



# **Performance of Traditional Securitization Transactions in Canada During and After the 2007-08 Financial Crisis**

May 2020



# Abstract

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- The securitization market is often negatively associated with the subprime mortgage crisis that led to the global financial crisis in 2007-08. The majority of the subprime mortgage contracts were originated and securitized in the U.S. and the collapse of securitization vehicles that held those assets caused financial turmoil worldwide. The subprime mortgage crisis led to a biased perception among many that all securitization structures had underlying assets with weak credit fundamentals or had been structured inappropriately.
- The Canadian securitization market was one of the victims of the global erosion of investor confidence in these structures. This paper examines the performance of securitization transactions in Canada during and after the financial crisis and demonstrates that any performance concerns were caused by a loss of liquidity in the market, not the credit quality of the underlying assets.
- To help readers understand the market dynamics at the time of the crisis, this paper isolates traditional securitization transactions from other structures in the Canadian structured finance market and focuses on their performance.
- Traditional securitization transactions are segregated into two subcategories: deals involving longer-term asset-backed securities (ABS) and short-term rolling deals involving asset-backed commercial paper (ABCP). The transition of the traditional securitization transactions from crisis to repayment of investors with zero losses is also detailed in the paper.
- The research for and drafting of this paper started months before the COVID-19 pandemic. BDC considered delaying publication of the paper until the effects of the pandemic on financial markets, and particularly on traditional securitization transactions, could be fully evaluated. However, we deemed the paper sufficiently important to not delay its publication.

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# Introduction

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Securitization began in the 1970s when U.S. government-backed agencies started pooling residential mortgages into investment vehicles.<sup>1</sup> In the 1980s, other income-producing assets began to be securitized and the market expanded over the following two decades.

The securitization market operated well until the collapse of the U.S. housing market that sent shockwaves through global financial markets in 2007-08. The primary reason for the breakdown of the securitization market in several countries, including Canada, was the poor quality of U.S. subprime residential mortgage assets underlying securitization structures. The majority of these mortgages were underwritten with poor credit standards, inadequate valuation and insufficient regulatory oversight, leading the borrowers to take on unsustainable debt.

Given the interconnectedness of global economies, the effect of the U.S.-led crisis was felt around the world. However, the extent of the damage varied among countries. The Canadian market did not experience the same degree of deterioration as the U.S. or some European countries. Canadian banks were consistently ranked as top global performers<sup>2</sup> during the crisis years and Canadian financial markets remained relatively stable with no Canadian financial institution (FI) suffering insolvency.<sup>3</sup> In contrast, 322 FIs insured by the U.S. Federal Deposit Insurance Corporation (FDIC)<sup>4</sup> filed for bankruptcy between 2008 and 2010. Canada's resilience to the crisis was in large part due to structural differences in the residential mortgage market as compared with the U.S. (see Appendix A for details).

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<sup>1</sup> Jobst, Andreas. "Back to basics: What is Securitization?" ([link](#))

<sup>2</sup> Greenwood, John. "Canadian Banks Top Moody's Global Ranking." *Financial Post*, October 8, 2009 ([link](#)).

<sup>3</sup> Haltom, Renee. "Why Was Canada Exempt from the Financial Crisis?" *Econ Focus*, Federal Reserve Bank of Richmond, 2013 ([link](#)).

<sup>4</sup> The Federal Deposit Insurance Corporation (FDIC) is an independent agency of the U.S. government that protects the funds depositors place in banks and savings associations.



# Scope of this paper<sup>5</sup>

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Since the inception of securitization as a technique to pool large numbers of mortgages, loans, leases or other financial assets into special purpose entities, the structured finance industry has come a long way. It has innovatively expanded product offerings by using the key concept of creating bankruptcy-remote structures or adapting derivatives products to reference pools of financial assets. Although these expanded products use some securitization techniques, they move away from the traditional principle of securitization transactions that have large, diverse pools of cash flow generating financial assets. This paper focuses on traditional securitization transactions—those that pool such assets as residential mortgages, equipment loans and leases, auto loans and leases, accounts and trade receivables, and credit card debt to create income producing securities. More complex structured finance transactions, including structured notes, collateralized debt obligations (CDOs), collateralized loan obligations (CLOs), commercial mortgage-backed securities (CMBS) and synthetic instruments, such as credit default swaps (CDS), and are not within the scope of this paper and are not discussed further.

Traditional securitization transactions and other structured financial transactions form the Canadian Structured Finance market as shown in Exhibit 1 below. In order to examine the performance of traditional securitization transactions through the crisis years, we look at the two sub-types that correspond to the maturity date of the notes issued.

1. Asset-backed commercial paper (ACBP) are short-term notes, with maturities of usually between 30 and 90 days. The underlying contracts are longer dated, but the notes are short term. Upon maturity, investors have the option to either roll over their investments in the notes for another term or be repaid.
2. Asset-backed securities (ABS) are longer-term notes in which the assets (the underlying contracts) are typically matched to the duration of the investment in the notes.

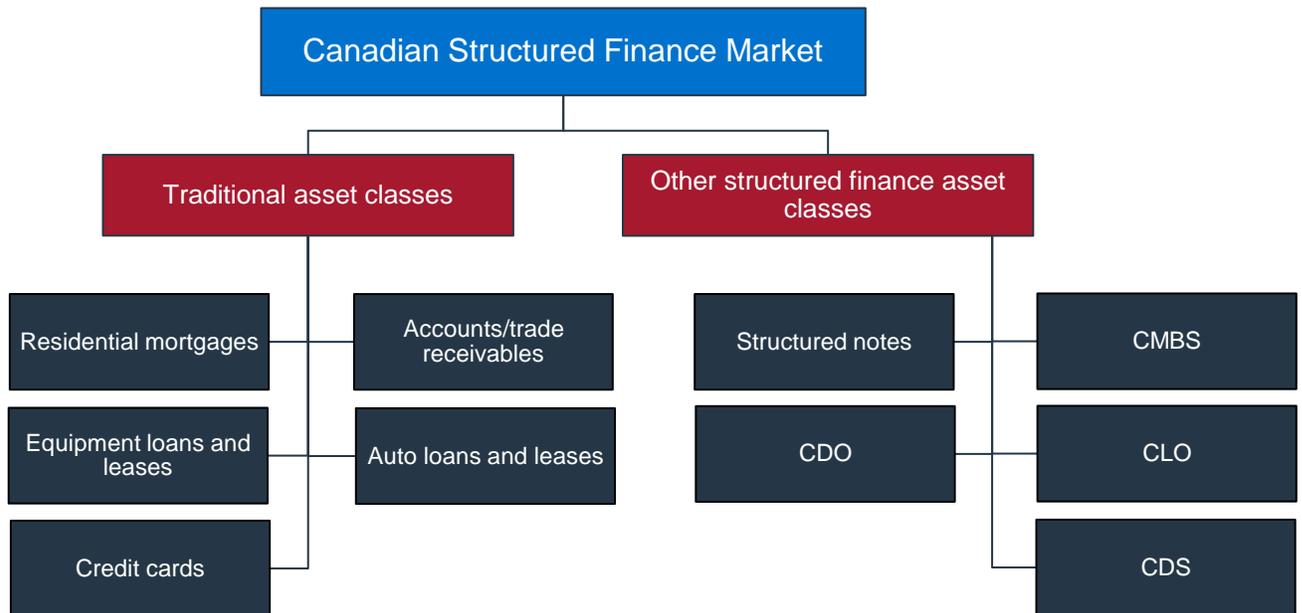
This paper was produced by the Indirect Financing group of the Business Development Bank of Canada (BDC). All information provided in this paper has been verified to the best of our ability and represents our assessment at the time of publication; it does not constitute general or specific advice (such as financial, investment, legal, tax or accounting). Neither BDC nor any of the contributors to this paper assumes any responsibility for any errors or omissions. The reader assumes full responsibility for any use he or she may make of such information.

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<sup>5</sup> The research for and drafting of this paper started months before the COVID-19 pandemic. BDC considered delaying publication of the paper until the effects of the pandemic on financial markets, and particularly on traditional securitization transactions, could be fully evaluated. However, we deemed the paper sufficiently important to not delay its publication. In the future, we will consider analyzing the effects of the pandemic on securitization.



Exhibit 1: Canadian Structured Finance Market



## Data

DBRS Morningstar (previously DBRS Limited) has been providing credit rating services to Canadian and global issuers since 1976. During the financial crisis, DBRS Morningstar provided rating services for 100% of Canadian ABS and ABCP securitization transactions. The analysis in this paper is based on the data provided by DBRS Morningstar, including all charts and tables in the following sections.

DBRS Morningstar continuously monitors and analyzes the performance of the transactions for which it provides rating services. It maintains a watchlist that includes all transactions that either:

- exhibit weakness in performance that could cause breaching or approaching trigger levels of covenants
- elicit concerns regarding the underlying collateral or creditworthiness of any key counterparty to the transaction, including the originator and the servicer

For the purpose of this paper, the watchlist entries were categorized as shown below through the pre- and post-crisis years (2006-2011):



- **performance**—performance ratio issues (such as increasing default ratios, loss ratios, delinquency ratios, etc.)
- **financial**—financial ratio concerns (such as earnings before income tax (EBIT) coverage ratio, cash flow coverage ratio, etc.)
- **enhancement**—credit enhancement problems (such as declining excess spreads resulting from narrowing spread between yield on the underlying assets and the notes)
- **other**—other concerns such as seller, servicer and/or collateral concerns

# Financial crisis and the Canadian structured finance market

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Although, in general, the Canadian economy performed well in comparison to other countries, the impact of the financial crisis varied in different sectors of the domestic financial market.

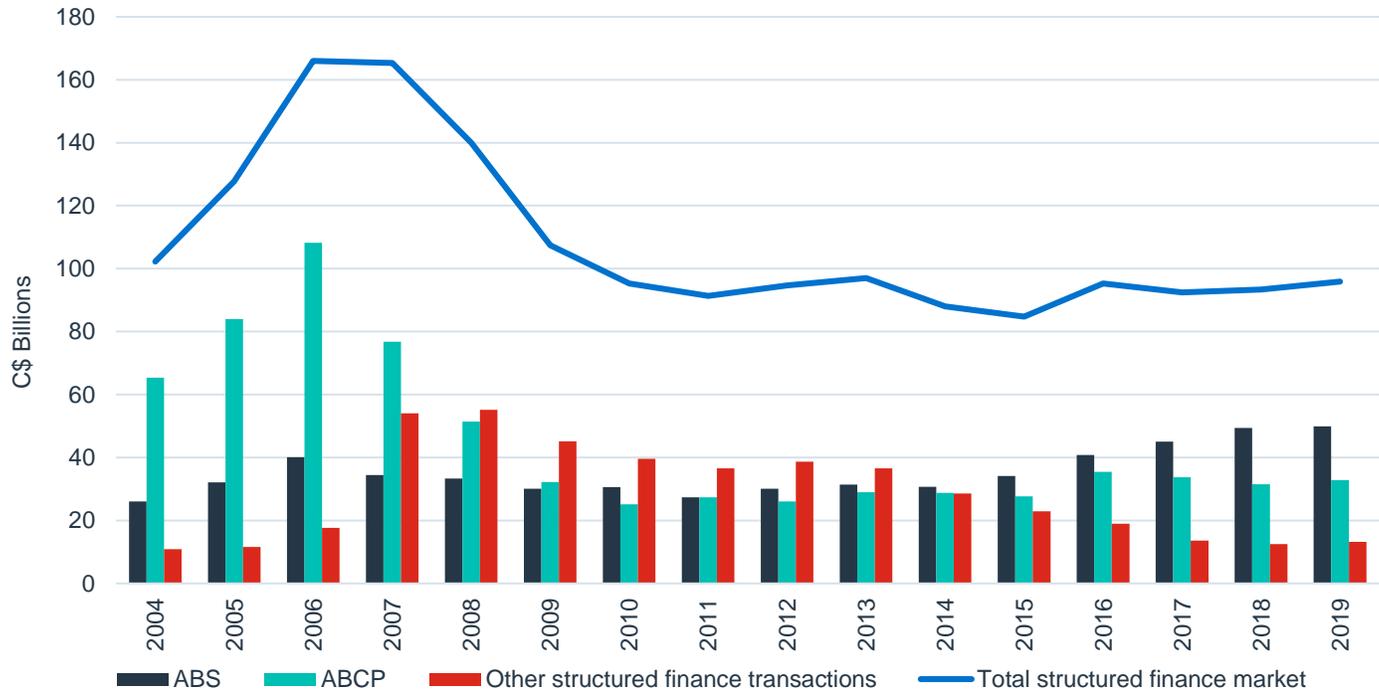
The aggregate outstanding volume of Canadian structured finance transactions suffered a steep decline of 35% during the crisis years, from \$165 billion in 2007 to \$107 billion in 2009. This drop was not related to the credit performance of the underlying assets but rather was a direct outcome of a significant decrease in investor confidence, resulting in a sharp reduction in market liquidity. Due to the limited transparency of these financial instruments, investors were unsure about their investments and were drawing conclusions from the collapse of the U.S. subprime mortgage market. Investors started to sell their investments and by August 2007 most were withdrawing from the market.

The global financial crisis led to the consolidation of the Canadian structured finance market to a few players after several issuers closed operations or ceased originating certain investments, such as CMBS, CDOs and CLOs in Canada. Furthermore, securitization volumes decreased as originators were acquired by large banks that did not need securitization as a funding source.

Consequently, market volume continued to decline, although at a slower rate, between 2009 and 2011, at which point the market stabilized and has since remained relatively stable (Exhibit 2).



Exhibit 2: Composition of the Canadian structured finance market 2004–2019



In subsequent sections of this paper, data from before and after the financial crisis are analyzed to demonstrate that the Canadian structured finance market:

- experienced liquidity constraints that prevented the roll over of maturing short-term commercial paper structures during the crisis years, leading to an intervention by the government and market participants
- was not affected by credit issues in traditional securitization structures
- experienced no losses by investors in traditional securitization structures as a result of the financial crisis



# Performance of the Canadian securitization market during the crisis

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As at December 2019, the total amount outstanding in the Canadian structured finance market, including private placements, was \$95.9 billion. Term ABS represented 57% of the total structured finance market, while ABCP represented 34.2% and private placements 8.8%. Top underlying asset classes included credit card debt at 39%, auto-related transactions at 26.8%, residential mortgages at 14.4% and commercial mortgages at 5.5%.

The financial crisis affected the Canadian securitization market by reducing its size, which included a drop in the active investor base (Exhibit 2). Even though the Canadian structured finance market's performance, as a whole, was not optimal during the crisis, traditional securitization transactions performed as intended, although some deals experienced headwinds that were eventually resolved.

By contrast, more leveraged or synthetic instruments, such as CDOs, experienced significant difficulties arising from the loss of liquidity in the Canadian securitization market. The difficulties were such that the federal government had to intervene to negotiate a resolution with market participants.<sup>6</sup>

As stated in the scope section of this paper, to facilitate the analysis of the performance of traditional securitization market, the transactions are segregated into two subcategories, ABCP and ABS. As described in the following sections, there were significant differences in the performance of ABCP and ABS deals.

## ABCP Market

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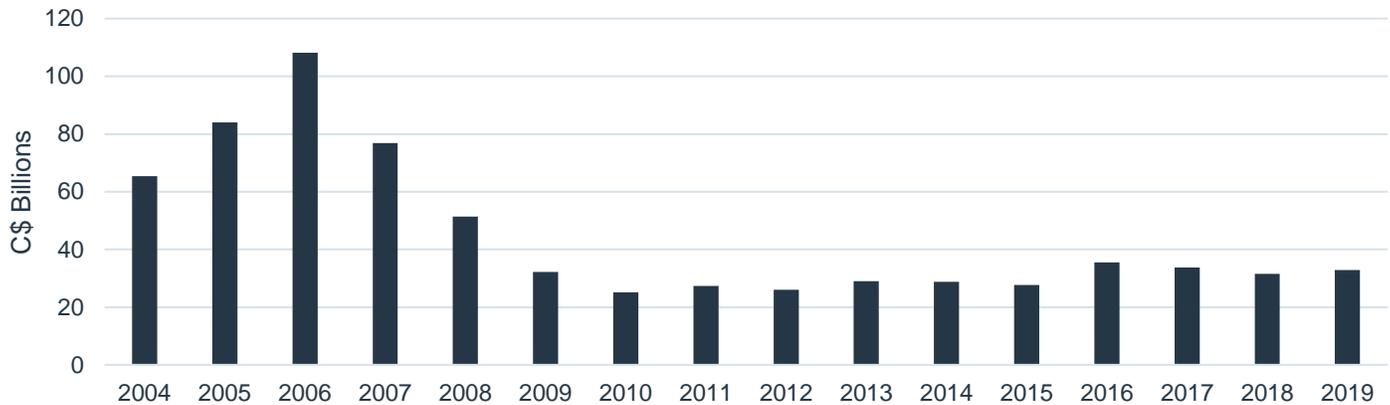
Overall, the ABCP market declined, with the volume of assets dropping from \$108 billion in 2006 to \$77 billion in 2007 and continuing to decrease to a low point of \$27 billion in 2011 (Exhibit 3).

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<sup>6</sup> Refer to Appendix B for details on the Montreal Accord.

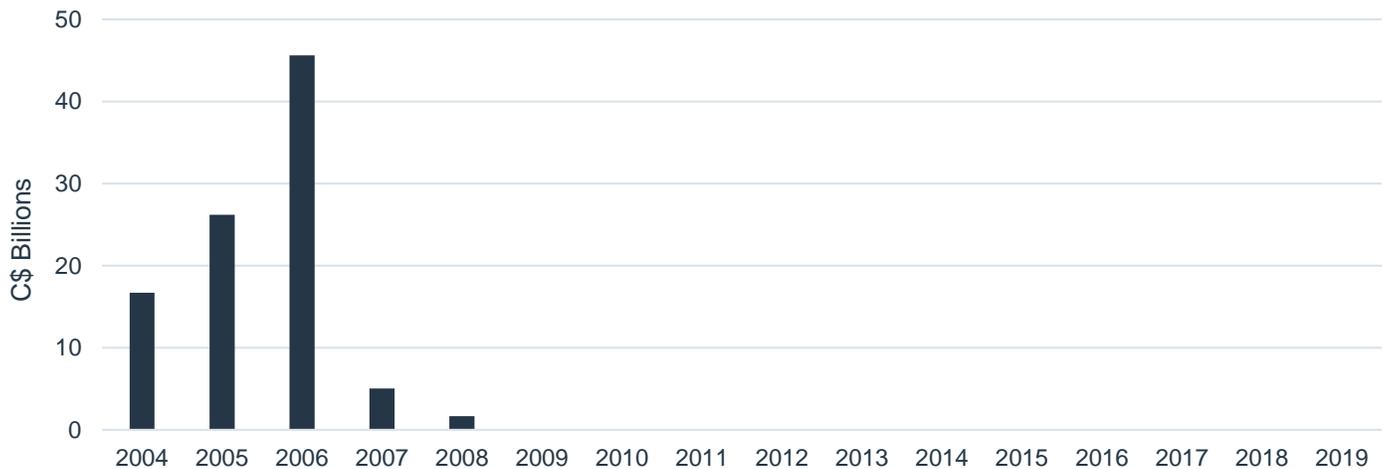


Exhibit 3: Volume outstanding in ABCP 2004–19



The ABCP market can be further segmented into bank-sponsored ABCP and non-bank-sponsored ABCP. The most significant deterioration was in the non-bank-sponsored ABCP segment and was related to the limited transparency of these securities. Eventually, this resulted in a loss of investor confidence because investors were unable to ascertain the risks involved in their investments and stopped buying and reinvesting in the Canadian non-bank-sponsored ABCP market.

Exhibit 4: Volume outstanding in non-bank-sponsored ABCP 2004–19



As mentioned previously, ABCP typically has short-term maturities (usually between 30 and 90 days), but the underlying assets have longer maturity dates. Despite this asset-liability mismatch, investors generally did not have any difficulty before the crisis in rolling the paper over at maturity to the next term.



However, during the crisis, investors backed out and the non-bank-sponsored ABCP market experienced a significant one-month drop in outstanding balances during the summer of 2007 from \$45 billion in July to \$8 billion in August. The \$32-billion worth of ABCP that could not be rolled over became known as the “affected ABCP.”

In order to address this liquidity crisis and limit its impact on the wider financial market, major ABCP investors, bankers and regulators came together in August 2007 and agreed to the Montreal Accord. It introduced a moratorium period to freeze the affected ABCP. Refer to Appendix B for more details on Montreal Accord. The non-bank-sponsored ABCP segment of the market never recovered and doesn't exist today (Exhibit 4).

## **ABCP Performance**

Between 2006 and 2011, there were approximately 540 ABCP transactions rated and monitored by DBRS Morningstar.<sup>7</sup> Of these, 113 (21%) were placed on the watchlist due to deteriorating and/or poor performance of the underlying assets.

As part of structuring a transaction, portfolio performance triggers and various covenants are put in place to provide early warning signals of deterioration in the portfolio or financial situation of the servicer. This allows appropriate steps to be taken on a timely basis to minimize potential investor losses. Over 60% of the ABCP deals placed on the watchlist had breached one or more of their covenants and/or triggers (71 out of 113 deals), which represented 13.1% of all the ABCP deals.

Almost all the notes issued from ABCP deals on the watchlist were assigned a R-1 (high)<sup>8</sup> rating by DBRS Morningstar, with notes from only five deals rated R-1 (middle). This indicates that nearly all the ABCP transactions were considered to be of the highest credit quality (Exhibit 5).<sup>9</sup>

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<sup>7</sup> The number of deals in 2006 and 2007 is a proxy number because data before 2008 was collected and maintained in paper format that is challenging to gather without expending significant resources and difficult to validate as there is no institutional memory at DBRS Morningstar. For this reason, these two years were approximated by taking the average of the number of deals rated by DBRS Morningstar between 2008 and 2011. The volume of the outstanding ABCP was significantly larger in 2006 and 2007 as there was a 28.9% decrease in volume in 2007 that rose to 33.2% in 2008. Therefore, the proxy numbers used for 2006 and 2007 is most likely smaller than the actual number of deals at the time.

<sup>8</sup> DBRS Morningstar's R-1 (high) rating denotes the highest credit quality for commercial paper and short-term debt.

<sup>9</sup> Historically, most of the trusts in Canada focused on issuing R-1 (high) paper. Lower-rated R-1 (middle) and R-1 (low) paper was issued occasionally as part of the enhancement of the transactions. By the end of 2008, the ABCP market was almost exclusively represented by R-1 (high) obligations as liquidity in the market was flowing only toward the highest-rated notes. Today the ABCP market consists only of R-1 (high)-rated notes.



Exhibit 5: Rating distribution on the ABCP deals on the watchlist

DBRS Morningstar rating	Number of deals on watchlist	Number of breached deals
R-1 (high)	108	68
R-1 (middle)	5	3
<b>Total</b>	<b>113</b>	<b>71</b>

Most of the breaches (45 out of 71) were related to performance issues, where the default, delinquency and/or loss ratios rose above their respective trigger levels, reflecting the difficult economic environment at the time. The next largest category of breaches was related to the credit deterioration and the ultimate downgrade of the seller, subsidiary or parent, with a total of 10 deals, representing 14% of the total number of breached ABCP deals (categorized as Other in Exhibit 6).

Exhibit 6: Number of ABCP transactions on the watchlist that breached 2006–2011

Reason for being on watchlist	Number of deals on watchlist	Number of deals breached
Performance	66	45
Enhancement	8	5
Financial	4	2
Other	35	19
<b>Total</b>	<b>113</b>	<b>71</b>

Among the 113 ABCP transactions on the watchlist, 42 (37%) did not breach any triggers and were eventually taken off the list for one of the following reasons (except for two deals<sup>10</sup>):

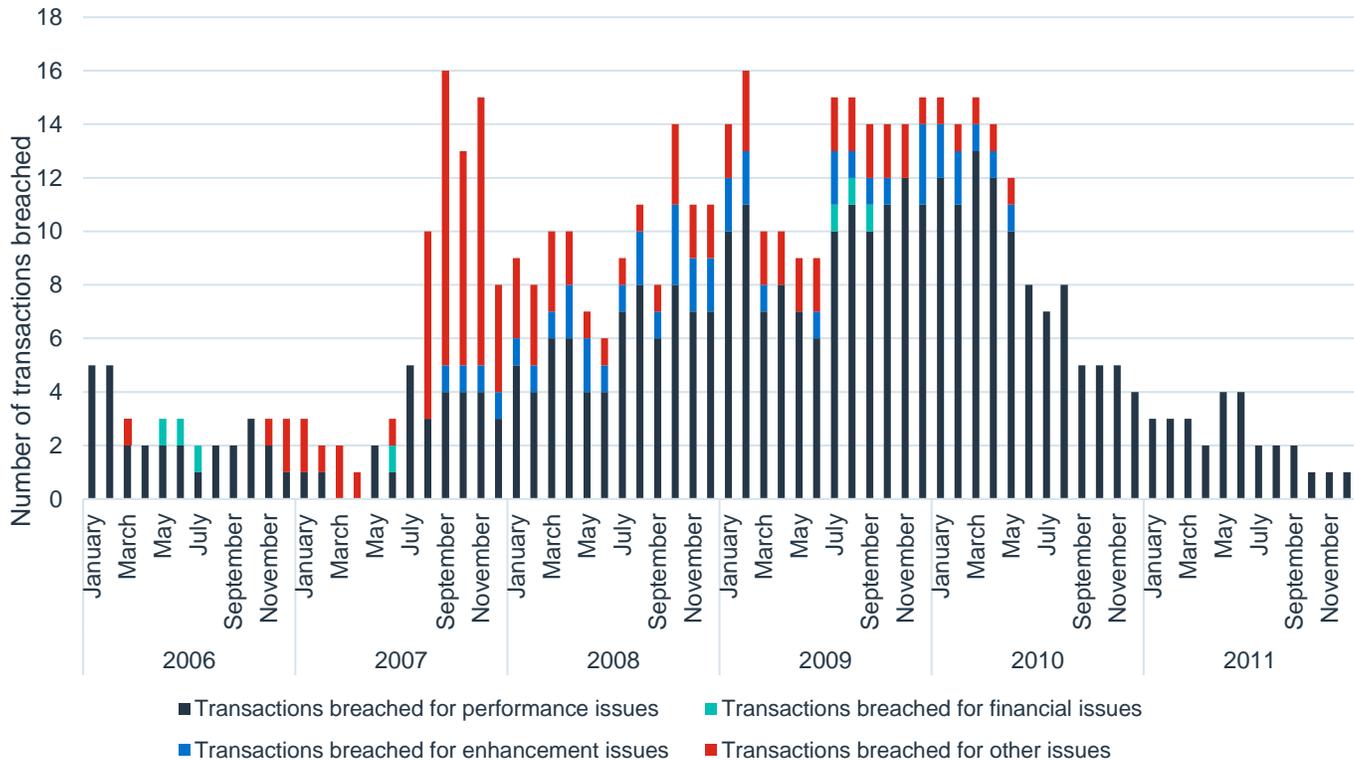
- the performance improved to acceptable levels (34 deals)
- the transaction was successfully restructured<sup>11</sup> and resumed acceptable performance (two deals)
- the transactions amortized to zero (four deals)

<sup>10</sup> The first deal was removed from the watchlist as the previously announced acquisition transaction by the issuer was cancelled. The second one was removed because the trust sponsor withdrew DBRS Morningstar’s rating coverage of that trust.

<sup>11</sup> A deal was considered restructured when the terms of the deal had been amended.



Exhibit 7: Total ABCP transactions that breached covenants and/or triggers 2006–2011



As noted in Exhibit 7, the number of performance trigger breaches during the crisis period increased significantly starting in September 2007 and returned to pre-crisis levels by 2011 (i.e., shortly after financial crisis years).

### Breached deals performance analysis

Although the number of performance trigger breaches may seem large, all 71 ABCP deals that breached one or more performance triggers from 2006 to 2011 were either cured,<sup>12</sup> restructured, terminated<sup>13</sup> or ultimately amortized to zero (Exhibit 8). None of the deals caused losses to investors. The reason for such a result is that these transactions are structured to weather severe deterioration in asset performance, with warning systems built into the structures to address issues and shelter investors from exposure to deals that continue to deteriorate in performance and credit quality.

<sup>12</sup> After breaching any of the trigger levels of the structure, a deal was considered cured once the breached metric (or metrics) came on side and were no longer in violation.

<sup>13</sup> A deal was considered terminated when the program was ended before it fully amortized because the seller bought back the assets.



Exhibit 8: Reasons for breach in ABCP transactions and how they were resolved 2006–2011

Reason for breach	Total breached deals	Resolution
Performance	45	Cured—18 Amortized—21 Restructured—2 Other—4
Enhancement	5	Cured—1 Amortized—3 Other—1
Financial	2	Amortized—1 Restructured—1
Other <sup>14</sup>	19	Cured—1 Amortized—11 Restructured—3 Terminated—4
<b>Total</b>	<b>71</b>	

Exhibit 9 below shows the breakdown of all the breaches by event trigger and how they were resolved from 2006 to 2011. Of the 13 deals that triggered an acceleration event,<sup>15</sup> 8 were due to breaching the performance ratio. There was one incidence of fraud, where the seller provided inaccurate portfolio loss ratios to the purchaser, leading to the deal being terminated.

There were 13 termination events, six of which were related to the same servicer. Most (10) resulted from the seller's or subsidiary's rating being either withdrawn or downgraded. There was one transaction that was restructured and continued to maintain its R-1 (high) rating. Nonetheless, all the transactions resulted in no losses to investors.

<sup>14</sup> Of the 19 breaches in the Other category, 12 resulted from downgrading of either the seller, parent or subsidiary that eventually either restructured or amortized.

<sup>15</sup> An acceleration event occurs when a deal goes into a rapid amortization, where all the proceeds are used to pay down the investors, based on their seniority.



Exhibit 9: Breakdown of various events triggered by breach of performance or counterparty rating 2006–2011

Trigger event	Amortized	Cured	Restructured	Terminated	Other	Total
Acceleration event	7	2	1	2	1	13
Termination event	12	0	1	0	0	13
Lock-up event	4	2	0	0	0	6
Suspension event	2	3	0	0	0	5
Other	11	13	4	2	4	34
<b>Total</b>	<b>36</b>	<b>20</b>	<b>6</b>	<b>4</b>	<b>5</b>	<b>71</b>

Six lock-up<sup>16</sup> events took place resulting from breaches in performance ratios and eventually amortized to zero. Similarly, all the deals with suspension events<sup>17</sup> resulted from performance ratio issues, whereby three of them cured and two fully amortized.

More than half of the ABCP breaches were auto related (i.e., auto loans, leases, rental and fleet), resulting from the downgrading of auto originators, along with deteriorating asset performance. The auto market experienced a larger number of defaults due to increasing unemployment, credit challenges and other difficulties in the auto industry at the time.<sup>18</sup> As a result of limited liquidity in the market, the credit spreads widened. Moreover, the favourable Canadian and U.S. dollar exchange rate that existed for the years prior to the crisis, which resulted in used autos being shipped south of the border, had come to an end. All of this contributed to a deterioration of resale values and an increase in vehicle turn-in rates.<sup>19</sup> This was also in part due to the Chapter 11 filing of Chrysler and General Motors in April and June 2009, respectively.

<sup>16</sup> A lock-up event is when cash is no longer released to the seller and the excess spread is retained in the transaction to pay back the investors until the reason that led to the lock-up is resolved.

<sup>17</sup> A suspension event occurs when the issuer or the originator is not allowed to continue funding additional assets.

<sup>18</sup> “Industry Study - The Annual Update: Canadian Structured Finance Turning the Corner?” DBRS Morningstar. May 2010. ([link](#))

<sup>19</sup> “Industry Study – Fundamentals of Canadian Structured Finance: 2008 Year in Review and Outlook for 2009” DBRS Morningstar. April 2009. ([link](#))



Exhibit 10: Breached ABCP transactions by asset class 2006–2011

Asset class	Number of breached deals from the watchlist
Auto	36
Residential mortgages	13
Trade receivables	10
Equipment	10
Consumer loans	1
Accounts receivables	1
<b>Total</b>	<b>71</b>

Although investor fears focused on developments in the U.S. market for residential mortgage-backed securities (RMBS) backed by subprime mortgages, there were only 13 mortgage deals that breached in Canada (i.e., just 2.4% of all ABCP deals from 2006 to 2011). Ten of them amortized to zero and three cured to come off the watchlist. All Canadian auto and RMBS deals performed as intended by triggering a termination, acceleration, suspension or lock-up events and eventually paid out without losses to investors.

#### Non-bank-sponsored ABCP performance analysis

As mentioned earlier, non-bank-sponsored transactions played a major role in the financial crisis in Canada. Of the 12 non-bank-sponsored ABCP deals placed on the watchlist from 2006 to 2011, six breached their triggers or covenants (Exhibit 11). Nonetheless, all the deals that breached were cured, terminated or amortized to zero.

Exhibit 11: Number of non-bank-sponsored ABCP deals on the watchlist that breached covenants 2006–2011

Reason for breach	Number of deals on watchlist	Number of breached deals
Performance	4	2
Financial	1	1
Enhancement	0	0
Other	7	3
<b>Total</b>	<b>12</b>	<b>6</b>

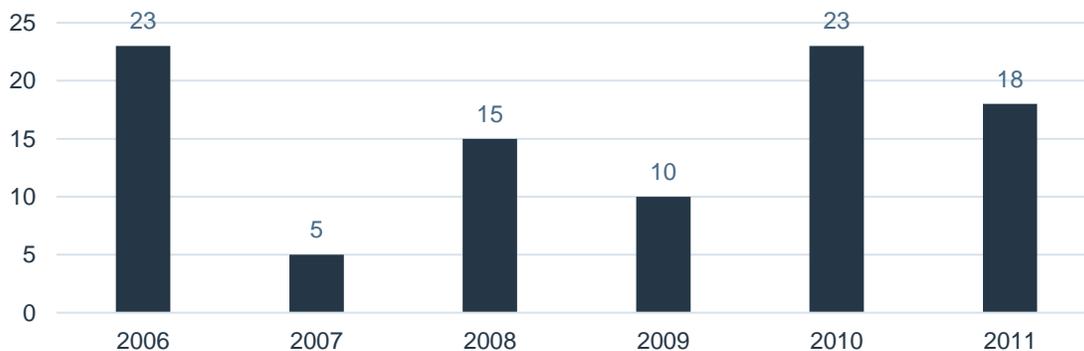


## ABS Market

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The ABS market suffered a significant drop in the number of new issuances during the crisis years. The steepest decline was seen from 2006 to 2007, when new issuances dropped from 23 to just five. The market was able to recover gradually as shown in Exhibit 12.

Exhibit 12: Number of new ABS issuances 2006–11

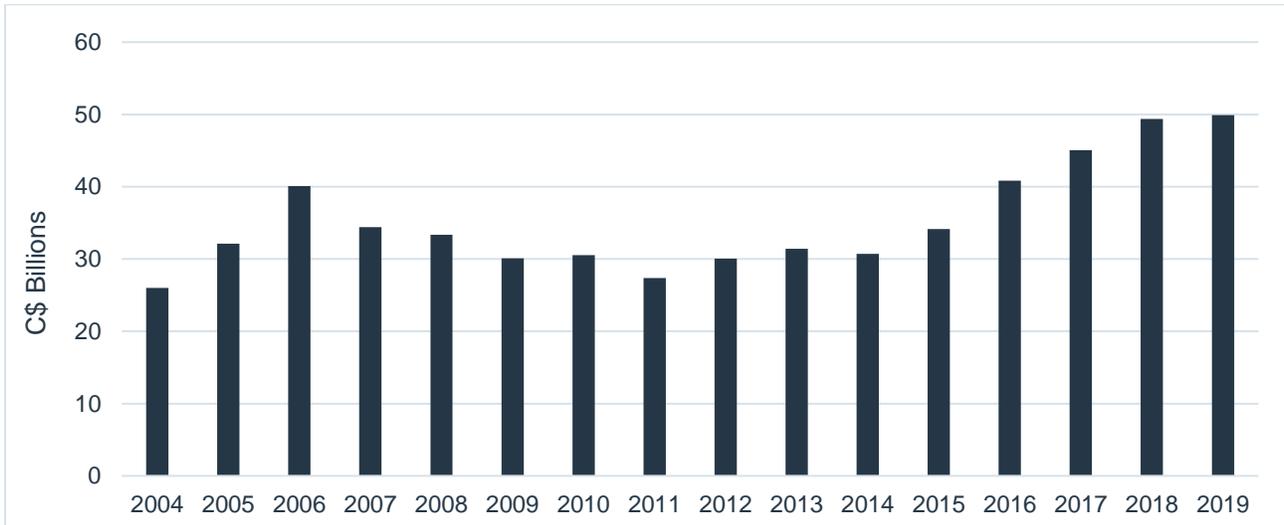


In terms of volume, the ABS market declined until 2014. By the end of 2018, the total amount of ABS outstanding had recovered to \$49.4 billion, higher than the pre-crisis level (Exhibit 13).

Throughout the crisis years only one ABS transaction had its rating downgraded due to deteriorating loss performance and compression of excess spread. Nonetheless, this transaction paid out in full at maturity with no losses for investors. The deterioration of performance in other ABS transactions was within the stress levels considered for the assigned rating, confirming the strength of the structuring methodology.



Exhibit 13: Volume outstanding in ABS 2004-19



## ABS Performance

During the 2006 to 2011 period, a total of 180<sup>20</sup> ABS deals were rated and monitored by DBRS Morningstar of which 18 were placed on the watchlist (Exhibit 14). Half of the transactions on the watchlist were due to performance concerns. Five deals were placed on the watchlist for deteriorating enhancement resulting from compressed excess spread in credit card transactions. The remaining deals were placed on the list for other concerns related to the economic environment and the weakening of the seller's financial position. There were no ABS deals placed on the watchlist due to concerns about the financial performance of the servicer.

<sup>20</sup> The number of deals in 2006 and 2007 is a proxy number because data before 2008 was collected and maintained in paper format that is challenging to gather without expending significant resources and difficult to validate as there is no institutional memory at DBRS Morningstar. For that reason, these two years were approximated by taking the average of number of deals rated by DBRS Morningstar between 2008 and 2011. The volume of the outstanding ABS market was larger in 2006 and 2007 because there was a 9.8% decrease in volume in 2007 and 4.4% decrease by 2008. Therefore, the proxy numbers used for 2006 and 2007 is most likely smaller than the actual number of deals at the time.



Exhibit 14: Number of ABS transactions on the watchlist that breached 2006–2011

Reason for being on watchlist	Number of deals on watchlist	Number of deals breached
Performance	9	4
Enhancement	5	5
Financial	0	0
Other	4	0
<b>Total</b>	<b>18</b>	<b>9</b>

#### Breached deals performance analysis

As shown in Exhibit 14, nine ABS deals (50% of those on the watchlist) breached their triggers—five because of decreasing credit enhancement and four due to tripping performance triggers.

The five transactions that experienced decreased credit enhancement were all credit card deals. They experienced higher losses and lower payment rates during the crisis as consumers felt the impact of the recession. This resulted in compressed excess spread—a consistent issue with credit cards in this period because excess spread is used as a form of credit enhancement for all such transactions. In response to deteriorating performance, issuers moved to enhance their portfolios by including interchange fees<sup>21</sup> as part of gross yield, which had not previously been part of the assets' cash flows. With this change, there was an improvement in excess spread levels for these credit card transactions. There was only one credit card deal that was downgraded from AAA to AA by DBRS Morningstar because the amount of credit enhancement in the structure was not sufficient to support the original rating.

Nonetheless, all nine deals that breached either cured or amortized to zero with no losses to investors (Exhibit 15). Unlike ABCP transactions, none of the ABS deals were restructured. It should be noted that the process to restructure ABS transactions is more involved and unwieldy than ABCP deals.

<sup>21</sup> Merchant pays interchange fees when a customer uses a credit or a debit card.



Exhibit 15: Reasons for breach in ABS transactions and how they were resolved 2006–2011

Reason for breach	Total breached deals	Resolution
Performance	4	Cured – 3 Amortized – 1
Enhancement	5	Cured – 1 Amortized – 4
<b>Total</b>	<b>9</b>	

Of the remaining nine deals on the watchlist that did not breach, seven were removed after their performance improved, one had its ratings coverage discontinued at the request of the trust and the last one amortized to zero. Although the volume of transactions decreased during the crisis years and the performance was not ideal, the transactions experienced limited problems. This demonstrated the robust strength of traditional securitization structures through severely stressed economic conditions.

## Conclusion

The performance of different asset classes in the Canadian structured finance market varied widely in the crisis years. During those years, there was a significant drop in volumes for the entire market caused by a loss of investor confidence that led to a liquidity crisis. Unfortunately, the mixed performance of structures and loss of investor confidence created a false perception about the performance of traditional securitization transactions and of the viability and stability of the structuring techniques used in the traditional securitization market.

Other structured finance transactions (that were outside the scope of this paper), which formed the affected ABCP, struggled during the crisis. However, the collective intervention of market participants helped the transactions to be repaid in the end.

The synthetic segment of the affected ABCP exhibited weakness during the crisis and broke down due to excessive leverage. This segment no longer exists in the Canadian market and should not taint perceptions of the stability of the current Canadian structured finance market, especially the traditional securitization market.

This paper demonstrates that all investments in traditional securitization transactions outstanding during the 2007-2008 financial crisis were repaid to investors. In other words, the structuring techniques used at the time, and that continue to be used and refined in today's Canadian



securitization market, worked as intended to protect the investors from loss. The research findings are summarized in a chart in Appendix C.

# Appendices



## Appendix A: Structural differences between the U.S. and Canadian residential mortgage markets

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Due to structural differences, the performance of the Canadian and U.S. residential mortgage was starkly different during and after the financial crisis. The differences are discussed below.

- The financial regulatory system in the U.S. has been described as fragmented, with multiple overlapping regulators, such as the Federal Reserve, the FDIC, state regulators, etc.<sup>22</sup> In the aftermath of the financial crisis, another agency—the Financial Stability Oversight Council (FSOC) was created. By contrast, all the deposit-taking institutions in Canada are overseen by only one regulator, the Office of the Superintendent of Financial Institutions. Canada has six major chartered banks that hold 93% of the market share.<sup>23</sup> By comparison, the five largest U.S. banks hold less than 47% of total commercial banking assets.<sup>24</sup> The Canadian banks tend to be national financial institutions that have branches across the country, which help create an effective and consistent response to stabilize the economy during a crisis. The U.S., meanwhile, has many more banks that operate at different levels—nationally, regionally, at the state level and even at the municipal level, where the federal government might not have had direct regulatory power before the formulation of the FSOC.
- Residential mortgages in the U.S. are non-recourse, meaning that if homeowners default on their monthly payments, the mortgagor (i.e., the bank) only has recourse to the secured asset (i.e., the home). In most Canadian provinces, the mortgagor’s recourse is not limited to the house but extends to all the homeowner’s other assets.
- In the U.S., mortgage interest on primary residences is tax deductible, creating much less of an incentive for borrowers to pay mortgages off early. Mortgage interest is not tax deductible in Canada and, as a result, borrowers are incentivized to pay off their mortgages as early as possible to limit interest payments.
- In Canada, most mortgages have interest rates reset every five years, and in order to minimize the risk and fluctuations in interest rates, many mortgagees try to pay off their mortgages faster. Meanwhile, mortgages in the U.S. match the term and the amortization, meaning homeowners have one rate for the entire life of the mortgage, which, given the certainty, lowers the borrower’s desire to prepay.

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<sup>22</sup> Labonte, Marc. “Who Regulates Whom? An Overview of the U.S. Financial Regulatory Framework.” *Congressional Research Service*, August 17, 2017. ([link](#)).

<sup>23</sup> Department of Finance “Supporting a Strong and Growing Economy: Positioning Canada’s Financial Sector for the Future.” Department of Finance Canada, August 26, 2016. ([link](#)).

<sup>24</sup> FRED Economic Data: Federal Reserve Bank of St. Louis: 5-Bank Asset Concentration for United States (DDOI06USA156NWDB) ([link](#))



→ More than 40% of securitized mortgages in Canada are retained by the financial institution itself for regulatory reasons. Thus, the incentive for financial institutions to originate low credit quality mortgages is far lower. In the U.S., mortgages were securitized primarily for sale.<sup>25</sup> As a result, the loan underwriting standards in the U.S. dropped, including instances of loans with limited or no documentation.<sup>26</sup>

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<sup>25</sup> Fong, Francis. “The real story behind housing and household debt in Canada: Is a crisis really looming?” Chartered Professional Accountants Canada, 2018. ([link](#)).

<sup>26</sup> Walks, Alan. “Canada’s Housing Bubble Story: Mortgage Securitization, the State, and the Global Financial Crisis.” *International Journal of Urban and Regional Research*, vol. 38, no. 1, January 2014, pp. 256-284.



## Appendix B: Montreal accord

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To address the deteriorating situation of the affected ABCP segment, key ABCP investors came together in August 2007 and agreed to the Montreal Accord. It introduced a moratorium period, during which affected ABCP deals were frozen.<sup>27</sup> The Montreal Accord removed about \$32 billion of short-term debt<sup>28</sup> from the market and brought the non-bank-sponsored ABCP market to a halt.

A restructuring plan emerged in January 2009 to address the affected ABCP transactions by creating the Master Asset Vehicle I (MAV I), Master Asset Vehicle II (MAV II) and Master Asset Vehicle III (MAV III) trusts. The MAV trusts held synthetic CDOs<sup>29</sup> and some traditional assets with rated and unrated notes collateralized by the underlying pools of assets that were originally funded by the affected ABCP that failed to roll over in August 2007.<sup>30</sup>

There were a total of 178 deals that were included in the MAVs (see Exhibit 16). A total of 136 transactions were transferred to MAV I and MAV II, and another 42 transactions were transferred to MAV III. Despite the challenges faced by certain classes of the MAV notes, all rated classes were repaid in full by the end of the first quarter of 2017.

Exhibit 16: Number of transactions in MAV I, MAV II and MAV III

Name of the trust	Number of transactions
MAV I & II	136
MAV III	42
<b>Total</b>	<b>178</b>

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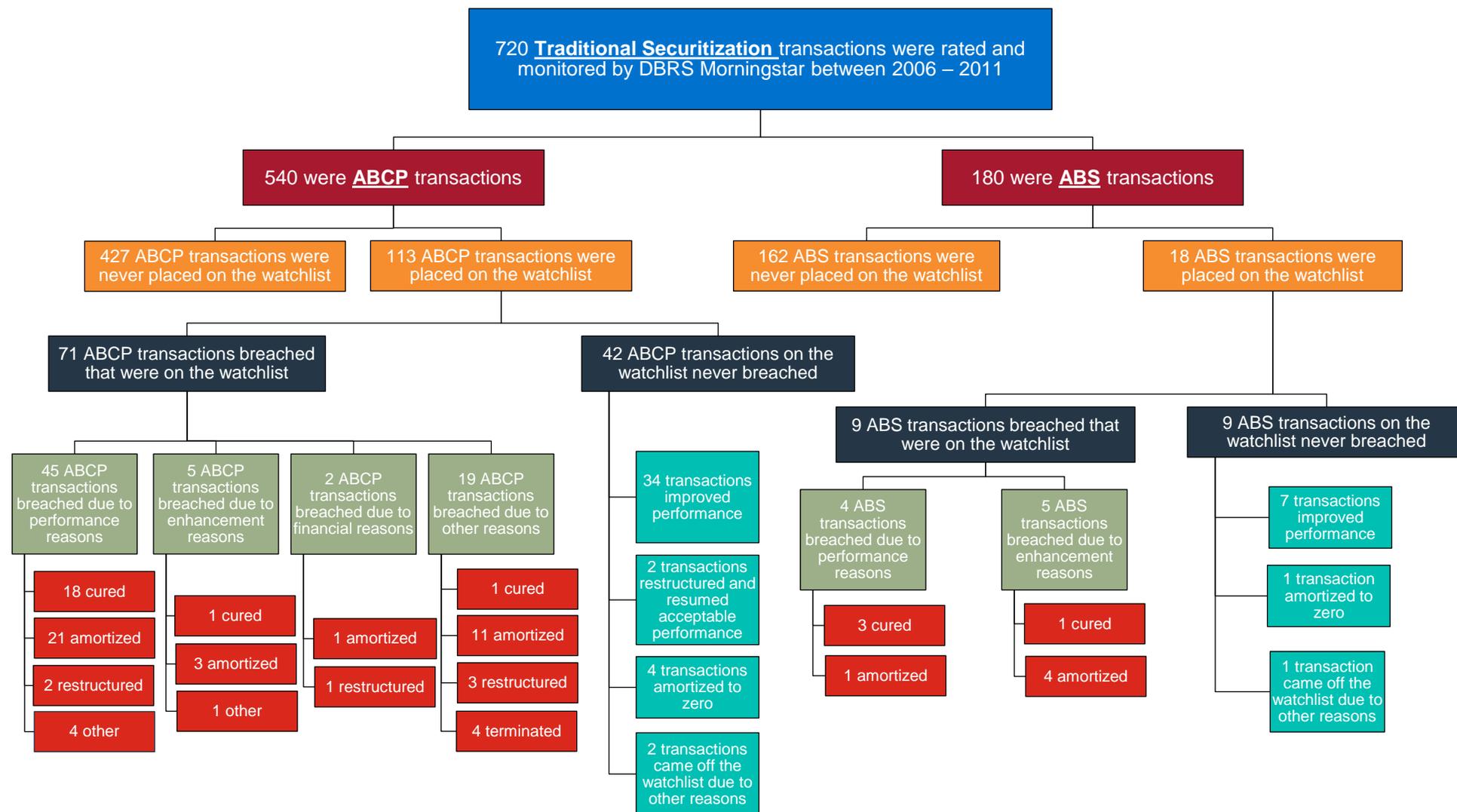
<sup>27</sup> Alloway, Tracy. "Canadian ABCP saga lives on." Financial Times Alphaville, June 24, 2010. ([link](#)).

<sup>28</sup> "Industry Study - The Annual Update: Canadian Structured Finance Turning the Corner?" DBRS Morningstar. May 2010.

<sup>29</sup> A CDO is a collateralized debt obligation that consists of a group of assets pooled together with varying levels of risk, placed into various tranches.

<sup>30</sup> "Industry Study – Fundamentals of Canadian Structured Finance: 2008 Year in Review and Outlook for 2009" DBRS. April 2009. ([link](#))

# Appendix C: Performance summary of traditional securitization transactions 2006-2011



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