

Distributional Effects of Payment Card Pricing in the U.S. and Canada

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Low-income consumers use more cash, high-income use more credit cards



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- Credit cards are costly for merchants to accept due to high interchange fees, debit cards and cash are cheaper.
- Merchants do not differentiate prices by payment method, but instead pass those costs onto all consumers as higher retail prices. As a result, credit card transactions are cross-subsidized by debit and cash payments.
- Those cross-subsidies likely become regressive transfers from lower-income to higher-income consumers, as higher-income consumers tend to use premium reward credit cards (highest cost to merchants).
- Credit card rewards and bank fees reinforce those regressive transfers.
- We quantify effects of payment card pricing on consumers across various income cohorts by using consumer payment surveys and merchant cost studies in the U.S. and Canada.

Our approach

- Consumers split into several income cohorts, based on survey questionnaires
- Average \$ amount spent on POS purchases by income cohort by payment method in a month
- Merchant cost of accepting each payment method (fixed and variable), passed onto consumers through retail prices, M_{ij}
- Consumers get credit and debit card rewards as % of transactions, R_{ij}
- Consumers pay credit card annual fees, bank account fees, ATM fees, B_{ik}
- Calculate net pecuniary cost for each income cohort:

$$C_i = \sum_j M_{ij} - \sum_j R_{ij} + \sum_k B_{ik}$$

Detailed Transaction Data

- Number and \$ value of purchases for every consumer by payment method
 - Cash, credit cards, debit cards; reward and non-reward cards
 - US: Federal Reserve's Survey of Consumer Payment Choice (SCPC) and Diary of Consumer Payment Choice (DCPC), collected by RAND until 2014, USC since 2015
 - Canada: Bank of Canada's Method of Payment (MOP) Survey, survey and diary
 - Over 3,000 respondents, representative sample of adults, use weights
 - Survey provides typical behavior, diary records every transaction over a 3-day period
 - Same respondents surveyed every October, individual consumer level
- Besides transaction data, SCPC/DCPC and MOP include other data
 - Bank account holding and balances, credit score, electronic and mobile payments, cash holdings
 - Detailed demographics (age, education, race, gender), income, employment
- Data collected this fall will let us examine changes in behavior during COVID

Other Data (details in paper)

- **Merchant cost of processing payments:**
 - Interchange fee (IF) data from card networks
 - Differences in credit card IF based on reward card type: no reward/basic/premium reward cards
 - Cheapest: cash in US, but debit card in Canada as no debit IF in Canada
 - Other data sources include economic census, BLS retail trade earnings and hours, retailer surveys, merchant processors' price info; Bank of Canada's merchant cost study
- **Rewards:**
 - Basic vs. premium rewards is mapped by credit score using CFPB classification (US); no/basic/premium rewards from MOP and Personal Cardholder Study (Canada)
 - US: 1% basic reward credit card, 1.5% premium reward credit card, 0.4% reward debit card (rare)
 - Canada: 0.75% basic reward credit card, 1.5% premium reward credit card, debit cards pay no rewards
- **Credit card annual fees:**
 - US: Annual fee by credit score tier (CFPB), distribution of credit score tier by income cohort (SCPC)
 - Canada: Annual fee from MOP
- **Checking account fees:**
 - US: If account balance (DCPC) below minimum threshold → pay fee (avg. monthly fee from Bankrate.com)
 - Canada: Fees for each bank from FCAC based on number of transactions and free transaction limit (ATM fee included)
- **ATM cash withdrawal fee:**
 - US: Avg. number of cash withdrawals by income cohort (DCPC), avg. foreign fee and surcharge (Bankrate.com), share of transactions that incurred surcharge (GAO)

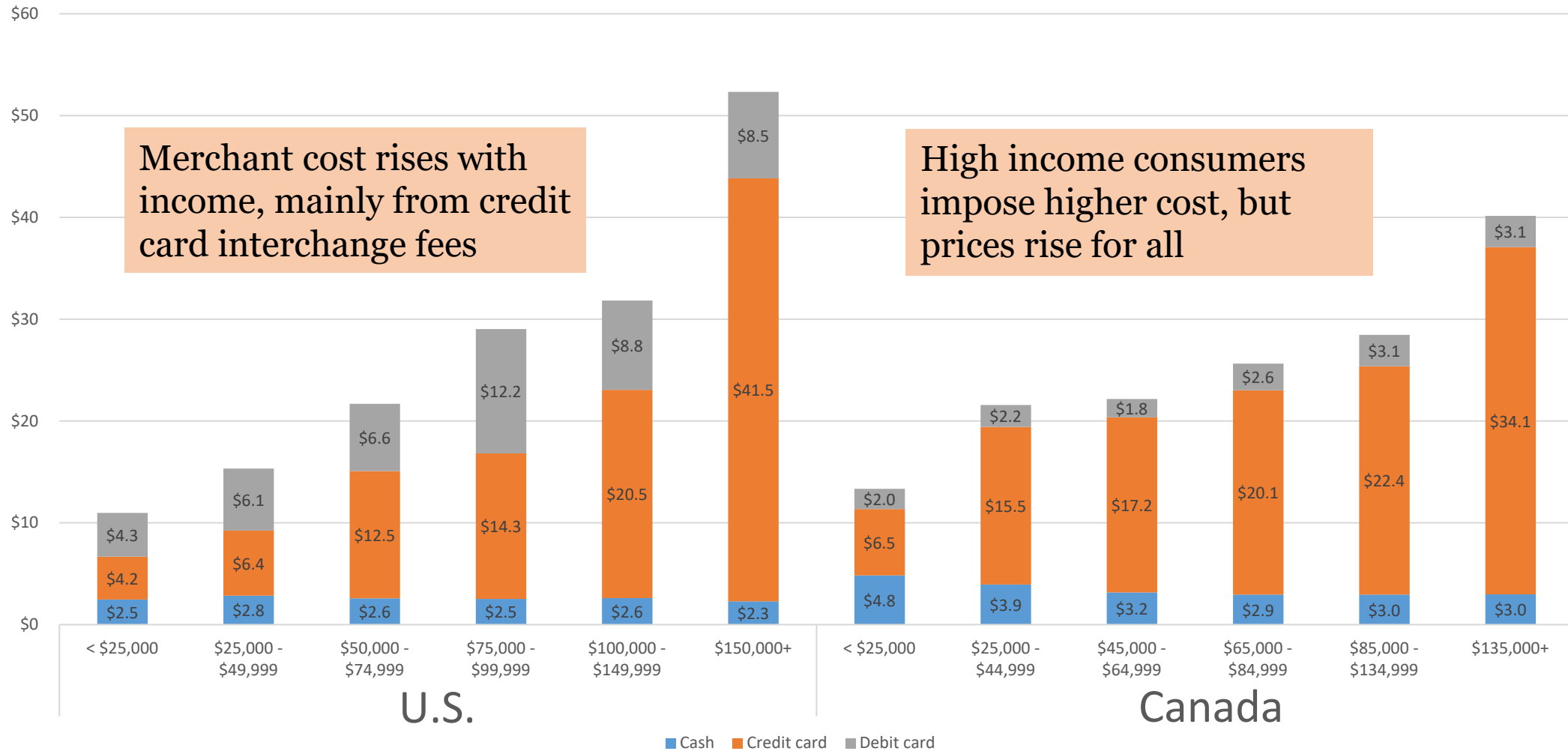
Key Findings

- In both the US and Canada, highest-income consumers pay the least as % of transaction amount, lowest-income consumers pay the most
 - ➔ payment card pricing and merchant cost pass-through have regressive distributional effects on consumers
- Results are robust: Varying merchants' pass-through rate or income cohorts served by merchants does not change basic finding
- Net pecuniary cost is lower for low-income consumers than for high-income consumers in absolute terms, because their transactions are smaller in number and value
- Net pecuniary cost is higher for Canadian consumers, because they pay higher fees to their financial institutions and receive lower rewards

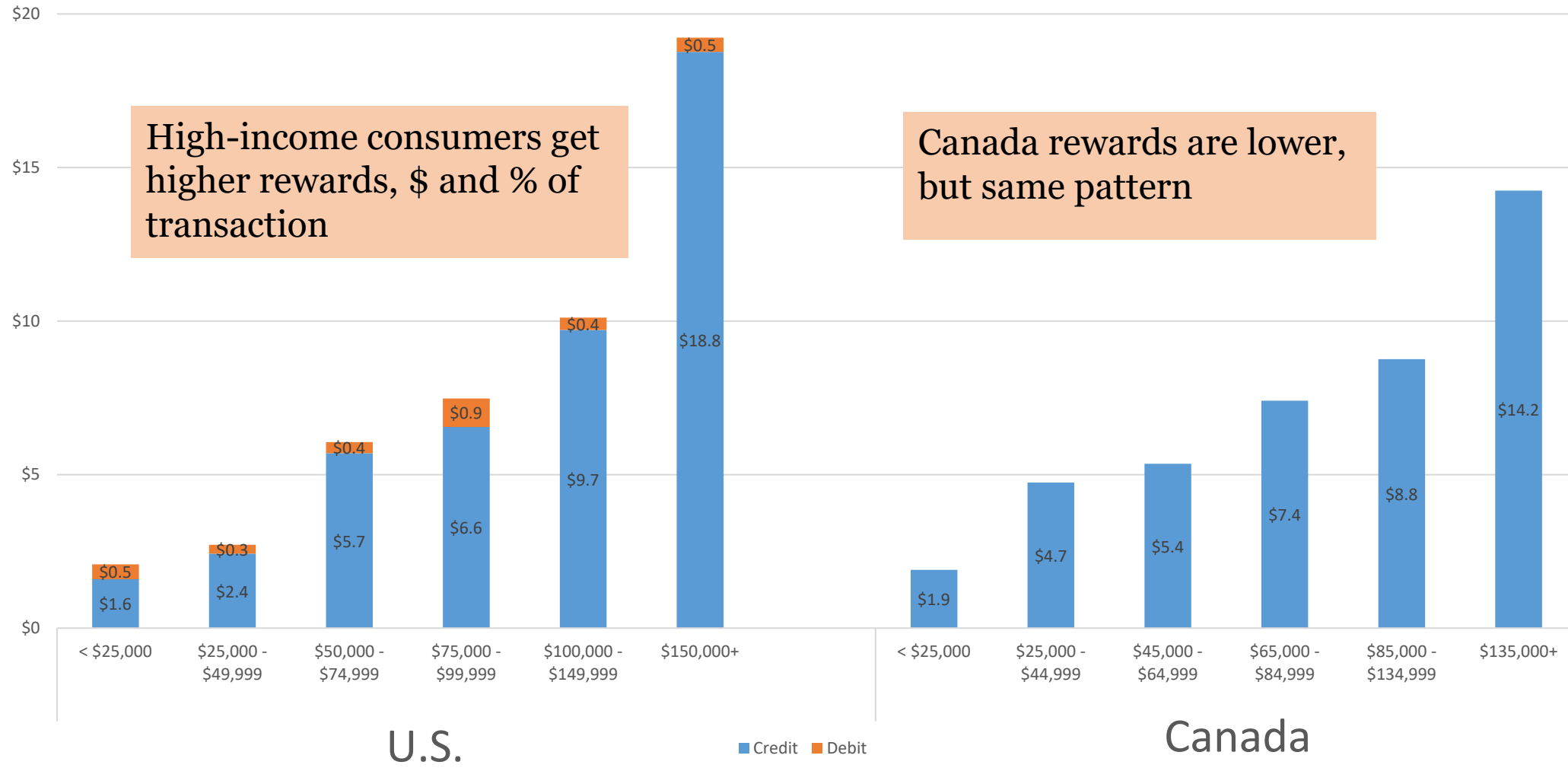
Potential ways to reduce regressive effects

- Merchants could differentiate retail prices based on payment methods: legal but rare now.
- Merchants could provide clear information about relative costs of using various payment methods, so that consumers could make informed decisions.
- A small reduction in credit card rewards and in interchange fees could lower net pecuniary cost for more than 50 percent of U.S. consumers and more than 40 percent of Canadian consumers, including lower-income consumers, keeping issuers' revenues unchanged.
- Offering low-cost bank accounts to low-income U.S. consumers and raising transaction limits associated with bank accounts in Canada would reduce regressive effects of bank account fees.

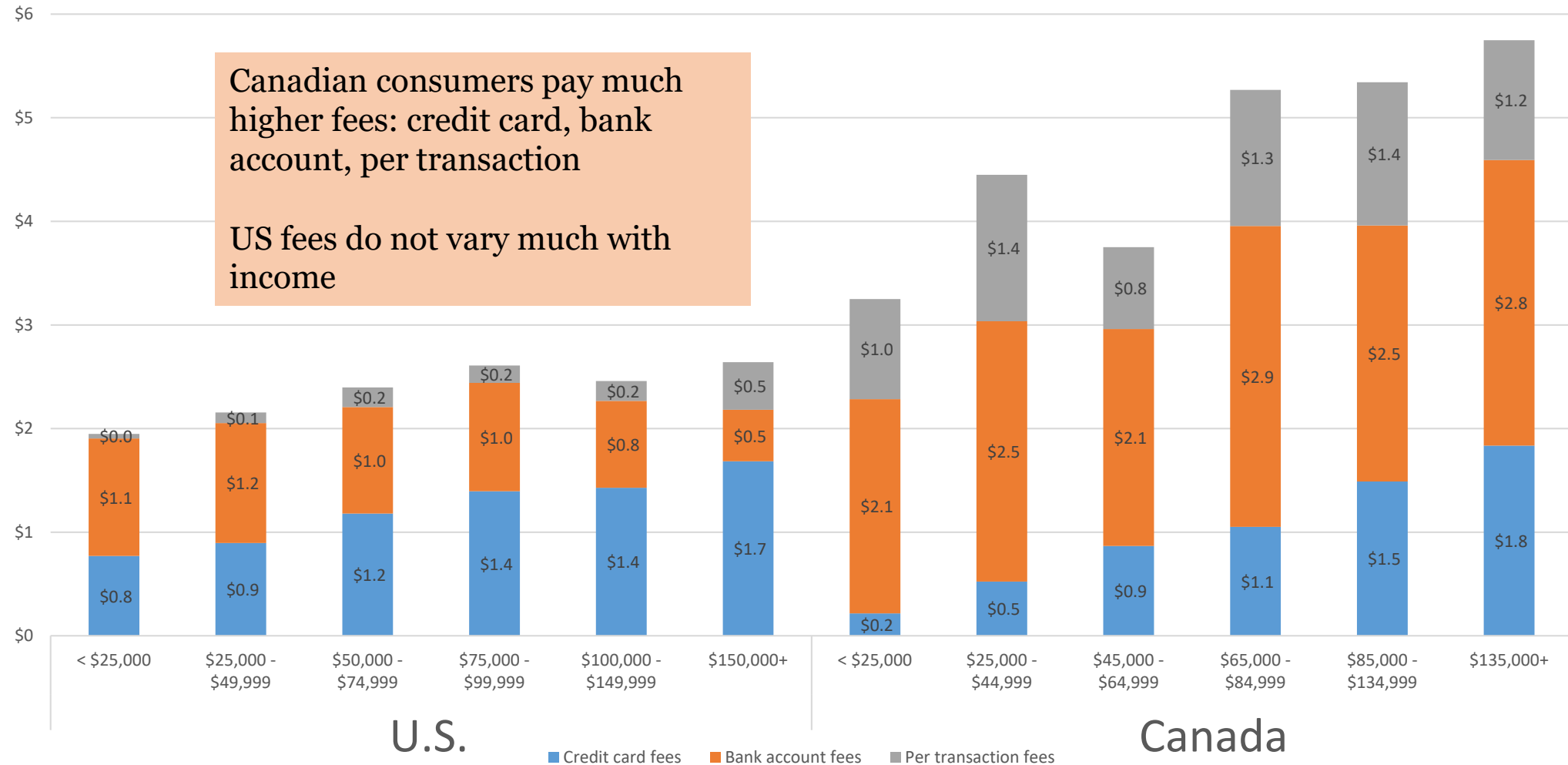
Merchant Cost per Consumer per Month by Income Cohort (U.S. and Canada, in \$US)



Rewards per Consumer per Month by Income Cohort (U.S. and Canada, in \$US)



Fees to Financial Institutions per Consumer per Month by Income Cohort (U.S. and Canada, in \$US)



Net Pecuniary Cost as % of POS Purchase Amount

$$C_i = \sum_j M_{ij} - \sum_j R_{ij} + \sum_k B_{ik}$$

