

# The Pricing of Real and Virtual Collectibles: the Case of Damien Hirst's 'Currency'

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# Indigenous acknowledgement

We acknowledge the Ngunnawal people, traditional custodians of the lands where the main UC campus is situated and this presentation was written, and the Gadigal people on whose lands it is being presented, and respect their continuing culture.



# Asset prices are usually based on ‘fundamentals’

Share prices: (current and discounted future) dividends or profits

Houses: rents earned (or replaced for owner-occupiers)

But for artwork or a collectible?

And an NFT?

# Marcel Duchamp's “Monte Carlo bonds”

1924.

- Partly a piece of conceptual art.
- Partly to raise funds for a scheme to profit from playing roulette.



# Damien Hirst, yBa



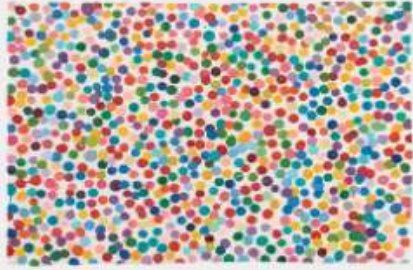


## Hirst's *"The Currency"*

10,000 A4 pieces of handmade paper with coloured spots. (Some have said it reminds them of Australian Indigenous works, but Hirst himself says he was inspired by 'pointillism'.)

Numbered, titled, signed, watermarked, microdotted and hologrammed.

# Each work is (a little) different



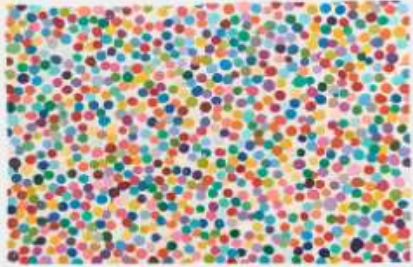
1. Totally gonna sell you



2. Only we have time



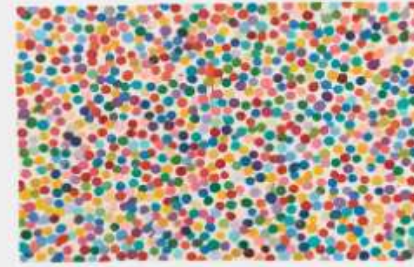
3. You could get your life together



5. It takes a village



6. Right hand on the other sleeve



7. Walk down the street

Source: HENI

# Hirst's *"The Currency"*

Initially sold for US\$2,000 each in July 2021. (So Hirst grossed A\$24 million.)

Over 30,000 people wanted more than 60,000 of them. (Most buyers seem to be middle-aged European men.)

Distributed "democratically" (although Hirst kept 1,000 for himself).

Buyers initially were given a digital certificate of ownership – a non-fungible token (NFT).

Secondary trading in first month saw over 2,000 sales for almost US\$ 50 million.

Buyers had one year to decide whether to swap their NFT for the corresponding physical artwork or keep the NFT – they could **not** have both. (Default was keeping the NFT.)



For those works where the owner chose the NFT...



# Hirst's *"The Currency"*

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**How many of the 10,000 NFTs were converted to the physical works?**

**Which would you choose?**

**And how much would you pay for the physical work? Or for the NFT?**

**How would you decide which physical works are worth the most?**

NFTs are more liquid but it is not clear what an NFT holder actually owns.

Stephen Fry called the Currency project “somewhere between a research programme, a game and a performance”

# Results of our 2024 survey

- A very wide variety of estimates of how many NFTs would be exchanged for physical artworks; from 100 to 9,000. The median was 4,000.
- Two respondents would pay the same for the NFT as for the physical artwork and the others would all pay more for the physical. But the amounts were generally low; down to zero for the NFT and \$1 for the physical.
- A wide range of attributes were valued: the condition of the work, aesthetic appeal, interesting title, unusual attributes, higher numbers of colours and emotional attachment



# Attracted publicity from (economic) celebrities



# Art as an investment

Generally studies have found that while art appreciates in value the financial returns are no better than for 'conventional' financial assets, and the returns are considerably more volatile.



# Result of Hirst's 'experiment'

5,149 of the 9,000 NFTs held by the public were swapped for the physical artworks. (This was more than the average holder had expected.)

After much indecision, Hirst himself kept his 1,000 as NFTs.

Most people exchanging for the physical artwork did so in the last month.

One holder used *The Currency* as a currency and used it to pay for another Hirst artwork.

# Determinants of individual price?

## Collectors versus speculators

- Number (low better?)
- “interesting” title. Collectors may like a favourite song (e.g. “let it be” or “thunderstruck”; or as a gift they may want “I love you Sweetie”). Some relate to art or to tech.
- “short” titles seem more valued (titles vary from one to eleven words). ‘Revocation’ holds the record for the highest price, US\$174,000.
- “nice” or “unusual” colours
- Rarities such as drips, unusually high or low ‘overlaps’?
- Weight??

# Regression results

Log P = 3.15 - 0.011 Number - 0.04 Single word - 0.02 Blueness  
(32.9) (-0.7) (-0.8) (-0.8)

+ 0.005 Weight -0.017 Rarities  
(1.0) (-0.7)

(t-ratios in brackets)  $R^2 = 0.02$  n= 117

# In first year, NFT was an option to buy a physical artwork

But can we apply the Black & Scholes model?

## Find Call Option Price

The Black-Scholes formula models the price of European call options [1]. For a non-dividend-paying underlying stock, the parameters of the formula are defined as:

- $S$  is the current stock price or spot price.
- $K$  is the exercise or strike price.
- $\sigma$  is the standard deviation of continuously compounded annual returns of the stock, which is called volatility.
- $T$  is the time for the option to expire in years.
- $r$  is the annualized risk-free interest rate.

The price of a call option  $C$  in terms of the Black-Scholes parameters is

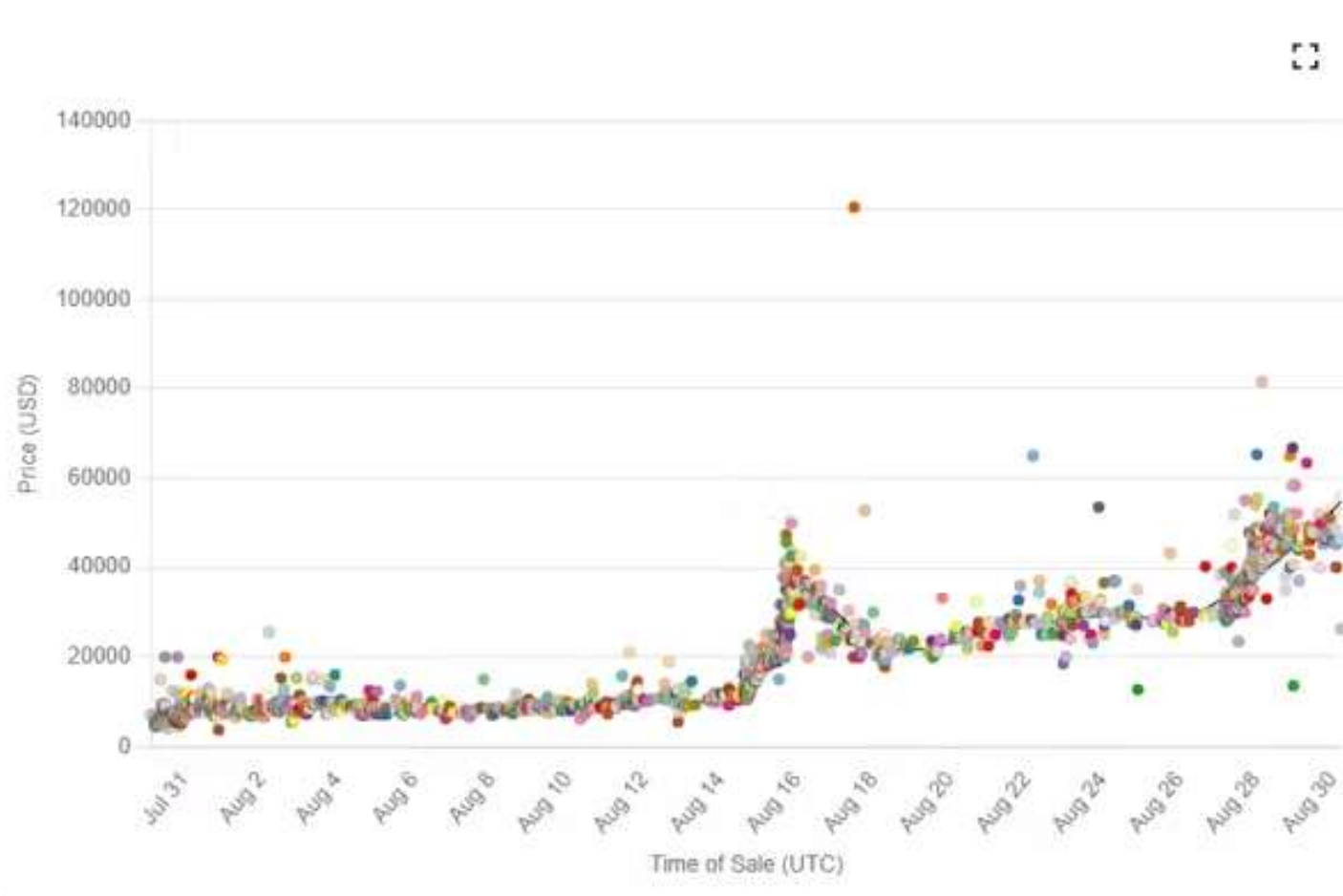
$$C = N(d_1) \times S - N(d_2) \times PV(K),$$

where:

- $d_1 = \frac{1}{\sigma \sqrt{T}} \left[ \log\left(\frac{S}{K}\right) + \left(r + \frac{\sigma^2}{2}\right)T \right]$
- $d_2 = d_1 - \sigma \sqrt{T}$
- $PV(K) = K \exp(-rT)$
- $N(d)$  is the standard normal cumulative distribution function,  $N(d) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^d \exp(-t^2/2) dt$ .

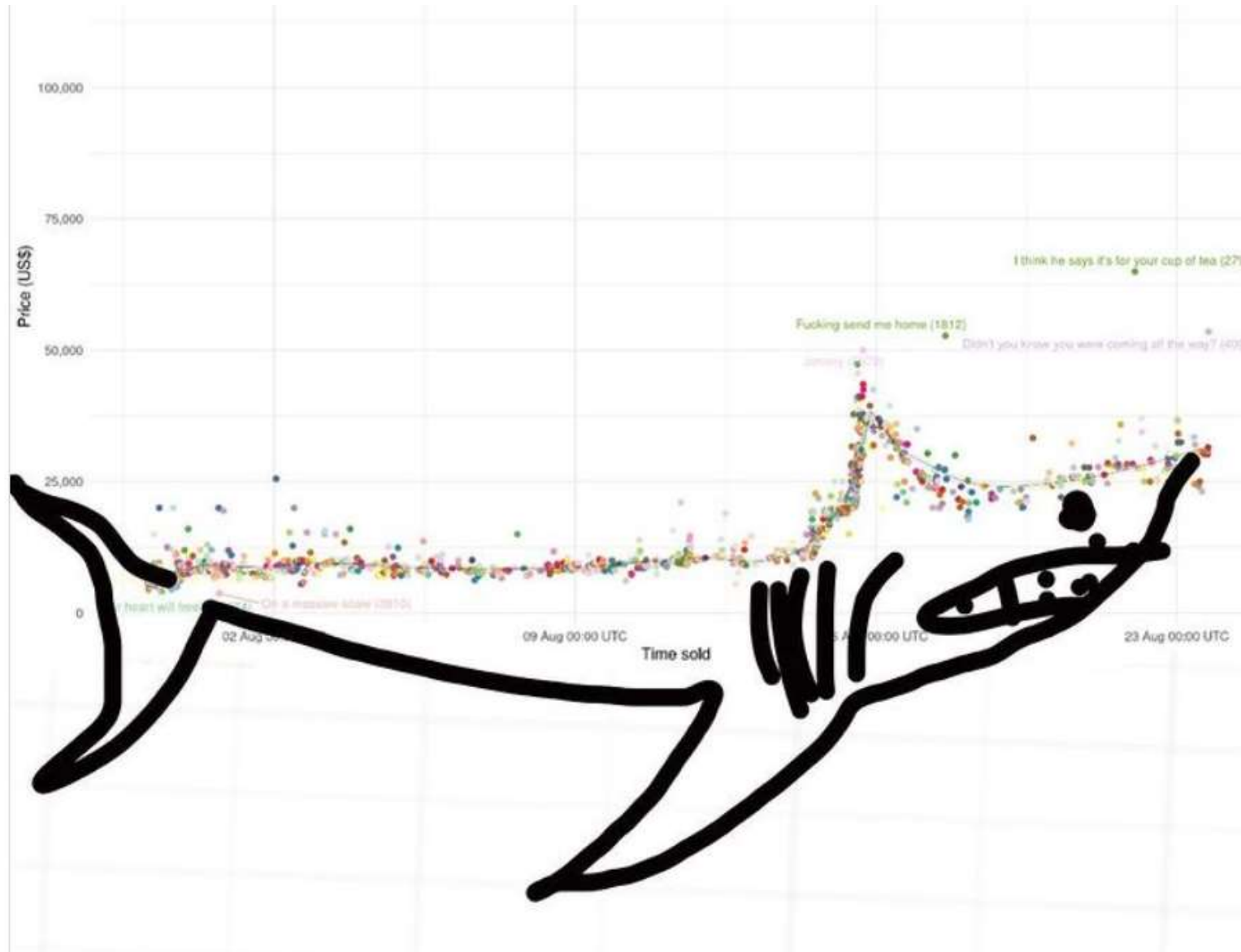
# Early secondary market prices of *The Currency*

Secondary sales of Damien Hirst's 'Currency' art works



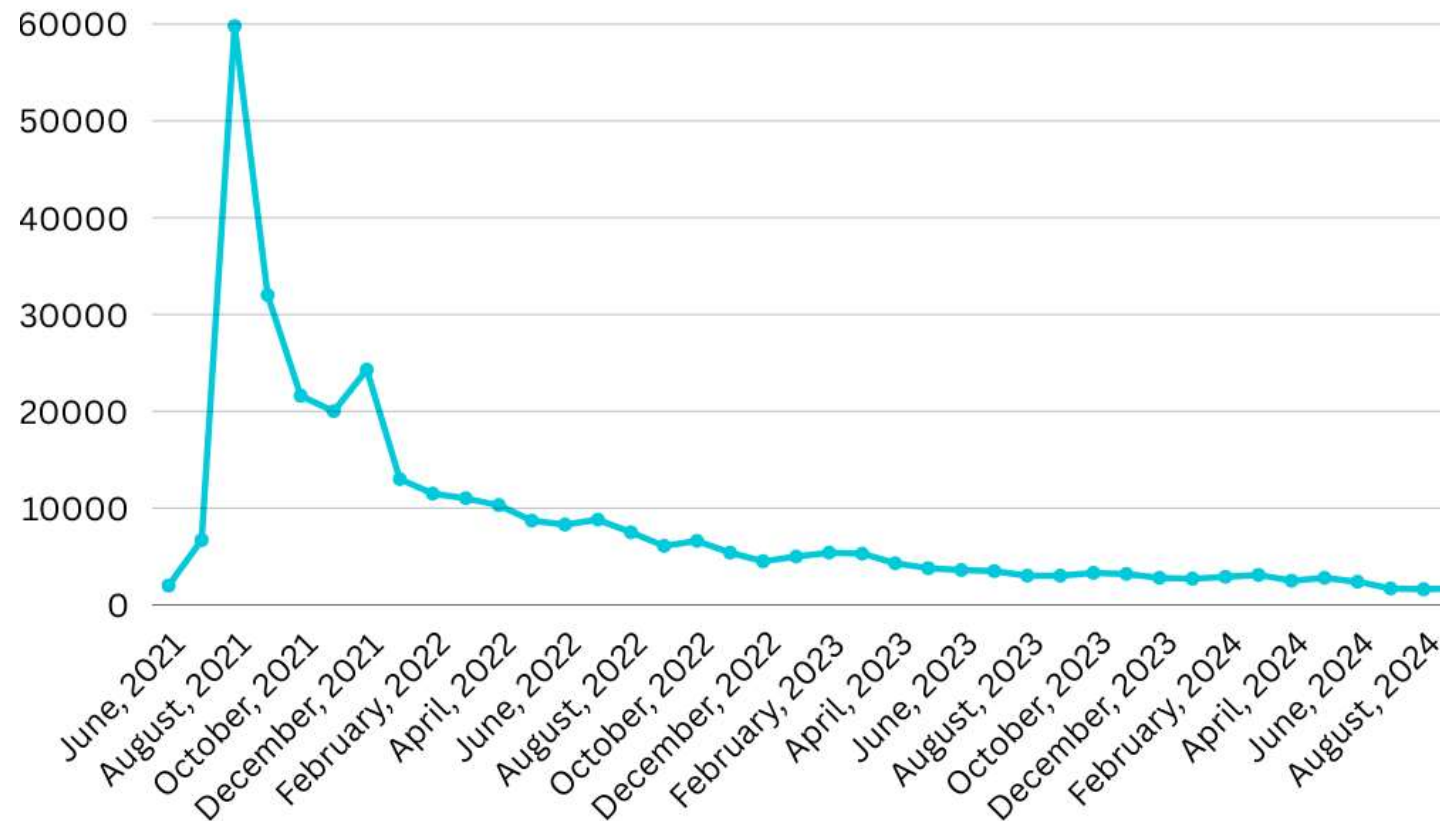


# ‘The currency’ price, as augmented by Hirst

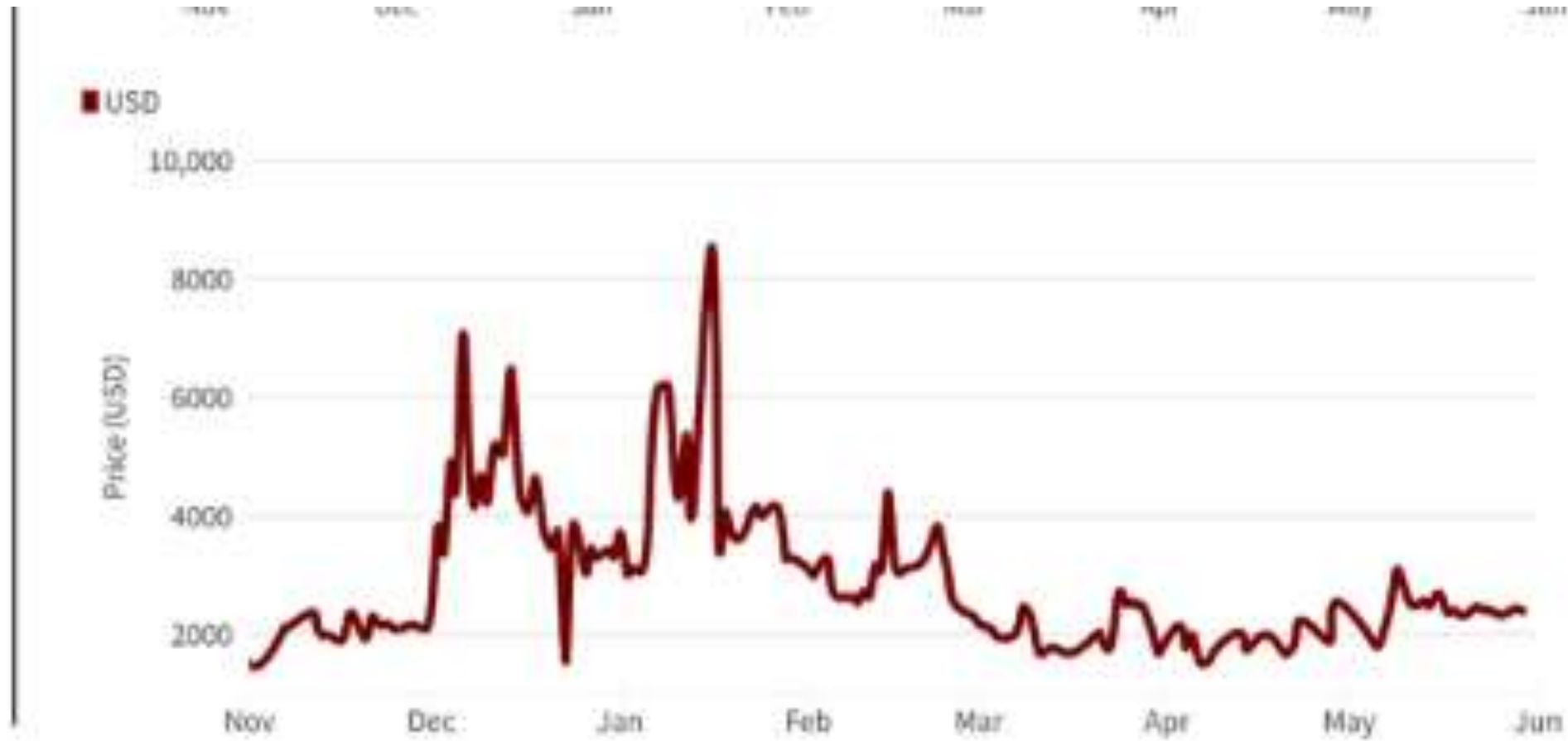


# NFT prices (US\$)

## Average Prices of *The Currency* in USD

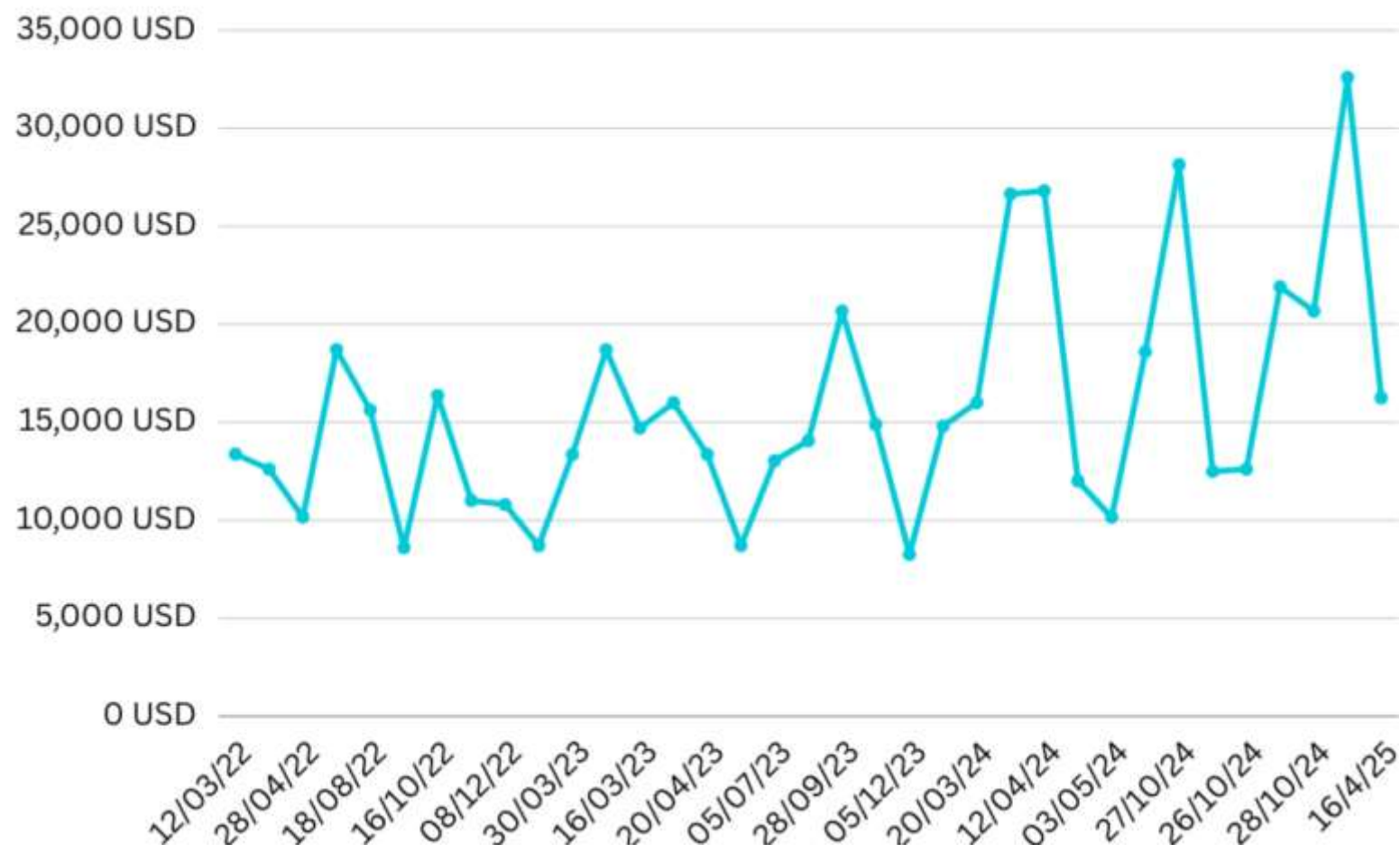


# Recent prices of Currency NFTs (US\$)



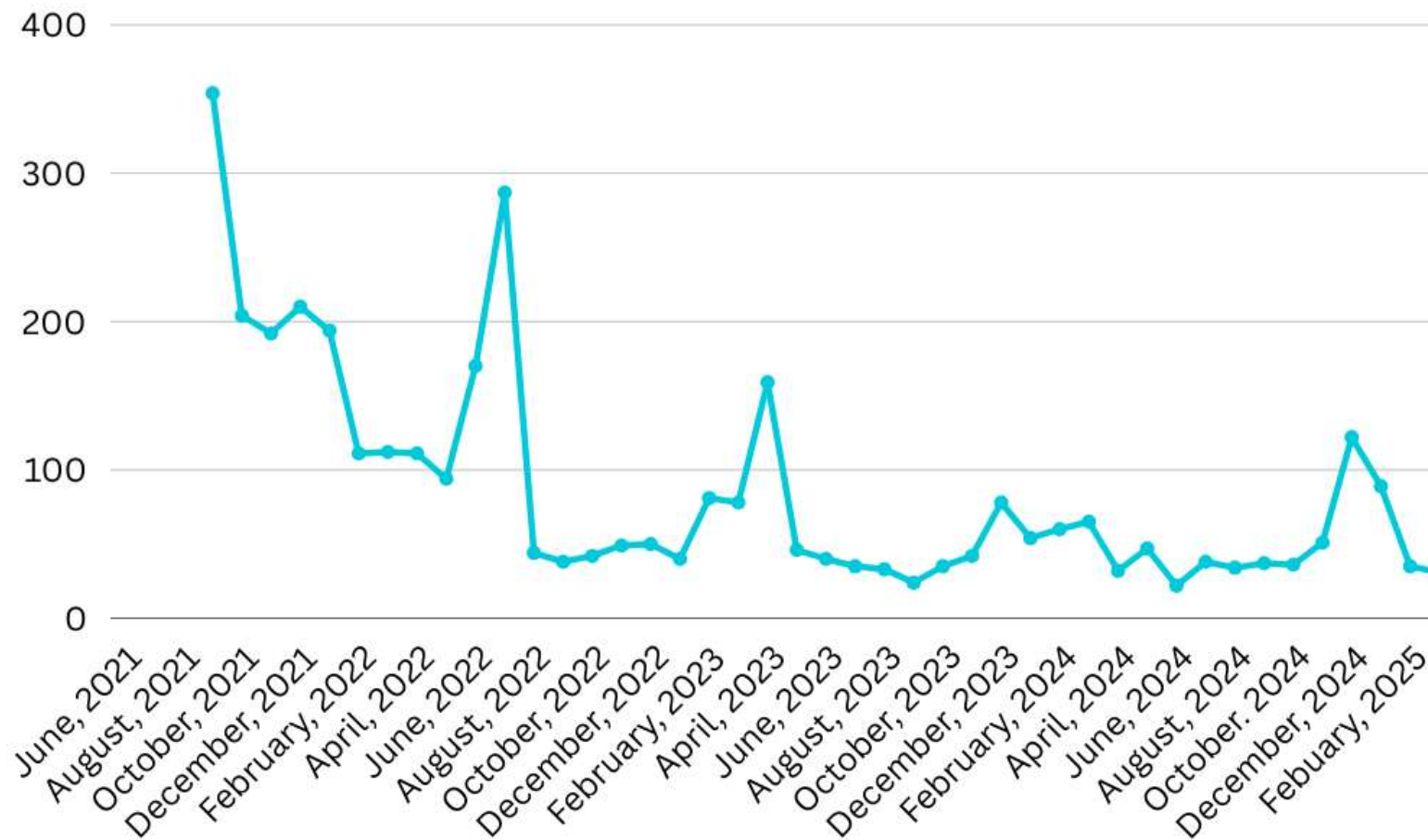
# Prices of physical copies (US\$) of *The Currency*

Less data on physical sales than on NFTs, but consistently much higher.



# Monthly sales of *The Currency* NFTs

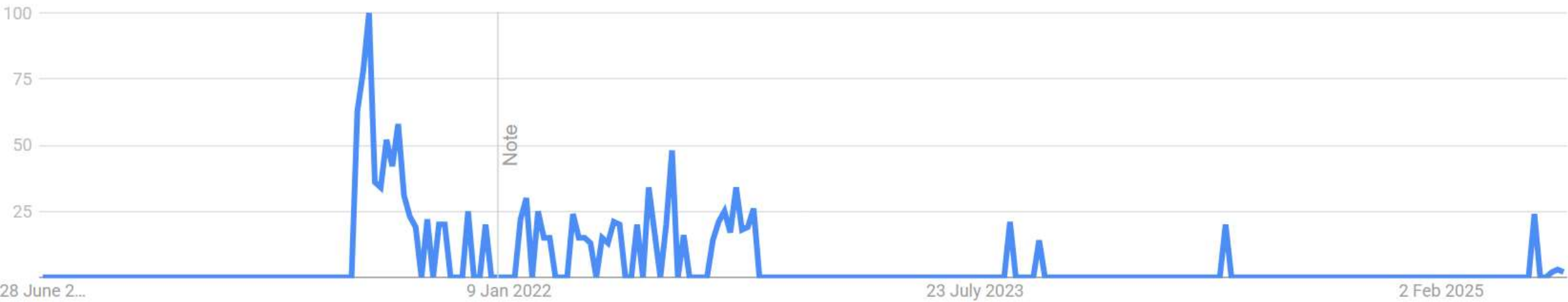
## Sales per month of *The Currency* NFTs





# Google searches for “Hirst Currency”

Interest over time ?



# Monetisation of art and a new 'community'

Damien Hirst still has his 1,000 NFTs and another fan called XXXX has 100. Six others have ten or more. There are over 3,000 other owners.

Much of the discussion, and indeed the very title, of *The Currency* has focused on money which many artists find distasteful.

But *The Currency* also created a community of enthusiasts who exchange views on a Discord server. There are hundreds of messages a day.

