

## Pierre Duguay: The quest for confidence: 400 years of money – from La Nouvelle France to Canada today

Remarks by Mr Pierre Duguay, Deputy Governor of the Bank of Canada, to students and faculty of Laval University, Quebec City, Quebec, 10 November 2008.

*The original speech, which contains various links to the documents mentioned, can be found on the Bank of Canada's website.*

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Good afternoon. It's a real pleasure to be here.

As we celebrate the 400th anniversary of the founding of Quebec, I thought it would be fitting for me, as a central banker, to take a look at how money has evolved over part of the past four centuries. As I relinquish my responsibilities for the issue of Canada's bank notes to concentrate more fully on financial system stability, I welcome this opportunity to underline recent progress in the fight against counterfeiting. But I'm getting ahead of myself. I'd like to thank Laval University and professor Kevin Moran for making this event possible.

The history of money is fascinating. It reflects economic, political, and social history. The history of money in Canada is particularly colourful. Here, as elsewhere, it is largely the story of two opposing forces. On the one hand, there has always been a need for a secure and practical medium of exchange and store of value – that is, for *sound* money. Sound money is money in which we can justifiably place our confidence. On the other hand, there have also always been two main enemies of sound money – inflation and counterfeiting. It's an exciting story, this contest between sound money and the forces that can undermine it.

Over the next 45 minutes, I'd like to tell you a bit of this story. I'll start by focusing on the early days in *la Nouvelle France*, and then I'll mention two important developments in the 19th century. I will then provide a context for understanding modern money by briefly describing the role of the central bank. I'll conclude by covering a few recent developments in money, particularly electronic alternatives. I'm going to illustrate my remarks with slides of material from the National Currency Collection, which is maintained by the Bank of Canada. But before I get started, I should say what I mean by "money."

Money is one of those things. Everyone knows what it is – until they study it – and then it gets more complicated! The American writer Gertrude Stein said that it was the ability to understand and count money that differentiated humans from other animals.<sup>1</sup>

A conventional definition of money is that it is a "medium of exchange" – we use it as the basic tool to settle commercial transactions. Money solves the many problems that arise with barter, such as the requirement for a "coincidence of wants." Money is also a "store of value." It can be saved for future use, and, unlike a private IOU, it is readily accepted because it is free from the risk of default. Indeed, modern economists would now argue that the main reason for the use of money as a means of settlement is the risk of default.<sup>2</sup> Finally, money acts as a unit of account – it provides a uniform way to express prices, incomes, debts, and assets numerically, which is useful for guiding production, consumption, savings, and investment decisions.

One peculiar thing about money is that in most of its modern forms, it doesn't have much *intrinsic* value – you can't eat it and you can't keep yourself warm with it. In fact, the bulk of

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<sup>1</sup> G. Stein, "Money," *Saturday Evening Post*, 22 August 1936.

<sup>2</sup> See, for example, J. Chiu and A. Lai, "Modelling Payments Systems: A Review of the Literature," *Financial System Review* (Ottawa: Bank of Canada, June 2007): 63-66.

money nowadays does not even have a physical form. It consists of deposits in financial institutions, which exist merely as data in computers.<sup>3</sup> But money is nonetheless useful and valuable to the extent that it *is* a reliable store of value (because its value isn't being eroded by inflation), and to the extent that it can be *trusted* and *readily accepted* (because the note or coin can be ascertained as genuine). All to say, money is useful to the extent that people place *confidence* in it.

Now, let's go back in time . . . to the 17th century.<sup>4</sup>

### The early days of money in Canada

Long before the Europeans arrived in North America, natives were engaged in commerce, often using various "trade goods." Perhaps the most important trade good in this part of the world was wampum. Wampum is a string of shells, usually from clams and whelks [image: wampum beads].<sup>5</sup> Its value came from its scarcity – it took a good deal of effort to produce. In addition to its use in commerce, wampum had symbolic properties and was used in ceremonies. In the absence of sufficient coinage, wampum was used as money after European colonization. Indeed, for part of the 17th century, wampum was legal tender in the Dutch and British-American colonies. But over time, the value of wampum "was reduced and finally destroyed by cheap imitations imported from Europe"<sup>6</sup> – an interesting early example of the destructive power of counterfeiting.

In July 1608, Samuel de Champlain founded Québec with the goal of permanent settlement. We don't know much about money during the first 50 years of the colony of Québec, but we can surmise that the first settlers probably used credit for some of their trade. Credit makes sense in a small community where everyone knows everyone. Beaver pelts were universally accepted as a medium of exchange, and so it's fitting that the beaver can still be found on our 5-cent piece [image: "beaver pelt and 5-cent piece"]. Wheat and moose hides also served the same function.<sup>7</sup> But for the most part, "internal trade was probably carried on by barter and accounts kept with [trading companies]."<sup>8</sup>

The first modern money in the colony was coinage, initially the coins settlers brought with them – French coins, mostly (deniers, doubles, liards, and douzaines), as well as Hispano-American piastres and their divisions. When there were enough of them, these coins were used for small, daily transactions. But two problems undermined their usefulness.

First, because there was a trade deficit, many of the larger-value coins that were brought to the colony quickly disappeared. They were shipped to France in payment for supplies and manufactured goods, and hoarded by colonists as a hedge against uncertain times. To address the coin-shortage problem, the French authorities in Paris tried, unsuccessfully as it turned out, in 1670 and again in 1721-1722, to issue coins exclusively for use in New World colonies [image: 15 sols, 1670]. These experiments failed mostly because the coins could not be used beyond the borders of the colony. To keep existing coinage in the colony, the authorities in France also gave a higher value to "*monnoye du pays*" coins than "*monnoye de*

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<sup>3</sup> Bank of Canada. *Beads to Bytes: Canada's National Currency Collection* (Bank of Canada, Ottawa: forthcoming).

<sup>4</sup> For perspective, a time line showing the history of money from prehistoric times to the present, with a focus on Canada, can be seen at: [http://www.bankofcanada.ca/currencymuseum/eng/learning/history\\_flash.php](http://www.bankofcanada.ca/currencymuseum/eng/learning/history_flash.php).

<sup>5</sup> Before European colonization, various items were used as money by native peoples in the northern part of this continent. Along the west coast, for example, tusk-shaped dentalium shells were strung and used as money.

<sup>6</sup> *The Story of Canada's Currency*. Bank of Canada: 1990, p. 4.

<sup>7</sup> J. Powell, *A History of the Canadian Dollar* (Ottawa: Bank of Canada, 2005), p. 3.

<sup>8</sup> A. B. McCullough, *Money and Exchange in Canada to 1900* (Toronto: Dundurn Press, 1984), p. 29.

France" coins. The premium was initially set at one-eighth in 1664, but was later increased to one third.<sup>9</sup> The second problem was that coins were often "clipped" and therefore underweight – which undermined confidence as to their worth.

Necessity being the mother of invention, promissory notes became popular. A promissory note is an IOU. The note pledges that it can, at some specified date, be redeemed for goods or services or for conventional money [image: promissory note]. Promissory notes have a special place in the history of money. They are an early example of a great and enduring invention – paper money – "the gift," according to John Kenneth Galbraith, "of Americans and Canadians to the Western world."<sup>10</sup>

In the late 17th century, the American colonies faced similar problems and came up with the same response: they issued promissory notes. While both the United States and Canada were pioneers in developing paper money, the style of each country's first paper money was quite different. In *The Age of Uncertainty*, Galbraith contrasted the "dull puritanical model of Massachusetts" paper money with the "sparkling example" of New France<sup>11</sup> [image: playing card money and Massachusetts Bay note]. The "sparkling example" he was referring to was playing card money, an ingenious solution to a difficult problem, and believed to be the first paper money ever issued by a Western government.<sup>12</sup>

In 1685, Intendant Jacques de Meulles issued three denominations of playing card money (15 sols, 40 sols, and 4 livres). Citizens were advised that the notes would be redeemed as soon as funds arrived from France. Partly because refusal to accept them as payment was punished with a fine, but mostly because they met a need, the cards circulated freely and were a great success. So much so that even though they were redeemed with French money later that year, more playing card money was issued the following year, and at various times thereafter. Unlike coins, playing card money did not leave the colony, and in that respect, represented a clear improvement.

The authorities in France, however, saw the idea as "extremely dangerous, nothing being easier to counterfeit than this sort of money."<sup>13</sup> In fact, it wasn't long before a conviction for counterfeiting card money occurred. In 1690, Pierre Malidor, a "surgeon," was sentenced to be "flogged on the naked shoulders by the King's executioner at the gate of the Parish Church of Notre Dame in this town [i.e., Quebec City], and in the customary squares and places, in each of which he shall receive six lashes of the whip . . . ." Poor Mr. Malidor was also fined, bonded into "compulsory service," and banished from the city.<sup>14</sup> This shows that counterfeiting was perceived as a serious threat to the well-being of the colony – which it was.

But in fact, it was that other enemy of sound money, inflation, that posed the greater threat to card money. By the early 1690s, soon after it had been introduced, excessive issuance of card money led to rising prices (or, from another point of view, to diminishing the value of money). The problem became so acute that, in 1717, card money was redeemed at 50 per

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<sup>9</sup> The coin shortage "was not confined to Canada – there was a shortage of coin in the British colonies, in Britain, and in France itself. The shortage in France was as acute as in Canada and economic conditions were worse." McCullough, *ibid*, p. 34.

<sup>10</sup> J. K. Galbraith, *The Age of Uncertainty* (Boston: Houghton Mifflin, 1977), p. 180.

<sup>11</sup> J. K. Galbraith, *ibid*, p. 181.

<sup>12</sup> The first paper money was issued in China, circa 650 AD.

<sup>13</sup> A. Shortt, *Documents Relating to Canadian Currency, Exchange and Finance during the French Period, Volume I*, quoted in J. Powell, *op. cit.*, p. 5. Interestingly, playing card money was issued and used in France some hundred years later during the Revolution.

<sup>14</sup> A. Shortt, *op. cit.*, p. 87.

cent of its face value and withdrawn "permanently" – despite the reality that no one had come up with a better medium of exchange.

Adding to the hardships of settlers, the colony itself lacked stable funding. In the 1720s, "France's finances were still not strong and she could not always forward the necessary money: in 1727 the colony received only 5,000 livres . . . to apply to a budget of 308,156 livres, and in 1728 and 1729 no specie at all was received."<sup>15</sup> The (usually overspent) budget had to be funded, so another form of promissory note, *les ordonnances de paiement*, was issued by the Treasury in Québec in values ranging from 20 sols to 96 livres [image: ordonnance de paiement].

But to meet the needs of daily commerce, a more practical form of money was required. So in 1729, despite the "permanent" ban, and this time with the permission of the king, the colonial government reintroduced card money. This was not playing card money, but money on card stock of a similar size. Initially again, "Confidence in this new card money was . . . high . . . . With issuance tightly controlled, card money traded at a premium for a while as the government increased its issuance of Treasury notes to pay for its operations."<sup>16</sup>

In the late 1750s, the mounting costs of the war with the British, declining tax revenues, and rampant corruption, led to rapid inflation. In April 1759, the Marquis de Montcalm noted that necessities cost eight times more than when his troops had arrived four years earlier – that's an annual inflation rate of almost 70 per cent! "People fear," he wrote, "I think without foundation, that the government will . . . authorize a depreciation. This opinion induces them to sell and speculate at an extravagant scale"<sup>17</sup> And indeed, immediately after Montcalm's defeat, paper money became all but worthless.<sup>18</sup>

Following the Treaty of Paris, and on into the 19th century, many different forms of money circulated at the same time in Lower and Upper Canada, and in Nova Scotia and elsewhere. A single transaction might involve a Treasury note, paper notes from different merchants, gold, silver, or copper coins, and private tokens. Adding to the confusion, each colony independently decided the value of the various currencies in circulation.

Following the political union of Lower and Upper Canada in 1841, two significant developments helped to simplify things: decimalization and the introduction of government notes. Decimalization – the introduction of dollars and cents as a unit of account – occurred in the years just before and after Confederation, largely because the people of Canada wanted it, despite the wishes of British authorities for Canada to stick to pounds, shillings, and pence [image: example of dual currency note]. At that time, twenty shillings (or a pound) was worth four dollars. And, interestingly, I might add, "trente sous," which today commonly refers to 25 cents, was indeed worth one quarter of a dollar (or 15 pence).

It was the failure of two small Toronto banks in the late 1850s that led to a demand for "improved government supervision" – does that sound familiar? – and thus paved the way for government-issued notes.<sup>19</sup> While the first *commercial* bank notes in Canada were issued as early as 1817 by the Montreal Bank (later called the Bank of Montreal), the first *government* notes were issued in 1866 [image: Province of Canada note]. These provincial notes addressed two forms of uncertainty: uncertainty about the solvency of the issuer, and uncertainty about the ease of redemption. Many notes issued by private banks could be

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<sup>15</sup> A. B. McCullough, op. cit., pp. 44-45.

<sup>16</sup> J. Powell, op. cit., p. 7.

<sup>17</sup> A. Shortt, *Documents Relating to Canadian Currency, Exchange and Finance during the French Period, Volume II*, quoted in J. Powell, op. cit., p. 9.

<sup>18</sup> J. Powell, op. cit., p. 9.

<sup>19</sup> A. B. McCullough, op. cit., p. 112.

redeemed only within a limited area, and were subject to a discount that depended on the distance between where it was redeemed and the bank's head office.

Before we move to the 20th century, I'll mention one of the most interesting and colourful counterfeiting episodes in Canadian history. In this case, counterfeiting was a family business: Ed Johnson, the "king of counterfeiting," engraved the printing plates by hand, his five sons printed the notes, his two daughters forged the signatures on them, and his wife sold the counterfeits to a wholesale dealer. The Johnsons were caught and served many years in prison, but not before they had put a million dollars worth of counterfeit Canadian and American currency into circulation – a significant sum in the 1880s. Banks accepted the forged notes, not recognizing them as counterfeits, and even the men whose signatures appeared on the notes couldn't distinguish the forged signatures from their own.

The Johnsons were tracked down and brought to justice by Ontario's first full-time detective, the famous John Wilson Murray. Detective Murray travelled extensively in the United States, trying to track down the Johnson clan, before finally catching up with them in Toronto. The counterfeit notes were extremely well executed, but they "could be distinguished from authentic notes because they were "too perfect" and lacked the engraving flaws present in authentic notes."<sup>20</sup> "Crime lost a genius," Murray said, "when old man Johnson died"<sup>21</sup> [image: genuine note and Johnson counterfeit].

For the sake of brevity, I'm going to skip over some interesting history – Prince Edward Island's "holey dollar," the paper 25-cent "shinplaster," the issuance of \$6 and \$7 bank notes, the rise and fall of "phantom banks," among other developments. But I hope you're beginning to see that money works only to the extent to which people have confidence in it, and why the *raison d'être* of an effective monetary authority is always a "quest for confidence."

Before turning to the modern era, let me underline two lessons from this early period of history:

- there's a basic need for money, and *sound* money makes business and commerce much easier; and
- two main threats – counterfeiting and inflation – can undermine the soundness of money.

### **Money and the central bank**

To understand money in modern times, it's useful to know a bit about the role of the central bank.

The Bank of Canada was created in 1934. Interestingly, proposals to establish a central bank, or something akin to it, go back a long way in Canada – almost 200 years. In 1820, an anonymous pamphlet published in Quebec "advocated the establishment of a government-owned national bank that would be the sole issuer of paper money."<sup>22</sup> And in 1841, Lord Sydenham, Governor General of the United Province of Canada, proposed the establishment of a bank with many of the powers and responsibilities of a modern central bank. Such a bank, he thought, could finance public works, generate seigniorage, and make paper money more effective.

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<sup>20</sup> Quoted in J. Chant, "The Canadian Experience with Counterfeiting," *Bank of Canada Review* (Ottawa: Bank of Canada, Summer 2004): 42.

<sup>21</sup> V. Speer (compiler). "The Million Dollar Counterfeiting." *Memoirs of a Great Detective: Incidents in the Life of John Wilson Murray*, Chapter 30. 1904. Available at: <http://gaslight.mtroyal.ca/murray30.htm>.

<sup>22</sup> J. Powell, op. cit., p. 21.

The Depression of the 1930s provided impetus for the creation of a central bank. A widespread sense that the banking system was not serving the public very well – at a time when the economy was contracting – led to support for the formation of a central bank.

The Bank of Canada's mandate is to promote the economic and financial well-being of the country. The Bank does this in three important ways: first, by keeping inflation low, stable, and predictable; second, by supporting a safe and efficient financial system; and third, by issuing money that is safe from counterfeiting and readily accepted. These activities help to provide a sound foundation for economic security and growth.

The Bank of Canada issued its first bank notes in 1935. Each denomination was issued in separate French and English versions [image: 1935-issue bank notes]. This 1935 series was the only Bank of Canada series to have a \$25 denomination. If you want to buy one of these notes, be warned: a single note can fetch up to \$15,000 at auction! Since 1937, Canadian bank notes have been bilingual.

To deter counterfeiting, the Bank has issued a new series of bank notes every 15 years or so [image: \$20 bank note over the years]. Anti-counterfeiting features have included intaglio (or raised) printing, multicoloured tints, microprint, optical security devices, and fluorescent fibres. But today's technology has increased the counterfeiting threat, and the Bank expects to issue new bank note series every seven years or so in the future, with the intention of taking advantage of advances in anti-counterfeiting technology.

In the summer of 2000, counterfeit \$100 bank notes from the *Birds of Canada* series started to show up in stores in the Windsor-Montréal corridor. They contained facsimiles of the security devices found in genuine notes, and they were printed on high-quality paper. More than \$5,000,000 worth of these notes were put into circulation before the culprits were arrested in July 2001, causing many retailers to refuse to accept any \$100 bills – a vivid demonstration of how counterfeiting undermines confidence and exacts many different kinds of costs.<sup>23</sup>

This episode prompted the Bank to adopt a comprehensive strategy to deter counterfeiting. The strategy involved intensified efforts to develop and issue bank notes with enhanced security features, expanded education of retailers and consumers about bank note security, and active promotion of law-enforcement and prosecution efforts [image: bank note security features]. This strategy has proven very effective in dealing with a surge in counterfeiting from 2001 to 2004 [graph: counterfeit notes detected per million notes in circulation], but we remain very vigilant.

In 2006, we reinforced this strategy by setting a quantitative objective to bring the number of counterfeit notes passed in a year to fewer than 100 for each million genuine notes in circulation by 2009. Drawing on advances in science and technology, the Bank of Canada is busily involved in developing its next series of bank notes for issue starting in 2011, with a view to keeping counterfeiting below 50 parts per million.

Before I turn to the future of money, I'd like to say a few words about the exchange rate.

In New France and other North American colonies, the value of local currency vis-à-vis foreign currencies was typically set by the government and altered in response to economic imperatives. A similar approach characterized the Bretton Woods system of pegged but adjustable exchange rates, which defined the international monetary order in the period following the Second World War.

Canada was a pioneer in departing from that approach, by allowing its currency to float and have its value determined by market forces. With the exception of a short eight-year hiatus

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<sup>23</sup> J. Moxley, H. Meubus, M. Brown, "The Canadian Journey: An Odyssey into the Complex World of Bank Note Production," *Bank of Canada Review* (Ottawa: Bank of Canada, Autumn 2007): 47-55.

from June 1962 to May 1970, the Canadian dollar has floated freely since October 1950. As a trading nation, and a producer of both commodities and manufactured goods, we learned early on that a flexible exchange rate can facilitate economic adjustment.<sup>24</sup> A floating exchange rate sends important price signals to producers and consumers, prompting them to adjust effectively to changing circumstances. It also permits monetary policy to focus on maintaining the balance between overall demand and supply, and thus on controlling domestic inflation.

So that's the context for understanding money in modern times. The central bank strives to keep the enemies of sound money at bay by keeping inflation low and stable, and by making it difficult and unrewarding to counterfeit money. It also strives to maintain a sound financial system so that money can be effectively and efficiently saved, borrowed, invested, and transferred.

### **The future of money**

What will money look like a decade or two from now? Will there even *be* physical money? Or will electronic alternatives replace money as we know it?

For many decades now, I've seen many premature predictions of the imminent "death of cash," so I will remain cautious. We do know that despite the many and rapidly developing alternatives to paper money, the demand for "old-fashioned" bank notes has continued to grow fairly steadily, in line with the overall economy.

Having said that, it's useful to remember that bank notes and coins are simply a means of payment, and "alternative" means of payment have been developed, and some of them are gaining in popularity. Each means of payment has advantages and disadvantages in terms of convenience, security, and financial cost. Because changes in means-of-payment preferences can affect both the demand for bank notes and the overall costs of retail payments, the Bank of Canada monitors and analyzes them carefully.<sup>25</sup>

At the retail level in Canada, credit cards, cash, and debit cards are all popular, with credit cards representing roughly 48 per cent of transactions by value, debit card about 30 per cent, and cash about 22 per cent. While in absolute terms, the use of cash remains fairly steady, there is clear evidence that it is in *relative* decline vis-à-vis the use of credit and debit cards. But it is the use of cheques that has seen the largest decline, as a result of the increasing use of debit cards.

Not surprisingly, payment method preferences are affected by an individual's age and income. A survey conducted by the Bank of Canada shows that payment methods also depend on the size of the purchase. For purchases under \$25, Canadians generally prefer to use cash. For purchases of \$26 to \$100, debit cards are the most popular means of payment. For purchases over \$100, credit cards are the most popular.<sup>26</sup> Credit cards are also a preferred means of payment across distances. Cash has one attribute that many people find attractive – it offers privacy and protection against identity theft.

In coming years, we will likely see an increase in "contactless" payments using credit, debit, and stored-value cards, including those made by cell phones. Such technology promises convenience to consumers and retailers, but it also presents security challenges.

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<sup>24</sup> For a brief, informative overview of the history of Canada's exchange rate regimes, see J. Powell, *op. cit.*, pp. 53-73.

<sup>25</sup> See, for example, C. Arango and V. Taylor, "Merchants' Costs of Accepting Means of Payment: Is Cash the Least Costly?" *Bank of Canada Review* (Ottawa: Bank of Canada, Winter, 2008-2009), forthcoming.

<sup>26</sup> V. Taylor. "Trends in Retail Payments and Insights from Public Survey Results." *Bank of Canada Review* (Ottawa: Bank of Canada, Spring 2006): 25-36.

While it's difficult to predict the future of money, it's safe to say it will be determined largely by people's preferences. We naturally gravitate towards a payment method that best suits our needs.

## Conclusion

With the limitations of this kind of presentation, I've really only scratched the surface of Canada's monetary history. It is a fascinating and colourful story, and opens a window on our social, political, and economic history.

Sound money is fundamental to our economic well-being. While counterfeiting and inflation are ever-present threats to sound money, Canada has pioneered some important innovations in deterring counterfeiting and in controlling inflation. The Bank of Canada plays a vital role by keeping inflation low, stable, and predictable; by supporting the stability and efficiency of the financial system; and by producing the currency we depend on in our commercial lives. In other words, we try to earn your confidence – and that of all Canadians – every day.

The next time you're in Ottawa, I encourage you to visit the Currency Museum [image: Currency Museum]. It houses and displays some of the National Currency Collection, and it tells many interesting stories about money. It's a wonderful showcase . . . and it's free! The museum also has a terrific website, which you can easily find by visiting the Bank of Canada's website, and clicking on "Museum" [image: Currency Museum web page].

Finally, if you'd like to learn more about money in Canada, I warmly recommend three books published by the Bank of Canada [image: three books]: *The Art and Design of Canadian Bank Notes*, which explains the art and science of bank note design, and celebrates the beauty of Canadian bank notes; *The History of the Canadian Dollar*, which tells the fascinating story of our dollar and its place in history, economics, and finance; and the next book in our "souvenir" series: *Beads to Bytes: Canada's National Currency Collection*, which will be available at the end of this month, and illustrates the role money plays in society with some of the extraordinary trove of bank notes, coins, tokens, and related material to be found in the National Currency Collection. All three books can be obtained at the Currency Museum or ordered via the Bank's website.

Thank you for your attention. I'd be happy now to respond to any questions.