

Mutual Funds and Derivatives: Evidence from Linked Fund-Trade Data

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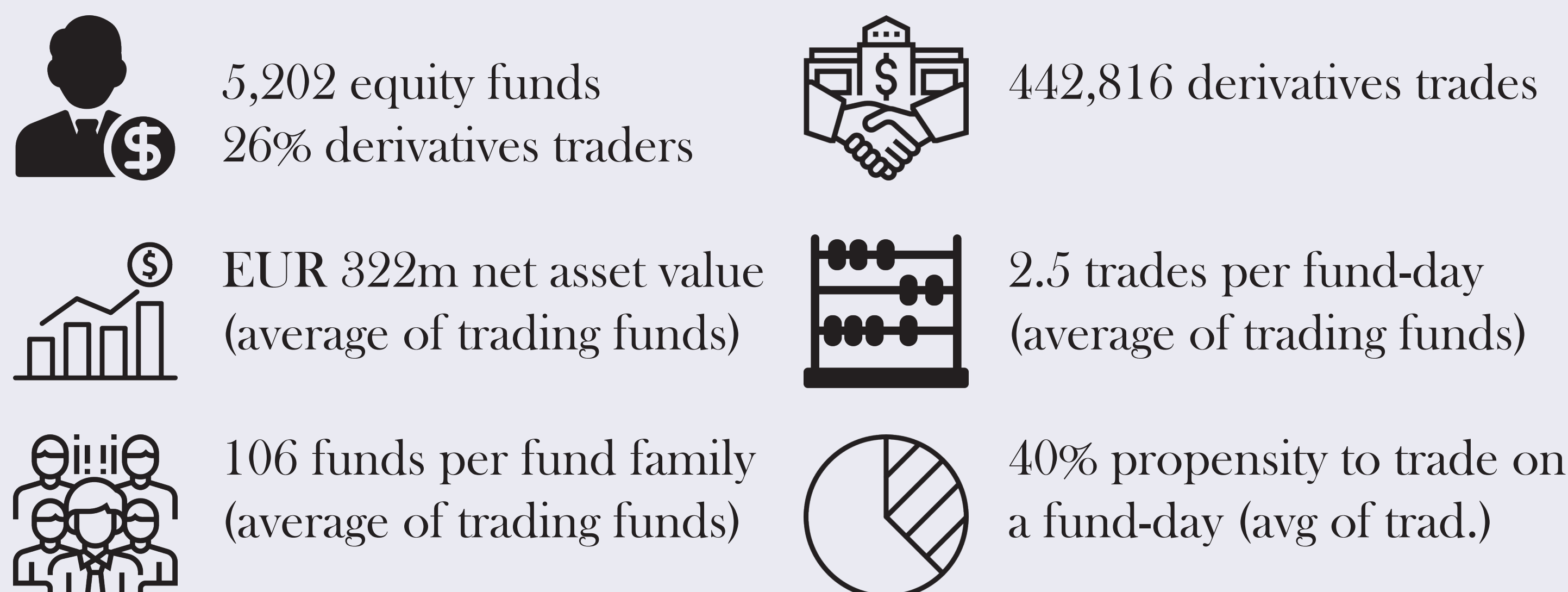
1. PAPER IN A NUTSHELL

- » We sketch the anatomy of derivatives trading by European equity funds
- » 26% of European equity funds use derivatives
- » 79% of trades are currency/forwards, equity/futures or equity/options
- » Fund-fixed characteristics can explain 28% of funds' decision to use derivatives and 54% of extent of funds' derivatives use:
 - » Relevant characteristics seem to be fund-family, investment strategy, incentives schemes as well as fund managers' personal traits
 - » Less important are size, geographic focus, base currency, or domicile of the fund
- » Moreover, we find evidence for derivatives trading to minimize transaction costs and to mitigate (currency) risks

2. DATA

- » Novel linked data of European equity funds (UCITS) & derivatives trades
- » Equity mutual funds from the Morningstar database
- » Mandatory derivatives trades' filings from the European Securities and Markets Authority (ESMA)
- » Sample period from July 1 to December 31, 2016

3. SUMMARY STATISTICS



4. ECONOMETRIC SETUP

1 Fund-fixed characteristics and use of derivatives

- » Fixed effects approach to analyze decision to use derivatives and extent of derivatives usage
- » Consecutively, add fund-fixed characteristics to the fixed effects model,

$$DTD_{i,t} = \alpha + \lambda_{fsize} + \lambda_{fam} + \lambda_{area} + \lambda_{cur} + \lambda_{dom} + \lambda_{ben} + \lambda_{size} + \lambda_i + \varepsilon_{i,t} \quad (Eq1)$$

- » Statistic of interest is the adjusted R-squared

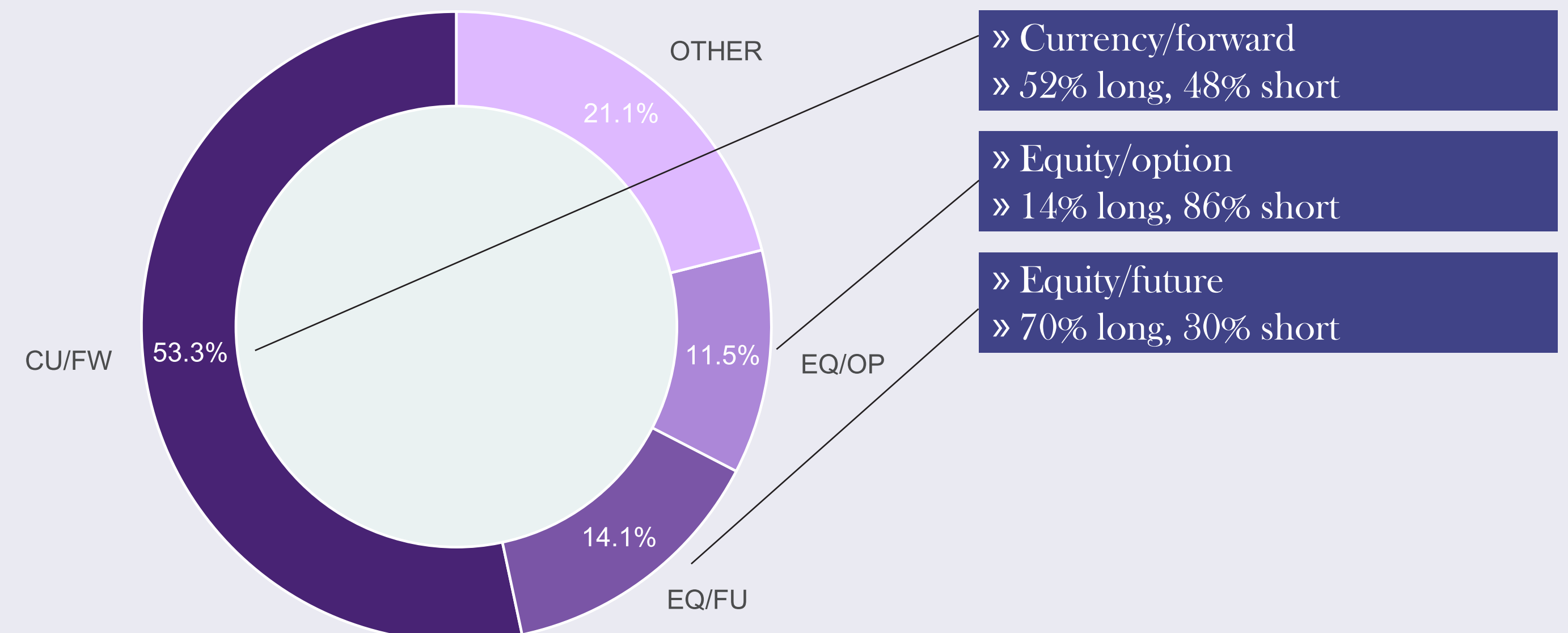
2 Time-variant fund characteristics and use of derivatives

- » Linear probability model to test which time-variant fund characteristics (e.g., flows, risks, and returns) may drive derivatives use,

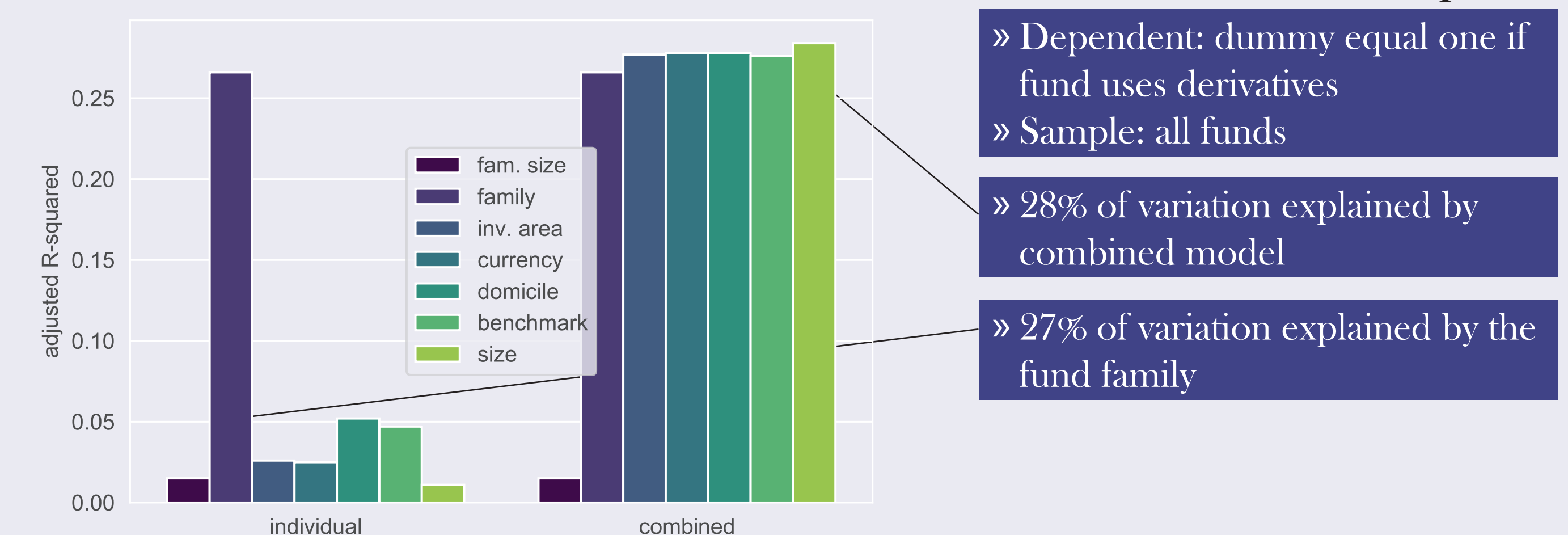
$$DTD_{i,t} = \alpha + \lambda_i + \lambda_{area,t} + \lambda_{ben,t} + \beta x_{i,t-1} + \varepsilon_{i,t} \quad (Eq2)$$

5. RESULTS

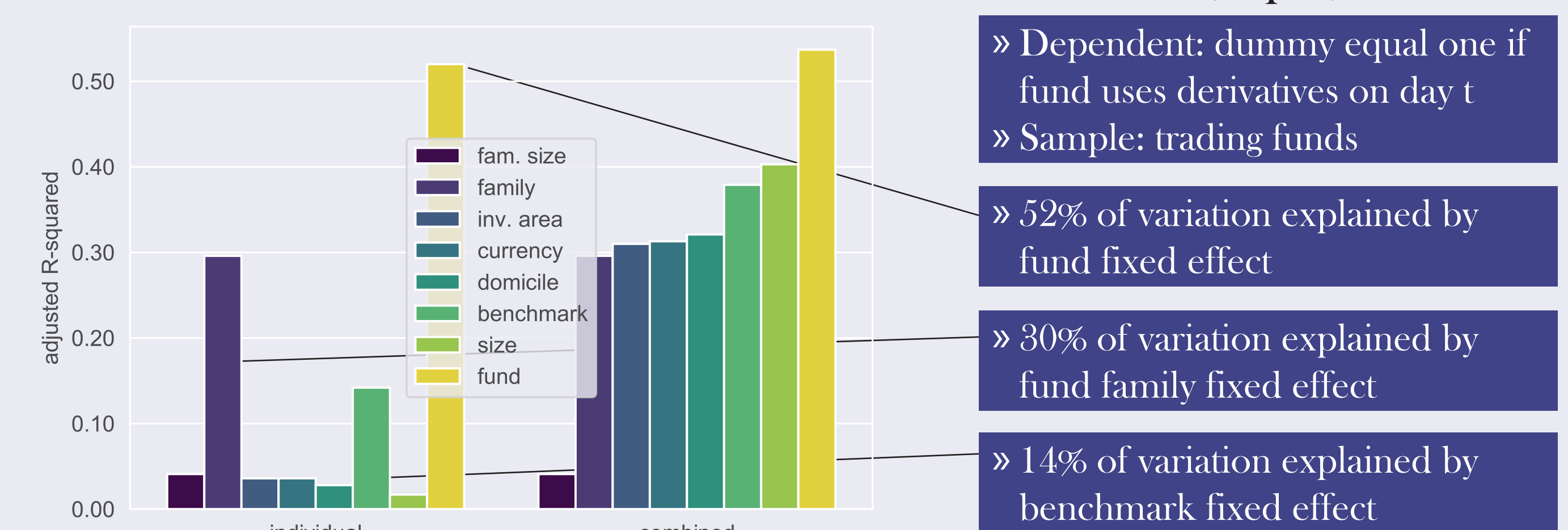
- » Distribution of trades across asset classes and derivatives types



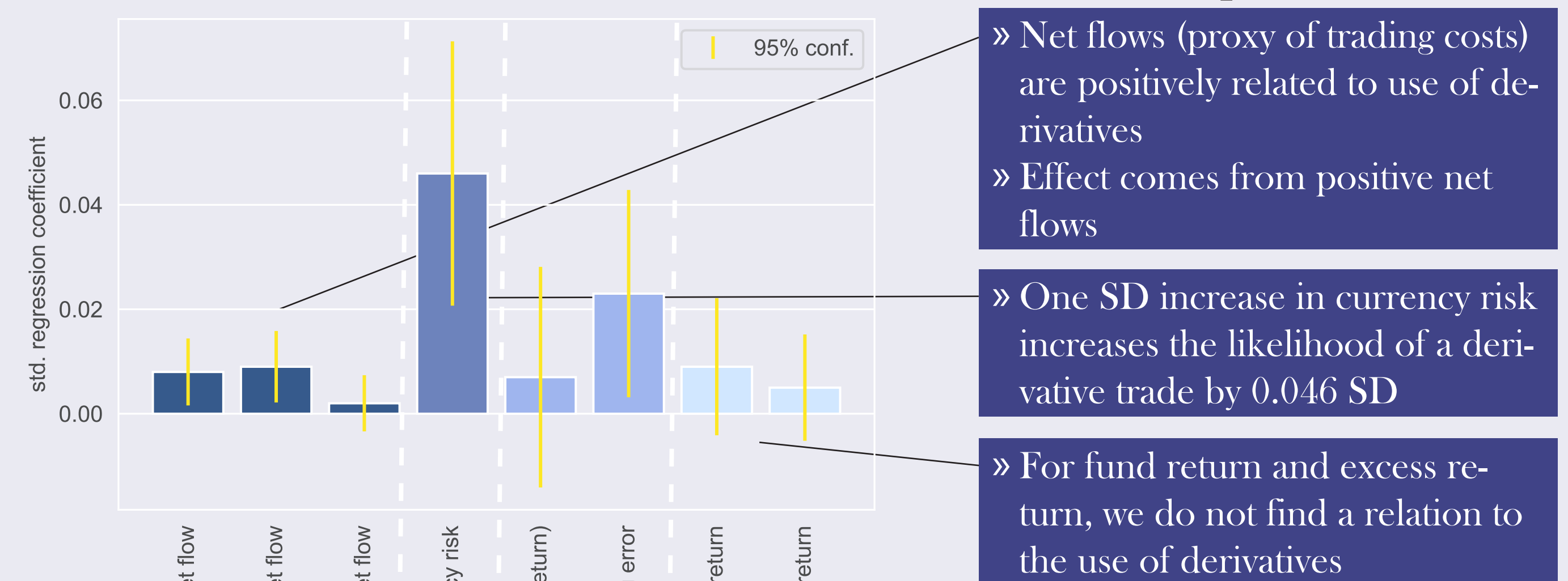
- » Fund-fixed characteristics and decision to use derivatives (mod. Eq. 1)



- » Fund-fixed characteristics and extent of derivatives use (Eq. 1)



- » Time-variant fund characteristics and derivatives use (Eq. 2)



6. NEXT STEPS

- » We plan to further exploit rich details of derivatives trading data (e.g., underlying and derivative instrument)
- » Moreover, we will add information on fund manager & incentive scheme
- » Finally, we are exploring possible shocks that affect only some of funds to establish causal relation from fund characteristic to use of derivatives

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