

# Exploring the Player Economy of In-Game Purchases

Focus on Steam Community Market of Counter Strike Global Offensive

Agáta Vavrušková, Tomáš Vikiszály, Petr Nádvorník, Akshat Sungkur, Feliks Szostek,  
Quentin De Magalhaes

# Historical Context & Economic Impact

- Early precedents for virtual economies:
  - Everquest (2001) demonstrated virtual world labor could generate real economic value comparable to some national economies
  - World of Warcraft's "gold farming" industry reached \$500M annually by 2008, with 80-85% of farmers in China
- Late 1990s - 2020s Industry Context:
  - Shift from game sales to virtual item economies
  - Growth of digital distribution, MMORPGs
  - Rise of microtransactions
  - Gaming's mainstream cultural impact



# Focus on Steam Community Market

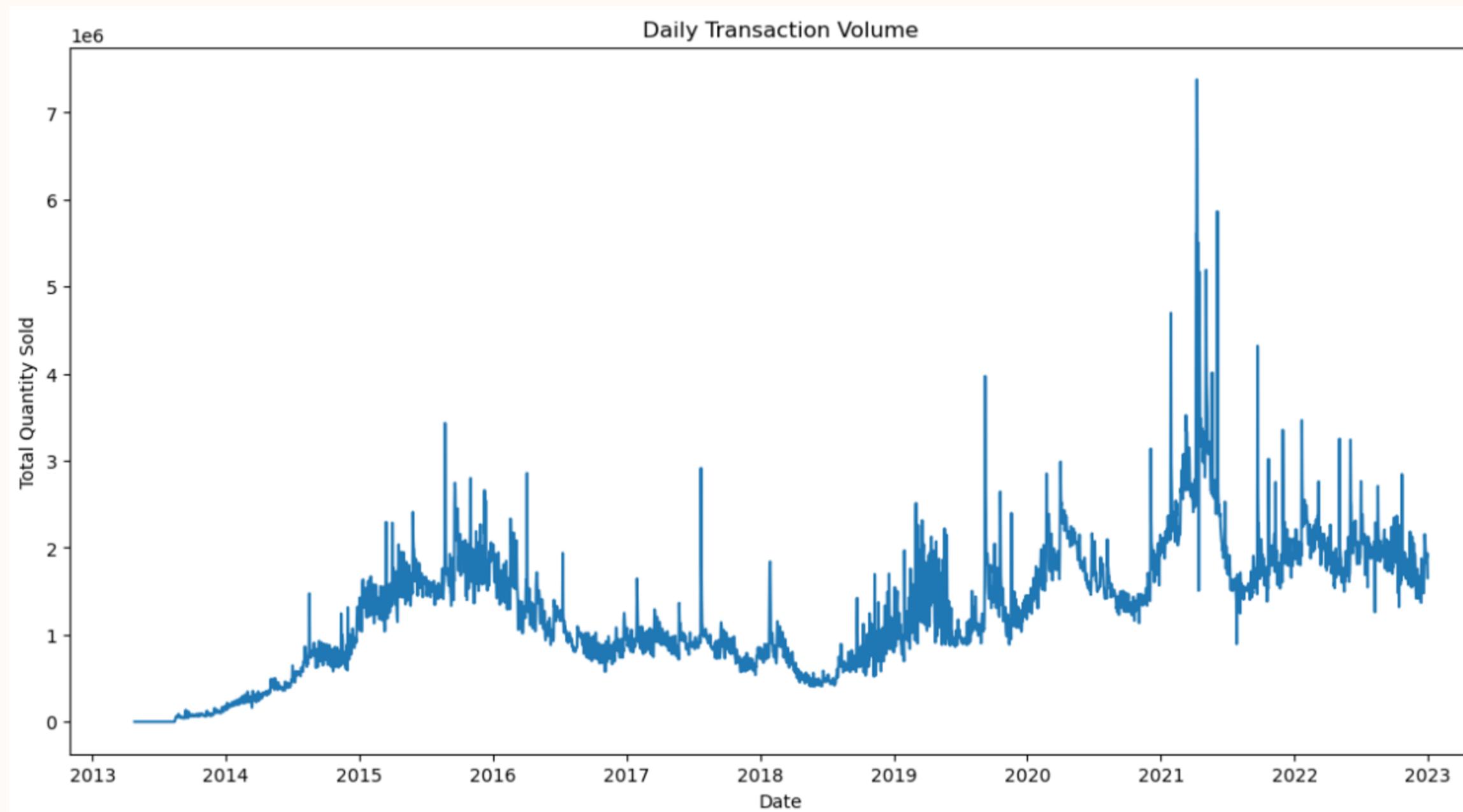
- **Research Focus:** Examining player behavior and economic patterns in Steam's virtual marketplace
- **SCM Market Size:** Over \$1B in annual trading volume, with millions of daily transactions
  - Player-to-player trading of virtual items (skins, weapons, collectibles)
  - Steam takes 5-15% commission on each sale
  - Uses Steam Wallet funds as currency ("currency distancing")
- Key characteristics of the SCM:
  - Creates a secondary market for virtual goods within Steam's vertically integrated ecosystem
  - Allows Valve to profit from player-to-player transactions
  - Influences in-game economies and virtual goods valuation
  - Represents the formalization of virtual item trading within one of gaming's largest platforms



# Case study: Dataset of the CS:GO marketplace

- Data Source: Steam API and Kaggle.
- Items Tracked: 22,492 unique in-game items.
- Transaction Records: 5.76 billion transactions between users.

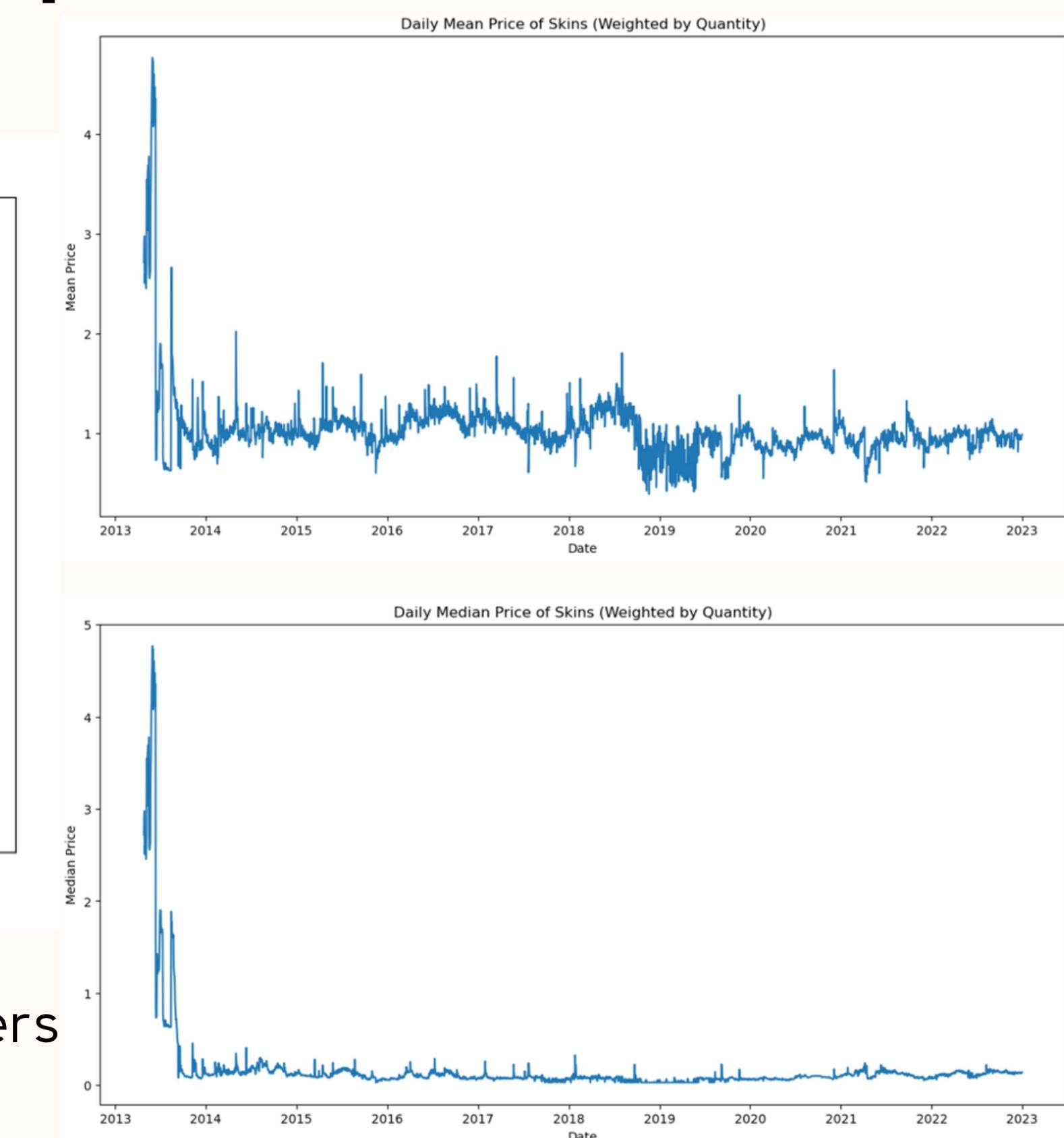
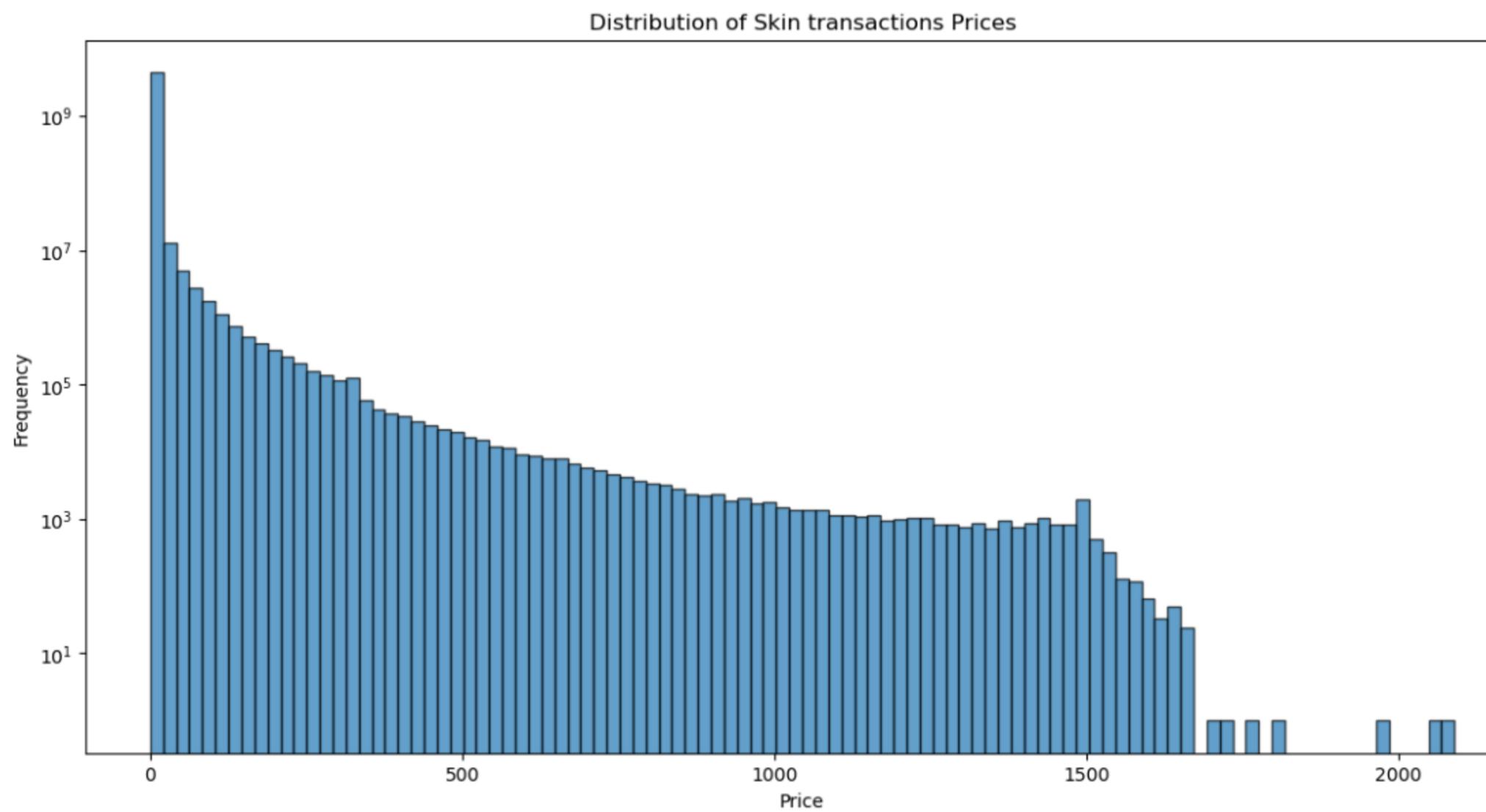
# Daily transaction volume



High Transaction Volume days = major event with new skins

# Skin transaction prices

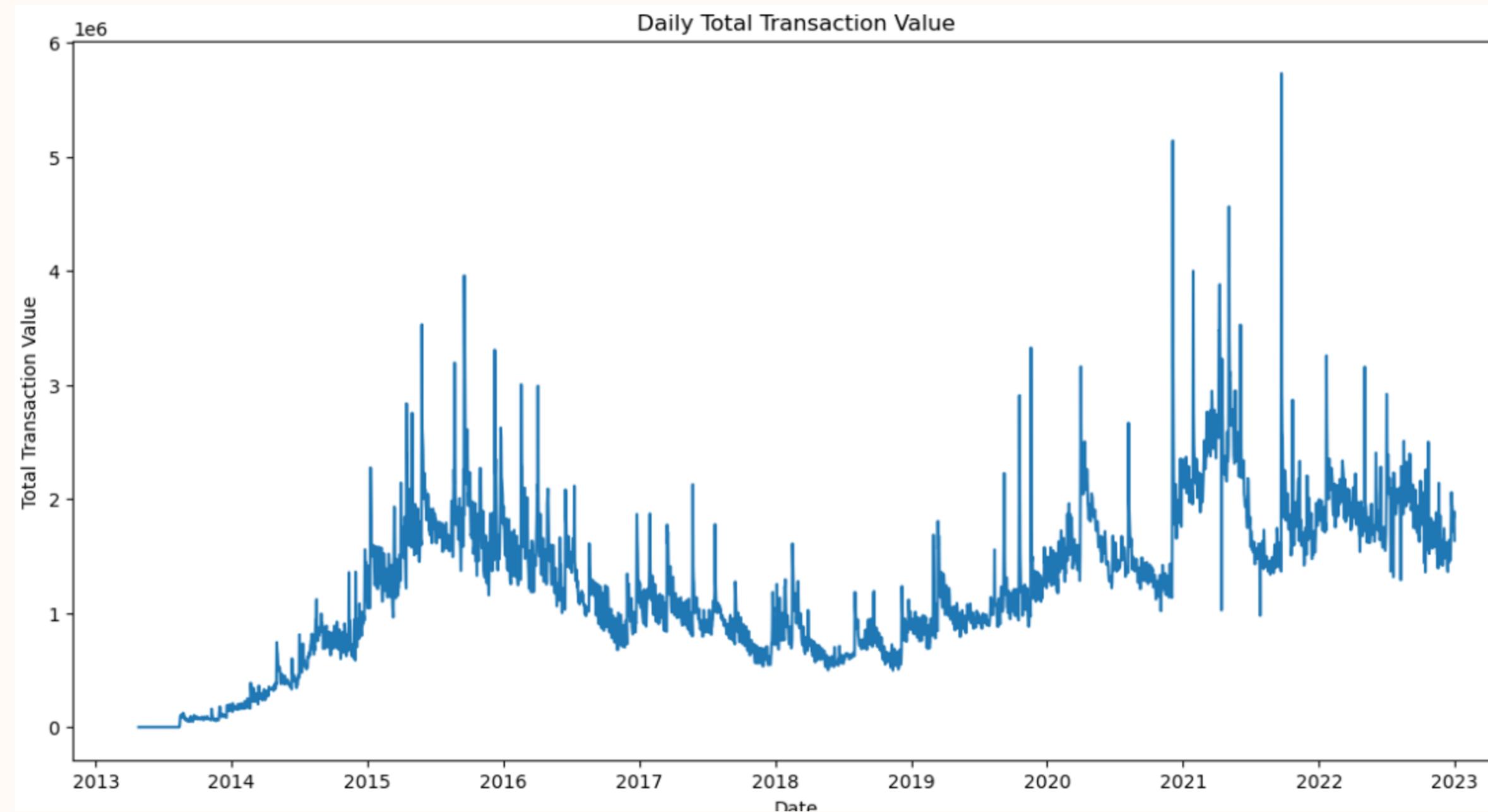
What are the prices of skin sold between users ?



Majority of cheap skins transactions between users

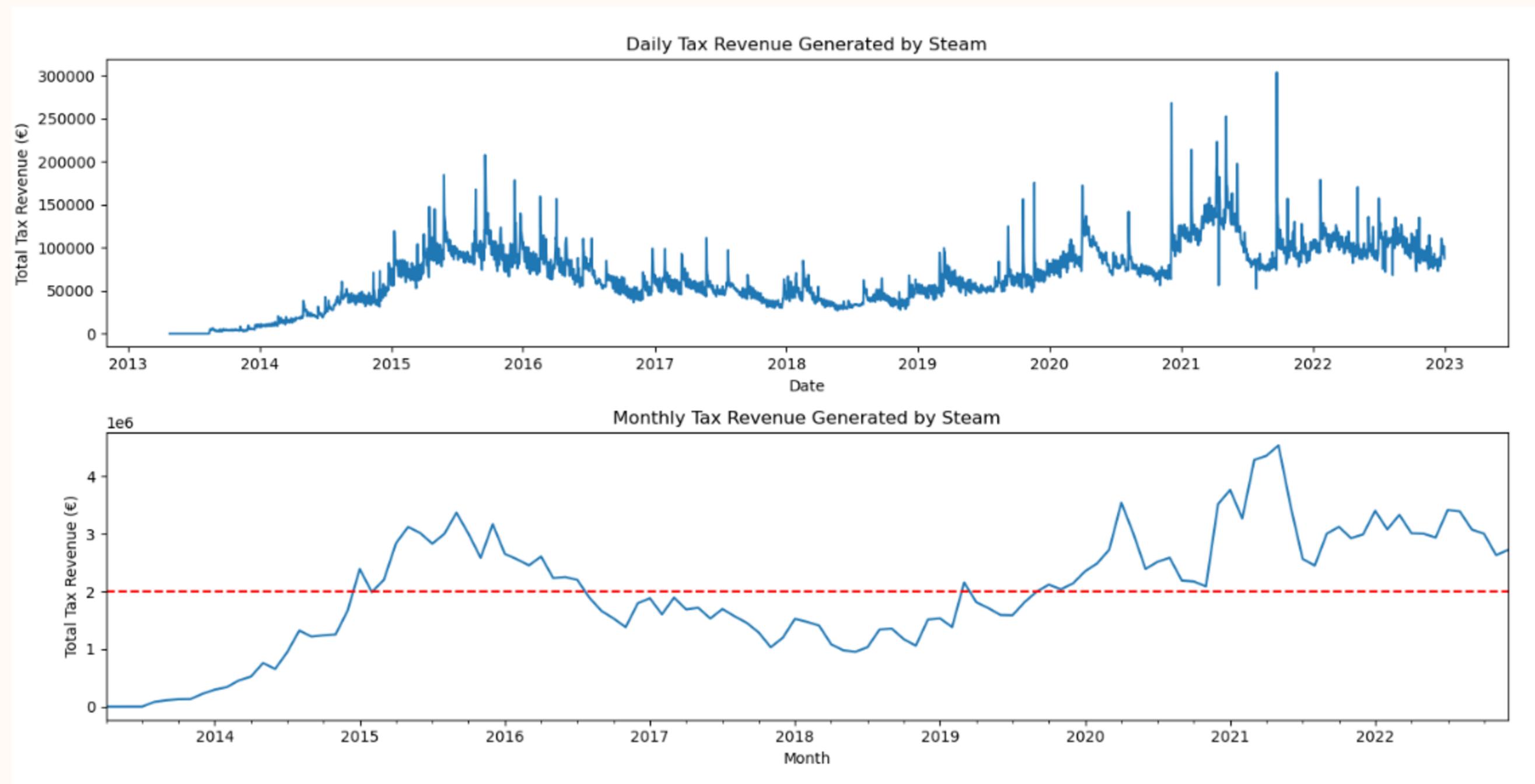
# Money transferred between users

What are the total daily amount of money transferred between users?



# Skin transaction fees

Fees are 5% of the transaction price with a minimum of 0.01 euro.  
Let's see the daily and monthly tax revenue of Steam :



# The Microtransaction Ecosystem cycle

## 1. Platform Revenue Decline:

- Transactions between players decrease.
- Revenues for platforms (Steam, others) drop.

## 2. Game Developer Response:

- New updates introduced to boost sales.
- Initial effect: Decrease in income due to development costs and promotional campaigns.

# The Microtransaction Ecosystem cycle

## 3. Role of Streamers and Community:

- Streamers popularize new skins and items.
- Creates “impression motivation”—players strive to conform to community trends.
- Result: Increased microtransaction activity.

## 4. Platform Profits:

- Transaction fees generate £2M+ daily revenue.
- Average daily costs < £500K.
- Net daily profit: £1.5M+ from microtransactions alone.
- Explains Valve's valuation of \$8 billion.

# The Impact of Updates on the Economy

## Short-Term Effect:

- Negative impact for 1–2 months.
- Prices of newly updated items fluctuate.

## Long-Term Effect:

- Older skins grow rarer and rise in price.
- Economy stabilizes and follows a cyclical rise-and-fall pattern.
- Higher peaks depends on quality of events and updates.

# References

- Castranova, E. (2001). Virtual worlds: A First-Hand Account of the Market and Society on the Cyberian Frontier.
- Dyer-Witheford, N., & De Peuter, G. (2009). Games of empire: Global capitalism and video games. U of Minnesota Press.
- Wang, P. (2006). A Marxian analysis of World of Warcraft: Virtual gaming economies reproducing capitalistic structures. Retrieved August 30, 2014.
- Castranova, E., & Lehdonvirta, V. (2014). Virtual Economies: Design and Analysis.
- Statista databases: <https://www.statista.com/outlook/amo/app/games/worldwide>
- Twitchstatistics: [https://sullygnome.com/game/Counter-Strike\\_Global\\_Offensive/longtermstats](https://sullygnome.com/game/Counter-Strike_Global_Offensive/longtermstats)
- Cantry for daily transaction graph: <https://cantry.dev/volume>
- Valve, Hidden Path Entertainment. (1.38.7.3, 2023) [2012]. Counter-Strike 2 (previously Counter-Strike: Global Offensive), [Windows, SteamOS+Linux]. Online game, published by Valve.  
[https://store.steampowered.com/app/730/CounterStrike\\_2/](https://store.steampowered.com/app/730/CounterStrike_2/).