French competition, trade improved and the HBC experienced profitability and even prosperity, which was indicated by a constant succession of dividends and by the accumulation of a substantial reserve of capital [Rich, 1960a, p. 58]. Although excluded from the Bay, the French of Montreal did not withdraw from the fur trade. Instead, they intercepted the aborigines inland, away from the Bay and up the Moose and the Eastmain Rivers [Rich, 1960a, p. 503], shortening the aboriginal trade trips. After 1730, the French competed from the southwest as La Verendrye and his sons developed a series of posts to intercept the aborigines from the west on their way to the Bay [Rich, 1960a, pp. 517-524]. These posts were supplied from Montreal via the Great Lakes.

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mately) 1914 materials via microfilm which can be borrowed. These materials are in relatively good condition; nearly everything can be read although some materials take more reading time than others. Most post-1914 materials are restricted in their use because they have not been catalogued and microfilmed.

There were a number of reasons, in addition to decreased competition, for improved performance during the 1713 to 1763 subperiod. The HBC captains were more skilled with navigating the Atlantic Ocean and the Hudson Bay, and the HBC Committee understood more about trading with the aborigines. Although food and clothing were primarily received from London and from aborigines through trade, some HBC employees had become competent at hunting and fishing.

France lost its Canadian territories with the British conquest of Canada in 1763 [Rich, 1960a, p. 660]. This encouraged "the rush of the English into Rupert's Land" from the U.S. and England [Rich, 1960b, p. 13]. These "peddlers" were able to form partnerships with French Canadians and one another, and to expand the trade to the south and west of the Bay to such an extent that the HBC's trade was dramatically harmed [Rich, 1960b, p. 18]. Increasingly fewer aboriginal furs reached the bayside posts. In 1774, the HBC reacted by finally establishing a post inland named Cumberland House. More inland posts were set up in subsequent years.

By 1783, a group of Montreal traders formed the North West Company (NWC) to reduce costs and competition among themselves, and to compete more effectively with the HBC [Rich, 1960b, p. 119]. The NWC was reorganized in 1787 to include the entire resources of the Montreal traders [Rich, 1960b, p. 122]. The organization of the NWC and the expansion of the HBC inland led to intensified competition between the two companies. By 1816, their competition further intensified with the depletion of beaver in many areas; they competed head-to-head farther west, into present-day Saskatchewan and Alberta, and later still farther west and north.

Major changes resulted from the move inland. There was a longer lag, now a minimum of two or three years as opposed to one or two, from shipment of trade goods and supplies to the eventual sale of furs in London. There was also the challenge of "living off the land" as supplies were expensive to transport inland. The HBC responded to the challenges by introducing in 1810 "a Radical Change in the System of Carrying on the Trade" [HBCA, reels 6 and 39]. In effect, the Committee assigned more responsibility to senior managers for coordinating operations. Creating two areas and appointing two superintendents for managing them was recognition that more detailed coordination was needed. Furthermore, the introduction of incentives for officers was also recognition of the need to complement existing management methods. Another attribute of the

“retrenching system” of 1810 was a push by the Committee for better information. This need led to a system of annual reports being submitted by managers to superiors which required managers who could write well and to understand, if not to keep, accounts [Burley, 1993, p. 66].

The result of this transformation was more competition and even hostility between the HBC and the NWC. Both companies were suffering seriously when, as a solution, they merged in 1821, retaining the HBC name. Ultimate control remained in London with a new group of owners, also called the Committee. The Committee hired an inland governor, or governors<sup>2</sup>, and geographically divided the operations into departments, districts, and posts. Generally, districts were managed by chief factors, while posts within districts tended to be managed by chief traders.

In 1870, the HBC gave up its right to Rupert's Land to the Canadian government in exchange for land and cash. The influx of settlers was made easier by the modernization of communications and transportation. Steamboats, railways, and the telegraph replaced the HBC transportation network of crude boats. At the same time, the settlers contributed to an infrastructure that allowed the HBC to stop providing its employees with food and clothing.

### UNCERTAINTY OVER TIME

High uncertainty was defined by Duncan (1972, pp. 318-321) as complexity in a dynamic environment. More specifically, he measured high uncertainty in terms of a large number of parts<sup>3</sup> that differ and which change in unpredictable ways. This description paralleled the manufacturing and retail firms discussed by Johnson and Kaplan [1987, p. 95]; those firms had expanded in size and into additional businesses and products, as well as geographically. The consequence was many more

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<sup>2</sup>After the amalgamation of the HBC with the NWC in 1821, there were two governors. George Simpson was the governor for the larger Northern Department. However, he had at least some responsibility for all departments. In 1826, he became governor of the Southern Department and, therefore, head of all departments. Nevertheless, it was not until 1839 that he was officially awarded the grand title of governor-in-chief [Williams, 1973, p. xii].

<sup>3</sup>Duncan actually used the terms “factors and components.” As the word “factor” is used in another way in this research, the synonym “part” is used instead.

parts which were increasingly different. Also, as the managers of these firms did not fully understand them, the parts were perceived to change for reasons not fully understood.

The HBC also experienced a high level of uncertainty. Based in London, it operated a multifaceted, dispersed fur-trading business in North America. Although trading per se was not particularly complicated, the same was not the case with the long and difficult trip to bring trade goods to the aborigines and then return to London with the furs. Furthermore, the simple act of trading was complicated by there being neither a monetary system nor an infrastructure. Consequently, the HBC's fur-trading operation had many different parts that were not always predictable.

During the period 1670 to 1914, uncertainty was affected by the HBC's strategy and operating context. Of course, strategy and context were interrelated; nevertheless, they each affected the level of uncertainty. After the commencement of operations in North America, there were two major turning points in regard to uncertainty. The first occurred in 1774 when the HBC pursued its new strategy of inland trade rather than continuing from the handful of posts on the shore of the Bay. This change in strategy increased uncertainty. However, uncertainty decreased with the second turning point, the modernization of communications and transportation. These two turning points divide the entire study period into three subperiods with respect to uncertainty. Uncertainty was greatest from 1821 to 1860, compared to the prior (1670 to 1774) and subsequent (1880 to 1914) periods. The demarcation between subperiods recognizes that there were transitions which do not fit well with the subperiod on either side. More specifically, although the move inland occurred in a small way in 1774, it took until 1821 before changes were implemented in response to the new strategy. Similarly, modernization started gradually in 1859, but the momentum was not significant until the 1880s. The uncertainty for each subperiod will now be discussed

*1821 to 1860:* Uncertainty increased after 1774 as the HBC expanded inland from the Bay. Following the merger with the NWC in 1821, the HBC traded over half a continent, from Labrador on the Atlantic Ocean to Vancouver Island on the Pacific Ocean, from the Canada-U.S. border on the south to Great Slave Lake on the north, including parts of the present states of Washington and Oregon. The mode of transportation among the dispersed employees and posts (1,983 and 172 respectively

in 1821) was the birch-bark canoe, and later crude (York) boats. Uncertainty was increased by the time lag between the shipping of the outfit of trade goods and supplies and the eventual receipt of monies from the sale of the furs. This lag might be two or three years to account for the shipment from London to a Canadian port, offloading, and freighting, often more than 1,000 miles by rivers and lakes, to inland posts. From there the trade goods were exchanged for furs. A reverse trip was necessary to transport the furs to market in Europe. At each stage uncertainty could increase because of natural disasters, and at each market there were variations with actual prices and costs.

In this context, uncertainty can be categorized to include inland travel on rivers and lakes, trade conditions, and living off the land. These categories of uncertainty relate to major groupings of parts or activities in the fur-trade operation. The uncertainty relates to the nature of the HBC's business which changed over the study period. These discussions are summarized in Exhibit 1.

Inland travel was particularly complicated. The ships from London had to be unloaded; then the trade goods and supplies either stored in warehouses or directly loaded into canoes or boats for shipment to posts. The trips took weeks or months, and for each day there were demanding tasks in order to maneuver man-powered canoes and boats along rocky-bottomed rivers and lakes. These trips often required portages or the carrying of the canoes, boats, and their contents around rapids or waterfalls, or from one water system to another. Portages were physically demanding on the men, but as the operations expanded to 200 boats and 1,200 men [Glover, 1949, p. 19], horses were used for the task. Roads were built at the portages along with stations for maintaining the horses and men to expedite portaging.

Predictability with inland travel was problematic for several reasons. First, employee actions were unpredictable; i.e., behavior of the employees with canoes and boats could not be observed. Efforts and diligence were unknown. Second, there was environmental uncertainty from random events; i.e., the arrival times at the various posts could not be predicted with so many weather and environmental factors interfering with schedules. Moreover, exact distances between posts were uncertain. Third, there was the opportunistic behavior of employees; i.e., the out-of-sight employees could misuse equipment, trade goods, or supplies.



**EXHIBIT 1**  
**Uncertainty at the HBC**  
**Components of High Perceived Uncertainty**

<u>Subperiod</u>	<u>Significant Parts</u>	<u>Differences</u>	<u>Predictability</u>
1670-1774	Inland travel	Not applicable	Not applicable
	Trade conditions * no monetary system * barter economy	Many	Not predictable because of aboriginal languages, customs
	Living off the land * no infrastructure * largely London supplies * little obtained locally	Not applicable	Not applicable
1821-1860	Inland travel * loading * daily trips * portages (manpower, stations, horses) * 200 boats * 1200 voyagers	Many	Not predictable because of natural dangers, weather, frontier conditions, and isolation
	Trade conditions * no monetary system * barter economy	Many	More unpredictable because of additional aboriginal languages, customs
	Living off the land * no infrastructure * few London supplies * most supplies obtained locally	Many	Very unpredictable because of variations in weather, migration patterns, and soil fertility
1880-1914	Inland travel * railroad * steamboats	Many fewer	Predictable
	Trade conditions * monetary system * cash economy	Fewer	More predictable, aborigines more exposed to European languages and customs
	Living off the land	Not applicable	Not applicable

Trade conditions had many different parameters because of the lack of a monetary system. A large number of furs were traded for an even larger number of European trade goods. As there was a barter system, there were no market prices for furs and trade goods. Predictability was further complicated by distance and the large number of different aboriginal groups who differed in languages and customs. Moreover, the behaviors of traders could not be observed to ensure they acted in the best interests of the HBC.

Food and clothing could not be economically sent from London because of high transportation costs, and there was no infrastructure in North America to supply them. Consequently, living off the land was necessary. Food and clothing had to be supplied locally at hundreds of posts either by HBC employees or through trade. Hunting, fishing, and farming were pursued. There was transformation uncertainty as employee behavior could not be observed. Weather was always crucial for these primary activities; it varied significantly because of seasons and according to geographical location. Furthermore, hunting and fishing were precarious because of unpredictable migration patterns. In addition, the short growing season and infertile soil, especially at some northern posts, yielded poor and uncertain crops.

*1670 to 1774:* Overall there was less uncertainty during this earlier subperiod. One reason was that there was no inland travel, with all its different and often unpredictable parts, because all trade was conducted at bayside posts. There was also less uncertainty in regard to living off the land. Food and clothing were relatively inexpensive to ship when all posts were at the bayside. To supplement and add variety to the European food, a few crops were grown at some of the semi-Arctic bayside posts. In addition, HBC employees fished and hunted, and aborigines were hired to do the same.

However, the 1670 to 1774 subperiod demonstrated uncertainty similar to the 1821 to 1860 subperiod in regard to trade conditions. Trade was complicated by the lack of a monetary system, in conjunction with aboriginal languages and customs, multiple goods, and multiple fur varieties. One difference was that there were fewer different aboriginal groups at the bayside posts. North American aborigines had developed a system of middlemen for transporting furs to bayside posts. The distant aborigines who did the trapping would trade with others who

would take the furs to the bayside posts or trade with still others who made the trip [Innis, 1956, pp. 119-122].

*1880 to 1914:* This subperiod also had less uncertainty than during 1821 to 1860. Uncertainty of inland travel was drastically reduced by the modernization of communications and transportation. The first significant change came with the introduction in 1859 of a steamboat on the Red River, which flows from the U.S. into the present-day Canadian province of Manitoba. This boat greatly increased the speed, reliability, and volume of goods that could be delivered in a single trip. Steamboats were introduced on the Saskatchewan River in 1874, making it the baseline for transportation in the region of the present-day Canadian provinces of Manitoba, Saskatchewan, and Alberta [Innis, 1956, p. 344].

In 1878, the American Northern Pacific Railway was extended to Winnipeg, in effect rendering steamboats obsolete on the Red River [Barris, 1977, p. 41]. The transcontinental Canadian Pacific Railway, however, had a much greater impact when it linked the eastern and western extremities of Canada in 1885. Rail was not only cheaper than the York boats and steamboats, it was also faster and more reliable. Modernization significantly reduced the HBC's uncertainty with inland travel.

Uncertainty with trade conditions also declined significantly during 1880 to 1914. With modernization, the barter system was replaced with a cash economy complete with competitive prices. The development of better communications made it possible for traders to obtain the current market price of furs offered for auction in London. In this respect the mail service and the increasing circulation of newspapers were important, but it was the introduction of the telegraph which revolutionized the information flow to the posts. Completed in 1887, the telegraph broke the HBC's monopoly on information [Ray, 1990, p. 66].

Less importance was placed on living off the land during this subperiod. An infrastructure developed for providing food and clothing [HBCA, reel 733, transcribed by Bowsfield, 1977, p. 85]. Farmers were settling the prairies and producing grain crops and other farm products. Small businesses that produced an increasing variety of food and clothing products started in the major urban centres of Victoria, Vancouver, Calgary, Edmonton, and Winnipeg. The HBC did not have to be self-sufficient any longer. In-house production was replaced, allowing the HBC largely to withdraw from responsibilities for

feeding and clothing employees. The earlier uncertainty with these responsibilities was eliminated.

In summary, the 1670 to 1914 period exhibited three types of uncertainty – inland travel on rivers and lakes, trade conditions, and living off the land. Within the context of Duncan's [1972] definition, each uncertainty type was rated as high for 1821 to 1860. Lower uncertainty was assessed for all categories of uncertainty for the 1880 to 1914 subperiod. However, for 1670 to 1774, trade conditions were judged to demonstrate high uncertainty, while inland travel and living off the land were deemed to have lower uncertainty. Consequently, there is evidence supporting the contention that uncertainty was greater for the HBC during 1821 to 1860 than in either the prior (1670 to 1774) or the subsequent (1880 to 1914) subperiod.

## MANAGEMENT ACCOUNTING PRACTICES

HBC's management accounting practices for the three subperiods were described in depth elsewhere (i.e., respectively, Roy and Sprakman [1996], Sprakman and Davidson [1998], Sprakman and Wilkie [1998]). Although the use of management accounting practices varied among the three subperiods, four management accounting techniques were used virtually throughout the period from 1670 to 1914 — operating statements, budgets (i.e., outfits and indents), inventory records, and standards. These methods will be described below, but note that each technique is comparable to contemporary practice. During the 1670 to 1914 study period, each functioned as a component of various management accounting systems.

## OPERATING STATEMENTS

*1821 to 1860:* The purpose of the accounting records in the 1821 to 1860 subperiod was set out in an 1843 memorandum by the HBC's London-based accountant, Edward Roberts [HBCA, reel 508]. "Directions for Keeping Accounts" described the purpose of the "country accounts" as furnishing the cost of the furs from each district. These costs, in conjunction with recent fur prices provided by the Committee, allowed for the calculation of profit for each district. Subsequently, the district results were combined into department totals. This memorandum stated that profitability indicated the "merit" of managers. As revenues in the country accounts were calculated using past prices, actual profits calculated by the London office had to await the sale of furs at public auctions, typically six months to

two or more years after the end of the outfit year [e.g., HBCA, reel 480].

The country accounts were prepared with debits and credits on the basis of an outfit, the annual shipment of trade goods and supplies for the trade expedition with the aborigines, rather than for a set calendar period. What was called a balance sheet was merely a means of closing the district books at the end of the outfit. The balancing figure was the profit (or loss). Exhibit 2 contains an example of the balance sheet for the Severn District [HBCA, reel 1M590]. The same format was used for departments [e.g., HBCA, reel 1M690] and irregularly for posts [e.g., HBCA, reel 1M567]. Each line, except the balancing (profit) line, was the summary of one or more books or records, which will be described subsequently.

**EXHIBIT 2**  
**Severn District Balance Sheet, Outfit 1823<sup>4</sup>**

<b>(Left side)</b>	<b><u>Pounds</u></b>	<b><u>Shillings</u></b>	<b><u>Pence</u></b>
To inventory 1st June	1713	16	8
To received from York Factory	886	13	9
To servant wages	391	—	—
To balance	<u>1711</u>	<u>3</u>	<u>10</u>
	4702	14	3
<b>(Right side)</b>			
By supplies to York Factory	24	9	10
By servants book debts in the district	215	19	6
By advances to servants not residing in the district	50	19	4
By inventory in the district	570	7	1
By inventory at Skallop Creek	591	9	2
By returns of furs	<u>3249</u>	<u>9</u>	<u>4</u>
	4702	14	3

Source: HBCA [reel 1M590].

The debit entry, “inventory 1st June,” was the beginning inventory of trade goods and supplies. This count was done after the winter trapping and trading season at about the time the furs were being transported to York Factory or Montreal for shipment to London. Items for each category of trade goods and supplies were physically counted and then valued at cost plus a percentage markup for transportation and storage [HBCA, reel 1M567].

<sup>4</sup>Note: 12 pence were equal to 1 shilling, and 20 shillings were equal to 1 pound.

The 1832-1833 "Store Balance Book" was an example of the Northern Department's meticulous inventory records [HBCA, reel 1M846]. In brief, over 56 double pages, there was a complete reconciliation of beginning inventory, importation of trade goods and supplies (i.e., the current year outfit), distribution, and ending inventory. Furthermore, the store balance book reconciled the stock of supplies held in the districts and depots of the department with the distribution of supplies for each outfit.

The next debit item in Exhibit 2, "received from York Factory," was the district's cost of the trade goods and supplies received in the current outfit year from London via York Factory or Montreal. The HBC controlled the movement of trade goods and supplies with invoices. There were the "Invoice Books of Shipments" to record what was shipped from London. Each package was numbered and the contents recorded with the value [HBCA, reel 367]. Invoices were also employed with the subsequent shipment of trade goods and supplies from ports, such as York Factory, to districts and posts. These invoices were recorded in "Charges to Districts, Account of the Charges, Affixed to Outfit Invoices" [HBCA, reel 1M688]. Shipped items were listed with quantities, unit prices, and cost per item. Packing sheets were used as aids to ensure that all items were included [HBCA, reel 1M689]. "Bills of Lading" were also used for checking the contents of canoes and boats [HBCA, reel 1M690] as they recorded items of trade goods and supplies, their destination, and the person responsible for them. Check marks beside the listed items imply a verification system for ensuring the items were loaded. A standard (percentage) advance was added to the cost of each item to compensate for the actual transportation and storage costs [HBCA, reel 195].

Another debit in Exhibit 2 was the wages paid to employees or servants. This cost was supported by various supplementary documents. First, there was a contract between the employee and the HBC, which specified obligations for both parties. Second, cash payments to employees were recorded in a departmental journal called "Servants Bills," and additional headings "Cash Advances in Montreal" and "Cash Advances in London" were used to record advances when employees were at those locations [HBCA, reel 1M689]. A review of those documents found a system of check marks that implied a later transfer to other documents. There was also the use of debits and credits to transfer advances when the recipient was transferred to another district. Third, employee payments were reconciled with

the document, "York Employee Balances" [HBCA, reel 1M687]. The 1823 edition contained a list of employees, recorded charges (debits) and wages (credits), and a reconciliation. Fourth, to keep track of employees, there was also an "Engagement Register" [HBCA, reel 1M853] which sequentially numbered and listed employees in alphabetical order. It included the following employee specifics – name, age, parish, capacity, where engaged, date, term, years engaged for service, date contract expires, deserted, dead or home date, wages, and amount of extra services.

The last debit item in Exhibit 2 was the balance. This was the profit (if a debit) or loss (if a credit, which would be shown on the right side). It was a calculated number equal to the total of the credits less the debits. In effect, the balance equalled the estimated sales value of the furs less the cost of trade goods, supplies, and employees.

The credit item in Exhibit 2, "inventory in the district," was the ending inventory. For each district, it was the summation of the actual inventories at all posts. For the example in Exhibit 2, the "inventory at Skallop Creek" was shown separately, probably because of the large amount at that location. As an offset to wage payments, the credit entry for "servants' book debts" was equal to all sales to employees during the outfit year. Two documents were used to accumulate these debts. One was "Accounts of Sales to Servants, In the General Shope York Factory Summer" [HBCA, reel 1M688]. The 1822 edition was typical in recording the charges to employees from York Factory and other districts/posts. There were no totals, and the check marks implied that the charges were transferred to other accounts. The second was the "Register of York Factory and its Dependencies" [HBCA, reel 1M688]. It listed employees and spanned more than a single year. For each employee there was an itemization of goods received with notation of where, post or district, received [e.g., HBCA, reel 1M688].

Exhibit 2 also shows credit entries for "supplies to York Factory" and "advances to servants not residing in the district." These were the means of reflecting that the costs of inventories and employees were reduced because, respectively, of the part returned or the employees who were working elsewhere. The last credit item in Exhibit 2, "returns of furs," equalled the value of furs received by the district in exchange for trade goods. As revenue, it was also equal to the number of furs by type multiplied by the unit prices, which were based on the previously mentioned recent fur prices supplied by the Commit-

tee. The calculation of total revenue was supplemented by post documentation. Each post maintained a "Debt book" [e.g., HBCA, reel 1M689], which listed each aboriginal trapper, the goods he received, and furs supplied. The quantities, unit cost, and cost of items received of a trade good were also recorded. Amounts were subtracted for the value of furs that the aborigine provided the company. Subtotals were prepared for each page, carried forward, and totaled. Furthermore, the "Fur Returns" schedule kept track of furs by type by district. The schedule for the outfit year ending June 1, 1844 showed 40 categories of fur against 13 districts [HBCA, reel 1M813].

*1670 to 1774:* In this earlier subperiod, the HBC had a detailed system for post accounting which recorded entries to all ledger accounts in terms of a prime beaver pelt called a "made beaver." The values of trading goods, supplies, and furs were convertible into made beaver. In addition to ledger accounts and other documents for tracking the flow of trading goods and supplies, there was a made-beaver-denominated "balance sheet," which in effect was also a profit and loss statement similar to that in Exhibit 2. On one of the two sides of the balance sheet, there were beginning inventories of trade goods and supplies, trade goods and supplies received, cost of employees, and profit if one existed. On the other side, there were the ending inventories, value of sales, and the loss if one existed. The made-beaver approach to accounting, described by Ray and Freeman [1978], was in effect at least from 1692 [e.g., HBCA, reel 1M406]. It worked well in determining the relative profits of posts when a monetary system did not exist and when all posts had nearly the same transportation costs, as they were all located on the coast of the Bay. The financial crisis in the early 1800s forced the HBC to abandon its rigid made-beaver accounting system in favor of a system that incorporated variations in transportation costs caused by different distances from the Hudson Bay.

The 1810 reorganization placed more importance on accounting records. First, they were to be denominated in pounds sterling, rather than the more than the century-old made-beaver practice. Second, accountants were appointed with responsibilities that included preparing accurate accounts, correctly recording inventory of goods on hand at the end of the year at the factory and at each trading house within the limits of the factory, and correctly recording debts due by aborigines and employees.



*1880 to 1914*: The 1821-1860 approach to accounting was continued with the only significant change being the use of pre-printed forms, despite an influx of settlers which induced the HBC to expand into sales shops to serve the retail market. The 1887 balance sheets (i.e., operating statements) and related documents were being prepared for posts, districts, and departments on 31 pre-printed forms, many of which included more than one page [HBCA, reel 3M224]. Improved communications and transportation had led the HBC to demand some monthly reports from posts and sales shops.

Then, in 1889, the HBC's auditor made suggestions for improving financial reporting. This forward move was prompted by the increasing role played by cash in the purchase of furs from trappers and in the purchase of trade goods and supplies from North American suppliers. The auditor believed that the wide variety of items included in inventory led to inaccurate information; e.g., "[a] large increase of payments might indicate a new policy of purchasing supplies elsewhere than in England, or might mean that a greater portion of the furs shipped had been purchased for cash" [HBCA, reel 508]. His contention was supported by item 70 of the HBC's 1887 "Rules and Regulations," which listed the inventory subcategories to include such heterogeneous assets as trading goods, supplies, country-made articles, country articles, livestock, outstanding balances, buildings and land, and ships and steamers [HBCA, reel 3M224].

The auditor's recommendations led to the division of the inventory account into cash, goods held for barter, furs and country produce, livestock, ships and steamboats, and other assets. The purpose was to differentiate between the amount of assets and liabilities for current accounts, for barter, and for other purposes [HBCA, reel 508].

In 1891, Commissioner Chipman proposed that the Board of Directors change the accounting from outfits to fiscal years [HBCA, reel 508]. This suggestion was accepted and had a substantial impact on reporting [HBCA, reel 3M230]. With outfit years, the books were not being closed until after the sale of furs in London, which was one year or more after the calendar end of the outfit. This time lag also meant that the accounting reports for districts had to be completed at the London office, which, therefore, had to maintain and complete those financial records. The resulting accounting system was complicated, expensive, and late in providing information for effective decision making.

Using a fiscal year meant that the books could be closed in

Canada. There was no need to wait for the furs to be sold. Unsold furs were merely valued as inventory. When sold, the revenue would accrue to the respective post or district in the year they were actually sold. No district or post accounting reports needed to be prepared at the London office, which was then able to simplify its accounting processes by keeping only one continuous account with the fur trade. Winnipeg became the accounting office for all fur posts and sales shops. Exhibit 3 shows the pre-printed format for the 1910-1911 operating statement, now called the trading account instead of a balance sheet [HBCA, reel 3M280].

### EXHIBIT 3 Trading Account

Trading Account _____ District Outfit 1910, Form No. 20	
To inventory of goods	
To goods from depot and mills	
To goods and country produce purchased	
To goods from other posts, etc.	
To freight on goods	
To interest on goods	_____
By supplies or expense accounts	
By supplies or servant accounts	
By supplies to other posts, etc.	
By inventory of goods	_____
Net cost of goods sold	
By cash sales	
By credit sales	
By bartered for furs, country produce	_____
Gross profit (Per cent. Of C.L.)	
Add Gain on: live stock, bad debts recovered, fur purchased, Indian debts recovered	_____
Less Expenses as per Form No. 14	
Repairs and improvements (annual depreciation)	
Loss on articles at fixed prices (goods depreciation)	
Loss on: bad, doubtful debts, Indian debts	_____
Apparent gain	=====
Furs purchased	
Cash	
Freight, insurance, packing, etc.	
Bartered for goods	
Credit Indian	
Credit Customer	_____
Cost	
Tariff valuation	_____
Gain exclusive of profit on goods bartered	=====

Source: HBCA [reel 3M348]

## BUDGETS AND INVENTORY RECORDS

*1821 to 1860:* There was, as noted, a long time lag and many separate activities between the shipment of trade goods and supplies from London and the eventual sale of the furs. The coordination of the various activities or parts was necessary for profitability, and the HBC had a detailed budgeting system for coordination. The word “budget” was not used by the HBC, instead they had the “indent,” which was comparable to a budget. Simpson, HBC governor for the entire 1821 to 1860 subperiod, expressed his thoughts on indents during his first winter (1820-1821) in North America with the pre-merger HBC. He had been placed in charge of what was then called the Athabasca Department, consisting of five districts. Two of the districts were small and emerging (McKenzie River and New Caledonia), while the other three (Peace River, Athabasca Lake, and Great Slave Lake) were more developed with each consisting of four separate trading posts.

Simpson specified the trading goods, supplies, and complement of employees [Rich, 1938, pp. 141-169]. This indent contained nearly 500 different items that were tentatively requested in various quantities, allocated to the five districts, and further allocated within three of those districts to 12 posts. Trading goods were listed in alphabetical order from “augers” to “worm gun” and “worsted, assorted colours.” (Actually, the last entry was “plough shear” which seems to have been overlooked and then entered at the end.) He also specified 16 food items, from butter to tea, although the managers and employees were expected to obtain the majority of their food supplies themselves or through trade. Ten different supply items for canoes were specified, as were seven leather and fur items for posts to make their own clothing. The employee complement was specified at three levels — clerks, interpreters, and men.

The physical count of inventories was the starting point for an indent.<sup>5</sup> From inventory records, the clerks prepared a “scheme distribution;” i.e., a planned distribution of trade goods and supplies to posts from existing inventories for the current year and the next to meet expected trade. When the outfit for the current year arrived, a “scheme indent” was developed specifying the expected post needs for the next two years.

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<sup>5</sup>This discussion on the development of the various indents from the inventory records was summarized from May [1987, pp. 47-68].

Subsequently, the “master indent” was prepared as the basis for the importation of trade goods and supplies for the next two years. The master indent was specific in terms of items and size (small, large, etc.), quantities, supplier/vendor, and cost. For example, the 1825 York Factory (i.e., Northern Department) indent specified 600 three-point blankets at a cost of 15 shillings each for a total cost of £450 [HBCA, reel 374]. The post indents were compiled into district indents, which were accumulated into department indents.

The 1831-1832 “Scheme Distribution and Invoice Book” for York Factory was a vivid example of the care that went into inventory planning and distribution. Its purpose was to allocate trading goods and supplies to districts and shops. The total of that distributed equalled that available. The following categories were specifically placed along the horizontal of this document: beginning inventory, importation of trading goods and supplies, a list of the various districts, general shop (employees’ residence), officers shop, contingency, and total [HBCA, reel 1M835]. Along the vertical, trading goods and supplies were listed in alphabetical order, comparable to the “Store Balance Book.”

*1670 to 1774:* The first two indents were merely lists of articles based on the past experience of Groseilliers and Radisson in trading for furs with the aborigines in New France. For the 1672 outfit, the Committee again depended on Groseilliers and Radisson, along with the help of Gillam, the captain on an earlier voyage, and Bayly, an early bayside trader [Rich, 1960a, p. 70]. These indents recognized that careful consideration was important because what was shipped had to be appropriate as replacements and took at least a full year [Rich, 1960a, p. 153]. The Committee began early to prepare a “Sheame of what goods are necessary to buy against the next Shipping.” At their meeting in 1681, a subcommittee was appointed to determine the:

... quantity of the Several Species of Goods and other Provisions that are to be furnished for the next Expedition and accordingly to bespeake and agree for them and Mr. Stone is to present to them a paper of all things that were Sent the last Voyage for their guide and direction [transcribed by Rich, 1945, p. 109].

In this way, the Committee became capable of reconciling shipments with inventories and trade [Rich, 1960a, p. 156]. For

example, a 1684 letter to bayside trader Sergeant from the Committee demonstrates its increased sophistication with respect to trade and implies that indents were being prepared by bayside traders [transcribed by Rich, 1948, p. 122]. The Committee says, "(t)he Invoice of Goods you say is wanting in the Countrey we Judge is very Extravagant for your Advicer has done it without consideration as in some things we will touch upon to make you sensible of the rest." It goes on to say, with an example of short guns, that with existing inventory there will be enough guns for more than two and a half years of sales at the quantity sold in a year if the full amount of the request is shipped, and that two years of inventory is the maximum that will be tolerated. In addition, by 1703, the Committee was asking for two-year indents. There was resistance, as seen in the letter from John Fullartine at Albany to the Committee [transcribed by Davies, 1965, p. 7]. Nevertheless, indenting was done for two years and extended when operations were moved inland after 1774.

Similarly, from the earliest years, the HBC was concerned with tracking inventory. The Committee's minutes for 1671-1674 indicate that records were maintained of trade goods, supplies, and furs loaded on ships, unloaded, and transferred [transcribed by Rich, 1942, pp. 3-5]. The following was an example of those instructions:

That the Accountante & husbände (warehouseman) forthwith make out perfecte invoices & gett billes of Ladeing Signed by the two comanders for all goods & provisions that are Laden aboard the two shippes to bee delivered to the governour together with his instructions, copies of all which are to bee kept here, & to See that the Shippes bee forthwith cleared at the Customehouse here [transcribed by Rich, 1942, p. 115].

Nixon, who became a bayside trader in 1679, was urged by the Committee to handle trade goods systematically, to return defective or unattractive goods, and to see that his warehouse keeper sent home annual lists of the stock on hand at the end of each season [Rich, 1960a, p. 109]. Furthermore, in 1683, the Committee sent instructions to Sergeant that he send home yearly a list of all employees ("Serveants in the Bay and their severall Employments") and a list of all trade goods and supplies ("an exact Account . . . of what remaines of all sorts of provisions and Stores as well as of Goods & Merchandizes in every of our Factories") in order to better manage operations

("that we may the better know what to sende") [transcribed by Rich, 1948, p. 79]. By 1692, there was growing evidence of meticulous record keeping. For example, in a letter to trader Geyer at York, the Committee asked: "There is a Box of Indian paint mentioned in Capt. Edgcombes Journall, wch.we never Received. We desire to be informed of it" [transcribed by Rich, 1957, p. 138].

However, it was not until 1810 that there were significant changes to the recording of inventories. An additional list was required of the quantity of goods of every denomination at all locations, in physical and monetary terms. The records were to be accurate and not estimates. Inventory counts were to be done at the end of each season and valued at cost plus an advance to cover the expenses of storage and transportation of ten percent for the principal (bayside) posts of Churchill, York, Severn, Albany, Moose, and Eastmain, 20 percent for the trading houses within the districts of the aforementioned bayside posts, and 30 percent for those of the two new inland posts, Saskatchewan and Winnipeg. Note, these advances were changed in 1813 to 2, 5, and 7½ percent respectively; the Committee's justification was that:

We found the rates formerly proposed would be too high, only part of the men's time is employed in housing and transporting the Goods, the rest being occupied in distributing the Goods to the [aborigines] and collecting, packing the Furs to the bay-side all of which operations must of course be performed after the time of taking the remains. We have therefore considered about 1/6 of the men's wages as expended in this part of the business and calculated the percentage accordingly as we are satisfied that this is near enough to the truth to answer all the purposes of the Regulation (HBCA, reel 39).

*1880 to 1914:* The modernization of communications and transportation provided the HBC with significant advantages in the 1880s. Previously, it had to finance a two-year inventory compared to three months with the railway [den Otter, 1990, p. 10]. In 1885, when the CPR was completed, the HBC established semiannual rather than annual indents, thereby saving money as well as time [Ray, 1990, p. 73]. Later, the telegraph enabled trade goods and supplies to be ordered directly as required [Innis, 1956, p. 360]. The indents were primarily for ordering items from England, which was a decreasing part of the trade

goods and supplies since most ordering could be done easily from local or North American suppliers as needed. Communications and transportation innovations permitted more reliable and frequent shipments of trade goods and supplies at a lower cost per unit than the previous system [den Otter, 1990, p.11]. The improved turnover was greatest at posts along the railway lines [Ray, 1990, p. 89].

The Board was unwilling to forego the substantial control that accompanied the annual outfits, not even to be more responsive to customers through more frequent ordering. The need for both responsiveness and control was achieved by establishing a quota of capital employed<sup>6</sup> for each post or sales shop. In this way, the ordering would be held in check by pre-approved limits according to a circular from the commissioner [HBCA, reel 3M230]. Apparently, control over ordering by using capital employed was successful. The HBC was able to expand into sales shops, maintain the same fur-trading business, and increase profits with basically the same capital employed. This success was expressed in a memorandum to the commissioner [HBCA, reel 3M230].

Inventory was still counted annually (June 1). However, as the 1880 to 1914 subperiod proceeded, and as a larger portion of trade goods and supplies could be ordered and obtained relatively quickly, a decreasing portion received the detailed tracking that was done between 1821 and 1860. Less importance was placed on its recording because inventory was maintained for a shorter period of time as replacements could be more easily ordered. Two and three years of careful inventory planning with a series of indents were no longer necessary.

## STANDARDS

*1821 to 1860:* To be viable, the HBC had to trade for furs that were worth more than all costs incurred. Ensuring that revenues exceeded costs was complicated by the long time lags and the multitude of costs that had to be incurred before revenues were received from the sale of furs. The actual recording of costs was onerous but necessary if the exchange rates between trade goods and furs were to be sufficient to cover and exceed

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<sup>6</sup>Capital employed was defined as starting inventory plus inventory received (including that from other districts), cash, and employee wages, less cash provided to the HBC, employee debts, and transfers of inventory to other districts.

all those costs. In this regard, Simpson wrote the following in 1823 to the Committee:

... according to the present classification of goods with the various percentages there on much time is lost, inconvenience experienced and numbers of errors committed in making up the accounts as very few of our clerks are competent to go into the necessary fractional calculations with accuracy, we are therefore of opinion that it would simplify and facilitate the business greatly if a general average percent of inventories and transfers for each district was adopted founded on the actual cost and expenses of transport and shall be glad to know if such would meet your approbation [HBCA, reel 195].

This request was not unexpected. In 1822, the Committee had requested a schedule of advances or markups for use in calculating the value of inventories at posts. Those advances were based on the "information & data within our reach, and is probably an approximation to the true cost" [transcribed by Fleming, 1940, p. 323]. The result was a "Schedule of Advance" on the landed cost of trade goods and supplies [also see HBCA, reel 508]. The markup percentage was dependent upon the distance from port (e.g., York Factory or Montreal) and to some extent on the characteristics of the product.

Moreover, standard costs were implicitly included in each post's "Standard of Trade," which related all other furs and all trade goods to a made beaver. Individual post standards were adjusted for local conditions, distance from York Factory or Montreal, and changes in European fur prices. These standards provided explicit instructions on the amount of furs to be obtained from the trade goods in an outfit. In Exhibit 4, Innis [1956, pp. 318-319] provided an example of how the standard of trade worked for an aboriginal trapper with furs to trade.

In addition, the HBC used nonfinancial standards. With the information on performance, Simpson, through agreement by the chief factors in council, set travel and transportation standards in physical terms. For example, he constantly experimented with routes, the design of boats, and load weights to reduce the cost per pound shipped. Innis [1956, p. 292] noted that careful planning increased the loads of York boats on the North Saskatchewan River from 50 packs or pieces in 1822, to 60 in 1825, and 80 in 1833. Simpson also saved the HBC thousands of pounds every year through abolishing the custom of officers (chief factors and chief traders) travelling ahead with



### EXHIBIT 4 Trading Furs for Goods

<u>Furs, by Type and Quantity</u>	<u>Value of Furs</u>
Beaver, whole or full grown,	30 = 30 whole beaver
"    , half or cub,	11 = 5.5 " "
Otters, prime, large,	1 = 2 " "
"    , "    , small,	1 = 1 " "
Fox, black prime,	1 = 2 " "
"    , red,	3 = 1.5 " "
"    , white,	4 = 2 " "
Martens,	9 = 3 " "
	47 " "

The trader gives the aboriginal trapper credit for 47 whole beaver with 47 quills, signifying the value in trading goods. The trapper perhaps will choose the following selection of trade goods.

A gun	11 quills
3 yards of cloth	9 "
3 lbs. of powder	6 "
8 lbs. of shot	4 "
1 large blanket	8 "
1 hatchet	2 "
1 file	1 "
1 3-gallon kettle	<u>6</u> "
	47 "

Source: Innis [1956, pp. 318-319].

their families in light canoes rather than staying with the rest of the brigade, which travelled at the speed of the heavily loaded freight canoes and boats. Simpson insisted that officers travel with the freight, thus ensuring more direct control over the movement of trade goods and supplies. This practice was specified in the 1828 standing rules and regulations for the Northern Department [transcribed by Fleming, 1940, pp. 220-221].

*1670 to 1774:* The standard of trade existed from the HBC's beginning [Rich, 1960a, p. 75]. As the pre-contact aborigines had no conception of the use of money, the HBC had to establish an institutional framework that permitted barter on an accountable basis. To accomplish that end, a rigid standard was established by the Committee with the assistance of Radisson and Groseilliers. This system also prevented competition among HBC posts and the extravagant offering of trade goods for furs. The standard of trade encouraged a pattern of aboriginal life in which fur hunting and the annual trade journey to the Bay

became essential parts; certainty of trade conditions was necessary [Rich, 1960a, p. 76].

Establishing the standard of trade was complex, and though the official standard was rigid, the Committee expected traders to be flexible. Variations were assumed as long as, in the end, the specified trade goods produced the required furs. This expectation was expressed in a 1688 letter from the Committee to bayside trader Geyer at Port Nelson:

We would have you keepe, to the Standard, that Mr. Radisson agreed to, but with all to give the [aborigines] all manner of Content and Satisfaction and in Some goods Under Sell the French that they may be encouraged to Come to our Factory's and to bring their Nations Downe [transcribed by Rich, 1957, pp. 14-15].

From 1670 to 1810, the standard of trade was basically unchanged despite many variations to the relative prices of goods and furs over time [Rich, 1939, p. xxi]. The official Committee-imposed standard of trade was abolished in 1810, in response to the move inland that had begun in 1774 [HBCA, reel 6]. The singular standard which had existed for 140 years was replaced with a unique standard of trade for each post. In effect, it was the standard of trade developed in 1810 that lasted for decades thereafter. It was just as demanding as the rigid Committee-imposed standard, but it became flexible or adjustable for costs which differed with distance from ports.

*1880 to 1914:* The standardized costs started to cause the prices of some products to be out of line with those offered by competitors. This problem was expressed in an 1871 letter from Cyril Graham to the head of Committee [HBCA, reel 733]. HBC's standard of trade was replaced and held in check by market prices. Products continued to be assigned costs by a technique called "cost-landed" which included invoice cost plus all freight and charges [HBCA, reel 3M230]. These costs were easy to ascertain as common carriers such as steamboats and, especially, railways were used.

Without the standard of trade, and as barter was replaced with cash prices, the amounts to pay for furs became problematic. In a circular dated 1887, the Committee announced that the prices paid for furs (i.e., the fur-buying tariff) would be set at 20 percent less than the average price obtained at the last London sales [HBCA, reel 3M232]. The announcement went on to say that higher prices could be paid for higher quality furs,

but other prices would have to be lower in order for the average to be 20 percent less than the recent sales prices.

In summary, the standard of trade was no longer needed as market prices existed for furs and trade goods. Standards were used for the cash purchase of furs. Similarly, operational standards were not necessary for transportation costs as market prices existed where previously the HBC managed its own transportation network.

## DISCUSSION

It was expected that the HBC would use management accounting more extensively when subject to more uncertainty and less extensively when there was less uncertainty. A number of steps were followed in assessing the evidence. First, the uncertainty facing the HBC for the 1670 to 1914 period was divided into three groups of parts or activities in the fur-trade operation – inland travel, trade conditions, and living off the land. The uncertainty inherent in these activities was dependent on the infrastructure and the strategy of the HBC. Infrastructure development varied from complete frontier without settlements and without a monetary system to railways and telegraph with pioneer settlements and a monetary system. Strategy also varied during this period. During its first century, the HBC pursued a sedentary strategy of waiting by the Bay for the aborigines to come to trade. With the move inland, the strategic focus was inland trading and, after the merger with the NWC, consolidation or cost cutting was added to that strategy for 1821 to 1860. Then, from 1880 to 1914, the strategy can be best expressed as modernization; the HBC used the developments in communications and transportation to improve operations.

Uncertainty was extensive from 1821 to 1860. Inland travel across half the continent in canoes and crude boats included substantial uncertainty, as did trade with aborigines when there was no monetary system and when the traders had to live off the land. There was more certainty during 1670 to 1774 before inland travel was necessary and before living off the land replaced the annual supply shipments from London. Similarly, uncertainty declined between 1880 and 1914. Inland travel was simplified with developments in communications and transportation. Trade conditions became more certain and less problematic with the introduction of a monetary system. Living off the land was no longer essential as settlement brought farmers,

manufacturers, and merchants to supply food and clothing.

Second, four important and dominant management accounting techniques were tracked over the entire 1670 to 1914 period – operating statements, budgets, inventory records, and standards. All were used during the entire study period to varying degrees, and all four were used extensively between 1821 and 1860. For the 1670 to 1774 subperiod, budgeting (i.e., indents and outfits) and inventory records were less important and less developed because there was not the logistical uncertainty associated with the inland strategic move. Operating statements called balance sheets were comprehensive and highly developed, but rigid, because of the made-beaver quantification. The use of standards was mixed. Standards were less developed for operational activities because there were no requirements associated with inland travel. However, the standard of trade was well developed and crucial.

Similarly, the 1880 to 1914 subperiod demonstrated less need for management accounting. The improvements in communications and transportation made possible the management of the dispersed HBC posts and sales shops with frequently prepared operating statements, which were called trading accounts. With the use of return on capital employed, the HBC was able to evaluate relative performance. And as there was a cash economy, there was less need for a standard of trade. There were markets which set per unit prices for revenue and cost items. The detailed indents and outfits were no longer necessary because trade goods and supplies could be ordered as needed. Also, with the ease of obtaining inventory, the detailed inventory records were not needed for keeping track.

In short, management accounting techniques were most developed during the subperiod of highest uncertainty, 1821 to 1860, and less developed for 1670-1774 and 1860-1914 when there was less uncertainty. This pattern is summarized in Exhibit 5.

## CONCLUDING ACCOUNTS

With contrasting conditions of uncertainty because of various strategies and contexts, the HBC drew upon different strengths of the four management accounting techniques. Nevertheless, during each subperiod the HBC used all four techniques. The first subperiod, waiting by the Bay from 1670 to 1774, saw management accounting being used to *reconcile* all transactions. Trade goods and supplies were shipped, and the

## EXHIBIT 5

### Management Accounting Use Under Different Uncertainty Conditions

	<u>Management Accounting Techniques</u>				
	Inventory		Operating		
<u>Uncertainty</u>	<u>Budgeting</u>	<u>Records</u>	<u>Statements</u>	<u>Standards</u>	
<u>1670 to 1774</u>					
Inland travel	Lower				
Trade conditions	High				
Living off the land	Lower				
Use of Technique	Lower	Lower	High	Lower	
<u>1821 to 1860</u>					
Inland travel	High				
Trade conditions	High				
Living off the land	High				
Use of Technique	High	High	High	High	
<u>1880 to 1914</u>					
Inland travel	Lower				
Trade conditions	Lower				
Living off the land	Lower				
Use of Technique	Lower	Lower	High	Lower	

Note: Uncertainty was rated as high or lower. Similarly, the use of each management accounting technique was rated as high or lower.

Committee knew if the furs returned were appropriate. It was in the second subperiod (1821 to 1860), after expanding inland and after the earlier system for reconciling was found to be inadequate in view of the extensive uncertainty being faced, that management accounting was used to *plan* carefully and profitably the multiyear shipment of trade goods and supplies. This subperiod was the most profitable and one of careful consolidation, which demonstrated that *managerial effort* and *dedication* were needed to make management accounting effective. The system was basically in place by 1810 or shortly after, but it did not work until the appointment of Simpson as governor of the Northern Department in 1821.

In the 1880 to 1914 subperiod, as the HBC pursued modernization, the operating statement, called the trading account, was primarily used for managing the posts and sales shops. This minimal accounting could be done as the uncertainty of

the earlier subperiod had been reduced. The business was relatively simple. There was a cash economy, prices and costs were known, and communication and transportation had never been better. In this context, the HBC truly pursued *management by numbers*.

The evidence was consistent with Johnson and Kaplan's [1987] contention that management accounting practices evolved positively with uncertainty. Management accounting practices of the HBC were most developed in the 1821 to 1860 subperiod, when uncertainty was the greatest, to assist managers through information to manage a multitude of uncertain activities or, in other words, a large number of different and unpredictable parts. Management accounting was less prevalent in the other two less uncertain subperiods (1670-1774 and 1880-1914), with fewer and more predictable parts, because managers had less need of it.

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