

{ Canada: Pagos Electronicos (*Electronic Payment Systems in Canada*)

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{ innovative banking strategies }

{ Presentation Outline

- Overview of Canadian Banking & Payments
- Roles of Industry Players
- New Trends

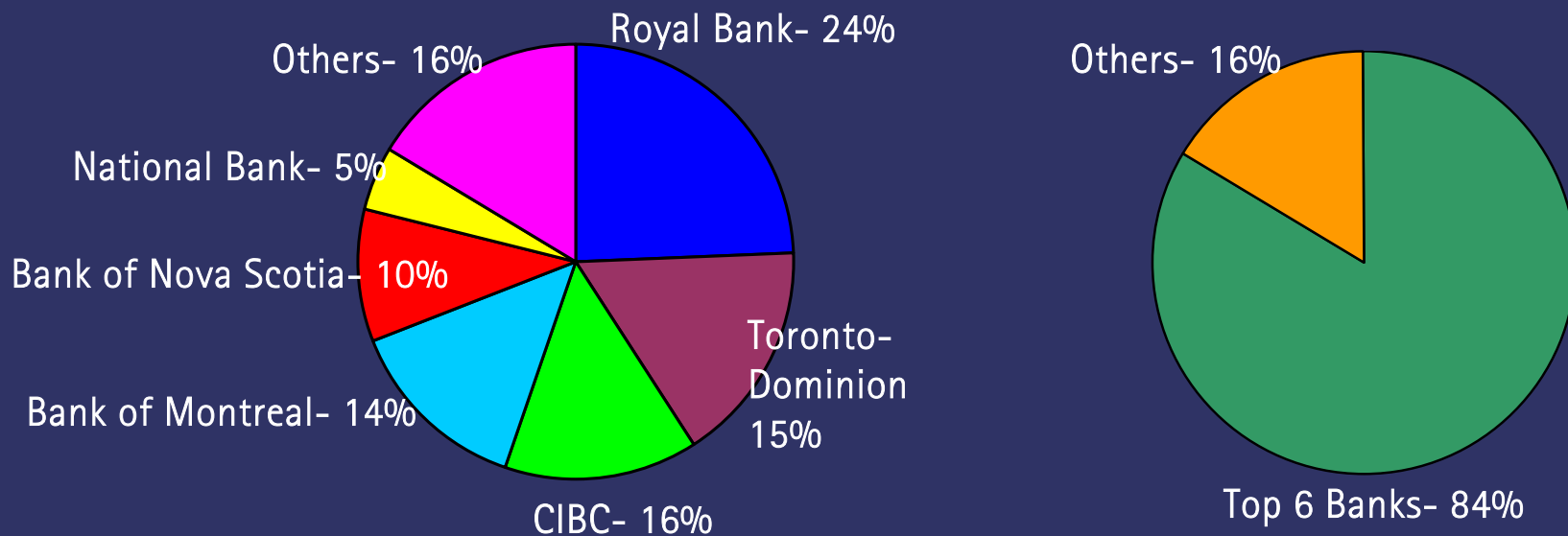


{ Overview of Canadian Banking

- National banking, across 6 time zones
- Market is dominated by six large banks
- Cheques declining since 1991
 - same day value; overnight clearing
 - Post dates allowed
 - \$25 million maximum cheque value since 2003
 - Also clear cheques in \$US
- Electronic items gaining in popularity
 - ACH debits & credits
 - EDI
 - Large value wires
 - Electronic bill payments
 - POS debits (consumer debit card)
 - ATM withdrawals



{ Overview of Canadian Payments- Players*



The Canadian payments market is dominated by 6 large banks.

* As determined by total combined payment transaction volumes published by CPA for 2002; see www.cdnpay.ca



{ Overview of Canadian Payments System

- Comprised of 2 main clearing and settlement systems:
 - LVTS- Large Value Transfer System (similar to RTGS)
 - an electronic wire system introduced in 1999 to facilitate irrevocable payments in Canadian dollars in real time
 - **High value, low volume!**
 - ACSS- Automated Clearing & Settlement System
 - the system through which the vast majority of payment items in Canada are cleared
 - **High volume, low value!**
 - Others- Other payment systems include \$US cheque clearing and settlement (USBE)



{ Canadian Payments System- ACSS

- Settles for following payment mechanisms:
 - EDI
 - EFT credits & debits
 - Cheques
 - POS debits & ATM withdrawals
 - Money orders
 - Automated bill payments
 - Paper bill payments
 - Travellers cheques, gift certificates
- Participants include:
 - 11 direct clearers, plus the Bank of Canada
 - Over 100 indirect clearers
- Key features:
 - Clears 99% of total transaction volume; equals 15% of \$\$ value
 - Transaction files transmitted between banks, several times daily
 - Final settlement done via net entries at accounts held at the Bank of Canada



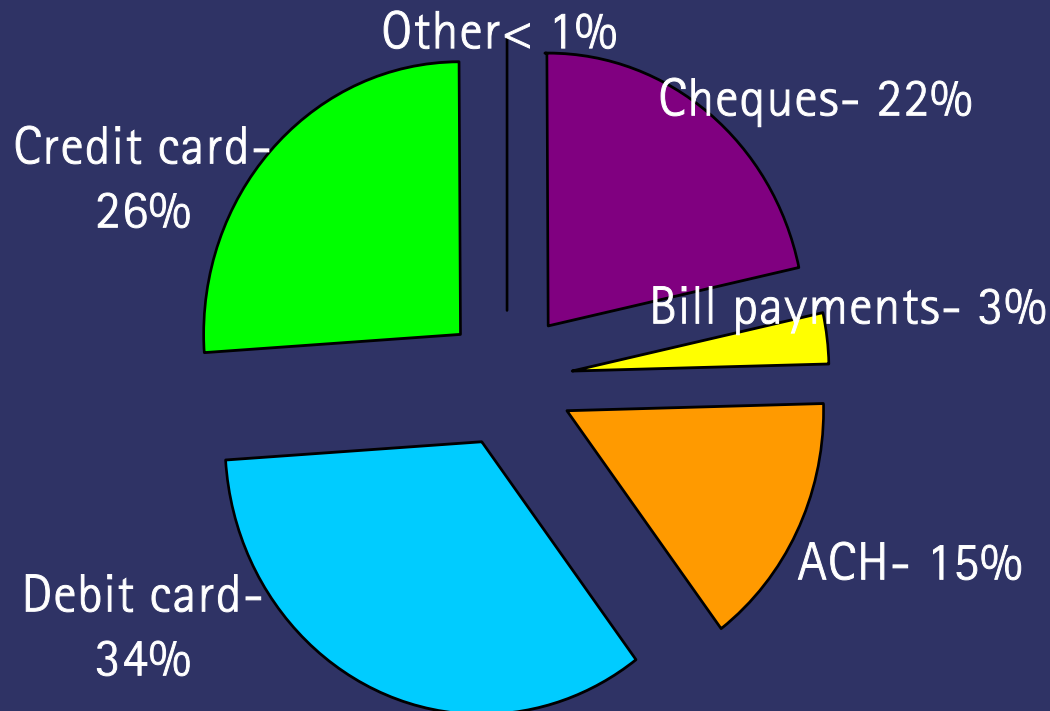
{ Canadian Payments System- LVTS

- Settles for following payment mechanisms:
 - wire payments
 - Visa & MasterCard
 - E-mail money transfers
- Participants include:
 - 13 CPA members, plus Bank of Canada
- Key features:
 - Collateralized interbank settlement mechanism provides final and irrevocable payment settlement
 - Reduces interbank settlement risk in Canada
 - 89% of all inter-bank \$\$ value in Canada is settled via LVTS
 - Approximately 90% of \$\$ value cleared through LVTS is for bank-initiated payments (I.e. securities settlements, foreign exchange settlements, etc)



{ Canadian Payments Market- Overall

- 2002 Market share of total payment transactions:

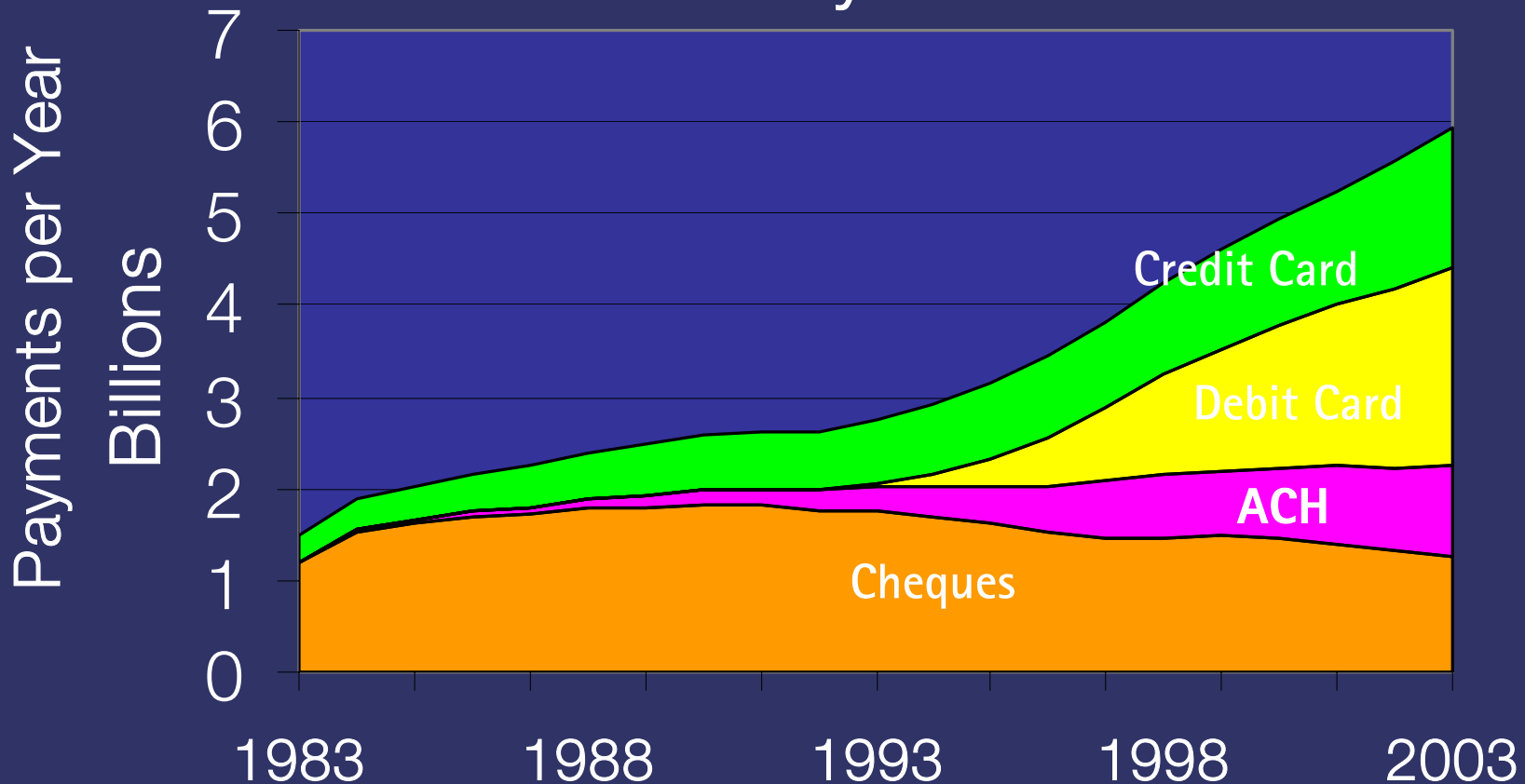


- Overall 2002 market represents 5.8 billion customer-initiated payments.



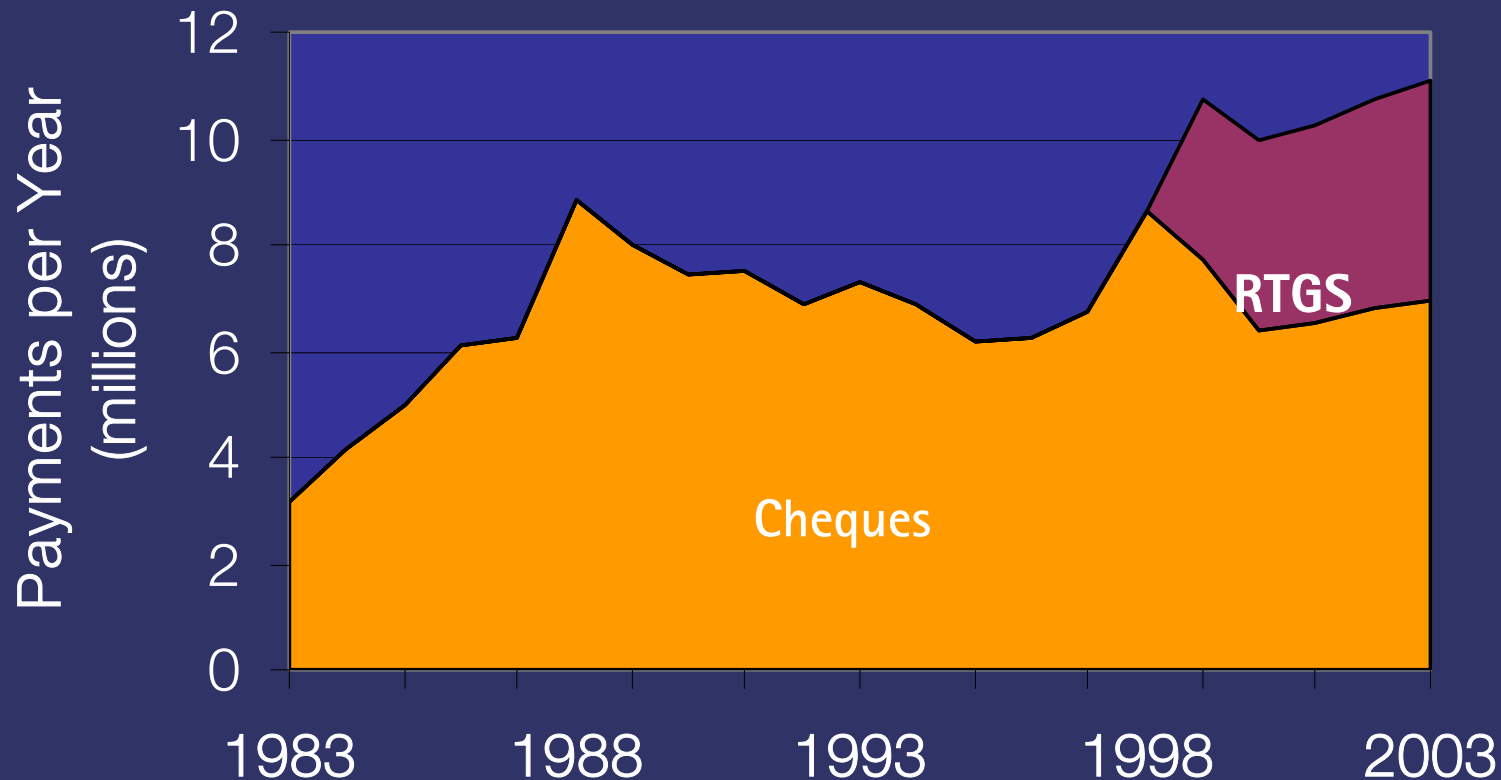
Canadian Payments Market Trends

Small Dollar Payment Volumes



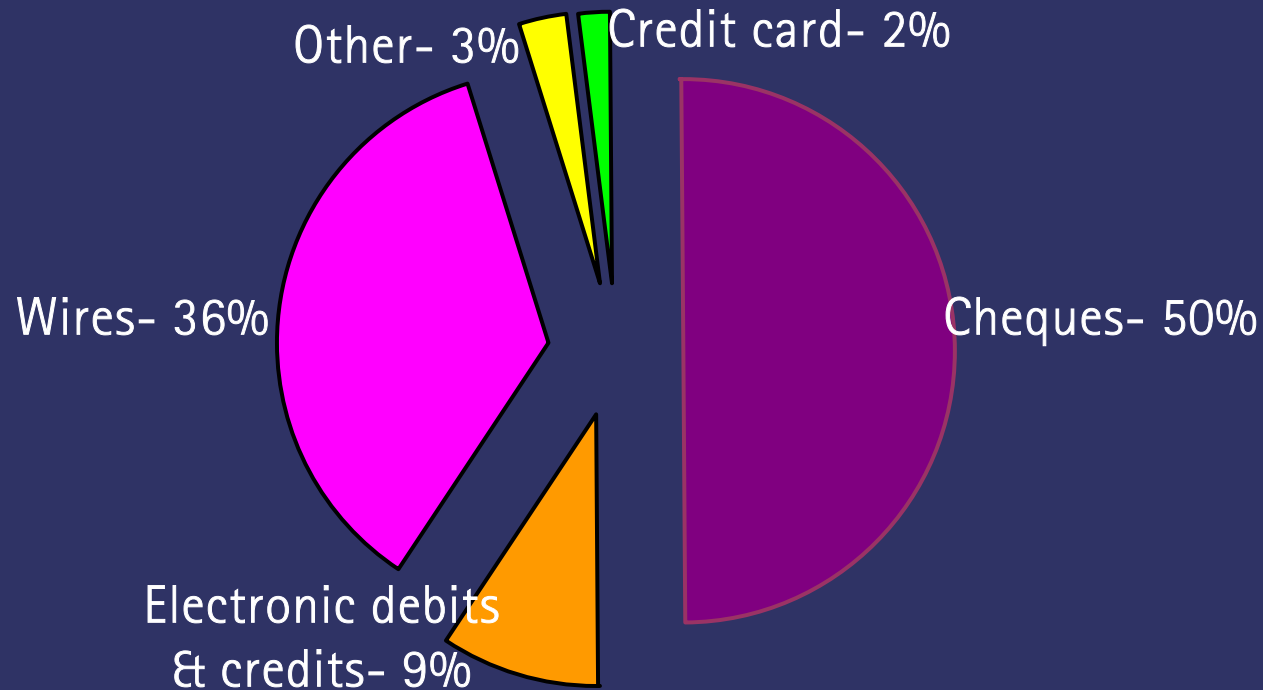
{ Canadian Payments Market Trends

Large Value Payment Volumes



{ Market Sizing- Overall

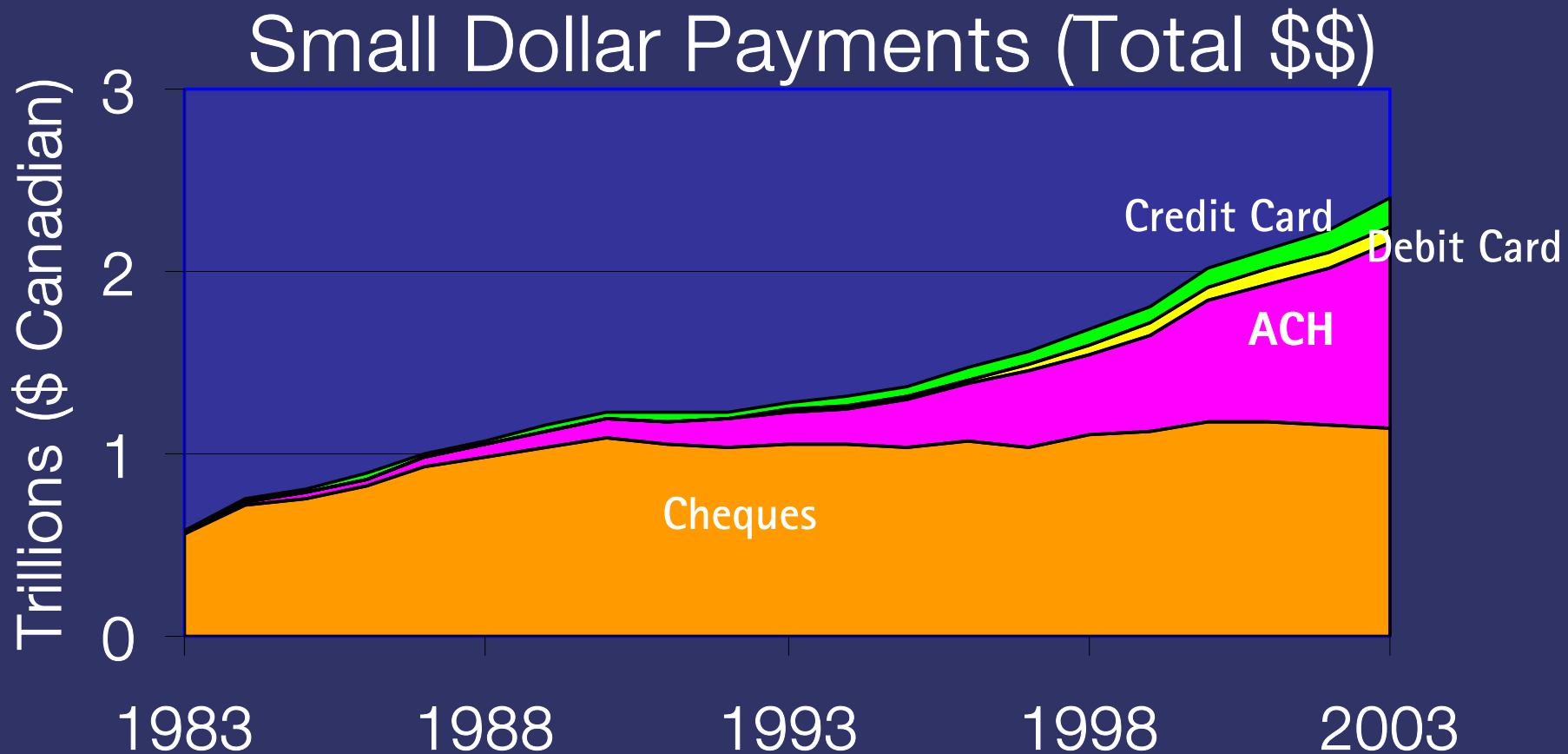
- 2002 Market share of total market by \$\$ volume:



- Overall 2002 market equated to \$8 trillion in customer-initiated payments.
- Cheques & wires continue to dominate the market with 86% of \$\$ volume.

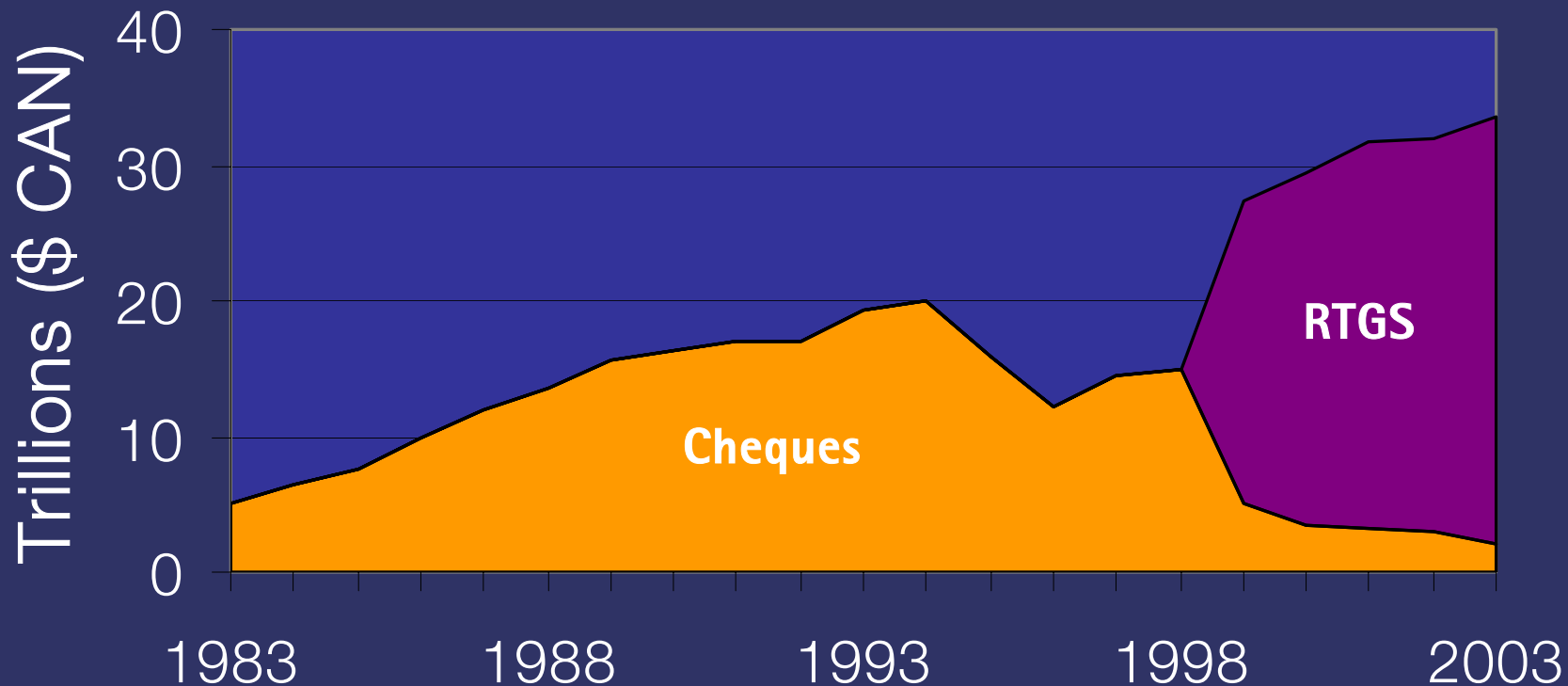


Canadian Payments Market Trends

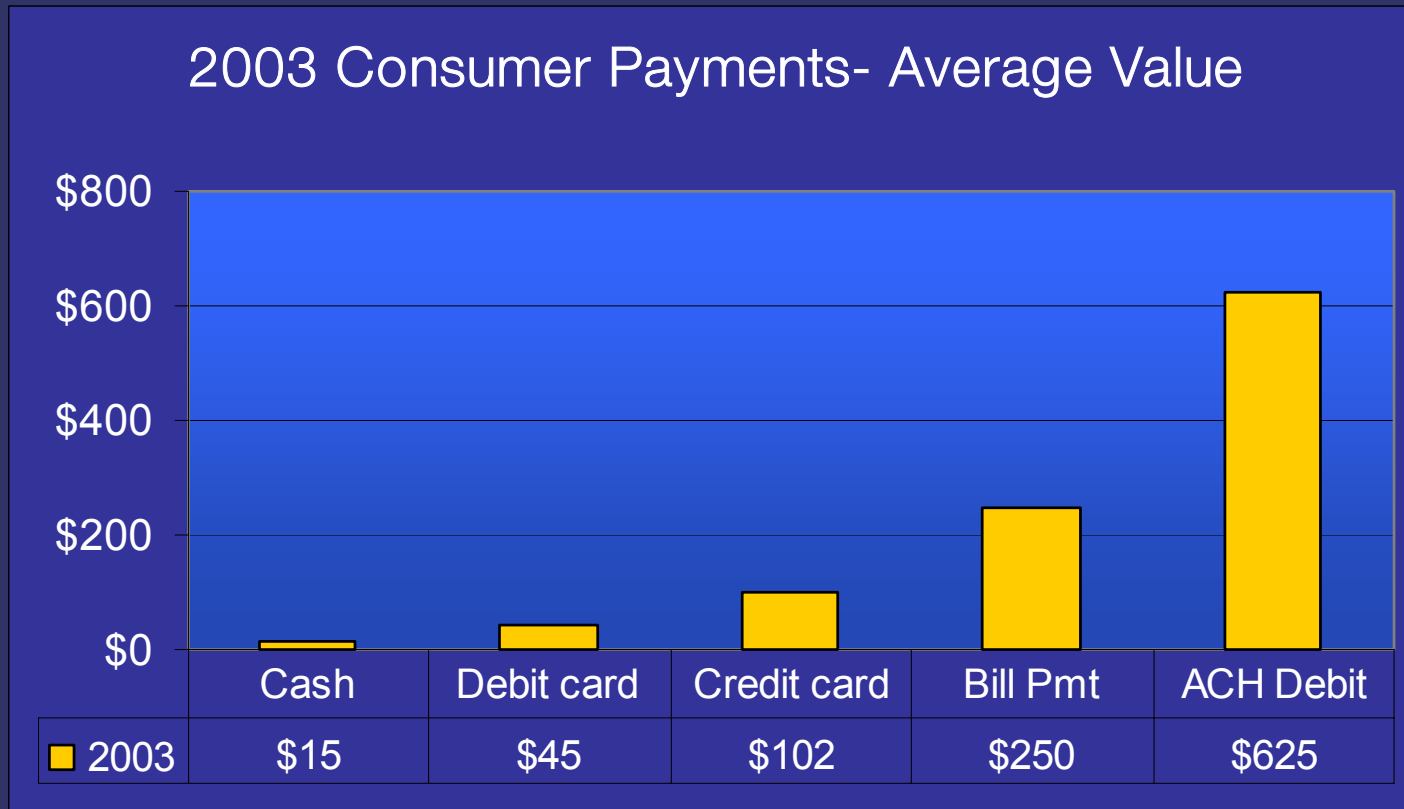


Canadian Payments Market Trends

Large Dollar Payments (Total \$\$)



{ Canadian Payments- Average Size



* Estimates are based on 2003 data obtained from CPA and CBA; cash estimate of \$15 is based on industry literature suggesting average cash transaction is less than \$10 US.



{ Role of Canadian Payments Association



Canadian Payments Association
Association canadienne des paiements

- **Mandate:**
 1. Operates the national clearings and settlement system
 2. Facilitates the development of new payment methods and technologies
- **Oversight:**
 1. CPA Act- Canadian federal government (Minister of Finance)
 2. Payment Clearing & Settlement Act (for LVTS)- Bank of Canada
- **Members:**
 - 63 banks; 15 credit union centrals; 24 trust & loan companies; 17 other financial institutions
 - 11 Direct Clearers in ACSS (plus Bank of Canada)
 - 13 LVTS participants (plus Bank of Canada)



{ Role of Bank of Canada



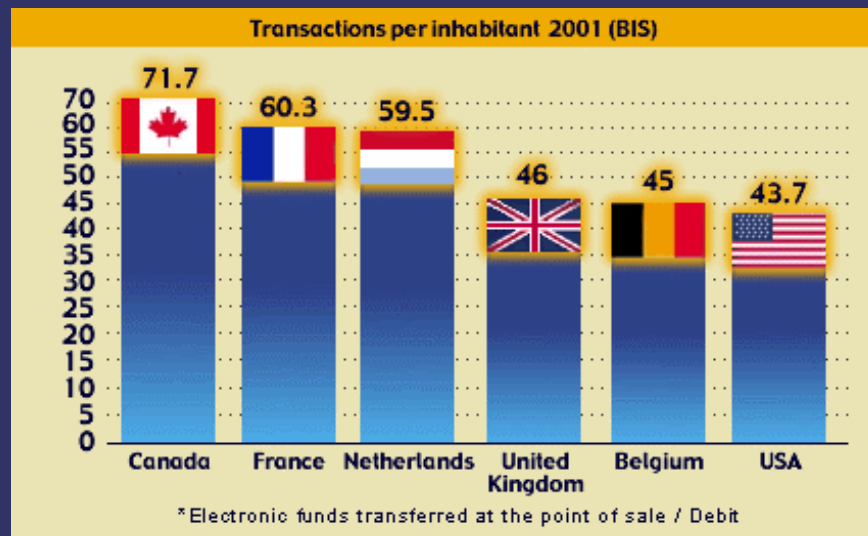
- Acts as Canada's Central Bank
- Mandate- promotes the economic and financial welfare of Canada by managing:
 1. Monetary Policy- to foster confidence in the Canadian dollar
 2. Currency- to supply coin and notes that are accepted and secure against counterfeit
 3. Financial System- to promote the safety and efficiency of Canada's financial system
 4. Funds Management- to provide efficient and effective funds management for the government and the Bank of Canada



{ Role of Interac



- supports point of sale debits (real time), and ATM withdrawals
- Settles via ACSS
- Canadians are world-leaders in use of EFT POS, with 72 transactions per inhabitant in 2001*



* Data is sourced from Bank for International Settlements; graph is taken from Interac web-site.



{ New Initiatives– Truncation & Electronic Cheque Presentment

- CPA's initiative to eliminate inter-bank exchange of physical payment items (cheques)
 - image capture and truncate item at negotiating bank
 - streamline process & reduce costs
- Benefits:
 - customers receive value faster and improved enquiry response
 - can image-enable ABMs, call centres, cheque reconciliation & enquiry applications
 - banks reduce dependence on physical movement of items
- Timeframe:
 - Target for implementation is end of 2006



{ New Initiatives– Chip Card



- CCMP (chip card migration project) initiative in Canada
 - Amex, Visa, MasterCard & Interac jointly developing framework to migrate to chip-based debit and credit cards in Canada
 - Based on global EMV standards (Europay MasterCard VISA)
 - Benefits:
 - Built in fraud detection & improved user authentication
 - More secure for use on Internet
 - Will shift liability from merchants to banks
 - Will likely require PIN for credit card transactions
 - Point of Sale terminals will allow multiple applications



{ Trends & Issues- Banking Products

- Cheque volumes and values are decreasing, a result of market & regulatory pressures
 - Changes business models
 - Reduces processing & reconciliation time, effort, expense
- Canadian banks introducing more web-based banking applications in 2004- both consumer and corporate
- On-line payment solutions imminent in Canadian market
- Non-banks now providing payment services to consumers:
 - Retailers- many retailers offer proprietary pre-paid cards
 - PayPal & hyperWALLET- offers an online payment facility for Internet shopping
 - Global Money Transfer- examples are Western Union, Moneygram
 - Canada Post- offers e-post (EBPP), postal money orders, Amex Travellers cheques
 - Pay-MINT- pay for parking via cell phone (still in pilot)



{ Trends & Issues- Technology



- New Technology as enabler:
 - Image- especially for cheque and paper processing
 - EIPP & EBPP- Electronic Invoice/Bill Presentment and Payment
 - Proximity- new products emerging with built in proximity capability
 - For example, Esso's *Speedpass*, *dexit*
 - Mobile- many versions
 - bill to phone bill (either monthly, or pre-paid)
 - wireless terminals- on cell phone or PDA, or at merchant site (I.e. taxi)
 - Internet- new payment solutions for use on Internet; for example:
 - *CertaPay*, *hyperWALLET*, *PayPal* & *YahooDirect*
 - Chip- EMV will enable multi-application cards; may include applications such as debit, cash, credit, loyalty, etc.
 - Transponders- for payment of highway tolls



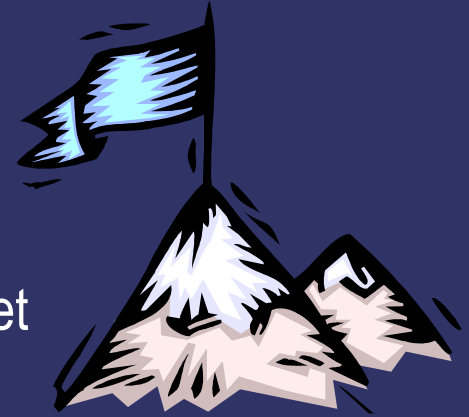
{ Trends & Issues- Security & Risk Management

- Security issues still being addressed
 - “Know your customer” is much more difficult in electronic environment!!
- Risk Management
 - Cheque fraud- on the rise
 - Credit card fraud- is declining, but continues to be a concern
 - Debit card fraud- is increasing in Canada
 - Internet payments- must address fraud issues, stolen identity, Internet spoofing, perceived risks, etc.
 - Interbank settlement risk- being addressed at CPA level
 - Money laundering- new reporting requirements for large transactions



{ Factors for Success in Electronic Payments

- Co-operative approach = Market Ubiquity
 - All major banks co-operate to provide new services
 - Customers can transact with everybody in the market
- Common infrastructure
 - Common elements of infrastructure ensure competitive market
- Good business model
 - Market pricing is competitive and affordable for all market players- customers, merchants, and banks
- Technology
 - Current and reliable technology



{ Canadian Payments Numbers

- **1991**- First year that cheque volumes began to decline in Canada
- **222%**- increase in volume of transactions flowing through Canadian Payments system from 1990 to 2003
- **72**- the average number of point of sale electronic debit payments per Canadian in 2001
- **90%**- the estimated \$\$ value of payments through the LVTS which are *bank to bank* payments (i.e. not customer payments)



{ Summary of Canadian Electronic Payments

- Highly efficient- same day clearing of paper and electronic payments
- Electronic- 75% of payment transactions in Canada are processed electronically; dominated by debit cards, credit cards, and ACH
- Risk Managed- LVTS is a collateralized RTGS, and processes over 85% of the inter-bank payment value
- National- operates across Canada in 6 time zones
- Building for the Future- banks take a co-operative approach to new infrastructures: image processing, chip cards, large value



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